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Consumption inequality and poverty in Greece: Evidence and lessons from a decade-long crisis

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ABSTRACT

The paper assesses evolutions in consumption inequality and poverty in Greece from the onset of the economic crisis in 2009 until the completion of the last structural adjustment programme in 2019, being the first to analyse distributional developments under the SYRIZA-led government as contrasted to the period that led to its electoral rise. Using microsimulation analysis on several waves of Household Budget Survey data. this study finds that the left-led government elected in 2015 reversed trends of steeply escalating inequality and poverty of the 2009-2014 period. By adopting policies with clearly Rawlsian characteristics, primarily the least well-off and partly the middle class gained some lost ground. However, distributional changes were mostly marginal, when compared to the massive adverse developments of the 2009-2014 period. At the same time, the disequalising effect of indirect taxation became stronger as further tax hikes were employed to achieve fiscal consolidation targets. Our results suggest that even well-targeted redistributive policies, unless sufficiently generous, have limited capacity to actually lift people out of poverty and multilevel policies affecting the distribution of market incomes are necessary. If the NextGenerationEU recovery plan is set to achieve inclusive growth, this an important lesson for policy makers.

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1. Introduction

The decade 2009 to 2019 has indeed been extraordinary for Greece on both economic and political grounds, with the country witnessing its sharpest cumulative economic downturn in post-war years, a fiscal deadlock, skyrocketing unemployment, three severe fiscal consolidation programmes supervised by the country's lenders and multiple changes in government ending up in a coalition government led, for the first time in Europe's recent history, by a radical-left party.² While there have been numerous studies documenting the economic and social impact of the crisis and the first two structural adjustment programmes on Greek households covering broadly the period until 2014 (Andriopoulou et al., 2017, 2019; Doorley et al., 2021; Giannitsis and Zografakis, 2015; Kaplanoglou, 2015; Kaplanoglou and Rapanos, 2018; Katsikas et al., 2018; Panori and Psycharis, 2018; Papanastasiou and Papatheodorou, 2018; Leventi and Matsaganis, 2013, 2016; Mitrakos, 2014),³ there is hardly any study bringing such analysis to date and, more importantly, exploring what happened after 2015, when the radical change in the government office took place.

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² For alternative explanations of the electoral rise of SYRIZA, see Spourdalakis (2014) and Tsakatika (2016).

³ A few studies extend the analysis to 2016 (Jenkins, 2020; Maniatis and Basiakos, 2020). For a comprehensive review of the papers studying aspects of inequality and poverty in Greece in the '90s, see Andriopoulou et al. (2017).

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There are multiple reasons why such analysis would be intriguing. The post-2015 period coincides with what was called the first left government in Europe (albeit Portugal followed some months later), led by the Coalition of the Radical Left (SYRIZA). Although SYRIZA was far from being a party with clear and comprehensive ideological framework (Spourdalakis, 2014), its rise increased polarization within the Greek party system and in the eyes of the Greek voters doubled the ideological distance between the two main parties (Bosco and Verney, 2016). It is therefore interesting to ask how such change in the political paradigm impacted on the actual welfare of different segments of society. Furthermore, the rapid transformation of SYRIZA from a marginal electoral power in September 2009 to a major player just two seats short of a parliamentary majority in January 2015 was, perhaps unsurprisingly, accompanied by a partial shift of political focus from the traditional left ideological prioritization of the least-advantaged towards the recognition of the middle class as the main regulator of both economic growth and democratic stability.⁴ To what extent this shift was reflected in the evolution of the relative living standards of the least well-off vis-à-vis the middle class or the better-off would pose an interesting research area. Additionally, any change in policy focus had to be accommodated within a stringent external policy environment, since the new government had to agree to a third structural adjustment programme (admittedly smaller than the first two in terms of fiscal consolidation requirements) a few months after its election. Finally, the end of term of this government in 2019 and the return of the country's economy to a positive growth path was not the endgame of a decade-long crisis, but rather the starting point of yet a new crisis fuelled by the global health pandemic. Initial evidence suggests that the pandemic has hit the most vulnerable groups the hardest (Amaglobeli et al., 2021). A clear depiction of the distributional footprint of the former crisis is of crucial importance in order to evaluate the impact of the current crisis and design policies for inclusive growth.

The present study exploits several waves of Household Budget Survey data spanning over the decade 2009 to 2019 in order to document changes in actual living standards of households as portrayed by their consumption expenditure. Evolutions of household consumption expenditure and its distribution mirrors in a rather comprehensive way the effect of multiple underlying factors. Such factors include primarily the severe contraction of the economy's output by almost a quarter and a highly restrictive fiscal policy, as depicted by a cumulative change in the cyclically adjusted fiscal balance amounting to -17.5 percent of potential GDP in the 2009-19 period (compared to a Eurozone average of 2.9 percent of potential GDP).⁵ The convergence of Greece to the European Union living standards as measured by the volume index of GDP per capita in purchasing power standards (PPS), expressed in relation to the EU28 average set to equal 100, was abruptly reversed since the index declined from 95 in 2009 to just 67 in 2019.⁶ Household market income decreased as a result of reductions in average annual wages of more than 20 percent over the same period,⁷ strong increases in unemployment, and flexible employment contracts gradually outnumbering full employment contracts in new recruitments (GSEE Labour Institute, 2020). Household disposable income further shrank by fiscal consolidation measures involving major tax hikes and social transfer cuts. At the same time, many households fuelled their consumption expenditure by drawing on their savings, with the annual net household saving rate averaging an OECD record-low of about minus 12 percent in the 2009/19 period (OECD, 2021a). The impact of each of these factors across the welfare distribution of households is unlikely to be homogeneous and household consumption expenditure is more likely to capture their combined effect.

Using tools of microsimulation analysis, the research objective of the paper is to explore aspects of the level and distribution of household welfare as these evolved in two distinct periods, 2009–2014 and 2015–2019, in which governments of different ideology ruled the country. Comparing the two periods is an interesting research exercise, since the post-2015 period is broadly unexplored and it would be important to identify the distributional developments that accompanied the change in political paradigm. The two periods combined, cover the whole decade from the onset of economic crisis until the official completion of the last financial assistance and economic adjustment programme and the return of the economy to a positive growth path. During this decade, governments faced the triple challenge of addressing severe fiscal imbalances, protecting growth and cushioning social disorders. Based on the findings of the paper we attempt to draw some critical policy lessons not only for the Greek economy, but more generally in the current post-pandemic conjunction when the challenge of inclusive growth has to be met in conditions of limited fiscal space.

The paper is organized as follows. The second section describes the data used in the study and the methodological approach. The third section discusses the evolutions of living standards of households belonging to different parts of the distribution over the period under consideration, while the fourth section explores patterns of consumption poverty. The fifth section studies the effect of consumption taxes on consumption expenditure inequality. This pre- and post-tax aspect might offer important insights, since Greece is unusual in the high share of consumption taxes in total tax revenue, while this share further increased during the crisis.⁸ The fifth section explores precisely whether such taxes impact in an equalizing or disequalising fashion on the living standards of households and whether indirect tax reforms introduced by the Syriza-led government affected consumption inequality. The final section concludes.

 $^{^4}$ See Milios (2016) on aspects of the political and ideological evolution of SYRIZA.

⁵ Data from AMECO database extracted on January 2, 2022.

⁶ Data from AMECO database extracted on April 26, 2021.

⁷ Data from the OECD database extracted on April 26, 2021.

⁸ According to OECD data (OECD, 2021b), over the 2009/19 period households in Greece paid 2.5 euros in indirect taxes for every euro of personal income tax, while consumption tax hikes yielded over 65 percent of the total increase in tax revenue fuelling the three Greek fiscal adjustment programmes from 2010 to 2019 (European Commission, 2021a).

2. Methodology and data

The assessment of the evolution of living standards of the population in Greece and respective inequality and poverty trends is based on Household Budget Survey (HBS) microdata for the years 2008, 2014 and 2019, compiled by the Hellenic Statistical Authority (ELSTAT). The population sample consists of around 4000 households in 2008 and around 6000 households in 2014 and 2019. Response rates average to around 70 percent, among the highest in European Union countries, whose average lies between 50 and 60 percent (Eurostat, 2015, 2020).⁹ Design weights are calculated for each sampled household by ELSTAT in order to correct for imperfections in the sample, according to Eurostat methodology. Household expenditure is recorded for several hundreds of commodity groups, ensuring a high level of disaggregation and analytical potential. Comparing grossed up HBS data of the years under consideration with annual final consumption expenditure of households recorded in the national account figure covers the expenditures made by all households, including institutional households resident in the country, whether those expenditures are made inside or outside the country. However, for certain items like alcoholic beverages and tobacco, people seem to understate their expenditure, with the HBS figure grossing up to about two thirds the national accounts one (Eurostat, 2020).

A further methodological issue concerns the choice of household welfare indicator, the two most obvious candidates being income and consumption. The most-cited measures of inequality and poverty involve income; nevertheless there is a fast growing interest in consumption, as part of a process of developing more comprehensive measures of household well-being (OECD, 2013). Besides theoretical considerations that consumption is a better measure of "life-cycle" income compared to current income (Friedman, 1957), there are more recent concerns that while income would be a good measure of "command over resources", it "fails to represent the full amount of resources on which individuals rely to cope with the needs of everyday life and to face unexpected events" (Atkinson and Piketty, 2007). In addition, income is argued not to reflect credit availability, saving and dis-saving or private and government transfers (Desilver, 2015). These considerations bear greater importance in conditions of crisis such as those studied here (Alves et al., 2020; OECD, 2020a). Especially when studying the distributional effects of indirect taxes, a consumption-based approach is argued to be preferable (Thomas, 2020). On the above grounds, we choose consumption over income as a better approximation of household welfare in the Greek case. The practical limitation that income is severely under-reported in the Geek HBS provides another powerful argument for using consumption as a welfare indicator.

A further complication is that the HBS records current expenditure rather than current consumption. The two notions may differ substantially for consumer durables, such as home repairs, cars and refrigerators. As people buy them infrequently, current spending may be overstated for some households and understated for others. In the case of housing, purchases of real estate are not recorded, but imputed rent is. So is imputed expenditure from own production (e.g. in the case of farmers) and transfers in kind from other households or the government.¹⁰ When measuring inequality and poverty we include both imputed expenditure and expenditure on durables, since we are interested in the evolution of the overall household expenditure patterns. However, when we assess the progressivity characteristics of indirect taxes, we also include imputed expenditure to ensure comparability of the welfare indicator across households, e.g. renters and homeowners.¹¹ However, we subtract expenditure on durables due to their stochastic nature.¹² We therefore measure welfare by the household's expenditure on all non-durable items. Given that households face fairly homogeneous prices in each period, and that expenditure on non-durables bears a monotonic relationship to long-run average welfare, this should give a good ordinal welfare indicator. Expenditure has been deflated and adjusted for differences in household size and composition using the OECD modified equivalence scale. To sum up, households are ranked by equivalent expenditure on non-durables for the assessment of the distributional effects of indirect taxes, while the calculation of inequality measures is derived by assigning equivalent household expenditure to each equivalent member.¹³

Regarding the modelling of the effect of indirect taxation on consumption inequality, the household indirect tax burden is calculated by applying nominal tax rates at commodity level on recorded expenditure. We therefore implicitly assume full compliance to the tax system and that indirect taxes are fully passed through to the final consumer prices. These are standard assumptions in the relevant empirical literature (Thomas, 2020; Bird and Smart, 2016; IFS, 2011). Absence of tax evasion and fraud is unlikely a realistic assumption; the European Commission, for example, estimates that the VAT "compliance gap" in Greece is around 25% of theoretical VAT liability (European Commission, 2021b)¹⁴ and such gap is partly attributable to VAT evasion and fraud. Yet it is not at all clear how the indirect tax burden of final consumers is affected and thus the notion of full compliance is standard and probably more realistic than any other assumption that

⁹ Greece among other countries allows substitution of non-responding households, with strictly controlled substitution procedures. This raises the response rate to around 98.5 percent (Eurostat, 2015, 2020).

¹⁰ Imputed expenditure represents 17 percent of total household expenditure in 2008, 18.8 percent in 2014 and 19.5 percent in 2019.

¹¹ See, among others, IFS (2011) and Thomas (2020).

¹² Furthermore, since taxes on durables, e.g., cars, are usually higher, including expenditure on durables in the welfare indicator would artificially inflate the progressivity traits of the tax system.

¹³ For simplicity, the terms "consumption", "expenditure" and "consumption expenditure" are used interchangeably in the text.

 $^{^{14}}$ The VAT gap compares VAT receipts with a theoretical net VAT liability. The latter is calculated by identifying the categories of expenditure that give rise to irrecoverable VAT and combining them with appropriate VAT rates.



Fig. 1. Change in household consumption inequality (in per cent), 2008–2014 and 2014–2019. Note: Household consumption expenditure includes imputed expenditure.

Source: Household Budget Survey data, 2008, 2014 and 2019.

might be made operational in our context. Regarding the full tax shifting assumption, empirical evidence on the extent of indirect tax pass through remains inconclusive and the full pass through assumption is not ruled out as extreme (Benedek et al., 2020; Benzarti et al., 2020).

3. Evolutions of living standards of the least advantaged, the middle class and the well-off - Splitting a shrinking pie

Evolutions in household consumption expenditure in average terms during the 2009–19 period broadly matched macroeconomic developments. According to Household Budget Survey data, average expenditure (at constant 2009 prices) fell by over 35 percent between 2009 and 2014, recovering by a modest 3.3 percent in the 2014–19 period (Hellenic Statistical Authority, 2020). In the same subperiods, GDP declined in real terms by a cumulative 23 percent and subsequently increased by a cumulative 3.8 percent, while unemployment shot up to 26.5 percent in 2014 and then fell by almost 10 percentage points to 17.3 percent in 2019. On the fiscal front, Greek governments between 2009 and 2014 enacted two economic adjustment programmes as a prerequisite of the financial rescue of the country, leading to an improvement of the cyclically-adjusted primary fiscal balance from minus 9.6 percent of potential GDP in 2014.¹⁵ In 2015 the Syriza-led government agreed to a third fiscal adjustment programme, which secured annual cyclically-adjusted *primary* surpluses of around 8 percent of potential GDP each year since 2015, consistent with a restrictive fiscal stance unparallel among OECD countries (OECD, 2021a).¹⁶

Several aspects of the distributional consequences of an economy in freefall have been analysed in a number of studies as mentioned in the introduction of this paper. However, whether the distinct shift of the ideological paradigm put forward by the Syriza-led government marked any changes in the distribution of welfare among households even under external conditionality, remains a critical issue yet to be explored. Thus, in what follows, aspects of household welfare and its distribution are analysed in two almost equal subperiods; from the year just before the onset of the crisis (2008) until 2014 and from the election of the left-wing government in January 2015 until 2019, i.e. the year that marked its end of office.

We begin by looking at how overall inequality evolved, since concern about rising inequality increased with the advent of the Great Recession, especially in countries which applied severe fiscal consolidation programmes (Doorley et al., 2021). Fig. 1 employs several inequality indices, i.e. the widely used Gini coefficient, two general entropy indices (Theil indices for

¹⁵ Data from AMECO database extracted on January 2, 2022.

¹⁶ Cyclically adjusted general government primary balances were retrieved from the OECD database (Economic Outlook of May 2021). The European Commission's estimates for the cyclically adjustment primary balance are of similar magnitude, according to data extracted from the AMECO database on January 2, 2022.



cumulative % of population

cumulative % of population

Fig. 2. Lorenz curves for the household consumption expenditure distribution. *Note*: Household consumption expenditure includes imputed expenditure.

c = 0 and c = 1)¹⁷ and the Atkinson index for values of the inequality aversion parameter (ε) ranging from a modest 0.5 to 2. The conclusion suggested unanimously by the change in inequality indices is that consumption inequality strongly increased until 2014, while it subsequently decreased by 2019. Existing literature on the evolution of *income* inequality corroborates this finding. The rise in inequality until 2014 is also found for example by Doorley et al. (2021), Kaplanoglou and Rapanos (2018), Papanastasiou and Papatheodorou (2018), Panori and Psycharis (2018), Andriopoulou et al. (2017) and Leventi and Matsaganis (2016). Doorley et al. (2021) is the only paper to extend the analysis to 2016, documenting a small decline in market and disposable income inequality between 2014 and 2016. Finally, according to Eurostat data, the Gini coefficient of equivalized disposable income increases after 2008, reaching a peak in 2014, and then declines by 2019.¹⁸

The unidirectional movement of all inequality indices in Fig. 1 would raise the question of whether there is a dominance relationship between the respective Lorenz curves. Fig. 2 shows that there is a clear dominance of the 2008 distribution of household expenditure over the 2014 distribution since their difference (measured on the right axis of Fig. 2(a)) lies at all points in negative territory. Cumulative losses in the expenditure share stay close to zero for households right at the bottom of the distribution, but then steeply increase until about 10% from the top. For the 10% most well-off households there appear to be relative gains, with cumulative losses rapidly shrinking to 0. Part (b) of Fig. 2 shows that the period 2014–2019 was marked by a movement of the Lorenz curve towards the equality line, but the two Lorenz curves cross

Source: Household Budget Survey data, 2008, 2014 and 2019.

 $^{1^7}$ The Theil index with c = 0 is more sensitive to what happens to the bottom tail of the distribution, while the Theil index with c = 1 is more sensitive to the upper tail of the distribution.

¹⁸ https://ec.europa.eu/eurostat/databrowser/view/ILC_DI12__custom_1168166/default/table?lang=en.



Fig. 3. Generalized Lorenz curves for the household consumption expenditure distribution. Note: Household consumption expenditure includes imputed expenditure.

Source: Household Budget Survey data, 2008, 2014 and 2019.

towards the top of the distribution and no dominance can be established. Cumulative gains in expenditure shares increase for households lying in the bottom 70% of the distribution, then decrease and finally turn negative for the richest 0.5%.

Despite their widespread use, Lorenz curves fail to take account of the mean income of different distributions and therefore cannot always rank distributions on welfare grounds. We therefore additionally employ Generalized Lorenz (GL) curves, as developed by Shorrocks (1983), for the same time periods. The GL curves record the cumulative proportion of population on the *x*-axis (as do the ordinary Lorenz curves), but the *y*-axis now records the cumulative mean income (expenditure in our case). Thus, the *y*-axis in Fig. 3 records the cumulated expenditure of a given share of the population, divided by the total population.¹⁹ Part (a) of Fig. 3 is indicative of the welfare loss accumulated across the distribution of households. In fact, the ordinary Lorenz dominance already identified is magnified, since the dominating distribution of 2008 has a higher mean. In the 2014–2019 period, the fact that the mean of the 2019 distribution is higher allows a conclusive judgment in favour of the welfare superiority of the 2019 distribution. The difference of the two GL curves remains positive throughout (see part (b) of Fig. 3), albeit very small in magnitude when compared to the huge losses of the 2008–2014 period.

Changes in the aggregate level of inequality are not informative and shifts of Lorenz curves are only partly informative of which parts of the distribution were mostly affected. In times of growing inequality in many advanced countries recently and in light of the influential research of Atkinson and Brandolini (2013), attention is focusing not only to the extremes of the distribution and whether the rich are getting richer and the poor poorer, but also to what is happening in the middle. This shift in attention matches the growing political concern that if the middle class is economically losing ground, social cohesion, economic stability and even the legitimacy of Western democracies are jeopardized (Easterly, 2001; Winkelmann and Winkelmann, 2010; Pew Research Center, 2015; OECD, 2019; Milanovic, 2020).

We apply the Atkinson and Brandolini (2013) methodology to the expenditure distribution, ranking households by equivalized consumption expenditure and splitting the population into the middle class (identified as the middle 60% of the total distribution) and in the bottom two and top two deciles. If we look at the evolution of the expenditure shares of these groups in Fig. 4, it appears that in the 2008–2014 period the middle class lost considerable ground, which was

¹⁹ For details in the calculation of coordinates of GL curves see e.g. Bellù and Liberati (2005). In our case, mean expenditure has been deflated to 2009 prices, so that expenditure levels are comparable across years.



Fig. 4. Evolution of expenditure shares of the bottom, middle and top expenditure groups. Note: Households are ranked by equivalent expenditure, including imputed expenditure.

Source: Household Budget Survey data, 2008, 2014 and 2019.

transferred exclusively to the top 10%.²⁰ With aggregate consumption expenditure dropping by over 30% as mentioned earlier, the middle class fell behind both in absolute and in relative terms. The poorest 20% almost maintained its share, which is barely encouraging since the monthly equivalent expenditure cut-off level to enter this group declined from over 850 euros to 630 euros in constant prices in this period. This was only by a small part offset in the subsequent period until 2019. The poorest 20% along with the middle class gained some ground at the expense of the well-off, but the overall pattern was far from reversed when compared to 2008.

To understand which forces were at play behind the shifts in the household welfare distribution, Table 1 provides some further insights, by showing how aspects of the demographic and occupational composition of households mattered in the way the position of a household evolved in comparison to its peers. Data are presented on the distribution of households depending on the occupational status of its members and on the relative welfare level of these households in relation to the average, in 2008, 2014 and 2019. Households with children belonging to these groups are also presented separately. Changes between 2008 and 2014 confirm what has already been documented in all relevant literature; the dramatic impact of macroeconomic developments moving high proportions of the working population into unemployment (according to columns 1 and 2) and degrading their living standards and the improvement of the relative position of pensioners compared to the rest (see columns 7 and 8). The latter happened despite consecutive pension cuts, since apparently such cuts fared better to reductions in labour earnings, the low coverage and level of unemployment benefits and the absence of a comprehensive safety benefit for those in need. The impact of mounting unemployment on families with children appears to have been particularly severe, with the proportion of children living with unemployed parents almost quadrupling (see columns 4 and 5).

The almost 10 percentage point decline in overall unemployment rate recorded in the 2014–2019 period is also evident in Table 1, since the proportion of households with one or more members in working status increases by 11 percentage points. The proportion of families with children with both parents working sharply increases, exceeding 54 percent, which is higher even than the pre-crisis level. More interestingly though, working parents can no longer significantly raise the living standards of their families. As implied by column (12) of Table 1, families with only one parent working have lower expenditure than the average population, while families with both parents working do better than average, but by a smaller margin than before. Evolutions in market earnings is the most important factor driving this development. Deregulation of the labour market and rise of flexible work forms, dismantling of collective bargaining, huge cuts in public sector wages and wage devaluation in the private sector (for comprehensive reviews of wage differentials towards the minima. At the same time, the real value of the minimum wage fell by 24% between 2010 and 2015 (Karamessini and Grimshaw, 2017), while the Syriza-led government increased it by 11% in early 2019. Furthermore, income tax policy during these years further widened the gap between falling gross earnings and take-home pay, at least as illustrated in the case of a one-earner married couple at 100% of average earnings with two children for which the income tax rate increased by 16% between 2009 and 2014 and by another 4% between 2014 and 2019 (OECD, 2021c).

²⁰ The same pattern, less pronounced, is found in the evolution of *disposable income* shares between 2007 and 2013 by Salido and Carabaña (2020).

Table 1

Relative position of households according to the occupational status of its members. *Source:* Household Budget Survey data, 2008, 2014 and 2019.

	% of households			% of households with children			Expenditure as % of population average			Expenditure of households with children as % of population average		
	2008 (1)	2014 (2)	2019 (3)	2008 (4)	2014 (5)	2019 (6)	2008 (7)	2014 (8)	2019 (9)	2008 (10)	2014 (11)	2019 (12)
Households with:												
One person working	32.2	34.2	40.6	40.3	46.8	38.2	112	103	108	104	110	92
Two or more persons working	30.0	22.5	27.8	50.7	43.9	54.3	116	122	114	116	126	109
One unemployed	6.4	17.7	14.3	7.4	24.3	19.3	84	87	82	78	86	86
Two or more unemployed	0.9	5.1	3.0	1.2	5.6	3.1	72	65	60	66	63	55
One pensioner	28.3	30.7	28.7	7.1	8.3	6.8	88	91	102	89	85	85
Two or more pensioners	13.4	12.5	11.4	1.7	3.1	2.2	78	99	86	86	107	71

Note: Expenditure refers to equivalent household consumption expenditure (including imputed expenditure).

Varying macroeconomic conditions and policy choices could further explain developments in household expenditure inequality, although the links are less straightforward compared to the case of household *income* inequality. The incidence of galloping unemployment and flexible working arrangements, wage developments, vast gaps in social protection and the restructuring of the social transfer system (e.g. non-uniform pension cuts, reorientation towards means-tested benefits) have been used to explain the rise in income inequality among households until the mid 2010s.²¹ Although these forces are also at play determining household *expenditure* patters, the latter are also affected by the saving behaviour of households. An in depth analysis would require microdata on household income, expenditure and wealth combined, the compilation of which is an ongoing project run by Eurostat at an experimental level.²² These data, available for 2010 and 2015, are nevertheless useful in improving our understanding of evolutions in inequality.

An interesting contrast in the evolution of *income* versus *expenditure* inequality is that, despite the fact that both have increased in the first subperiod studied here (2008–2014), different parts of the distribution have been affected in quite diverse ways. More precisely, according to available studies, the increase in income inequality reflects primarily a rise in the inequality of market incomes (Doorley et al., 2021), itself driven by increasing unemployment and a rise in wage dispersion which drove low wages away from the median (Andriopoulou et al., 2017; Matsaganis and Karakitsios, 2020). The significant drop of the minimum wage also compressed wages to the bottom. Social benefits to the working-age population were too low to counteract the effect of driving forces in market income developments (Doorley et al., 2021). As a result, the bottom of the distribution significantly lost in relative terms, while the middle seems to have broadly maintained or even slightly increased its income share (Leventi and Matsaganis, 2016; Andriopoulou et al., 2017). Thus, inequality indices sensitive to the bottom of the distribution rise by more between 2007 and 2014 (Andriopoulou et al., 2017).

The evolutions in expenditure inequality analysed here are characterized by exactly the opposite pattern (see Figs. 1 and 4). The bottom of the distribution maintains its expenditure share, while the middle significantly loses ground to the benefit of the top. Consequently, inequality indices sensitive to the bottom, like the Atkinson index for higher values of the inequality aversion parameter or the Theil index for c = 0, show a less steep increase in inequality over broadly the same period. Although matching of the household income and expenditure distributions is not possible, so that incomeand expenditure- poor households do not coincide, it is rather realistic to assume that expenditure is likely to fall less steeply than income for these households. Indeed, according to HBS data, reported household expenditure does not fall to zero, since some expenditure is inelastic. This is supported by Fig. 5, which shows that for households belonging to the bottom 20% of the distribution, subsistence expenditure on necessities like food and housing takes up an increasing proportion of their budget, approaching 70% in 2014. With average total expenditure shrinking by about a third, this in any case implies huge cuts in absolute terms. Part A of Fig. 6, compiled from Eurostat experimental statistics mentioned above, suggests that expenditure at the bottom of the distribution is likely financed mainly by running down savings. since the median savings rate exceeds -73% of disposable income. Regarding the middle of the distribution, households would have lost an even higher share of the expenditure pie, had they not used part of their savings to support their living standards, while the top 20% are the only maintaining marginally a positive savings rate during the first period of the crisis. Data in Figs. 5 and 6 are not strictly comparable, so these results should be interpreted with caution.

Regarding the period after 2014, less data are available. Inequality still declines more for indices which are more sensitive to the bottom of the distribution, which might reflect the impact of factors like the national rollout of the social

²¹ Doorley et al. (2021) is the most comprehensive such study including Greece, covering the period 2007–2013, but see also Leventi and Matsaganis (2016) and Andriopoulou et al. (2017) for the 2009–2014 and 2007–2014 period respectively.

²² More precisely, Eurostat attempts to measure the relationship between income, consumption and wealth at a household level, combining microdata from the EU Survey on Income and Living Conditions (EU_SILC), Household Budget Surveys (HBS) and the Eurosystem Household Finance and Consumption Survey (HFCS), see https://ec.europa.eu/eurostat/web/experimental-statistics/income-consumption-and-wealth.

Part B. By activity status of reference person



Fig. 5. Budget share of necessities (food and housing) at different parts of the distribution. *Note*: Households are ranked by equivalent expenditure, including imputed expenditure. *Source*: HBS data, 2008, 2014 and 2019.



Part A. By income quintile

Fig. 6. Median saving rates of households, as a % of disposable income. *Note*: Households are ranked by equivalent disp. income. *Source*: Eurostat experimental statistics on income, consumption and wealth. (https://ec.europa.eu/eurostat/web/experimental-statistics/income-consumption-and-wealth, extracted on 16 Jan, 2022.)

solidarity income scheme since 2017 and the strengthening of children social protection policies especially for vulnerable groups (Ziomas et al., 2019) or the increase in the minimum wage, which has been shown to have a compressing effect in earnings inequality (European Commission, 2020).

Turning to households of different activity status, Table 2 presents how these are over- or under-represented in different parts of the expenditure distribution. The numbers in the table measure the factor by which the share of each household type in a particular expenditure group exceeds its share in the total population. Taking the example of households with two or more unemployed members, according to Table 1, their share in the total population was almost 1% in 2008. Table 2 shows that in the same year this group was over-represented among the households belonging to the bottom 20% of the expenditure distribution by a factor of 2.5. By 2014, the factor increased to 2.8, while their share in the population increased to over 5% (as a result of rising unemployment indicated previously), suggesting that they comprised 14% of all expenditure-poor households. By 2019 unemployment had decreased and so had the share of households with at least two unemployed members, yet they were over-represented among the poor by a higher factor, suggesting that this group was increasing less able to sustain its living standards. As expected, they are under-represented among the middle 60% of the distribution and even more so among the top. Strict eligibility conditions and a low value of the unemployment benefit apparently did not provide a sufficient safety net (Doorley et al., 2021) and drove households of unemployed to exceedingly high negative saving rates, as indicated in Fig. 6 (part B).

Households with members in work is the only group under-represented among the expenditure poor. However, over the crisis, such households get more represented among the poor, which is probably a reflection of falling wages, flexible work forms and declining economic activity. According to Eurostat (see part B of Fig. 6), savings rates for such households

Table 2

Households over- or under-represented among the bottom, middle and top expenditure groups. *Source:* Household Budget Survey data, 2008, 2014 and 2019.

	Bottom 20	0%		Middle 6	0%		Top 20%		
	2008 (1)	2014 (2)	2019 (3)	2008 (4)	2014 (5)	2019 (6)	2008 (7)	2014 (8)	2019 (9)
Households with:									
One person working	0.7	0.9	0.9	1.1	1.0	1.0	1.1	1.1	1.1
Two or more persons working	0.5	0.5	0.6	1.1	1.0	1.0	1.3	1.5	1.5
One unemployed	1.3	1.3	1.4	1.0	1.0	1.0	0.6	0.7	0.6
Two or more unemployed	2.5	2.8	3.0	0.7	0.6	0.6	0.4	0.4	0.3
One pensioner	1.5	1.1	1.0	0.9	1.0	1.1	0.8	0.8	0.8
Two or more pensioners	1.5	1.0	1.2	1.0	1.0	1.0	0.5	1.0	0.7

Note: Numbers in the table measure the factor by which the share of the household type in a particular expenditure group exceeds its share in the total population.

remain negative. Pensioners, who used to be overrepresented among the poor before the onset of the crisis, seem to have fared slightly better, securing by 2019 a proportional share in the middle 60% of the expenditure distribution. Taking Eurostat statistics at face value, the savings behaviour of Greek households during the crisis runs contrary to the life-cycle model of consumption smoothing (Friedman, 1957) and is rather dominated by the extreme crisis conditionalities.

4. Aspects of poverty

In the Greek case, the 2010s put to the test and proved right the most common critique of South-European welfare states (Ferrera, 1996, 2005; Petmezidou and Guillén, 2014; Tinios, 2015); despite being costly, they were fragmentary, leaving vast gaps of social protection and in the end inadequate to effectively cushion the impact of a Europe-wide economic crisis, smaller waves of which challenged even much more mature and robust European welfare states. Seen from a macroeconomic perspective, it is no coincidence that the semi-elasticity of unemployment-related expenditure used by the European Commission for the cyclical adjustment of budget balances is just -3.15 in Greece (compared to -5.45 for Ireland, -5.83 for Spain and -6.04 for Portugal), one of the lowest in the EU (Mourre et al., 2019). This practically means that swings in economic output barely impact on what is supposed to be the most cyclical component of government social spending. Between 2008 and 2014 the share of GDP spent on unemployment benefits decreased, on family benefits remained about stable at half the EU average level, while social exclusion benefits only slightly increased. Overall, Greece was the only country where per capita social expenditure *fell* during the crisis (Tinios, 2015). Hit by the crisis, many households met no safety net and moved to poverty, as manifested by the gross increases in indicators of anchored poverty (see among others (Kaplanoglou and Rapanos, 2018; Missos, 2021)).

The 2015 elected government was forced to quickly abandon initial intentions to reverse austerity and was engaged to the implementation of a third fiscal adjustment programme. Nevertheless soon after its election and also in September 2015 with the introduction of a "parallel program", the new government prioritized the protection of those hit most severely by the crisis. A food stamps programme, means-tested rent and electricity subsidies were initially introduced, to be later complemented among others by more generous child benefits, the introduction of a means-tested housing benefit and the implementation of the Social Solidarity Income on a nationwide basis.²³ The question then arises how the number of those in need evolved since the onset of the crisis, if we define them as the consumption poor. Household expenditure microdata are well fit to address this question since they approximate actual living standards, by including in-kind transfers and imputed expenditure and by not being biased by income underreporting, which is a severe limitation of respective income household surveys in Greece.

The blue columns in Fig. 7 show the evolution of consumption poverty according to the respective Eurostat definition for income poverty, that is setting the at-risk-of poverty threshold at 60% of median equivalised expenditure. Between 2008 and 2014, poverty appears to be slightly decreasing, a surprising result to be explained by the combination of two factors; the inclusion of imputed expenditure in the welfare indicator²⁴ and most importantly the drop of median equivalised expenditure by almost 30% in these six years. Anchoring the poverty threshold at 60% of 2008 median equivalised expenditure (adjusted for inflation) provides a completely different picture, with the poverty rate shooting up from 17% to 43%. Increases of similar magnitude are reported in various other studies using alternative welfare indicators (mostly household income) and slightly different timeframes (for example Jenkins, 2020; Leventi and Matsaganis, 2016; Missos, 2021).

Another finding of the existing literature (OFCE, 2014; UNICEF, 2014; Mitrakos, 2014; Kaplanoglou and Rapanos, 2018) is verified, namely the sharp deterioration of the relative position of children within the same period. According to the data

²³ For more details, see Tinios (2015) and Ziomas et al. (2018a).

²⁴ Imputed expenditure lowers the poverty rate as home ownership and consumption of privately produced animal and agricultural products is high among households at the lower end of the distribution.



■ Total population (including imputed expenditure) OChildren 0-6 years old ◆ Children under 18 years old

Fig. 7. At-risk-of poverty rate in 2008, 2014 and 2019, unanchored and anchored at 2008. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.) *Source:* Household Budget Survey data, 2008, 2014 and 2019.

used here (see the diamond and circle marks in Fig. 7), the share of children living in poor households almost doubled in relative terms between 2008 and 2014 and over-quadrupled if the poverty benchmark is set at the pre-crisis level. The high incidence of unemployment on families (see Table 1), wage cuts and a tax policy which abolished all tax-relief arrangements relating to families ignited a shift of poverty incidence to working age families for whom there were vast gaps in social protection. The replacement of existing tax benefits with a "single child support allowance" in 2013 may have improved the targeting of benefits towards families in need, but apparently the strict eligibility conditions and the low level of the child benefits dictated by fiscal considerations in fact allowed the mass impoverishment of the child population.

Fig. 7 also sheds light on the less explored issue of what happened under the 2015-elected government, since as explained earlier in this section, the vulnerable (children included) were placed at the top of the policy agenda. The poverty rate dropped both in relative terms, but much more evidently when the poverty threshold is anchored at 2008. The 40% increase of the annual budget for the family benefits scheme through adjusting the equivalence scale used for eligibility criteria and increasing the benefit for each child (Ziomas et al., 2018b) fed into an improvement in child poverty levels which was higher than the improvement recorded in the population average. However, actual living standards of many children were nowhere near pre-crisis levels, as the anchored child poverty rate in 2019 was still three times higher than the 2008 level. The post-2015 period was also marked by the national rollout of the social solidarity income scheme in February 2017, which was precisely designed to tackle extreme poverty. However, according to an impact assessment compiled two years later, non-take up of the benefit reached 60% in the poorest decile and its effect on the actual poverty rate is estimated to be marginal (Marini et al., 2019). Overall, the decline in the anchored poverty rate, however, since 2015 is by no means impressive.

The intensity of poverty is measured by the poverty gap, which is defined as the mean shortfall from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line.²⁵ According to Fig. 8, the poverty gap was already quite high in 2008 and further increased by 2014. In support of the Syriza-led government policies, the poverty gap seriously fell during its term of office.²⁶ Excluding imputed expenditure (and therefore in kind social transfers) does not alter the pattern. However, the fact that a prominent reduction of the depth of poverty is accompanied by a much less impressive fall in the actual poverty rate should be source of concern for policy makers. Favourable macroeconomic developments, such as the fall in unemployment and timid growth, even if coupled with social policy measures clearly directed towards the needy are not unconditionally enough to lift people out of poverty.

$$P_1 = \frac{1}{N} \sum_{i=1}^N \left(\frac{G_n}{z} \right), G_n = (z - y_i) I(y_i \le z).$$

where the poverty gap (G_n) is the difference between the poverty line (z) and income or consumption for those who are poor (the non-poor have a poverty gap of zero). I(.) is an indicator function that equals 1 if the bracketed expression is true, and 0 otherwise. N is the total population. (see https://unstats.un.org/unsd/Metadata.aspx?IndicatorId=2).

²⁶ The social solidarity income scheme is estimated to have reduced the *income* poverty gap by about 2pp (Marini et al., 2019).

²⁵ According to the World Bank, the poverty gap index which is related to the headcount index, is measured as follows:



Fig. 8. Poverty gap in 2008, 2014 and 2019. Source: Household Budget Survey data, 2008, 2014 and 2019.

This accords with what has already been discussed in the context of Table 1, i.e that moving into employment after the crisis differentiates living standards by a smaller margin than before. If much more generous social policy cannot or will not be sustained, it seems that growth trajectories need to be planned with a much more pro-labour orientation.

Concern about rising poverty during the crisis usually matches worries about the shrinking of the middle class (e.g. Salido and Carabaña, 2020; Rose, 2020). Following Atkinson and Brandolini (2013), we extend the group of the poor by including what can be considered as "lower middle class" made of households whose equivalised expenditure is in the range of 60 to 75 percent of the median and who are neither poor nor in the middle class. By symmetry, the middle class consists of those with equivalised expenditure between 75 and 125 per cent of the median and the 125 per cent cut-off is used to identify the rich.

If cut-offs are allowed to vary with the evolution of median expenditure, part A of Fig. 9 conveys the rather comforting message that population shares across the three groups were not greatly affected by the crisis; a robust 40 percent of the population occupies the middle, while the rest are split between the top and the bottom, the latter consisting of a little over a quarter of the population.²⁷ The crisis years hit children evidently worse than average, with a higher percentage of children drifting to the group of the poor, but with a tendency to reinstate the pre-crisis balance by 2019. A picture of a vastly shrinking middle class is drawn in part B of Fig. 9, which keeps cut-off expenditure levels anchored at 2008 (at constant prices). From 2008 until 2014 the middle class had shrank by more than 11 percentage points and the rich by more than 20 percentage points. Almost two thirds of households in 2014 have the living standards of the below middle class group of the pre-crisis period, and the same is true for the child population. The five-year period until 2019 indeed marks some improvement as the middle class expands at the expense of the low-expenditure group, and so does the group of the rich especially those with children. Nevertheless, the severe impact of the crisis on shirking the middle class and the well-off is far from being reversed.

5. Impact of consumption taxes

The unusually high share of indirect taxes in total tax revenue in Greece compared to other EU countries,²⁸ along with the lack of coverage of these taxes in most studies exploring the distributional effect of the crisis and public policies on Greek households (e.g. Leventi and Matsaganis, 2013, 2016; Doorley et al., 2021) invites some discussion on whether such taxes impact on the living standards of households in an equalizing or disequalising fashion. Indirect taxes (as classified by the OECD) went up from 11.6% of GDP in 2008 to 14.3% of GDP in 2014 and further to 15.3% of GDP in 2019, as successive governments, including the Syriza-led one, resorted to indirect tax hikes in order to meet fiscal consolidation targets.

The indirect tax structure combines a multi-rate VAT system with several excise taxes and a progressive structure of car purchase taxes and transport dues.²⁹ The VAT is applied in three rates, with the very low rate being applied to medicines and several cultural items (books, newspapers, magazines and theatres), the low rate covering most food items, transport services, hotels etc., while the standard rate covers all the remaining goods and services. Certain services, like education or banking services are VAT exempt. The indirect tax hikes introduced by 2014 involved an increase in all VAT rates, as the standard rate increased from 19% to 23%, the reduced rate from 9% to 13% and the very low rate from 4.5% to 6.5%. In the

 $^{^{27}}$ OECD (2019) estimates that over the 2007–2015 period a Greek household that belonged to the middle class had a probability of 4% to fall into poverty. Considering that OECD (2019) is based on EU-SILC income data and uses a poverty threshold 50% of median income, its findings are comparable to our estimates.

²⁸ According to OECD (2020b), Greece ranks fourth among 37 OECD countries in the share of GDP collected in consumption taxes.

²⁹ For a recent comprehensive review of the structure of the Greek indirect tax system see OECD (2020b).



Part A. Unanchored cut-off points

Part B. Cut-off points anchored at 2008 (in constant prices)



Fig. 9. Size of the middle class, the bottom and the top. *Source:* Household Budget Survey data, 2008, 2014 and 2019.

same period, all excises increased considerably, for example more than doubled in the case of alcohol and petrol, while excise duties were introduced on electricity and natural gas.³⁰ The left-wing government further increased the standard VAT rate to 24% and also raised excises on petrol and beer, while it introduced an excise tax on coffee. At the same time, with distributional considerations in mind, it slightly decreased heating oil, electricity and natural gas excises.

We simulate the indirect tax system of 2008, 2014 and 2019 on the household expenditure micro database of the respective years³¹ and find that the indirect tax burden, measured as the percent of total household expenditure absorbed by indirect taxes, increased from 11.5 percent in 2008 to 15.6 percent in 2014 and to 16 percent in 2019. This raises a further question of the extent to which the distribution of indirect taxes across households increases or decreases aggregate consumption inequality. One way to address this question is to measure the change in inequality induced by the actual tax system vis-à-vis a tax system of a uniform tax which would raise the same amount of revenue. Fig. 10 shows for various inequality measures, how the indirect tax system in the three years under consideration impacts on

³⁰ For details, see Kaplanoglou and Rapanos (2018).

³¹ We assume that indirect taxes are fully shifted to consumer prices and we ignore indirect taxes on intermediate goods that are not rebated, as is commonly assumed in similar studies (Warren, 2008).



Fig. 10. Impact of indirect taxes on household consumption inequality. *Note:* The bars correspond to the change in inequality induced by the actual indirect tax system vis-à-vis a uniform equal-yield tax. Equivalent household consumption expenditure is used as a welfare indicator. *Source:* Household Budget Survey data, 2008, 2014 and 2019.

inequality compared to a uniform, and therefore by definition distributionally neutral, equal-yield tax. Keeping in mind that employing consumption expenditure rather than income as a welfare measure *per se* deactivates a main driver of regressivity of indirect taxes, the 2008 indirect tax system hardly changes inequality.³² Indirect tax hikes introduced thereafter seem to have a clearly adverse distributional impact, as all inequality indices increase in comparison to the uniform tax, and even more so in 2019.

Aggregate effects on inequality can be explained in terms of the distributional characteristics of different taxes and the share of respective tax bases in the households' budget. To this end, Table 3 shows changes in tax rates in the 2008–2014 and the 2014–2019 periods along with budget shares and distributional characteristics of taxes (approximated by the Kakwani progressivity index) for different commodity groups. Before the crisis, the negative distributional effects of certain clearly regressive taxes (namely those on food, tobacco, housing, health and communication) were balanced by taxes on commodity groups like transport, recreation and household goods which appear progressive. Developments after 2008 are to be understood in the context of increasing tax rates (depicted in columns 7 and 8) and grossly shrinking budgets. Necessities like food and housing absorb an increasing budget share, reaching a combined 40 percent of the average household budget in 2019, up from just 30 percent in 2008. Since taxes on these commodity groups are strongly regressive (see columns (4) to (6)), their effect on the distributional impact of the whole indirect tax system is stronger.

The expenditure on certain other commodity groups dropped almost in line with total expenditure so that respective budget shares show no remarkable fluctuation. This is the case of transport, health, communication, recreation, eatingout and hotels. At the same time, with respect to these commodity groups, households at different parts of the welfare distribution reacted differently to commodity price increases and the shrinking of their budget, thus altering the distributional traits of certain taxes. For example in the case of transport, households substituted car maintenance and circulation expenses for the highly progressively-taxed new cars, whose sales dropped by 75 percent between 2008 and 2014. As a result, the Kakwani progressivity index for transport decreased from 0.14 in 2008 to 0.03 in 2019. On the contrary, recreation and hotel spending acquired an increasingly luxury character, with respective taxes having the two highest values of the Kakwani progressivity index.

Surprisingly taxes on health appear to be the third most progressive according to the same index, while back in 2008 they were by far the most regressive ones. The most important factor driving this change is the introduction of VAT in private hospital treatment at a 13% rate, which increased to 24% by 2019 (see the increases recorded in columns (7) and (8) in Table 3). Private hospital treatment is heavily concentrated among the most affluent households, as according to 2019 Household Budget Survey data its budget share among the richest 10% (tenth decile of the distribution) is forty-two times the budget share among the poorest 10% and four times the budget share of the ninth decile. At the same time, the heavily regressive taxes on medicines (see column (4) of Table 3 referring to 2008) became less regressive by 2014, as the budget share of medicines among the poorest 10% of households almost halved in this period according to the HBS microdata. This happened at a time of strict cost-containment policies in the area of health spending, involving increases in co-payments and pharmaceutical co-sharing, which disproportionally burdened the poorest quintile and vulnerable households (Kyriopoulos et al., 2019; Yfantopoulos and Chantzaras, 2018; Gouvalas et al., 2016). It therefore seems that in this case, the softening of the hard edge of a strongly regressive tax came at the cost of unmet medical care needs. According to Eurostat statistics, this is also suggested by the share of persons self-reporting unmet health care needs due to financial reasons, which increased by a factor of 2.3 between 2008 and 2014, before decreasing just by a quarter in 2019. Finally taxes on some commodity groups like clothing/footwear and household durables maintained their progressive

 $^{^{32}}$ This finding is in agreement with Thomas (2020), who uses similar methodology to explore the distributional impact of VAT in 27 OECD countries. In the Greek case, the VAT system appears broadly proportional in 2010.

Table 3

Indirect tax reforms and distributional aspects of taxes by commodity group. *Source:* Household Budget Survey data, 2008, 2014 and 2019.

	Budget sh	are		Kakwani j	progressivity inc	lex	Change in tax as a % of retail price		
	2008 (1)	2014 (2)	2019 (3)	2008 (4)	2014 (5)	2019 (6)	2008/14 (7)	2014/19 (8)	
Food	15.9	19.4	18.0	-0.20	-0.16	-0.20	3.4	0.6	
Alcoholic beverages	0.6	1.1	1.0	-0.02	0.19	0.12	9.2	1.3	
Tobacco	2.5	2.7	2.0	-0.14	-0.10	-0.09	11.3	-1.2	
Clothing/footwear	8.0	5.6	5.2	0.12	0.11	0.10	2.7	0.8	
Housing	14.5	18.0	22.5	-0.09	-0.16	-0.23	5.2	-2.0	
-of which heat.oil				-0.17	-0.10	-0.18	26.9	0.3	
Household goods	6.9	4.7	4.0	0.09	0.10	0.05	2.7	0.7	
Health	6.5	6.9	6.4	-0.28	0.09	0.21	2.7	3.1	
-of which medicines				-0.32	-0.22	-0.26	-2,1	-0,4	
Transport	13.0	12.0	12.0	0.14	0.08	0.03	10.2	0.0	
Communication	4.3	3.9	3.7	-0.13	-0.09	-0.14	6.9	-0.2	
Education	3.0	3.3	3.0	-	-	-	0.0	0.0	
Recreation	4.7	4.5	4.5	0.19	0.28	0.27	2.7	1.8	
Restaurants	9.9	8.8	9.4	0.07	0.10	0.03	9.9	-4.3	
Hotels	0.6	0.5	0.6	0.22	0.34	0.41	-2.2	5.5	
Other	9.8	8.7	7.6	0.08	0.08	0.01	1.8	2.1	

Note: Budget shares are calculated as a percentage of total household purchases.

character, but their overall budget share strongly decreased as a result of the crisis and therefore are now less successful in counterbalancing the effects of regressive taxes.

To summarize the impact of indirect tax policy on consumption inequality, it appears that the high indirect tax hikes imposed in the first years of the crisis to contain the public budget deficit had a clearly adverse effect on inequality. The Syriza-led government, facing similar fiscal constraints, sustained the tax increases and even further increased the standard VAT rate, but at the same time took some corrective actions like slightly decreasing taxes on home energy and heating. Nevertheless, the disequalising effect of taxes on living standards of households did not grow weaker. This happened primarily because bigger forces were at play; vastly shrinking budgets restructured household consumption towards necessities on which taxes are regressive, thus deactivating progressive tax leverages of the past like car taxes. The disequalising impact of indirect taxes would have been even stronger had poor households not cut back expenditure on certain necessities like heating oil or medicines, the taxes on which were the most regressive. This is no comfort since it implies that households in need may live with, for example insufficient heating or medical care, suggesting that their living standards are probably worse than what is implied by the Household Budget Survey data.

6. Concluding remarks

The impact of the recent decade-long economic crisis on the living standards of households in Greece is of central interest both because of its unparallelled magnitude and in light of its political repercussions and its potential contribution to the election in 2015 of the first left-led government in contemporary Europe. A concomitant question of equal interest is what was the distributional footprint of the new government. A fact established rather undoubtedly for the 2009–2014 period is the rapid rise of inequality levels, along with the contraction of household budgets by over a third on average. Inequality increased according to all indices employed, while generalized-Lorenz curves show that welfare levels decreased monotonically throughout the expenditure distribution. In relative terms, the weakening of the middle class for the benefit of the wealthiest 10% is the main driver of the increase in inequality. "Anchored" poverty shot up, with around 43% of households having similar living standards with the pre-crisis poor, while the deterioration was much sharper for vulnerable population groups like families with children. The poverty gap, already quite high before the outbreak of the crisis, further deepened.

The 2015-elected government in distributional terms prioritized the protection of those hit most severely by the crisis introducing a "parallel program" with clearly Rawlsian characteristics. At the same time, it had to implement in consultation with the country's lenders yet another fiscal austerity programme involving mostly tax hikes, while by 2017 the economy returned to a positive growth rate. Overall, the new government managed to reverse the direction of distributional developments, as inequality significantly decreased, the bottom 80% of the distribution of households increased its expenditure share at the expense of the top, both anchored and unanchored poverty rates (especially among

children) fell and so did the poverty gap. Although the middle class appears to have gained some lost ground, it is the least advantaged the ones who benefited most. This is implied by the fact that the decline in inequality since 2015 appears to be higher for indices which focus attention to the poor, namely the Atkinson index with higher value of the inequality aversion parameter or the Theil index with c = 0. The strong fall in the poverty gap points to the same direction. Similar conclusions are reached by qualitative data not accounted for in this paper, such as Eurostat data on self-reported unmet health care need due to financial reasons. The percentage of people reporting such need increased by 250 percent from 2009 to 2014 and then decreased by 23 percent by 2019. Nevertheless, evolutions in consumption inequality as reflected by HBS microdata reveal only part of the picture. The SYRIZA-led government might indeed have increased resources available to the poor, but the disequalising effect of indirect taxation became stronger as the government at the same time was trying to yield additional tax revenue in order to serve its fiscal consolidation target. Accounting for the distributional impact of taxes on consumption partly trims the benefit in terms of inequality reduction.

Important policy conclusions can be drawn from the *magnitude* of distributional developments in the post 2015 period. Albeit positive, distributional changes were mostly marginal, when compared to the massive adverse developments of the 2009–2014 period. Household welfare gains were indeed higher for the least-well off and the middle class, while both groups increased their share in total expenditure, but these gains fall far short of the losses since the beginning of the economic crisis. Between 2009 and 2014, almost the entire middle class moved to the group that can be considered as the pre-crisis poor and only a very small fraction found its way back by 2019. This is probably to be understood as a combined effect of the country's overall growth trajectory and strict fiscal constraints. At pace with macroeconomic developments, average real household expenditure fell by 35% between 2009 and 2014, recovering by a modest 3% by 2019, while annual cyclically adjusted primary surpluses of the general government reached around 8 percent of potential GDP each year between 2015 and 2019.

Despite initial aspirations, the government failed to reverse austerity and a complete recasting of economic policy has not been possible. The "parallel" program directed to the neediest, the introduction of a national minimum income scheme and other measures such as the improvement of the equity and fairness of the family benefits budget, indeed improved the effectiveness of social protection against extreme poverty. The significant drop in the poverty gap according to household expenditure data is evidence supporting this conclusion. However, the narrow fiscal space limited the generosity of social protection policies and hence their impact. In the case of social solidarity income, for example, its coverage was confined to households living in extreme poverty through very strict eligibility criteria and the amount of the benefit hardly ensured a dignified standard of living (Ziomas et al., 2017), while non-take up rates for the neediest reached 60% (Marini et al., 2019). This would reconcile the at first sight contradictory findings of the strong drop in the poverty gap and the small decline in overall poverty rates. It therefore seems that even well-targeted redistributive policies, unless sufficiently generous and properly implemented, have limited capacity to actually lift people out of poverty.

Thus, economic growth and how *market* incomes are distributed determine to a large extent final distributional outcomes and levels of poverty and inequality. As already stated, the Greek economy returned to positive growth rates since 2017 and unemployment considerably fell, but growth was sluggish and the determination of market earnings suffered the consequences of a decade-long process of labour market deregulation, the rise of flexible work forms and vast wage devaluation. The fact established from 2019 HBS data that families with two parents working secure living standards barely above average, while families with only one parent working fall well beyond average is to be understood precisely in this context. It therefore seems that both the size of economic growth and the institutional framework governing its distribution matter. The Greek example seems to lend full support to Atkinson's (2010) paper pointing to the lack of progress in poverty reduction in Europe despite positive growth rates, explaining why increased employment and growth does not necessarily lead to achievement of social objectives.³³ Overall it seems that Rawlsian objectives are hard to achieve if not supported by an economy generating inclusive growth involving a robust middle class.

A main lesson from the Greek decade-long crisis and the shifts of governments and their policies is that inclusive recovery requires both a reinforcement of redistributive policies and policies securing stable, well-paid jobs and the fair sharing of the gains of a growing economy. The current conjunction poses challenges of a similar nature on a worldwide scale, as the economic consequences of the COVID-19 pandemic are sizeable and far-reaching. Apart from strengthening health and social protection programmes, many governments are directing large funds in support of their economies. The Greek experience might prove useful in the context of the massive NextGenerationEU investment plan aspiring to transform EU economies and societies with a vision of inclusive growth or of the ambitious plans of the recently created US House Select Committee on Economic Disparity and Fairness in Growth.

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³³ Atkinson (2010) refers to a model of a labour market highlighting both the demand and the supply side and showing that raising employment by reducing the reservation wages of workers may not contribute to social inclusion objectives, as higher employment is associated with a rise in the number of low paid workers.

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