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LEVELS AND PATTERNS OF  
MATERIAL DEPRIVATION IN  
IRELAND: AFTER THE 'CELTIC  
'TIGER''

**Christopher T. Whelan and  
Bertrand Maître**

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Working Paper No. 171

# **Levels and Patterns of Material Deprivation in Ireland: After the 'Celtic Tiger'**

**Christopher T. Whelan and Bertrand Maître**

## ***Abstract***

In this paper we use the first full wave of the Irish component of the EU Statistics on Income and Living Conditions survey to evaluate conflicting interpretations of levels and patterns of material deprivation in Ireland after the Celtic Tiger. Radical critics of Irish economic policies have seen the Irish case as a particularly good illustration of the tendency for globalization to be accompanied by widespread economic vulnerability and marginalization. Such arguments, however, have focused unduly on relative income poverty measures. Here, employing a multidimensional perspective that encompasses not only income but also a range of deprivation dimensions, we adopt a tiered approach to the analysis of economic vulnerability and multiple deprivation. Our analysis identifies one fifth of the population as being economically vulnerable. A sub-group constituting one half of this economically vulnerable cluster is identified as “consistently poor”. Finally, seven per cent of the population are identified as maximally deprived in that they exhibit high risks of deprivation across a range of life-style deprivation dimensions. Both the levels and depth of material deprivation are a good deal more modest than suggested by radical critics of the recent Irish experience.

## ***Introduction***

Over the past decade, Ireland has experienced an unprecedented surge in economic growth that has brought levels of average income to be among the highest in the world.<sup>1</sup> What remains hotly disputed is who has benefited from this economic 'miracle'. The predominant sociological view has been that the Irish experience of globalization fuelled economic inequality. An uninterrupted strategy of increasing integration into the global economy over the past four decades and the consequent opening up of labour, goods and capital markets are claimed to have led to increased poverty levels and left a broad stratum of the population vulnerable and insecure.<sup>2</sup> Kirby (2006), one of the leading proponents of this view, treats the Irish case as an example of the general tendency for globalization to create increase vulnerability. The argument is linked to the case made by such as Giddens (1999) and Beck (1992) that not only have the risks to which we are exposed become more unpredictable but the institutional arrangements of the welfare state that served to buffer us against such risks have been eroded.<sup>3</sup>

From this perspective, the benefits of the 'Celtic Tiger' are largely illusory and a focus on conventional economic indicators conceals a picture of increased inequality, erosion of employment security and marginalisation.<sup>4</sup> The fact that welfare payments lagged significantly behind the very rapid rise in incomes from work and property is seen to be more important than that they increased a good deal more rapidly than consumer prices and that real incomes and living standards were improving throughout the distribution.<sup>5</sup> Kirby (2002)

concludes that levels of income inequality have increased with higher levels of economic growth and the overall upgrading of Ireland's class structure masks a persistent and deepening problem of marginalization and blocked mobility.<sup>6</sup> However, while the theme of polarization during a time of plenty has been prominent in accounts of the 'Celtic Tiger', the available evidence suggest the consequences of recent change have been more complex.

While considerable disagreement exists regarding the consequences of the Celtic Tiger, consensus does seem to have emerged that the argument can be settled only on the basis of consideration of the multifaceted consequences of change. However, proponents of the polarization amid plenty have continued to rely disproportionately on information relating to income poverty. While the Government has been highlighting "consistent" poverty figures, incorporating information on both income poverty and enforced absence of a set of "basic deprivation" items, that do indeed show poverty declining sharply over that period, others have emphasised trends in relative income poverty that suggest it actually increased.<sup>7</sup> In addition to the general limitations of the latter measures<sup>8</sup>, additional difficulties arise because relative income poverty indices are particularly problematic in conditions of exceptional growth such as those that have characterised the recent Irish experience. The fact that Eurostat reports that in 2003 Ireland had a substantially higher poverty rate at 60% of median income than Latvia should alert us to the need to take more than conventional income poverty indicators into account in assessing economic well-being.<sup>9</sup>

### ***Vulnerability and Multiple Deprivation***

In pursuing a multi-dimensional agenda we will argue for the value of a vulnerability perspective. As De Haan (1998:15), observes, notions of vulnerability are closely associated with the social exclusion perspective. Following Chambers (1989:1), we can define vulnerability as not necessarily involving current deprivation either in income or other terms but rather insecurity and exposure to risk and shock. In developing measures of vulnerability we are seeking to develop point in time proxies for the kind of risk of exposure to persistent disadvantage that is captured in panel surveys. This objective is combined with a concern to develop a genuinely multidimensional perspective. The IMF (2003), the UN (2003) and the World Bank (2000) have developed a range of approaches to measuring vulnerability at the macro level. Consistent with the approach developed here, the World Bank sees vulnerability as reflecting both the risk of experiencing an episode of poverty over time but also a heightened probability of being exposed to a range of risks. However, they note the difficulty of operationalising this understanding (World Bank, 2000).

Here, following Whelan and Maître (2005 a & b), we implement an approach to the measurement of vulnerability at the micro level through the use of latent class analysis. In evaluating the scale and pattern of material deprivation in Ireland, we will develop a tiered approach to the conceptualisation and measurement of multiple deprivation. In implementing this approach we take advantage of the availability of data from the first complete wave of the Irish component of the European Union Statistics on Income and Living Conditions

(EU-SILC) instrument conducted in 2004. Significant discontinuities are involved in the measurement of material deprivation in EU-SILC in comparison with its Irish predecessor – the Living in Ireland Survey. Our focus is therefore not on the issue of trends over time, which has been addressed elsewhere<sup>10</sup>, but rather on providing a comprehensive account of patterns and levels of deprivation at a point in time where the impact of the unprecedented period of growth can be taken fully into account.

We commence by focusing on the measurement of economic vulnerability, which is understood to go substantially beyond being at risk of income poverty. However, it remains focused on a restricted range of deprivations involving relatively extreme disadvantage in terms of income poverty, rather basic living conditions and experience of economic stress. We will then proceed to illustrate the relationship between such economic vulnerability and both income poverty and “consistent poverty”.

Our concern with multidimensionality leads us to go beyond strictly economic conditions to consider dimensions such as housing, health and neighbourhood environment. Our interest is in the extent to which people who fare badly in one respect tend to do likewise in others leading to the emergence of groups who are vulnerable to distinct forms of multiple disadvantage. Our analysis will proceed to spell out the relationship between such deprivation profiles and both economic vulnerability and consistent poverty. Our intention is to distinguish not just different life-style dimensions



but also different tiers of deprivation. Finally, we document the socio-demographic profiles of such groups.

### ***Data and Measures***

In Ireland the information required under the EU-SILC framework is being obtained via a new survey to be conducted by the Central Statistics Office (CSO) each year. The first full wave of the survey was conducted in 2004 (CSO 2005). The EU-SILC survey is a voluntary survey of private households. In 2004 the total completed sample size was 5,477 households and 14,272 individuals. A two-stage sample design with eight population density stratum groups with random selection of sample and substitute households within blocks and the application of appropriate weight was employed (CSO, 2005).<sup>11</sup>

A core aim of EU-SILC is to provide a basis for monitoring living standards, poverty and social exclusion and how they change over time. Income is defined as equivalised household disposable income. The at-risk-of poverty-rate is the share of persons with an equivalised income below a given percentage of the national median income. In this paper we draw on the full set of deprivation indicators in the Irish survey, which is a good deal more comprehensive than that common across the countries participating in EU-SILC.

The set of deprivation questions posed covered a wide spectrum of items ranging from possession of consumer durables, quality of housing and

neighbourhood environment to health status. Our analysis makes use of forty-two such indicators. The format of the questions posed to respondents varies across topics.

For the first set of items that we consider respondents were asked if (1) the household possessed/availed the items (2) did not possess/avail of because they could not afford it or (3) did not possess/avail for other reason. The items are:

- Paying for a week's annual holiday away from home in the last 12 months.
- Eating meat chicken or fish (or vegetarian equivalent) every second day, if you wanted to.
- Having a roast joint (or equivalent) once a week.
- Buying new, rather than second hand clothes.
- A warm waterproof overcoat for each household member.
- Two pairs of strong shoes for each household member.
- Replacing any worn-out furniture.
- Keeping your home adequately warm.
- Having friends or family for a drink or meal at least once a month.
- Buying presents for family/friends at least once a year.

A similar format was employed in relation to the set of consumer items set out below.

- |                     |                  |                  |
|---------------------|------------------|------------------|
| • A satellite dish  | a video recorder | a stereo.        |
| • A CD player       | a camcorder      | a home computer. |
| • A washing machine | a clothes dryer  | a dish washer.   |

- A vacuum cleaner      a fridge      a deep freeze.
- A microwave      a deep fat fryer      a liquidiser.
- A food processor      a telephone (fixed line).

A second set of items concerns the household dwelling and it was simply asked if the household possessed some specific amenities. Given the widespread availability of these items, we assume that their absence is due to inability to afford them.

- Bath or shower
- Internal toilet
- Central heating
- Hot water

A third set of 5 items relate to the quality and the environment of the dwelling. Respondents were asked if their dwelling suffered any of the problems listed below:

- Leaking roof, damp walls/ceilings/floors/foundations, rot in doors, window frames.
- Rooms too dark, light problems
- Noise from neighbours or from the street
- Pollution, grime or other environmental problems
- Crime, violence or vandalism in the area

The question described to this point concern households and household members. The final set of item we consider were addressed to individuals. For

this set of items, the absence and affordability elements were incorporated in one question (and two part questions for the last two items). The items are as follows:

- Going without heating during the last 12 months through lack of money.
- Having a morning, afternoon or evening out in the last fortnight for entertainment.
- A car.

The last set of items relate to the health of the household reference person.

The specific questions were as follows:

- Evaluation of general health. Five response options were offered. We considered respondents as having health problems when they answered from “fair” to “very bad”.
- If they suffered from any chronic illness or condition. A simple “yes” or “no” was offered to the respondents.
- If they have been limited in usual activities for at least the last 6 months because of a health problem. Three options were offered and those answering “yes very limited” and “limited” are considered as well as having health problems.

The analysis reported here refers to all persons in the EU-SILC. Where household characteristics are involved these have been allocated to each individual. Where more than one person answered a question, the response of the household reference person (HRP) has been allocated to each individual in the household. The HRP is the one responsible for the household

accommodation. Where this responsibility was shared the oldest person was chosen. In the analysis that follows we make use of forty-two indicators of life-style deprivation from EU-SILC described in the previous section. Our first step in the investigation of the dimensionality of deprivation for the EU-SILC set of items involves conducting an exploratory factor analysis of forty-two items. The particular form of factor analysis we employ involves an oblique rotation of the factors that permits the factors to be associated. The following five relatively distinct life-style deprivation dimensions were identified.<sup>12</sup> These comprise:

1. Economic strain – consisting of 11 items relating to food, clothing, furniture and minimal participation in social life.<sup>13</sup>
2. Consumption deprivation – comprising 19 items focusing mainly on a range of consumer durables including a phone, PC, Video, CD, dishwasher etc.
3. Housing facilities – is a 4-item index comprising basic facilities such as bath, toilet etc.
4. Neighbourhood environment – is a 5-item index encompassing pollution, crime/vandalism, noise. This dimension also incorporates a couple of items relating to deteriorating housing conditions that in our earlier work comprised part of asset that was identified as a separate dimension.
5. Health status of the HRP. This dimension comprises 3 items relating to overall evaluation of health status, having a chronic illness or disability and restricted mobility.

In order to confirm that the constituent items are in each case tapping the same underlying dimension we have estimated Cronbach's alpha. For the economic strain measure the alpha value is 0.86, for consumption deprivation it is 0.88 and for health dimension it is 0.83. These measures thus constitute extremely reliable indices. The values for the housing and neighbourhood environment dimensions are somewhat lower at 0.58 but are reasonably satisfactory given the small number of items involved.

### ***Analyzing Economic Vulnerability***

The approach we adopt in analysing economic exclusion involves an analysis of manifest indicators in order to identify underlying or latent vulnerability. We achieve this objective by the application of latent class analysis. The basic idea underlying such analysis is that the associations between a set of categorical variables, regarded as accounted for by membership of a small number of unobserved classes.<sup>14</sup> Latent class analysis assumes that each individual is a member of one and only one of N latent classes and that, conditional on latent class membership, the manifest variables are mutually independent of each others.

Our focus initially is on three key indicators - household income poverty, economic strain and reporting that one's household experiences difficulty in making ends meet. In order to provide us with sufficient degrees of freedom our income poverty variable has four categories distinguishing between those below 50% of median income, between 50-60%, between 60% to 70% and

above 70%. Our analysis is thus based on the distribution of frequencies in a 4x2x2 table. For income poverty we report the conditional probabilities of being below each of the three median income lines and for economic strain of an enforced lack of two or more items. The economic stress variable distinguishes those households that have difficulty or great difficulty in making ends meet.<sup>15</sup> Our objective is to identify a group who are vulnerable to economic exclusion in being distinctive in their risk of falling below a critical resource level, being exposed to rather basic life-style deprivation and in their level of subjective economic stress.

Given three dichotomous variables the latent class specification for variables A, B, C is

$$\pi_{ijkt}^{ABCX} = \pi_t^X \pi_{it}^{\bar{A}X} \pi_{jt}^{\bar{B}X} \pi_{kt}^{\bar{C}X}$$

where  $\pi_t^X$  denotes the probability of being in latent class  $t=1\dots T$  of latent variable  $X$ ;  $\pi_{it}^{\bar{A}X}$  denotes the conditional probability of obtaining the  $i$ th response to item A, from members of class  $t$ ,  $l=1\dots I$ ; and  $\pi_{jt}^{\bar{B}X}$ ,  $\pi_{kt}^{\bar{C}X}$  denote the corresponding probabilities for items B and C respectively.

Conditional independence can also be represented as a log-linear model

$$F_{ijkl}^{ABCX} = \eta \tau_i^A \tau_j^B \tau_k^C \tau_l^X \tau_{it}^{AX} \tau_{jt}^{BX} \tau_{kt}^{CX}$$

In this case the cell frequencies in the complete fitted table are represented as the product of asset of parameters corresponding to the fitted marginals of the

conditional independence model. The model can be estimated using the LEM algorithm (Vermunt, 1993).

In our analysis of economic vulnerability our hypothesis is that there are two underlying groups. In our later analysis of broader patterns of multiple deprivation we will hypothesise a more complex underlying structure. In Table 1 we show the results of fitting such a model to the income poverty, economic strain and subjective economic stress indicators. The goodness of fit indicators include the percentage of cases misclassified and the reduction in the deviance level compared to the independence model. The model misclassifies less than 0.5% of cases. The  $G^2$  measure of goodness of fit returns a value of 11.3 with 4 degrees of freedom. This involves a reduction in the value of the benchmark independence model of 99.7%.

Application of the model identifies one in five of the population as being economically vulnerable. At all three income poverty lines the economically vulnerable are, approximately, four times more likely to be below the relevant threshold. At the 50% line the respective percentages are 30% and 7% and these rise to 70% and 18% at 70% of median income. The contrast between economic vulnerability and income poverty is clearly illustrated by these results. At the 60% line, where the number income poor is almost identical to that economically vulnerable, 54% of those below the income threshold are vulnerable. Furthermore, there is no tendency for the association between income poverty and vulnerability to strengthen as the income threshold is made more stringent. In fact, the opposite is the case with the odds of being



vulnerable rather than non-vulnerable for the income poor versus non-poor declining from 10:1 at the 70% line to 8:1 at the 60% line and finally to 6:1 at the 50% line.

The economically vulnerable are also sharply differentiated from the non-vulnerable in terms of their exposure to subjective economic stress with the respective figures being 78% and 12%. However, while these disparities are substantial, the primary factor differentiating the latent classes is their risk of experiencing an enforced lack of two or more of the items making up the economic strain index. While 65% of the vulnerable group fall into this category this is true of only 1% of the non-vulnerable.

**Table 1 : Latent Class Analysis of Vulnerability to Economic Exclusion**

Vulnerable Class Size	0.202
G <sup>2</sup>	11.27
Degrees of freedom	4
r <sup>2</sup> G <sup>2</sup> of independence model	
% of case misclassified	0.43
Conditional Probabilities	
	Non-VulnerableVulnerable
Income	
< 50% of median	0.0650.303
< 60% of median	0.1170.499
< 70% of median	0.1820.700
Economic Strain (2+)	0.0130.645
Economic Difficulty	0.1160.779

The percentage of the population we identify as economically vulnerable is practically identical to that found below 60% of median income. In order to illustrate the consequences of focusing on one rather than the other distinction, we begin by constructing the four-fold typology resulting from cross-classifying the variables. In Table 2 we then break down a set of

variables relating to subjective economic pressures by the categories of this typology. The four indicators comprise inability of the household to cope with unanticipated expenses, debts relating to routine expenses, arrears in connection with mortgage, rent, hire purchase payments etc and experiencing housing costs as a great burden. A consistent pattern emerges whereby those vulnerable but not income poor at 60% of median income report levels of economic pressure that are remarkably similar to those who are both income poor and vulnerable. Similarly, those who are income poor and non-vulnerable are barely distinguishable from those who are neither income poor nor vulnerable. The intermediate groups, which in both cases account for 9% of the population display remarkably different profiles in terms of their experiences of economic pressures. While almost two-thirds of both segments of the vulnerable report inability to cope with unanticipated expenses this is true of approximately one in ten of the non-vulnerable groups. Similarly, the former are almost ten times more likely to report debt problems and almost four times more likely to experience housing costs as a great burden. The Income poor but non-vulnerable group report the lowest level of economic pressure in relation to housing expenses. For arrears the figure falls marginally from 36% of those both income poor and vulnerable to 30% for those vulnerable but not poor. It then declines sharply to 6 % for the income poor but non-vulnerable before reaching its lowest value of 3% for those neither poor nor vulnerable. Clearly those who are income poor and non-vulnerable do not conform to our expectations for a group that we would wish to designate as “poor”. Whether that label should be applied to those who are

economically vulnerable but not income poor is a question that we leave open for the moment.

Table 2: Economic Pressures by Income Poverty and Economic Vulnerability Typology

	<i>Both Income Poor &amp; Economically Vulnerable</i>	<i>Non-Income Poor &amp; Economically Vulnerable</i>	<i>Income Poor &amp; Not Economically Vulnerable</i>	<i>Neither Income Poor Nor Economically Vulnerable</i>
	%	%	%	%
Inability to pay unexpected expenses	67.2	62.0	13.2	10.0
Debt problems arising from ordinary living expenses	29.8	29.2	3.2	3.6
Housing costs a great burden	58.2	58.2	10.9	15.2
Arrears	35.9	30.0	6.2	3.3
% of Population	10.5	9.2	8.9	71.4

Some insight into why these groups might differ is given by the results of a multinomial regression analysis set out in Table 3 identifying the socio-economic characteristics of the household and household reference person that differentiate the remaining three categories from those who are neither income poor nor economically vulnerable. The socio-economic factors on which we focus include employment status – with employees having no experience of unemployment in the previous year as the reference category – marital status, number of children, being a lone parent, age group, education urban-rural<sup>16</sup> location and housing tenure. The coefficients reported are the odds on being in the category in question rather than that comprising those

neither income poor nor vulnerable. Not surprisingly those who are both poor and vulnerable are sharply differentiated from those who are neither across the range of variables under considerations. As we would expect, those not at work are much more likely to be found in this category, so too, however, are the self-employed and farmers and those employees with experience of unemployment in the previous twelve months. Those who are not married or are separated/divorced, lone parents, have less than lower secondary education or are in rural locations are also more likely to be in this category.<sup>17</sup> The relationship to age is curvilinear with those aged 65+ over having the lowest risk and those age 30-49 the highest. Thus, life-cycle effects clearly play a role and those in households with more than two children are also at increased risk. Finally those in rural locations, private tenants but more particularly public sector tenants are also significantly more likely to be found in this category.

*Table 3: Multinomial Regression of Income Poverty at 60% of median Income and Economic Vulnerability Typology on Household and Household Reference Person Socio-Economic Characteristics*

	<i>Both Income Poor &amp; Economically Vulnerable</i>		<i>Non-Income Poor &amp; Economically Vulnerable</i>		<i>Income Poor Not Economically Vulnerable</i>	
<i>Employment Status</i>						
Self-employed with employees	1.107	n.s.	0.414	***	1.380	n.s.
Self-employed without employees	3.621	***	0.963	n.s.	1.568	*
Farmer	5.303	***	1.868	***	5.735	***
Employee – unemployed in previous 12 months	3.856	***	0.985	n.s.	1.377	n.s.
Ill/Disabled	23.005	***	5.096	***	11.535	***
Unemployed	16.401	***	2.625	***	5.331	***
In Education	15.270	***	2.858	***	8.062	***
Home-Duties	8.774	***	1.674	***	5.559	***
Retired	5.881	***	0.973	n.s.	5.331	***
<i>Marital Status</i>						
Single	1.589	***	1.255	*	1.430	***
Widowed	1.422	*	1.377	*	1.526	***
Separated/Divorced	3.486	***	2.168	***	2.279	***
Number of Children > 2	2.605	n.s.	2.063	***	2.343	***
Lone Parent	4.612	***	2.837	***	2.314	***
<i>Age Group</i>						
Under30	2.897	***	0.836	n.s.	0.767	n.s.
30-49	4.114	***	0.998	n.s.	1.005	***
50-64	2.524	***	0.646	***	1.151	***
<i>Education</i>						
Primary	5.801	***	2.751	***	2.383	***
Lower Secondary	2.691	***	2.228	***	1.593	***
	0.768	***	0.886	*	0.533	***
<i>Urban Location</i>						
<i>Tenure</i>						
Private Tenant	1.446	***	3.498	***	1.328	n.s.
Local Authority Tenant	3.592	***	4.222	***	1.797	***
Nagelkerke R <sup>2</sup>			0.354			
Reduction in Likelihood Ratio			4,929.6			
Degrees of Freedom			66			

Of more interest is the comparison between the remaining two categories. Those income poor but not vulnerable are sharply differentiated from those vulnerable but not poor by a number of key characteristics. Membership of the former category is more strongly associated with being a farmer and with being inactive in the labour market but most particularly being retired or in education. To a lesser extent it is associated with being self-employed, rural location and negatively correlated with being a tenant.

A clear sense of these differences can be obtained by looking, as we do in Table 4, at differences in composition between the categories of the typology in relation to a number of key characteristics. While only one in six of those income poor but not economically vulnerable are employees the figure for the vulnerable but not poor comes close to two out of five. In contrast two out of three of the former are inactive compared to one in two of the latter. The corresponding figures for retirement are one out of five of the former and one in twelve for the latter. The comparable figures for farmers are one in ten and one in twenty and for rural location four out of five and almost two out of three. Furthermore, while it is not obvious from the net multinomial coefficients, the age composition of the groups differs substantially. While two out of three of the income poor but non vulnerable are aged fifty or over this is true of only two out of five of the vulnerable but non-poor. Finally while four-fifths of the former are home owners this is true of only three-fifths of the latter.

*Table: 4: Variation in Socio-economic Composition by categories of the Income Poverty-Economic Vulnerability Typology*

	<i>Both Income Poor &amp; Economically Vulnerable</i>	<i>Non-Income Poor &amp; Economically Vulnerable</i>	<i>Income Poor Not Economically Vulnerable</i>	<i>Neither Income Poor nor Economically Vulnerable</i>
	%	%	%	%
<i>Labour Force</i>				
<i>Status</i>				
% Employees	14.8	38.1	15.8	53.6
% Retired	7.1	8.4	21.7	10.9
% Farmers	6.0	4.9	10.7	6.1
% Inactive	74.2	52.0	68.5	28.5
<i>Rural</i>	66.6	63.9	78.1	63.6
<i>Aged 50 or over</i>	39.7	39.2	64.6	46.3
<i>Home Owner</i>	54.9	60.1	82.1	88.6

In summary, the income poor and non-vulnerable are more likely than the vulnerable but non-income poor to be older, farmers or retired, in rural locations and homeowners. It appears that this group are able to draw on resources beyond their current income to buffer themselves against a range of economic pressures. The vulnerable but non-income poor exhibit a profile remarkably similar to those who are both income poor and vulnerable with the key exception being that they are almost twice as likely to be employees and are correspondingly less likely to be inactive. However, their greater

probability of being in employment is not sufficient to insulate them from a range of economic pressures.

A rather different situation prevails regarding the association between economic vulnerability and consistent poverty. We define the latter as being below 70% of median income and experiencing an enforced lack of two or more economic strain items. 9% of the population are identified as falling into that category. While 53% of the economically vulnerable cluster are found to fulfil the consistent poverty conditions this is true of none of the non-vulnerable group. Thus, the consistently poor constitute a sub-set of the economically vulnerable. The proportions of the latter category consistently poor and non-poor are almost equal. The manner in which we characterise the latter group is crucial to our understanding of the nature and scale of material deprivation in Ireland after the Celtic Tiger. In the section that follows we attempt to provide a detailed profile of the economically vulnerable both poor and non-poor.

### ***Patterns and Levels of Income Poverty, Economic Strain and Subjective Economic Pressures***

In order to grasp the consequences of economic vulnerability and consistent poverty we make use of a threefold typology that distinguishes between those who are both economically vulnerable and consistently poor, those vulnerable but not consistently poor and those not economically vulnerable. For convenience we will refer to the first category simply as the consistently poor and to the second as the vulnerable. The first two categories each constitute approximately one in ten of the population while the remaining four-fifths are



found in the final category. Using this categorisation, in Table 5 we break down income poverty rates, individual economic strain indicators and subjective economic pressures items. Of those consistently poor, over four out of ten are poor at 50% of median income, seven out of ten at the 60% line and, by definition, all are below the 70% threshold. The income poverty rates for those vulnerable but not consistently poor are approximately one half those of the first group. Those for the non-vulnerable group are approximately one third of those of the second group. Thus, in terms of income poverty, we observe sharp differentiation across the categories of the typology with the economically vulnerable but not consistently poor occupying an intermediate position. In particular, we should note that almost one in two of the group are in households above 70% of median income.

Turning to the indicators of economic strain, we observe that among the consistently poor seven out of ten report that they cannot afford new furniture or being able to afford to have friends or family over for a meal or a drink once a month. Almost six out of ten indicate that they cannot afford an afternoon or evening out. On the remaining eight items between one in five and two out of five report enforced deprivation. The deprivation rates for the economically vulnerable group range between one half and one third of those relating to the consistently poor. Economic strain levels are extremely low for the non-vulnerable and exceed 1% in only four cases. The mean economic strain levels for the three groups are respectively 4.3, 1.9 and 0.1. The non-vulnerable are thus almost entirely buffered from the kind of economic strain under consideration. The consistently poor experience distinctively high levels

of such strain. The vulnerable but non-poor once again occupy an intermediate position.

Finally, we focus our analysis on the four indicators of subjective economic pressure referred to earlier. Once again the consistently poor are quite distinctive with four out of five indicating inability to cope with unanticipated expenses, three out of five reporting that housing expenses are a great burden, four out of ten having arrears and one in three reporting accumulation of debts in relation to routine expenses. The subjective experience of these households mirrors their profile of material deprivation. For the non-vulnerable, levels of economic pressure are extremely low. In particular, only very small numbers report debts or arrears. The economically vulnerable are rather closer to the consistently poor with regard to their experience of economic pressures than in relation to their levels of income poverty and economic strain.

The four fifths of the population that constitute the non-vulnerable group are effectively insulated from economic strain and stress. The one in ten who make up the consistently poor conform in every respect to the pattern that we would anticipate for a group afforded such a label. The vulnerable but not consistently poor clearly experience considerable levels of economic pressure and are characterised by levels of income poverty and economic strain that set them apart from the non-vulnerable. However, in relation to both these final dimensions they enjoy considerable advantages over the consistently

*Table 5: Income Poverty, Economic Strain and Subjective Economic Stress Profiles by economic Vulnerability and Consistent Poverty*

	<i>Consistently Poor</i>	<i>Economically Vulnerable &amp; Not Consistently Poor</i>	<i>Not Economically Vulnerable</i>
<i>Relative Income Poverty</i>			
% Below 50% median income poverty line	42.5	22.5	6.0
% Below 60% median income poverty line	70.4	38.1	11.1
% Below 70% median income poverty line	100.0	53.8	17.1
<i>% Experiencing Economic Strain in relation to individual items</i>			
% Going without Heating	33.1	14.5	1.2
% Shoes	28.2	10.2	0.1
% Roast joint or equivalent	30.9	13.4	0.2
% Meals with meat, fish or chicken	25.5	10.8	0.2
% New rather than second-clothes	39.2	16.5	0.5
% Warm water proof overcoat	20.5	7.7	0.0
% Household Adequately Warm	22.6	10.8	0.1
% New not Second Hand Furniture	70.6	36.5	3.8
% Presents for family/friends	32.9	10.7	0.4
% Able to Afford Afternoon or Evening Out	56.7	30.3	2.1
% Family for drink or meal	68.7	36.9	1.3
<i>Mean Economic Strain Levels</i>	4.28	1.93	0.10
<i>Subjective Economic Pressures</i>			
Housing costs a great Burden	61.1	55.6	14.7
Debts relating to routine expenses	35.6	24.1	3.6
Arrears	41.5	25.6	3.6
Inability to cope with unexpected expenses	80.4	50.6	10.4
% Of Population in Each Group	9.3	10.3	80.4

Poor. Thus, we would be extremely reluctant to merge them with the consistently poor. In order to gain further insight into the nature of these groups, in the section that follows we examine the socio-economic characteristics associated with membership of these categories.

### ***The Socio-economic Profile of the Economically Vulnerable and the Consistently Poor***

In Table 6 we display the results of a multinomial regression that contrasts the consistently poor and economically vulnerable groups with a reference category of those neither poor nor vulnerable. While the first two groups are clearly differentiated from the reference category, the contrast is considerably sharper in the case of the consistently poor. While the self-employed with employees and farmers are more likely to be found in the vulnerable only category rather than the consistently poor cluster the opposite is true for self-employed without employees and employees. For each of the forms of labour market inactivity the odds ratios relating to the consistently poor cluster is substantially higher than that pertaining to the vulnerable group. Separation/divorce is also more strongly associated with consistent poverty as is education and being a public sector tenant. These differences are also reflected in the composition of the groups, most notably in the fact that almost eight out of ten of the consistent poor are inactive compared to one in three of those who are economically vulnerable but not consistently poor. Similarly, while almost two thirds of the latter are home owners this is true of less than one in two of the consistently poor. Overall, while the economically vulnerable are clearly different in important respects from those who are neither

vulnerable nor consistently poor, there is no compelling argument for merging them with the consistently poor.

*Table 6: Multinomial Regression of Overlap Typology or Income Poverty at 60% of Median Income, Economic Vulnerability and Consistent Poverty at 70% of Median Income on Household Socio-Economic Characteristics*

	Consistently Poor		Economically Vulnerable but not Consistently Poor	
	Exp (B)	Sig.	Exp (B)	Sig.
<i>Employment Status</i>				
Self-employed with employees	0.342	*	0.662	*
Self-employed without employees	2.315	***	1.277	*
Farmer	1.043	n.s.	2.761	***
Employee – unemployed in previous 12 months	2.253	***	1.500	**
Ill/Disabled	11.674	***	3.904	***
Unemployed	9.429	***	3.080	***
In Education	11.242		1.914	
Home-Duties	5.341	***	1.774	*
Retired	2.157	***	1.617	***
<i>Marital Status</i>				
Single	1.747	***	1.052	n.s.
Widowed	0.916	n.s.	1.642	***
Separated/Divorced	3.464	***	1.640	***
<i>Number of Children &gt; 2</i>				
	1.560	***	2.173	***
<i>Lone Parent</i>				
	2.571	***	3.451	***
<i>Age Group</i>				
Under30				
30-49	1.678	***	1.593	*
50-64	1.959	***	2.031	***
	1.211	n.s.	1.259	*
<i>Education</i>				
Primary	5.177	***	2.698	***
Lower Secondary	3.096	***	1.904	***
<i>Urban Location</i>				
	0.737	***	1.081	n.s.
<i>Tenure</i>				
Private Tenant	2.028	***	2.641	***
Local Authority Tenant	4.796	***	2.236	***
<i>Nagelkerke R<sup>2</sup></i>				
			0.314	
<i>Reduction in Likelihood Ratio</i>				
			3,528.6	
<i>Degrees of Freedom</i>				
			44	
<i>N</i>				
			7,935	

### ***Patterns and Levels of Multiple Deprivation***

The combinations of economic deprivation that we have considered in the previous section are somewhat more restricted than those for which the term “multiple deprivation” is usually reserved. In this section we extend our analysis to deal more with broadly conceived patterns. In order to reach conclusions concerning multiple deprivation we define a threshold in relation to each dimension. Any such threshold must to some extent be arbitrary. A reasonable approach would be to define the thresholds so there are equal numbers above them for each of the dimensions. Unfortunately the fact that the indices are comprised of variable numbers of indicators, and have rather differently shaped distributions, means that this is not a feasible option. We have chosen therefore to define our thresholds so that in each case a significant, but variable minority are above the deprivation cut of point. This is consistent with the notion that multiple deprivation arises where excluded minorities overlap substantially. Thus for the economic strain, consumption and neighbourhood dimensions the thresholds are respectively 2+, 4+ and 2+. In each case approximately one in seven are above the threshold. For health the threshold is 2+ and one in five are found above it.

In Table 7 we report results for latent class models running from two to five classes. The goodness of fit indicators include the percentage of cases misclassified, the reduction in the deviance level compared to the independence model and the BIC statistic which favours parsimonious models and where lower values are preferable. The diagnostics indicate clearly that the four-class model provides the best fit. This model misclassifies only 0.4

per cent of cases and with a  $G^2$  value of 14.3 and 8 degrees of freedom provides a fit that is acceptable in strict statistical terms. The BIC value for this model is also lower than for any of the alternatives.

**Table 7 : Goodness of Fit of Latent Class Models of Multiple Disadvantage**

	<i>Number of Classes</i>			
	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
$L^2$	278.85	120.22	14.32	11.76
Reduction in Independence	94.3%	98.3%	99.2%	99.8%
Model $G^2$				
Degrees of Freedom	20	14	8	2
% of case misclassified	3.10	1.64	0.39	0.34
BIC	88.56	-13.68	-62.20	-7.36

As set out in Table 8, the model identifies four underlying clusters of individuals exhibiting distinct profiles. The first cluster, which accounts for 83% of the population, we label the “minimal deprivation” group. They display extremely low probabilities of being above the relevant threshold on the economic strain, consumption deprivation and housing dimensions with the respective percentages being 3%, 5% and 2%. The only dimensions on which this group suffer a non-negligible risk of being above the deprivation threshold are those relating to neighbourhood environment and household reference person health status. In the former case 11% are above the cut-off point and in the latter 16%. The second cluster that we label “health and housing deprivation dominated” make up 4% of the population. They also display an extremely low level of economic strain but the figure for consumption deprivation rises to 16% and that for neighbourhood environment to 24%. However, it is their deprivation levels for health and housing that are distinctive with the respective figures being 52% and 66%. The third group,

the “current living standards dominated” make up 6% of the population, are marked out by the fact that their risks of being above the economic strain and consumption deprivation thresholds are substantially higher than for the remaining dimensions. 92% of this group are above the former cut-off point and 79% above the latter. The relevant figures fall to 28%, 23% and 1% respectively for health, housing and neighbourhood environment. The final group, which makes up 7% of the population, we label as “maximally deprived”. This group experiences a substantial level of deprivation in relation to housing with 41% being above the threshold but this is actually their lowest reported level. For health the figure rises to 56% and for neighbourhood environment to 75%. For consumption deprivation the figure is 76% and finally it rises to 85% for economic strain. The maximally deprived are effectively a sub-set of the economically vulnerable.

**Table 8: Pattern of Multiple Deprivation**

	<b>&amp; Clusters</b>			
	<b>Minimal</b>	<b>Health &amp; Housing Dominated</b>	<b>Current Life-style Dominated</b>	<b>Maximal</b>
<i>Size of Cluster</i>	0.826	0.045	0.062	0.068
<i>Deprivation Dimensions</i>				
Economic Strain	0.032	0.030	0.915	0.846
Consumption	0.053	0.162	0.789	0.758
Housing	0.023	0.658	0.226	0.408
Neighbourhood Environment	0.106	0.240	0.011	0.751
Health	0.158	0.518	0.279	0.556

In Table 9 we set out the results of a multinomial regression contrasting each of the three remaining groups with the minimally deprived group. The health



and housing deprived are distinguished from the minimally deprived by the higher probability of the self-employed without employees being located there and a lower risk for farmers. Each of the forms of labour market inactivity is also associated with such membership but the impact of such variables is on average weaker than in the case of the two remaining categories. Being single or separated/divorced carries a higher risk, as does experience of unemployment in the previous twelve months for employees. The household reference person being aged sixty-five or over substantially increases the risk of such deprivation and the risk level is particularly low in the 30-64 age range. As with all three categories, lower levels of education are associated with a heightened probability of deprivation. Since urban-rural location and being a public sector tenant interact in a fashion that differs across categories of the typology we will reserve discussion of these variables.

Focusing on the living standards cluster, we find that both self-employment with employees and farming are negatively associated with such membership. With the exception of retirement, each form of labour market inactivity is positively associated with location in this category with the highest odds ratio of almost 8:1 being observed for being in education and the lowest of 2.8:1 for home duties. In direct contrast to the housing and health category, the presence of more than two children in this house increases the risk level. Being single and separation/divorce have positive coefficients but of smaller magnitude than in the two other cases. Lone parenthood, which had a negative effect in the case of health and housing, has a positive one on this occasion.

Table 9: Multinomial Regression of Multiple Deprivation Typology or Income Poverty at on Household Socio-Economic Characteristics

	<i>Maximal Deprivation</i>		<i>Current Living Standards Dominated Deprivation</i>		<i>Health &amp; Housing Dominated Deprivation</i>	
	Exp (B)	Sig.	Exp (B)	Sig.	Exp (B)	Sig.
<i>Employment Status</i>						
Self-employed with employees	0.369	*	0.450	*	0.949	n.s.
Self-employed without employees	0.491	*	0.900	n.s.	3.170	*
Farmer	0.340	**	0.690	n.s.	0.671	n.s.
Employee – unemployed in previous 12 months	1.580	*	1.382	n.s.	2.003	*
Ill/Disabled	7.957	***	4.628	n.s.	4.063	*
Unemployed	4.993	***	4.568	***	2.698	***
In Education	1.671	***	7.799	n.s.	1.562	**
Home-Duties	2.363	***	2.806	***	1.797	**
Retired	1.166	n.s.	0.986		1.538	*
<i>Marital Status</i>						
Single	2.349	***	1.450	**	3.117	***
Widowed	0.958	n.s.	0.985	n.s.	1.247	n.s.
Separate/Divorced	2.403	***	1.824	***	2.747	***
Number of Children > 2	0.927	n.s.	1.274	*	0.576	**
Lone Parent	1.722	***	2.334	***	0.523	*
<i>Age Group</i>						
Under30	1.040	n.s.	0.759	n.s.	0.442	*
30-49	1.519	*	1.136	n.s.	0.279	***
50-64	0.735	*	0.996	n.s.	0.274	***
<i>Education</i>						
Primary	3.650	***	3.177	***	2.948	***
Lower Secondary	1.935	***	3.152	***	1.570	*
<i>Urban Location</i>	1.101	n.s.	0.529	***	0.357	***
<i>Tenure</i>						
Private Tenant	2.704	***	4.060	***	1.487	n.s.
Local Authority Tenant	4.509	***	5.643	***	6.186	***
Local Authority Tenant*Urban Location	1.250	n.s.	0.823	*	0.437	***
Nagelkerke R <sup>2</sup>			0.326			
Reduction in Likelihood Ratio			3500.1			
Degrees of Freedom			69			

Finally, we direct our attention to the maximally deprived group. All forms of self-employment are negatively associated with location in this category.

Labour market inactivity and particularly illness/disability and unemployment are highly predictive of membership with odds ratios of respectively 8:1 and 5:1 in relation to employees with no experience of unemployment in the past twelve months. Being single, separated/divorced and lone parent also heighten the risk. Age has a rather modest effect but those in the 30-49 age group have the highest risk levels. Education has the expected impact with the odds ratio for lower secondary education having a value of two and that for primary rising to almost four.

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Being a private tenant has no statistically significant impact on being in the health and housing cluster. However, it is strongly associated with being in the current living standards cluster and the maximally deprived group; the respective odds ratios are 4:1 and almost 3:1. For home owners urban location is negatively associated with membership of the health and housing and living standards group but has little impact on the risk of maximal deprivation. Being a public sector tenant has a strong positive effect on each type of risk. In the case of the living standards cluster, and most particularly the health and housing cluster, the impact of being a public sector tenant is much weaker for urban tenants. For maximal deprivation on the other hand the impact is stronger for those in urban households, although the difference is not statistically significant.

In Table 10 we break the multiple deprivation typology by tenure type and location. The vast majority of home owners are found in the minimally deprived group but those in rural households are slightly more likely to be

found in the health and housing deprivation and the current living standards cluster while those in urban households have a higher risk of maximal deprivation. Three quarters of urban private tenants and a slightly smaller number of their rural counterparts are found in the minimal cluster. The number found in the maximal cluster reaches one in ten and that in the living standards cluster one in eight. The figures for the corresponding rural group are marginally higher. For urban public sector tenants the number in the minimal cluster falls to one in two but the proportion in the maximal cluster rises to three out of ten. A further one in six are found in the living standards category but the number in the health and housing group is extremely modest. The pattern for rural public sector tenants is rather different. The number in the minimally deprived category falls to four out of ten. However, the proportion in the maximally deprived group is little more than half that in the urban case. On the other hand, twice as many people are found in the current living standards group and four times as many in the health and housing cluster.

*Table 10: Distribution of Forms of Multiple Deprivation by tenure and Urban-Rural Location*

	Urban			Rural		
	Home Owner	Private Tenant	Public Sector Tenant	Home Owner	Private Tenant	Public Sector Tenant
	%	%	%	%	%	%
Minimal	93.3	75.5	50.9	89.8	68.5	40.3
Housing and Health	0.8	1.7	2.5	2.9	3.0	10.6
Current Living Standards	1.9	12.8	16.3	4.6	16.4	31.5
Maximal	4.0	9.9	30.3	2.7	12.1	17.6
% of Population	26.9	4.1	3.7	56.1	4.2	4.9

## ***Conclusions***

In this paper we have attempted to evaluate the most recently available evidence relevant to conflicting interpretations of levels and patterns of material deprivation in Ireland after the Celtic Tiger. While there is agreement in principle that a multidimensional perspective is prerequisite of resolving such issues, attention has been unduly focused on income poverty. In addressing the key questions we have developed a tiered perspective on material deprivation. Our starting point was the use of latent class analysis to identify an economically vulnerable cluster. Radical sociologists in Ireland have seen the widespread existence of such vulnerability as characterising the recent Irish experience. However, while the concept of vulnerability has come to have widespread usage, most attempts at operationalisation have operated at a macro level.

Here we have sought to estimate economic vulnerability at the individual level and have identified two clusters sharply distinguished by levels of income poverty, subjective economic stress and, most particularly, exposure to economic strain involving enforced absence of rather basic life-style items. This group constitutes one-fifth of the population; a figure that is almost identical to the proportion below the 60% median income poverty threshold. However, little more than one in two of the income poor are also vulnerable. Those vulnerable but not poor are very similar to those who are both in terms of their reports of economic pressures while those poor and non-vulnerable are very close to those who are neither. The income poor but non-vulnerable are more likely than the vulnerable but non-poor to be older, farmers or

retired, home owners and to be located in rural areas. It would seem likely that such groups can draw resources that insulate them from a range of economic pressures. If our concern is with economic marginalisation, it would seem appropriate to focus on the economically vulnerable rather than the income poor.

Pursuing our concern with tired levels of deprivation we found that the consistently poor constitute a subset of the economically vulnerable. A series of striking contrasts emerge between the former and the non-vulnerable in terms of income poverty levels, subjective economic stress and economic strain. The economically vulnerable but not consistently poor exhibit a profile of disadvantage intermediate to that characterising the consistently poor and the non-vulnerable. However, they resemble to the consistently poor much more closely in terms of their experience of economic pressures than objective resources and living standards. The consistently poor are also sharply distinguished from the vulnerable but non-poor in terms of their socio-economic profile being substantially more likely to be inactive in the labour market, more poorly educated and less likely to be home owners. Thus, there is no compelling argument for merging them with the consistently poor.

Extending our analysis to consider patterns of multiple deprivation we identified four distinct clusters. The first, which we have labelled minimally deprived makes up four fifths of the population and corresponds closely to the economically vulnerable cluster. Membership of health and housing cluster, which constitutes 5% of the population is associated with being sixty-five or

over, being self-employed or a farmer and being in a rural location. The remaining clusters, which constitute 6% and 7% of the population respectively, are the living standards dominated group and the maximally deprived. Both groups are sharply differentiated from the minimal cluster in terms of labour force status, education, marital status, lone parenthood and being a private tenant. One factor differentiating these two groups is that for home owners and private tenants rural location is much more strongly associated with living standards deprivation than maximal deprivation. Furthermore, while the combination of rural location and public sector tenancy is a good deal more likely to be associated with membership of the living standards than the maximal cluster, the opposite is true for the combination of urban location and such tenancy. No such effect was observed in relation to economic vulnerability. Consequently the distinctive role of urban public sector tenancy lies not in its association with vulnerability as such but rather in the manner in which the vulnerable are partitioned according to forms of multiple deprivation. While in calculating such effects we have controlled for a wide range of socio-economic characteristics, the extent to which such differences represent genuinely contextual effects rather the consequences of self-selection must remain debateable. However, in the case of neighbourhood environment there must be a strong *a priori* argument in favour of the former.

Any argument for widespread economic vulnerability or marginalisation in post Celtic Tiger Ireland is undermined by the fact that four-fifths of the population are insulated from such vulnerability and exhibit a multi-dimensional profile

involving relatively minimal deprivation. The one fifth of the population that is characterised by such vulnerability can be almost equally divided into two groups. The first comprises the consistently poor who are quite distinctive in their levels of exposure to income poverty, economic strain and economic pressures. The remaining segment of the vulnerable cluster, while similar in relation to this final dimension, are significantly more favourably placed in relation to the remaining dimensions and are characterised by a distinctly more advantaged socio-economic profile. Finally within the vulnerable class we have identified a maximally deprived group constituting 7% of the population who fit the conventional stereotype of multiple deprivation. While membership of this cluster is influenced by a whole of socio-economic disadvantages, location in urban public sector rented housing contributes significantly to distinguishing this group from those who experience a more restricted form of multiple deprivation involving extremely high levels of enforced absence in relation to economic strain and consumption deprivation.

Irish society after the Celtic Tiger is characterised by a set of tiered levels of deprivation. It can be characterised as an 80:20, 90:10 or a 93:7 society depending on whether one focuses on economic vulnerability, consistent poverty or maximal deprivation.<sup>18</sup> While we have no desire to minimise the degree of social stratification involved in such differentiation nor to minimise the stresses and strain experienced by those exposed to these forms of deprivation, we are forced to conclude that both the levels and depth of such deprivation are a good deal more modest than suggested by radical critics of the Irish experience of globalisation.



## Notes

<sup>1</sup> See Blanchard (2002) and Honohan and Walsh (2002).

<sup>2</sup> The A T Kearney/Foreign Policy index of globalization ranked Ireland first between 2002-2004.

<sup>3</sup> In fact as Brady *et al* (2006) shows the evidence that globalization has had any significant impact on welfare state is extremely sparse. See also Goldthorpe, (2002 ) in relation to the impact of social class.

<sup>4</sup> See Allen (2000), O'Hearn, (2000 and 2003), Kirby (2002)

<sup>5</sup> For a detailed discussion of such trends see Nolan and Smeeding (2005).

<sup>6</sup> See Kirby (2002, p60 and pp 172-3). However, see Whelan and Layte (forthcoming) for a discussion of trends in social mobility.

<sup>7</sup> See Layte *et al* (2004) for a discussion relating to the varying interpretations.

<sup>8</sup> Perry (2002), Bradshaw (2003), Whelan *et al* (2004) Forster (2005).

<sup>9</sup> See Eurostat (2005) and Fahey *et al* (2005).

<sup>10</sup> See Whelan, Nolan and Maître (2006).

<sup>11</sup> A sample of residential households will necessarily exclude groups at high risk of vulnerability such as the homeless and the Travelling community. However, this will have little effect on our estimates of risk or incidence.

<sup>12</sup> See Whelan, Maître and Nolan (2006) for a detailed discussion of these findings.

<sup>13</sup> Note that this index differs substantially from that incorporated in the Irish National Anti-Poverty Strategy consistent poverty targets in that it includes a number of items relating to participation in family and social life. The terminology has also been changed.

<sup>14</sup> See Lazarsfeld and Henry (1968) and more recently Magdison and Vermunt (2004) and McCutcheon, and Mills (1998) for discussion of latent class models. Recent applications to the analysis of social exclusion include Moisiu (2004) and Dewilde (2004), Whelan and Maître (2004 & 2005).

<sup>15</sup> We use the label economic stress for this variable rather than economic strain as in earlier work because Eurostat has taken to using the latter term for something close to the basic deprivation index employed in earlier Irish work on consistent poverty.

<sup>16</sup> Urban being defined as major cities and suburbs

<sup>17</sup> Female headed households have a higher gross risk level but the net effect is not statistically significant.

<sup>18</sup> Of course we do not wish to deny that significant differentiation exists within the non-vulnerable group in terms of factors such as social class.

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