Growing Up in Ireland

National Longitudinal Study of Children

DYNAMICS OF CHILD ECONOMIC VULNERABILITY AND SOCIO-EMOTIONAL DEVELOPMENT:

AN ANALYSIS OF THE FIRST TWO WAVES OF THE GROWING UP IN IRELAND STUDY

INFANT & CHILD COHORTS: REPORT 1

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DYNAMICS OF CHILD ECONOMIC VULNERABILITY AND SOCIO-EMOTIONAL DEVELOPMENT:

An Analysis of the First Two Waves of the Growing Up in Ireland study

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EXECUTIVE SUMMARY

BACKGROUND

This research report draws on the longitudinal *Growing Up in Ireland* study to examine change over time in the economic vulnerability of families and its consequences for the socio-emotional development of children. Economic vulnerability refers to an increased risk of multidimensional material disadvantage, involving a distinctive profile in relation to low income, household joblessness and economic stress. Socio-emotional development is measured using the Strengths and Difficulties Questionnaire (SDQ). As well as examining the risk factors for economic vulnerability and socio-emotional problems, the report examines the factors associated with improved outcomes for children, enhancing their resilience.

The report addresses the following research questions:

1. How did the economic vulnerability of families change as Ireland moved from boom to recession?
2. Which families are most at risk of economic vulnerability? Does this differ between the **'98 Cohort** and the **'08 Cohort**?
3. What is the relationship between family economic vulnerability and the child's socio-emotional well-being? Does the relationship differ depending on whether the economic vulnerability is persistent or transient?
4. Are there factors which appear to protect children from the impact of economic vulnerability on socio-emotional development?

Both cohorts are analysed, selecting families that were interviewed in both waves of the study. The **'08 Cohort** of children, most of whom were born in 2008, were interviewed at age 9 months and at 3 years (N=9,793). The **'98 Cohort** of children, most of whom were born in 1998, were interviewed when the children were 9 and again at 13 years (N=7,423). The first and second waves span the onset of the recession, with the **'98 Cohort** first interviewed between September 2007 and April 2008, before the beginning of the recession and the **'08 Cohort** first interviewed between September 2008 and April 2009, as the recession was beginning. The second wave of interviews took place in 2011-2012.

MAIN FINDINGS

Change in Economic Vulnerability between waves

There was a substantial increase in economic vulnerability for families in both cohorts, rising from 15 per cent to 25 per cent for the **'98 Cohort** and from 19 per cent to 25 per cent for the **'08 Cohort**. As noted above, the first interview with the **'08 Cohort** took place as the recession was already beginning, so the rate of economic vulnerability was higher for this cohort in Wave 1 when the children were 9 years old.

As might be expected, in the context of economic recession, the proportion of families moving from non-economic vulnerability into economic vulnerability was higher than the proportion exiting economic vulnerability. In the **'08 Cohort**, 12 per cent of families were not economically vulnerable in Wave 1 but had become economically vulnerable in Wave 2. Only 5 per cent of families moved in the opposite direction, from economic vulnerability into non-economic vulnerability. In the **'98 Cohort**, 15 per cent of families moved from non-economic vulnerability to vulnerability with only 5 per cent exiting from economic vulnerability. In both cohorts, a significant group of families was economically vulnerable in both waves: 14 per cent of the **'08 Cohort** and 10 per cent of the **'98 Cohort**.

Risk factors for Economic Vulnerability

The highest risk of being economically vulnerable in either wave was for lone parent families, families where the Primary caregiver (usually the mother) had lower second level education or less and families

where the Primary caregiver was aged less than 25 when the child was born. Using statistical models, the risk of economic vulnerability that would be expected, holding other factors constant, was calculated (the model-estimated risk). The model-estimated risk of economic vulnerability was 42 per cent where the Primary caregiver was under age 25 at the time of the child's birth; 49 per cent in a lone parent family with one child; 68 per cent in a lone parent family with two or more children; and 47 per cent where the PCG had lower second level education or less. The estimated risk was also higher for the **'08 Cohort** than the **'98 cohort** (35 per cent versus 25 per cent), in part because both waves of the survey for this cohort took place after the start of the recession. In contrast, a low estimated risk of economic vulnerability was found for families where the Primary caregiver had degree-level education (16 per cent) and for couples with one child (18 per cent).

The analysis also indicated that socio-economic differences were significantly sharper for persistent economic vulnerability (being economically vulnerable in both waves) than transient economic vulnerability (vulnerable in one wave). Thus the impact of family type, Primary caregiver education and larger family size was in each case stronger for persistent economic vulnerability.

A comparison was also made between those who became economically vulnerable as a result of the recession and those who were already economically vulnerable in Wave 1. This indicated that the former were a significantly less disadvantaged group. Those who became economically vulnerable in the second wave included a higher proportion of couple households and families where the Primary caregiver had at least the equivalent of Leaving Certificate education. In the **'98 Cohort**, 42 per cent of the economically vulnerable families in Wave 1 were couple families and in 44 per cent the Primary caregiver had second level or higher education. The changing composition of the vulnerable group was reflected in the fact that by Wave 2 these figures had increased to 67 per cent and 49 per cent, respectively. Vulnerability clearly became a more pervasive phenomenon as the recession unfolded.

Economic Vulnerability and Children's Socio-Emotional Well-being

The third research question concerned the impact of economic vulnerability on the socio-emotional well-being of children at the second wave. Estimates were made of the proportion of children expected to have potential problems in socio-emotional development, as indicated by a high score on the Strengths and Difficulties Questionnaire (SDQ), taking account of the child's gender; age of Primary caregiver at birth; family type and family change; level of education of the Primary caregiver; and cohort. The results indicated a strong association between economic vulnerability and high SDQ scores. An estimated 10 per cent of children in families that were economically vulnerable in both waves were found to have high SDQ scores, with other characteristics held constant, compared to 6-7 per cent where the family had been vulnerable in either wave and only 4 per cent where the family had been vulnerable in neither wave.

Even taking account of economic vulnerability, the risk of having a high SDQ score was also greater where the Primary caregiver was under age 30 at the time of the child's birth, in lone parent families, where the parents were cohabiting rather than married, in cases of relationship breakdown, and where there was a low level of Primary caregiver education. However, these patterns were not as strong as the association between high SDQ score and economic vulnerability. The risk of having a high SDQ score was also significantly greater for the 13-year olds than for the 3-year-olds (6.6 per cent and 4.7 per cent, respectively) and was higher for boys than girls (6.5 per cent and 4.6 per cent, respectively).

Previous research led to an expectation that the consequences of economic vulnerability might be greater for the younger **'08 Cohort** than for the **'98 Cohort**. However, there was no difference between the two cohorts in the association between economic vulnerability and the risk of having a high SDQ score.

Factors protecting children from the impact of economic vulnerability

The analysis indicated that certain family characteristics, such as the level of Primary caregiver education and having both parents in the household, appeared to be 'protective' in that they were associated with a reduced risk of socio-emotional problems in the second wave. A specific piece of analysis was carried out to investigate whether these 'protective' effects were present for children in economically vulnerable families as well as for those in non-vulnerable families. As well as characteristics examined in earlier analyses, indicators of Primary caregiver's mental distress in Wave 1 and an indicator of the quality of the couple relationship in Wave 1 for those families where both parents were present were also included.

In general, the protective factors operated in a similar way for children in economically vulnerable and non-vulnerable families. This was true of Primary caregiver's age, Primary caregiver's education and the absence of Primary caregiver emotional distress. Likewise, the parents being married rather than cohabiting appeared to be associated with a reduced risk of socio-emotional problems for both groups. The one exception was that a positive relationship between the parents did not appear to influence the SDQ score of children in economically vulnerable couple families, even though a positive relationship between the parents was 'protective' for non-economically vulnerable children. Apart from this difference, there was little support for the idea of a vicious circle, whereby factors promoting resilience are less effective in economically vulnerable families. The same protective factors are generally found in the context of economic vulnerability. The risk of a high SDQ score is increased by disadvantage in relation to multiple factors, such as parental education and family type as well as economic vulnerability. Nevertheless, it remains true that being advantaged in relation to such factors can serve to compensate for economic vulnerability.

Policy Implications

The analysis indicated that economic vulnerability, particularly persistent economic vulnerability, has negative consequences for the socio-emotional development of children. This reinforces the need for a policy focus on child poverty and deprivation. Since persistent economic vulnerability was associated with stronger negative effects, a specific emphasis on tackling persistent poverty and deprivation is warranted.

The analysis identified certain groups with a higher risk of economic vulnerability, including: lone parents; families where the Primary caregiver had lower levels of education; and families where the Primary caregiver was younger at the time of the child's birth. In the long term, this points to the need for a continuing emphasis on education and skills, particularly for early school leavers. It also points to the need for a better understanding of the optimal mix of income support and services – including training and childcare – to enhance the labour market prospects of lone parents.

Primary caregiver education played an important role in protecting children, even in the context of economic vulnerability. The beneficial effects of education persisted even after taking account of Primary caregiver emotional well-being and the quality of the relationship between the partners. Further investigation of the mechanisms through which parental education ameliorates the impact of economic vulnerability would be valuable and may point to other routes through which policy interventions may be usefully employed. In particular, the *Growing Up in Ireland* data would permit an analysis of the impact of characteristics of the Secondary caregiver, parental social networks, support from the child's grandparents and parenting style.

The recession drew into economic vulnerability a broader group that contained many households and children that did not fit the traditional profile of the poor. This suggests that protection of families and enhancing the well-being of children may well require a broader range of policy interventions than those traditionally considered in tackling child poverty. These are likely to include child care and housing supports as well as the more traditional income protection packages and job search supports.

Chapter 1

INTRODUCTION
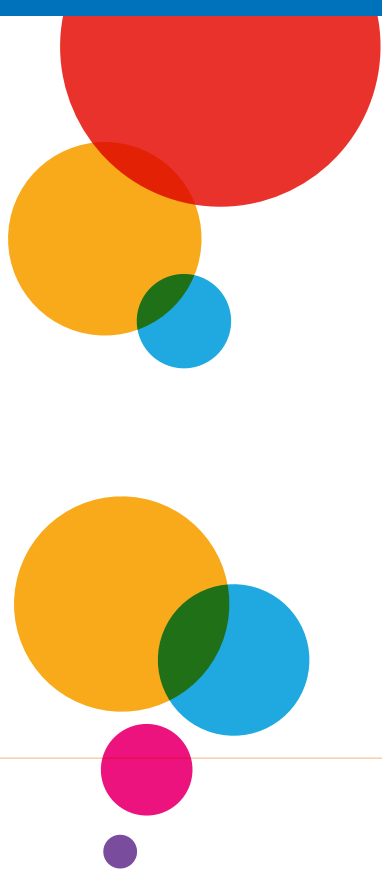
1.1   MOTIVATION

Poverty, understood in a broad sense, has been found to have a range of negative impacts on children, including on physical and mental health, educational achievement, and emotional and behavioural outcomes. As Mood and Jonsson (2014:11) note, increasing interest in child poverty is related to UN demands that, having ratified the Convention on the Rights of the Child, countries monitor trends in the living conditions of children. This has led to the development of a range of welfare indices with material living conditions featuring as a central indicator of children's well-being (Bradshaw et al, 2006 & 2010; UNICEF 2007).

Persistent poverty and poverty in early childhood have been found to be particularly harmful in their effects. Much of the evidence on this issue comes from the United States, which has a very different structure in terms of welfare and support for families. Whether these impacts are also found in Ireland remains to be established. Concern with poverty and its multidimensional aspects has intensified recently in Ireland as a consequence of the dramatic increase in levels of deprivation since the onset of the recession in 2008 (Central Statistics Office, 2014). The timing of the *Growing Up in Ireland* surveys provides a particularly good opportunity to assess the impact on children and families of this unprecedented set of changes in the Irish economy.

This research focuses on economic vulnerability in the Irish context, drawing on the *Growing Up in Ireland* data. The notion of economic vulnerability, as will be explained in some detail later, encompasses not only the risk of being in a family with relatively low income but one that also experiences elevated levels of economic stress and is at risk of joblessness.

The analysis throughout the report takes advantage of the longitudinal nature of the *Growing Up in Ireland* study and, taking into account the accumulating evidence on the limitations of focusing solely on income, adopts a multidimensional perspective. Thus, in line with emerging trends in the literature, this approach was both multidimensional and dynamic (Nolan & Whelan, 2011; Tomlinson et al, 2008). A great deal of debate has taken place about the range of dimensions that should be incorporated in measures of childhood poverty or deprivation. A crucial factor here is the position one adopts about the relative importance of description versus identifying causal processes. Here, rather than attempting to capture the full range of deprivation experienced by children, this report will focus on a multidimensional but necessarily restricted conception of economic vulnerability, and proceed to explore the socio-economic factors that contribute to changing patterns of exposure to such vulnerability and the consequences of such vulnerability for the socio-emotional development of children.[1] In other words, the emphasis is on identifying those children exposed to economic vulnerability and analysing the correlates and consequences of this vulnerability, rather than a complete enumeration of the goods, services and activities that these children lack.

This broader measure of 'economic vulnerability' offers a number of advantages as an indicator of longer-term command over resources (Whelan & Maître, 2005a 2005b, 2010). Measuring economic vulnerability, as discussed in Chapter 2, involved identifying groups with sharply contrasting risk profiles with respect to a critical set of outcomes: household income, joblessness and economic stress. Economic vulnerability was considered in two cohorts of children. Information was collected in respect of the 'Child Cohort' (referred to hereafter as the **'98 Cohort**, so called because most of the children in question were born in 1998), at age nine years and at 13 years of age. Information was collected from the 'Infant Cohort' (referred to hereafter as the **'08 Cohort** as most of the children were born in 2008) at age nine months and at age three years. Since the data collection spans the transition from boom to recession in Ireland, it allows examination of how the economic situation of families has changed in this crucial period.

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[1]   The indicator of economic vulnerability is limited to the variables measured in the *Growing Up in Ireland* survey.

1.2   RESEARCH QUESTIONS

The first part of the report considers change over time in the situation of families. The second part focuses on the consequences for the socio-emotional development of children. The following research questions are addressed:

1. How did the economic challenges faced by families change in terms of both intensity and patterning as Ireland moved from boom to recession? Were there differences in this respect between the **'98 Cohort** and the **'08 Cohort**?
2. Which families were most at risk of economic vulnerability? Did this differ between the **'98 Cohort** and the **'08 Cohort**?
3. What was the relationship between family economic vulnerability and the child's socio-emotional well-being? Did the relationship differ depending on whether the economic vulnerability was persistent or transient? Was the effect more apparent for the **'08 Cohort** than for the **'98 Cohort**?
4. Were there factors that appeared to protect children's socio-emotional development from the impact of economic vulnerability?

Child economic vulnerability is a concern not only because of its immediate consequences for the well-being of children but also because it has potentially long-term negative consequences that persist into adulthood. The evidence drawn from the literature affirms not only the long-term damaging impact of the experience of poverty on children's personal outcomes, but also the enduring costs to society associated with these negative outcomes – encompassing health problems, crime, low educational achievement and welfare dependence (Duncan et al, 2012; Waldfogel, 2013).

This research examines the extent of economic vulnerability involving exposure to relatively low income, joblessness and economic stress in Ireland at two time-points in children's lives. It considers the extent of persistence of economic vulnerability over time as well as the extent to which the recession drew previously non-vulnerable families into economic vulnerability. For the **'08 Cohort**, vulnerability transitions between the age of nine months and that of three years are examined. For the **'98 Cohort**, vulnerability transitions between the age of nine years and 13 years are examined. The timing of the *Growing Up in Ireland* waves of data collection allow the impact of the recession on vulnerability levels and profiles to be assessed, and the manner in which such outcomes vary across cohorts. For both cohorts the implications of economic vulnerability and the persistence of such vulnerability for children's socio-emotional well-being are examined. Analysis includes consideration of factors that contribute to the resilience of children in economically vulnerable households, as captured by their socio-emotional well-being.

1.3   CURRENT RESEARCH EVIDENCE

1.3.1   ECONOMIC VULNERABILITY AND THE RECESSION IN IRELAND

Ireland has experienced one of the most severe economic downturns of the OECD countries as a consequence of the 'Great Recession', which began in 2008. In Ireland GDP growth fell from 5 per cent in 2007 to 0.2 per cent in 2012, and the level of unemployment went from 4 per cent in the mid-2000s to a high of 15 per cent in 2012. The combination of the international crisis, the contraction of the domestic economy, the banking crisis, fiscal deficits, the level of household indebtedness and a series of fiscal austerity measures severely lowered the standard of living of Irish households across all strata of society. While many national debates have taken place about who has been hit most by the recession (Social Justice Ireland, 2013a and 2013b; TASC, 2012), there is general agreement about the broadening base of households experiencing the negative consequences of the economic crisis.

Whelan and Maître (2014) investigated the impact of the recession on the economic vulnerability

of households. Economic vulnerability is understood as a heightened risk of experiencing material disadvantage, such as income poverty and deprivation. The authors found that the Irish population[2] who were economically vulnerable increased from an average of 16 per cent pre-recession (2004-2008) to an average of 26 per cent after the start of the recession (2009-2011). They also found that, as economic vulnerability became more pervasive, the degree of polarization between vulnerable and non-vulnerable classes was reduced. At a later stage of the economic recession, using a measure of economic stress, Maître et al (2014a) found that levels of economic stress were highly stratified in income class terms, pre- and post-recession. However, while the affluent income class remained largely insulated from the experience of economic stress, they experienced a relative decline of their advantage compared to the income-poor class. These findings, using different measures and looking at different stages of the recession, support the idea that, while exposure to the consequences of the recession is highly stratified, there has been a generalisation of exposure to risks. As a result, some of the polarization between groups within society has been reduced. Across the social classes, the impact of the recession in terms of increasing levels of economic stress was most evident for higher working class and lower middle class groups (Maître et al 2014; Whelan and Maître, 2014).

The rates of income poverty and material deprivation have been higher for children than for adults throughout the period 2004 to 2012 (Watson et al, 2012a; Central Statistics Office, 2014). The income poverty rate for both adults and children tended to decline between 2004 and 2008; remained relatively stable between 2008 and 2009, and rose in 2010. Compared to the 27 EU countries, child income poverty rates in Ireland are towards the middle of the distribution, but are higher than in most of the EU-15 (Watson et al, 2012a).

1.3.2   CONSEQUENCES OF POVERTY FOR CHILDREN

Poverty, understood in a broad sense, has been found to have a range of negative impacts on children, including on physical and mental health, educational achievement, and emotional and behavioural outcomes. There is clear evidence that children born into poverty are more likely to have poorer health outcomes, such as a lower birth-weight, higher infant mortality and poorer health, than better-off children (Department for Work and Pensions, 2007). Focusing on developmental issues, Duncan et al (1994) found that low income and poverty were good predictors of cognitive development and behavioural measures at age five, even controlling for factors such as family structure and maternal education. Other research also points to the importance of the early childhood years for learning self-regulation skills such as regulating attention (Duncan, Ludwig & Magnusson, 2007; Holzer, Duncan & Ludwig, 2007). Many studies have found that long-term exposure to poverty was associated with behavioural problems at school, low self-esteem, problems in peer relations (Bolger et al, 1995), and depression and antisocial behaviour (McLeod & Shanahan, 1996; Jarjoura et al, 2002). Duncan et al (2012) summarises a range of evidence from the United States relating to the consequences of early childhood poverty for adult labour-market outcomes.

Research from the *Growing Up in Ireland* survey on the nine-year-old cohort has already established the concurrent association between childhood poverty and outcomes including achievement in maths and reading, social adjustment, behavioural problems and health (Williams & Whelan, 2011). For instance, nine-year-olds from the lowest income quintile are more likely to have emotional and conduct difficulties as well as problems with hyperactivity and peer relationships. These children also have higher levels of absences from school and higher rates of non-completion of homework, and their mothers are more likely to have difficulties in numeracy and literacy skills (Williams et al, 2009). The present study will go beyond this analysis in examining the link between poverty at age nine and achievement at age 13.

Longitudinal research, particularly in the United States, has shown that poverty in childhood is associated with reduced life opportunities and a greater risk of experiencing poverty during adulthood. A review by Brooks-Gunn and Duncan (1997) found that family income seems to be even more strongly related to children's ability and achievement-related outcomes than to emotional outcomes.

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[2]   Individuals in households where the household reference person was aged less than 65.

The fact that childhood economic disadvantage can have long-lasting consequences has been demonstrated in The Irish Longitudinal Study on Ageing (TILDA), a panel study of adults aged 50 and over which includes retrospective information on childhood experiences. This research has found that growing up in poor households increases the risk of a number of health problems in later life, including cardiovascular disease, lung disease and mental health issues (McCrory et al, 2014).

1.3.3   PERSISTENCE AND TIMING OF POVERTY

The persistence of poverty over several years is particularly harmful. The timing of poverty is also important. In particular, income poverty experienced in the early years of childhood can be more consequential for adult employment outcomes than income poverty experienced in later childhood (Duncan et al, 2012). Low household income during the early childhood years was also associated with lower rates of high-school completion; high neighbourhood poverty and poor-quality schooling may exacerbate this effect (Brooks-Gunn & Duncan, 1997).

Research by Barnes et al (2010) based on the Growing Up in Scotland data (GUS) looked at the living circumstances of persistently poor children for two child cohorts, aged 3-4 and 5-6.[3] Focusing on the outcomes of persistently poor children, the study asked whether they were at greater risk of negative outcomes than children experiencing temporary poverty. The outcomes included: being overweight; parental concerns about language development; and social, emotional and behavioural problems. Results based on descriptive statistics showed that, overall, persistently poor children are more likely to experience social disadvantage than temporarily poor children. However, formal statistical modelling revealed that, controlling for family socio-demographic characteristics, there are no significant effects of duration of poverty on child's social disadvantage. The authors found that factors other than the duration of poverty have a significant effect on child outcomes, such as the gender of the child, the mother's ethnicity and health status, and the household size. The authors acknowledged, however, that the absence of effect of duration of poverty on children's outcomes could be due to the short period covered (one year) and that longer-term effects could exist at a later stage in children's lives.

1.3.4   CONTROL OF RESOURCES WITHIN HOUSEHOLDS

As well as being influenced by the level of resources available to the household, the well-being of children may be influenced by control of resources within the household. When mothers control resources, spending on children is likely to be higher than when fathers control resources (Lundberg, Pollack & Wales, 1997; see also Thomas, 1990; Bobonis, 2009; Lundberg & Pollack, 2007). *Growing Up in Ireland* does not have data on how income is pooled or how financial decisions are made, but data on mother's education is used as this is known to be strongly correlated with having an independent income (Watson, Maître & Cantillon, 2013).

1.3.5   CHILDREN'S EXPERIENCE OF POVERTY

A recent strand of research explores the impact of poverty from the perspectives of children themselves. In an in-depth study of 40 children (aged 10 to 17) from low-income families in Bristol and Bath, conducted in 1999, Ridge found that the effects of poverty and disadvantage can permeate every aspect of children's lives – material, social and emotional (Ridge, 2002, p. 131). Impacts that were specific to children included limited access to their own economic resources[4] and to affordable transport.

Some recent Irish research studies have also focused on children's experience of poverty. Swords, Greene, Boyd and Kerins (2011) adopted a 'socially perceived necessities' approach to investigate the kinds of things that children in low-income households identified as necessities. In general, there was broad agreement on such items between children and parents. The authors were able to identify 12 items that most children believed were necessities which could not be afforded by at least 3 per cent of the children in the survey. These included things such as three balanced meals a day, some money for themselves, a bank or post-office

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[3]   The GUS defined 'persistently poor' as being when the child lived in a household whose income was below 60% of the median equivalised household income for at least three of the four years of the annual interviews.
[4]   Only one-quarter received pocket money regularly.

account to save money, a family restaurant meal twice a year, and an annual holiday. *The Growing Up in Ireland* data allow examination of, for the 13-year olds, whether the child lacks certain child-specific items because of affordability. These items include books suited to their age, toys and games, outdoor leisure equipment, and being able to participate in school events or trips. However, as Whelan and Maître (2012) stress, while children's reports of their experience of deprivation provide a valuable source of information on their experiences, it would be unwise to rely solely on child reports and to assume that deprivation among the adults in the household does not have implications for the well-being of children.

1.3.6   RESILIENCE

Not all children exposed to poverty and economic disadvantage experience negative outcomes, however. Resilience refers to resistance to the negative consequences of risk factors on individual outcomes. In research on children, there is evidence of substantial variation in children's vulnerability to stress and adversity (Rutter, 1999). Rutter identifies a number of processes that can protect against such negative consequences, including factors that reduce the impact of risk factors and those that boost the individual's self-esteem and self-efficacy, and argues that the mechanisms operating at key turning-points in the individual's life are particularly important (Rutter, 1987).

In this report, the implications of economic vulnerability and the persistence of such vulnerability for children's socio-emotional well-being are examined. Analysis includes consideration of factors that place children 'at risk' of negative outcomes. Also considered is the countervailing protective factors that enable some children to be resilient in the face of adversity (e.g. Garmezy & Rutter, 1983; Gilligan, 2001). Specifically, the factors that contribute to the resilience of children in economically vulnerable households are considered, as captured by their socio-emotional well-being. This includes the children's family contexts, which may be more or less supportive, and may be associated with the development of coping strategies that buffer them against the risks associated with increased vulnerability.

Since economic disadvantage tends to be associated with differences in family structure, economic vulnerability needs to be controlled for in examining the association between family structure and child outcomes, otherwise estimates of the consequences for children of different family forms may be biased (Duncan et al, 1994).

1.4   OUTLINE OF REPORT

In Chapter 2 the data and methodology used in this report are described, including the measurement of key concepts. The significance of the timing of the fieldwork in relation to the onset of the recession in Ireland is also considered.

Chapter 3 begins with a descriptive analysis of economic vulnerability at the two waves for both cohorts. The impact of the recession on the employment situation of parents in one-parent and two-parent households is examined. Other indicators of material disadvantage are then presented, such as income poverty, material deprivation, child-specific deprivation and welfare dependency. The first research question on how the economic vulnerability of families has changed over time and whether the change was different for the two cohorts is then addressed.

In Chapter 4 the risk factors for economic vulnerability in the two time periods are considered. A fourfold classification of economic vulnerability is adopted, distinguishing those vulnerable in neither wave, in Wave 1 only, in Wave 2 only, and in both waves. The relative risk of being found in any of the three vulnerable categories relative to being vulnerable in neither wave is then modelled. This allows the report to address the second research question on which families were most at risk of being economically vulnerable. This analysis expands to ask whether the risk factors for persistent economic vulnerability differ from those

for vulnerability in one wave, and whether the risk factors differ for those who became vulnerable in the second wave relative to those vulnerable in the first wave. The chapter also discusses the profile of economically vulnerable families for both cohorts and in both waves.

In Chapter 5 the focus shifts to the impact of economic vulnerability on outcomes for children. Socio-emotional well-being is examined as measured by the Strengths and Difficulties Questionnaire (SDQ). The risk of having a high SDQ score (indicative of potential socio-emotional problems) is modelled using child and family characteristics including the economic vulnerability profile of the household. This analysis addresses the third research question, tracing the impact of economic vulnerability on the socio-emotional well-being of children. As part of this analysis consideration is given to whether or not certain characteristics of families help to insulate children from the negative effects of economic vulnerability. While the range of potential mediating factors measured in *Growing Up in Ireland* was broad, in this first analysis of the dynamics of vulnerability the current report focuses on a limited set of mediating variables, including the quality of the parental relationship and emotional distress of the Primary Caregiver in the first wave. Measurement of these, and the other concepts, is discussed in the next chapter.

Chapter 2

DATA AND METHODOLOGY
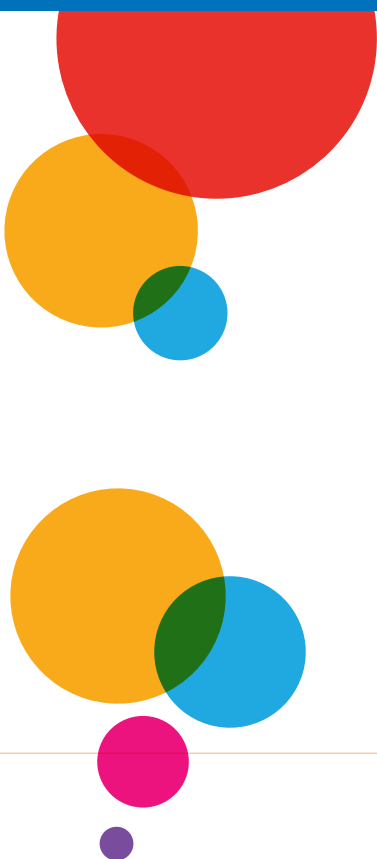
2.1   INTRODUCTION

This chapter discusses the *Growing Up in Ireland* data, the timing of the Wave 1 and Wave 2 surveys in relation to the start of the recession, the measurement of key concepts and the methods of analysis.

2.2   THE *GROWING UP IN IRELAND* DATA

Growing Up in Ireland is the national longitudinal study of children in Ireland. It tracks the development and well-being of two nationally representative cohorts of children and young people. The first is the **'08 Cohort** of 11,134 children who, along with their parents and main caregivers, were recruited into the study when they were nine months of age. Their parents and caregivers were intensively interviewed at that time, between September 2008 and April 2009. They were interviewed for a second time when the children were three years old, between January and August 2011, and for a third time when they were five years of age, between March and September 2013.

The second is the **'98 Cohort**. This is an older group of just over 8,568 children, most of whom were born in 1998. Interviews were conducted with the children, their families, teachers and principals between September 2007 and April 2008, when the children were nine years of age. They and their families were reinterviewed at 13 years of age, between August 2011 and March 2012. The study records a wealth of information on the characteristics and well-being of children and young people, as well as information on their parents, guardians and teachers.

In this report data from the first two waves of both cohorts are used, when the children in the **'08 Cohort** were nine months and subsequently three years old and those in the **'98 Cohort** were nine years and subsequently 13 years of age. The samples in the study were reweighted or statistically adjusted to ensure that they were nationally representative of the age groups in question, both cross-sectionally and longitudinally.[5] The analysis includes the 9,793 families who responded in both waves for the **'08 Cohort** and the 7,423 families who responded in both waves for the **'98 Cohort**.

2.3   THE TIMING OF FIELDWORK AND THE 'GREAT RECESSION'

The timing of the *Growing Up in Ireland* surveys in relation to the onset of what has come to be called 'the Great Recession' is important. Figure 2.1 shows a number of economic indicators in the period from 2003 to 2012. The gross national product (GNP) is an indicator of the net value of goods produced in an economy and accruing to residents of a country (i.e. excluding multinational profits transferred abroad). The chart shows Irish GNP per capita in thousands of euro at constant prices (on the right-hand axis). This increased by about one-quarter between 2003 and 2007 (from €29,900 to €37,300), before dropping to a low of €28,600 in 2011, representing a fall of 23 per cent from the peak.

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[5]   For a discussion of design and reweighting procedures for both cohorts, see Murray et al, 2010 and Thornton et al, 2013.

Figure 2.1: **Timing of the survey fieldwork in relation to economic indicators**
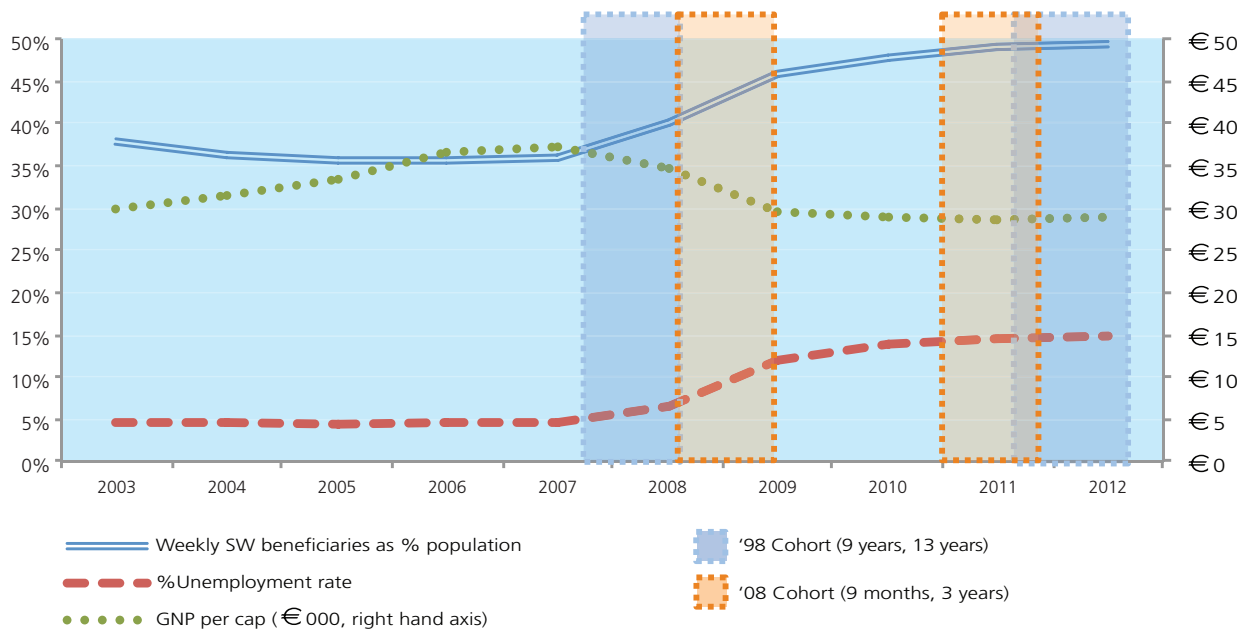
Source: Central Statistics Office (2014b), Statistical Yearbook of Ireland, 2013, Table 8.1 for GNP at constant market prices; CSO (2014c), Population and Migration Statistics, for population estimates; Department of Social Protection, Statistical Report on Social Welfare Services 2012 (Table A8 on number of beneficiaries of social welfare payments); CSO Seasonally Adjusted Annual Average Standardised Unemployment Rates, from www.cso.ie. Calculations by authors.

The unemployment rate had been at a historically low rate between 2003 and 2007 (between 4.4 and 4.7 per cent), before beginning a steep rise in late 2008. The rate in 2008 was about 6 per cent but it rose to a high of 14.7 per cent by 2012. In response to falling employment, the percentage of the population benefitting from weekly social welfare payments increased sharply. This figure had declined somewhat from 38 per cent in 2003 to 36 per cent in 2007 but rose to 49 per cent by 2011-2012.

The timing of the survey fieldwork is also shown in Figure 2.1. The first wave of the **'98 Cohort** was conducted with the families of the nine-year-olds between September 2007 and April 2008, slightly before the major shocks of the recession later that year. The second wave, when the children were aged 13, took place between August 2011 and March 2012. This corresponded to the deepest point of the recession, before any growth in employment was evident.

The first wave of the **'08 Cohort**, when the children were aged nine months, occurred a little later: between September 2008 and April 2009, right at the start of the recession when unemployment was rising most sharply. The second wave, when the children were three years old, was from January 2011 to August 2011. At this stage, unemployment was still increasing and GNP was still falling but at a much slower rate.

Figure 2.2 shows the unemployment rate by quarter. This clearly shows the timing of the Wave 1 fieldwork for the **'08 Cohort** in relation to the period when unemployment was rising very rapidly.

Figure 2.2:   **Timing of the survey fieldwork in relation to unemployment rate (ILO definition)**
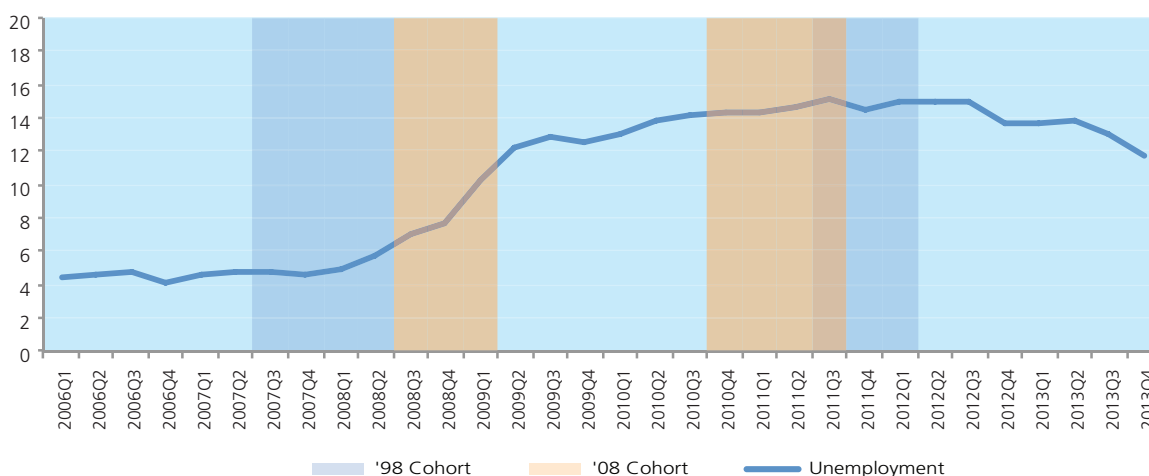
Source: Central Statistics Office ILO Unemployment Rates (%) by Quarter (QNQ20), from www.cso.ie (May 21 2014)

Given the timing of fieldwork for the two cohorts in relation to the onset of the recession, one would expect that the families of the **'08 Cohort** would already be beginning to experience its effects in terms of unemployment or concerns about employment loss in the first wave of data collection. For this reason, the impact of the recession would be seen most clearly in the **'98 Cohort** since the interviewing was substantially completed before the steep rise in unemployment in the fourth quarter of 2008.

2.4   CHARACTERISTICS OF FAMILIES IN WAVE 1 FOR THE '08 COHORT AND '98 COHORT

Table 2.1 shows the key characteristics of families examined in this report and the sizes of the groups affected by each characteristic. In terms of the age of the Primary Caregiver (usually the mother), the focus is on age at the time of the child's birth. Births to mothers under age 29 had declined in the years between 1998 and 2008. Only 12 per cent of the Primary caregivers of the **'08 Cohort** were under age 25 at the time of the child's birth compared to 16 per cent of the Primary caregivers of the **'98 Cohort**. Most of the children of the **'98 Cohort** were born in 1998 while the children in the **'08 Cohor**t were born 10 years later in 2008, and vital statistics for those years confirm a decline in the proportion of women under age 25 giving birth in the period.[6]

Family type was based on the partnership status of the Primary caregiver and the number of his/her children at Wave 1. Children were defined as those under the age of 18. They could be the Primary caregiver's biological children, step-, adoptive or foster children.[7] About 14 per cent of the **'08 Cohort** and 18 per cent of the **'98 Cohort** were in one-parent families. On the other hand, the children in the **'98 Cohort** were more likely to be in larger families: 46 per cent were in two-parent families with three or more children compared to 23 per cent of the **'08 Cohort**. This was because the **'98 Cohort** children were at a later stage of the family cycle. This was also evident in the greater likelihood of an increase in the number of children by Wave 2 for the **'08 Cohort** than the **'98 Cohort** (33 per cent versus 9 per cent). The number of children living as an only child with both parents in Wave 1 was much higher (33 per cent) in the **'08 Cohort** than in the **'98 Cohort** (7 per cent). This was also reflected in the proportion of children living with both parents (or parent and step-parent) and two or more other siblings: 23 per cent for the **'08 Cohort** and 46 per cent for the **'98 Cohort**.

[6] CSO (2001), Report on Vital Statistics, 1998. Dublin: Stationery Office; CSO (2011a), Report on Vital Statistics, 2008, Dublin: Stationery Office.
[7] Other children in the household, such as younger siblings of a lone mother living with her parents, were not counted. Any children outside the household were not counted (such as siblings living with the second parent, with other relatives or in foster care).

There was a higher proportion of lone parents in the older cohort (18 per cent versus 14 per cent for the younger cohort), and they tended to have more children. This is partly a function of the breakdown of relationships: 2.9 per cent of the **'08 Cohort** were in families where the relationship between the Primary and Secondary caregivers had broken down since the first wave compared to 5.1 per cent of the **'98 Cohort**. Cohabiting was more common in the **'08 Cohort**. Fifteen per cent of the children in the **'08 Cohort** were living in cohabiting families in Wave 1 compared to 6 per cent of the **'98 Cohort**.

Table 2.1:   Characteristics of the two cohorts and unweighted number of cases

	% of population		Unweighted N	
	'08 Cohort	**'98 Cohort**	**'08 Cohort**	**'08 Cohort**
Age of Primary caregiver at birth of child				
Under 25	12%	16%	1013	891
25-29	21%	26%	1997	1762
(30-34 ref.)	35%	34%	3443	2813
35-39	26%	20%	2675	1612
40+	7%	5%	665	345
Household type Wave 1				
One-parent family, 1 child	8%	5%	620	271
One-parent family, 2+ children	6%	13%	462	532
Two-parent family, 1 child	33%	7%	3308	521
Two-parent family, 2 children	30%	29%	3039	2390
Two-parent family, 3+ children	23%	46%	2364	3709
Cohabiting Wave 1?				
No	85%	94%	7911	6998
Yes	15%	6%	1882	425
More children in Wave 2?				
No	67%	91%	6553	6851
Yes	33%	9%	3240	572
Change in carer(s)				
No change, same carer(s)	94%	92%	9228	6938
New carer (e.g. Primary caregiver marries or begins to cohabit)	3%	3%	227	141
One carer died/left (e.g. marital breakdown)	3%	5%	338	344
Primary caregiver education, Wave 1				
Lower Secondary or less	21%	30%	1951	1219
Upper Secondary to lower Third	49%	53%	4216	4177
Upper Third	29%	17%	3620	2027

Source: GUI Researcher Microdata Files for the '98 Cohort and the '08 Cohort.

The level of the Primary caregiver's education was clearly higher among the **'08 Cohort** than the **'98 Cohort:** only 21 per cent of mothers of the **'08 Cohort** had lower second-level education or less in Wave 1 compared to 30 per cent of the mothers of the **'98 Cohort** children. At the other end of the scale, 29 per cent of the Primary caregivers of the **'08 Cohort** had at least a university degree compared to only 17 per cent of the Primary caregivers of the **'98 Cohort.** This reflects the rise in levels of education in the decade or so since the births in the two cohorts. For instance, among women aged 25-34, 32 per cent had some education beyond second level (not necessarily a degree) in 2000 but this had increased to 55 per cent by 2010.[8]

2.5   MEASURING KEY CONCEPTS

In this section the measurement of key concepts used in the report is described, including economic vulnerability, children's socio-emotional development, parental relationship quality and Primary caregiver emotional distress.

2.5.1   IDENTIFYING VULNERABLE GROUPS

As knowledge of the limitations of relying solely on income to measure poverty and social exclusion has become more widespread, attention has been increasingly focused on multidimensional approaches (Nolan & Whelan, 2007, 2010, 2011). In addition to being concerned with multidimensionality, advocates of the social exclusion perspective have sought to distinguish it from the conventional income approach through its emphasis on dynamics – the manner in which processes unfold over time. Such concerns have led to the emergence from a number of sources of a focus on what has been termed 'vulnerability'. This involves a shift of focus from current deprivation to insecurity and exposure to risk and shock. The IMF (2003), the UN (2003) and the World Bank (2000) have developed a range of approaches to measuring vulnerability at the macro level. The World Bank (2000) sees vulnerability as reflecting the risk of experiencing an episode of poverty over time but also a heightened probability of being exposed to a range of risks.

The objective in this report is to focus at a micro level to identify groups who were economically vulnerable in the sense of being distinctive in their risk of falling below a critical resource level, living in a household characterised by a high level of joblessness, and experiencing subjective economic stress. The choice of indicators was influenced both by substantive considerations and the quality of the data available in the *Growing Up in Ireland* surveys. There was a concern that the level of material deprivation reported in the surveys was unrealistically low, relative to the figures from the CSO Survey of Income and Living Conditions (SILC), the national data source explicitly designed to measure income and deprivation. Thus this dimension was excluded and instead the focus was on household joblessness. In addition, the level of precision achieved in relation to family income was inevitably less in the *Growing Up in Ireland* surveys than in the SILC survey, which was specifically designed to collect detailed income information. Consequently, the focus was on income quartiles rather than seeking to estimate numbers below conventional income poverty lines based on equivalised income.

Usually the groups into which researchers classify their observations are known in advance and correspond to the values taken by particular variables or combinations of variables. In some cases, however, the groups of interest are not known a *priori* and must be discovered using suitable classification techniques. This was the case when it came to economic vulnerability. Latent class analysis was used to identify the vulnerable group. This statistical technique assumes that each individual was a member of one and only one of two underlying classes and that, conditional on membership of a particular class, the observed variables are independent of each other. Conditional independence is a version of the familiar idea that the correlation between two variables may be a result of their common dependence on a third variable (McCutcheon & Mills, 1998).

[8]   CSO (2011b), *Quarterly National Household Survey: Educational Attainment Thematic Report 2011.* Dublin: Central Statistics Office, Table 5.

The basic notion is that there are underlying processes that result in distinct clusters of individuals with respect to economic vulnerability. Within those groups, indicator outcomes that are understood to be the consequence of economic vulnerability are assumed to be independent of each other. This is because the factors that led to individuals being vulnerable or not were those that accounted for the original correlations between the indicators. The indicators used to identify the vulnerable group in this report were income level, economic stress and household joblessness. Income level was based on the total household income quartile reported by the Primary caregiver.[9] Economic stress was measured by a single item which has been used extensively in Irish surveys to capture difficulties in making ends meet. Household joblessness was defined using the European Commission concept of 'very low work intensity', which, as one of the EU 2020 headline indicators, has received strong emphasis as a measure of social exclusion for European policy purposes.[10] The distribution of families across these three characteristics is captured by a 4x2x2 cross-tabulation. The crucial question was, then, whether the simplifying assumptions underlying the latent class analysis model allowed identification of clusters of individuals with distinct multidimensional risk profiles, while at the same time producing an allocation of individuals to the cells of the relevant multidimensional table that comes sufficiently close to the observed patterns. It should be stressed that the allocation of households to the vulnerable and non-vulnerable classes is determined solely by their risk profile in relation to the income, joblessness and economic stress indicators, and involved no reference to other socio-economic characteristics that differentiate such households. Establishing the characteristics that increase vulnerability involves a further step in the analysis.

Using latent class analysis, an economically vulnerable group in both age groups and in both time periods was identified (see Appendix 1 for more details). As noted above, not all members of the economically vulnerable group might be jobless or experiencing low income or economic stress at a point in time, but the association between these indicators within the vulnerable class in contrast with their independence in the non-vulnerable class was reflected in a risk profile with a higher risk for the former group on all three indicators.

Table 2.2 shows the percentage of children experiencing economic vulnerability in each cohort and wave.

Table 2.2:   Economic vulnerability in the two cohorts and waves

Wave	Economic vulnerability	% pop		Unweighted N	
		'08 Cohort	'98 Cohort	'08 Cohort	'98 Cohort
Wave 1	Not vulnerable	81%	85%	7919	6852
	Vulnerable	19%	15%	1760	556
Wave 2	Not vulnerable	75%	75%	7352	6047
	Vulnerable	25%	25%	2327	1361

It is worth noting that the later timing of the fieldwork for the **'08 Cohort** meant that the families were already experiencing the impact of the recession at the time of the Wave 1 interview. This is likely to be part of the reason that the **'08 Cohort** had a greater risk of being economically vulnerable in Wave 1 (19 per cent versus 15 per cent for the **'98 Cohort**). By the second wave, the risk of economic vulnerability for both cohorts was 25 per cent.

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[9]   The level of precision it was possible to achieve in relation to family income leads to a preference for this measure rather than alternatives such as median income poverty lines.

[10] See 'People living in households with very low work intensity': http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators (accessed January 31, 2012).

2.5.2   CHILD SOCIO-EMOTIONAL PROBLEMS (SDQ)

The analysis in Chapter 5 considers the consequences of economic vulnerability for children in terms of the presence of socio-emotional problems in Wave 2. The latter was measured using the Strengths and Difficulties Questionnaire (Goodman, 1997). This is a relatively short 25-item behavioural screening questionnaire designed to assess emotional health and problem behaviours among children and young people. It has been widely used in epidemiological and clinic-based work. It can be completed by the parents or teachers of children aged 3-16 years. There is also a self-rated version for 11-16 year-olds.

The instrument produces scores for each of five sub-scales:

- *Emotional symptoms*
- *Conduct problems*
- *Hyperactivity/inattention*
- *Peer relationship problems*
- *Prosocial behaviour*

Each sub-scale has five items. A 'Total Difficulties' score is obtained by summing scores across the 20 items in the four deficit-focused scales (i.e. all except the prosocial behaviour scale, above). Respondents are required to indicate their level of agreement with each item in the sub-scales on a three-point scale of *Certainly true, Somewhat true* or *Not true*. Item scores vary from 0-2 depending on the type of endorsement. Accordingly, the 'Total Difficulties' Score ranges from 0-40 (20 items, each recording a score of 0-2).

In **Growing Up in Ireland** the SDQ was completed by the Study Child's Primary caregiver when the children in the **'08 Cohort** were three years of age and in the **'98 Cohort** when they were nine and 13 years of age. The scale was also completed by the child's teacher for the nine-year-olds. As noted by Goodman et al (2003): "… parents and teachers provide information of roughly equal predictive value, although their relative value depends on the type of disorder"[11] (p.170). The parent report was used in the present analysis as it was provided consistently across both cohorts. The distributions of SDQ scores (based on parent report) are summarised in Table 2.3.

Table 2.3:   Distribution of scores on the Total Strengths and Difficulties Questionnaires (SDQ)

	'98 Cohort at 9 years of age	'98 Cohort at 13 years of age	'08 Cohort at 3 years of age
Mean	7.98	7.06	7.96
Range	0-37	0-35	0-32
Standard deviation	5.31	5.40	4.60
Cronbach's alpha[1]	0.79	0.81	0.73

[1] Based on the 20 items in the Total SDQ scale

The SDQ provides an outcome measure of psychological adjustment across behavioural and psychosocial domains. It has been widely used in other large-scale longitudinal research programmes with children, such as the Millennium Cohort Study and Growing Up in Australia. The scores are often grouped into ranges (such as 'normal', 'borderline' and 'abnormal' or 'problematic'). The authors of the scale (Goodman 1997, Appendix B) recommended using a threshold of 17 or higher to identify the 'problematic' group on the parent-completed questionnaire, although the top ten per cent of scores may also be banded in this category. In the present report, we adopt the threshold of 17. This is more conservative than a threshold (approximately 15) which would identify the highest ten per cent of the population. As such, the group identified as having a high SDQ score in this report can be seen as having a higher probability of having mental health problems than those that would be identified by a lower threshold (Goodman and Goodman, 2009).[12]

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[11] Goodman, R., Ford, T., Simmons, H., Gatward, R. & Meltzer, H. (2003). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *International Review of Psychiatry*, 15, 166-172.

[12] The analyses in Chapter 5 were repeated with the alternative threshold (identifying the 10 per cent with the highest scores) and the conclusions from the analyses remained substantively unchanged.

2.5.3 MEASURING THE QUALITY OF PARENTAL RELATIONSHIPS (DAS)

The analysis in Chapter 5 of this report includes consideration of the consequences of the quality of the parental relationship in Wave 1 for child socio-emotional problems at Wave 2. The quality of parental relationships was based on the Primary caregiver responses to the Dyadic Adjustment Scale (DAS) (Spanier, 1976), which provides an assessment of dyadic satisfaction based on participants' self-report. This was used as a means of categorising partner relationships as either distressed or adjusted. The DAS has also been shown to discriminate between couples in the community and those seeking marital therapy services. The original 1976 version of the scale has 32 items; shorter versions are also available. Findings from several studies provide strong evidence that the shorter DAS has retained the content coverage of the original DAS while also maintaining strong levels of reliability and validity.

Growing Up in Ireland used the seven-item DAS (Sharpley & Rogers, 1984) which comprises three sub-scales and seven questions: three items assessing dyadic consensus, where participants rated the degree to which they agreed with their partner on several issues including 'Philosophy of life' and 'Amount of time spent together'; three items assessing dyadic cohesion, where participants indicated how often specific dyadic activities occurred, such as 'Have a stimulating exchange of ideas' and 'Calmly discuss something together'; and one item assessing global marital satisfaction, where participants rated their general satisfaction with their 'real life' relationship. Six of the items were rated on a six-point Likert-type scale (with endpoints *always agree* and *always disagree* or *all the time* and *never* – depending on the wording of the question stem). The seventh item on general satisfaction with their relationship was rated on a seven-point scale ranging from *extremely unhappy* to *perfect*. A general satisfaction score was calculated as a sum of all seven items' scores.

Partner satisfaction is an important factor in family functioning, and the manner in which parents interact is crucial for child outcomes. For example, partner satisfaction has been highlighted as not only important in affecting the child's well-being, but also the parents' well-being, as it is seen as a component of adult life satisfaction (Bradbury, Fincham & Beach, 2000). While the researchers are aware that reliance solely on the DAS (seven-item) to determine partner distress might result in some classification errors, the brevity of the measure and its proven reliability and validity make it an ideal tool for a project such as *Growing Up in Ireland*.

2.5.4 THE CENTRE FOR EPIDEMIOLOGICAL STUDIES – DEPRESSION (CES-D)

The analysis also examines the association between the psychological distress of the Primary caregiver at Wave 1 and child socio-emotional outcomes. The CES-D is a widely used self-report measure that was developed specifically as a screening instrument for depression in the general population, as opposed to being a diagnostic tool that measures the presence of clinical depression. It was designed as a dimensional assessment of depression in adults but has also been used to screen for depression in children and adolescents. The CES-D has been shown to identify children with depressive disorders from those without psychopathology (e.g. Prescott, McArdle, Hishinuma et al, 1998) and to identify depressive disorders from other forms of psychopathology (e.g. Roberts, Andrews, Lewinsohn & Hops, 1990), as well as correlating highly with other measures of depression, which supports its validity.

Growing Up in Ireland used the short (eight-item) version of the CES-D, which correlates highly with the full 20-item version ($r = 0.93$). Sample items include, 'I felt that I could not shake off the blues even with help from my family and friends', and 'I thought my life had been a failure'. These were answered with reference to the previous seven-day period, on a four-point Likert-scale ranging from 0 (on *1 day or less*) to 3 (on *5–7 days*). A composite score was calculated by summing item responses (range: 0–24). Respondents were categorised according to the recommended criterion for depression, with composite scores of seven or more being classified as depressed. However, while a score of 7+ suggests the potential for a clinically significant level of psychological distress, it does not necessarily mean that the participant has a clinical diagnosis of

depression. In a general population, about 20 per cent would be expected to score in this range. Although several studies have reported only a modest relationship between the CES-D and a diagnosis of depression from a structured clinical interview, it is still likely that there will be important psychological differences between those scoring above and below the cutoff points on the scale.

The scale was self-completed in *Growing Up in Ireland* because of its sensitivity and to minimise report bias.

The eight-item CES-D has the advantage of being a short measure (administered in 2-3 minutes) that has been used in many studies. Short depressive symptom indices such as this are generally regarded as acceptable in those instances where a brief assessment is needed for broad screening or research purposes. Information on parental experience of depression is particularly important in light of research showing that not only is depression a prevalent condition but that depression in a parent can also affect child outcomes (e.g. Beardslee, Keller, Seifer et al, 1996).

The present report makes use of the Primary caregiver's score on the CES-D in Wave 1 and investigates its association with child socio-emotional outcomes at Wave 2.

2.6   ANALYSIS METHODOLOGY

2.6.1   MULTIVARIATE MODELS

Both descriptive analyses are presented in this report as well as an analysis of the risk factors for economic vulnerability and socio-emotional problems. In analysing the data, survey design and sample weighting are taken into account. The analysis was conducted on the weighted data, using robust standard errors for significance tests (Heeringa et al, 2010).[13]

To address the research questions, the data were analysed using multivariate logistic regression models, as shown in Table 2.4. The models were run on the pooled data for both cohorts to examine whether the experiences of the **'98 Cohort** and the **'08 Cohort** were significantly different. The regression analyses used weighted data (to get the correct point estimates), with standard errors adjusted for clustering and weights.[14] In general, the full regression models are shown in the Appendix tables at the end of each chapter, and the statistically significant patterns are shown in the main body of the report.

For clarity of presentation, the regression models for economic vulnerability pattern were used to estimate the level of economic vulnerability one would expect for each group if all other characteristics were held constant. This was done using the Stata 'margins' command after the *svy: mlogit* command. The method is distinct from computing the predicted risk for a person with average values on all the independent variables, though the results were often similar in practice. The categorical variables (e.g. household type) enter the model as factors rather than as a series of dummy variables to ensure that, when predicting the pattern for 'one-parent families with 1-2 children', for instance, the other categories of household type do not apply (i.e. analogous to setting a dummy variable to zero rather than to its 'average' sample value) (Williams, 2012). Taking family type as an example, this involves estimating the expected risk of economic vulnerability for each type of family if the family types were the same in terms of the other characteristics in the model (Primary caregiver's age at child's birth, whether Primary caregiver was cohabiting, education of Primary caregiver and **'98 Cohort** or **'08 Cohort**). In reality, these characteristics were associated. For instance, lone parents tend to have lower levels of education and to be younger when the child is born. The model-estimated risks were a way to try to statistically isolate the impact of these different factors so as to enhance understanding of the processes involved.

[13] Heeringa, Steven G; West, Brady T.; Berglund, Patricia A. (2010) Applied Survey Data Analysis (Boston: Chapman & Hall) Hardcover.
[14] This was accomplished using the 'svy' routine in Stata (StataCorp, 2013a and b; Cochran, 1977; Heeringa, West, and Berglund, 2010; Kish, 1965; Levy and Lemeshow, 2008; Skinner, Holt, and Smith, 1989; Stuart, 1984; Thompson, 2012; and Williams, 1978). Schools were the clusters for the '98 Cohort. There was no clustering in the '08 Cohort, but adjusted standard errors were still required to take account of the weights.

Table 2.4:   Outline of statistical analysis and presentation

Question	Model	Who is included
Which groups are most at risk of economic vulnerability in any period?	Risk of being vulnerable in either Wave 1 or Wave 2 (logit: any vulnerability versus none): Appendix Table A4.1, Figure 4.1	Pooled data – two cohorts – using information from both waves
Did the risk factors differ for the younger and older cohort?	As above, with cohort interactions Appendix Table A4.1, Model 2; Table 4.1	As above
Which groups are most at risk of persistent vulnerability?	Risk of persistent vulnerability (multinomial logit: vulnerable in Wave 1 only or Wave 2 only versus vulnerable in both periods): Appendix Table A4.2, Table 4.1	Pooled data – two cohorts – selecting those vulnerable in at least one wave
Are the risk factors for becoming vulnerable in Wave 2, during the recession, different from the risk factors for being already vulnerable in Wave 1?	Risk of becoming vulnerable by Wave 2 (logistic regression comparing 'vulnerable in Wave 2 only' to 'vulnerable in Wave 1 (including both periods); added indicators of change over time in family: Appendix Table A4.3, Table 4.3	Pooled data – two cohorts – selecting those vulnerable in Wave 1 or Wave 2
To what extent does economic vulnerability lead to child socio-emotional problems? Is this different for persistent vulnerability?	High SDQ score in Wave 2 (logit model) with economic vulnerability and child and family characteristics including CES-D of Primary caregiver and DAS: Fig 5.2, Appendix Table A5.2 Model 1	Pooled data for the two cohorts; SDQ in Wave 2 only; vulnerability measured at both time periods
Are there significant cohort differences in how SDQ is affected by economic vulnerability?	Above interacted with cohort; Appendix Table A5.2, Model 2; Table 5.1	
Does economic vulnerability matter more for boys than girls?	Above interacted with gender; Appendix Table A5.3, Model 3	
Are protective factors (Primary caregiver education, two-parent families, older Primary caregiver, family stability) as important for vulnerable as for non-vulnerable families?	Test for interaction between economic vulnerability and protective factors: Appendix Table A5.4, Figure 5.4 and Figure 5.5	Pooled data for the two cohorts; SDQ in Wave 2 only; vulnerability measured at both time periods; adding CES-D for Primary caregiver and couple relationship quality (measured by DAS)

2.6.2   CHOICE OF EXPLANATORY VARIABLES

In considering the factors contributing to economic vulnerability, focus is given to *risk factors*, which signal the increased susceptibility of a group, rather than *triggers* that have a direct causal impact (Bradshaw et al, 2004). The goal of the analysis in this report is to examine the impact of these risk factors at two time periods and for two cohorts. To avoid excessive complexity, this necessitated a focus on a restricted set of risk factors. The **Growing Up in Ireland** dataset has a large number of additional indicators that could be fruitfully examined in further research.

Another constraint on the risk factors examined here is the need to avoid tautology. Since income and employment already enter into the construction of the indicator of economic vulnerability, they cannot be treated in this analysis as risk factors. Social class is not included in the models for a related reason; since it is based on occupation, it is only available if the Primary or Secondary caregiver is in employment, and is not adequately measured in jobless households. In addition, social class is correlated with the level of education of the parents, and Primary caregiver education is included in the models.

In the analysis of economic vulnerability in the second wave, two additional indicators of change in family circumstances between waves are included: an increase in the number of children and change in the caregivers, due to either the Primary caregiver forming a new relationship or a relationship breakdown.

There are other parental and family characteristics that may increase the risk of economic vulnerability, such as disability, emotional well-being, the quality of the relationship between the partners, and parenting style. However, the causal processes between these indicators and economic vulnerability may operate in both directions, with economic vulnerability also contributing to emotional and relationship ill-health. The nature of these associations deserves a more thorough investigation than allowed for in the current project. This report however includes an analysis of the association between Primary caregiver emotional distress and parental relationship quality in Wave 1 and the child's SDQ in Wave 2.

Chapter 3

THE RECESSION AND FAMILY ECONOMIC VULNERABILITY
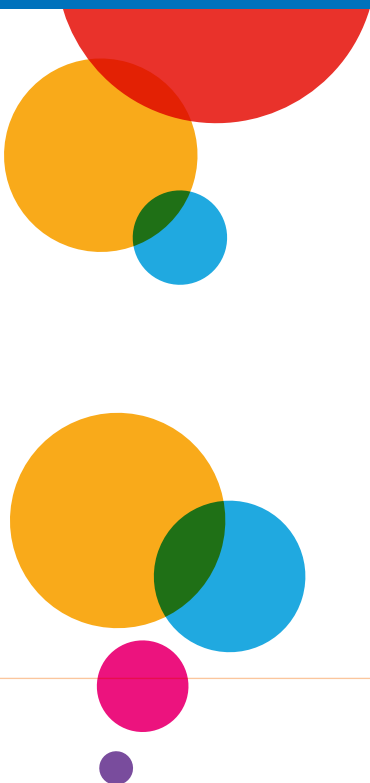
3.1   INTRODUCTION

This chapter examines change in the level of economic vulnerability for the **'08 Cohort** (age nine months to three years) and the **'98 Cohort** (ages nine to 13 years). One important consequence of the recession has been the increase in household joblessness. The extent to which this has affected the two groups of children is examined. Since the recession has had different implications for men and women in the labour market, the extent of change in the paid work of couples in two-parent households is also examined.

3.2   ECONOMIC VULNERABILITY TRANSITIONS

The previous chapter described the construction of the economic vulnerability measure from indicators of income quartile, household joblessness and economic stress. At this point the extent to which there was change or stability over time in the economic vulnerability status of the families is looked at. Initially the transitions in the three indicators used to identify those who are economically vulnerable are examined. Figure 3.1 shows how the two cohorts of children fared before and after the recession in terms of the components of economic vulnerability: income level, joblessness and economic stress.

For economic stress and household joblessness, a higher proportion of families moved into the disadvantaged category between Waves 1 and 2 than moved out of it. This was not evident for the income quartile variable because this was constructed as a relative measure within both periods (i.e. 25 per cent of the children in each cohort were in each quartile in each year). It was clearly the case for joblessness and economic stress, however. While the construction of the income variable emphasised changes in the family's position in the income distribution, the economic stress indicator captured changes in the family's capacity to manage on the resources they had available.

The proportion of children in each of the joblessness categories was fairly similar for both cohorts, apart from the fact that the children in the younger cohort were more likely to be in jobless households in both periods. In Figure 3.1, 79 to 80 per cent were in jobless households in neither period; 3 to 4 per cent at Wave 1 only; 8 to 9 per cent at Wave 2 only. When the focus is on persistent joblessness, however, the figure was 9 per cent for the **'08 Cohort** compared to 7 per cent for the **'98 Cohort.**

A slightly different pattern for economic stress can be seen. The proportion of children in households experiencing economic stress in neither period was similar for the two cohorts: 73 to 74 per cent. However, the **'08 Cohort** families were more likely to have experienced economic stress in Wave 1 only (6 per cent versus 3 per cent) or in both periods (7 per cent versus 5 per cent), while the **'98 Cohort** families were more likely to have experienced an increase in stress (18 per cent versus 14 per cent for the **'08 Cohort**). Again, the fact that the **'08 Cohort** families were more likely to have been experiencing economic stress in Wave 1 is consistent with the timing of the survey for this group after the recession had already begun.

As noted in the previous chapter, individuals were allocated to the vulnerable or non-vulnerable class on the basis of the modal assignment rule, with each family being assigned to the cluster (vulnerable or not vulnerable) with the largest probability. Employing this approach in Figure 3.2, the proportion of children in the two cohorts who were found in each of the four economic vulnerability categories is shown: economically vulnerable in neither period; vulnerable in Wave 1 only; vulnerable in Wave 2 only and vulnerable in both waves.

The proportion of children who were economically vulnerable in neither period was very similar for the younger and older cohorts – at about 70 per cent. The proportion vulnerable in Wave 2 (that is 'both' plus 'Wave 2 only') was also very similar for both cohorts, at about 25 per cent.

Figure 3.1: **Transitions in income quartile, joblessness and economic stress for the '08 Cohort (age 9 months and 3 years) and the '98 Cohort (ages 9 and 13)**

'08 Cohort, Bottom income quartile

- Both, 13%
- W2 only, 12%
- W1 only, 11%
- Neither, 64%

'98 Cohort, Bottom income quartile

- Both, 11%
- W2 only, 14%
- W1 only, 14%
- Neither, 61%

'08 Cohort, Economic Stress

- Both, 7%
- W2 only, 14%
- W1 only, 6%
- Neither, 73%

'98 Cohort, Economic Stress

- Both, 5%
- W2 only, 18%
- W1 only, 3%
- Neither, 74%

'08 Cohort, Joblessness

- Both, 9%
- W2 only, 8%
- W1 only, 3%
- Neither, 79%

'98 Cohort, Joblessness

- Both, 7%
- W2 only, 9%
- W1 only, 4%
- Neither, 80%
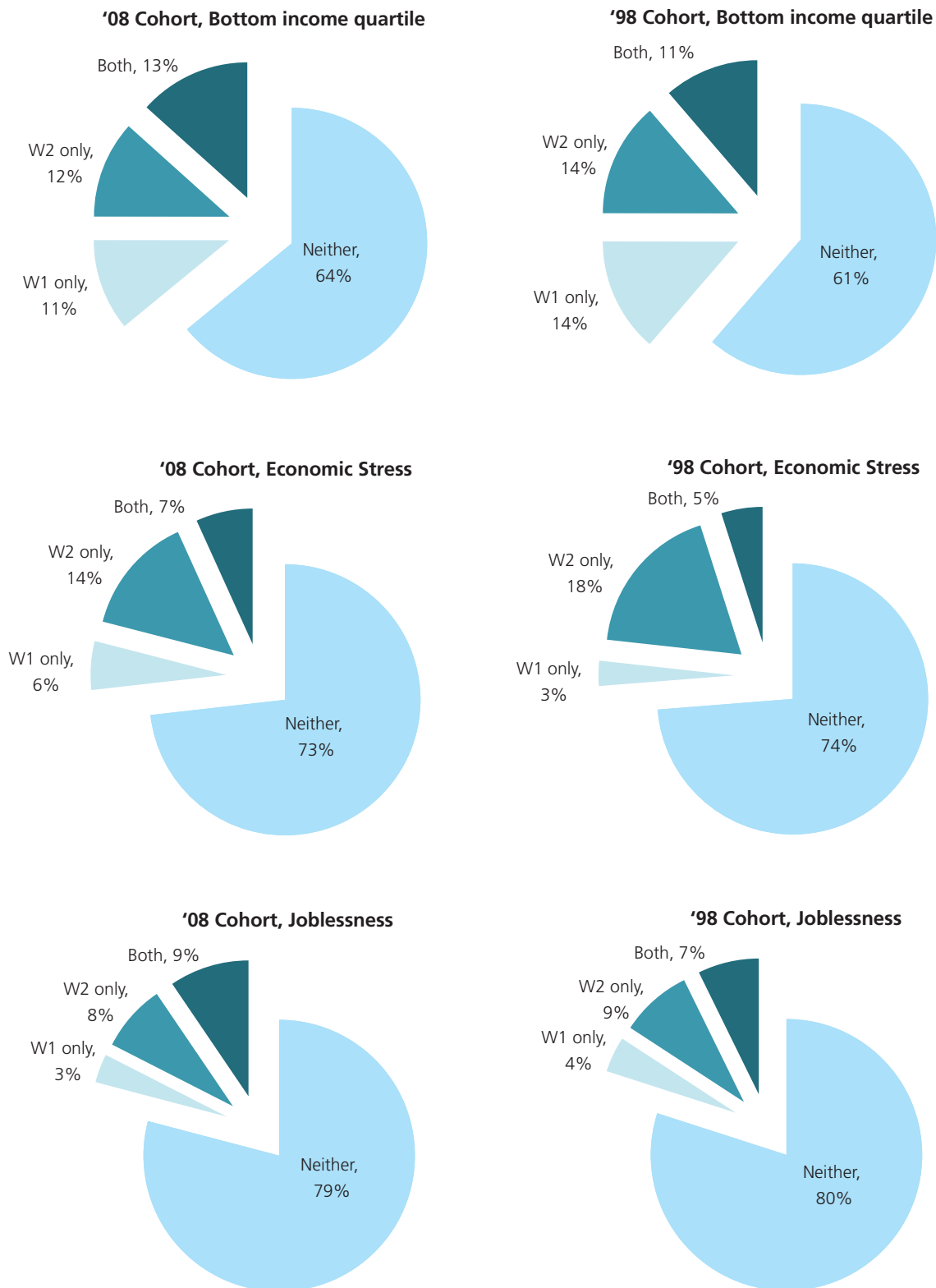
Source: GUI Longitudinal '98 Cohort and '08 Cohort datasets, analysis by authors.

Figure 3.2:   Economic vulnerability transitions of the two cohorts
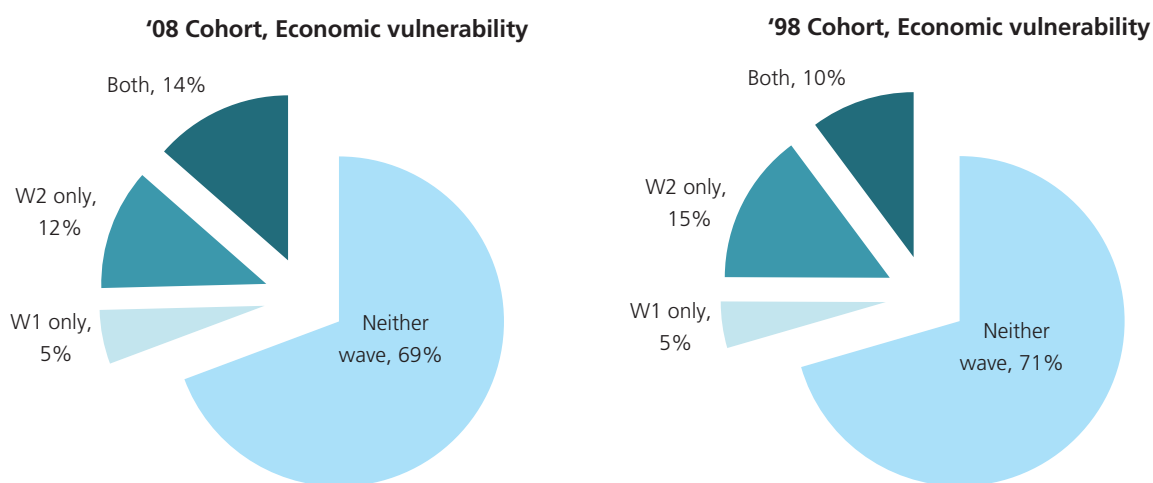
Source: GUI Longitudinal '98 Cohort and '08 Cohort dataset, analysis by authors. The relative risk of being vulnerable in Wave 2 only or in both waves was significantly higher for the '98 Cohort.

Among the **'08 Cohort**, 14 per cent were economically vulnerable in both periods compared to 10 per cent of the **'98 Cohort**. Those economically vulnerable in Wave 1 only accounted for about 5 per cent of both cohorts. The corresponding figures for being economically vulnerable in the second wave only were 12 per cent and 15 per cent.

Most of the change in vulnerability status involved movements into, rather than out of, economic vulnerability. About 12 per cent of the younger cohort and 15 per cent of the older cohort had lived in non-economically vulnerable households at Wave 1 but lived in vulnerable households by Wave 2. There was also some movement, though on a smaller scale, in the opposite direction. Roughly 5 per cent of children in both cohorts had lived in economically vulnerable households at Wave 1 but the household was no longer economically vulnerable by Wave 2.

3.3   CHANGES IN FAMILY WORK PATTERNS

Perhaps the most dramatic consequence of the recession for many families was its effect on unemployment. The increase in joblessness at the household level was one of the main drivers of the rise in economic vulnerability. This section examines how family employment patterns changed between the waves of data collection. In one-parent households, the situation of the Primary caregiver is examined, while the employment situations of both the Primary and Secondary caregivers are considered in two-parent households.[15] Movement between the following work patterns for two-parent families is examined:

- Full-time: Two-parent families where both partners were in full-time employment
- Secondary caregiver full-time: Two-parent families where the Secondary caregiver was in full-time employment and the Primary caregiver was not in employment
- Secondary caregiver full-time, Primary caregiver part-time: Two-parent families where the Secondary caregiver worked full-time and the Primary caregiver part-time
- No employment: Two-parent families where neither partner was in employment
- Other: Other combinations, such as families with only part-time work or couples where the Primary caregiver was in full-time employment and the Secondary caregiver was not in employment

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[15] The Primary and Secondary caregivers were self-identified by the family and were usually the mother and father, respectively.

Employment situation was based on reported main economic status at the time of the interview. Figure 3.3 shows the transitions between these employment patterns for two-parent families. The overall heights of the bars show the percentage in each employment pattern in Wave 2. For instance, 8 per cent of the **'08 Cohort** and 10 per cent of the **'98 Cohort** two-parent families had neither partner in employment in Wave 2, while 37 per cent and 31 per cent, respectively, had both partners working full-time. The colours of the bars depict the Wave 1 origin work pattern for each group. For instance, among the families where neither partner was in employment in Wave 2, the most common situations in Wave 1 were families where neither was in employment or those where the Secondary caregiver had worked full-time and the Primary caregiver had not been in employment.

It can be seen from the chart that, in Wave 2, the **'08 Cohort** had a higher proportion of families where both partners worked full-time (37 per cent versus 31 per cent) and a somewhat lower proportion where the Primary caregiver worked part-time and the Secondary caregiver worked full-time. This is consistent with the increase over time in the labour-market participation of married women.[16]

In the second wave, the proportion of families where neither partner was in employment was about one in 10 for both cohorts. Another 9-12 per cent of families had an atypical employment pattern where there was only part-time work or the only full-time work was done by the Primary caregiver.

The recession would have made it difficult to move out of a situation of household joblessness because of the drop in employment. Very few families moved from 'neither partner in employment' in Wave 1 to any other status in Wave 2.

Since the Primary caregiver was usually the mother and the Secondary caregiver was usually the father, one might think of the pattern where the Primary caregiver was not in employment and the Secondary caregiver worked full-time as the 'traditional breadwinner' model. This accounted for 32 per cent of the **'08 Cohort** and 28 per cent of the **'98 Cohort** in Wave 2. This compares to 45 per cent of the **'08 Cohort** in Wave 1 and 35 per cent of the **'98 Cohort**. It was higher for the **'08 Cohort** because many of the mothers had not yet returned to work at the time of the interview when the child was nine months old. This 'traditional breadwinner' model appears to have been harder hit by the recession than the model where both partners worked full-time or where the Secondary caregiver worked full-time and the Primary caregiver worked part-time. Of those families where neither partner worked in Wave 2, between 45 and 49 per cent had been 'traditional breadwinner' families in Wave 1 (with the higher figure for the **'08 Cohort**).

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[16] This will be associated with a higher employment rate among younger women. In the first quarter of 2012, 74 per cent of married women aged 25-34 were in employment compared to 69 per cent of married women aged 35-44. When we consider the change over time, we see a marked increase in the employment rate in a 10-year period. In quarter 1 of 2002, 62.2 per cent of married women aged 34 to 44 were in employment compared to 69 per cent in the same quarter of 2012 (QNHS Supplementary Table S2, www.cso.ie, accessed October 13 2014).

Figure 3.3: Transitions in household work patterns for the '08 Cohort (age 9 months and 3 years) and the '98 Cohort (ages 9 and 13) – two-parent families

'08 Cohort

	Full-time	SCG F-T	SCG-FT, PCG P-T	Other	No employment
			W2		
■ W1 No employment	0%	1%	0%	1%	3%
▨ W1 Other	1%	1%	0%	2%	1%
▨ W1 SCG-FT, PCG P-T	2%	2%	4%	1%	0%
▨ W1 SCG F-T	10%	24%	5%	2%	4%
▨ W1 Full-time	24%	4%	2%	3%	0%

'98 Cohort

	Full-time	SCG F-T	SCG-FT, PCG P-T	Other	No employment
			W2		
■ W1 No employment	0%	0%	0%	1%	3%
▨ W1 Other	1%	1%	0%	3%	1%
▨ W1 SCG-FT, PCG P-T	6%	4%	10%	2%	1%
▨ W1 SCG F-T	3%	20%	5%	3%	4%
▨ W1 Full-time	21%	3%	3%	3%	1%
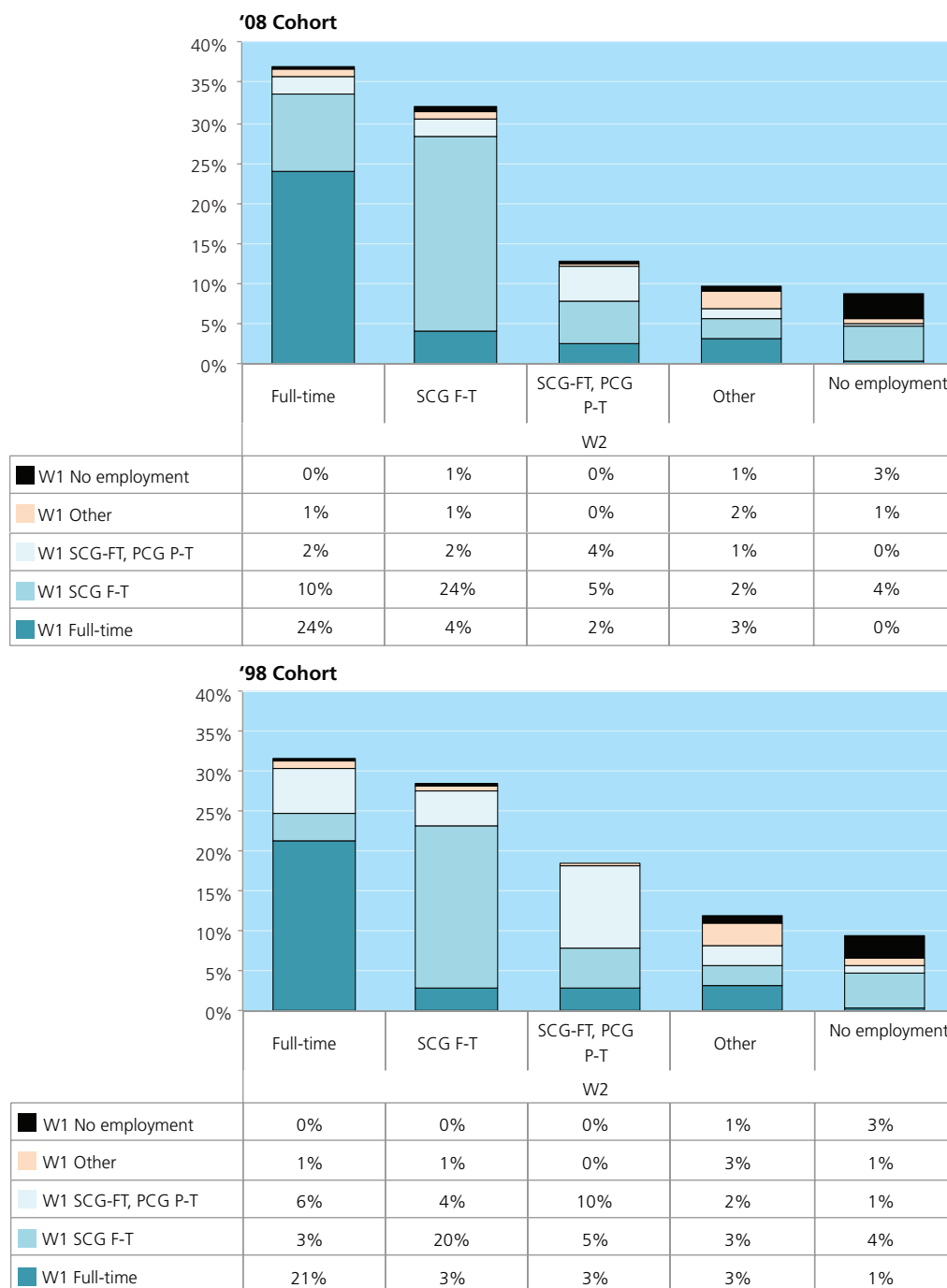
Source: GUI Longitudinal '98 Cohort and '08 Cohort datasets, analysis by authors; excluding one-parent families and families where there was a change in marital status between Waves 1 and 2.

Figure 3.4 shows the pattern of transitions for one-parent families. Generally, there was a higher level of joblessness in one-parent families in Wave 2 than in two-parent families: 63 per cent (compared to 8 per cent in two-parent families) in the **'08 Cohort** and 39 per cent (compared to 10 per cent) in the **'98 Cohort.**

Figure 3.4: Transitions in household work patterns for the '08 Cohort (age 9 months and 3 years) and the '98 Cohort (ages 9 and 13) – one-parent families

'08 Cohort

W2	Full-time	Part-time	No employment
■ W1 No employment	4%	9%	53%
▨ W1 Part-time	3%	11%	6%
■ W1 Full-time	9%	2%	4%

'98 Cohort

W2	Full-time	Part-time	No employment
■ W1 No employment	3%	11%	28%
▨ W1 Part-time	7%	12%	6%
■ W1 Full-time	24%	5%	5%
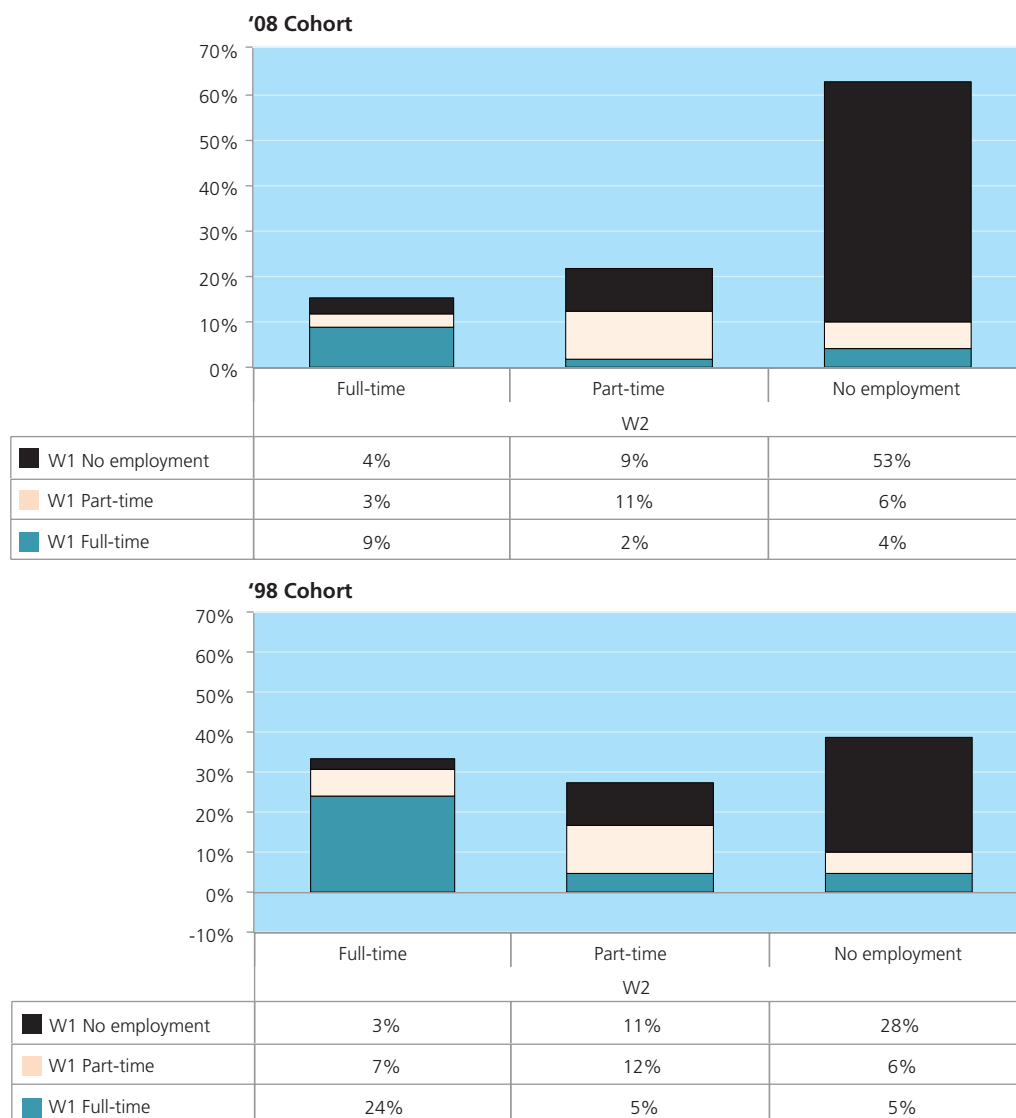
Source: GUI Longitudinal '98 Cohort and '08 Cohort datasets, analysis by authors; excluding two-parent families and families where there was a change in marital status between Waves 1 and 2.

The second point to note is that part-time work features more prominently among one-parent families, with 22 per cent of lone parents in the **'08 Cohort** and 28 per cent of those in the **'98 Cohort** working part-time in Wave 2.

One can also see a contrast between the **'08 Cohort** and the **'98 Cohort** for one-parent families that was much stronger than that in two-parent families. Among one-parent families, there was a much higher rate of joblessness in both waves for the **'08 Cohort** than for the **'98 Cohort**: 66 per cent for the **'08 Cohort** and 42 per cent for the **'98 Cohort** in Wave 1, and Wave 2 figures of 63 per cent and 39 per cent, respectively. This difference between the cohorts was much less marked for the two-parent families, with figures of 5 per cent jobless in the **'08 Cohort** and 4 per cent jobless in the **'98 Cohort** in Wave 1 and figures of 8 per cent and 10 per cent, respectively, in Wave 2.

The higher level of joblessness, the greater reliance on part-time work and the larger contrast between the **'08 Cohort** and the **'98 Cohort** may reflect the greater work-life balance challenges faced by those parenting alone, particularly when the children are of preschool age, as well as the lower level of educational qualification of lone parents compared to couples.

3.4   CHANGES IN WELFARE DEPENDENCE

Linked to the changes in work situation, one can also see a change in welfare dependence. This is examined for the **'98 Cohort**, where the percentage of total income coming from social welfare payments was ascertained in both waves. The transitions are shown in Figure 3.5. It can be noted that, since Child Benefit was included, all families with children would be entitled to at least some social welfare, though the percentage of income accounted for by welfare payments would vary depending on the level of income from work.

There was an increase in welfare dependence over the period, with 17 per cent of families depending on welfare for at least half of household income in Wave 2 compared to 12 per cent in Wave 1. There was also evidence of a considerable degree of mobility in terms of the extent of welfare dependence. This can be seen from the different colours of the bars in the chart, which represent families moving from a different welfare-dependence category between the two waves. For instance, of the 13 per cent of families in Wave 2 who depended on social welfare payments for more than three-quarters of their income, fewer than half (or 5 per cent of all families) had been similarly reliant on social welfare payments in Wave 1. Of the 52 per cent of all families who depended on social welfare payments for less than 5 per cent of their income in Wave 2, about one-third (or 16 per cent of all families) had a higher level of reliance on social welfare payments in Wave 1.

Figure 3.5:   Transitions in welfare dependence patterns for the '98 Cohort (age 9 and 13 years)

	Less than 5%	5% to less than 20%	20% to less than 50%	50% to less than 75%	75% and over
			W2		
W1 75% and over	2%	1%	1%	1%	5%
W1 50% to less than 75%	0%	0%	1%	0%	1%
W1 20% to less than 50%	2%	2%	1%	1%	2%
W1 5% to less than 20%	12%	8%	3%	1%	2%
W1 Less than 5%	36%	11%	3%	1%	3%
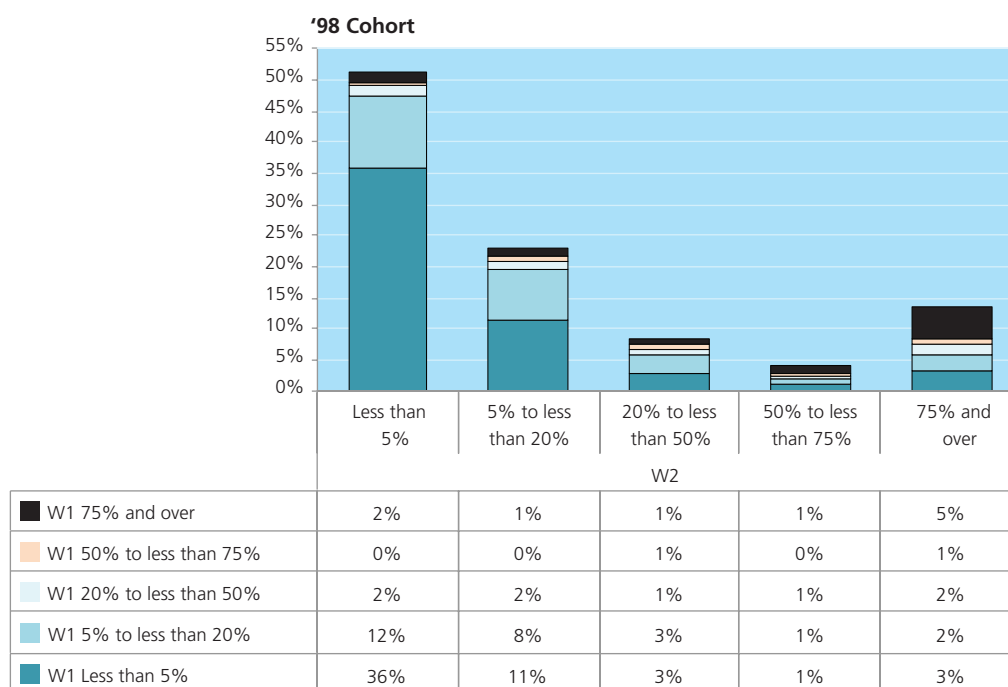
Source: GUI Longitudinal '98 Cohort, analysis by authors.

3.5   CHANGES IN MATERIAL DEPRIVATION

Material deprivation involves an enforced lack, due to an inability to afford, of any of 11 basic goods and services, including adequate food, clothing, heating, replacing worn-out furniture, and the capacity to socialise.[17] The questions, put to the Primary caregiver, were intended to capture the ability of the family as a whole to afford an adequate standard of living. Figure 3.6 shows the transitions between lacking *none*, *one* and *two or more* of these items for both cohorts. In Wave 2, 16 per cent of the **'08 Cohort** lacked one item and 14 per cent lacked two or more items. The figures were very similar for the **'98 Cohort**, at 15 per cent and 14 per cent respectively.

There was an increase over time in the percentage of families experiencing deprivation. For the **'08 Cohort**, the proportion lacking two or more items increased from 9 per cent to 14 per cent. The corresponding increase for the **'98 Cohort** was from 4 per cent to 14 per cent. The increase over time was more marked for the **'98 Cohort**, which is consistent with the difference between cohorts in the timing of the Wave 1 fieldwork in relation to the beginning of the recession. At the time of the Wave 1 fieldwork for the **'08 Cohort**, the recession was already underway and these families were already beginning to feel its effects in higher levels of deprivation.

Figure 3.6:   **Transitions in material deprivation for the '08 Cohort (age 9 months and 3 years) and the '98 Cohort (ages 9 and 13)**

'08 Cohort

	Lack None	Lack One	Lack Two+
		W2	
■ W1 Lack Two+	2%	2%	5%
☐ W1 Lack One	6%	3%	3%
■ W1 Lack None	62%	11%	6%

'98 Cohort

	Lack None	Lack One	Lack Two+
		W2	
■ W1 Lack Two+	1%	1%	2%
☐ W1 Lack One	5%	2%	3%
■ W1 Lack None	66%	12%	9%
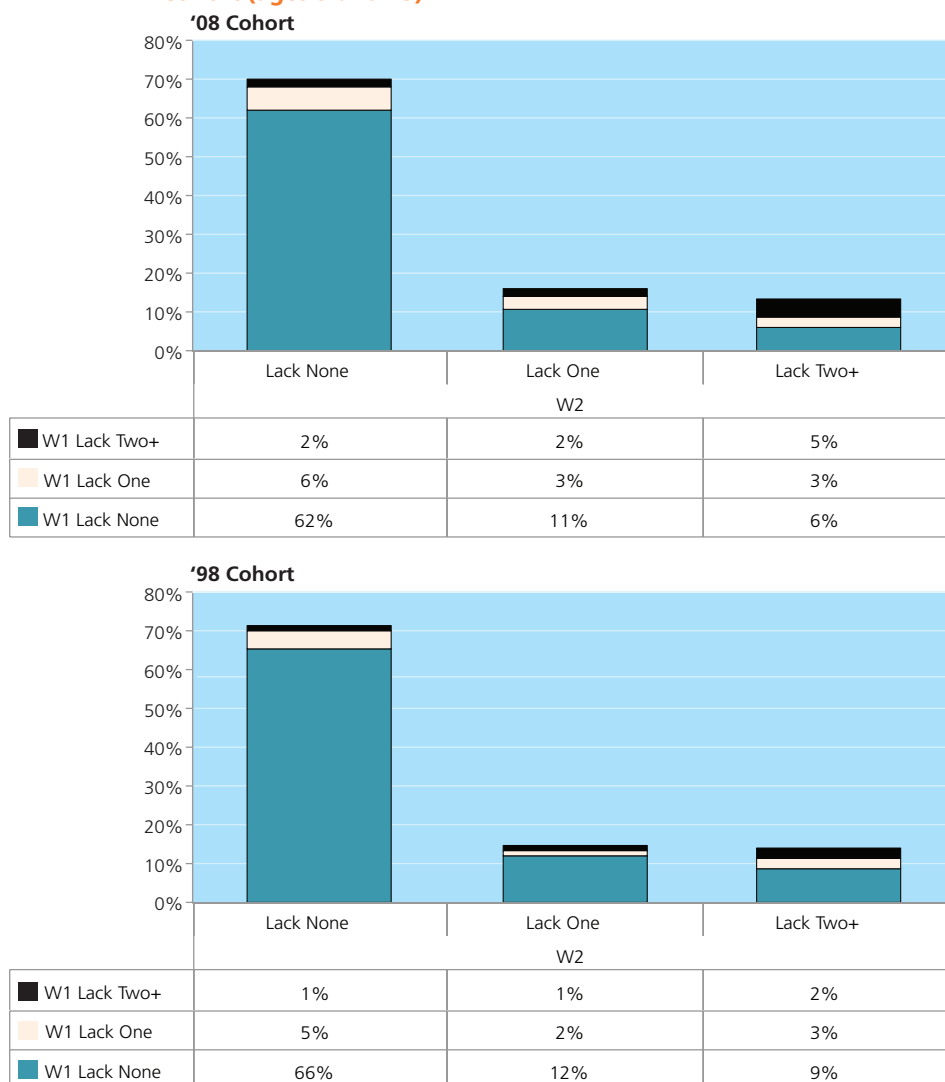
Source: GUI Longitudinal '08 Cohort and '98 Cohort, analysis by authors.

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17   The items were: having to do without heating on a cold day in the past year; inability to afford any of the following: a protein meal at least every second day, a weekly roast or equivalent, two strong pairs of shoes, a good overcoat, new rather than second-hand clothes, to replace worn-out furniture, adequate heat for the home, to have friends/family for a meal or drink once a month, presents for family/ friends once a year, and a morning, afternoon or evening out in the past fortnight.

It is worth noting that the level of basic deprivation was lower in the *Growing Up in Ireland* study than the level recorded in the Survey of Income and Living Conditions (SILC), the official source for the measurement of poverty and social exclusion in Ireland. For instance, the SILC survey found that 32.1 per cent of children were in households that lacked two or more of the 11 basic deprivation items in 2011, and the figure was 32.3 per cent in 2012 (CSO, 2014, Table 2; compared to 14 per cent for both *Growing Up in Ireland* cohorts). A thorough check of the *Growing Up in Ireland* data indicated that the problem did not lie in the characteristics of the samples which, once the calibration weights were applied, were representative of the national population. Instead, the most likely explanation of the difference is that the items on material deprivation were subject to a particular social desirability effect in the context of the focus on children in *Growing Up in Ireland*. Parents may have been reluctant to admit being unable to afford basic goods and services in a survey focused on children, in contrast to making this admission in the context of a survey focused on income (SILC). Therefore, the *Growing Up in Ireland* study does not rely on these items as an indicator of the level of material deprivation among children, although they were useful in tracing the change in the extent of this parent-reported deprivation over time.

3.6   CHILD-SPECIFIC DEPRIVATION

A similar social desirability effect may be influencing the items on child-specific deprivation: things the family might not be able to afford for the child. The rates were much lower in this survey than might be expected based on responses to the 2009 SILC module on child-specific deprivation (see Table 3.1). The level of child-specific deprivation was already low as recorded in the SILC survey: only 11 per cent of the adolescents lacked any of the child-specific goods or services. Only 4 per cent of the **'98 Cohort** was identified as lacking any of these items in the *Growing Up in Ireland* dataset. Since the *Growing Up in Ireland* indicators identify fewer than half of the expected number of children lacking child-specific goods and services, these items in the context of the *Growing Up in Ireland* survey cannot validly be used to identify children exposed to child-specific deprivation.

Table 3.1:   Comparing responses on child-specific deprivation items on the *Growing Up in Ireland* '98 Cohort at age 13 and on the SILC survey 2009

Number (of 9) items lacked	*Growing Up in Ireland* '98 Cohort Wave 2	SILC (age 2-15)	SILC (age 5-11)	SILC (age 12-15)
None	96.0%	87%	87%	89%
One	2.7%	8%	8%	6%
Two or more	1.3%	5%	5%	5%

Source: GUI '98 Cohort at age 13, analysis by authors. SILC analysis from Watson, Maître & Whelan (2012a), Table 3.6, p. 35.

3.7   SUMMARY

This chapter examined the levels of economic vulnerability for the **'08 Cohort** and the **'98 Cohort** in the first and second waves of the survey. Economic vulnerability is a concept that refers to exposure to risk associated with low levels of material resources even though the family's resource position may not involve current deprivation. The economically vulnerable group of families were identified based on income, joblessness and economic stress. These families had a significantly higher probability of low income, high levels of economic stress and being jobless. The size of the economically vulnerable group increased markedly between the first and second waves as the recession progressed. The increase was more marked for the **'98**

Cohort than for the **'08 Cohort**. The latter group was interviewed in the first wave after the recession had begun; it is likely that they were already beginning to feel its effects.

Transitions between the economically vulnerable and non-vulnerable statuses were examined and, because of the recession, it was found that the movement into economic vulnerability was more common than movement out of this status. Almost 12 per cent of the **'08 Cohort** and nearly 15 per cent of the **'98 Cohort** had not been economically vulnerable in the first wave but had become so by the second wave. The increase in economic stress was particularly marked: 14 per cent of the **'08 Cohort** and 18 per cent of the **'98 Cohort** had not experienced economic stress in the first wave but did so by the second wave.

The concept of economic vulnerability distinguishes a relatively small group: about 70 per cent were economically vulnerable in neither wave. This does not mean that the families were not affected by the recession, just that the effects were not as severe as they were for the relatively small group experiencing economic vulnerability.

The changes in parental work patterns between the two waves were examined. This showed the greater vulnerability of households with only one parent in employment to becoming jobless with the recession. One-parent families had a higher level of family joblessness since there was only one adult who might have been in employment. In the second wave, 63 per cent of one-parent families of the **'08 Cohort** were jobless; the figure was 39 per cent for the **'98 Cohort**. The higher level of joblessness in the **'08 Cohort** and the greater reliance on part-time work among one-parent families may reflect the greater challenges of combining employment and caring responsibilities for those parenting alone.

Linked to the recession, an increase in welfare dependence can also be observed. In Wave 1, 12 per cent of the **'98 Cohort** depended on social welfare for more than half of their income. The proportion increased to 17 per cent by Wave 2.

In terms of material deprivation (lacking two or more of 11 basic goods and services), 14 per cent of the families experienced this in Wave 2 compared to 9 per cent of the **'08 Cohort** and 4 per cent of the **'98 Cohort** in Wave 1.

Chapter 4

RISK FACTORS FOR ECONOMIC VULNERABILITY
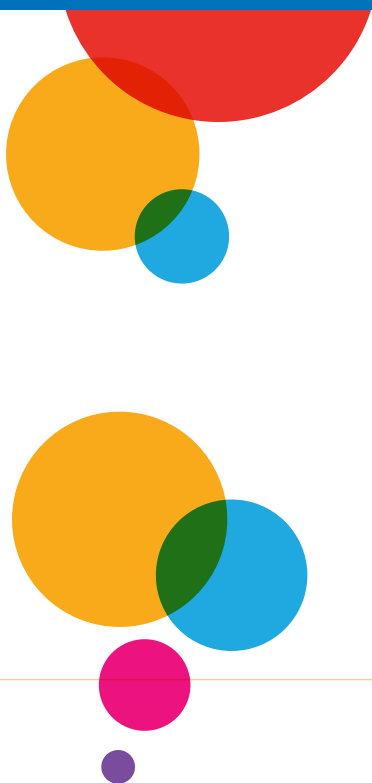
4.1   INTRODUCTION

This chapter examines factors associated with an increased risk of economic vulnerability and with the risk of becoming economically vulnerable during the recession. In considering the factors contributing to such vulnerability, it is useful to keep in mind the distinction suggested by Bradshaw et al (2003) between *risk factors*, which signal the greater susceptibility of a category of individuals, and *triggers*, which have a direct causal impact. The focus is on the former.

The risk of being economically vulnerable in either the first or second wave (or both) in terms of family characteristics and mother's age and level of education is first examined, presenting the results of a multivariate model. Then the question is posed as to whether or not the association between vulnerability and these risk factors differed for the two cohorts. Next the factors which were associated with the risk of persistent economic vulnerability is examined, comparing the risk of being vulnerable in both periods to being vulnerable in Wave 1 only or in Wave 2 only. Then the focus is on those who were drawn into economic vulnerability between waves and whether or not the same risk factors were important here, by comparing this group to those who were vulnerable in Wave 1. Finally, the profile of economically vulnerable families in Wave 1 and in Wave 2 is examined.

Throughout the chapter the data are analysed for the two cohorts of children together, which allows testing of whether their experiences were significantly different. In conducting this analysis, individuals were again allocated to the vulnerability class to which they had the highest probability of belonging on the basis of their multidimensional vulnerability profile.

The goal of the analysis is to elucidate the impact of risk factors at two time periods and for two cohorts. To avoid excessive complexity, this necessitates a focus on a restricted set of risk factors. In addition, since income and employment already entered into the construction of the indicator of economic vulnerability, they cannot be treated in the analysis as risk factors. Other family characteristics, such as social class, are omitted for related reasons: they are only adequately measured if the Primary or Secondary caregiver was in employment.

4.1.1   RISK OF ECONOMIC VULNERABILITY IN EITHER PERIOD

The risk of economic vulnerability in either period in terms of characteristics of the family for both cohorts is first examined. Figure 4.1 shows the risk before adding any controls (the gross risk) to the left of the chart and the estimated risk, when other characteristics were controlled (the net risk) to the right. The chart also shows the 95 per cent confidence limits for the estimated proportion economically vulnerable. Because of the large sample size, the confidence intervals are relatively narrow. The model-estimated percentages are derived from the logistic regression model shown in Appendix Table A4.1, Model 1.

Turning first to the left side of the chart, which shows the overall differences between the groups, one can see that the highest risk of being economically vulnerable in either period is for families where the Primary caregiver was under 25 when the child was born (57 per cent), one-parent families (61 per cent for one-parent families with one child in Wave 1 and 75 per cent for one-parent families with two or more children in Wave 1) and families where the Primary caregiver has lower second-level education or less (54 per cent). The children least likely to be economically vulnerable were those in families where the Primary caregiver was in her 30s when the child was born (22 per cent), two-parent families with one or two children in Wave 1 (18 per cent and 21 per cent, respectively) and families where the Primary caregiver had degree-level education (11 per cent). There was also a slightly higher risk of economic vulnerability where the parents were cohabiting (36 per cent). The differences between the two cohorts are not statistically significant.

The righthand side of the chart shows the model-estimated risk of economic vulnerability: the risk one would expect each group to have if they were identical in other respects. For instance, the figures show

the expected risk of economic vulnerability by family type if the families were identical in terms of age of Primary caregiver at birth of the child, whether the Primary caregiver was cohabiting, Primary caregiver's education, and the **'98 Cohort** or **'08 Cohort**. The overall patterns were still discernible but not as strong. The risk remains higher for the youngest Primary caregivers, one-parent families, and where the Primary caregiver has a lower level of education, and is somewhat higher where the Primary caregiver was cohabiting. The fact that the differences between groups were not as strong when other characteristics are controlled for indicates that, for instance, part of the reason for the higher risk of economic vulnerability among children of younger Primary caregivers and one-parent families is associated with their generally lower levels of education.

Figure 4.1: Economic vulnerability: gross and net risk of being vulnerable in either period, by cohort and family characteristics
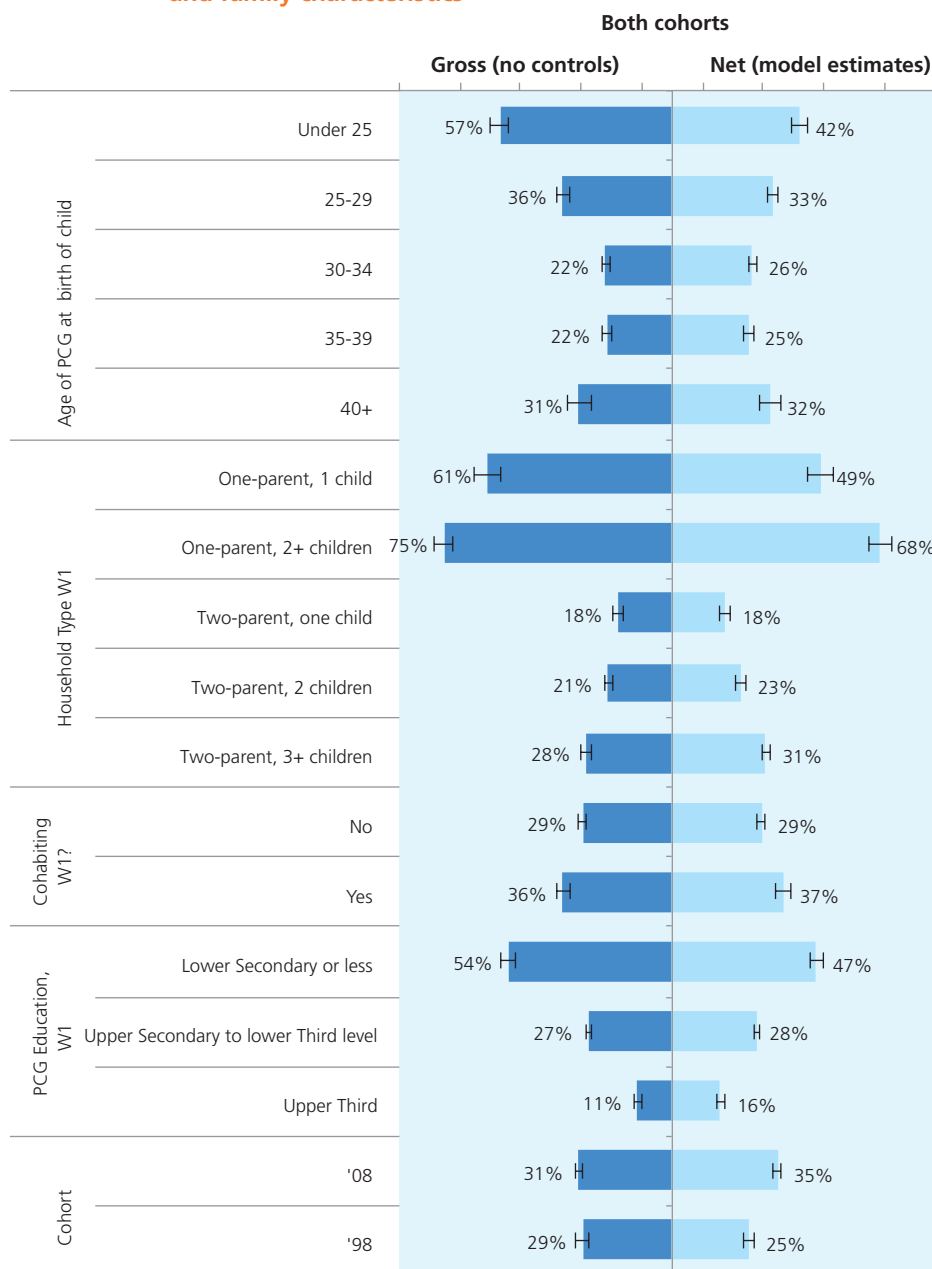
Source: GUI Researcher Microdata Files for the '08 Cohort and '98 Cohort; analysis by authors. Net estimates are derived from Appendix Table A4.1, Model 1.

The difference between the two cohorts was greater and is statistically significant when other characteristics are taken into account: the model-estimated risk was 35 per cent for the **'08 Cohort** and 25 per cent for the **'98 Cohort**. Table 2.1 showed that the families of the **'08 Cohort** had a number of advantages, such as a greater proportion of Primary caregivers with degree-level education and a lower proportion under age 25 at the birth of the child. The fact that the difference between the two cohorts would be slightly larger with these other characteristics taken into account suggests that the gap in economic vulnerability between the two groups would be even larger if they had a similar profile in terms of age, education and family type. The higher risk of vulnerability among the **'08 Cohort** may also be linked to the fact that the Wave 1 fieldwork with this group took place after the recession had begun.

4.1.2   DIFFERENCES IN RISK BETWEEN THE '08 COHORT AND THE '98 COHORT

Further analysis revealed some differences between the cohorts in the association between family characteristics and economic vulnerability. The full analysis, which involved testing for interactions between family characteristics and cohort, is shown in Appendix Table A4.1, Model 2, and is summarised in Table 4.1, which shows whether the family characteristics differ in their association with economic vulnerability between the two cohorts.

Table 4.1:   **Risk factors for being economically vulnerable in either period: comparing the '08 Cohort and the '98 Cohort**

	Comparing '08 Cohort and '98 Cohort
Age of Primary caregiver at birth of child (Ref: 35-39) **Under 25** **25-29** **30-34** **40+**	'08 '08 = =
Household type Wave 1 (Ref: Two-parent family, 1 child) **One-parent family, 1 child** **One-parent family, 2+ children** **Two-parent family, 2 children** **Two-parent family, 3+ children**	'08 '08 = '08
Cohabiting Wave 1	=
Primary caregiver education, Wave 1 (Ref: Upper Third level) **Lower Secondary or less** **Upper Secondary to lower Third level**	= '08
Reference categories: Age 35-39, married couple with 1 child, Primary caregiver with third-level education.	=

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. Full analysis shown in Appendix Table A4.1, Model 2.
Key: '=' no significant difference in effect for '08 Cohort and '98 Cohort; '08' = larger increase in risk for '08 Cohort; '98' = larger increase in risk for '98 Cohort.

Some characteristics that were more common among the families of the **'98 Cohort** had less of an association with the economic vulnerability of those families than they did among families of the **'08 Cohort**. For instance, in Table 2.1 Primary caregivers of the **'98 Cohort** were more likely than Primary caregivers of the **'08 Cohort** to be under 30 at the time of the child's birth; to be part of a two-parent family with three or more children; and to have lower levels of education. All three of these characteristics had a weaker association with economic vulnerability in the **'98 Cohort** than in the **'08 Cohort**. Early motherhood, larger family size and lower levels of education were not as strong a marker of disadvantage for this cohort of parents.

Another group which showed a higher risk among the **'08 Cohort** was one-parent families. Both lone parents with one child and lone parents with two or more children in the younger **'08 Cohort** were more likely than lone parents of the older **'98 Cohort** to be economically vulnerable in at least one of the waves. Although lone parents with two or more children were more common in the **'98 Cohort,** lone parents with one child were less common (see Table 2.1). The greater risk among lone parents of the younger children may reflect the greater impact on labour-market participation of having children of pre-school age.

4.2   RISK OF BEING ECONOMICALLY VULNERABLE IN BOTH PERIODS

The previous section showed that the risk of being economically vulnerable in either wave was strongly associated with lone parenthood, younger age of Primary caregiver at the time of the child's birth and lower level of education of the Primary caregiver. Since the literature suggests that persistent disadvantage may be even more harmful to children's life-chances than disadvantage at a single point in time, it is worth asking whether these same risk factors were associated with the risk of being economically vulnerable in both waves.

To check this, a multinomial regression model of the risk of being vulnerable in Wave 1 only or in Wave 2 only versus being vulnerable in both periods is estimated (see Appendix Table A4.2). In other words, what factors distinguish the group that was economically vulnerable in both periods from those vulnerable in Wave 1 only or those vulnerable in Wave 2 only?

The results are summarised in Table 4.2. The 'B' symbol in the table indicates that this family characteristic has a stronger association with being vulnerable in both periods than with being economically vulnerable at a single point in time. The differences in vulnerability by family type and parental education are more pronounced for being vulnerable in both periods than for being vulnerable in only one wave. In other words, persistent vulnerability is more strongly structured by family type and Primary caregiver education than is transient vulnerability.

The '=' symbol in the table indicates that the association is not significantly different for being economically vulnerable at a single point in time compared to being economically vulnerable in both periods. This is true for the age of the Primary caregiver at the time of the child's birth. It was seen earlier that, where the Primary caregiver is younger at the time of the child's birth, the family is more likely to be economically vulnerable. The results summarised in Table 4.2 show that this pattern is the same for being vulnerable in a single wave and for being vulnerable in both waves.

Table 4.2:   Comparing the risk of being economically vulnerable in Wave 1 only or Wave 2 only to being vulnerable in both periods

	W1 only versus both	W2 only versus both
Primary caregiver under 25 at birth of child (Ref: 30-44)	=	=
Age of Primary caregiver at birth of child 25-29	=	=
Age of Primary caregiver at birth of child 35-39	=	=
Age of Primary caregiver at birth of child 40+	=	=
Household type Wave 1 (Ref: Two-parent family, 1 child)		
One-parent family, 1 child	B	B
One-parent family, 2+ children	B	B
Two-parent family, 2 children	B	=
Two-parent family, 3+ children	B	B
Cohabiting Wave 1 (Ref: not cohabiting)	=	B
Primary caregiver education, Wave 1 (Ref: Upper Third)		
Lower Secondary or less	B	B
Upper Secondary to lower Third level	B	B
'98 Cohort (Ref='08)	W1 only	W2 only

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors (see Appendix Table A4.2, for the full model.)
Key: '=' no significant difference in association for being vulnerable in both periods versus in one wave only; 'B' – larger increase in risk of being vulnerable in both periods; 'W1 only' – larger increase in risk of being vulnerable in Wave 1 only; 'W2 only' – larger increase in risk of being vulnerable in Wave 2 only.

The 'W1 only' and 'W2 only' symbols indicate that the association between economic vulnerability and cohort is stronger for economic vulnerability at a single point in time than for economic vulnerability at both waves. From the appendix table one can see that the relative risk of being vulnerable in one wave (especially the second wave) rather than in both waves is significantly higher for the **'98 Cohort**. This is consistent with the difference in timing of the first interview for the two cohorts. This took place before the recession for the **'98 Cohort**, reducing the probability that these families would be economically vulnerable in both waves. On the other hand, being economically vulnerable in Wave 1 only was more common for the **'08 Cohort** than for the **'98 Cohort**, which is consistent with the Wave 1 interviews, with the **'08 Cohort** taking place after the beginning of the recession.

4.3   RISK OF BECOMING ECONOMICALLY VULNERABLE

In the previous sections it can be seen that lone parenthood, a younger Primary caregiver and lower levels of Primary caregiver education were associated with being vulnerable in either period. Given the depth of the recession, one might ask whether there was something qualitatively different about being drawn into economic vulnerability between the two waves of the survey. In particular, given the sharp loss of employment that resulted from the recession, one might expect the group that became vulnerable as a result of the recession to show fewer of the markers of disadvantage, such as low levels of education, than those who were already vulnerable in Wave 1. The next model is designed to examine if this is the case. The model is a logistic regression model of the risk of becoming vulnerable in Wave 2 – that is, being economically vulnerable in Wave 2 only – versus being vulnerable in Wave 1 (which includes being vulnerable in both waves). The full model is shown in Appendix Table A4.3; the statistically significant differences are summarised here in Table 4.3.

Table 4.3: **Comparing the risk of becoming economically vulnerable by Wave 2 to being already economically vulnerable in Wave 1**

	Becoming vulnerable versus being vulnerable in Wave 1
Age of Primary caregiver at birth of child (Ref: 35-39)	
Under 25	=
25-29	W1
30-34	=
40+	=
Household type Wave 1 (Ref: Two-parent family, 1 child)	
One-parent family, 1 child	W1
One-parent family, 2+ children	W1
Two-parent family, 2 children	=
Two-parent family, 3+ children	=
Cohabiting Wave 1	=
Change in carer(s) Ref: No change	
Yes	=
One parent died/left	=
More children Wave 2	=
Primary caregiver education, Wave 1 (Ref: Upper Third)	
Lower Secondary or less	W1
Upper Secondary to lower Third level	=
Cohort (Ref='08)	
'98	W2 only

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort, selecting cases vulnerable in Wave 1 or Wave 2 (or both); analysis by authors (see Appendix Table A4.3, for the full model.)
Key: '=' no significant difference in association for being vulnerable in Wave 2 versus in Wave 1; 'W1' – significantly larger association with being vulnerable in Wave1; 'W2 only' – significantly larger association with being vulnerable in Wave 2 only.

As well as the variables included in the model discussed above, also included are two indicators of change in family circumstances between waves: an increase in the number of children and change in the caregivers due to the Primary caregiver forming a new relationship or the Primary and Secondary caregivers separating or dying.

The results suggest that those who were already economically vulnerable in Wave 1 were a more disadvantaged group. The association with lone parenthood, the Primary caregiver being younger at the time of the child's birth, and having lower second-level education or less is significantly stronger for those who had been economically vulnerable in Wave 1 than for those who became economically vulnerable by Wave 2.

The familiar difference between the cohorts is evident here as well. The **'98 Cohort** was more likely than the **'08 Cohort** to be economically vulnerable in Wave 2 only, because the bulk of the Wave 1 fieldwork for this group took place before the start of the recession.[18]

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[18] Further checks revealed no significant cohort differences in the extent to which family characteristics distinguished between those vulnerable in Wave 1 and those vulnerable in Wave 2 only: none of the interactions with cohort was statistically significant for this comparison.

4.4   PROFILE OF ECONOMICALLY VULNERABLE FAMILIES IN WAVE 1 AND WAVE 2

In this section the attention shifts from the risk of economic vulnerability to a profile of economically vulnerable families. Risk and profile provide different perspectives on the question of the identity of economically vulnerable families. For instance, even though the risk of economic vulnerability was higher for one-parent families, many more economically vulnerable children were found in two-parent families, simply because there were more two-parent families. Figure 4.2 shows the percentage of the economically vulnerable families found in each category for the **'08 Cohort** (left side of chart) and the **'98 Cohort** (right side). For instance, among those children economically vulnerable in Wave 1, 29 per cent of the **'08 Cohort** and 28 per cent of the **'98 Cohort** were born to Primary caregivers aged 25 or under at the time of the child's birth. The confidence intervals are also shown for each of the percentages.

Turning first to the **'08 Cohort** and the age of the Primary caregiver when the child was born, the pattern was broadly similar in Wave 1 and Wave 2, with roughly equal numbers in the under 25, age 25-29 and age 30-34 groups. Apart from the youngest Primary caregivers in Wave 1, which accounted for 29 per cent of the economically vulnerable infants, the proportion in each of these three age groups ranges from 23 to 26 per cent. A smaller proportion of infants was found in the 35-39 age group and the families where the Primary caregiver was over age 40 when the child was born.

The pattern by age of Primary caregiver at the child's birth was broadly similar across cohorts and waves; the largest number of economically vulnerable children is found in families where the Primary caregiver was younger at the time of the child's birth. The difference between Primary caregivers under 35 and over 35 is statistically significant.

Figure 4.2: **Profile of economically vulnerable families by cohort and wave**

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors.

In terms of family type, the profile of economically vulnerable children in both cohorts shifted to a greater prevalence of two-parent families between waves. In the **'08 Cohort**, 48 per cent of economically vulnerable infants had been in one-parent families in Wave 1 but this proportion fell to 36 per cent by Wave 2. The corresponding figures in the **'98 Cohort** were 58 per cent in Wave 1 and 33 per cent in Wave 2. The sharper trend in the **'98 Cohort** was linked to the fact that the first wave for this group was pre-recession while the first wave interviews for the **'08 Cohort** took place when the effects of the recession were already being felt.

The proportion of economically vulnerable children who lived with cohabiting parents in Wave 1 changed very little for the **'98 Cohort** (7 to 8 per cent). Although a higher proportion of economically vulnerable families in the **'08 Cohort** were cohabiting (between 14 and 17 per cent), the change over time does not reach statistical significance. Cohabiting families form a higher proportion of vulnerable families in the **'08 Cohort** than the **'98 Cohort** because cohabiting was more common in the younger age group.

For both cohorts, most economically vulnerable families in Wave 2 had no change in the partnership status of the Primary caregiver and no increase in the number of children. Since the **'08 Cohort** families were likely to have been at an earlier stage of family formation in Wave 1, they were more likely to have had an increase in the number of children, as in Table 2.1. As a result, families that increased in size between waves account for a higher proportion of the economically vulnerable in the **'08 Cohort** in Wave 2 (29 per cent) than economically vulnerable children in the **'98 Cohort** (11 per cent).

Only between 12 and 15 per cent of the economically vulnerable families in Wave 2 had a change in the partnership status of the Primary caregiver – either a new partnership or dissolution of partnership through relationship breakdown or death. Therefore, the risk of becoming economically vulnerable between waves was much greater in the event of the ending of a partnership, but, because this occurrence was relatively rare, families experiencing relationship breakdown accounted for only a small proportion of economically vulnerable children.

In terms of level of education of the Primary caregiver, there was some change between waves. Families where the Primary caregiver had the lowest level of education (lower second-level or less) accounted for a smaller proportion of the economically vulnerable children in Wave 2 than in Wave 1. In the **'08 Cohort**, 48 per cent of economically vulnerable children in Wave 1 were in families where the Primary caregiver had lower second-level education or less. This had dropped to 42 per cent by Wave 2. In the **'98 Cohort** the corresponding figures were 56 per cent and 51 per cent.

Taken together, the decline between waves in the proportion of economically vulnerable children in one-parent families and the change in profile by education suggest a shift in profile among the economically vulnerable group away from markers of disadvantage. This is consistent with other research in Ireland that shows that the recession had an impact on the level of economic vulnerability and financial stress experienced higher up the income distribution as well as those at the bottom (Russell, Maître & Whelan, 2014; Whelan & Maître, 2014). The change over time in the profile of the economically vulnerable group is modest, but it is consistent with the argument that the recession affected the economic security of couples and those with levels of education towards the middle of the distribution as well as one-parent families and those with the lowest levels of education.

4.5   SUMMARY

In this chapter, several risk factors for economic vulnerability and the profile of economically vulnerable families were examined. Focus was given to family type, the age of the Primary caregiver on the birth of the child, change in family type and Primary caregiver's level of education.

A logistic regression analysis was used to calculate the 'model estimated' percentage experiencing economic vulnerability in either Wave 1 or Wave 2. This is the percentage one would expect if the groups were similar in terms of other characteristics. The results show that, among the factors examined, the greatest risk of being economically vulnerable in either Wave 1 or Wave 2 is for families where the Primary caregiver is under 25 when the child was born (42 per cent), one-parent families (49 per cent for one-parent families with one child and 68 per cent for one-parent families with two or more children) and families where the Primary caregiver has lower second-level education or less (47 per cent).

The impact of risk factors on the **'08 Cohort** and the **'98 Cohort** were compared. It was found that a Primary caregiver under 25 at the time of the child's birth; larger one-parent and two-parent families; and Primary caregivers with less than third-level education had a stronger risk of economic vulnerability in the **'08 Cohort** than in the **'98 Cohort**. In general, these characteristics were more common among the older **'98 Cohort**, and were less associated with disadvantage in this group than in the younger **'08 Cohort**. In a sense,

then, having a lower level of education is a greater impediment to labour-market entry when general levels of education are high than when they are lower.

When the risk factors were examined for persistent economic vulnerability compared to being vulnerable at only one wave, the risk of persistent vulnerability had a stronger relationship to both family type and level of education. There was no difference in the association with age of Primary caregiver at the time of the child's birth when the models controlled for education and family type. Persistent economic vulnerability, then, is particularly strongly structured by low education and lone parenthood.

The risk of being drawn into economic vulnerability between waves was also considered. Are there differences in the association between the risk factors examined and being vulnerable in Wave 2 only compared to being vulnerable in Wave 1? Low education, lone parenthood and the Primary caregiver being under 30 at the birth of the child were more strongly associated with being economically vulnerable in Wave 1 than with becoming economically vulnerable in Wave 2.

Finally, whether the profile of economically vulnerable families differed between the younger and older cohorts was considered. The two cohorts of economically vulnerable families were broadly similar in terms of the age of the Primary caregiver when the child was born. For both cohorts, there was evidence of an increase between waves in the proportion of economically vulnerable children found in families that had been relatively protected in the first wave, such as two-parent families and those where the Primary caregiver had higher second-level education. Two-parent families and families where the Primary caregiver had an intermediate level of education (upper second- to lower third-level) accounted for a higher proportion of economically vulnerable children in Wave 2 than in Wave 1.

Other differences between the cohorts reflected the different family formation stages of the younger and older children. The **'08 Cohort** families were more likely to have had an increase in the number of children. As a result, families that increased in size between waves accounted for a higher proportion of the economically vulnerable **'08 Cohort** in Wave 2 (29 per cent) than the economically vulnerable **'98 Cohort** (11 per cent).

The risk of becoming economically vulnerable between waves was much greater in the event of relationship breakdown. However, because this occurrence was relatively rare, these families accounted for a small proportion of economically vulnerable children in Wave 2 (6 per cent of the **'08 Cohort** and 9 per cent of the **'98 Cohort**).

APPENDIX TO CHAPTER 4

Appendix Table A4.1: Relative risk ratios from logit model for economic vulnerability in either wave

	W1 only versus both	W2 only versus both
Age of Primary caregiver at birth of child (Ref: 35-39)		
Under 25	2.605***	3.920***
25-29	1.621***	1.984***
30-34	1.094	1.205**
40+	1.570***	1.344**
Family type Wave1 (Ref: Two-parent family, 1 child)		
One-parent family, 1 child	5.468***	6.351***
One-parent family, 2+ children	14.09***	18.27***
Two-parent family, 2 children	1.428***	1.495***
Two-parent family, 3+ children	2.303***	2.942***
Cohabiting Wave 1	1.539***	1.490***
Primary caregiver education (Ref: Third-level)		
Lower Secondary or less	6.272***	6.107***
Upper Secondary to lower Third level	2.314***	2.626***
'98 Cohort (Ref: '08)	0.560***	1.463
Interaction with '98 Cohort		
Age of Primary caregiver at birth of child (Ref: 35-39)		
Under 25		0.477***
25-29		0.673**
30-34		0.813
40+		1.394
Family type Wave 1 (Ref: Two-parent family, 1 child)		
One-parent family, 1 child		0.508**
One-parent family, 2+ children		0.551**
Two-parent family, 2 children		0.816
Two-parent family, 3+ children		0.565***
Cohabiting Wave 1		1.089
Primary caregiver education (Ref: Third-level)		
Lower Secondary or less		0.824
Upper Secondary to lower Third level		0.634***
Constant	0.0654***	0.0489***
N cases	17,216	17,085

Source: GUI Research Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. Model 1 is the basic model; Model 2 adds the interaction with cohort so the relative risk ratios (RRRs) show whether the '98 Cohort differs significantly from the '08 Cohort in the impact of different family characteristics on the risk of economic vulnerability.
The models were run in Stata using the svy prefix to provide correct standard errors when analysing weighted data from a cluster sample (the '98 Cohort was clustered at the level of school).
*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A4.2: Relative risk ratios from multinomial logit model for being vulnerable in Wave 1 only or in Wave 2 only versus both waves (reference)

	W1 only	W2 only
Age of Primary caregiver at birth of child (Ref: 35-39)		
Under 25	0.748	0.817
25-29	1.021	0.765*
30-34	1.01	0.897
40+	0.921	0.999
Household type Wave 1 (Ref: Two-parent family, 1 child)		
One-parent family, 1 child	0.341***	0.126***
One-parent family, 2+ children	0.270***	0.0667***
Two-parent family, 2 children	0.573***	0.843
Two-parent family, 3+ children	0.358***	0.552***
Cohabiting Wave 1	0.768	0.740**
Primary caregiver education, Wave 1 (Ref: Upper Third)		
Lower Secondary or less	0.316***	0.342***
Upper Secondary to lower Third level	0.496***	0.717**
'98 Cohort (Ref='08)	1.417**	2.325***
Constant	2.400***	4.987***
N cases	4,366	

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. The models were run in Stata using the svy prefix to provide correct standard errors when analysing weighted data from a cluster sample (the '98 Cohort was clustered at the level of school).
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix Table A4.3: Relative risk ratios from logit model for becoming economically vulnerable in Wave 2 (reference: vulnerable in Wave 1)

	Become vulnerable W2
Age of Primary caregiver at birth of child (Ref: 35-39)	
Under 25	0.878
25-29	0.751**
30-34	0.885
40+	1.043
Household type Wave 1 (Ref: Two-parent family, 1 child)	
One-parent family, 1 child	0.194***
One-parent family, 2+ children	0.110***
Two-parent family, 2 children	1.087
Two-parent family, 3+ children	0.841
Cohabiting Wave 1	0.823
Change in carer(s) (Ref: No change)	
New caregiver (e.g. Primary caregiver has new partner)	0.998
One parent died/left	0.979
More children Wave 2	1.106
Primary caregiver education, Wave 1 (Ref: Upper Third)	
Lower Secondary or less	0.550***
Upper Secondary to lower Third level	1.007
Cohort (Ref='08)	
'98	2.122***
Constant	1.600***
Number cases	4,366

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. Model 1 is the basic model (with no interactions).
The models were run in Stata using the svy prefix to provide correct standard errors when analysing weighted data from a cluster sample (the '98 Cohort was clustered at the level of school).
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Chapter 5

CHILD SOCIO-EMOTIONAL DEVELOPMENT AND ECONOMIC VULNERABILITY
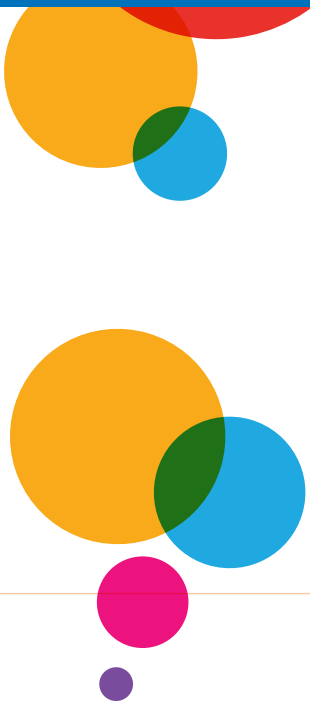
5.1   INTRODUCTION

This chapter examines the association between economic vulnerability and the child's socio-emotional well-being, with particular concern for these questions:

1. Does economic vulnerability at a point in time have consequences for children's socio-emotional well-being?
2. Are the consequences more serious for children who were economically vulnerable in both waves than for those who were economically vulnerable in one wave?
3. Are there factors that contribute to better socio-emotional outcomes in children living in economically vulnerable families? In particular, is there evidence that the emotional well-being of the Primary caregiver and the quality of the parental relationship helps to protect children from the negative consequences of economic vulnerability?

5.2   OVERVIEW OF CHILDREN'S SOCIO-EMOTIONAL DEVELOPMENT

As discussed in Chapter 2, the Strength and Difficulties Questionnaire (SDQ) was used to assess children's socio-emotional development. This was based on responses from the Primary caregiver and was measured for both cohorts at the second wave. The SDQ scale measures the level of difficulty children experience in the areas of emotions, conduct, hyperactivity, inattention and peer relationships.

Figure 5.1 shows the percentage with 'potentially problematic' (17 and over) SDQ scores by gender for both cohorts in Wave 2. The figure also shows the 95% confidence interval, indicated by error bars on the chart. In Wave 2, the children in the **'08 Cohort** were three years old and the children in the **'98 Cohort** were 13 years old. The proportion of children with potentially problematic scores was 6.5 per cent for the 13-year-olds and 4.8 per cent for the three-year-olds. The gap between the two was not statistically significant.

The proportion of boys with potentially problematic scores was higher than the proportion of girls with such scores, but only in the **'08 Cohort:** 5.9 per cent for boys and 3.6 per cent for girls. The gender difference was statistically significant for the **'08 Cohort**, but not for the **'98 Cohort** (6.2 to 6.8 per cent).[19] An alternative way to look at the pattern was that the difference between the **'08 Cohort** and **'98 Cohort** was not statistically significant for boys but it was statistically significant for girls.

Figure 5.1:   Percentage with high SDQ score (17 or above) by cohort and gender
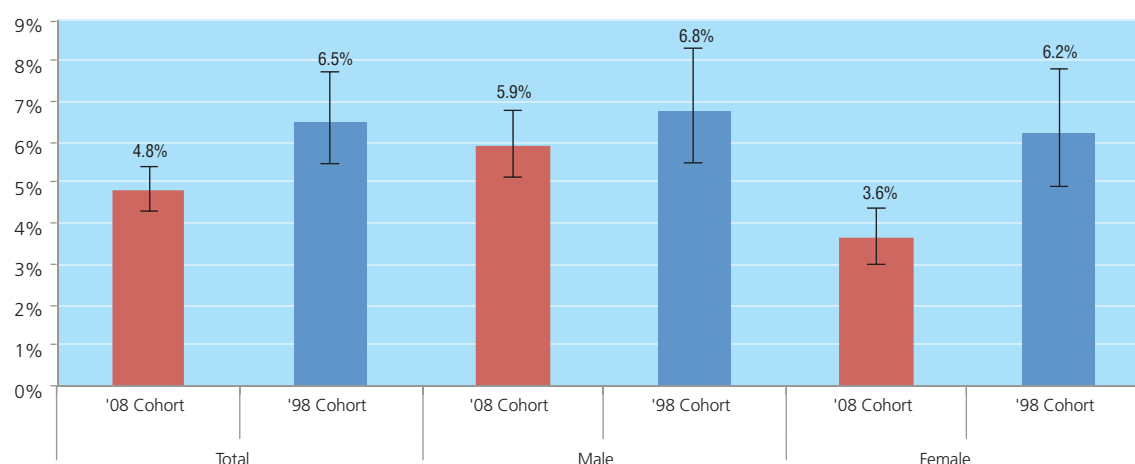
Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors.

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[19] The figures in Appendix Table A5.1 indicate that the gender gap was narrow at age nine.

5.3   ECONOMIC VULNERABILITY AND SOCIO-EMOTIONAL PROBLEMS

The risk factors for socio-emotional problems will now be discussed. The same analysis strategy as in the previous chapter is adopted, estimating a logistic regression model with family characteristics as risk factors, but also adding child gender and household economic vulnerability pattern. This initially examines the effects of child gender, family type, age of Primary caregiver at child's birth, education of Primary caregiver, and economic vulnerability on the risk of SDQ problems. Then an interaction between cohort and these child and family characteristics is added to see if the **'08 Cohort** children appear to be more sensitive to the impact of family characteristics and economic vulnerability.

5.3.1   OVERALL RISK OF SOCIO-EMOTIONAL PROBLEMS

The results of the overall model, without allowing for different effects by cohort, are shown in Figure 5.2. The overall differences between groups (the gross or observed differences) are shown on the left side of the chart while the model-estimated differences – those one would expect to see with other characteristics held constant – are shown on the righthand side.

Figure 5.2:   Observed and model-estimated percentage with high SDQ scores in Wave 2 by child and family characteristics

		Gross (no controls)	Net (Model Estimated)
Gender of Child	Male	6.3%	6.5%
	Female	4.8%	4.6%
Age of PCG at birth of child	Under 25	10.7%	6.6%
	25-29	7.3%	6.5%
	30-34	3.9%	4.7%
	35-39	3.2%	4.0%
	40+	6.5%	6.8%
Household Type W1	One-parent, 1 child	10.7%	7.8%
	One-parent, 2+ children	10.9%	6.3%
	Two-parent, one child	4.9%	6.1%
	Two-parent, two children	4.4%	5.2%
	Two-parent, 3+ children	4.5%	4.5%
Cohabiting W1?	No	5.3%	5.3%
	Yes, cohabiting W1	7.9%	7.1%
Change in carer(s)	No change	5.1%	5.3%
	New carer joins	12.4%	6.1%
	One parent died/left	11.5%	8.3%
More children W2?	No	5.6%	5.5%
	Yes, more children	5.4%	5.8%
PCG Education, W1	Lower Secondary or less	10.0%	7.7%
	Upper Secondary to lower Third level	4.9%	5.0%
	Third level	2.4%	3.2%
Economic Vulnerability	Neither wave	3.5%	4.0%
	Wave 1 only	7.7%	6.1%
	Wave 2 only	8.3%	7.1%
	Both waves	13.4%	9.6%
Cohort	'08	4.8%	4.7%
	'98	6.5%	6.6%

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. See full model in Appendix Table A4.2 (Model 1). Error bars represent upper and lower 95% confidence limits for each percentage.

The biggest risk factor for a high SDQ score was economic vulnerability. Children who lived in economically vulnerable families in neither period had only a 3.5 per cent risk of having a high SDQ score. This rose to about 8 per cent if the child was economically vulnerable in either period and to 13 per cent if the child was economically vulnerable in both periods. The high risk associated with economic vulnerability remains statistically significant with other characteristics controlled. This means that it was not due to differences in family type, level of education of the Primary caregiver or relationship breakdown.

A statistical test was conducted to assess whether or not the differences between being vulnerable in one wave and being vulnerable in both waves differed in their impact on SDQ. Since the confidence intervals overlap, one cannot be sure whether the differences are statistically significant without conducting an explicit test.[20] It was found that economic vulnerability in both Waves 1 and 2 has a significantly stronger impact on the risk of socio-emotional problems than being economically vulnerable in Wave 1 only (p=.030) or being economically vulnerable in Wave 2 only (p=.043). However, the impact of being economically vulnerable in Wave 1 only does not differ significantly from the impact of being economically vulnerable in Wave 2 only (p=.469). In other words, persistent economic vulnerability appears to have a stronger impact on socio-emotional well-being than transient economic vulnerability, but (among those vulnerable at only one period) there was no difference in impact between being currently vulnerable and being vulnerable in the earlier period.

The risk of having a high SDQ score was also considerably higher where the Primary caregiver was under age 30 at the time of the child's birth, in one-parent families, where the parents were cohabiting rather than married, in cases of relationship breakdown, and where there was a low level of Primary caregiver education. The model-estimated risk of a high SDQ score was about 7 to 8 per cent for these groups, with other characteristics controlled. The risk was also significantly higher for the 13-year-olds than for the three-year-olds (6.6 per cent and 4.7 per cent, respectively) and was higher for boys than girls (6.5 per cent and 4.6 per cent, respectively).

5.3.2   DIFFERENCES BETWEEN COHORTS IN RISK OF SOCIO-EMOTIONAL PROBLEMS

Whether these risk factors operate in the same way for the **'08 Cohort** and the **'98 Cohort** is now considered. In particular, is there evidence that the socio-emotional well-being of younger children may be more affected by economic vulnerability than that of the older children? The question was addressed by adding interaction effects to the logit model underlying Figure 5.2 and checking whether these interactions were statistically significant. The full model is shown in Appendix Table A5.2 (Model 2) and is summarised in Table 5.1. The table uses the notation '=' to indicate that a risk factor has a similar impact on the **'08 Cohort** and the **'98 Cohort**; '08' indicates that the risk factor has a stronger impact in the **'08 Cohort** while '98' indicates that the risk factor has a stronger impact on the SDQ score of the **'98 Cohort**.

The first thing to note in Table 5.1 is that few of the family characteristics differ significantly in their impact on the risk of a potentially problematic SDQ score between the younger **'08 Cohort** and older **'98 Cohort**. In particular, there was no difference in the impact of economic vulnerability on the risk of having a high SDQ score. The previous chart showed that children in economically vulnerable households had a higher risk of socio-emotional problems. However, the risk does not appear to be greater for the younger than for the older cohort when one controls for other characteristics.

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[20] Non-overlapping confidence always indicates statistical significance, but this is a conservative test. In some cases, a difference might be statistically significant even when confidence intervals overlap.

Table 5.1: Risk factors for having a high (potentially problematic) SDQ score: comparing the '08 Cohort and the '98 Cohort

	Comparing '08 Cohort and '98 Cohort
Gender of child (Ref: male)	
Female	=
Age of Primary caregiver at birth of child (35-39 ref.)	
Under 25	=
25-29	'08
30-34	=
40+	=
Household type Wave 1 (Ref: Two-parent family , 1 child)	
One-parent family, 1 child	=
One-parent family, 2+ children	=
Two-parent family, 2 children	=
Two-parent family, 3+ children	=
Cohabiting Wave 1	
Change in carers?	
New carer	=
Carer left/died	=
More children in Wave 2	'08
Primary caregiver education, Wave 1 (Ref: Upper Third)	
Lower Secondary or less	=
Upper Secondary to lower Third level	=
Economic vulnerability (Ref: vulnerable neither wave)	
Wave 1 only	=
Wave 2 only	=
Both waves	=

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. See Appendix Table A5.2, Model 2.
Key: '=' – no significant difference in effect on risk of high SDQ score for '08 Cohort and '98 Cohort; '08' – larger increase in risk for '08 Cohort; '98' – larger increase in risk for '98 Cohort.

There were just two differences between the cohorts in the relationship between SDQ score and family characteristics. The first difference was that the Primary caregiver being under 30 years old at the time of the child's birth was associated with a greater increase in SDQ score for the **'08 Cohort** than for the **'98 Cohort**. This is consistent with the pattern discussed in the previous chapter whereby having children earlier seemed to be more strongly associated with disadvantage (in terms of economic vulnerability) in the **'08 Cohort** than the **'98 Cohort**.

The second difference was that, where there was an increase in family size between the waves, the risk of having a high (potentially problematic) SDQ score was greater for the **'08 Cohort** than the **'98 Cohort**. An examination of the coefficients in Appendix Table A5.2, taking account of the main effects and the interaction effects, shows that an increase in family size between waves has no impact on the younger **'08 Cohort** but is associated with a lower relative risk of a high SDQ score in the older **'98 Cohort**. There is no clear explanation of this pattern.

There was no difference between the younger **'08 Cohort** and older **'98 Cohort** in the relationship between high SDQ score and child gender; whether the family was a one-parent or two-parent family; whether the parents were cohabiting or married; Primary caregiver level of education; economic vulnerability; or whether there was a change in the relationship status of the Primary caregiver.

5.3.3   DIFFERENCES BETWEEN BOYS AND GIRLS IN RISK OF SOCIO-EMOTIONAL PROBLEMS

At the beginning of this chapter it can be seen that girls were less likely than boys to have high SDQ scores in both cohorts, but that the gap was wider in the **'98 Cohort**. Appendix Table A5.2, Model 2 shows that there was no statistically significant interaction between child gender and cohort. In other words, when the model is controlled for other characteristics, there was no tendency for the gender gap to be larger or smaller in the older cohort compared to the younger cohort. However, this raises the question as to whether the socio-emotional well-being of boys and girls may be affected differently by factors such as family type and economic vulnerability. To check whether this was the case, a statistical model was run with an interaction between gender and the family characteristics that were examined in this chapter (see Appendix Table A5.3).

None of the gender interactions was statistically significant at conventional levels (p<= .05). In other words, there was no tendency for the SDQ scores of boys or girls to be more affected by economic vulnerability, lone parenthood or relationship breakdown when other characteristics were held constant. In particular, economic vulnerability appears to be equally damaging to the socio-emotional well-being of girls and boys.

5.4   PRIMARY CAREGIVER EMOTIONAL DISTRESS AND COUPLE RELATIONSHIP

At this point two other potential intervening variables are introduced, which are linked to economic vulnerability and may play a role in influencing the socio-emotional well-being of children: the emotional distress of the Primary caregiver and the quality of the relationship between the Primary caregiver and the Secondary caregiver in two-parent households. The indicator of emotional distress of the Primary caregiver, based on the CES-D scale, was described in Chapter 2. The quality of the relationship was measured by the Dyadic Adjustment Scale (DAS), as noted in Chapter 2. As shown in Figure 5.3, both are associated with economic vulnerability.

The difference between Primary caregivers in vulnerable and non-vulnerable households is substantial, particularly in terms of the percentage experiencing emotional distress (13 per cent and 7 per cent, respectively). The difference in the percentage of couples with relationship difficulties is also substantial and is statistically significant (21 per cent in economically vulnerable families and 16 per cent in non-vulnerable families).

Figure 5.3:   **Percentage of Primary caregivers with relationship problems and percentage experiencing emotional distress, by economic vulnerability in either wave**
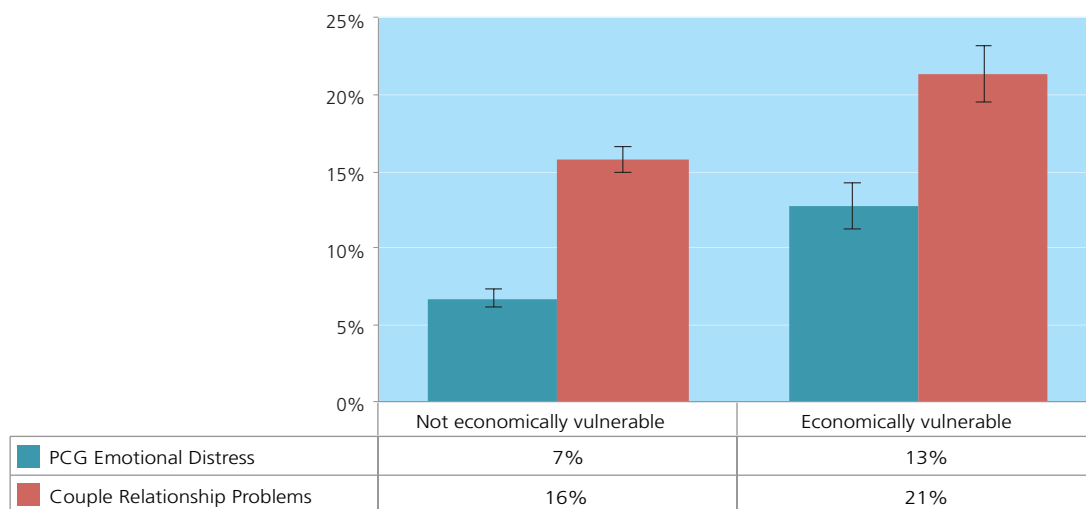
	Not economically vulnerable	Economically vulnerable
PCG Emotional Distress	7%	13%
Couple Relationship Problems	16%	21%

Source: GUI Researcher Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. Includes cases for whom there is information on the CES-D depression score for the Primary caregiver and couples for whom there is data for the Dyadic Adjustment Scale measuring relationship difficulties.

5.5   SDQ AMONG CHILDREN IN VULNERABLE HOUSEHOLDS

The analysis in the previous sections has shown that the risk of a high SDQ score was increased by economic vulnerability. The analysis also identified a number of what might be termed 'protective factors' that were associated with a reduced risk of the child having a high SDQ score. These factors were: the Primary caregiver having a higher level of education; the Primary caregiver being aged 30 to 39 at the time of the child's birth; two-parent families (especially married couples), and family stability between waves (no breakdown in the relationship). This section investigates whether these protective factors were as important for economically vulnerable children. Also included is Primary caregiver emotional distress and quality of parental relationship. Since relationship quality as measured by the DAS scale was not available for one-parent households, and it was felt preferable not to exclude lone parents from the analysis, an indicator of parental relationship was used, broadly understood, with three categories: lone parent, couple with relationship problems (or lowest 10 per cent of scores on the DAS); and couples with no relationship problems (the remaining couples). The CES-D and DAS scales were available for the majority of families, so this analysis could be conducted on a sample of 96 per cent of the **'08 Cohort** and 87 per cent of the **'98 Cohort**.

The test of whether the impact of protective factors differed for economically vulnerable and non-vulnerable children involved testing for an interaction between economic vulnerability and characteristics of the child and family. The models, shown in Appendix Table A5.4, were simplified to facilitate this focus on protective factors and interactions. The simplification involved contrasting Primary caregivers who were in their 30s at the time of the child's birth to those in their 20s or 40s; couples who were cohabiting contrasted to those who were married; Primary caregivers with third-level degree or higher education contrasted to those with lower levels of education and economic vulnerability in any wave contrasted to vulnerability in neither wave.

The results of the models are summarised in Figure 5.4. As expected, the risk of socio-emotional problems, as indicated by a high SDQ score, was reduced where the Primary caregiver had degree-level education, where the Primary caregiver was aged 30 to 39 at the time of the child's birth, and where the Primary caregiver was not emotionally distressed. These relationships hold for both the economically vulnerable and non-vulnerable children; the interaction with economic vulnerability was not statistically significant (Appendix Table A5.4, Model 5).

Figure 5.4:   **Model-estimated percentage of children experiencing socio-emotional problems by selected child and family characteristics**
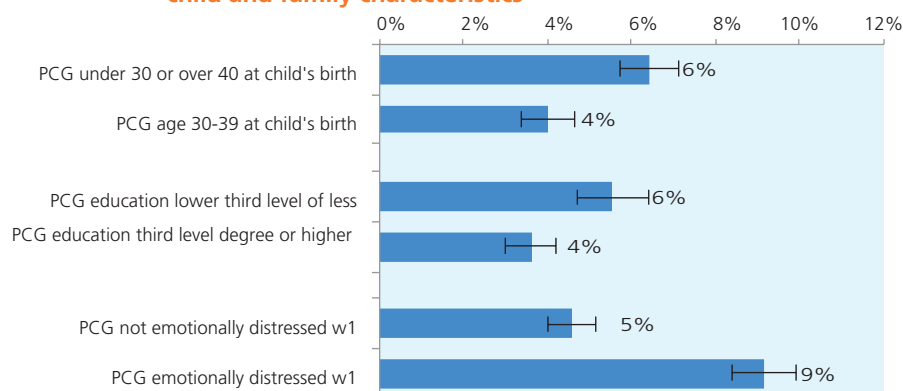
Source: GUI Research Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. Based on Model 6 from Appendix Table A5.4. Includes cases for whom there is information on the CES-D depression score and (in the case of couples) the Dyadic Adjustment Scale measuring relationship difficulties. Error bars show the 95 per cent confidence intervals for the estimates.

The model indicated that there were significant differences in the association with economic vulnerability by family type. This is illustrated in Figure 5.5, which shows the model-estimated percentage of children experiencing socio-emotional problems by family type and relationship quality. Among children in families that are not economically vulnerable, the risk of socio-emotional problems is greater in one-parent families than in two-parent families where there are no relationship problems, but is not significantly greater than in two-parent families with relationship problems. However, in economically vulnerable families, the difference between one-parent and two-parent families in the risk of child socio-emotional problems is not statistically significant. In other words, with other characteristics in the model held constant, the 'protective' association between SDQ and a good relationship between the parents is found for children in non-vulnerable families but not for children in economically vulnerable families.

Other significant differences in the model, apart from those shown in Figures 5.4 and 5.5, are the higher risk of socio-emotional problems for boys than girls; for the **'98 Cohort** than for the **'08 Cohort**, and for cohabiting couples than married couples (see Appendix Table A5.4).

Looking at this finding from the perspective of protective factors, one could see Primary caregiver education as protecting children from the negative impact of economic vulnerability on socio-emotional development. This may be because education is linked to differences in non-monetary personal and network resources or to differences in parenting style – issues not examined here.

Figure 5.5: **Model-estimated percentage of children experiencing socio-emotional problems, by family type and relationship quality**
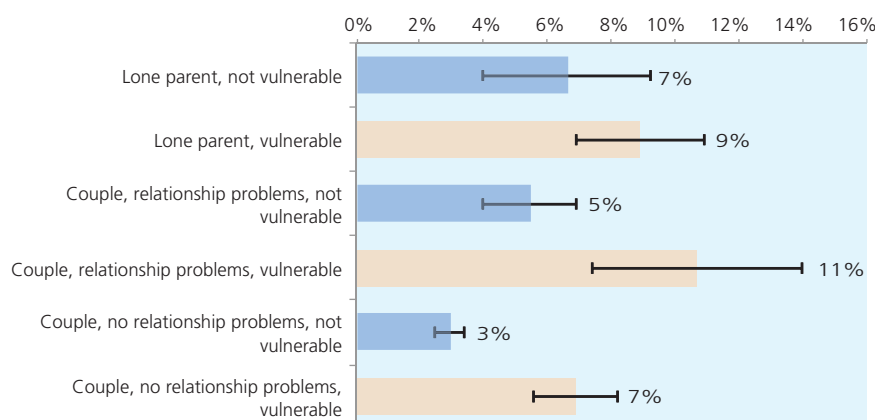

Source: GUI Research Microdata Files for the '08 Cohort and the '98 Cohort; analysis by authors. Based on Model 6 from Appendix Table A5.4. Includes cases for whom there is information on the CES-D depression score and the Dyadic Adjustment Scale measuring relationship difficulties. Error bars show the 95 per cent confidence intervals for the estimates.

Looking at the same finding from the perspective of risk factors, however, there is evidence of cumulative disadvantage. This concept refers to processes that operate over time, with earlier disadvantage persisting or even interacting with later events to exacerbate disadvantage (e.g. Nolan & Whelan, 1999; Layte & Whelan, 2002; Vandecasteele, 2010).[21] In the present context, the earlier educational disadvantage of the Primary caregiver continued to influence child socio-emotional development, in addition to family economic vulnerability, parental relationship quality and Primary caregiver psychological distress.

The absence of an interaction between economic vulnerability and the protective factors, apart from parental relationship, implies that they were protective for children in both economically vulnerable and non-vulnerable families. The absence of an interaction indicates that the impact did not differ between these two groups. Thus, the risk of a high SDQ score was reduced by about the same amount for both economically vulnerable and non-vulnerable children where the Primary caregiver had a higher level of education, was not emotionally distressed and was aged 30 to 39 at the time of the child's birth.

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[21] Nolan and Whelan (1999. pp. 9-10) emphasise three elements of the concept of cumulative disadvantage: (a) that a causal sequence over time is involved; (b) that earlier effects persist and (c) that the impact of earlier factors interacts with later ones (such as, perhaps, a lower return to education for those from deprived backgrounds) (see also Layte & Whelan, 2002; Vandecasteele, 2010).

5.6   SUMMARY

This chapter examined the association between economic vulnerability and risk of socio-emotional problems, as indicated by a high score on the Strengths and Difficulties Questionnaire (SDQ). The first question addressed was whether economic vulnerability (particularly persistent economic vulnerability) had consequences for the socio-emotional well-being of children. It was tested in a model that included child gender, Primary caregiver age at child's birth, Primary caregiver education, family type, family change and cohort. Economic vulnerability was found to be the strongest risk factor for socio-emotional problems. Further, persistent economic vulnerability had a stronger impact on socio-emotional development than transient economic vulnerability, but (among those vulnerable at only one period) there was no difference in impact between being currently vulnerable and being vulnerable in the earlier period. The model-estimated risk of socio-emotional problems was 4 per cent for those vulnerable in neither wave; between 6 and 7 per cent for those vulnerable in one wave, and 9.6 per cent for those vulnerable in both waves. Economic vulnerability had a similar impact on SDQ for both the **'98 Cohort** and the **'08 Cohort** and for both boys and girls.

The quality of the couple relationship and parental emotional distress are both associated with economic vulnerability. It was tested whether these indicators were significantly related to child socio-emotional development and whether they accounted for the link between economic vulnerability and SDQ. Where the Primary caregiver experienced emotional distress in Wave 1, the model-estimated risk of the child having socio-emotional problems at Wave 2 was 9 per cent compared to 5 per cent in the absence of distress. Among families that were not economically vulnerable, an absence of relationship problems was associated with a lower model-estimated risk of socio-emotional problems for the child (3 per cent) compared to couples with relationship problems and lone parents (5 to 7 per cent), although the lone parents and couples with relationship problems did not differ significantly. In economically vulnerable households, however, while there were some suggestions that a good parental relationship may have had a protective effect, the pattern did not reach statistical significance.

Apart from the absence of a significant benefit from a good parental relationship for economically vulnerable children, the other potential protective factors did not differ between children from vulnerable and non-vulnerable families. The risk of a high SDQ score was significantly lower where the Primary caregiver had third-level education (model-estimated risk of 4 per cent compared to 6 per cent), where the Primary caregiver was not emotionally distressed in the first wave (5 per cent compared to 9 per cent), and where the Primary caregiver was aged 30 to 39 (4 per cent versus 6 per cent). These protective effects did not differ significantly between children in economically vulnerable and non-vulnerable families.

The differences in the risk of socio-emotional problems between boys and girls remain statistically significant with other characteristics held constant. A higher risk of potentially problematic SDQ scores can be seen among cohabiting couples compared to married couples, where there was a relationship breakdown between waves, and for the **'98 Cohort** compared to the **'08 Cohort**.

It is worth noting that the majority of children did not have socio-emotional problems, even those living in challenging circumstances. Over eight out of 10 children from economically vulnerable households, families where the parental relationship broke down, one-parent households and families where the Primary caregiver had lower second-level education or less did not experience socio-emotional problems. The risk factors and protective factors operate in a probabilistic rather than a deterministic fashion.

APPENDIX TO CHAPTER 5

Appendix Table A5.1: Observed SDQ score by characteristics of child and family

	'08		'98			
	W2 mean	**W2 % high**	**W1 mean**	**W1 % high**	**W2 mean**	**W2 % high**
Total	8.0	5%	8.0	7%	7.1	6%
Child sex						
Male	8.4	6%	8.3	8%	7.3	7%
Female	7.6	4%	7.7	7%	6.9	6%
Age of Primary caregiver at birth of child						
Under 25	9.9	10%	9.8	11%	8.6	11%
25-29	8.8	8%	8.6	8%	7.7	7%
(30-44 ref.)	7.6	3%	7.4	6%	6.3	5%
35-39	7.2	3%	6.7	4%	6.1	4%
40+	7.1	4%	8.6	12%	7.9	10%
Household type Wave 1						
One-parent family, 1 child	10.1	9%	10.0	13%	9.0	13%
One-parent family, 2+ children	9.9	10%	9.8	12%	8.8	11%
Two-parent family, one child	8.0	5%	8.2	7%	7.2	7%
Two-parent family, 2 children	7.5	3%	7.9	6%	7.0	6%
Two-parent family, 3+ children	7.3	4%	7.3	6%	6.4	5%
Cohabiting Wave 1?						
No	7.9	5%	7.9	7%	7.0	6%
Yes	8.5	6%	9.6	12%	8.9	14%
Change in parent(s)						
No change, same parent(s)	7.9	5%	7.8	7%	6.9	6%
New parent	10.0	9%	10.9	18%	10.1	15%
One parent died/left	9.3	7%	9.6	12%	8.5	14%
More children in Wave 2?						
No	8.0	5%	7.9	7%	7.0	6%
Yes	8.0	5%	8.9	8%	7.8	7%
Primary caregiver education, Wave 1						
Lower Secondary or less	9.2	9%	9.6	12%	8.5	11%
Upper Secondary to lower Third level	8.0	5%	7.7	6%	6.7	5%
Upper Third	7.0	2%	6.2	3%	5.7	2%
Economic vulnerability						
Neither Wave	7.4	3%	7.3	5%	6.3	4%
Wave 1 only	9.6	8%	9.3	12%	8.4	7%
Wave 2 only	8.6	7%	8.9	9%	8.4	10%
Both	9.9	11%	10.8	19%	9.9	17%

Source: GUI Researcher Microdata Files for the '08 Cohort and '98 Cohort; analysis by authors.

Appendix Table A5.2: Relative risk ratios for potentially problematic SDQ in Wave 2 by characteristics of child and family

		Model 1	Model 2
Gender of Child	Female versus male	0.693***	0.588***
Primary caregiver age at child's birth	Under 25 versus 35-39	1.697***	2.139***
(Ref: 35-39)	25-29 versus 35-39	1.679***	2.337***
	30-34 versus 35-39	1.171	1.311
	40+ versus 35-39	1.756**	1.620*
Household type Wave 1	One-parent family, 1 child	1.308	1.063
(Ref: Two-parent family, 1 child)	One-parent family, 2+ children	1.037	1.121
	Two-parent family, 2 children	0.827	0.748*
	Two-parent family, 3+ children	0.717**	0.958
Cohabiting Wave 1?	Yes, cohabiting Wave 1	1.381**	1.171
Change in carer(s)	New carer joins	1.147	0.893
	One parent died/left	1.638**	1.114
More children Wave 2?	Yes, more children	1.078	1.237
Primary caregiver education, Wave 1	Lower Secondary or less versus Third level	2.526***	1.979***
	Upper Secondary to lower Third level versus Third level	1.585***	1.416**
Economic vulnerability	Wave 1 only versus neither	1.572**	2.128***
	Wave 2 only versus neither	1.841***	1.916***
	Both waves versus neither	2.584***	2.550***
Cohort	'98 versus '08	1.457***	0.918
98 Cohort interactions			
Gender of Child x '98	Female versus male		1.371
Primary caregiver age at child's birth	Under 25 versus 35-39		1.371
	25-29 versus 35-39		0.554**
	30-34 versus 35-39		0.805
	40+ versus 35-39		1.226
Household type Wave 1	One-parent family, 1 child		2.150*
(Ref: Two-parent family, 1 child)	One-parent family, 2+ children		1.134
	Two-parent family, 2 children		1.529
	Two-parent family, 3+ children		0.872
Cohabiting Wave 1?	Yes, cohabiting Wave 1		1.592
Change in carer(s)	New carer joins		1.697
(Ref: no change)	One parent died/left		1.821
More children Wave 2?	Yes, more children		0.515**
Primary caregiver education, Wave 1	Lower Secondary or less versus Third level		1.715*
	Upper Secondary to lower Third level versus Third level		1.392
Economic vulnerability	Wave 1 only versus neither		0.504
	Wave 2 only versus neither		0.932
	Both waves versus neither		1.074
Constant		0.0186***	0.0189***
Observations		17,079	17,079

Source: GUI Researcher Microdata Files for the '08 Cohort and '98 Cohort; analysis by authors. Model 1 is the basic model; Model 2 adds the interaction with cohort. The models were run in Stata using the svy prefix to provide correct standard errors when analysing weighted data from a cluster sample (the '98 Cohort was clustered at the level of school).
*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A5.3: Relative risk ratios for potentially problematic SDQ in Wave 2 by characteristics of child and family (Model 3, gender interactions)

		Model 3
Gender of Child	Female versus male	0.775
Primary caregiver age at child's birth	Under 25 versus 35-39	1.744**
	25-29 versus 35-39	1.748***
	30-34 versus 35-39	1.327
	40+ versus 35-39	2.515***
Household type Wave 1	One-parent family, 1 child	1.308
(Ref: Two-parent family, 1 child)	One-parent family, 2+ children	1.381
	Two-parent family, 2 children	0.850
	Two-parent family, 3+ children	0.839
Cohabiting Wave 1?	Yes, cohabiting Wave 1	1.392*
Change in carer(s)	New carer joins	1.022
	One parent died/left	1.259
More children Wave 2?	Yes, more children	1.205
Primary caregiver education, Wave 1	Lower Secondary or less versus Third level	2.277***
	Upper Secondary to lower Third level versus Third level	1.647***
Economic vulnerability	Wave 1 only versus neither	1.572*
	Wave 2 only versus neither	1.718***
	Both waves versus neither	2.625***
Cohort	'98 versus '08	1.235
Gender Interactions (Female)		
Primary caregiver age at child's birth	Under 25 versus 35-39	0.888
	25-29 versus 35-39	0.900
	30-34 versus 35-39	0.735
	40+ versus 35-39	0.432
Household type Wave 1	One-parent family, 1 child	1.023
(Ref: Two-parent family, 1 child)	One-parent family, 2+ children	0.538
	Two-parent family, 2 children	0.935
	Two-parent family, 3+ children	0.693
Cohabiting Wave 1?	Yes, cohabiting Wave 1	0.977
Change in carer(s)	New carer joins	1.219
(Ref: no change)	One parent died/left	1.614
More children Wave 2?	Yes, more children	0.770
Primary caregiver education, Wave 1	Lower Secondary or less versus Third level	1.267
	Upper Secondary to lower Third level versus Third level	0.945
Economic vulnerability	Wave 1 only versus neither	0.982
	Wave 2 only versus neither	1.177
	Both waves versus neither	1.001
'98 Cohort versus '08 Cohort		1.481*
Constant		0.0174***
Observations		17079

Source: GUI Researcher Microdata Files for the '08 Cohort and '98 Cohort; analysis by authors. Model 3 includes the interaction with child gender. The models were run in Stata using the svy prefix to provide correct standard errors when analysing weighted data from a cluster sample (the '98 Cohort was clustered at the level of school).
*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A5.4: Relative risk ratios for potentially problematic SDQ in Wave 2 by characteristics of child and family, including interactions with economic vulnerability

	Model 4	Model 5	Model 6
Female versus Male	0.665***	0.630***	0.663***
Primary caregiver in 30s at birth of child versus 20s or 40s	0.600***	0.597***	0.601***
Couple with 'bad relationship' versus lone parent	1.121	0.770	0.813
Couple with 'good relationship' versus lone parent	0.624***	0.404***	0.425***
Cohabiting Wave 1 versus not	1.462***	1.849***	1.433**
Primary caregiver has higher third-level education	0.621***	0.725**	0.629***
Economic vulnerability in any wave	2.091***	1.432	1.390
'98 Cohort versus '08 Cohort	1.301**	1.358**	1.286**
Primary caregiver CES-D Wave 1: distressed versus not	2.141***	2.138***	2.158***
Interactions with vulnerability			
Female versus Male		1.107	
Primary caregiver in 30s at birth of child versus 20s or 40s		1.018	
Couple, relationship difficulties versus lone parent		1.721	1.514
Couple, no relationship difficulties versus lone parent		1.999**	1.772**
Cohabiting Wave 1 versus not cohabiting		0.598*	
Primary caregiver has higher third-level education		0.598*	
'98 Cohort versus '08 Cohort		0.922	
Primary caregiver CES-D W1: distressed versus not		1.007	
Constant	0.0674***	0.0909***	0.0933***
Number Observations	15922	15922	15922

Source: GUI Researcher Microdata Files for the '08 Cohort and '98 Cohort; analysis by authors. Includes cases for whom there is information on the CES-D depression score and the Dyadic Adjustment Scale measuring relationship difficulties. The models were run in Stata using the svy prefix to provide correct standard errors when analysing weighted data from a cluster sample (the '98 Cohort was clustered at the level of school).
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Chapter 6

SUMMARY AND CONCLUSIONS
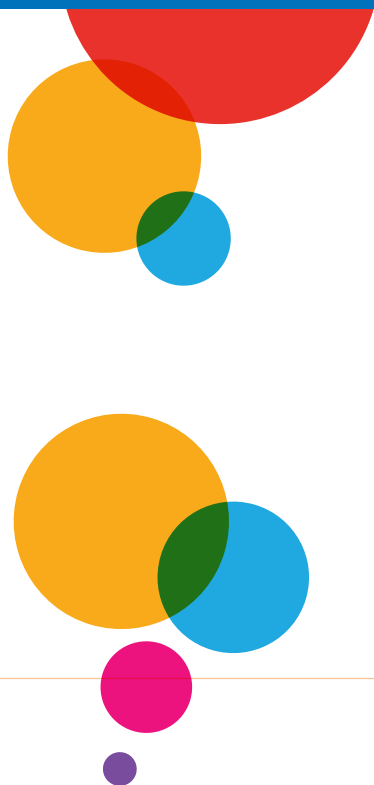
6.1   INTRODUCTION

This chapter summarises and discusses the main findings of the report and draws out some of the policy implications regarding the risk factors for economic vulnerability as well as the consequences of economic vulnerability for the socio-emotional development of children in both cohorts. It pays particular attention to those factors that enable parents to protect their children from the impact of household economic vulnerability.

6.2   ECONOMIC VULNERABILITY IN BOOM AND RECESSION

The first and second waves of the *Growing Up in Ireland* study spanned the period from the end of Ireland's economic boom through its entry into the Great Recession. The Wave 1 fieldwork with the older **'98 Cohort** took place before the start of the recession in 2008, while the recession had already begun by the time of the Wave 1 fieldwork with the younger '**08 Cohort**. In comparing the change over time for the two cohorts, then, it is worth recalling that the effects of the recession were already becoming apparent at the first wave for the younger, **'08 Cohort** children.

The task of the analysis in this report was to document the way in which the challenges faced by families changed with the onset of the recession. It used indicators of income, household joblessness and economic stress to identify economically vulnerable families: those at risk of material deprivation due to reduced resources, even though the family's resource position might not involve current deprivation. The size of the economically vulnerable group, as defined here, increased dramatically between waves, from 15 per cent to 25 per cent for the **'98 Cohort** and from 19 per cent to 25 per cent for the **'08 Cohor**t.

There was a substantial increase in joblessness and economic stress for both cohorts.[22] Among the younger, **'08 Cohort** children, the percentage of jobless households increased from 12 per cent in the first wave to 17 per cent in the second wave; the corresponding increase for the older cohort was from 11 per cent to 16 per cent. The increase in the percentage experiencing economic stress was even more dramatic: from 13 per cent to 21 per cent among the younger cohort and from 8 per cent to 23 per cent among the older cohort.

Examining the work pattern of partners in two-parent families helped to see the impact of the recession on these families. There was an increase in the proportion of families where neither worked and a fall that was particularly noticeable in the proportion of families with one parent (usually the father) in employment. As one might expect, the high unemployment rate during the recession made it extremely difficult to move out of a situation of household joblessness. Very few two-parent families moved from 'neither partner in employment' in Wave 1 to 'either partner in employment' at Wave 2. The 'traditional breadwinner' pattern, where the male partner works full-time and the female partner is not in employment, was particularly vulnerable to becoming jobless during the recession: of those families where neither partner worked in Wave 2, between 45 and 49 per cent had been 'traditional breadwinner' families in Wave 1 (with the higher figure for the **'08 Cohort**). The rate of joblessness was even higher in one-parent families than in two-parent families and, among one-parent families, there was a much higher rate of joblessness in both waves for the **'08 Cohort** than for the **'98 Cohort**: 63-66 per cent for the **'08 Cohort** and 39-42 per cent for the **'98 Cohort**. This difference between the cohorts was much less marked for the two-parent families, with figures of 8 per cent (**'08 Cohor**t) and 10 per cent (**'98 Cohort**) in Wave 2. The difference between the cohorts being greater for lone parents may reflect a number of factors, including the fact that younger children have a greater need for childcare, which places a stronger constraint on the work of lone parents than of two-parent families where the responsibilities can be shared. Another factor may be that lone parents in the **'98 Cohort** included a higher proportion of separated mothers, whose profile differs from that of never-married mothers.

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[22] The way the income component was measured – income quartiles within cohort and wave – means that it captured variations within cohort in each period but not change over time.

The changes in employment between waves translated into greater reliance on social welfare and a fall in living standards. There was a self-reported indicator of welfare dependence in both waves for the **'98 Cohort**. For this group, the proportion of families relying on social welfare for more than half of their income increased from 12 per cent in the first wave to 17 per cent in the second wave. In terms of living standards, the percentage of families lacking one or more basic goods or services rose from 21 per cent to 30 per cent in the **'08 Cohort** and from 14 per cent to 29 per cent in the **'98 Cohort**. Again, because the Wave 1 interview with the **'08 Cohort** took place as the recession was already beginning, the changes were less dramatic for these families than for the families of the older children.

The increase in economic vulnerability is consistent with the literature on the impact of the recession in Ireland, which found a general increase in economic vulnerability (Whelan & Maître, 2014). In addition, research showing a higher risk of income poverty and deprivation among children than among adults places the current findings in context (Watson et al, 2012a).

6.3 RISK FACTORS FOR ECONOMIC VULNERABILITY

Chapter 4 examined in detail some key risk factors for economic vulnerability, including level of education of the Primary caregiver and family type. It began by asking which factors were associated with economic vulnerability in either period, and whether these risk factors differed for the two cohorts. It was found that, of those factors examined, the greatest risk of being economically vulnerable was for families where the Primary caregiver was under age 25 when the child was born, one-parent families and families where the Primary caregiver had lower second-level education or less. Based on a statistical model which allowed isolation of the effects of different factors, the model-estimated risk of economic vulnerability was 42 per cent where the Primary caregiver was under age 25 at the time of the child's birth; 49 per cent in a one-parent family with one child, and 68 per cent in a one-parent family with two or more children; and 47 per cent where the Primary caregiver had lower second-level education or less. The risk was also higher for the **'08 Cohort** than the **'98 Cohort** (35 per cent versus 25 per cent), in part because both waves of the survey for the **'08 Cohort** took place after the start of the recession. In contrast, low rates of economic vulnerability were estimated for families where the Primary caregiver had degree-level education (16 per cent) and for two-parent families with one child (18 per cent).

Comparing the risk factors for the **'98 Cohort** and **'08 Cohort**, it was found that the Primary caregiver being under 30 at the time of birth, being a one-parent family, being a two-parent family with three or more children, and having less than third-level education had a stronger association with economic vulnerability in the **'08 Cohort** than in the **'98 Cohort**. Early motherhood, larger family size and lower levels of education were more common in the older cohort, who completed their schooling at a time when levels of participation in third-level education were still rising. As a result, younger age at parity and lack of third-level education were not as strong markers of disadvantage for this cohort of families. Similarly, the reduced impact of larger family size was linked to the fact that the older cohort was at a later stage of the family life-cycle at the time of the Wave 1 interview, so that having three or more children in the family was less unusual than for the younger families. The higher risk associated with lone parenthood for the younger **'08 Cohort** may reflect the combined impact of the greater childcare needs of children of preschool age and the fact that there was only one caregiver in the household.

Whether the risk factors associated with persistent economic vulnerability differed from those associated with vulnerability at a single point in time was examined. The results indicated that persistent vulnerability is more strongly structured by family type and Primary caregiver education than is transient vulnerability. The association with lone parenthood, low levels of education and larger family size was stronger for persistent economic vulnerability than for economic vulnerability at a single point in time. Persistent and transient vulnerability did not differ in their association with the age of the Primary caregiver at child's birth, however, when other characteristics were controlled in the model.

As well as examining being economically vulnerable in either period, which factors were important in terms of becoming economically vulnerable were also discussed. The results suggest that those who had already been economically vulnerable in Wave 1 were a more disadvantaged group. The association with lone parenthood, with the Primary caregiver being younger at the time of the child's birth and with having lower second-level education was significantly stronger for those who had been economically vulnerable in Wave 1 than for those who had become economically vulnerable by Wave 2. This pattern is consistent with other research on the impact of the recession in Ireland, where the kinds of disadvantage and financial stress associated with a relatively small group prior to the recession became more widespread (Whelan & Maître, 2014; Maître et al, 2014a).

6.4   ECONOMIC VULNERABILITY AND CHILDREN'S SOCIO-EMOTIONAL WELL-BEING

Research indicates that poverty and deprivation have serious consequences for the development of children in a range of areas, including socio-emotional development, academic achievement and health (Department for Work and Pensions, 2007; Duncan et al, 1994; Duncan, Ludwig & Magnusson, 2007; Holzer, Duncan & Ludwig, 2007; Bolger et al, 1995; McLeod & Shanahan, 1996; Jarjoura et al, 2002; Duncan et al, 2012; Williams & Whelan, 2011; Williams et al, 2009; Duncan et al, 2012; Brooks-Gunn & Duncan, 1997). This report examined the consequences of economic vulnerability for the socio-emotional development of children as measured at the second wave of the *Growing Up in Ireland* study for the **'98 Cohort** and the **'08 Cohort** of children. Drawing on the Strengths and Difficulties Questionnaire (SDQ) completed by the Primary caregiver in respect of the three-year-olds and the 13-year-olds, an indicator of potential socio-emotional problems was constructed based on having an SDQ score above 17.[23] Using a statistical model, the proportion of children one would expect to see with potential problems in socio-emotional development was estimated, as indicated by a high SDQ score, taking account of child's gender, age of Primary caregiver at birth, family type and family change, level of education of the Primary caregiver, and **'98 Cohort** or **'08 Cohort.**

The analysis indicated that the greatest expected proportion with a high SDQ score was for children in families that were economically vulnerable in both waves (nearly 10 per cent), compared to 6-7 per cent with high SDQ scores where the family had been economically vulnerable in either wave, and only 4 per cent where the family had been economically vulnerable in neither wave. Further statistical tests indicated that persistent economic vulnerability (i.e. in both waves) has a stronger impact on socio-emotional development than transient economic vulnerability (in one wave only). However, among those not vulnerable in both periods, there was no difference in impact between being currently vulnerable and being vulnerable in the earlier period.

Even taking account of economic vulnerability, the risk of having a potentially problematic SDQ score was also higher where the Primary caregiver was under age 30 at the time of the child's birth, in one-parent families, where the parents were cohabiting rather than married, in cases of relationship breakdown, and where there was a low level of Primary caregiver education. These patterns were not as strong as those associated with economic vulnerability, however. The model-estimated risk of a high SDQ score was about 7 to 8 per cent for these groups, with other characteristics controlled. The risk was also significantly higher for the 13-year-olds than for the three-year-olds (6.6 per cent and 4.7 per cent, respectively), and was higher for boys than girls (6.5 per cent and 4.6 per cent, respectively).

Given the emphasis on the importance of early childhood experiences to the development of children, it was asked whether there was evidence that the socio-emotional well-being of the younger children may be more affected by economic vulnerability than that of the older children. However, there was no difference between the two cohorts in the impact of economic vulnerability on the risk of having a high SDQ score. Of course, it is possible that the impact of early childhood economic vulnerability may emerge over a

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[23] Checks indicated that the results were comparable if the alternative threshold that identifies the highest ten per cent of scores had been used.

longer period of time. For instance, the impact of economic vulnerability in infancy may not be evident at age three but may become more marked as the child reaches school age. This is something that can be examined in the future as the data from the five-year-olds become available.

Whether there were significant differences between boys and girls in the impact of family economic vulnerability on socio-emotional development was also tested. The gender difference in the impact of economic vulnerability on SDQ score was not statistically significant. In other words, economic vulnerability appears to affect the socio-emotional development of boys and girls in a similar way.

6.5 FACTORS PROMOTING SOCIO-EMOTIONAL WELL-BEING AMONG ECONOMICALLY VULNERABLE CHILDREN

The analysis so far has indicated that certain family characteristics, such as the Primary caregiver's level of education and having both parents in the household, appeared to be 'protective' in that they were associated with a reduced risk of socio-emotional problems in the second wave. Chapter 5 investigated whether this protective effect was present for children who were economically vulnerable as well as for those who were not. This information may be useful in identifying factors that may protect children from the worst effects of economic shocks. The analysis included family characteristics identified in the earlier analyses as protective: Primary caregiver having third-level education; both parents present in the household; parents married rather than cohabiting, and Primary caregiver aged 30 to 39 at the child's birth. A distinction between couples experiencing relationship problems and those not doing so in Wave 1 and an indicator of Primary caregiver mental distress at Wave 1 was added. Both of these were associated with economic vulnerability and may be among the mediating variables through which economic vulnerability has an effect on child outcomes.

In general, the protective factors operated in a similar way for children in economically vulnerable and non-vulnerable families. This was true of Primary caregiver age, Primary caregiver education and the absence of Primary caregiver emotional distress. The interaction with economic vulnerability was not statistically significant, indicating that the risk of socio-emotional problems was reduced by these factors among children in both economically vulnerable and non-vulnerable families. Likewise, the parents being married rather than cohabiting appeared to be associated with a reduced risk of socio-emotional problems for both groups.

One factor that appeared to operate differently for economically vulnerable and non-vulnerable families was the broad measure of quality of the parental relationship. Children in economically vulnerable families did not appear to benefit from a good relationship between the parents. Among families that were not economically vulnerable, an absence of relationship problems was associated with a lower model-estimated risk of socio-emotional problems for the child (3 per cent) compared to couples with relationship problems and lone parents (5 to 7 per cent). The risk of socio-emotional problems did not differ significantly between one-parent families and two-parent families where there were relationship problems.

6.6 DISCUSSION

As noted in Chapter 1, the economic crisis has had a detrimental effect on the livelihoods of many Irish households. While rising unemployment and poverty figures are a visible sign of the recession's impact, the effects of extensive declines in gross domestic product (GDP) and severe cuts in public expenditure have spread considerably further than among those who directly experienced job losses or who fell into the 7.7 per cent of the consistently poor in 2012 (CSO, 2014). The impact of the recession was evident in the increased risk of economic vulnerability for both cohorts. The risk was more marked for the **'98 Cohort**, because the Wave 1 fieldwork took place before the beginning of the recession.

Although based on somewhat different measures, the analysis from *Growing Up in Ireland* is consistent with that relating to the population as a whole based on EU-SILC in showing increased levels of vulnerability. Groups who had previously been insulated from such vulnerability became exposed. The impact of the recession on a broader group than had traditionally been affected by poverty was seen in that the profile of those experiencing economic vulnerability in the second wave was somewhat less 'disadvantaged': lower percentages of lone parents and Primary caregivers with low levels of education. Both types of analysis also confirm that, as vulnerability levels increased, changes in the multidimensional risk profiles of the vulnerable classes were observed, with low income playing a lesser role and subjective economic stress coming to play a significantly greater role in differentiating the vulnerable from the non-vulnerable.

As noted in Chapter 1, for the population as a whole, there is strong evidence that households in the middle of the life-course, where children were most likely to be present, were at the greatest risk of increased levels of vulnerability and stress (Watson *et al*., 2012a). The living standards of such households were affected by a range of factors relating to the labour market, housing and taxation. The evidence also suggests that it was among these groups in the middle of the life-course that the vulnerability levels (in particular stress levels) increased most sharply. (Maître et al, 2014; Whelan & Maître, 2014).

Among households with children, the analysis in this report showed a higher risk of economic vulnerability and of persistent economic vulnerability for one-parent households (especially those with two or more children), families where the Primary caregiver was under age 30 at the birth of the child, and families where the Primary caregiver had lower levels of education. Family type and Primary caregiver education had an even stronger relationship to persistent economic vulnerability. As noted above, the recession affected a broader group than those who had been most disadvantaged in the boom years, so that the Primary caregiver level of education and having both parents present became less 'protective' in terms of economic vulnerability by the second wave of *Growing Up in Ireland*. Because of their educational resources, however, one might expect them to be among the first to benefit through the growth in employment that is already evident as the economy moves towards recovery.

Chapter 1 showed that the literature in general points to the negative impact of economic vulnerability on child outcomes, but with some mixed results on whether persistent economic disadvantage differs from transient disadvantage. The present findings point to the increased risk of socio-emotional problems among children in economically vulnerable families and a heightened risk where the economic vulnerability is persistent. It was also found that, even with economic vulnerability controlled, certain factors could be seen as protective in that they were associated with reduced risk of socio-emotional problems among children in vulnerable as well as non-vulnerable families. These factors were: the education of the Primary caregiver (who is usually the mother) the Primary caregiver being in her 30s at the time of the child's birth; the Primary caregiver being married rather than cohabiting; and Primary caregiver emotional health. On the other hand, family type (couple with good relationship, couple with poor relationship, or lone parent) did not appear to make an additional difference to the risk of socio-emotional problems for children in economically vulnerable families, although it did make a difference for non-vulnerable children. This suggests that among children in economically vulnerable households there is no additional disadvantage associated with lone parenthood or with a poor relationship between the parents. While this pattern appears to hold for the risk of socio-emotional problems, it will be a matter for future research to determine whether it is also found for other outcomes (such as academic achievement) and whether it is mediated by other factors such as parenting style.

While the focus in this report was on economic vulnerability and socio-emotional problems, it is again worth noting that most families did not experience economic vulnerability and most children, even those in economically vulnerable families, did not experience socio-emotional problems. It is clear that not all children exposed to economic challenges experience the same outcomes. The statistical models are

probabilistic and not deterministic. Several factors were identified that were important in ameliorating the impact of economic vulnerability on child outcomes, including the presence of both parents, the quality of their relationship, and the education and emotional well-being of the Primary caregiver.

While the sweep of this report was relatively broad in terms of coverage of two cohorts and two time periods, the coverage was narrower in terms of the range of potentially relevant factors examined. The richness of the *Growing Up in Ireland* data means that future analyses could fruitfully explore the significance for children's socio-emotional development of parenting style, emotional distress of the Secondary caregiver, the role of family social networks (especially grandparents), and the impact of school experiences and stressful life events. In addition, research could be usefully undertaken into the significance of economic vulnerability for other child outcomes, including academic achievement, health and physical activity.

Further, the analysis here was limited to two waves of data. With longer-term panel data it would be possible to conduct a more thorough investigation of the mediating or moderating effects of changes in status and life-course events on outcomes for children.

6.7   POLICY IMPLICATIONS

As discussed in Chapter 1, research has shown that those in the middle years of the life-course in Ireland were particularly affected by the recession. These are the households most likely to include children. Taken together with the finding of negative consequences for children of economic vulnerability, this suggests that households with children should be prioritised for additional resources as soon as the fiscal situation allows some flexibility.

The results in this report confirmed that economic vulnerability had negative consequences for the socio-emotional development of children. The negative consequences were found for boys and girls and for children in both cohorts, and were greater when the economic vulnerability was persistent. Addressing economic vulnerability, then, is important for the well-being and development of children and families. The results suggest that tackling persistent economic vulnerability should be prioritised as this has the most negative consequences.

The analysis also identified some of the groups most at risk of economic vulnerability. These include: one-parent families; families where the Primary caregiver was under age 25 at the time the child was born; and families where the Primary caregiver had lower levels of education. Lone parenthood, lower levels of education and younger age at the birth were all interrelated but each had an independent impact on the risk of economic vulnerability in either period and also on the risk of becoming economically vulnerable between the two periods.

Better qualifications were associated with better labour-market prospects and reduced risk of economic vulnerability. In the long term, this points to the importance of continuing to emphasise education and skills acquisition, particularly for those at risk of early school-leaving.

In the more immediate term, the needs of lone parents outside the labour market need to be addressed. Because one-parent families have only one caregiver, the challenge of balancing employment and childcare is likely to be more acute. This was seen in Chapter 3 in the higher level of joblessness in one-parent households. It is known that interventions to improve the labour-market skills of the unemployed bring benefits in terms of employment opportunities and future wages. What is less well understood is the mix of training, job-search support and childcare support that is needed to enhance the labour-market prospects of lone parents. Further research is needed on the optimal mix of services and supports needed to enhance the labour-market prospects of lone parents as well as to improve outcomes for their children.

The importance of education was also seen in that, even among economically vulnerable families, the rate of potentially problematic SDQ scores was lower where the Primary caregiver had at least degree-level education. This report established that the beneficial effects of education persisted even when controlling for Primary caregiver emotional well-being and the quality of the relationship between partners. Further investigation of the mechanisms through which parental education ameliorates the impact of economic vulnerability would be valuable. In particular, *Growing Up in Ireland* would permit an analysis of the roles of the characteristics of the Secondary caregiver, parental social networks, support from the child's grandparents and parenting style.

The recession drew into economic vulnerability a broader group that contained many households and children that did not fit the traditional profile of the poor. In the second wave, economically vulnerable families contained more two-parent households and more households with higher levels of education. As yet, it is uncertain to what extent the problems they experience – particularly economic stress – will be alleviated by the economic recovery. Protection of families and enhancing the well-being of children may well require a broader range of policy interventions than those traditionally considered in tackling child poverty. These are likely to include childcare and housing supports as well as the more traditional income-protection packages and job-search supports.

APPENDIX 1
MEASURING ECONOMIC VULNERABILITY

Latent class analysis was used to identify the economically vulnerable group. The basic idea underlying such analysis is long established and very simple (Lazarsfeld, 1950; Lazarsfeld & Henry, 1968). The associations between a set of categorical variables, regarded as indicators of an unobserved typology, are accounted for by membership of a small number of latent classes. As Moisio (2005) notes, implicit in the notion of multidimensional measurement of exclusion is the assumption that there is no one 'true' indicator of the underlying concept. Instead, there is a sample of indicators that tap different aspects of a complex phenomenon. 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 other. Conditional independence is a version of the familiar idea that the correlation between two variables may be a result of their common dependence on a third variable. In estimating latent class models, the logic is identical but the explanatory variable is unobserved and must be identified statistically. The axiom of local independence can be seen as the defining characteristic of latent class analysis. It assumes causality running from the latent variable to the manifest indicators.

The contrast between clusters was in terms of risk profiles rather than current patterns of deprivation. In the analysis that follows it is specified that individuals were allocated to one of two classes (economically vulnerable and non-vulnerable). However, neither the size of the underlying clusters nor the risk profiles were specified a priori but were determined by finding the closest possible fit to the observed data consistent with the simplifying assumptions of the model (Whelan & Maître, 2006 a & b, 2010).

Details of the three components of economic vulnerability are shown in Table A1.1. Income level was based on the total household income quartile reported by the Primary Caregiver.[24] Economic stress was measured by a single item that has been used extensively in Irish surveys to capture difficulties in making ends meet. Household joblessness was defined using the European Commission concept of 'very low work intensity', which, as one of the EU 2020 headline indicators, has received strong emphasis as a measure of social exclusion for European policy purposes.[25]

The three measured characteristics of the families shown in Table A1.1 yield a 16-cell table (4 x 2 x 2) relating to multidimensional profiles of economic exclusion. Such a profile can be established for each of the four groups considered:

- **'08 Cohort** at 9 months
- **'08 Cohort** at 3 years
- **'98 Cohort** at 9 years
- **'98 Cohort** at 13 years

Taking into account both the range of indicators and the number of groups produces a 128-cell table. The objective was to develop a parsimonious latent class model of the underlying processes producing an allocation of individuals to the cells of this table that generates a set of expected values that come close to reproducing the observed frequencies.

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[24] The level of precision it was possible to achieve in relation to family income leads to a preference to this measure rather than alternatives such as median income poverty lines.
[25] See 'People living in households with very low work intensity': <http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators> (accessed January 31, 2012).

Table A1.1: The components of economic vulnerability

Variable	Description
Income level	The income quartile of the household calculated separately for each cohort in each time period. One-quarter of each cohort in Wave 1 and in Wave 2 was found in each quartile.
Economic stress	Whether the family has *great difficulty* or *difficulty* in making ends meet, or not
Household joblessness	The working-age adults in the household were currently in employment for less than one-fifth of the available hours. Working-age adults were aged 18 to 59, excluding full-time students under age 25. The percentage of available time worked was calculated as a percentage of 35 hours, which was regarded as full-time for this purpose. *Note: Hours worked were available for the Primary and Secondary Caregivers only. For other adults of working age, it was only known whether or not they were in employment. In calculating work intensity, it was assumed that the work was full-time.*

Since the objective was to identify an overall economically vulnerable class that can be contrasted with the remainder of the population, models were developed with two latent classes. For each model the likelihood ratio chi-square test (G^2) was reported, the most widely used goodness-of-fit test. Another common estimate of model fit is the percentage of cases misclassified. The findings relating to a number of models are set out in Table A1.2. The first model, which was used as a benchmark for the performance of the remaining models, allows for an association between the manifest indicators of economic vulnerability and cohort, and whether the outcome refers to the first or second point at which the cohort was observed, but assumes no association between the vulnerability indicators. Not surprisingly, this model provides a poor fit to the data and misclassifies 16.6% of the cases.

A fully homogeneous latent class model reduces the G^2 for the conditional independence model by 76.8 per cent but misclassifies 6.7 per cent of cases. The model that allows the size of the vulnerable class to vary by cohort and time reduces the G2 by 80.3 per cent and misclassifies 5.9 per cent of cases. Finally, the fully heterogeneous model, which allows both the size and the profile of the vulnerable class to vary across combinations of cohorts and observation periods, reduces the conditional independence G2 by 99.4 per cent and misclassifies 2.8 per cent of cases.

Table A1.2: Latent class model fit statistics for *Growing Up in Ireland* data

	G^2	Degrees of freedom	Reduction in independence G^2	% of cases misclassified
Models				
1. Conditional independence	7,647.5	45		16.6
2. Fully homogenous	1,775.3	49	76.8	6.7
3. Heterogeneous on size by cohort & time	1,508.0	46	80.3	5.9
4. Fully heterogeneous	480.3	16	99.4	2.8

Source: GUI Longitudinal '98 Cohort and '08 Cohort datasets; analysis by authors.

A satisfactory fit requires that differences relating to both cohort and period and the manner in which they interact are taken into account. Having done so, the fully heterogeneous model provides a highly satisfactory account of the observed patterns of multidimensional economic vulnerability across cohort and time.

The fact that variability in levels of vulnerability and profiles of vulnerability across both time and cohorts is observed means that, where there is a comparison of vulnerability across time, it must be kept in mind that the meaning of vulnerability is not constant. The alternative to taking such complexity into account is to assume that homogeneity fails to take into account that the starting points for the **'08 Cohor**t and the **'98 Cohort** are different and that the impact of the recession differs for each group. Since the major purpose of the study is to understand the consequence of the recession, assuming uniformity with a consequent misclassification of a significant number of families was not an option that was considered attractive.

Table A1.3 shows the size of the economically vulnerable class by cohort and time period and the profile of the vulnerable and non-vulnerable groups in terms of the three indicators. The sizes of the vulnerable classes were based on assigning individuals to the vulnerable or non-vulnerable class on the basis of the modal assignment rule. In other words, they were assigned to the class in which they had the highest probability of being located.[26] The table also shows the percentage of cases that would be misclassified under the model assumptions of conditional independence. The figure ranges from 2 per cent to 4.5 per cent, indicating a generally acceptable model fit.

Table A1.3: Latent class size and profiles by cohort

	'08 Cohort at 9 months old		'08 Cohort at 3 years old		'98 Cohort at 9 years old		'98 Cohort at 13 years old	
% Vulnerable (modal assignment)	18.8		25.4		14.7		24.9	
% of cases misclassified	2.45		4.51		2.04		2.21	
Economically vulnerable →	No	Yes	No	Yes	No	Yes	No	Yes
Conditional probabilities								
Income quartile								
1	10%	63%	9%	62%	15%	69%	14%	49%
2	22%	34%	21%	34%	25%	26%	18%	42%
3	34%	2%	34%	4%	30%	4%	33%	7%
4	34%	1%	36%	0%	31%	0%	35%	1%
Economic stress	4%	36%	10%	47%	2%	31%	10%	55%
Joblessness	1%	48%	0%	58%	1%	58%	1%	50%

Source: GUI Longitudinal '98 Cohort and '08 Cohort datasets; analysis by authors.

For the younger **'08 Cohort** the observed level of economic vulnerability was 19 per cent in Wave 1 and rose to 25 per cent in Wave 2. For the older **'98 Cohort** the level of vulnerability was substantially lower in the first period of observation, at 15 per cent. However, by the second period this rose sharply to 25 per cent. As noted in the last chapter, the fieldwork in Wave 1 for the **'98 Cohort** took place before the start of the recession (between September 2007 and April 2008) while the fieldwork for the **'08 Cohort** took place at the beginning of the recession (between September 2008 and April 2009). This difference in timing was important in accounting, at least in part, for the higher level of economic vulnerability among the **'08 Cohort** in the first wave.

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[26] The class sizes based on modal allocation were lower than the estimated sizes of the vulnerable classes, at 27 per cent for the nine-month-olds, 30 per cent for the three-year-olds, 19 per cent for the nine-year-olds and 30 per cent for the 13-year-olds. However, the pattern across cohorts and over time is very similar.

The risk profile of the vulnerable group in terms of constituent components is now considered. Considering the **'08 Cohort** at Wave 1, it was found that while 63 per cent of the vulnerable class were found in the bottom quartile, this figure falls to 10 per cent for the non-vulnerable class. In relation to economic stress, 36 per cent of the vulnerable class were above the relevant threshold compared to 4 per cent of the non-vulnerable. Finally, 48 per cent of the vulnerable class fulfilled the joblessness criterion compared to 1 per cent of the non-vulnerable class. By the second time period when the children were three years old, a relatively similar situation existed in relation to the numbers in the bottom quartile, with respective figures of 62 per cent and 9 per cent. Economic stress levels rose among both vulnerable and non-vulnerable classes, producing respective levels of 47 per cent and 10 per cent. Finally, the level of joblessness showed little change for the non-vulnerable class but rose to 58 per cent for the vulnerable class.

Turning attention to the **'98 Cohort** at Wave 1, the number found in the bottom income quartile was again higher for the economically vulnerable than the non-vulnerable group, at 69 per cent and 15 per cent respectively. Compared to the **'08 Cohort**, however, the percentages experiencing economic stress in Wave 1 were higher for both the vulnerable and non-vulnerable groups. As in the case of the **'08 Cohort**, stress levels were substantially higher for the vulnerable than the non-vulnerable group, with respective figures of 31 per cent and 2 per cent. The contrast in terms of joblessness was even sharper than in the cases of the **'08 Cohort**: 58 per cent for the vulnerable class compared to 1 per cent for the non-vulnerable class.

As the size of the vulnerable class rose sharply in the case of the **'98 Cohort** at Wave 2, differentiation in terms of income quartiles became less sharp. Thus the number in the bottom quartile declined from 69 per cent to 49 per cent while the number in the second quartile rose from 26 per cent to 42 per cent. In relation to economic stress, increases that were somewhat larger than in the case of the **'98 Cohort** are observed, resulting in levels of 55 per cent and 10 per cent for the vulnerable and non-vulnerable classes, respectively. In contrast, as with income quintile, differentiation in relation to household joblessness narrowed slightly, with respective figures of 50 per cent and 1 per cent for the vulnerable and non-vulnerable clusters.

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