

# Austerity and Inequality.

The distributive effects of fiscal consolidation measures in the Eurozone crisis.

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## Abstract

Following the inception of the economic adjustment programmes in the Eurozone, the EU has gotten much criticism for their handling of the social dimension of the crisis through their involvement in the Troika of European Commission, European Central Bank, and International Monetary Fund. One manifestation of this neglect of the social dimension can be found in the levels of economic inequality, particularly income inequality, in the countries that were part of the Troika programmes. Whilst the literature so far suggests that phases of fiscal consolidation correlate with increases in inequality levels, this paper finds that this was not the case in the programme countries. The paper undertakes a comparative case study between the Greek and Portuguese programmes in order to analyse the different effects of an expenditure-based programme with a revenue-based programme. It finds that relative inequality of disposable household incomes has stagnated rather than increased in most years throughout both programmes, with only minor upward fluctuations. In addition, a comparison with data on market income inequality in the same period shows that the redistributive efforts of the two countries have in fact increased, alleviating some of the recession-induced increases in market income inequality. Furthermore, simulating the distributive effects of a baseline scenario with unchanged tax-benefit policies from the year prior to the programme inception to its conclusion shows that in both cases, the reforms compressed the income distribution relative to the baseline scenario. In assessing the distributive effects of the fiscal consolidation measures, this paper combines the use of real data (EU-SILC) and simulated data (based on tax-benefit microsimulation tool EUROMOD). Additionally, the paper analyses the exact composition and compliance with the programmes. The combination of these approaches allows the conclusions that (1) the fiscal consolidation measures in the economic adjustment programmes had an inequality-reducing effect, which at times was sufficiently large to offset the inequality-increasing effects of the recessions in the programme countries, and that (2) this effect was larger when the Troika curtailed the discretion left to national governments in the development of suitable policy measures, and followed an approach of micro-management and close monitoring. The paper concludes by placing the fiscal consolidation process in a two-level game framework, which takes the Troika as following a strategy that would ensure the highest likelihood of successful completion of the programmes, thus necessitating a progressive design of the reform measures.

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## **1. Introduction**

The EU has seen its democratic legitimacy come under increasing pressure ever since skyrocketing public debt levels have forced Eurozone periphery countries to require financial assistance by their European partners. In response to the bailout requests, the Troika of European Commission, European Central Bank, and International Monetary Fund negotiated large-scale austerity programmes with the periphery countries’ governments, the fulfilment of which their assistance was made conditional on. These programmes led to mass protests in the recipient countries and were criticised almost uniformly in the scholarly literature. The two main points of contention regarded (1) the adverse effects of pro-cyclical spending cuts on growth, and (2) the impact that extensive spending cuts would have on the countries’ capacity to mitigate the effects of the crisis through the redistributive functions of the welfare state.

This paper studies the validity of the latter point in a comparative case study of the Greek and Portuguese Economic Adjustment Programmes (EAPs), covering the entire duration of the Portuguese programme from 2011 to 2014, and the reforms under the different Greek programmes between 2010 and 2017. The case study answers the questions how the EAPs affected (1) the redistributive capacities of the welfare states of the recipient countries, and (2) the distribution of incomes. It does so by combining the use of household income data taken from the latest waves of EU-SILC surveys with data obtained through simulations run with tax-benefit microsimulation tool EUROMOD. The data presented in this paper show that (1) inequality has not increased substantively throughout the crisis, (2) rather than being curtailed by fiscal consolidation pressures, the recipient countries’ redistributive capacities of the welfare state were expanded, and (3) the reforms implemented under the EAPs had a direct inequality-reducing effect, which at times seemed large enough to offset the inequality increases induced by the recession through e.g. higher unemployment.

Based on these findings, the paper offers insights into the interplay between the design and composition of fiscal consolidation measures and inequality that have so far been neglected in the literature: Whether fiscal consolidation is achieved mainly through spending cuts or revenue increasing measures seems less crucial to the distributive impact of those measures. Instead, the critical factor seems to be the exact design of the measures and focus on putting the bulk of the

adjustment burden on higher incomes while protecting or compensating the most vulnerable income groups.

Rejecting the idea of an automatism between a particular composition of fiscal consolidation measures and their distributive impact, the paper proposes that policy-makers are faced with choices regarding the design of the consolidation measures, which in turn produce different distributional outcomes. Based on this notion of choice between different alternatives, the paper offers a political-economic explanation of why the Troika had an incentive to design the reform measures in a way that would leave the recipient countries’ redistributive capacities of the welfare state intact or even make them more progressive. Applying a two-level game framework to the cases at hand the paper argues that it was in the Troika’s interest to keep adverse distributional effects of the reforms to a minimum. This is so that the anticipated pushback against the reforms would stay at a level that would not force the respective governments to discard the reform programmes and ultimately threaten their overall success.

The paper is structured as follows. The following section outlines what the scholarly literature tells us about how fiscal consolidation programmes affect inequality, as well as showing how the economic policy consensus of the Troika partners are likely to result in a composition and design of the EAPs that based on previous findings can be expected to lead to higher inequality. The third section provides the rationale for choosing Greece and Portugal as case studies that ultimately differed greatly in the composition of the fiscal consolidation measures they were prescribed. The section continues by outlining the methodological approach of the paper including the use of tax-benefit microsimulation tool EUROMOD as well as explaining the indicators used to measure income inequality and presenting the datasets. In the fourth section, the empirical analysis is carried out. The fifth and last section places the findings of the empirical analysis in a political-economic framework based on Putnam’s two-level game at the centre of which the Troika is faced with different policy choices to ensure the programmes greatest likelihood for successful completion.

## **2. Theoretical Considerations and Case Selection**

### **2.1 The distributive effects of fiscal consolidation measures – a review of the existing literature**

In the past, research on phases of fiscal adjustment has largely focussed on the determinants of success of the adjustment efforts. Much work has therefore been done in particular since the early 1990s on the effects of different variables of fiscal adjustment programmes, such as their size and composition. The effects of such programmes on economic inequality, however, have only recently begun to climb further up on the research agenda. Studies in the past have distinguished between fiscal adjustment programmes in advanced economies, in which such programmes were implemented by national governments, and developing economies, usually as a condition for financial assistance from the IMF.

With regard to fiscal adjustment programmes in advanced economies, Agnello & Sousa (2014) analyse 18 industrialised countries from 1978 to 2009. Their study finds that periods of fiscal consolidation correlate with significant increases in income inequality. In addition to this general finding, the authors show that the composition of the fiscal adjustment programmes is vital for their impact on income inequality: Faced with pressures to consolidate public budgets, policy makers can opt for either cutting spending, or increasing government revenues; the authors find that spending cuts lead to higher levels of income inequality, whilst measures that focus on increasing government revenues, such as tax increases, seem to compress the income distribution. The conceptual logic behind this finding is that spending cuts usually include social expenditure, which leads to lower levels of redistribution of market income. Increases in revenues through higher taxes on the other hand tend to move within an already progressive tax system, which exacerbates its ordinarily inequality-reducing nature. A different study by Ball et al. (2013) finds that both expenditure-based and revenue-based consolidation programmes have inequality-increasing effects, although the effects of the former are more pronounced, which is somewhat in line with the findings of Agnello & Sousa. A later study by Woo et al. (2017) confirms this in addition to finding that by altering the composition of the fiscal consolidation measures with regard to progressivity of tax reforms and targeted social benefits, the inequality-increasing effects of the fiscal consolidation measures can be offset to a certain degree.

With regard to phases of fiscal adjustment in developing economies as part of a programme supervised by a supranational institution, Oberdabernig (2013) analyses the distributional effects of IMF programmes in 86 countries between 1982 and 2009. The study found that in the majority of cases, programme implementation correlated significantly with an increase in inequality, as well as poverty. However, the study ascertains that from 2000 onwards, this trend is reversed and IMF programmes between 2000 and 2009 correlated with falling levels of inequality and poverty. This coincides with the adoption of the Poverty Reduction and Growth Facility by the IMF although

the author states that the analysis does not provide a clear confirmation that the PRGF caused the change in the distributive effects of IMF programmes.

The literature shows that based on past findings, increases in the levels of income inequality can be expected during phases of fiscal adjustment. This effect is larger in cases where fiscal adjustment is based heavily on expenditure cuts rather than revenue-increasing measures. However, the studies point towards some variance in their findings on the effects of fiscal adjustment on the income distribution, suggesting that there is some room to implement fiscal consolidation measures whilst avoiding a deterioration of income inequality indicators. The findings on the effects of IMF programmes after the year 2000 support this. As the composition of fiscal adjustment programmes with regard to the proportion of expenditure vs. revenue-based measures seems crucial to their distributive effects, the following section outlines how the EU’s economic policy consensus informs the composition of the fiscal adjustment programmes implemented in the Eurozone crisis.

## **2.2 Understanding the crisis management of EU policy makers – an analysis of the EU economic policy consensus**

The literature on European integration identifies a ‘neoliberal bias’ which EU policy makers follow. This hypothesis rests draws on the work of Fritz Scharpf, who argues that European integration is strongly biased towards negative integration. By that he understands integration measures that entail deregulation and the elimination of national barriers, as opposed to positive integration, by which he understands reregulation through substitutes of formerly national regulations on a supranational level (Scharpf, 1999). The bias towards negative integration derives from (1) an institutional asymmetry and (2) the inherent impediments of positive integration. The former is stipulated by the detachedness of ‘integration through law’ from institutional policy-making, i.e. decisions of the European Court of Justice (ECJ) that are able to drive forward integration without political consensus, which in turn triggers spillover effects, thus creating a self-reinforcing dynamic of mainly deregulatory measures (Schmidt S. , 2012). The latter refers to Scharpf’s oft-cited notion of the ‘joint decision trap’, which describes how decision-making in politics tends to be characterised by a status-quo bias due to the large difficulties arising from high consensus requirements and the opposing parties’ inability to reconcile heterogeneous interests (2006). In the European context, Scharpf argues that as a consequence, member states converge towards an

integrated liberal market economy<sup>1</sup> model, which at the same time substantively obstructs the embedding of a strong social dimension in EU policies<sup>2</sup> (Scharpf, 2010, p. 235).

In fact, the economic policy consensus that European integration has followed since the late 1980s, reflects this bias. Since Williamson (1990) first coined the expression ‘Washington Consensus’, the EU has internalised the logic behind the Washington Consensus and enshrined important elements of it in the Maastricht Treaty of 1992. This is reflected in both the emphasis of the independence of the ECB and its focus on price stability as a prime objective (see Articles 104(1), 105(1), and 107 of the Maastricht Treaty (European Union, 1992), see also De Grauwe (2012)), and the heavy constraints put on national governments’ fiscal competences by the provisions of the Stability and Growth Pact, and more recently the Fiscal Compact (Fitoussi & Saraceno, 2013).

It is especially the latter that is insightful for the analysis of this paper, as it allows the conclusion that the reforms prescribed in the EAPs would follow a similar logic and would prominently feature expenditure cuts in order to get budget deficits and in the long run public debt under control. Similarly, it makes it less likely that the EAPs would involve revenue increasing measures of comparable significance.

### **2.3 The composition of the fiscal adjustment programmes – the logic behind the case selection of the Greek and Portuguese programmes**

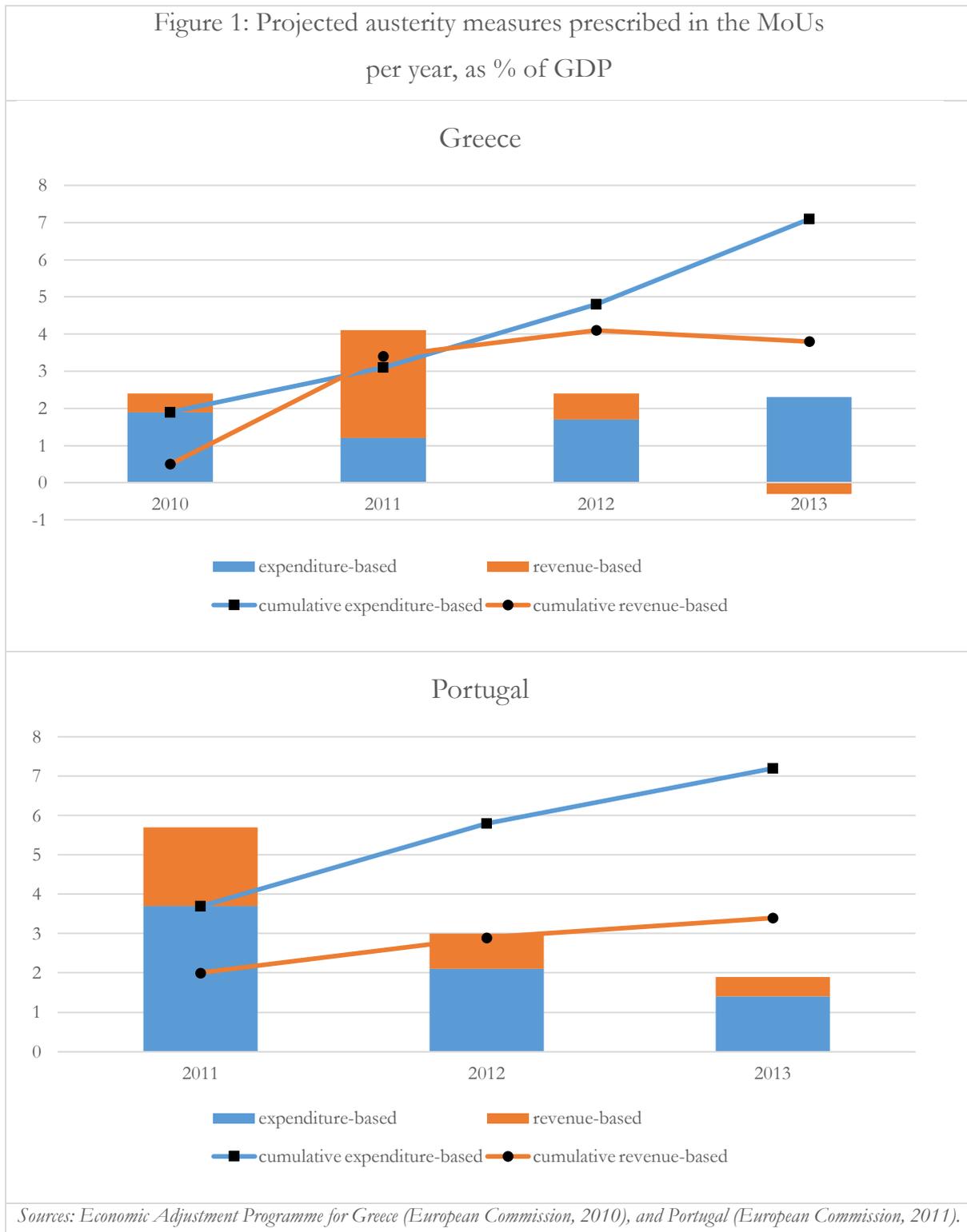
What the previous part of this section has underpinned theoretically holds true empirically when consulting the Memoranda of Understanding (MoU) that preceded the EAPs. In these documents, the governments of the recipient countries and the Troika agree on a set of policy measures with varying degrees of definition that would be implemented throughout the duration of the EAPs in order to achieve the intended fiscal consolidation. Both the MoU of the Greek and the Portuguese programmes contain a similar focus on expenditure-based fiscal consolidation measures. In fact, both MoU outline that the fiscal consolidation effort would be based on expenditure cuts by a ratio

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<sup>1</sup> For his characterisation of the newly evolving European model, Scharpf draws on the work of Esping-Andersen (1990) and Hall & Soskice (2001), using simplified versions of their notions of the ‘liberal’ vs. ‘social democratic’ or ‘conservative’ welfare states and ‘liberal’ vs. ‘coordinated’ market economies respectively as benchmarks.

<sup>2</sup> This development took a significant leap forward with the implementation of the Single European Act as the first step on the way to completing the Single Market. Moravcsik argues that this can be arguably considered a neo-liberal project (Moravcsik, 1991, p. 42f.)

of 2:1 vis-à-vis revenue-increasing measures (see European Commission (2010a); (2011); (2012a), see Figure 1).<sup>3</sup>



<sup>3</sup> Whilst this is in line with the economic policy consensus of EU policy-makers outlined in the previous part of this section, it also reflects much of the research of the 1990s on the ideal composition of fiscal consolidation programmes, which showed a positive correlation between expenditure-focussed fiscal consolidation programmes and their success (Alesina & Perotti (1995); (1996); McDermott & Wescott (1996)).

In that sense, based on the economic literature on the effects of expenditure-based fiscal consolidation programmes, it would be reasonable to expect similar effects of the Greek and Portuguese programmes, i.e. rising levels of inequality.

However, both in the case of Greece and Portugal, the Troika was faced with unforeseen circumstances during the implementation phase of the EAPs, which caused them to change some of the prescribed policy measures from the original MoU. In the Greek case, a much deeper recession than anticipated had occurred, wiping out about a quarter of the Greek economy throughout the duration of the crisis, which strained public finances much more than expected. The targets of the fiscal consolidation effort in the EAP were revised repeatedly and substantially, and a second programme was set up in 2012.<sup>4</sup> The general strategy of basing the consolidation effort largely on expenditure-based measures, however, was maintained since the beginning of the adjustment process: The Troika’s response to Greece missing its fiscal targets in 2010, 2011, and 2012 was demanding further efforts to close fiscal gaps in earlier years, i.e. ever deeper spending cuts. When further revisions became necessary in subsequent years, the reform prescriptions were corrected, but maintained the 2:1 expenditure-revenue-ratio.<sup>5</sup>

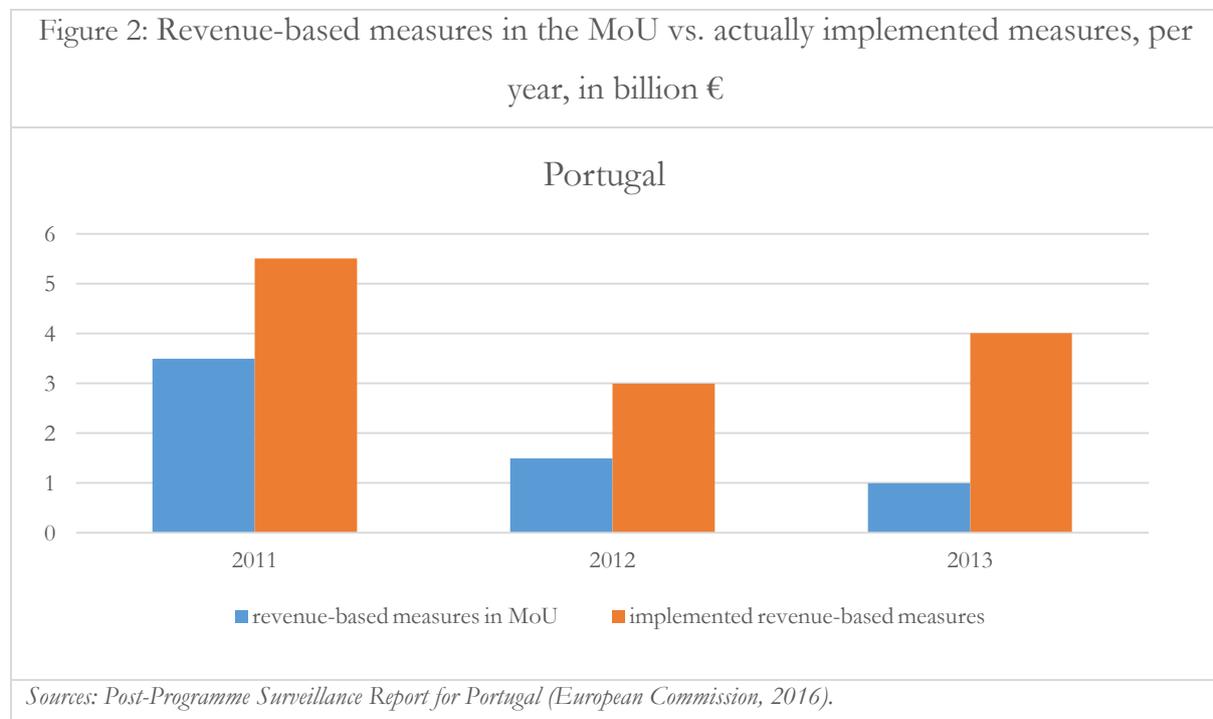
By comparison, the Portuguese programme was met with much fewer difficulties due to the relatively smaller downturn of the Portuguese economy. However, whilst the overall targets for the

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<sup>4</sup> It also became evident that the strategy of outlining general long-term policy prescriptions and fiscal consolidation targets was not productive amid the deterioration of the macroeconomic environment and the Troika abandoned it in favour of continuously updated medium-term fiscal strategies (MTFS). This is why detailed information on the composition of the prescribed consolidation measures are not part of the subsequent programme revisions.

<sup>5</sup> The second revision of the first EAP in December 2010 brought the first wave of additional measures that amounted to an additional 2.5% of GDP in 2011, bringing up the consolidation effort to 5.7% of GDP in that year, and an additional 5% throughout 2012-2014, two thirds of which were to be expenditure-based. In mid-2011 the Greek government adopted the first Medium-Term Fiscal Strategy (MTFS) outlining the details of the increased consolidation targets for 2012-2014. However, already later in that year, it became evident that the additional austerity measures were not enough to meet the fiscal target for 2012, resulting in heavier frontloading of those measures agreed-on in October 2011. In total, the consolidation effort in 2010 and 2011 amounted to 8.4% and 7.7% of GDP respectively, with another 5.5% planned for 2012. After the second EAP was agreed-on and the adjustment period for Greece extended by two years, the MTFS for 2013-2016 was adopted, including savings of 7.2% of GDP over 2013-2014, only 1.9% of which was revenue-based. From 2014 onwards, fiscal consolidation targets were met, and no additional consolidation measures were necessary.

budget consolidation were met, the Troika departed substantively from their strategy outlined in the MoU and employed in the Greek case regarding the composition of the budget consolidation measures: Because a large part of the consolidation effort in Portugal was initially based on one-off measures, the Troika shifted their focus to more sustainable consolidation measures after 2011. In doing so, it became evident that cuts in government expenditure were difficult to enforce, whilst revenue-increasing measures proved more effective than initially assumed. This led to both the Portuguese government and the Troika officially abandoning the objective of a two thirds expenditure-based programme by 2013. The measures implemented throughout the Portuguese programme were overall much more revenue-based than (1) the measures envisioned in the MoU, and (2) the measures implemented in the Greek case. In fact, by the end of the Portuguese EAP, revenue-based were more than twice as high as initially planned in the MoU (see Figure 2).



Against this evidence, a comparative case study of the distributive effects of the Greek and the Portuguese programmes makes sense: As the economic literature outlined in this section agrees that expenditure-based phases of fiscal consolidation result in increases in inequality, the Greek EAPs can be expected to result in higher levels of inequality. On the other hand, there is some disagreement in the literature on the distributive effects of revenue-based fiscal consolidation phases, which are taken to either result in lower levels of inequality, or higher levels of inequality to a smaller degree than expenditure-based fiscal consolidation efforts. In any case, this evidence allows the expectation that the Portuguese programme would result in a smaller increase in inequality levels – if any – than the Greek programme.

## **2.4 The bailouts as a case of international negotiations – the concept of a two-level game**

Beyond the expectations that can be garnered from the economic literature on the distributive effects of fiscal consolidation measures and how this applies to the two case studies at hand with their particular composition, this paper proposes that it is necessary to consider the special dynamics between the different actors involved in negotiating and implementing these far-reaching austerity measures. Unlike in phases of ‘home-grown’ fiscal consolidation, the EAPs that are the focus of this analysis are the product of a special interplay between the the policy-makers of the Troika, the governments of the recipient countries (here there Greek and Portuguese governments), and the governments of the guarantor countries. This in turn produces a complex web of interests that has a profound impact on the distributional nature of the EAPs. In order to conceptualise this relationship, we look at it through the lens of international cooperation, placing the Troika as being at the centre of a two-level game (see Putnam (1988), but also Keohane (1984) and Kahler (1993)).

The concept of a two-level game has been developed by Robert Putnam to take account of domestic democratic constraints when governments negotiate binding international agreements. The asymmetric two-level game structure of cooperation assumes that even countries in crisis have a (narrow) set of political choices that they can use to their advantage (Stone, 2008). The constraint of enraged domestic voters or other institutions (like a domestic court) can be turned into an advantage of a government that is under pressure from markets, the guarantors and the supranational monitors. The domestic constraints make its win-set smaller, a weakness that paradoxically can strengthen a negotiator’s hands, while the market panic enlarges its win-set (and thus weakens the bargaining position) because any bailout may be better than no bailout. Finally, small win-sets that constitute the strength of the weak raise the possibility of non-agreement, especially if the other side considers the constraints to be fabricated for strategic use. Negotiations therefore run the risk of failing and even a negotiator with a strong bargaining position (a small win-set) must consider the cost of no-agreement.

In the first (negotiation) stage, the win-set of the country in crisis is extremely large because its situation is extremely precarious. Conversely, the guarantor countries support a bailout to contain the negative effects on themselves. But they also want to see strict and harsh conditions attached so as to assure domestic taxpayers that the country receiving the bailout is not given an easy ride.

The smaller win-set of the guarantor countries thus becomes the binding constraint in the negotiations for the bailouts conditional on the EAPs.

In the second (implementation) stage, the programme country, represented by a democratically elected government, gains back some leeway because the success of the programme depends on its ability to get the programme through parliament, instruct its bureaucracy to make the changes happen on the ground, and, above all, stay in power. If the government fails, e.g. because it loses public support and is voted out of office, a new programme will have to be negotiated with the prospect of even more difficult political conditions in recipient countries. The opposite is the case in the guarantor countries: short of impending failure, the programme may have lost some salience there. Hence, the ongoing programme decreases the win-set of the country that gets the bailout and increases the win-set of guarantor countries.

This paper proposes that the intricacies of the two-level game dynamic has a profound impact on the distributional nature of the bailout programmes. While the literature critical of conditionality and bailout programmes<sup>6</sup> suggests that the Troika was oblivious of potential inequality-increasing effects of the reforms so long as budget consolidation and in the long-run creditworthiness is achieved, we would expect the opposite. The agent (of the guarantor countries, i.e. the Troika) must be mindful of the damaging effect that openly regressive measures can do to the success of a programme. Such injustice could be seized upon opportunistically even by those who lose their privileges under a programme and provide ammunition to the partisan contestation over government policy in guarantor countries. Against this background, it would be unsurprising to find that the reforms led to a reduction in inequality rather than increasing it. Conceptually this is possible even for expenditure-based reform programmes such as the Greek EAPs if e.g. social expenditure was initially used to buy votes, so cutting them may hurt privileged special interests more than the low-income or median voter. The empirical analysis will therefore be followed up with an assessment of whether the dynamics of a two-level game could be seen at play in the Greek and Portuguese EAPs.

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<sup>6</sup> To give only a few prominent examples: contributors to Matthias Matthijs and Mark Blyth (2015), such as Vivienne Schmidt (2015: 96) and Jonathan Hopkin (2015: 176-178), as well as the editors themselves; and economists like Robert Boyer (2012) and Joseph Stiglitz (2016: 21).

### **3. Methodological Considerations**

#### **3.1 Measuring inequality – a review of commonly used indicators**

This part of the paper serves to outline the indicators and datasets used to measure inequality and how it was affected by the fiscal consolidation measures in the economic adjustment programmes. Whilst there is a vast literature on the conceptual underpinnings of the notion of inequality (Sen (1980); (1992)), this paper focus on the income dimension of inequality, rather than wealth or consumption. This is firstly because, although especially inequality of wealth has become the object of increased attention in academic research in recent years, not least through the work of Atkinson (2015), Piketty (2014), and Saez & Zucman (2014), the great majority of the existing literature and the numerous indicators that attempt to measure inequality refer to the income dimension of inequality. This reflects a number of difficulties in the measurement of wealth inequality, such as a lack of reliable information on the distribution of wealth.

Many attempts have been made in the past to develop an indicator that satisfactorily measures income inequality<sup>7</sup>. However, so far all of the established indicators fall short of satisfying all of the desired properties of an inequality indicator, the most important of which are symmetry, normalisation, transfer, continuity, replication and scale invariance, transfer sensitivity, subgroup consistency, decomposability, and ease of interpretation (Anand (1983); Shorrocks (1988)). Mostly due to its high ease of interpretation, the indicator that emerged as the most commonly used is the Gini coefficient (Gini, 1912), which is in turn based on the Lorenz curve (Lorenz, 1905). This uses the Gini coefficient as the prime indicator for income inequality.

Visually, the Gini coefficient is calculated by dividing the area between the Lorenz curve and the 45° line of equality by the area below the line of equality, with the Lorenz curve plotting the cumulative proportions of income of the poorest x% of the population, for different values of x. The Gini coefficient therefore always takes values between 1 and 0, 0 being absolute equality and 1 being an extreme case where one person earns all the income (Cowell, 2011). In this analysis, the Gini coefficient is calculated on the basis of equivalised disposable household incomes. This is because market income, i.e. income before taxes and benefits, does not capture a state's

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<sup>7</sup> For more detailed discussions of various advantages and shortcomings of different inequality indicators see Anand (1983); Atkinson (1970); Foster & Sen (1997); Foster(1985); Kakwani (1980); Sen (1992; 1973); and Shorrocks (1988).

redistributive efforts, which is the central object of analysis in this paper, and the household, rather than the individual, is the unit that redistribution through the tax-benefit system is based on. The Gini coefficient is calculated annually by aggregating monthly data.

For completeness reasons, the analysis based on the Gini coefficient presented in section 4 was carried out in the same manner for a second inequality indicator, the S80/S20 ratio. This is because the Gini coefficient is a good measure for changes in the middle of the income distribution, but is rather insensitive towards changes at the bottom and top ends of the income distribution. The S80/S20 ratio is calculated by dividing the income of the top quintile of the income distribution by the income of the bottom quintile, and has emerged as a commonly used addition to the Gini coefficient in measuring inequality because it is particularly sensitive towards changes at the tails of the income distribution. Equivalent to the Gini coefficient, the calculations are based on annual equivalised disposable household incomes.

### **3.2 Presentation of the datasets**

The inequality levels measured by the Gini coefficient presented here are based on survey data from the Survey of Income and Living Conditions carried out by Eurostat (EU-SILC). This dataset provides a range of social indicators, including poverty, income, social exclusion, and living conditions. The data is collected in the year after the reference period.<sup>8</sup> In most countries, data collection is based on household surveys, however, a small number of countries rely on a combination of administrative registers and representative interviews with household members (Iacovou, Kaminska, & Levy, 2012). Whilst it must be stated that these differences in the collection process and the sampling procedure create minor issues of comparability between different countries, it is the most accurate dataset that exists for the analysis of income inequality in the EU, and is widely used in academic research. The data that is ascertained through the EU-SILC waves provides household disposable income data on a monthly level, which is aggregated to an annual level, and equivalised through the ‘modified OECD equivalence scale’ to account for different household sizes (Eurostat, 2015).

As the analysis of inequality indicators based on real data such as the EU-SILC dataset involves a certain time lag due to the process of the data collection outlined above, the analysis in this paper

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<sup>8</sup> Exceptions are the UK and Ireland, where data is collected during the reference period, and 12 months after the reference period respectively.

is complemented by findings based on European tax-benefit microsimulation tool EUROMOD at the University of Essex. Microsimulation tools are frequently used by researchers to account for time lags in the data availability, and allow calculations of household incomes based on previous waves of household income survey data (EUROMOD is based on EU-SILC data) by adjusting household incomes depending on changes in the tax-benefit system. This is done by making use of additional data provided by national statistical offices and other institutions like central banks, accounting for distortionary effects, such as earnings growth (Bank of Greece, 2013), tax evasion (Matsaganis, Leventi, & Flevotomou, 2012), rise in unemployment (Figari, Salvatori, & Sutherland, 2010), and non-take-up of social benefits (Matsaganis & Leventi, 2014, p. 213). EUROMOD has been validated on both micro and macro level and tested in various applications. For further reading see Figari et al. (2012) and Bargain (2006).

However, the advantages of using tax-benefit microsimulation tools go further than filling time lag-induced gaps in the data availability. As EUROMOD contains all tax-benefit policies of a given EU country in a given year, it also allows to simulate the effects of hypothetical policy changes. For the purpose of this paper, this allows to assess the distributive effects that particular policy reforms such as changes in unemployment benefits or pensions have on the income distribution in a given year by changing the policies in the model and applying it to the same income data. This in turn enables the use of indicators such as the Gini coefficient that capture the distributive impacts of policy measures against a counterfactual scenario that can be constructed with EUROMOD where said policy changes are absent (see e.g. Reynolds & Eugene (1977) and Duclos & Araar (2006)). For the scope of this paper, this method adds nuance to the analysis with EU-SILC data because it allows to exclude the effects that the recession had on income inequality through e.g. increased unemployment and isolate the effects of the policy reforms.

In this context, it needs to be stated that whilst the analysis with EUROMOD provides useful additions to the analysis of inequality indicators based on real data, it is restricted to ‘first-order’ distributive effects of policies. The concept of first-order distributive effects relates to direct effects of policy reforms on the income distribution, e.g. the direct effects of a reform in the tax-system on the different income deciles. This neglects ‘second-order’ distributive effects of the analysed policy reforms, which affect inequality indirectly through affecting other economic indicators such as employment. This gains importance in cases where policy reforms have sufficiently large effects to change the economic outlook of a country, e.g. if a reform in unemployment benefits affects gross incomes in such a way that aggregate demand falls sufficiently to trigger an increase in unemployment, this will affect inequality in addition to the direct effects the reform had in the first

place. However, preliminary results of studies that are working on resolving this issue indicate that in the cases analysed for this paper, second-order effects are comparably small and thus unable to offset first-order effects. Moreover, it is unclear that second-order effects would necessarily be unidirectional, as the reforms are ultimately aimed at sustainably expanding economic activities and would thus facilitate employment, particularly when compared to a possible scenario without reforms<sup>9</sup>.

### **3.3 The approach of this paper**

The following section of the paper contains the empirical analysis, which is divided into two parts. In the first part, income inequality levels measured by the Gini coefficient are given for the years of the programme duration in Greece and Portugal, as well as the preceding years. These are taken from EU-SILC data provided by Eurostat. This analysis is completed by a comparison of levels of inequality measured by the Gini coefficient of disposable household incomes with inequality of market incomes, i.e. incomes of households before transfers through taxes and benefits (including pensions). This analysis provides an approximation for the redistributive capacities of the welfare state of the two case study countries.

The analysis of the part described above provides a comprehensive picture of how inequality as well as redistribution has developed throughout the duration of the Greek and Portuguese EAPs. However, income inequality is influenced by a variety of different factors, which is why the second part of the section provides supporting data created with EUROMOD which isolates all of these effects and assesses the direct effects of the policy reforms in the EAPs. This is done by comparing income inequality levels measured by the Gini coefficient under a reform scenario and a counterfactual scenario. In the reform scenario, the effects of all policy reforms that were implemented as part of the Greek and Portuguese EAPs are simulated. In the counterfactual scenario, the tax-benefit systems of both Greece and Portugal are held constant from the year prior to the respective programme inception and applied to the same income data as the reform scenario. In the Greek case, the counterfactual scenario contains the tax benefit system of 2009 (the year before the first Greek EAP began), which is applied to the years of the programme implementation (2010 through 2017). In the Portuguese case tax-benefit policies from 2010 are applied to the years of the Portuguese EAP (2011 through 2014).

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<sup>9</sup> For an insightful discussion of how structural reforms affect the distribution of incomes see Campos, De Grauwe, & Ji, 2017.

## **4. Empirical Analysis**

### **4.1 The development of income inequality in the Eurozone**

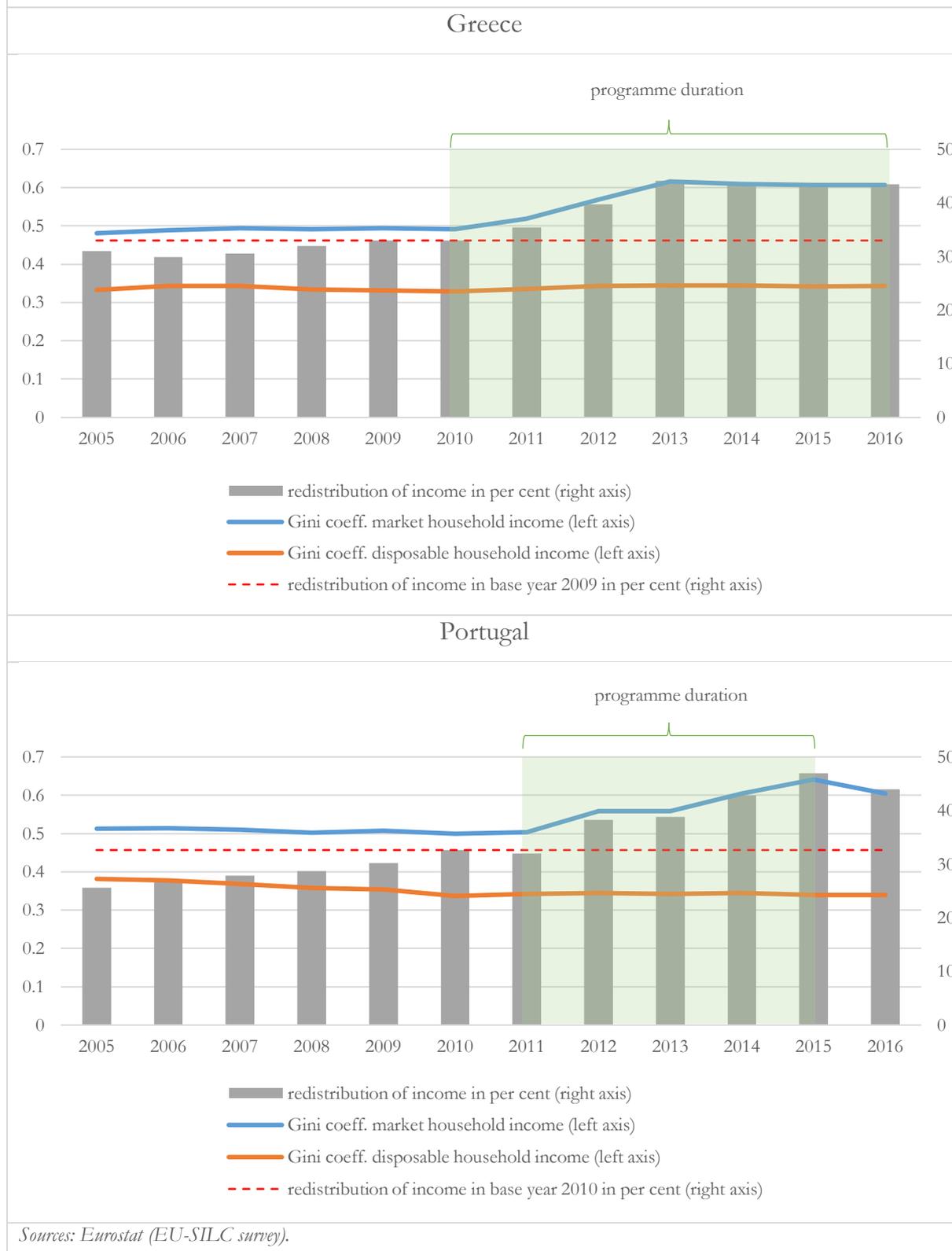
In assessing the distributive impacts of the fiscal consolidation measures outlined in the economic adjustment programmes, this paper first shows how inequality measured by the Gini coefficient developed between 2005 and 2016, including the years of the EAPs in Greece and Portugal (see Figure 3.1). The evidence shown at this point is based on the Gini coefficient calculated with EU-SILC data. Two major findings can be derived from this analysis:

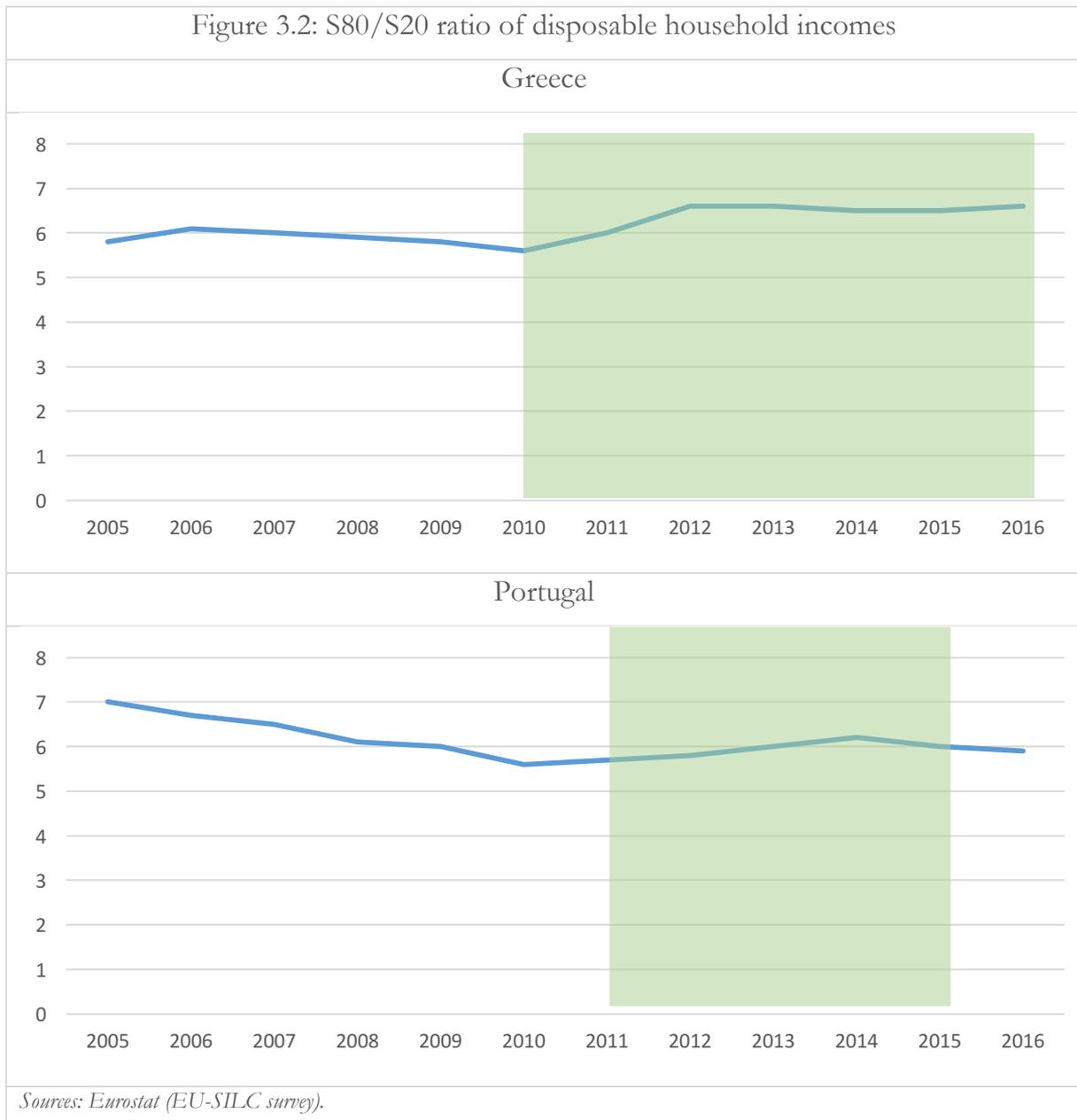
- (1) The Gini coefficient of disposable household incomes has stagnated with minor fluctuations in both countries. Some qualifications need to be made at this point:
  - a. in Greece, there is some increase in the Gini coefficient of disposable household income between 2010 and 2012, after which inequality remains constant for the following years. Compared to earlier years, inequality levels during the Greek EAPs stay at similar levels;
  - b. in Portugal, inequality of disposable household income remains constant from the beginning of the EAP onwards. However, the downward trend that inequality levels had been following in the years prior to the beginning of the EAP was interrupted.
  - c. The results for Greece are corroborated using the S80/S20 ratio (see Figure 3.2) as a second inequality indicator in that we observe an increase in levels of inequality in the first two years of the EAP and virtually no change after that point. For the Portuguese case, however, the S80/S20 ratio shows increases in the years 2011-2014, thereby continuing a trend that began in the year prior to the inception of the EAP. It was only in the last year of the EAP that the S80/S20 ratio fell again. In absolute terms, the S80/S20 ratio remains below pre-2008 levels throughout the entire duration of the EAP. The increases in the S80/S20 ratio suggest that there have been changes at the tails of the income distribution that are not captured by the Gini coefficient.
- (2) Conversely, inequality of market household incomes has increased substantively with the inception of the EAPs in both Greece and Portugal. Whilst this can be attributed to the recession and the increase in unemployment, it is a somewhat surprising finding in

conjunction with the previous finding of stagnating levels of disposable income inequality. The widening gap between the two is illustrated in the graph by the grey bars representing the percentage difference between inequality of market and disposable household income. In the Greek case this difference has increased from 33% in the year before the EAP began (2009) to 43% from 2013 onwards. In the Portuguese case, the difference increased from 33% in 2010 to 47% by the time the programme had been concluded (2015). In both cases, there was therefore sufficient redistribution to offset the entirety of the increase in market income inequality induced by the recession.

Based on these findings it follows that the increases in inequality as expected based on the review of the economic literature described in section 2 failed to materialise. This is true for both the Greek and the Portuguese case. In addition, the growing gap between market and disposable household income shows that the redistributive functions of the welfare state have remained intact in both Greece and Portugal. In fact, more income has been redistributed throughout the duration of the EAPs than in the years prior to that. Moreover, considering the different composition of the Greek and Portuguese EAPs, the data show that both the strongly expenditure-based fiscal consolidation efforts in Greece, and the revenue-based consolidation in Portugal have led to remarkably similar outcomes regarding inequality of disposable household incomes and the redistribution of income.

Figure 3.1: Gini coefficient of disposable and market household incomes



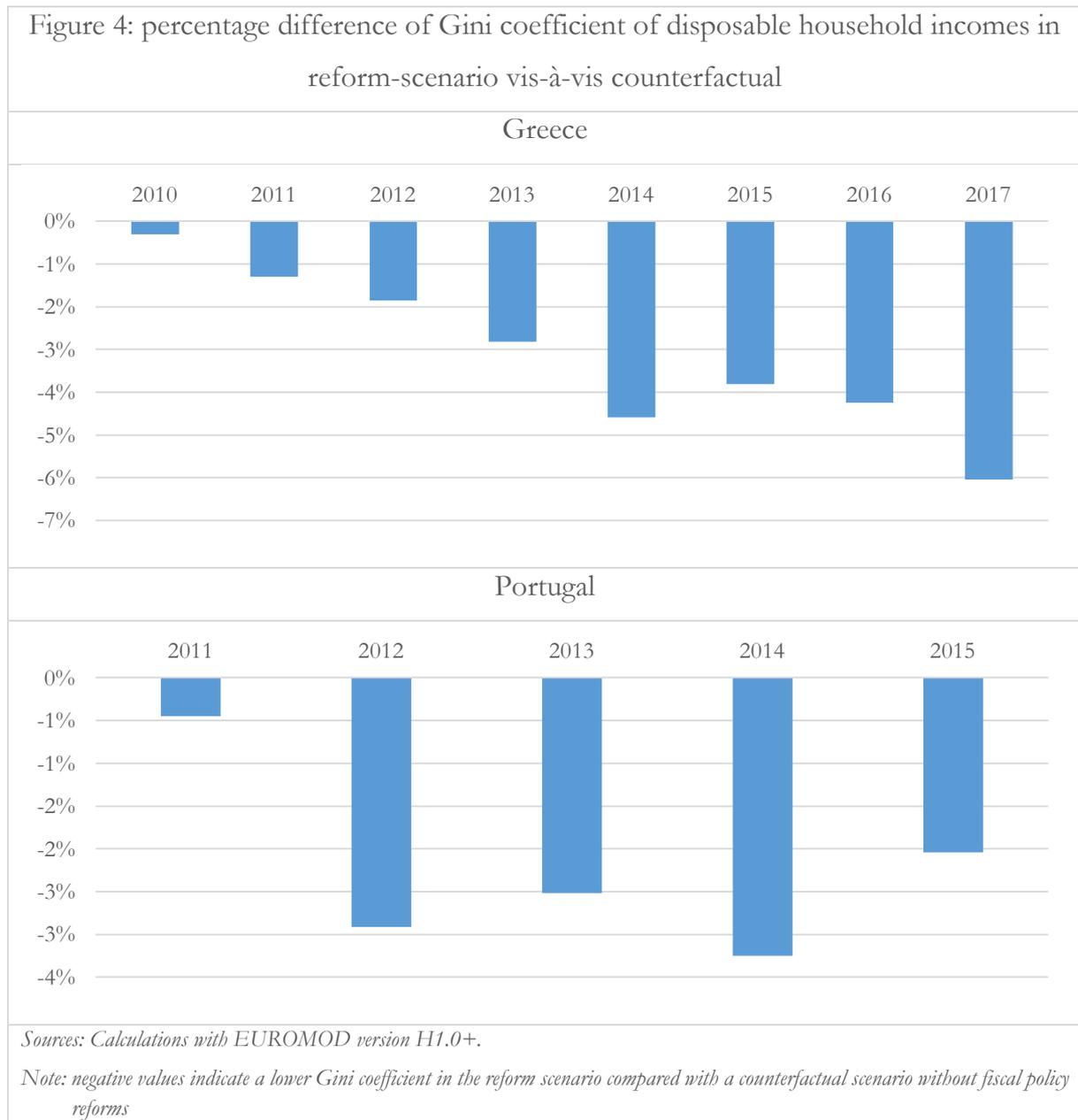


#### 4.2 A tax-benefit microsimulation approach to assessing the distributive effects of fiscal consolidation measures

Whilst the data presented in Figures 3.1 and 3.2 give some valuable insight into the interplay between fiscal consolidation and income inequality, showing that contrary to previous findings inequality has not increased throughout the duration of the EAPs, these results may have been caused by a number of different factors. The use of microsimulation allows for a more nuanced and straight-forward assessment of whether the reforms of the tax-benefit system prescribed in the EAPs have in fact served to alleviate market-induced increases in income inequality during the

recession. To that end, this paper presents a counterfactual scenario constructed with EUROMOD, showing “what would have happened in the absence of the fiscal consolidation measures” (Sutherland, et al., 2013, p. 6). This method excludes the effects of the wider recession on the income distribution, thus allowing for an analysis of the tax-benefit reforms in an isolated manner. More concretely, in the counterfactual scenario the tax-benefit system remains unchanged from the year prior to the respective programme inception throughout the implementation period of the adjustment programme. Thus, the counterfactual shows how disposable income inequality would have developed, if market incomes in the various years throughout the programmes had been redistributed through the tax-benefit system that was in place in the year prior to the programme inception, i.e. before the reform efforts prescribed by the Troika began (i.e. 2009 for Greece, 2010 for Portugal).

This exercise yields that the reform measures in the EAPs did in fact produce lower levels of income inequality when compared with a simulated counterfactual of unchanged tax-benefit policies from before the EAPs began (see Figure 4). The reforms in the Greek EAPs produced a Gini coefficient of disposable household income of 6% below that in the counterfactual by the year 2017. The reforms of the Portuguese EAP resulted in a Gini coefficient of disposable household income of between 2% and 3% below that in the counterfactual between 2012 and 2015. These data confirm that the fiscal consolidation measures in the EAPs had an inequality-reducing effect, which at times must have been large enough to offset the increases in market income inequality throughout the duration of the EAPs. Moreover, the most progressive reforms were implemented as part of the Greek EAPs, which stands in opposition to the expectation that expenditure-based fiscal consolidation measures should lead to higher levels of inequality than revenue-based measures.



In order to provide a higher level of detail as to how exactly the reforms in the EAPs in Greece and Portugal have affected inequality, the next part of this section presents data produced with EUROMOD which simulates the effects of different classes of policies on each income decile. The data show the percentage changes in income per policy class and decile.

In Figure 5, these data are presented cumulatively, i.e. as the sums of the annual percentage changes in income per decile as a result of the policy reforms. The cumulative data does not account for changes in original incomes, which the annual percentage changes refer to and therefore needs to be interpreted accordingly. Figures 6 (Greece) and 7 (Portugal) show the underlying annual changes in income due to the policy reforms.

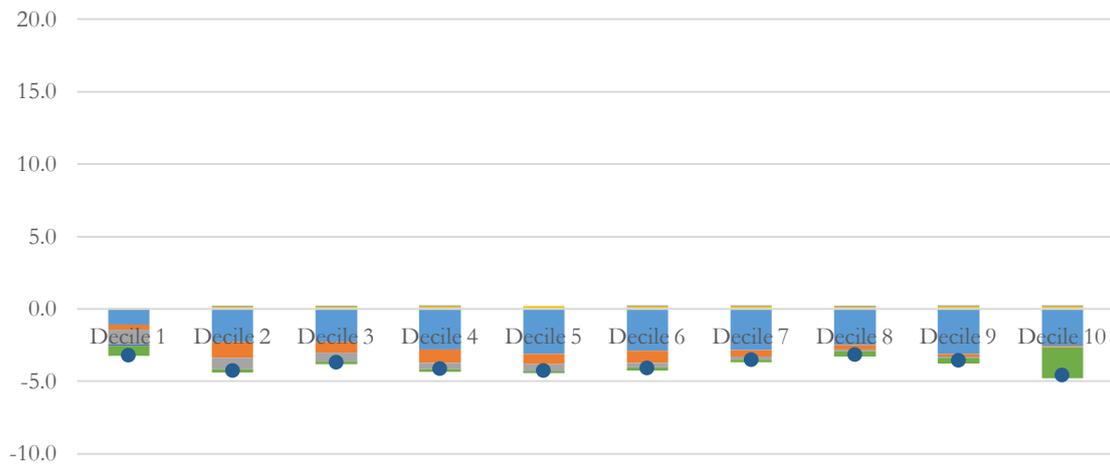
For the Greek case (see Figures 5 and 6) this exercise yields the following important insight: The most progressive, i.e. inequality-reducing reform measures have been in the class of means-tested benefits. Particularly in the years 2012-2013, 2013-2014, 2015-2016, and 2016-2017, changes in means-tested benefits led to substantive increases in disposable household income of the lowest income decile. In the years 2012-2013, and 2013-2014, this was true for the whole bottom half of the income distribution. Other classes of policy reforms produce mixed distributive outcomes with e.g. changes in direct taxation leading to a reduction of high incomes in 2011-2012, and a reduction of low incomes in 2012-2013.



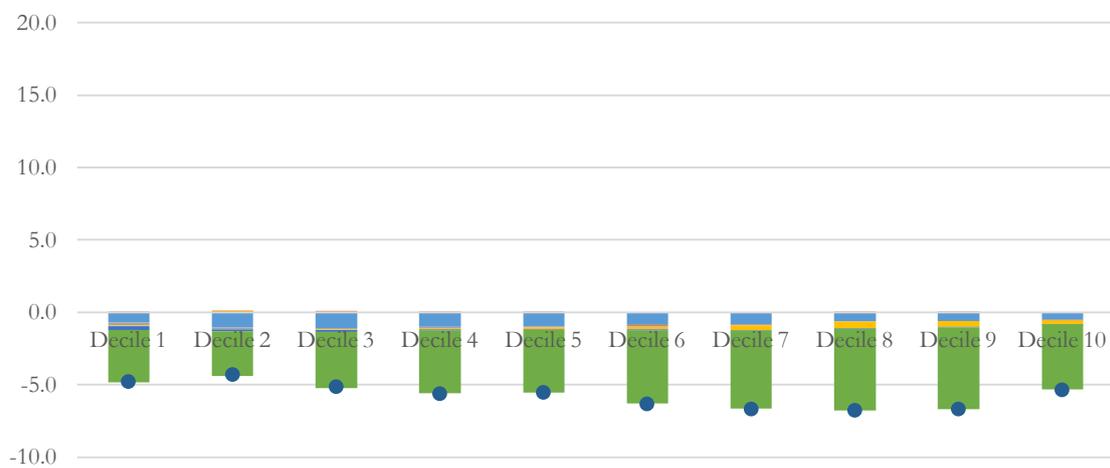
Figure 6: percentage change in income due to the reforms in the EAPs per decile  
by policy class and year

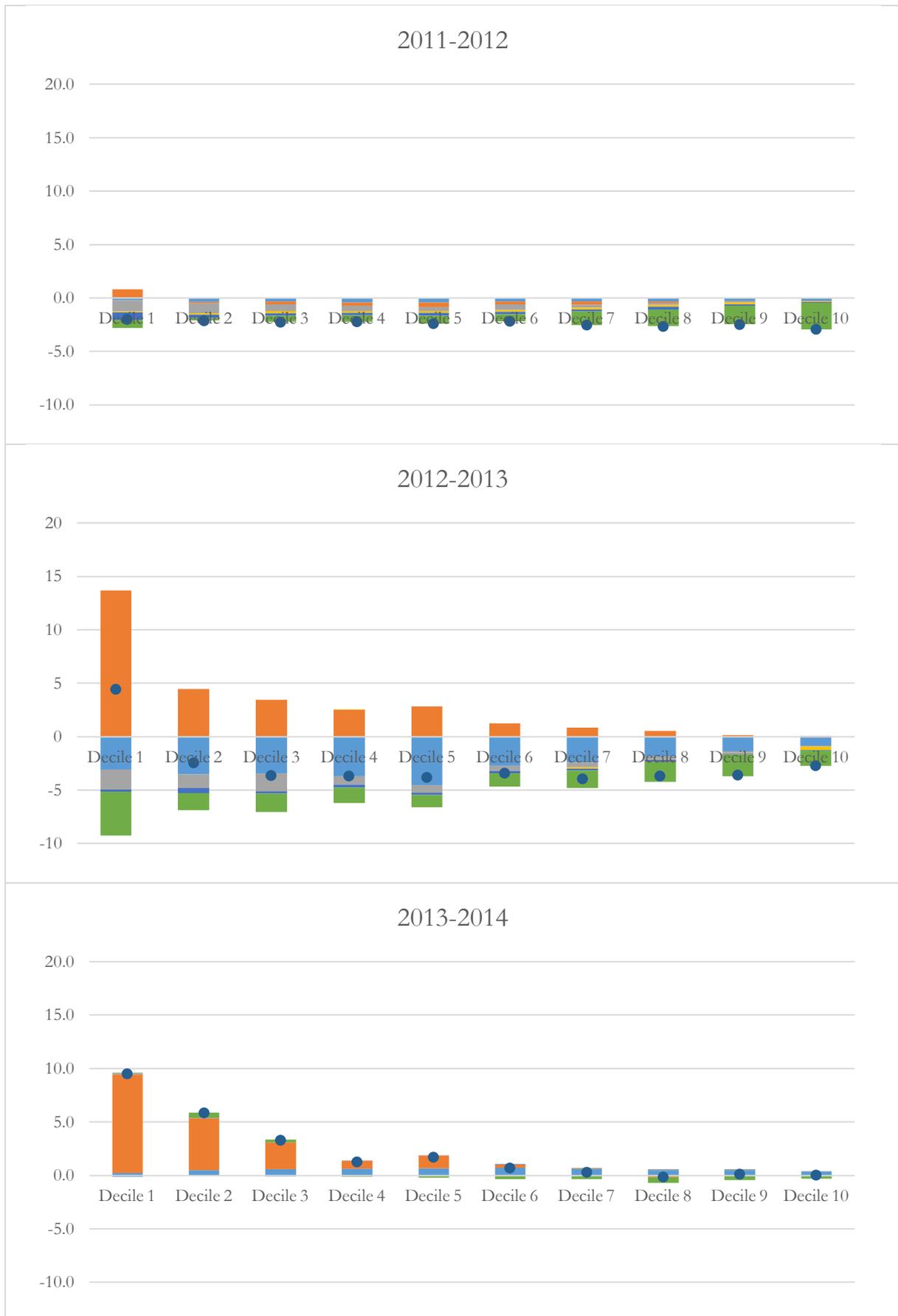
Greece

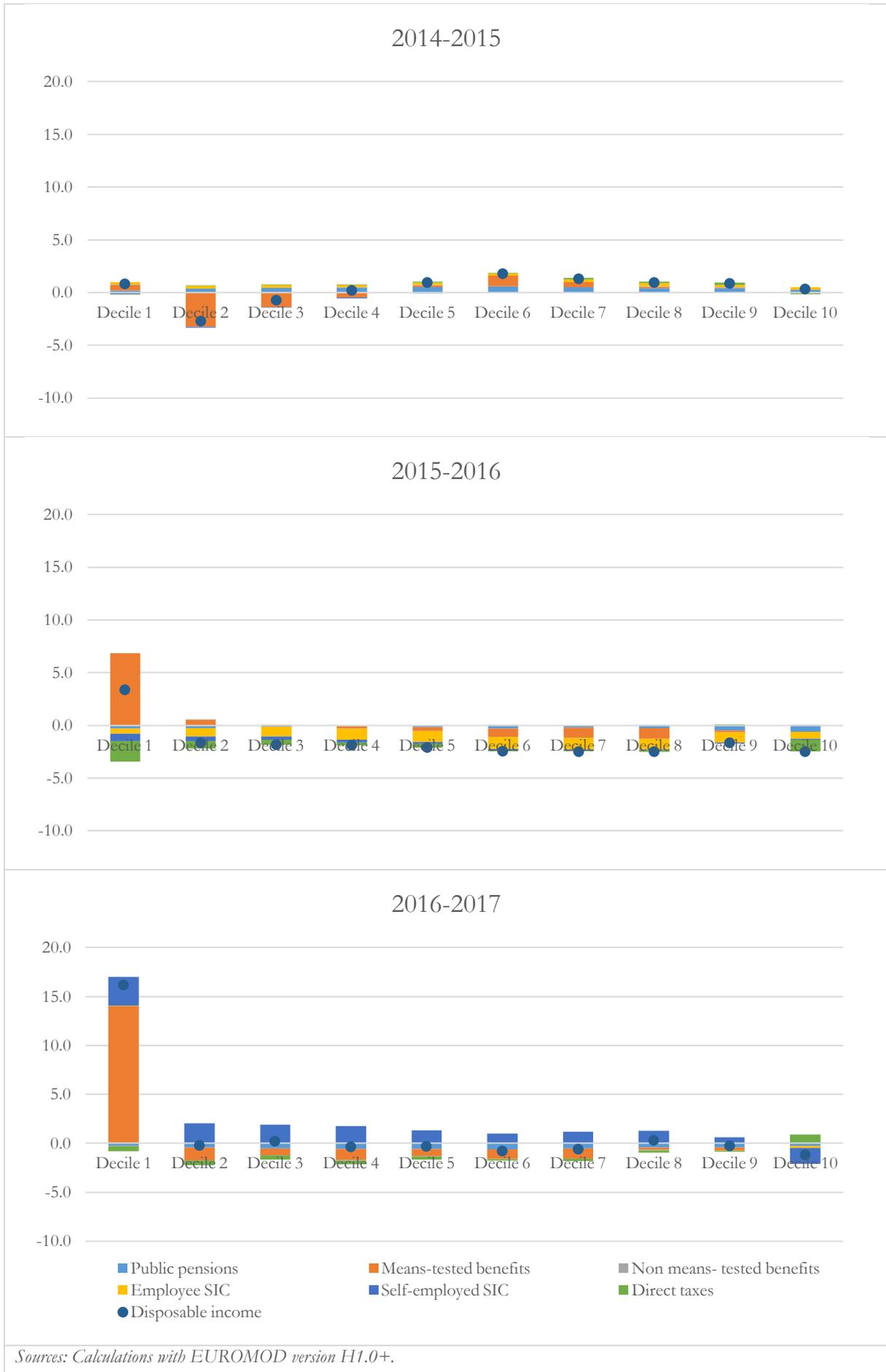
2009-2010



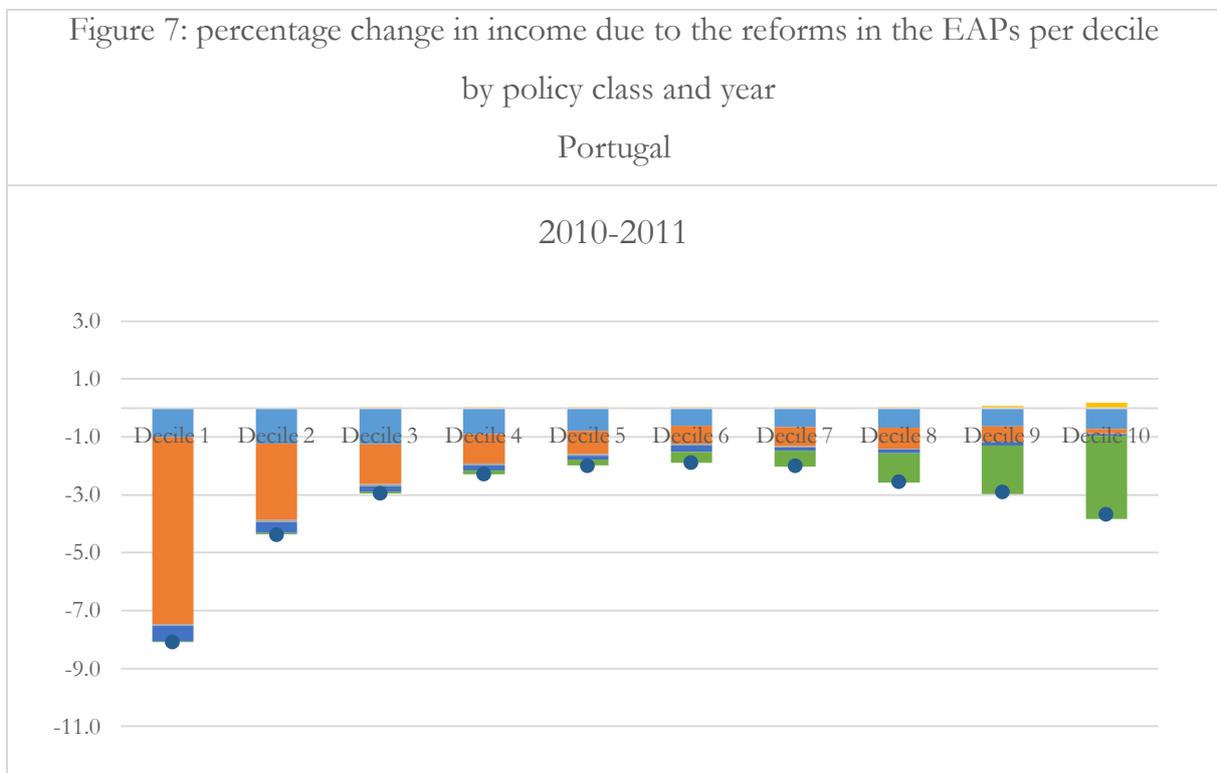
2010-2011

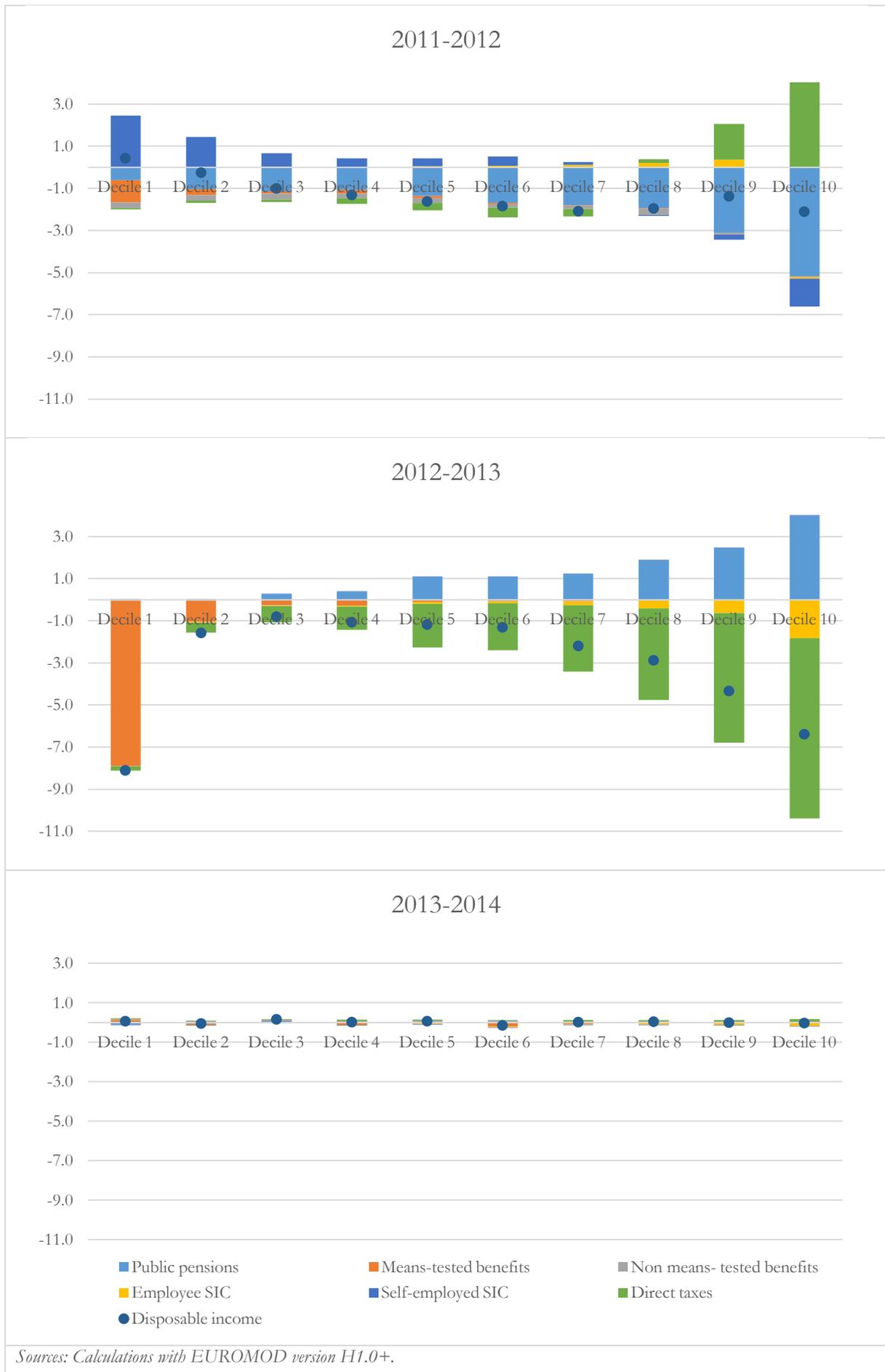






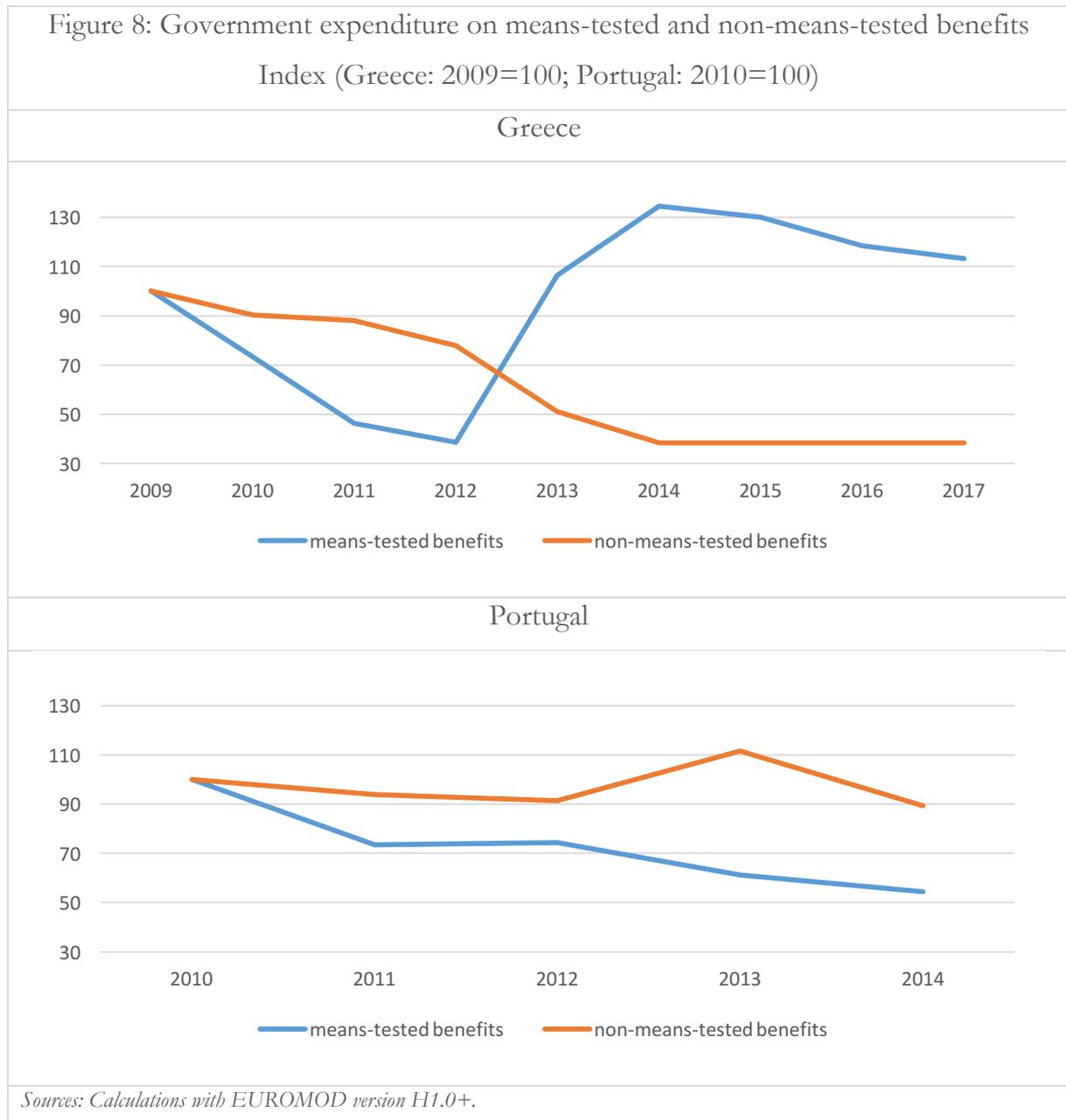
The analysis of the Portuguese EAP (see Figures 5 and 7) yields very different results compared to the Greek EAPs. Whilst changes in means-tested benefits had the largest inequality-reducing effect in the Greek case, they had the largest inequality-increasing effects in the Portuguese case. In the years 2010-2011 and 2012-2013 changes in means-tested benefits led to substantive reductions in incomes of the bottom half of the income distribution. Direct taxes, on the other hand, have compressed the income distribution leading to large reductions of incomes in the top half of the income distribution in the years 2010-2011 and 2012-2013 although incomes of the two top deciles were increased through changes in direct taxation in the year 2011-2012. Changes in public pensions had an inequality-reducing effect in the year 2011-2012, and the opposite effect in the year 2012-2013.





At this point, it makes sense to look at two findings from the above analysis in more detail: (1) the fact that changes in means-tested benefits had the largest inequality-reducing effects in Greece, whilst the opposite was the case for Portugal; and (2) the fact that changes in public pensions reduced income inequality in Portugal in one year (2011-2012), and increased it in the following year.

In order to analyse the first finding, the following part of the section compares spending levels on means-tested benefits and non-means-tested benefits in both Greece and Portugal (see Figure 8). The data show that in Greece, government expenditure on means-tested benefits has increased after the year 2012 to levels above those of 2009. Considering that the indexation refers to absolute expenditure levels and that in the same period the Greek economy has shrunk substantively, this signifies a large increase in government expenditure on means-tested benefits. The large increases in spending on means-tested benefits coincides with inequality-reducing effects that changes in means-tested benefits had on the income distribution measured with EUROMOD (see Figure 6). At the same time, spending on non-means-tested benefits has decreased to almost 1/3 of 2009 levels from 2014 onwards. In fact, some of the benefits that used to be non-means-tested were simply made means-tested as part of the reforms in the EAPs for Greece. In comparison, spending on means-tested benefits in Portugal has dropped to almost half of the 2010 spending level by the end of the EAP, whereas spending on non-means-tested benefits has fluctuated between 10% below and above 2010 spending levels. This suggests that the inequality-increasing effect of changes in means-tested benefits in Portugal stems from a simple reduction in government spending on means-tested benefits, the opposite of which was the case in Greece.



In order to analyse the second finding, i.e. that changes in public pensions were inequality-reducing in 2011-2012 in Portugal but inequality-increasing in 2012-2013, requires a qualitative account of the pension reform that was part of the Portuguese EAP. As part of an effort to cut government expenditure on pensions by an overall 1.5% of GDP, the EAP for Portugal prescribed a suspension of the indexation for all but the lowest pensions, increasing the retirement age, and introducing a temporary ‘Extraordinary Solidarity Contribution’ on pensions above a specified threshold. In addition, the 13<sup>th</sup> and 14<sup>th</sup> monthly payments to pensioners were cut. Overall, the design of the pension reform seems to have put the bulk of the consolidation burden of 1.5% of GDP on higher

pensions. However, in 2013 the Portuguese constitutional court ruled against the pension reform requiring most of the original pension system, such as the 13<sup>th</sup> and 14<sup>th</sup> monthly payments, to be reinstated. Both events, the implementation of the pension reform in 2011-2012, and the ruling of the courts and subsequent almost complete reinstatement of the old pension system in 2013 coincide with the substantive changes in the distributive effect of pensions observed in the previous part of this section, reducing inequality in 2011-2012, and increasing inequality in 2012-2013.

### **4.3 Compliance with the fiscal policy prescription in the EAPs**

As the results presented in the previous part of this section show, the policy reforms prescribed in the EAPs lead to stagnating or even falling levels of income inequality, whilst the respective redistributive capacities of the countries’ tax-benefit systems increased, or were at least triggered to a larger extent whilst not being curtailed by the reforms. In addition, the reforms’ direct distributive effects were inequality-reducing. However, this leaves the question whether the Troika was in fact the driving force behind a set of reforms that was progressive by design, or in contrast to that, whether national governments altered the policies outlined in the EAPs before implementing them in order to shield their electorates from potentially regressive reforms. In order to assess this, a qualitative analysis of the quarterly reviews of the EAPs for Greece and Portugal is necessary.

In the Greek case, overall compliance with the EAPs can be described as high, even though the fiscal targets were frequently missed due to the deteriorating macroeconomic environment. However, the reviews of the EAPs offer the insight that in the early stages of the first EAP, the Greek government had a larger degree of discretion in implementing the reform prescriptions of the Troika. After missing the fiscal targets outlined in the MoU, the Troika abandoned this rather hands-off approach in favour of more micromanagement. Instead of outlining general fiscal aims and leaving the design of the actual policy reforms to the national authorities, the Troika introduced the concept of medium-term fiscal strategies (MTFS) by mid-2011. In doing so, the Troika had to approve the Greek reform efforts on a quarterly basis, ensuring that the Troika’s reform prescriptions would be followed to a higher degree. The fact that this change in strategy coincides with more inequality-reducing reforms after an initial spike in inequality levels suggests that the hypothesis that the Greek government altered some of the reform prescriptions in order to shield its electorate from potentially inequality-increasing reforms cannot be substantiated.

In the case of Portugal, the initial reform prescriptions were changed more substantially than in the Greek case. The focus of the consolidation effort shifted from largely expenditure-based

measures to more revenue-based measures. However, the Troika was involved in all of those changes, as an analysis of the reviews of the Portuguese EAP as well as the Post-Programme Surveillance Report indicate. The most prominent case where the actually implemented reforms deviated from those prescribed in the EAP was when the comprehensive pension reform, which had large inequality-reducing effects, was reversed by the Portuguese courts (see section 4.2). This suggests that similar to the Greek case, the reforms were progressive by design rather than due to the national governments changing the reforms to increase their progressiveness.

In fact, the wording of the reform prescriptions in the EAPs reveals that there was at least some sensitivity among the Troika towards the social dimension of the fiscal adjustment effort. In the EAP for Greece, there are several passages referring to the social impact of the programme: [whilst] “incomes and social security policies need to buttress the fiscal adjustment effort and restoration of competitiveness [...] the government is committed to fairness in the distribution of the adjustment burden” (European Commission, 2010a, p. 41) and further: “The lowest-income and lowest-pension earners, as well as the most vulnerable and those requiring family support, will all be protected and compensated for the adverse impact of the adjustment policies” (ibid., p. 28). Similar passages can be found in the Portuguese EAP.

#### **4.4 Discussion of the findings**

This section has shown that not only did inequality not increase throughout the duration of the Greek and Portuguese EAPs, but the reforms prescriptions actually had inequality-reducing direct effects. Considering that both Greece and Portugal were not only plagued by high public debt when the economic adjustment programmes were implemented, but also by a severe economic recession, this finding is all the more puzzling. During the recession in the programme countries the respective economies had low economic growth rates, and at times shrank substantively, whilst unemployment rose, which was expected to put an upward pressure on income inequality, and which is illustrated by the increases in market income inequality observed in this section (see Figure 3.1). The fact that the EAPs relied heavily on expenditure-based measures in the case of Greece was expected to exacerbate this effect through cuts in the social budget, which would have undermined the state’s capacity to mitigate upward pressures on inequality levels stemming from higher unemployment. As this has evidently not occurred, based on the findings presented in this section, this suggests that the fiscal consolidation measures outlined in the economic adjustment programmes were in fact progressive in their distributive impact and thus managed to offset the upward pressure on inequality levels induced by the economic recession and rising levels of

unemployment, as confirmed by the data from the simulations presented in Figure 4. Similarly, the Portuguese programme was expected to produce increased levels of inequality albeit less so than the Greek programmes due to its revenue-based composition. However, the Portuguese EAP also turned out to be progressive in its distributive effects, although to a smaller degree than the Greek EAPs.

This leaves the conclusion that against what previous studies have found regarding the distributive effects of fiscal consolidation measures, there is no such thing as an automatism between a certain composition of fiscal consolidation measures and their distributive effects. The evidence presented in this section rather suggests that policy makers have different choices available in designing policy reforms, which lead to different distributional outcomes. The fact that after the Troika took a more micromanaging approach in the implementation of the Greek EAPs, the inequality reducing effects of the reforms increased and that this was largely achieved by making formerly non-means-tested benefits means-tested is one piece of evidence for this: Even though the overall EAPs for Greece remained strongly expenditure-based, spending on means-tested transfers increased, illustrating that even in the face of high pressure to cut government expenditure, there is room for manoeuvre regarding expenditure on social transfers with progressive distributional outcomes. The following section proposes a political-economic explanation that puts the element of choice by policy makers at its core by placing the issue of fiscal consolidation in the Eurozone and its effects on the income distribution in a two-level game framework.

## **5. Fiscal Consolidation as Inter-State Cooperation**

The previous section has shown that redistribution of income has gone up during the duration of the EAPs, offsetting all of the recession-induced increases in market income inequality, as well as the fact that in sum, the reform measures had a direct inequality-reducing effect. The two-level game approach helps to explain this puzzling finding through the changing size of the win-sets of the different actors involved (see section 2.4). This has been taken to be something that the Troika, as the agent of the guarantor countries, anticipates and therefore avoids pushing openly regressive reforms onto the recipient countries. In fact, we can see how in the Portuguese case, the smaller win-set of the implementation phase vis-à-vis the negotiation phase was used consciously by policy-makers to increase their bargaining power:

The conservative Prime Minister Passos Coelho was elected on a manifesto that committed him to the bailout programme, signed by a caretaker government, as “useful and inevitable” (Lütz, Hilgers, & Schneider, 2015: 12). He and his finance minister Gaspar maintained throughout that they would deliver it as a matter of conviction, to great acclaim from the German finance minister and the ECB President. The government with its majority pushed these agreements through parliament, amidst mass protests. But first the opposition and subsequently President Cavaco Silva (who had to sign the budget) asked the Constitutional Court each time for a verdict on the legal status of the legislation. Between July 2012 and December 2013, the Court ruled five times that some measures prescribed by Troika programmes and voted through in Parliament as part of the annual budget approval, were unconstitutional. In a way, this was the best of both worlds: the government had secured an agreement and could demonstrate that it was strong enough to honour its commitments. The obstruction came from a veto-player that the Troika generally and the EU as a union of law-abiding member states could not easily dismiss. Since the government could not renegotiate the terms with judges, the Troika had to accept amendments each time and restructure the reform prescriptions (Lütz, Hilgers, & Schneider, 2015: 13-16). The Portuguese government did all this by distancing itself from Greece regularly and very publicly (Wise, 2015).

There is a large difference in the way that a smaller win-set was used in the Greek case: Three governments had been ousted by their attempts to push through the required reforms; they had to implement a reversal of the budget balance that is the highest among all countries to which the IMF ever lent. Prime Minister Tsipras was elected on a ticket that he would stand up to the Troika and subsequently he tried to circumvent ‘the institutions’, talking to the German and French government directly. In June 2015, he returned from an EU summit in which he had agreed to fulfil revised conditions that would allow the Troika to pay out the next tranche and was expected to make the case in parliament. But instead, he called a referendum, recommending to Greek voters to reject the revised programme. In other words, he signalled to the other member states that he was an unreliable negotiation partner who was possibly too weak to carry a decision and chose to put them under moral pressure instead. Among the sharpest and most vocal critics of Tsipras were, ahead of the referendum, the Spanish and Portuguese Prime Ministers (Kassam, 2015). However, the negotiation tactics of the Greek government also resulted in emotionalising the debate in the recipient countries, as is shown by e.g. the publicly made suggestion of German finance minister Schäuble that Greece could be expelled from the Eurozone if it were not to sign the third programme. Schäuble, without any legal basis for his statement, was clearly appealing to German voters. This suggests that the win-set of the guarantor countries had shrunk substantially in the face of a possible failure of the programme, giving back much of the bargaining power to them.

In the face of these dynamics, it makes sense that the Troika, as the agent of Council would design the reform prescriptions in a way that allows them to present themselves as being on the side of the people. A case in point is the inequality-reducing effect of the reforms in means-tested benefits outlined in the previous section, especially in the later years of the adjustment process: Progressive policies such as concessions and compensatory measures for the poor during a programme that started with harsh demands seemingly proved the account of the reforms that the Troika intended to give. Similarly, the failed pension reform is a case in point for the increased bargaining power of the recipient countries’ governments, enabling them to push back against some of the reform prescriptions. It is not surprising in this case that the Portuguese government did not want to be associated with a comprehensive pension reform that would cut incomes for a large electoral group, despite the fact that this was to be done in a progressive manner.

The Troika is at the centre of this two-level game acting as both the agent of the guarantor countries and the principal of the recipient countries in overseeing the progress of the reform efforts. In this function, the Troika is mainly concerned with a successful completion of the programme and is therefore mindful of the above-outlined changing win-sets of both the guarantor and recipient countries. This explains why the Troika is concerned with the distributive effects of the policy reforms it prescribed Greece and Portugal: Anticipating that (1) the win-sets of recipient countries will become much smaller once the negotiated reform measures are to be implemented, as well as (2) the win-sets of the guarantor countries will become larger after the initial negotiation phase, the Troika simply pursues what can rationally be expected to ensure the greatest likelihood of success of the programmes, given constraints of changing win-sets of guarantor and recipient countries. In designing the policy reforms in a way that would shield lower income groups from the most adverse effects of the adjustment process in an anyway difficult economic environment, the Troika avoids putting additional pressure on the recipient countries’ governments, which could ultimately threaten the success of the programme.

## **6. Conclusion**

This paper aimed to establish the distributive effects of fiscal consolidation measures in the Eurozone crisis based on a comparative case study of the Greek and Portuguese Economic Adjustment Programmes. Whilst the Greek EAPs were found to be heavily expenditure-based, the

Portuguese EAP was revised in its composition and ultimately relied more on revenue-increasing measures rather than expenditure-cuts. Whilst previous studies have found that fiscal consolidation leads to higher levels of income inequality, which is exacerbated when the consolidation is largely based on expenditure measures, the paper has shown evidence that this was not the case in either the Greek or the Portuguese case.

In fact, inequality of disposable household income has been found to stagnate throughout the duration of the EAPs rather than increasing. In addition to this, inequality of market income has increased substantively in both Greece and Portugal, suggesting that the redistributive capacities of the countries’ welfare states have remained intact or even been strengthened. Based on data created through simulations with tax-benefit microsimulation tool EUROMOD, the paper has found that in addition to this general development of inequality indicators, the fiscal consolidation measures themselves had inequality-reducing direct effects in both countries.

Whilst the revenue-based programme of Portugal was expected to be less regressive from the outset, based on the findings of previous studies, the progressiveness of the Greek programme was particularly puzzling. In explaining this puzzle, the paper has shown that expenditure-based fiscal consolidation is possible without crippling the welfare state’s redistributive capacities. An analysis of the impact of different classes of policies has yielded that Greece has managed to avoid large increases in inequality by making large parts of formerly non-means-tested means-tested. In doing so, higher income groups were then exempt from these benefits, whilst lower income groups were compensated. At the same time, expenditure on non-means-tested benefits for high income groups tends to be higher than for low income groups, which makes this approach not only more progressive but also more effective in reaching the targets of fiscal consolidation.

Since the effects and the design of the policy reforms say little about who was key for their progressive nature, the paper tested whether they were simply a result of the recipient countries’ governments not implementing the reform prescriptions. However, the paper found that compliance with the programmes was high, and that the inequality-reducing effects of the reforms were largest in those instances where the Troika was most closely involved in the consolidation process.

Concluding that the progressiveness of the fiscal consolidation measures was by design, the paper puts the element of choice by policy makers of the Troika at the centre of the explanation for why the reforms turned out to be progressive. It proposes to understand the negotiation and

implementation of the reform measures as a two-level game between the guarantor and the recipient countries at the centre of which the Troika acts as both agent of the guarantor countries, and principal for the recipient countries. In this function, the Troika anticipates that a regressive design of the reform measures would threaten the likelihood of success of the programmes, which is why it undertakes a conscious effort to design the reforms in a more progressive manner. As the paper does not find any necessity for implementing regressive policies (the fact that in an overwhelmingly expenditure-based programme, Greece increased its expenditure on means-tested benefits is a case in point), this strategy seems the most logical given the Troika’s double-function as both principal and agent in the negotiations between guarantor and recipient countries.

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