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## **Economic Stress and the Great Recession in Ireland: Polarization, Individualization or 'Middle Class Squeeze'?**

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## Abstract

Following an unprecedented boom that attracted the label 'Celtic Tiger', since 2008 Ireland has experienced the most severe economic and labour market crisis since the foundation of the State. The rapid deterioration in the labour market, alongside stringent austerity measures, had a widespread impact. Considerable debate persists as to where the heaviest burden has fallen. Conventional measures of income poverty and inequality have a limited capacity to capture the impact of the recession. This is exacerbated by a dramatic increase in the scale of debt problems. Our analysis, which focuses on economic stress, provides no evidence for individualization or class polarization. Instead we find that while economic stress levels are highly stratified in class terms in both boom and bust periods, the changing impact of class is highly contingent on life course stage. The affluent income class remained largely insulated from the experience of economic stress, however, it saw its advantage relative to the income poor class decline at the earliest stage of the life-course and remain stable across the rest of the life course. At the other end of the hierarchy, the income poor class experienced a relative improvement in their situation in the earlier life course phase and no significant change at the later stages. For the remaining income classes life-course stage was even more important. At the earliest stage the precarious class experienced some improvement in its situation while the outcomes for the middle classes remain unchanged. In the mid-life course the precarious and lower middle classes experienced disproportionate increase in their stress levels while at the later life-cycle stage it is the combined middle classes that lost out. Additional effects over time relating to social class are restricted to the deteriorating situation of the petit bourgeoisie at the middle stage of the life-course. The pattern is clearly a good deal more complex than suggested by conventional notions of 'middle class squeeze' and points to the distinctive challenges relating to welfare and taxation policy faced by governments in the Great Recession.

## **Boom and Bust in Ireland**

In this paper we focus on the impact of the Great Recession in Ireland on the distribution of economic stress across classes. In so doing we consider both social class differences employing the European Socio-economic Classification (ESeC) (Rose and Harrison, 2006), and income class difference as the concept has featured in recent debates among economists (Gornik and Jäntti, 2013). Ireland's remarkable macro-economic fluctuations make it a particularly interesting case study of the distributional consequences of the Great Recession. It experienced the fastest economic growth rates in the OECD during the first part of the so called 'Celtic Tiger' boom period from the mid-1990s, followed by sustained strong but more modest growth. This was followed by a post-boom crisis from 2008 onwards, which had a more negative impact on national output than in any other OECD country. The combination of the global economic recession, the banking crisis, and the bursting of a domestic property bubble led to an unprecedented contraction in national output and income and to a fiscal crisis resulting in Ireland having to accept a 'bail out' from the ECB, EU and IMF. Gross Domestic Product declined rapidly. The unemployment rate rose steeply from less than 5% in 2007 to close to 15% in 2012. Long term unemployment has also rose steadily from less than 2% to over 8% in 2012. Many of those who retained their jobs also saw a decline in earnings and in net income due to wage cuts, particularly in the public sector, and tax increases (Callan et al, 2013).

## **Class Perspectives on the Distributional Consequences of the Great Recession in Ireland**

Jenkins et al's (2013) comparative analysis of the impact of the Great Recession which showed that the distributional impact reflects not only differences in the nature of the macroeconomic downturn but also in the manner in which cash transfers and direct taxes cushioned household net incomes from the full effects of what was happening to market incomes. <sup>1</sup> Nolan et al (2013) concluded that, while Ireland was one of the countries most affected by the downturn in relation to household income, focusing on

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<sup>1</sup> For a detailed discussion of trends in the effectiveness of the Irish social welfare system in alleviating poverty see Watson et al (2013).

the period 2008-2011, taxation, welfare and public sector pay changes were generally progressive. However, the direct employment effect of the recession in terms of levels resulted in higher than average losses for the bottom income decile. However, considerable debate has persisted regarding where the heaviest burden has fallen and where economic stress has been most keenly felt.

Claims of increased polarization have been made by a variety of social critics and the trade union movement who argue that the response of the state to the economic crisis has been deeply flawed, involving not only a failure to protect the vulnerable but the imposition of major sacrifices on those on low and middle incomes (Social Justice Ireland, 2013, TASC, 2012).

The polarization argument pays relatively little attention to the role of life course factors or their potential association with the distinctive role of debt in the Irish situation. The life course perspective on social risks has often been linked with the individualization thesis. The argument goes that new inequalities emerge in consequence of individualized life trajectories and lifestyles with social risks to be understood as a phase in a personal life trajectory, while hierarchical stratification structures such as social class are considered to have lost their impact (Vandecastelle, 2007, 2010, Pintelon, 2013). During the boom period the level of personal indebtedness in Ireland increased dramatically. Credit card debt per capita rose from €102 in 1996 to €707 in 2008, and the number of credit cards issues increased rapidly and the level of mortgage credit per capita increased over tenfold between 1995 to 2008 (Russell et al 2011). Moreover at the peak of the boom the ratio of house prices to average earnings and loan to value ratios among first time buyers were exceptionally high (Kelly 2009). Since the onset of the economic crisis mortgage arrears have grown steadily and the most recent figures show that 12.7% of mortgage holders were in arrears for principle dwellings, as were a further 20.4% of buy-to-let mortgages holders<sup>2</sup>. The scale of debt problems experienced by Irish households is exceptional in European terms. In 2011 the rate of mortgage/rent arrears among Irish households was the highest in the EU, standing at 11.6% compared to 4.1% across the EU28. Combining information on arrears in utility bills, hire purchase repayments and mortgage/rent, just less than 20%

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<sup>2</sup>Central Bank August 2013, Residential and mortgage Arrears Figures q2 2013.

of Irish households were in arrears in at least one of these categories compared to an average of 11.7% for the EU28 (Eurostat, EU-SILC database<sup>3</sup>). Furthermore, McCarthy (2014) has shown that far from 'mortgage distress' being largely a consequence of increased unemployment, in 85% of the case where arrears were reported the Head of Household was in employment. The scale and wide distribution of mortgage arrears difficulties suggests that, if notions of individualization have relevance, Ireland could prove to be an interesting test case.

The key outcomes on which we focus are measured at the household level and our analysis of socio-economic variation is based on the socio-economic attributes of the Household Reference Person (HRP). In an analysis of household consumption patterns Gerlach-Kristen (2013) concluded that the main burden of the Irish crisis has been borne by younger households. A CSO (2013) survey on financial effects of the downturn also found that households headed by a person aged less than 55 were much more likely to have made cutbacks in expenditure in the previous 12 months.

A somewhat different interpretation that incorporates increasing debt levels and negative equity, public sector pay cuts and pension levies, increasing progressivity in taxation and the difficulties being experienced by the self-employed has resulted in the notion of 'middle class squeeze' and the crisis of the 'coping classes' coming to have considerable resonance in popular debate in Ireland. This was reflected in the devotion of a special series in the influential Irish Times to the topic of 'Ireland's Squeezed Middle'. The term 'middle class squeeze' originates in the US.<sup>4</sup> There it refers to the relative decline in earnings of middling groups and to the depletion of their wealth as a result of 'overspending' in order to maintain established standards of living (PRC, 2012). Such overspending is seen to be closely associated with easier access to credit.

In the analysis that follows, in addition to taking into account the impact of both income class social class and the life course, we shall also seek to assess the extent to which class effects are contingent upon stage of the life course (Whelan and Maître, 2008, Vandecasteele, 2010).

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<sup>3</sup> Extracted 11/11/13

<sup>4</sup> For a detailed discussion of this notion see Kuz (2013)

## Income Class and Social Class

In pursuing the above issues we draw on conceptions of 'class' developed by both economists and sociologists and seek to assess the extent to which doing so enhances our ability to understand changing patterns of economic stress in the Irish case. The theoretical conception of social class employed in this paper is that developed by Goldthorpe (2006). It focuses on relational as well as distributive aspects of inequality taking into account not only the hierarchical aspect of class but also the impact of different forms of employment. Individuals are understood to possess certain resources and experience a variety of constraints by virtue of the class positions they occupy.

As Atkinson and Brandolini (2013) have shown, while social stratification by the class categories of the Goldthorpe schema and clustering by income are clearly correlated the match is far from perfect. They note that, while both variables can contribute to identifying patterns of social stratification, their conceptual primacy varies across disciplines. Economists tend to start from income or expenditure. As Gornik and Jänniti (2013: 9) note, what economists refer to as the "middle class" might more accurately be described as those that fall in the "middle" of the income distribution.

Within this income-based framework 'class classifications' have been developed in two ways (Gornik and Jänniti, 2013:10). The first involves aggregating income bands into deciles or quintiles. With this approach the size of classes remain constant over time. Atkinson and Brandolini (2013: 78) note that the EU uses as its main income inequality measure the ratio of the income share of the top 20 percent to that of the bottom 20 percent and transfers away from the middle 60 percent could, if made proportionately, leave measured income inequality unchanged. They are the "forgotten" middle. An alternative approach establishes class groups involving intervals defined by percentages of median household income (Atkinson and Brandolini, 2013: 82). The economics literature is said to be "converging" (Ravallion 2010, 446) on the definition of the income limits for the middle income group as 75 percent and 125 percent of the median. Atkinson and Brandolini (2013) note that we may either accept "the premise that middle-class living standards begin when poverty ends," as Ravallion (2010, 446) states, or take instead a more conservative approach and fix a level so as "to ensure that the lower endpoint of the middle class represents an income significantly above the



poverty level,” as suggested by Horrigan and Haugen (1988:5). Atkinson and Brandolini (2013) note that in the EU, the former criterion would bring us to identify the lower bound with the at-risk-of-poverty line, set at 60 percent of the median. The latter criterion would rationalize the 75 percent cut off as defining the “margins” of poverty as plus a quarter of the at-risk-of-poverty line. The middle class can then be said to be those “comfortably” clear of being at-risk-of-poverty. They note that the rationale for the bottom cut off implies that there exists a “lower middle class,” comprised of people whose income is in the range of 60 to 75 percent of the median and who are neither poor nor middle class. We could analogously postulate that there is an “upper middle class” between the middle class and the rich or affluent by taking the 125 percent cut off, which is a quarter less than the income level that identifies the rich. The implicit “richness line” would equal 167 percent of the median. This would amount to partitioning the population into five groups.

Obviously the number of categories identified and the labels attached to them is to some extent arbitrary and one may wish to employ different schemas. Here we will provide a set of analyses distinguishing 5 income categories as set out below

- Less than 60% of median equivalized income – *income poor*
- 60-75% of median equivalized income – *precarious income class*
- 75-125% of median equivalized income – *lower middle income class*
- 125-166% of median equivalized income – *upper middle income class*
- 167% and over of median equivalized income – *affluent class*

We have chosen to label those between 60% and 75% of equivalized income as “precarious class” because of the evidence that this group are highly likely to experience frequent transitions into and out of poverty (Jenkins, 2011).

## **Going Beyond Income Measures: Material Deprivation and Economic Stress**

Considerable disagreement continues to exist regarding the degree to which the costs of the recession have been distributed in an equitable manner. This is probably not

unrelated to the limited capacity of conventional measures of income poverty and inequality to capture the impact of the scale and diversity of economic and social change that characterised both boom and bust in Ireland. Income based measures of poverty work best in a period of stability and the volatility of incomes in Ireland in the boom and the subsequent bust have undermined their usefulness. The indicator of income poverty in Ireland did not capture the general fall in the standard of living with the recession because the poverty threshold itself fell from 2009 to 2011. For the period 2004-2011 there was no clear trend in income poverty at 60% of median household equivalent disposable median income (Watson and Maître, 2012). Similarly, the average Gini coefficient actually declined from 0.318 for the period 2004-2008 to 0.306 for 2009-2011. These results are not surprising viewed in the context of a significant body of work demonstrating the limitations of income in capturing the broader consequences of changes in command over resources (Nolan and Whelan, 2011).

The need for a multidimensional perspective on the impact of the Great Recession in Ireland is reinforced by the distinctive role of debt in the current recession. In this paper we seek to take advantage of the availability of data from 2004-2011, covering periods of both boom and bust which allows us to construct reliable measures of household income, material deprivation and economic stress across time.

## **Data and Measures**

### **Data**

Our analysis is based on data from the Survey on Income and Living Conditions (SILC) for Ireland which is a voluntary survey of private households carried out by the Central Statistics Office (CSO). The number of households in the completed sample varied from 4,300 to 6,000 between 2004 and 2011 and the number of individuals from 13,000 to 14,000. The analysis in this paper is conducted at the individual level and we use all the SILC waves from 2004 to 2011 for descriptive and modelling purposes. Where household or household reference person (HRP) characteristics are involved these have been allocated to all household members.

Our key dependent variable is economic stress and our central focus is on the explanatory power of income class. However, we also take into account the role that

factors such as life-course stage, housing tenure, material deprivation and welfare dependency play in accounting for levels of economic stress and changing patterns of stress as the Irish economy moved from boom to bust.

Below we provide information on the construction of key variables.

### **Economic Stress**

The SILC survey asks questions of the person responsible to the accommodation in relation to household topics as well as to all individuals aged 16 and over for other individual items such as labour market situation, health, personal income etc. For the purpose of this analysis we have identified several questions at household and individual level that are clearly related to economic stress. When the questions have been answered by the person responsible for the accommodation we attributed these answers to all household members. For the individual questions we attributed the answers of the household reference person (HRP) to all household members.<sup>5</sup>

Below we present the five items that our preliminary analysis indicated as appropriate for the measurement of economic stress and the corresponding questions asked about the household as well as those asked of each individual (aged 16 and over). The responses to each question are dichotomised.

- The first item relating to ability to make ends meet is based on the following question. “A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total income, is your household able to make ends meet, namely, to pay for its usual necessary expenses?” Seven possible answers were offered from “very easily” to “great difficulty” and responses indicating “great difficulty” or “difficulty” have been given a value of 1 while the remaining categories have been scored as zero.

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<sup>5</sup> The household reference person is the person responsible for the accommodation. When the responsibility is shared the oldest person is chosen and in case of identical age, the HRP title is attributed to the male.

- Household were defined as having a problem with arrears (in the past 12 months) where they were unable to avoid arrears relating to mortgage or rent, or utility bills or hire purchase instalments. Those households experiencing such problems were given values of 1 while the remainder were scored as 0.
- The indicator relating to the financial burden of total housing cost was based on the question set out below. "Think of your total housing costs including mortgage repayment or rent, insurance and service charges. To what extent are these costs a financial burden to you?" Three possible answers were offered and responses indicating a "heavy burden" or "somewhat of a burden" were scored as 1 while the remaining category was assigned a value of 0.
- The indicator of debt to meet ordinary living expenses was based on the questions "Has the household had to go into debt within the last 12 months to meet ordinary living expenses such as mortgage repayments, rent, food and Christmas or back-to-school expenses?" A positive answer was scored as 1 while a negative one was assigned a value of 0.
- Finally the indicator of ability to save was based on the question "Can you save some of your income regularly?" A negative answer was scored as 1 while a positive one was assigned a value of 0.

The reliability level of the economic stress measure as captured by Cronbach's alpha across years was 0.73 with modest variation across years.

As we are analysing data from 2004 to 2011 we want to take account also of the changes over time in the relative contribution of constituent items to the overall stress index. Therefore for every year each stress item is weighted by its prevalence weight in the population. Less frequently experienced items are allocated a proportionately greater weight. The variable has been normalized with scores ranging from 0 to 1. A score of zero means that the individual is not deprived on any of the items while a score of 1 means that the individual is deprived on all items.

## Household Income

The income measure employed throughout our analysis is annual disposable income adjusted for household size using the Irish modified equivalence scale.<sup>6</sup>

## Material Deprivation

The measure of material deprivation we employ comprises household and HRP items, as set out below, relating to enforced absence of rather basic life-style items. It excludes items that might more plausibly be understood as tapping economic stress rather than deprivation *per se*

- Two pairs of strong shoes
- A warm waterproof overcoat
- Buy new rather than second hand clothes
- Eat meals with meat, chicken or fish (or vegetarian equivalent) every second day
- Have a roast joint (or its equivalent) one a week.
- Go without heating during the past twelve months
- Keeping the home adequately warm
- Replace any worn out furniture
- Buy presents for family or friends once a year
- Have family or friends for a drink or meal once a month
- Have a morning, afternoon or evening out in the past fortnight for entertainment

Across the Irish SILC 2004-2011 waves the deprivation measure has a Cronbach alpha reliability of 0.82 with modest deprivation across years.<sup>7</sup> In our subsequent analysis we employ a prevalence-weighted version of deprivation measure.<sup>8</sup>

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<sup>6</sup> The scale assigns the first adult in a household the value 1, each additional adult a value of 0.66 and each child a value of 0.33.

<sup>7</sup> The Irish SILC data set allows for a much clearer distinction between material deprivation and economic stress than is the case with the comparative EU-SILC data set and facilitates the development of separate indicators with satisfactory levels of reliability across time.

<sup>8</sup> In this paper we consider income, material deprivation and economic stress as distinct indicators. Whelan and Máitre (forthcoming) provide an analysis of the impact of the Great Recession in Ireland which employs latent

## The Relationship between Income Class and Social Class

Our exploratory analysis, revealed modest change over time in the distribution of income class and social class or in the relationship between them. In Table 1 we show the relationship between income class and social class aggregated across the eight years of our analysis. For the income poor class a significant overlap with the ESeC class schema is reflected in the fact that two-thirds of this group were located in lower white collar and skilled manual and semi-unskilled manual & never worked classes. Less than one in ten were found in the higher & lower salariat. The social class profile for the precarious income class is remarkably similar to that for the income poor. For the lower middle class we observe differences at both ends of the social class distribution with almost one in four being located in the salariat and just less than one in two in the lower white collar & skilled manual & semi/unskilled manual & never worked class. For the upper middle class 40% are located in the salariat and 30% in the bottom two classes. For the affluent class membership of the salariat predominates with close to 60% being drawn from this class compared to 15% for the bottom two classes. For the income poor and precarious classes the number located either in the salariat or the higher grade white & blue collar classes ranges from 16% to 21%. It then rises to 45% for the lower middle and to 55% for the upper middle class and finally 74% for the affluent class. The number drawn from the higher white and blue collar classes rises from 8% for the income poor to 18% for the upper middle class before declining slightly for the affluent class.

*Table 1: Distribution of Social Class by Income Class*

	<i>Income Class</i>						Distribution of Social Class	N
	Poor (<60% of median)	Precarious (60-75%)	Lower Middle class (75-125%)	Upper Middle Class (125-166%)	Affluent Class (166 + %)			
	%	%	%	%	%			
<i>Social Class</i>								
Higher Salariat (ESeC Class 1)	3.5	3.8	8.0	17.6	32.3	12.4	12,921	
Lower Salariat (ESeC Class 2)	5.8	6.8	14.8	21.9	26.5	15.4	16,023	
Self-employed Agriculture (ESeC Class 5)	5.4	4.4	4.6	4.3	3.5	4.3	13,833	
Petit Bourgeoisie' (ESeC Class 4)	12.9	12.7	10.0	8.6	9.2	10.5	4,478	
Higher Grade White & Blue Collar (ESeC Classes 3 & 6)	7.6	10.7	14.2	17.5	15.0	13.3	10,891	
Lower White Collar & Skilled Manual (ESeC Classes 7 & 8)	22.4	21.4	22.3	14.3	8.6	18.5	19,195	
Semi-Unskilled Manual/never worked (ESeC Classes 9 & 10)	42.4	40.2	26.1	15.9	6.0	25.6	26,621	
Total	100.0	100.0	100.0	100.0	100.0	100.0		
Distribution of income Class	16.5	14.4	35.0	17.0	17.1	100.0		
N	17,063	14,983	36,335	17,731	17,850			

Switching perspective to consider the composition of social classes in terms of income classes we find that the number located in the upper middle and affluent classes ranges from 69% for the higher salariat to 15% for the semi-unskilled manual & never worked classes. The corresponding for the income poor and precarious classes are 9% and 50%

There is substantial overlap between the income class and ESeC schemas in their ability to capture a hierarchical dimension of social stratification. However, there is very little differentiation between the income classes in the inflow to these classes from the self-employed in agriculture and petit bourgeoisie. These latter groups are clearly characterised by considerable heterogeneity in terms of their distribution across income classes.

## Trends in Household Income, Material Deprivation and economic Stress by income Class and Social Class

In Table 2 we show the breakdown of household income adjusted for the 2011 CPI, material deprivation and economic stress by income class and time period. In the period 2004-2008 the income class categorisation accounted 44.5% of the variance in household income with the average level of equivalised income ranging from €8,799 for the income poor category to €22,526 for the affluent class – a differential of 5.4:1. Overall there was little change in income levels between 2004-08 and 2009-11. However, the affluent class experienced a substantial drop in income adjusted for the consumer price index. At the other extreme the income poor class saw a modest decrease in their income level. The remaining classes experienced modest reductions in their income levels. There is no evidence of widening gaps between the income classes, despite the fact that the proportion of variance accounted for between income classes increased from 44.5% to 66.4%, indicating a significant reduction of within income class variance which may be related to reduction in the importance of market income relative to social welfare income the impact of the recession on overtime and bonus earnings.<sup>9</sup>

The picture in relation to material deprivation is somewhat different. Once again a clear hierarchical pattern was observed in the boom period with the level of deprivation ranging from .007 for the affluent class to .147 for the income poor class – a differential of over 20:1, reflecting the ability of the former class to almost entirely avoid such deprivation. In moving from the boom to the bust period, we observe a significant increase in the overall level of deprivation from .058 to .077. All income classes experience some increase. The sharpest increase of .026 is observed for the precarious and lower middle classes. They are followed by the upper middle class with an increase of .017. Changes at the extremes are more modest involving an increase of .008 for the income poor and one of 0.004 for the affluent class. The overall effect of these changes is a small reduction in the proportion of variance accounted for by social class from 12.3% to 11.8%.

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<sup>9</sup> Peak to trough estimates involving comparisons of 2011 with 2008, which fail to capture significant increases between 2004 and 2008 while at the same time capturing a continuing decline from 2009 to 2011, show more substantial declines for all classes. However, the largest increase remains concentrated in the highest income group.



The range of outcomes relating to economic stress is more restricted, although once again we observe a clear hierarchical pattern with the level of stress in the first period ranging from .069 for the affluent class to .371 for the income poor – a differential of 5.4:1 – identical to that for household income. An overall increase in the economic stress level of .057 was observed. In this case the precarious and lower middle classes are more sharply differentiated from the remaining classes. The respective increases are .100 and .093. The next largest increases of .057 and .040 are observed respectively for the income poor and affluent classes. Unlike the situation in relation to material deprivation, the lowest increase in stress levels is observed for upper middle class. The overall effect of these changes is to reduce the proportion of variance accounted by differences between income classes from 15.5% to 13.5%.

	Income Adjusted to the 2011 CPI			Material Deprivation			Economic Stress		
	2004-08	2009-2011	Difference	2004-08	2009-2011	Difference	2004-08	2009-2011	Difference
	€	€	€	mean	mean		mean	mean	
<i>Economic Class</i>									
Income Poor (<60%)	8799	8504	-295	0.147	0.155	0.008	0.371	0.428	0.057
Precarious Class	12838	13099	262	0.101	0.137	0.026	0.291	0.391	0.100
Lower middle class	18763	18860	97	0.043	0.075	0.026	0.193	0.280	0.093
Upper middle class	27298	27597	298	0.014	0.031	0.017	0.148	0.174	0.026
Affluent Class	47588	45832	-1756	0.007	0.011	0.004	0.069	0.109	0.040
Total	22526	22645	119	0.058	0.077	0.019	0.203	0.271	0.057
Eta <sup>2</sup>	.445	.664		0.123	0.118		0.155	0.135	
N	70,692	35,844		70,692	33,567		69,762	35,713	

The material deprivation results point to a squeeze on the precarious class and the middle classes while the economic stress results suggest a narrower focus on the precarious class and lower middle class.

In Table 3 we set out the corresponding analysis relating to social class. Focusing first on equivalised income, we observe that in the boom period there is both a hierarchical effect and a property ownership influence which varies for the agricultural and non-agricultural sectors. Income levels for the higher salariat were 2.2 times those for the

semi-unskilled manual and never worked class. The next highest incomes are observed for the lower salariat and self-employed in agriculture class. The petit-bourgeoisie and the higher grade white and blue collar classes were at the lower end of the spectrum. Consistent with the income class analysis, the higher salariat experienced the sharpest reduction in their income, followed by the petit bourgeoisie and the higher grade white and blue collar class. Little change was observed for the two lowest classes while the lower salariat and farmers experienced more significant increases. The former is likely to reflect the protection from unemployment enjoyed by public sector workers. The latter reflects the fact that the economic fortunes of farmers are much less tightly linked to the domestic business cycle than is the case for other classes with farm income largely being drawn from farm subsidies and direct payments. In contrast to the income class situation we observe an increase in the proportion of between class variation from 11.1% to 16.3%.

Overall the analysis points to a reduction in income levels at the top of both the income class and social class hierarchy and little change at the bottom. However, while the income class analysis shows little change in the intermediate categories, social class analysis reveals a great deal of heterogeneity in this range. For the property owning classes we observe sharply contrasting experiences for agricultural and non-agricultural categories with farmers experiencing a significant improvement in their situation while the remaining proprietors saw their incomes fall. Similarly, while the lower salariat saw a modest increase in their income levels, the higher white collar & skilled manual class experienced a corresponding fall in their incomes. So while the income class analysis points to the reduction of the gap between the affluent class and all others, the social class outcomes point to a selective form of 'middle class squeeze'.

Table 3: Equivalized Income, Material Deprivation and Economic Stress by Income Class by Time period									
	Income			Material Deprivation			Economic Stress		
	2004-08	2009-2011	Difference	2004-08	2009-2011	Difference	2004-08	2009-2011	Difference
<i>Social Class</i>									
Higher Salariat (ESeC Class 1)	35965	34389	-1577	0.016	0.022	0.006	0.108	0.164	0.056
Lower Salariat (ESeC Class 2)	27499	28886	1387	0.026	0.036	0.010	0.134	0.177	0.043
Self-employed Agriculture (ESeC Class 5)	23392	25631	2240	0.021	0.025	0.004	0.167	0.177	0.010
Petit Bourgeoisie' (ESeC Class 4)	19715	18863	-852	0.032	0.053	0.020	0.166	0.281	0.115
Higher Grade White & Blue Collar (ESeC Classes 3 & 6)	22109	21060	-1048	0.049	0.064	0.015	0.185	0.252	0.069
Lower White Collar & Skilled Manual (ESeC Classes 7 & 8)	18491	18567	76	0.077	0.109	0.032	0.251	0.329	0.078
Semi-Unskilled Manual/never worked (ESeC Classes 9 & 10)	16183	16655	472	0.106	0.120	0.016	0.290	0.336	0.046
Total	21,458	22,528	1.070	70,692	33,600		69,762	33,478	70,692
Eta <sup>2</sup>	0.111	0.163		0.058	0.074	0.212	0.203	0.266	0.063
N	70,362	33,600		0.059	0.070		0.068	0.054	

For both material deprivation and economic stress the sharpest increases in moving from boom to bust are observed for the precarious and lowest income classes. Consistent with these findings, the most pronounced deterioration for both outcomes is observed for the petit-bourgeoisie and the higher and lower grade white & blue collar classes.

### **Multivariate Analysis of Economic Stress**

In what follows, when considering the impact of income class and social class on economic stress, we control for a range of potential mediators and we also take into account the moderation of such effects over time by the inclusion of appropriate interaction terms. As the dependent variable, economic stress, is continuous we estimate OLS regression models.. The dependent variable has been normalized so as to have values ranging from 0 to 1.

In Table 4 the initial model contains only the period effect and shows that economic stress increased by .063 as the economy went from boom to bust. Model 2 adds both income class and social class. Five income classes are included in the model, with the affluent households (>166% median income) as the reference group. It also includes the interaction of the income class categories with period. For social class, on the basis of earlier analysis, interactions with period were restricted to the self-employed classes. The model provides estimates of the net effect of income classes controlling for social class and vice versa. For the period 2004-2008 economic stress is clearly stratified by income class. Compared to the most affluent class, economic stress levels of the income poor were .274 higher, for the precarious class the gap was .193, for the lower middle class .102 and .035 for the upper middle class. When we focus on change over time we observe significant increases for the precarious income group and the lower middle income group with changes over time for these groups being respectively .053 and .045 higher than for the affluent class. Changes over time for the income poor and the upper-middle class did not differ significantly from the affluent class.

The impact of social class is somewhat muted. This is in line with our expectation that such effects would operate to significant effect through income class, which is controlled for in the model. Results for social class indicate that in the first period stress levels were highest among the semi-unskilled manual & never worked classes and the lower services/sales occupations. The self-employed and the lower salariat did not differ significantly from the higher salariat. The important social class changes relate to the self-employed classes. However, they operate in opposite directions for the agricultural and non-agricultural classes. For the former we see a decline in stress level of .057 while for the latter we see an increase of .057 which results in the net gap between this class and the semi-unskilled class being reduced from .087 (.068 + .019) to .030. Unsurprisingly income groups and social class together account for a significant proportion of variance in economic stress at 17%. Model 3 adds life course related variables to the model including age of head of household and presence of children. Housing tenure is also related to period in the life-course, with a higher proportion of older households falling into the 'owned outright' category and a higher percentage of younger households in the private-rented sector. Therefore housing tenure is added simultaneously with age and presence of children. The major contrast in the first period

was between those in households where the HRP was over 65 and all others, with the difference ranging from .058 for the 45-54 age group to .072 for the 55-64 group. Over time stress levels for the 45-54 age groups increased significantly with a coefficient of .032 being observed for the interaction between this age group and time period. A similar effect was observed for the 35-44 age group but the increase was just short of statistical significance. We find that, controlling for all other factors, those in households with children reported significantly higher levels of economic stress (adding 0.040 to the stress score). The model fit statistics indicate that life course related factors (and their interactions with period) have a significant bearing on economic stress accounting for an additional 9.6% of variance in stress scores when included in the model.

Consistent with the arguments outlined above in relation to housing debt and mortgage arrears, housing tenure is found to exert an independent influence on economic stress even when we control for income, class and other factors. Public sector tenants report the highest level of stress with a coefficient of .219 however they experienced no increase in economic

Table 4: OLS Regression Models of Economic Stress

	(i)	(ii)	(iii)	(iv)
Time Period 2009-11	0.0630***	0.033***	-0.0223**	-0.032***
<i>Economic class (ref=affluent)</i>				
Income Poor (<60%)		0.274***	0.221***	0.108***
Precarious Class		0.193***	0.173***	0.097***
Lower middle class		0.102***	0.087***	0.063***
Upper middle class		0.035***	0.030***	0.032***
Income Poor (<60%)*09-11		0.016	0.021	-0.009
Precarious Class*09-11		0.053***	0.051***	0.003
Lower middle class*09-11		0.045***	0.055***	0.010
Upper middle class*09-11		0.018	0.022*	0.002
<i>Social class (ref=high salariat)</i>				
Lower salariat		0.000	0.009	0.001
Farmer		0.036***	0.040***	0.018**
Small employer & self-emp		-0.019	0.021	0.030**
Intermed & lower supervisory/tech		-0.019*	0.009	0.014
Lower services/sales/tech		0.065***	0.055***	0.023***
Semi/unskill manual/never worked		0.068***	0.064***	0.022***
Farmer*09-11		-0.057**	-0.028	-0.014
Self-emp*09-11		0.057***	0.047***	0.045***
<i>Age (ref= 65yrs and over)</i>				
under35			0.086***	0.100***
Age 35-44 yrs			0.064***	0.079***
Age 45-54 yrs			0.058***	0.078***
Age 55-64 yrs			0.072***	0.077***
Age 35-44 yrs * 09-11			0.026	0.019
Age 45-54 yrs *09-11			0.032**	0.023**
Children < 18 in hh			0.0391***	0.024***
Children * 09-11			0.0116	0.023**
<i>Housing tenure (ref=owned outright)</i>				
Mortgage			0.028***	0.027***
Private rented			0.091***	0.043***
Public Authority Rental			0.219***	0.104***
Rent free			0.081**	0.013
Mortgage *09-11			0.063***	0.053***
Soc welfare >25% of income				0.058***
Soc welf>25% *09-11				0.038***
Deprivation Score				0.902***
Constant	0.203***	0.0568***	-0.0514***	-0.057***
Observations	102535	102535	102535	102535
R-squared	.012	0.173	.269	.470
Prob > chi2	.000	.000	.000	.000

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Note non-significant interactions with year were removed from the model for parsimony.

Source: EU SILC microdata, weighted. Robust standard errors controlling for clustering by household

stress over the second period. In the first period mortgage holders reported scores of only .028 higher than for outright home owners. However, they reported the steepest rise in economic stress over the period examined, experiencing an increase in stress score of .063. The introduction of the life course variables accounts for the changing impact of agricultural self-employment between periods. However, the changing pattern of life course influences had little impact on the remaining class effects.

In Model 4 we seek to take material circumstances into account. Of particular importance here is the material deprivation indicator. However, on the basis of further exploratory analysis, we also included the contrast between those drawing less than 25% of their income from social welfare and the changing impact of this contrast over time. In the first period those drawing more than 25% of their income from welfare sources had stress scores that were .058 higher than for the remainder of the population. In the second period this had increased to .096. This finding is consistent with our observation that income classes and social classes at the peak of the respective hierarchies increased their relative advantage over a range of other classes. There was no additional period effect of having children in model 3. However, in model 4 when we control for deprivation and social welfare those with children are shown to experience a higher rise in economic stress in the 2009-11 period.

Adding the social welfare and material deprivation variables explains a further 20.1 per cent of the variance, with the latter playing the major explanatory role, giving a total  $R^2$  of .470. In the boom period adding these variables reduces the income poor and precarious class effects by approximately half but has more modest effects for the differences between the middle classes and the affluent class. Their introduction also accounts for the increased effects for the income poor and precarious classes over time. We are left with net income class effects that are significantly reduced and that are uniform across period. However, taking these factors into account plays no role in accounting for the deteriorating situation of the petit bourgeoisie. Clearly the members of this class such positions have experienced consequence of the recession which go beyond material deprivation.<sup>10</sup>

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<sup>10</sup> A somewhat different perspective is provided by Muhlau using ESS data for individuals and single item dichotomized variable. The question asks respondents how they are coping on their current income – there

## The Interaction of Income Class and Life Course Effects

The analysis reported above provides an account of overall trends in the population as a whole. However, further analysis revealed significant pattern of interactions between class and life-course effects. This was particularly the cases in relation to income class. In other words, class effects cannot be fully understood independently of life-course stage and vice-versa. In order to present and facilitate this somewhat complex pattern of interactions involving a large number of dummy variables, in Table 5 we set out separate equations for three HRP age groups - those aged <35, 35-64 and 65+ . In each case we present the gross effects of income class and the changes between periods first and then report the net effects when social class and the range of controls included in our earlier analysis are introduced. From the first equation relating to HRPs younger than 35 we can see that the impact of being in the income poverty class and the precarious class actually declined over time with respective coefficients of -.099 and -.055, although only the former coefficient is statistically significant. In other words, the gap in stress levels between these classes and the affluent class narrowed over time. Since there was no evidence of significant negative change over time for the middle classes, indeed the interaction coefficients are positive, the two lowest income classes also improved their positions in comparison with these classes.

At this stage of the life-course, once we have controlled for income class effects, social class coefficients, with the exception of agricultural self-employment, are not statistically significant. This is likely to reflect the fact that many of the benefits of higher social classes only emerge over time as factors such as incremental scales, promotions and other forms of career advancement come into play, while advantages such as lower unemployment risks will be already captured by income classes. It appears that welfare, taxation and labour market effects eroded the advantage of the middle and affluent classes in this early life course group, while the lower income classes, which included a significant number of lone parents, who already had

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was a four point response scale which was dichotomised, so that those finding it difficult or very difficult were contrasted with all others. However, our interpretation of his findings, particularly those contained in the logistic regression analysis, is that they are broadly in line with the conclusions reported in this paper



exceptionally high levels of economic stress in the boom period, found their relative disadvantage in stress reduced.

It is notable that it is at this stage of the life course that having children has the greatest effect on economic stress. Introducing social class and the control variables produces a modest reduction in the interaction coefficients between income and period to  $-.077$  for the income poor and  $-.041$  for the precarious group, with the former remaining statistically significant. It is notable that the coefficient for the interaction of non-agricultural self-employment with period is effectively zero for this age group.

For the middle life-course group a quite different situation is observed, with a significant increase over time in the impact of being in the precarious class and the lower middle income class with respective coefficients of  $.059$  and  $.064$ . Here, the pattern of coefficients is consistent with a 'precarious class and lower middle class squeeze' effect. Introducing social class and, in particular, material deprivation and social welfare dependence reduces these interaction effects to close to zero. In contrast with the situation for the youngest age group, the coefficient for the interaction of the petit bourgeoisie and time period of  $0.066$  is highly significant. Unlike the situation at the earlier stage of the life course, for this group, the net effects of being in the two lower social classes remains statistically significant. At this stage of the life course the increased impact over time of the HRP being in non-agricultural self-employment is highly significant even when controlling for a variety of other factors.

Finally, for the 65+ group we observe increases over time for the lower and upper middle classes with respective coefficients of  $.046$  and  $.041$  producing a 'middle class squeeze' profile. However, it should be noted that overall there was no change in the economic stress levels of this age group and there is no period effect for the affluent reference group. These results are observed in a context where income class effects account for a smaller proportion of variance for this age group compared to the younger ones; 5.4% compared to just less than 20%. This is in line with the decreased role of market outcomes at this stage of the life course. As with the younger age group the coefficient for the petit-bourgeoisie- time period interaction is close to zero. The "crisis" of the petit bourgeoisie is entirely a mid-life course phenomenon.

In order to provide a detailed picture of the impact of such effects, in Figure 1 we document the predicted effects from the models relating to gross income class effects in Table 5. For the youngest age group we can see that for the income poor class stress levels actually declined by .027. For the precarious class a modest increase of .020 was observed. The increases for the remaining classes were substantially higher ranging from .079 to .092. As a consequence, we observe a systematic narrowing of difference between the two lowest income classes and the middle and affluent classes. It is important to remember that the stress levels for these younger low income age groups are at both points in time at the upper end of the continuum but no significant deterioration in their situation is observed over time.

Focusing on the middle life course group, it is clear that economic stress increases for all income categories. The income poor category which had enjoyed an advantage over their younger counterparts in the first period report an increase of .068 and had an almost identical stress levels in the second period, .453 v .459. However, the sharpest increases of .098 and .102 are observed for the precarious and lower middle classes respectively. For the upper middle and lower social classes the respective increases are .055 and .039. As a consequence of these changes the contrast between the income poor and precarious classes, evident in the early period, disappears while that relating to the former lower middle is substantially

Table 5: OLS Regression of Economic stress by Household Reference Person Age

VARIABLES	Under 35		35-64 YEARS		65 YEARS PLUS	
	(i)	(ii)	(i)	(ii)	(i)	(ii)
Constant	0.079***	0.020	0.068***	0.024***	0.058***	0.039***
Time Period 2009-11	0.071***	0.018	0.039***	-0.034***	-0.019	-0.021
<i>Economic class (ref=affluent)</i>						
Income Poor (<60%)	0.407***	0.109***	0.317***	0.115***	0.126***	0.068***
Precarious Class	0.343***	0.091***	0.267***	0.112***	0.106***	0.053***
Lower middle class	0.209***	0.082***	0.118***	0.064***	0.059***	0.031***
Upper middle class	0.044**	0.021	0.051***	0.037***	0.011	-0.001
Income Poor (<60%)*09-11	-0.099*	-0.077*	0.029	0.005	-0.008	-0.003
Precarious Class*09-11	-0.055	-0.041	0.059**	0.013	0.027	0.014
Lower middle class*09-11	0.013	-0.015	0.064***	0.017	0.046**	0.024*
Upper middle class*09-11	0.018	-0.035	0.016	0.008	0.041**	0.031*
<i>Social class (ref=high salariat)</i>						
Lower salariat		0.015		-0.004		0.007
Farmer		0.032*		0.014		0.011
Small employer & self-emp		0.022		0.023		0.034*
Inter & lwr supervisory/technical		-0.010		0.009		0.025***
Lower services/sales/tech		0.028		0.017*		0.029***
Semi unskilled manual/never work		0.000		0.019**		0.042***
Farmer*09-11		-0.016		-0.015		-0.010
Self-emp*09-11		0.001		0.066***		-0.013
Children < 18 in hh		0.040***		0.017***		0.034
Children * 09-11		0.007		0.033***		-0.015
<i>Housing tenure (ref=owned outright)</i>						
Mortgage		0.021		0.032***		0.097***
Private rented		0.043**		0.058***		0.003
Local Authority Rental		0.125***		0.110***		0.034**
Rent free		-0.016		0.049		-0.022
Mortgage *09-11		0.063**		0.056***		-0.060
Social welfare >25% of income		0.076***		0.053***		-0.010
Social welfare >25% * 09-11		0.039		0.039***		0.017
Deprivation Score		0.912***		0.897***		0.789***
Observations	11304	11304	67682	67682	23549	23549
R-squared	0.192	0.484	0.197	0.470	0.054	0.284

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Note non-significant interactions with year were removed from the model for parsimony.

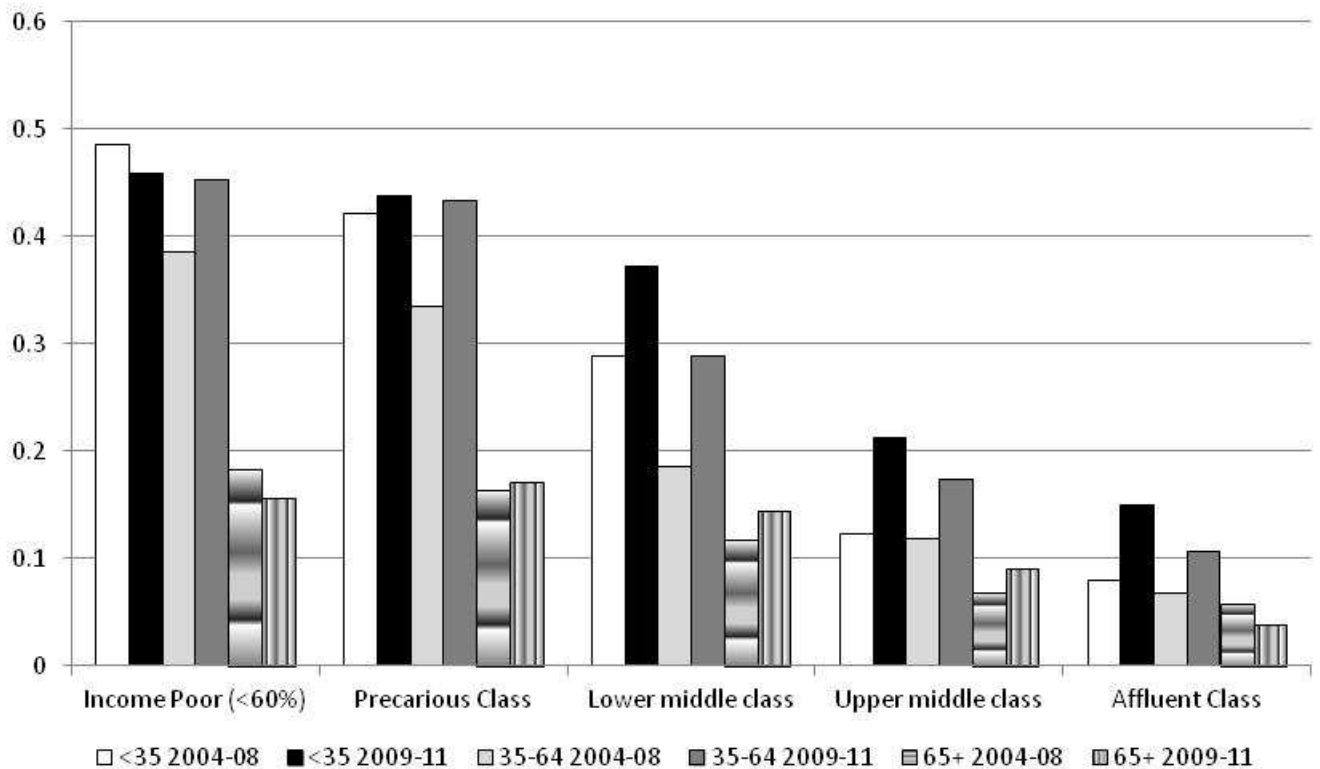
Source: EU SILC microdata, weighted. Robust standard errors controlling for clustering by household

reduced. In contrast, the advantage enjoyed by the upper middle and affluent class increases with the difference in stress scores for the former going from .004 to .038 and for the latter from .011 to .043.

Finally, focusing on the older age groups we see that at both periods and for all income class categories stress scores are lower for this group. However, the pattern of change over time differs from that prevailing at other stages of the life-course. For the income poor and affluent classes stress levels actually decline over time. For the precarious class there is a modest increase and the sharpest increases of .028 and .022 are for the lower and upper middle classes respectively.

Over time we can see that life-course differences increased significantly in the affluent and upper middle classes and were reduced in the income poor class. For the lower middle class variation across time was modest. Finally, for the precarious class the gap between the youngest and middle age groups was eliminated. Both income class and life course position contribute to economic stress the range of scores goes from .039 for the affluent older group (in period 2) to .486 for the youngest income poor group (in period 1) – a differential of 12.5:1. However, the manner in which they combine is far from straightforward and it is obvious that significant further exploration of the processes within life course groups is required to provide an adequate account of the underlying mechanisms.

Figure 1: Predicted Economic Stress Scores by Income Class, Age Group and Time Period



## Conclusions

The economic crisis has had a detrimental effect on the livelihoods of many Irish households. While rising unemployment and poverty are visible signs of the recession's impact, it is likely that the effects of such an extensive decline in GDP and severe cuts in public expenditure have spread considerably further than those who have directly experienced job losses and income poverty. Increases in taxation, declining wages and hours of work, and reductions in state transfers have impacted across the social and income distribution, while mortgage arrears have spiralled among groups who were previously well protected from financial difficulties. The scale of these effects has led to questions as to the class and life-course distribution of the cost of the recession and the extent to which the burden has been disproportionately borne by specific social groups.

Purely income-based poverty measures have failed to pick up the rising hardship because the general decline in income levels led to the poverty threshold falling in value. Here we have focused on economic stress while controlling for level of material

deprivation and welfare dependency. Our analysis suggest that changes in stress levels between the boom and bust period for income class groups are largely accounted for by trends in objective circumstances and their changing impact.

It is clear from our findings that economic stress was strongly influenced by social stratification factors for both of the time periods we have considered. There is no evidence that the increasing influence of life-course factors led to a diminution in the impact of either income class or social class. Instead we observe a pattern of interaction that shows the impact of each factor to be highly contingent on the situation in relation to the other.

The pattern of change over time cannot be accurately described as involving either individualization or polarization. The recession resulted in raised stress level for all income classes and social classes. The affluent class remained largely insulated from the experience of economic stress, however, it saw its advantage relative to the income poor class decline at the earliest stage of the life-course and remain stable across the rest of the life course. At the other end of the hierarchy, the income poor class experienced a relative improvement in their economic stress situation in the earlier life course phase and no significant change at the later stages. For the remaining income classes life-course stage was even more important. At the earliest stage the precarious class experiences some improvement in its situation while the outcomes for the middle classes remain unchanged. In the mid-life course the precarious and lower middle classes experience disproportionate increase in their stress levels while at the later life-cycle stage it is the combined middle classes that lose out. Additional effects over time relating to social class are restricted to deteriorating situation of the petit bourgeoisie at the middle stage of the life-course.

Our analysis has provided clear evidence of the substantial impact of both class and life course effects or as they have been described as in the social investment literature – ‘old’ and ‘new’ risks. However, rather than ‘old’ class related risks being displaced by ‘new’ life course risks, following Pintelon (2013) and Whelan and Maître (2001), we observe a complex pattern of interaction in which income and class effects are conditional on phase of the life-course and vice versa. Understanding the changing role

of class and life course factors is greatly facilitated by moving beyond a focus on income in order to develop a multi-dimensional perspective that encompasses material deprivation and economic stress.

Since 2011 there have been significant further cuts in public sector pay, and tax changes such as the introduction of a property tax and additional cuts in public sector pay introduced in 2013 (see Callan et al 2013a). These are not captured in the current analysis and may affect subsequent patterns of economic stress. The analyses also stops well before the labour market recovery observed in 2013 (CSO, 2014). It is likely that in an upturn, middle class groups will benefit disproportionately from increased employment and a rise in property values. Nevertheless, dealing with the potential political pressures arising from the unprecedented levels of economic stress for the precarious and middle income classes and the petit- bourgeoisie while sustaining the social welfare arrangements that have in significant part protected the income poor class, presents formidable challenges in terms of maintaining social cohesion and political legitimacy (Dellepiane and Hardiman,2012, Nolan et al 2014).

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