Universidad Rey Juan Carlos

Facultad de Ciencias Jurídicas y Sociales

DEPARTAMENTO DE ADMINISTRACIÓN Y DIRECCIÓN DE EMPRESAS, ECONOMÍA APLICADA II Y FUNDAMENTOS DEL ANÁLISIS ECONÓMICO

Multidimensional Deprivation and Poverty: Three Essays Based on EUSILC-Data

MEMORIA PARA OPTAR AL GRADO DE DOCTORA
PRESENTADA POR

Rosa Martínez López

BAJO LA DIRECCIÓN DE
Prof. Dr. Jesús Ruiz-Huerta Carbonell

Madrid, 2017

Madrid, 27 de marzo de 2017

D. JESÚS RUIZ-HUERTA CARBONELL, Catedrático de Economía Aplicada de la Universidad Rey Juan Carlos y director de la Tesis Doctoral: "Multidimensional deprivation and poverty: Three essays based on EUSILC data", elaborada por la profesora de la misma Universidad, Dª ROSA MARTÍNEZ LÓPEZ,

CONFIRMA la adecuada finalización del trabajo mencionado y AUTORIZA su defensa, por parte de la citada profesora, ante el Tribunal nombrado al efecto

FDO. JESÚS RUIZ-HUERTA CARBONELL

A mis padres, Olegario e Isabel.
De quienes sigo aprendiendo.

ACKNOWLEDGEMENTS

A doctoral thesis is a long and complex task, and there have been many people who have helped and accompanied me in the process.

First of all, I want to thank the guidance provided by my supervisor, Jesús Ruiz-Huerta Carbonell, in all the phases of the project. The research works which make up this thesis have managed to find their place among the many things that we have shared throughout the years. Without his encouragement, advice and constant support this document simply would never have come to exist.

Most of the research work has been developed in the Rey Juan Carlos University, where I started my teaching career some years ago. I am grateful to the institution, to the department and, very especially, to my colleagues in the area of Applied Economics II, for creating a favourable climate for teaching and research.

Although my acknowledgement goes to each and every member of the area, I wish particularly thank Luis Ayala, who played a decisive role in the design and completion of this research work. Apart from being an extraordinary teacher and a great researcher, Luis is wonderful person and a superb organizer, capable to give a strong impetus to everything he touches.

I would also like to expressly thank my office roommates, Susana Roldán and Encarni Murillo, with whom I have shared so many great moments, and María Jesús Delgado and Mamen Rodado, in whose company teaching has become an ever more fascinating task. Thanks to Cruz Herrero too, our academic secretary, who is always ready to provide help and valuable information.

The three essays contained in this thesis are part of a wider research program which has received public funding, through different competitive projects directed by Luis Ayala. I wish of course acknowledge the finance provided by the Ministry of the Economy and Competitiveness (Grants ECO2010-21668-C03-01 and ECO2013-46516-C4-3-R) and the Autonomous Community of Madrid (Grant S2015/HUM3416). Apart from this financial support, the research environment generated by these projects has played a key role in the elaboration of this thesis.

All members of the research team have been a constant source of support and inspiration, but I especially want to thank Carolina Navarro, with whom I have worked side by side in one of the research lines included in this thesis. Without her, the second chapter would not have been the same. Thank you for sharing so many ideas, discussions and even Stata programming tips. Thank you also for your energy and constant good humour.

The first chapter of this thesis was entirely developed during a research stay in the Centre for Interuniversity Research and Analysis of Organizations (CIRANO), Montréal, in year 2013. I am grateful to François Vaillancourt, fellow researcher at CIRANO and professor at the Montréal University, for all the help, guidance and contacts provided. Aurélie Tefoota and Lily Isabelle Alameh, students of the same university, helped me in preparing and analysing Canadian microdata. I am also very grateful to all staff in CIRANO, by then directed by Claude Montmarquette, for facilitating me access to all resources and spaces.

Of course, I cannot fail to mention the warm welcome offered by Geranda Notten in Ottawa, in a freezing yet sunny day of March 2013. She kindly read a first version of the chapter on multidimensional poverty among immigrants and made a lot of useful suggestions. I would also like to give special thanks to Andrew Heisz, of Statistics Canada, who gave me the necessary information to use Canadian microdata sources.

Many other people helped me directly or indirectly to finish this thesis. I am grateful to Olga Cantó and the rest of discussants and participants in the various seminars where some partial results were presented. Also to Matthew Smith and Alfredo Chicote, who assisted me wonderfully in completing the English version of the papers (of course, any remaining mistakes are my sole responsibility).

Finally, I must also thank my family in Asturias, Olegario, Isabel, Mariola, Leticia and Pepe, for being there in the good times but also in the difficult moments, and to my friends Toñi, Michael, Javi Joscos and Jose Parrilla, for the same reason. And of course, special thanks to Jesús, and to Bruno and Jaime, my children, for their patience and their joy.

CONTENTS

LIST OF TABLES

LIST OF GRAPHS

INTRODUCTION

In his last book, *Inequality: What Can Be Done?*, published in 2015, Tony Atkinson argued that inequality has come to the forefront of public debate. The same idea has emerged from research documents published in recent years by institutions such as the OECD, from the *Growing Unequal?* report, released after several years of strong economic growth, to the most recent *In It Together: Why Less Inequality Benefits All*. This prominence is mainly due to the trend, beginning in the 1980s, towards increased inequality in many parts of the world. The reasons behind this trend are multiple and complex, but nearly all explanations award a central role to the impact of technological change and globalisation in goods and factor markets, together with the decreasing redistributive capacity of public policies. The consequence is a society in which both the fruits of economic growth and the adverse effects of recessions are very unequally distributed.

From a long-term perspective, increasing inequality involves stagnant income levels for poor families in rich countries, as well as, in some cases, reductions in the size of the middle class and more frequent downwards mobility processes. As suggested by Branco Milanovic in his famous *elephant curve* analysis, during the last thirty years household income has increased rapidly in emerging oriental economies and for the top 1% in the world distribution of income. The standard of living would show, in contrast, little or even negative progress at the lower end of the global income distribution, as well as among poor and middle-class families in Western countries. Although this curve involves a certain degree of oversimplification, since it is based on data from many countries with different trajectories, the data collected demonstrate the need to examine in greater depth current trends in poverty and inequality. The expansion of populist parties in various countries, both in America and Europe, is rooted, according to many analysts, in the disappointment of many citizens with the increasing lack of opportunities for economic progress.

Against this background, Spain has followed a singular trend, with marked reductions in poverty and social differences in the 1970s and 1980s, when other countries were already experiencing what Atkinson has called the "inequality turn". The combination of democracy, economic growth and social development defined a period which, despite the ups and down of the economic cycle and imbalances in the labour

market, resulted in a great leap forward in terms of living standards and equality of opportunity. This virtuous circle of various elements of progress has clearly not been repeated in recent years. The expansionary phase which began in the mid-1990s led to significant increases in income and employment levels, together with a remarkable migratory boom, but also meant higher housing prices, excessive household indebtedness, a rise in temporary employment and little progress in the redistribution of income and wealth. While some data suggest that consumption inequality might have declined over this period, income disparities and relative poverty did not change significantly.

The financial crisis which began in 2008 was a major setback for Spain, and its distributive consequences have not yet been fully evaluated. The years between 2009 and, at least, 2014, were characterised by an intense destruction of jobs, falling national income and increasing difficulties faced by many households in meeting their basic needs and keeping up with regular housing, transport or electricity payments. Public policies, constrained by the priority given to the need for fiscal adjustment in a context of increasing stability requirements, were able to mitigate, but not fully avoid, the increase in poverty and inequality. Apart from changes in incomes, always difficult to track accurately, the worsening social climate has been clearly reflected in indicators with high visibility and media impact, such as evictions, fuel poverty or the increased use of the assistance programs provided by CARITAS, the Red Cross or other non-profit organisations.

The main objective of this dissertation is to further explore the distributive consequences of the sharp recession in Spain, using changes in multidimensional poverty as the guiding thread. This concept includes a variety of approaches whose common denominator is the analysis of poverty not only, or not mainly, in terms of low income, but rather by taking into account the deprivations experienced in various relevant domains of the standard of living. The theoretical foundation of this perspective can be found in Amartya Sen's capacity approach to poverty, but also in some classic sociological studies of poverty, such as those performed by Peter Townsend in the United Kingdom fifty years ago. The main empirical justification for this lies in the possibility of improving the identification of the most vulnerable individuals and groups. From a policy point of view, multidimensional measures have the advantage of making it clear what elements of the

standard of living are in need of special protection, allowing a better design of antipoverty programs.

This dissertation consists of three independent but interrelated essays, all based (except for Canada in the first paper) on the microdata used to construct the European Statistics on Income and Living Conditions (EUSILC). The reference years used span from 2008 to 2014, thereby covering the main part of the Spanish economic crisis. Although each essay has its own purpose, all three are part of a wider research project whose main target is to improve the knowledge of poverty trends through the recession, using analytical perspectives that go beyond traditional family income analysis.

The first essay examines the poverty gap between immigrants and the native-born in Spain and another five developed countries during the early years of the crisis, using a multidimensional poverty measure based on the same three domains chosen to define the new poverty target in the Europe 2020 Strategy (AROPE). The second analyses changes in the material deprivation profile of low-income groups in Spain, between 2008 and 2012. The third paper focuses on the shift in the age structure of poverty during the crisis, tracking the diverse fortune of six age groups that also represent different generations (children, "millennials", generation X, baby boomers, the transition generation, and the post-civil war generation). To that end, a multidimensional poverty measure based on five domains (income, housing wealth, employment, material deprivation and subjective financial stress) is used.

The basic concept guiding the design of the present research is the belief that traditional poverty measures used in the European context are insufficient to evaluate the impact of the crisis, due to their indirect, relative and unidimensional nature. On the one hand, the decline in the value of the income threshold used to identify the poor throughout the crisis obscures, and can even completely hide, the fall in the income levels of families hit by the recession. On the other, the conventional poverty indicator does not demonstrate how the crisis affects the diverse dimensions of the standard of living, such as job insecurity, material deprivation or subjective financial stress. In addition, and given the imperfect overlap between income and living conditions, changes in low income ratios do not always give an accurate picture of changes in the intensity of poverty. As shown in the second essay, the crisis has increased the material deprivation levels of low income

families, a change that is not well captured by the "at-risk-of-poverty" rates published by Eurostat.

Although each essay has its own conclusions section, the dissertation ends with a final remarks chapter which summarises the major findings of the research, its principal limitations and some possible routes for further research. Also included in this final chapter are some reflections on the policy implications of the research findings, based on a joint reading of the lessons from the three papers. They could help to better adapt public policies to the new social reality, in which many people of working age find it difficult to reach a standard of living consistent with the level of economic development of their country.

CHAPTER 1

MULTIDIMENSIONAL POVERTY IN IMMIGRANT HOUSEHOLDS: A COMPARATIVE ANALYSIS WITHIN THE EUROPE 2020 FRAMEWORK

Chapter 1

Multidimensional Poverty in Immigrant Households: A Comparative Analysis Within the Europe 2020 Framework[1]

We asked for workers. We got people instead.
Max Frisch

Abstract

The European 2020 Strategy has launched a novel indicator for monitoring poverty reduction over the current decade, simultaneously taking into account income, material deprivation and work intensity. The present paper uses this new indicator as a springboard for a discussion of the potential of a multidimensional measure, based on these three domains, to analyse the risk of poverty and social exclusion among immigrants. It is argued that the analytical insight and internal consistency of the new Europe 2020 indicator can be enhanced by a more structured measurement approach, relying on some recent advances generated by multidimensional poverty literature. The Alkire-Foster methodology provides a natural extension to the Europe 2020 indicator, which can usefully complement the picture drawn from the at-risk-of-poverty or social exclusion statistics. In the second part of the paper, these adjusted measures are used to analyse the multidimensional poverty profile of immigrant households in Spain and other five developed countries, as well as the changes occurring since the beginning of the economic downturn. The results suggest that the Europe 2020 indicator alone may not be sufficient to reflect the growing intensity of multidimensional deprivation among immigrants in some countries.

Keywords: poverty, deprivation, social exclusion, unemployment, immigration.

JEL codes: J15, D31, I32

[1] A previous version of this paper, co-authored with Jesús Ruiz-Huerta, was presented at the *XXI Encuentros de Economía Pública*, Universitat de Girona, 30 and 31 January 2014. There is also a published version in Centre Interuniversitaire de Recherche en Analyse des Organisations (CIRANO), Série Scientifique 2014s-18, 2014. http://www.cirano.qc.ca/files/publications/2014s-18.pdf.

1.1. Introduction

In developed countries immigration is increasingly perceived as a structural phenomenon in an ever more globalised world. Over the last period of economic expansion, 2000-2006, migrant flows to OECD countries rose by over 33%, which led to an increase of about 16 million persons in the migrant population living in the OECD in a very short period[2]. Many of these newcomers chose Spain as their final destination, making it the country with the largest relative increase in the migrant population in the years prior to the onset of the crisis. Ireland, Italy and Finland also faced huge rises in migrant arrivals during the same years. Although the economic recession has significantly slowed down such inward flows, especially in certain countries, it is not sure that migration to the OECD countries will diminish in the near future, and the return of immigrants to their origin countries does not seem to have been very intensive.

The incorporation of third-country nationals in the migrant-receiving countries has generated a lively discussion in the new century, especially since the introduction, first in the Netherlands and then in other countries, of new *civic integration* requirements which constitute a clear departure from the previous integration approach[3]. In the United States and Canada, which have traditionally hosted large numbers of immigrants, growing attention has also been paid to the integration of the new waves of immigrants, perceived as more problematic than in the past[4]. At the same time, the factors explaining differences in economic outcomes have generated a lively discussion in Europe, with the relative role of (and the relationship between) migrant integration policies and general redistributive welfare state policies being at the core of many debates[5].

Although migrant integration programs remain under the national jurisdiction of the member states in Europe, important efforts have been made since 1999, when the Tampere program was adopted, to strengthen cooperation by defining common goals and basic principles for integration policies, as well as by identifying and sharing good

[2] Widmaier and Dumont (2011).
[3] Goodam (2010), Jopkke (2007), Jacobs and Rea (2007).
[4] See for example Borjas (2006) for the United States or Picot and Sweetman (2005) for Canada.
[5] On this question see Joppke (2010, 2007), Kraal, Roosblad and Wrench [eds.] (2009), Koopmans (2008), Causa and Jean (2007), Jacobs and Rea (2007), Büchel and Frick (2005) and Penninx (2004).

practices in a variety of relevant domains. In accordance with the recommendation made by the 2010 Zaragoza Declaration and the new social targets established by the Europe 2020 Strategy, a great deal of attention is currently being paid to the agreement of a common set of indicators to monitor progress towards the integration of immigrants[6].

Migrant integration is defined by the European Commission as "a dynamic, two-way process of mutual accommodation by all immigrants and residents of Member States" that involves at the same time economic, political and cultural aspects[7]. However there appears to be strong consensus on the central role of economic achievements in overall integration outcomes. This key role, clearly suggested by the wording of the eleven common basic principles for immigrant integration policies adopted in 2004[8], has been further vindicated since the launching of the Europe 2020 Strategy, whose employment and social inclusion targets are held to be closely interrelated with migrant integration policies (European Commission 2010b: 10, 18-19). In this regard, the new poverty indicator included in the Europe 2020 framework appears to be particularly suitable for monitoring progress towards the socioeconomic incorporation of migrant households, since it permits joint consideration of the risks arising from weak integration into the labour market and from low levels of income or material wellbeing.

However, the particular indicators and thresholds employed to summarize each dimension, as well as the aggregation strategy chosen to identify the official target group (a simple headcount union approach), may not necessarily represent the best choices to adequately monitor the risk of poverty and social exclusion of immigrant households (or other vulnerable groups) in every European country.

This paper directly addresses this issue by examining the applicability of the Europe 2020 approach to the analysis of the multidimensional poverty profile of immigrants in Spain, in comparison with a group of highly developed countries with a

[6] An initial pilot study has already been released, in an attempt to assess to what extent the Zaragoza Declaration's set of common indicators of integration in four key areas (employment, education, social inclusion and active citizenship) can be derived from existing harmonized data sources, mainly Labour Force Surveys and EU-SILC microdata; see Kraszewska (2011) for more detail.
[7] European Commission (2010a), p. 160.
[8] See http://ec.europa.eu/ewsi/en/EU_actions_integration.cfm for the listing of these Common Basic Principles.

strong tradition of immigration (Italy, France, Germany, the United Kingdom, and Canada). To that end, the strengths and weaknesses of the new Europe 2020 headline poverty indicator are discussed under the lens of multidimensional poverty literature, as a way to explore its internal consistency and analytical insight, bringing to light some aspects that could be problematic when used in the context of highly developed countries.

Taking for granted the three dimensions included in the new Europe 2020 indicator, a revised multidimensional poverty index is derived following the Alkire-Foster (2011a,b) approach. This index is then used to analyse multidimensional poverty levels and profiles of immigrant households in the selected countries, using EUSILC data. In the case of Canada, a non-EUSILC country, microdata from the 2009 Survey of Labour and Income Dynamics are used in order to build the multidimensional poverty index, taking advantage of the new material deprivation module collected since the year 2008 for Ontario residents.

Finally, the paper provides some evidence on how the current economic crisis is affecting the multidimensional poverty risk of immigrants in Spain and other countries, using EUSILC data for the period 2008-2011. To that end, the impact of changes on each domain of the overall poverty level during the economic downturn is analysed, both in immigrant and native households. The paper concludes with some final remarks on the main findings and their social policy implications.

1.2. Analysing poverty within the Europe 2020 framework: key issues

The literature on the socioeconomic integration of immigrants has progressively moved from the analysis of earnings assimilation, dominant in initial studies (e.g., Chiswick 1978, Borjas 1985), to a wider focus on the disadvantages faced by immigrants in a number of relevant dimensions, such as education, employment, income, housing, access to public services or social relations[9]. In a parallel move, the multidimensional approach to poverty and wellbeing has become increasingly influential over the last few decades in both developed and less developed countries. At the European level, it is now

[9]See among others Reinders (2016), Boubtane et al. (2011), Giulietti et al. (2011), Bhalla and McCormick (2009), Hickman, Crowley and Mai (2008), Pi-Alperin (2008), Deutsch and Silber (2006), Aleksynka and Algan (2010) or Hildebrandt, Pi-Alperin and Van Kerm (2012).

widely recognized that conventional low-income indicators have some important drawbacks as benchmarks to monitor progress in combating poverty, for both conceptual and methodological reasons. Consistent empirical evidence on the limited overlap between income poverty and material deprivation, whatever the procedure chosen to summarize the two phenomena, has contributed to highlight the necessity of a new approach to analyse social inclusion at the European level[10].

In this context, the new EU strategy for jobs and smart, sustainable and inclusive growth, known as the Europe 2020 strategy[11], has taken a great leap forward by proposing a novel indicator for monitoring the reduction of poverty over the current decade. It is worth noting that the poverty reduction goal was initially defined on the basis of the at-risk-of poverty indicator alone[12], but the target was finally agreed in terms of the new and wider "at-risk-of-poverty or social exclusion" (AROPE) indicator, defined on a multidimensional basis and simultaneously taking into account low income, material deprivation and employment deprivation.

Although the new target is generally seen as a step towards a multidimensional perspective of poverty, more consistent with the social inclusion policy approach prevalent in the EU, its final formulation has been criticized by some experts, who consider the final proposal to be "fuzzier" and less ambitious than the original[13]. In any case, it is important to highlight that the new headline indicator must be regarded as a flexible benchmark agreed within the context of the so-called European "open method of coordination", which member states are free to adapt to national circumstances and priorities when setting their national targets.

The section below examines in greater detail the indicator through the lens of the multidimensional poverty measurement literature, keeping in mind the restrictions

[10]See among others Kis and Gábos (2015), Fusco, Guio and Marlier (2013, 2010, 2011), Alkire, Apablaza and Jung (2014), De Neubourg et al. (2012), Nolan and Whelan (2011a, 2010), Berthoud and Bryan (2011).
[11]In June 2010, the European Council approved this strategy, designed to be the successor to the 2000 Lisbon Strategy, as representative of the direction that Europe should take to "emerge stronger from the economic and financial crisis", see European Commission (2010b: 2).
[12] The exact wording of the initial formulation of Europe 2020 Strategy was that "the number of Europeans living below national poverty lines should be reduced by 25%, lifting over 20 million people out of poverty", European Commission (2010b: 32).
[13] Nolan and Whelan (2011b), for instance.

derived from the origin, context and intended use of the "at-risk-of-poverty or social inclusion" figures[14]. To that end, revision is made of the features of the new measure with regard to each of the different steps involved in multidimensional poverty measurement, from the selection of dimensions to the indicators and thresholds used and the aggregation method finally applied to obtain an overall summary measure.

1.2.1. Dimensional structure

As explained above, the new index is based on three main facets (low income, material deprivation and low work intensity), in contrast to the standard income approach used when the first European programs to fight poverty were launched in the 1970s. It is worth underlining that the new index is intended to capture not only poverty, but also the much wider concept of "social exclusion". This approach is in line with the growing emphasis of European social policy on the "social inclusion" concept, which covers dimensions far beyond income or economic poverty, such as health, employment, education, political participation or social contacts.

On the other hand, the new measure is not aimed at determining the precise levels of "poverty" or "social exclusion", but rather the "risk" of falling into these situations. This change of emphasis can be read as a certain loss of confidence in the capacity of income alone to adequately reflect poverty in the European Union, especially when combined with purely relative income thresholds set at the national level. Furthermore, it must be linked to the growing interest in material deprivation indicators as a complementary strategy to identify the poor, both inside each country and across countries, given their closer relationship with differences in living standards in an enlarged and much more heterogeneous EU.

Given the broad scope of the targeted concept, the use of *only* three dimensions is a remarkably parsimonious choice. Thus, the new index has wisely avoided the "explosion of concern" of many indiscriminate listings of problems, which, as Sen has

[14] This means taking into account that measures used to monitor poverty trends in a policy oriented framework, such as the Europe 2020 Strategy, have a number of desirable properties that preclude the use of excessively data-intensive and overly technical approaches. See Atkinson and Marlier (2010) for a detailed discussion of this issue.

indicated, have contributed to keeping some experts on poverty and deprivation removed from the social exclusion debate (Sen 2000: 2), while at the same time offering poor guidance to policymakers[15]. However, as has happened with other composite indicators developed to monitor social trends at the international level, such as the Human Development Indicator, the Economic Welfare Index or the Multidimensional Poverty Index, the proposal has also stimulated close scrutiny and a wide range of criticisms. Atkinson and Marlier (2010: 32) have stressed this fact, pointing out that "(t)he adoption of the social inclusion headline target puts the EU social indicators under the spotlight".

It can be argued that the choice of these three dimensions makes sense if we consider the new index as an adaptation of the traditional risk-of-poverty indicator, which tries to adjust the poverty concept to the wider notion of social exclusion without totally departing from the conventional low income indicator. In this context, the use of income and deprivation indicators would confirm the trend, increasing over the last decade, towards combining the two approaches when analysing poverty. On the other hand, the introduction of the work intensity dimension contributes to increased visibility and gives political priority to the unemployment problem, which is fully consistent with the first objective of the EU 2020 Strategy and with the shared view that jobs are crucial to make easier social inclusion. Furthermore, using the household as the unit of analysis to evaluate the indicator helps to emphasize the importance of the family distribution of unemployment, which has been shown to play a decisive role in explaining the relationship between unemployment and poverty[16].

The three dimensions considered can also be seen as especially useful to study immigrant integration. Employment is in fact regarded as "a key part of the integration process" in the Common Basic Principles for Immigrant Integration Policy adopted by the Justice and Home Affairs Council in 2004. On the other hand, the 6th basic principle highlights the importance of access "to public and private goods and services, on a basis

[15]As stressed by Burstein (2005: 13), when analysing the groups at risk of social exclusion in Canada: "The range of policies engaged by the less "abstemious" descriptions of exclusion are daunting. At their widest, they cannot be distinguished –except in their targeting – from social policy in general".
[16] For Spain, see among others Gradín, Cantó and del Río (2012), Gradín and del Río (2013), Ayala, Cantó and Rodríguez (20162011) or García Serrano and Malo (2008).

equal to national citizens" as "a critical foundation for better integration"[17]. This implies trying to avoid income poverty and material deprivation among immigrants.

Although the integration of immigrants is a long-term process involving other aspects that go beyond income and jobs, the ability to avoid poverty and achieve a minimum standard of living can be easily seen as vital for integration in the remaining domains. While the new "at-risk-of-poverty or social exclusion" measure had not been considered in the initial list of indicators held to monitor the migrant integration process, it was included in the first pilot study carried in that field (Kraszewska 2011: 11). At present, it is part of the core indicators of migrant integration in the social inclusion field.

Nevertheless, the dimensional structure of the new poverty headline indicator has been questioned by authors such as Nolan and Whelan (2011b), who point out that the inclusion of low work intensity households in the target population results in a more imprecise and less internationally differentiated poverty profile. In their view, combining low income and material deprivation constitutes a step in the right direction when trying to enhance the poverty measure, while adding the work intensity measure weakens the final indicator[18]. Although this point deserves careful consideration (and possibly deeper country case studies), it is worth noting that, as stated above, the new measure is aimed at assessing the risk of poverty and social exclusion, rather than at quantifying the actual number of the poor.

Thus, it could be argued that the inclusion of the employment indicator would allow policymakers to identify those households which, despite not suffering low income nor material deprivation at present (thanks to social benefits or accumulated savings), do in fact have a problem of lack of economic autonomy and a pronounced vulnerability to poverty and exclusion. On the other hand, there is extensive evidence on the linkage between unemployment and "social unrest", particularly in periods of economic crisis[19].

[17] European Commission (2010a).
[18] As Nolan and Whelan (2011b: 18) put it, "At a conceptual level, the argument for including in the target population persons living in households that are jobless but are neither on low income (relative to their own country's median income) not materially deprived (relative to a common EU wide standard) is unclear. Joblessness might be better thought of as a factor leading to income poverty or material deprivation than as an indicator of poverty".
[19] Different papers show the clear negative incidence of unemployment on physical and mental health. See, among others, Urbanos y González (2013), or Jin, Shah and Svoboda (1995).

1.2.2. Indicators and thresholds

Apart from selecting the relevant dimensions, any multidimensional measure must determine which specific indicators and thresholds should be used to identify the poor, as well as the weights and identification function used to combine the results obtained in each domain.

Table 1.1 shows the variables and cutoffs chosen to summarize each dimension in the Europe 2020 "at-risk-of-poverty or social exclusion" indicator. Low income is measured through the conventional at-risk-of-poverty rate based on each country's median income, so that the target population is defined within each country as those falling below national income standards, which can differ considerably among countries in the current enlarged EU. Taking the EUSILC data for 2011, the average low income ratio was 16.9% for the EU-27 area. The lowest values were around 10% in the Czech Republic and the Netherlands, while the highest was close to 22% (in Romania, Bulgaria, Spain and Greece).

This traditional European method of setting income poverty lines has become increasingly controversial within the EU, due both to its lack of sensitivity to changes in median income over time and to geographical differences in real standards of living across the enlarged EU. The current economic recession has shown to what extent poverty statistics can exhibit paradoxical results, as observed in Latvia, where the index changed from 25.9% in 2008 to 19% in 2011, while the median income (using purchasing power parities) fell from 7,138 to 5,944 euros over the same period.

Furthermore, it is far from clear that national boundaries continue to provide the most pertinent context to assess the average standard of living for poverty comparison within the EU. As Berthoud (2012: 3) has argued, an alternative view is that "(…) people all over Europe are aware of, and implicitly compare themselves with, the living standards prevalent across the union". Nevertheless, no consensus has emerged so far on the most adequate reference group for poverty assessment at the European level, with some experts

favouring national (and even regional) relativities whilst others support EU-wide poverty lines or even intermediate approaches[20].

1.1. Dimensions, indicators and cut-offs used in the Europe 2020 "at-risk-of-poverty or social exclusion" measure

Dimension	**Indicators**	**Thresholds**	**Reference population**
Low income	Household disposable income in the calendar year previous to the survey year (1), adjusted using modified OECD scale.	60% national median income.	People of all ages.
Material deprivation	The household cannot afford 1) To pay rent or utility bills. 2) To keep home adequately warm. 3) To face unexpected expenses. 4) To eat meat, fish or a protein equivalent every second day. 5) A week's holiday away from home. 6) A car. 7) A washing machine. 8) A colour TV. 9) A telephone.	4+ deprivations out of a list of 9 items.	People of all ages.
Low work intensity	Work intensity of adults aged 18-59 living in the household, excluding students aged 18-24, during the past year.	20% of total work potential in the household.	People 0-59 years old.

Notes: (1) In United Kingdom the current income is annualised and aims to refer to the current calendar year. In Ireland, the income reference period is the last twelve months.

Source: Own elaboration on the basis of Eurostat definitions, available at http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

By contrast, material deprivation is assessed using a common European-wide set of items, originally developed by Guio (2009), covering the enforced lack of a number of goods or activities which range from a colour TV to a week's holiday away from home (see Table 1.1). Using this scale, a household is deemed to be deprived if the reported (unweighted) number of deprivations is above a given material deprivation threshold (the same in every member state). It is worth noting that the original list should have been updated after the in-depth analysis of the 2009 special material deprivation module undertaken under European sponsorship (Guio, Gordon and Marlier 2012). This study

[20] See, among others Berthoud (2012), Whelan and Maître (2009) or Fahey (2007).

shows that some of the items currently included in the material deprivation index do not pass the relevant validity and reliability tests in many countries[21].

The chosen cut-off of four or more items out of the set of nine listed in Table 1.1 is intended to capture "severe" material deprivation according to the Eurostat concept, yielding an overall rate of 8.8% in year 2011 for the EU-27 area. National rates are strongly related to median income, a proxy for an EU-wide measure of poverty[22], and as such exhibit a huge variation among countries, with values of over 20% in most of the poorer new member states (with a maximum of 43.6% in Bulgaria), but below 3% in Luxembourg or the Scandinavian area.

The description above should serve to highlight that the inclusion of the two abovementioned poverty indicators in the new measure, in their present form, is not merely a way of combining an income and a material deprivation approach to poverty (or an indirect and a direct method to identify the poor, to use the well-known distinction made by Ringen)[23], but also a sort of mixture of *relative* and *absolute* considerations when delimiting the target population.

Whether this should be seen as an "encouraging" development of the traditional European analytical framework (Fusco, Guio and Marlier 2010[24]), as a partial advance still needing further adjustments (Nolan and Whelan 2011b: 29[25]), or as an "anomaly"

[21]As a result of this wide-ranging study, a new list of 13 indicators (18 for children) have been collected since the 2013 wave. The list for the whole population excludes the items related to the enforced lack of a television set, a washing machine and a telephone, and adds seven new deprivation questions, five of them to be asked at the individual level. See Guio, Gordon and Marlier (2012) for more details on this question. See also Gábos and Goedemé (2016) for a recent assessment of social inclusion statistics in the European Union, including a comment on the pros and cons of updating the material deprivation list.

[22] Fusco, Guio and Marlier (2010: 138) have shown that the correlation between national material deprivation rates and EU-wide based income poverty rates is close to 0.80, compared with approximately 0.1 for standard national income poverty rates.

[23] See Ringen (1988).

[24] Fusco, Guio and Marlier (2010), p. 37: "In terms of national and EU reporting, the chapter clearly shows the complementarity of income poverty and material deprivation measures. So, to provide a much better picture of a country's situation with regard to 'poverty' (especially in the context of international comparisons), it is important that national income poverty rates be systematically published with the related national income poverty thresholds (in Purchasing Power Parities) and that they be systematically accompanied with national material deprivation rates. This should be kept in mind when monitoring the social dimension of the new Europe 2020 Strategy, which is to replace the 2000-2010 Lisbon Strategy. In this respect, the new EU target on social inclusion adopted in June 2010 is quite encouraging".

[25] Nolan and Whelan (2011), p. 29: "While looking at those who are either on low income or reporting significant deprivation has a value, we have argued that it would also be valuable to identify the sub-set of

leading to "a confusing discourse" and puzzling implications for policymaking (Gilbert 2012: 391[26]) is open to debate. For now, it should be enough to draw attention to the fact that, given the indicators and thresholds chosen to summarize these two dimensions, many older EU member countries will tend to show large groups of people receiving low incomes (according to national standards) but not reporting material deprivation, whilst the opposite will be true in the new, poorer, EU member countries.

Regarding the analysis of migrant integration in rich western European countries, such as Germany, France or even Spain, the material deprivation threshold used in the Europe 2020 measure is most probably too strict to serve as a meaningful benchmark in the analysis of groups at risk of poverty and exclusion.

Finally, low work intensity status is measured on the basis of the time worked during the previous year by all adults aged 18 to 59 (excluding students aged 18-24), divided by the potential working time of the same working age household members. A cut-off is then employed to identify as deprived all individuals under 60 who live in households with a working intensity below 0.20 for working-age adults. On average, the low work intensity rate reached a value of 10% in the EU-27 in 2011, ranging between values of 6% for Cyprus and Luxembourg to ratios above 12% in Belgium, Spain, Hungary, Latvia and Lithuania.

It must be stressed that the low work intensity indicator is not defined for people aged sixty or above, who are not taken into consideration in the computation of this figure. This can pose a problem when attempting to check the robustness of results for different identification and aggregation strategies, since the number of dimensions effectively considered is not the same for those below and above the age of 60. This is why the empirical analysis is restricted in this paper to people aged 59 or less, which is not a bad choice when comparing migrant integration in different countries. But it would be

persons and households meeting appropriate income and deprivation criteria: this could serve to identify a priority group as countries frame their individual contributions to meeting the overall EU target".

[26] Gilbert (2012), p. 391: "Findings that show that a fair proportion of the EU countries have lower levels (or risks) of poverty, yet higher levels of material deprivation than many other countries, present policy makers with a confusing discourse on the relationship between poverty and material deprivation –as these terms are commonly understood."

worthwhile to explore variants of this indicator that can be extended to the whole population.

1.2.3. Identification approach

An important feature of any multidimensional measure, which does not arise in the unidimensional framework, is the need to decide the identification approach used to determine who are the multidimensionally poor, once identified those individuals or households considered "poor" or "deprived" in each dimension. Should we identify the poor as those deprived in at least one dimension, following what the literature has called a "union approach"? Or, by contrast, should only those falling below the threshold in all the *k* dimensions be deemed to be poor –an "intersection approach"? As many authors have stressed, the adequacy of a union versus an intersection method, or some intermediate strategy lying in between these two extremes, depends ultimately on the dimensions selected and the nature of their interrelationships[27].

The identification method used when constructing the "at-risk-of-poverty or social exclusion" measure is clearly based on a union approach, since an individual is considered to be at risk as long as he/she has low income, *or* suffers material deprivation, *or* lives in a very low work intensity household. The implicit assumption behind this approach is that it is necessary to reach a minimum level in *each* of the three dimensions to avoid the risk of poverty and exclusion, or to put it in other words, that having, say, high work intensity cannot compensate for having low income or living in material deprivation.

As rightly expressed by Tsui (2002: 74), "(t)his formulation, in a sense, emphasizes the essentiality of each attribute. (…) In the final analysis, how reasonable the identification rule is depends, *inter alia*, on the attributes included and how imperative these attributes are to leading a meaningful life". In the AROPE construct, the rational for this union approach can be arguably found in the purpose of evaluating the notion of "risk", rather than the actual situation of poverty or exclusion. Nevertheless, it is essential to enquire to what extent these risk factors overlap in different social groups and how this

[27] And in particular, to what extent the different attributes can be considered to be substitutes or complements in determining poverty status. See, among others, Duclos, Sahn and Younger (2006), Atkinson (2003), or Bourguignon and Chakravarty (2003).

should affect the final assessment. From the point of view of a policy maker, a rate of poverty or social exclusion among immigrants of, say, 33%, may have very different implications depending on whether that figure describes a group suffering simultaneously joblessness, low income and material deprivation, or three 11% non-overlapping groups, each of them deprived in one dimension but making do in the other two.

Thus, even if we accept that a simple union approach serves well the objective of providing an estimate of the size of the "at risk" population, other complementary measures based on an intermediate or even an intersection approach would be needed to analyse differences in intensity or deprivation profiles. Although Eurostat offers data on the breakdowns according to the different intersections between Europe 2020 indicators, the social policy implications of these figures are not clear enough. First of all, there is still little evidence on the empirical relationship between the three indicators [28]. Additionally, the severity of the material deprivation threshold currently used leads to identify very small groups as materially deprived in old member countries, thus undermining the usefulness of intersecting the three dimensions.

1.2.4. Aggregation approach

Following the classical distinction established by Sen, the aggregation step refers to the function used to summarize the overall poverty level in a given society or group, once those qualifying as poor or deprived have been adequately identified. Although a number of commonly accepted desirable properties (and the corresponding axiomatically characterized measures) have been proposed both in the unidimensional and the multidimensional poverty literature, "counting the poor" remains by far the procedure most widely used when constructing poverty indices, both in policy-oriented reports and in applied empirical work. The main advantages of such a *counting* approach, which Atkinson compared to its *social welfare* counterpart in a much quoted article[29], are of course its simplicity and ease of interpretation, compared to other alternatives.

[28] Some recent important contributions on this topic are Kis and Gábos (2015), Papadopoulos and Tsakloglou (2015) and Ayllón and Gábos (2015), see Gábos and Goedemé (2015) for a review of their main conclusions. The three papers highlight the complementarity of the three indicators and the need to supplement the "union" approach with "consistent poverty" measures which help to identify those most in need of support.

[29] See Atkinson (2003).

However, the headcount measures have also well-known limitations when making comparisons among groups or over time, since they are not able to reflect the depth of the shortfalls suffered by those below the threshold, nor the extent of inequality among the poor. In the multidimensional framework, the headcount ratio also involves implicitly assigning equal weights to the various dimensions, which can be a questionable assumption when including domains with very different impacts on the concept measured.

The Europe 2020 risk of poverty indicator provides a simple headcount measure based on the three dimensions described above, since it simply shows the number of people at risk of poverty or social exclusion (defined as those who fall below at least one of the three dimensional cut-offs, as seen above) as a percentage of the total population. Thus, it is neither sensitive to the number of deprived dimensions of those identified as poor nor to the size of the gaps within each domain. It means that the index does not change if, for instance, a household having only low income in year *t* begins to suffer material deprivation in year *t+1*, since it has been already "counted" as an at-risk household. The same happens if redistribution occurs among the poor, so that income –or work– is transferred from the least deprived to those situated at the very bottom of the scale.

To sum up, the new poverty headline indicator adopted by the Europe 2020 Strategy clearly represents a step forward in the direction of measuring a broader concept of social inclusion, more consistent with the European policy making framework. However, there is still room to supplement or adapt the basic indicator to improve its usefulness when analysing vulnerability to poverty and social exclusion in a particular subset of European Union countries. A productive way to do so may be to insert the Europe 2020 indicator into a more general class of multidimensional poverty indices, flexible enough to permit robustness of conclusions to be checked when a set of basic parameters are modified.

In our view, the Alkire-Foster family of measures provides the most suitable approach to support this generalization within the Europe 2020 framework. Although some other interesting multidimensional indices exist in the literature, the A-F measures have certain properties that make them a good choice to analyse poverty and social exclusion in the European context. First, they can be used with union, intersection or

intermediate identification approaches, as well as with equal or different dimensional weights. Second, they can show both the extent and the intensity of multidimensional poverty. Third, they can fulfil a number of useful axioms, including subgroup decomposability. And last but not least, they can be applied to categorical, and not only to continuous, variables, thus widening the range of valid indicators. As it is well known, the Alkire-Foster measures have been constructed on the basis of Sen's capability approach, with a special focus on measuring poverty in developing countries, but have also been used in the context of rich countries in some recent empirical work[30].

1.3. Methodology and data description

This section summarizes and explains the basic data, measures and methodological choices used in the empirical analysis. The first subsection describes briefly the Alkire-Foster measures following the notation introduced by Alkire and Foster (2011a,b). The second subsection explains the options selected and the features and limitations of the datasets used.

1.3.1. The Alkire-Foster family of multidimensional poverty measures

The Alkire-Foster class of multidimensional poverty measures can be described as a parametric set of indices which, like many others developed in recent literature, represent in some ways a multidimensional generalization of the original Foster, Greer and Thorbecke (1984) poverty measures, given the role assigned to the concept of the normalized poverty gap.

In formal terms, let us consider a population of 1, 2, …, n individuals, whose achievements are measured across 1, 2, …, d different dimensions. One or various indicators (that can be either cardinal or categorical variables) represent each dimension. Let $y=[y_{ij}]$ be the n×d matrix of achievements of a given population, where each row shows the values corresponding to individual i across the d dimensions, and each column

[30] See for example Whelan, Nolan and Maître (2014), or Alkire, Apablaza and Jung (2014). For developing countries, a well-known application of this methodology is the Multidimensional Poverty Index (MPI) developed by the Oxford Poverty & Human Development Initiative to substitute the Human Poverty Index (HPI).

contains the marginal distribution of a specific dimension j across the entire population. Each of the elements y_{ij} in the matrix represents the achievement of individual i in dimension j. In the most general case, a vector of dimensional weights intended to allow different weighting schemes can be defined as: [31]

$w = (w_1, w_2, \dots, w_d)$, so that $\sum_{j=1}^{d} w_j = d$

Let us suppose that $z = (z_1, z_2, \dots, z_d)$, $z_j > 0$ for all j=1, 2, …, d, contains the vector of dimensional deprivation cut-offs, used to identify individuals suffering deprivation in each domain. For a given set of thresholds, a deprivation matrix $g^0 = \left[g_{ij}^0\right]$ can be defined as:

$$g_{ij}^0 = w_j \left(\frac{z_j - y_{ij}}{z_j}\right)^0 \quad if\ y_{ij} < z_j$$

$$g_{ij}^0 = 0 \qquad if\ y_{ij} \geq z_j$$

Which yields:

$$g_{ij}^0 = \begin{cases} w_j & \text{if} \quad y_{ij} < z_j \\ 0 & \text{if} \quad y_{ij} \geq z_j \end{cases}$$

From g^0 a column *deprivation count vector* c is then derived where each entry summarises the weighted number of deprivations, or capability failures, suffered by the i-th individual, $c_i = \sum_{j=1}^{d} g_{ij}^0$.

To identify the multidimensionally poor, a poverty cut-off k, $0 < k \leq d$, has to be applied to the column vector c , so that the i-th individual is identified as poor if $c_i \geq k$.

$$\rho_k(y_i; z) = 1 \qquad \text{if} \qquad c_i \geq k$$

[31] The weights can be also normalized to sum up to 1, see Alkire, Roche and Seth (2011).

$$\rho_k(y_i; z) = 0 \qquad \text{if} \qquad c_i < k$$

Alkire and Foster (2011a,b) refer to the former as a dual cut-off identification method, since it combines the use of within dimensional deprivation cut-offs *z* first, to decide whether a person is deprived or not in a given dimension, and a poverty cut-off then to determine who is deemed to suffer multidimensional poverty. It is straightforward to see that the value of k will determine if a union, an intersection or an intermediate approach is used to identify the poor.

Once identified the poor for a given cut-off, the aggregation step is based on the concept of the censored deprivation matrix $g^0(k) = \left[g_{ij}^0(k)\right]$, whose ij-th element is defined as follows:

$$g_{ij}^0(k) = \begin{cases} g_{ij}^0 & \text{if} \quad \rho_k(y_i; z) = 1 \\ 0 & \text{if} \quad \rho_k(y_i; z) = 0 \end{cases}$$

As Alkire and Foster emphasize, this step is key to the A-F methodology, since the censored deprivation matrices are the basic constructs used in the aggregation stage. It should also be noted that, unless a value of k leading to an identification union approach is used, the construction of $g^0(k)$ involves discarding information on the deprivations of the non-poor, which are thus not allowed to affect the value of the overall poverty index (i.e. the index is focused only on the situation of the poor, so accomplishing the poverty focus axiom).

If the dimensions are measured through variables which are cardinally significant, then a similarly constructed censored normalized gap matrix $g^1(k) = \left[g_{ij}^1(k)\right]$ and a censored squared gap matrix $g^2(k) = \left[g_{ij}^2(k)\right]$ can be obtained by substituting the positive elements of $g^0(k)$ for the (squared) normalized gap of each poor person in each deprived dimension. This is defined, as in the unidimensional case, as the difference between the deprivation cut-off z_j and the person's achievement in each deprived dimension y_{ij}, $y_{ij} < z_j$, expressed as a proportion of the dimensional deprivation cut-off z_j .

As stated above, the A-F multidimensional poverty index is based on the standard FGT framework, thus providing a parametric class of measures $M_\alpha(y,z)$ that can be seen as the mean of a vector whose entries summarize at the individual level the extent of multidimensional deprivation, censored using the poverty line. The general form of the A-F adjusted FGT class of multidimensional poverty measures is hence given by:

$$M_\alpha(y,z) = \mu(g^\propto(k)) = \frac{\sum_{i=1}^{n}\sum_{j=1}^{d} g_{ij}^{\propto}(k)}{nd}, \text{ for } \alpha \geq 0$$

This expression equals the sum of the α powers of the normalized gaps of the poor, $[g^\propto(k)]$, divided by the highest possible value for this sum, nd. In comparison to the simple headcount measure, H, the A-F family of measures satisfies a number of useful axioms including decomposability, symmetry, non-triviality, replication invariance, poverty focus, deprivation focus, weak monotonicity, dimensional monotonicity, normalisation, weak re-arrangement for α ≥0, monotonicity for α >0, and weak transfer for α ≥1 (Alkire and Foster 2011a). Moreover, this index can be used with ordinal data, a useful property when analysing poverty and social exclusion.

For α=0 the above expression gives rise to the Adjusted Headcount Ratio $M_0(y,z)$, which equals the mean of the (weighted) censored deprivation matrix

$$M_0(y,z) = \mu(g^0(k)) = \frac{\sum_{i=1}^{n}\sum_{j=1}^{d} g_{ij}^{0}(k)}{nd}$$

The $M_0(y,z)$ index shows the total weighted deprivations experienced by the poor as a proportion of all the total potential deprivations that the society could experience, and can be expressed as the product of the multidimensional headcount H(y,z) and the normalized average deprivation score among the poor A(y,z), where

$$H(y,z) = q/n$$

$$A(y,z) = \frac{1}{qd}\sum_{i} c_i\,(k)$$

H represents the share of the population identified as poor (incidence), whereas A shows the average breadth or multiplicity of deprivation that people suffer (intensity). It is worth noting that this decomposition is similar in many ways to that existing for the FGT_1 index in the unidimensional framework, as the product of H and the income gap ratio I.

For α=1 we obtain the Adjusted Poverty Gap $M_1(y,z)$, which equals the mean of the censored normalized gap matrix $g^1(k)$, and can also be expressed as the product of the adjusted headcount ratio $M_0(y,z)$ and the average poverty gap $G(y,z)$ across all dimensions in which poor people are deprived.

$$M_1(y,z) = \mu\left(g^1(k)\right) = HAG$$

$$G(y,z)=\frac{\sum_{i=1}^{n}\sum_{j=1}^{d} g_{ij}}{\sum_{i=1}^{n}\sum_{j=1}^{d} g_{ij}^0}$$

The adjusted poverty gap is the sum of the normalized gaps of the poor, or $[g^1(k)]$, divided by the highest possible sum of normalized gaps, nd.

For α=2 we obtain the adjusted FGT measure $M_2(y,z)$, defined as the sum of the squared normalized gaps of the poor, or $[g^2(k)]$, divided by the highest possible sum of the normalized gaps. M_2 can also be expressed as the product of the adjusted headcount ratio M_0 and the average severity index $S(y,z)$, defined as the average squared poverty gap across all dimensions in which poor people are deprived.

$$M_2(y,z) = \mu(g^2(k)) = HAS$$

$$S(y,z)=\frac{\sum_{i=1}^{n}\sum_{j=1}^{d} g_{ij}^2}{\sum_{i=1}^{n}\sum_{j=1}^{d} g_{ij}^0}$$

As Alkire, Apablaza and Jung (2014) show, these α > 0 measures can reflect the depth and severity of multidimensional poverty, and satisfy stronger axioms related to monotonicity and transfers. However, they cannot be easily applied when variables are

not cardinally significant. The analysis made in this chapter relies mainly on M_0, although the M_1 index is also computed using the normalized poverty gaps in the income and work intensity dimensions.

1.3.2. Data sources

The five European countries considered (Germany, France, the United Kingdom, Spain and Italy) account for 63% of the total European Union population, and they are by far the countries hosting the largest numbers of residents born outside the EU, around 25 million people in the year 2012 (7.8% of the total population of these countries). Third-country immigrants in turn form the majority (two out of three) of the total foreign-born persons residing in these countries[32]. In relative terms, non-EU immigrants accounted for around 8% of the total population in UK, Germany and France, 6% in Italy, and 9% in Spain (2012 data). On the other hand, Canada is, together with Australia, New Zealand and the United States, one of the most significant and traditional immigration countries outside Europe, with a share of foreign-born residents of around 25% (Widmaier and Dumont 2011) and one of the highest per capita immigration rates in the world. It has been also considered for long one of the most successful countries in the field of migrant integration, which makes interesting the comparison with the selected five old and new European immigration countries.

The analysis is restricted to the population aged less than 60 years. On the one hand, this helps to define more homogeneous sociodemographic groups, leaving aside migration related to non-labour reasons such as retirement. On the other hand, narrowing the scope in this way allows us to analyse a group for which the three relevant dimensions covered in the at-risk-of-poverty or social exclusion indicator are fully defined.

The data employed come from the four EUSILC cross-sectional waves for European countries, covering the period 2008-2011. For Canada, the 2009 wave of the Survey of Labour and Income Dynamics (SLID) is used, as it represents the most similar survey to EUSILC data, and the only one containing to date (though only for Ontario) material deprivation questions similar to those collected in EU countries. In order to

[32] Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_pop3ctb&lang=en.

obtain indicators as comparable as possible for Canada and the other countries, European definitions have been applied to Canadian microdata to construct the low income and the work intensity variables. To that end, the total amount of social contributions has been deducted from the after-tax income concept included in the SLID[33] , and the OECD modified equivalence scale has been applied to obtain adjusted disposable income at the household level. The work intensity indicator has been computed using information regarding the total number of weeks worked during the reference period by the household members, adjusting for part-time jobs and excluding students aged 18-24 and all people aged 60 years or older, as in Eurostat statistics. Finally, the material deprivation measure has been defined using the list of ten variables included in Ontario's Material Deprivation Index, which is not fully comparable with the EUSILC scale (see Table A.1.1 in the Appendix). For this reason, comparisons involving material deprivation levels should be treated with caution[34].

Immigrants are defined in this paper as people who are foreign-born, without further differentiating between EU27 or third-country nationals for EUSILC countries[35]. For Canada, the country of birth is not provided in the Public Use Microdata File, so that migrant status has to be derived from a direct question[36]. The answers to this question show that 17.5% of people aged 16 or more defined themselves as immigrants, while 33.7% said they were not and almost 49% declared they did not know. Children aged 15 or younger, for whom migrant status is not available, are considered to be immigrants as long as they live in a household headed by an immigrant, both in Canada and in EUSILC countries. The resulting figures for the different countries are shown in Table A.1.2 (see Appendix).

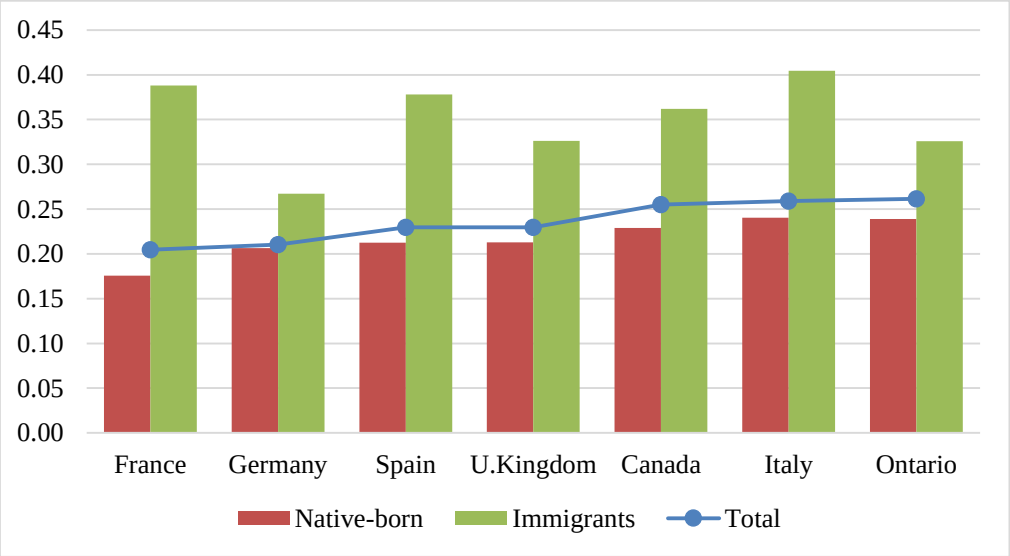
[33] These include the employment insurance contributions, the Canadian & Quebec pension plan contributions and the public health insurance premiums paid off by the households.
[34] See Notten (2013) for a good comparison of material deprivation indicators between Canada and some European countries, with a focus on children.
[35] Since this breakdown is not available in the case of Germany.
[36]The wording of this question is as follows: "Are you now, or have you ever been, a landed immigrant? A "landed immigrant" is a person who has been granted the right to live in Canada permanently by immigration authorities". See Statistics Canada http://www23.statcan.gc.ca/imdb-bmdi/instrument/3889_Q6_V5-eng.pdf.

1.4. Empirical results

1.4.1. Current Europe 2020 definition

Graph 1.1 shows the average risk-of-poverty or social exclusion rates for the total population under the age of sixty, differentiating between native-born citizens and immigrants, in the six countries and Ontario, using current Europe 2020 definitions and thresholds. For Canada, these rates have been estimated by adjusting upwards the values obtained when taking into account low income and very low work intensity ratios, and then assuming the same material deprivation rate (and the same degree of overlap with the other two dimensions) observed in the case of Ontario. This province accounts for the largest part of the Canadian population (almost 40%) and has economic and social indicators that can in many fields be taken as good proxies for the overall values for the country. It also hosts the largest share of immigrants residing in Canada. Using SLID-2009 data, 55% of self-declared immigrants were living in this province.

Graph 1.1. At-risk-of-poverty or exclusion (AROPE) rates by migrant status, 2009



Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

According to the EU2020 indicator, France and Germany are the countries that had the lowest overall risk of poverty or exclusion, about 20%, and Italy and Canada the highest, above 25%, with Spain and the United Kingdom lying in between. As can be easily seen in Table A.1.3, this order is exactly the same that would emerge from using only low income rates except for Spain, which had high low income rates but scored better in the other two domains[37]. If we focus on immigrants, however, there is a clear divide between Germany (26.7%) on the one hand, and France, Italy and Spain, on the other, with rates around 38-40%. Immigrants in Canada exhibit risks only slightly lower than these latter countries and a little above Ontario and the United Kingdom.

Graph 1.1 and Table A.1.3 also make it clear that Italy, Spain and, especially, France show the highest disparities between native and foreign-born people, with poverty and exclusion rates among immigrants that almost double (or more than double, in the case of France) those existing for the native-born. In contrast, differences are lowest in Germany and Ontario, particularly within prime age adults (25-59 years old)[38]. As Table A.1.3 shows, children and young immigrants tend to score worse than adults in all countries, especially in Italy and the United Kingdom.

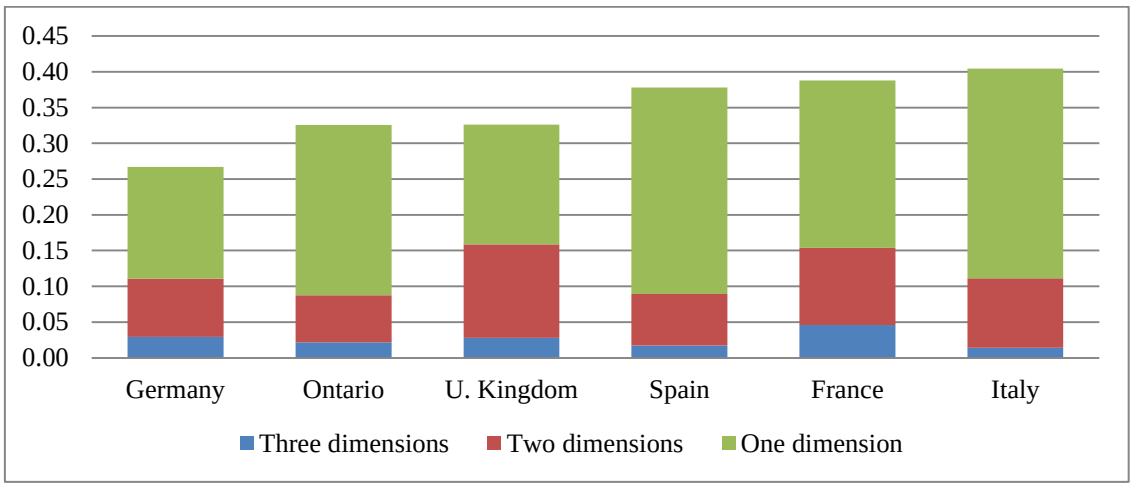
As previously stated, the overall "poverty or exclusion rate" can hide very different overlapping patterns among dimensions, thus affecting the poverty profile of the groups deemed to be at risk. Graph 1.2 shows that this is clearly true for 2009 data: in Ontario, Italy and Spain, more than 70% of those immigrants considered to be at risk by the Europe 2020 indicator are deprived in only one dimension (mostly income), but do not accumulate deficits in other domains. This is much less so in the three traditional European immigrant-receiving countries, and especially in the United Kingdom, where only half of total at-risk immigrants report deprivation in only one field.

[37] Especially in terms of material deprivation. Many studies have highlighted this fact using different indicators; see for example recent work by Bossert, Chakravarty and D'Ambrosio (2013) or De Neubourg et al. (2012).

[38] This is in line with previous research. A recent OECD report shows that the widest poverty gaps between native and foreign-born (according to the 50% of median income indicator) in 2008 were found in France, Belgium and the Nordic countries (except Sweden), see OECD (2012), p. 55. Lelkes and Zólyomi (2011), using 2008 EUSILC data, find evidence of huge relative poverty gaps in countries such as Belgium, Finland, Sweden, France, the Netherlands or Austria. More recently, Bárcena and Pérez-Moreno (2016) show, using 2012 EUSILC data, that differences in poverty rates between natives and immigrants are statistically significant in half of the 30 countries analysed, including France, Spain and Italy. In contrast, the differences were not significant in Germany and the United Kingdom.

Thus, changing the union approach used to obtain the AROPE statistics to an intermediate or an intersection method to identify the poor would result in a different ranking among countries, although the numbers falling simultaneously below the three cut-offs, in their current formulation, are extremely small even for immigrants (Graph 1.2). Examining the overlaps would also help to clarify the different patterns of disadvantage of immigrant families, compared to native-born citizens.

Graph 1.2. Breakdown of the at-risk-of-poverty or exclusion of immigrants, according to the number of deprived dimensions, 2009



Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

As explained before, this can best be done by modifying some of the choices made to build the current at-risk-of-poverty or exclusion indicator, mainly regarding the material deprivation index, and complementing the headcount ratio with the two first Alkire-Foster multidimensional poverty measures. The adjustments in the material deprivation index are intended to increase the level of consistency and comparability of the scale currently used, checking the sensitivity of results when a different list of indicators is used and also when the threshold is changed, so that not only "severe" material deprivation states are considered to be risk-generating. At the same time, computing Alkire-Foster M_0 and M_1 measures will provide us with alternative summary estimates of the risk of poverty and exclusion which, unlike the headcount ratio, are able to reflect the intensity, and not only the extension, of the disadvantages suffered by households.

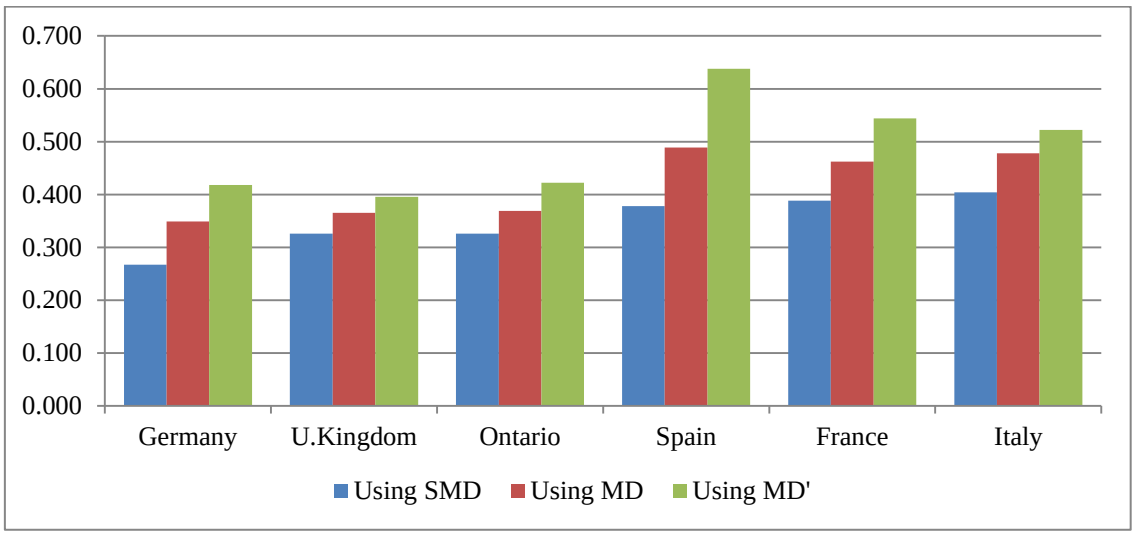
1.4.2. Changing the material deprivation measure

Table A.1.4 shows the material deprivation rates resulting from two alternative and less severe measures which can be obtained from the set of deprivation indicators currently collected in EUSILC. The first relies on the same list of nine indicators, but changes the dimensional threshold, so that households are considered deprived if they cannot afford three or more goods or activities, instead or four or more. The second also replaces the basic commodities which are not retained in the updated list proposed by Guio, Gordon and Marlier (2012) (television, telephone, washing machine) with three indicators reflecting the enforced lack of a computer at home, the ability to replace worn-out furniture and the affordability of dental care when needed. The two first indicators are among those selected to be included in the final updated material deprivation scale. The last one (affordability of dental care) is not currently used as a material deprivation indicator at the European level, but has been employed here for the sake of improved comparability with Canadian variables. For Ontario, the three definitions correspond to applying respectively the thresholds of three or more items, two or more items (the official cut-off in Ontario's *Poverty Reduction Strategy*) and one or more items out of the list of 10 indicators included in the Ontario Material Deprivation Index.

Spain is the country most affected by these changes, especially among the foreign-born (Graph A.1.1). Using the third definition, more than half of all immigrants suffered material deprivation in 2009, as opposed to only 11.6% in the first column. Using the second concept, which gives rise to results that lie in between the two other approaches for all the countries, the material deprivation rate of Spanish immigrants would be 31.9%, the highest, together with Italy, among the six countries.

Graph 1.3 shows how changing the material deprivation index would affect the overall at-risk-of-poverty or exclusion rates for the immigrant population in Spain and the other countries, keeping the remaining AROPE measurement assumptions constant. Both alternatives produce a more differentiated pattern across countries, with overall risk rates above 60% in Spain and above 50% in France and Italy when the second list of indicators is used.

Graph 1.3. At-risk-of-poverty or social exclusion rate for the immigrant population with different definitions of the material deprivation indicator, 2009



Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

1.4.3. Computing the A-F indices

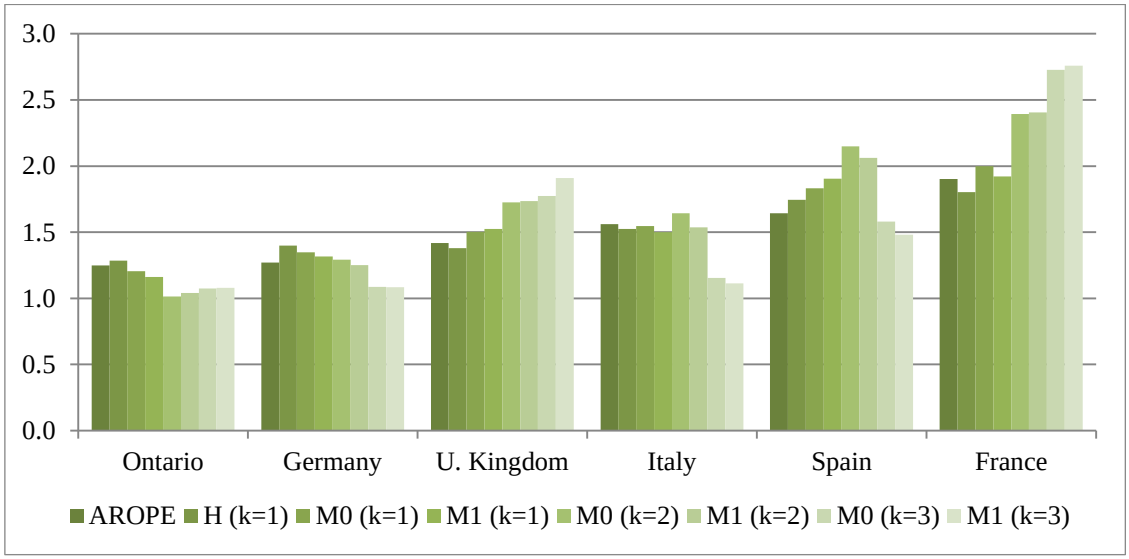
Table A.1.5 displays the results obtained when computing the Alkire-Foster measures M_0 and M_1 for the three possible values of k compatible with the Europe 2020 dimensional structure. These estimates are constructed using the intermediate definition of material deprivation, giving rise to simple union headcount ratios ranging between 0.25 and 0.31 for the whole population aged under sixty, and between 0.35 and 0.49 for the same age group who were foreign-born. To facilitate comparisons, Table A.1.6 shows the same ratios as a percentage of the mean corresponding to the five EUSILC countries.

It is clear from these results that both the value of *k* and the summary measure chosen significantly affect the ordering of the countries, for the whole population as well as among immigrants. In Ontario and the two southern European countries, the Adjusted Headcount and Poverty Gap measures lead to significantly lower estimates of the risk of poverty and exclusion, so improving their comparative performance. This is true for the whole population as well as for the foreign-born, although it is worthwhile highlighting that, in the latter case, only the intersection approach makes a real change in Italy and Spain. On the other hand, immigrants show a worse relative position in terms of the Adjusted Headcount Ratio in Germany, the United Kingdom and, especially, France,

compared to the initial AROPE ranking. In the last two countries, but not in Germany, this worsening is much greater for the foreign-born, thereby suggesting the existence of a bigger origin-related gap at the bottom of the multidimensional poverty scale. A similar picture emerges from the use of the Adjusted Poverty Gap, also included in Table A.1.5.

The extent to which changing the multidimensional index modifies the conclusions regarding the relative position of immigrants in each country is clearly shown in Graph 1.4. It represents an immigrant's probability of being at-risk-of-poverty or exclusion, compared to the whole population aged under sixty, according to the original and the modified union headcount ratios (first and second bars), and to the Alkire-Foster measures, under the three possible identification approaches.

Graph 1.4. Relative risk of poverty or social exclusion for foreign-born population aged under 60 using different measures, 2009



Note: The bars show the risk of poverty or exclusion of foreign-born population, divided by the values of the same indicator for the native born, both under 60.

Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

Some interesting facts emerge from the results above. Firstly, taking into account the degree of overlap between dimensions and the size of the gaps in the income and work intensity domains significantly increases the relative risk of the foreign-born in the United Kingdom and, especially, France, which shows by far the largest divide between

immigrants and the native-born. In contrast, it decreases the relative risk in Germany and, especially, Ontario. If differences between immigrants and non-immigrants with regard to the risk of poverty and social exclusion can be taken as a proxy to the success of the integration process, this Canadian region would yield the best results, and France the worst.

For Spain and Italy, the results are mixed: compared to the initial AROPE picture, the relative risk faced by the foreign-born tends to grow (Spain) or remains stable (Italy) for both M_0 and M_1 when using the union or the intermediate identification approaches, but drops sharply for k=3 measures. With these latter indicators, Italy would exhibit nearly non-existent gaps, like Germany and Ontario. In the case of Spain, the risk would remain well above the values of the general population, but below the levels suggested by the original union headcount measure.

On the other hand, in all countries, but especially in Spain and France, the change in the identification approach (choice of *k*) has far more impact upon the gap between nationals' and immigrants' risk of poverty or exclusion than the particular measure used (H, M_0 or M_1). This result is not surprising, given the reduced number of dimensions involved, but raises important issues regarding the policy implications of different identification thresholds.

The fact that only very few immigrant households had in 2009 low work intensity in some of these countries contributes significantly to the decline in risk rates when employing an intersection approach, and can obviously be construed as indicating a good degree of integration in the labour market. However, this pattern also has a disturbing reading, since it means that jobs and high work intensity are not necessarily enough to lift many immigrants out of poverty. Moreover, as many studies have emphasized, the labour integration of migrants has been comparatively high, but also extremely precarious, in Spain and some of the other Mediterranean new receiving countries[39].

[39] See among others Alcobendas and Rodríguez (2009), Amuedo-Dorantes and De la Rica (2009, 2007), Aysa-Lastra and Cachón (2013), Cachón (2009), Calderón and Hidalgo (2007), Canal-Domínguez and Rodríguez-Gutiérrez (2008), Caparrós and Navarro (2010), Cebolla-Boado and González-Ferrer (2013), Fernández and Ortega (2008), Gradín and Del Río (2013), Izquierdo, Lacuesta and Vegas (2009), Martín, López and Molina (2011), Simón, Sanromá and Ramos (2008). Although integration in the labour market is by far the most researched aspect in Spain, there are also some papers specifically focused on poverty

1.4.4. Dimensional breakdown

As explained before, the A-F measures are additively decomposable by groups and, after identification, by dimensions too. The dimensional breakdown can be useful to show how different domains or indicators contribute to overall poverty, in the whole population or in a given subgroup. Following Alkire and Foster (2011a,b), the contribution of dimension j to the Adjusted Headcount Ratio (M_0) can be calculated as:

$$c_j = \frac{(w_j/d)H_j^C}{M_0}$$

Where H_j^C is the censored Headcount Ratio showing the proportion of people who are both poor ($\rho_k(y_i; z) = 1$) and deprived in a given dimension or indicator *j* ($y_{ij} < z_j$):

$$H_j^C = \frac{\sum_{i=1}^{n} g_{ij}^0(k)}{w_j n}$$

Note that for k=1 (union approach) there is no difference between the censored and the raw headcount ratios. On the other hand, for k=d (intersection approach), the relative contribution of each dimension necessarily equals its weight, since by definition only those simultaneously deprived in all areas are considered poor.

Graph A.1.2 displays the censored headcount ratios by dimension in 2009 for immigrant and native-born population aged under 60, using a union (k=1) and an intermediate (k=2) identification approach. Graphs A.1.3 and A.1.4 show in turn the dimensional breakdown of M_0 in each country, for k=1 and k=2. An important conclusion that can be drawn from this analysis is that low work intensity contributes relatively less to overall poverty among immigrants that among native-born population, for both values of k. This is especially true in Spain and Italy, where the percentage of total immigrant poverty stemming from employment deprivation was around half or less the values obtained for the native-born. It also fits quite well the Canadian case when using the

among immigrants, see among others Martínez (2010), Muñoz de Bustillo and Antón (2011) or Mahía and De Arce (2014).

union, but not the intermediate, identification approach. The comparatively high values of the Adjusted Headcount Ratios for immigrants in the two South-European countries are mainly due to the high incidence of low income and, especially, material deprivation among immigrant families, even when working full time. Both dimensions taken together contribute to overall immigrant poverty well above their weight, explaining at least 90% of total poverty for k=1, and around 85% for k=2.

For the rest of the countries, the relative contribution of each dimension to overall poverty among immigrants is much closer to that observed for the native-born, although there are huge differences in absolute values between the two groups (especially in France and the United Kingdom). Germany and, especially, Ontario exhibit the lowest gaps between migrant and native-born people, as stated before, but the structure of multidimensional poverty differs in the two countries when using the union approach: low income contributes more to immigrant poverty in Ontario than in Germany, and the opposite is true for material deprivation and low work intensity.

1.4.5. Changes during the economic downturn

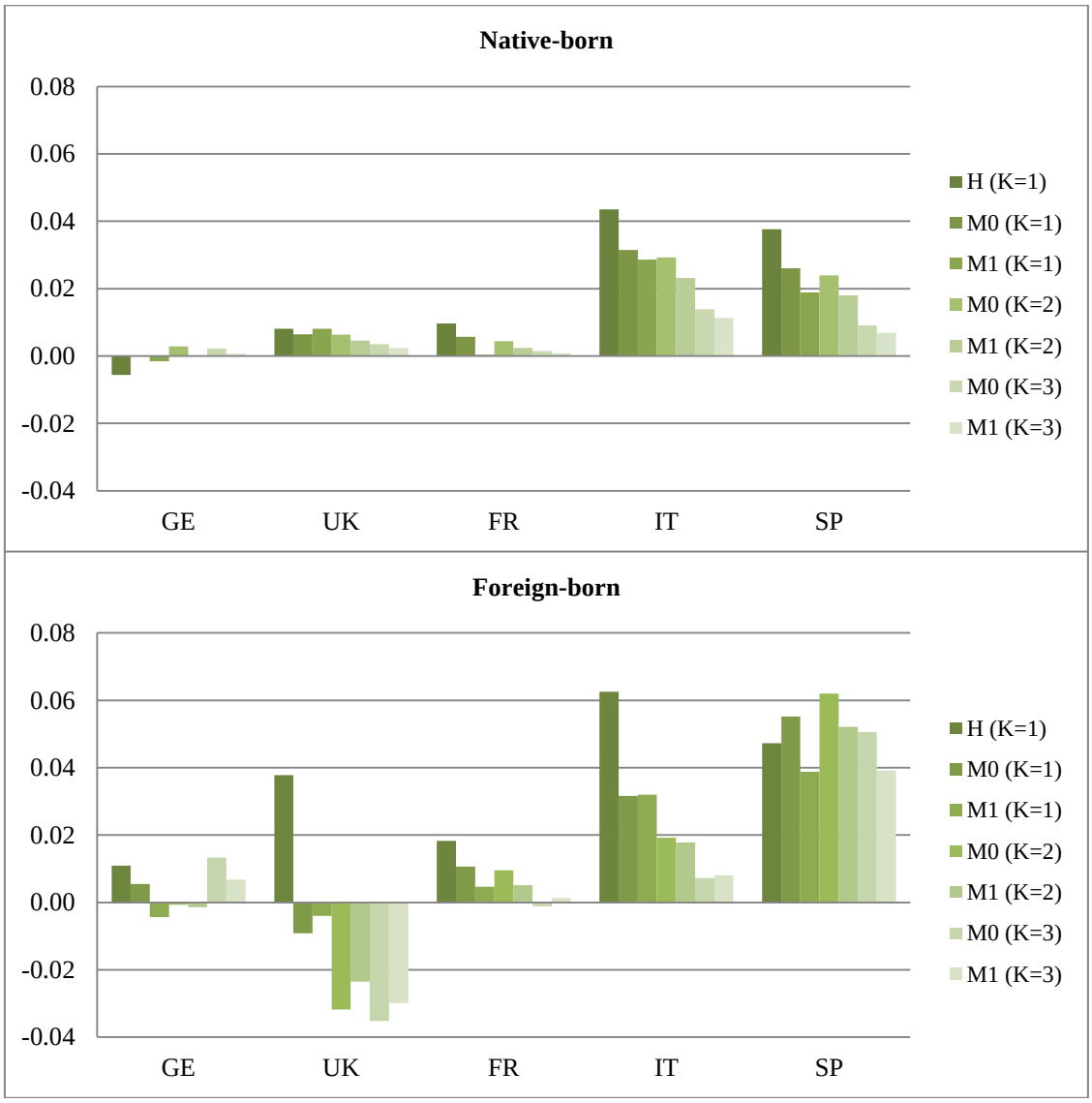
The current economic recession has placed the social agenda in some European countries under pressure, due to stagnating real income, rising unemployment and higher low-income rates. Some of the countries that had attracted the most intense recent migratory flows are also among those that have been most affected by the Great Recession, having even required bailouts from the European Union/International Monetary Fund. The austerity measures subsequently implemented in these countries could have exacerbated the negative impact of the crisis, since many social programmes were severely cut due to budget restrictions.

The deterioration in income and standard of living indicators has been generally more severe for active age adults than for retired people, due to the negative impact of the recession on employment rates in most countries. Graph A.1.5 (see Appendix) shows that this has been particularly the case in Spain, with a clear upsurge in low income, low work intensity and at-risk-of-poverty or exclusion rates both among native and foreign prime age adults. Severe material deprivation has also tended to increase, although

maintaining low absolute values, due partly to the heavy weight attached to widely-owned durables in the current 9-item Eurostat list.

Graph 1.5 shows the absolute change in the unadjusted headcount ratio (H) and the A-F measures M_0 and M_1 (for k=1, 2 and 3) between 2009 and 2011, in the five European countries included in the analysis.

Graph 1.5. Absolute changes in H, M_0 and M_1 measures between 2008 and 2011

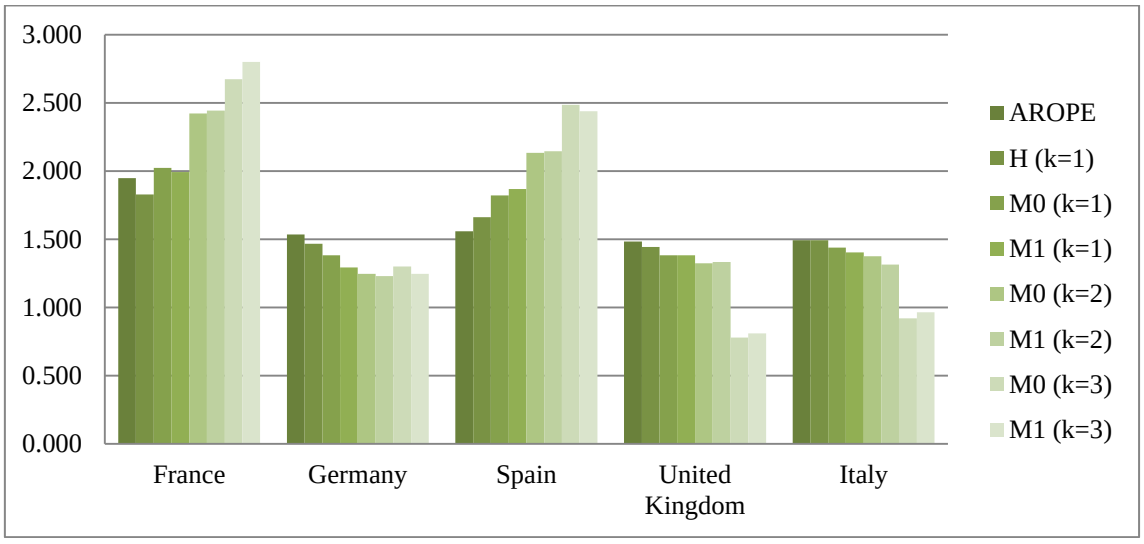


Source: Own research using cross-sectional 2009 and 2011 SILC anonymised user databases, versions 01-08-2011 and 01-03-13 respectively.

It is clear from these results that Spain and, to a lesser extent, Italy, are the countries in which immigrants suffered the highest increases in the risk of poverty and social exclusion during the first years of the crisis, for any value of k[40]. In contrast, changes have been much smaller in Germany, France and the United Kingdom (with M_0 and M_1 measures even showing a decrease among immigrants in this last country).

How these changes have affected the risk of poverty or exclusion gap between the native and foreign-born populations can be assessed by looking at Graph 1.6, which displays the same set of measures contained in Graph 1.4 for Spain and the other four EUSILC countries, updated to 2011. The graph clearly shows to what extent the worsening of the low work intensity indicator following the onset of the economic downturn has changed the multidimensional poverty profile of immigrants in Spain, compared to the other countries. In only two years, work intensity decreased sharply among immigrant households, due to rising unemployment.

Graph 1.6. Relative risk of poverty or social exclusion for the foreign-born population aged under 60 using different measures, 2011



Note: The graph shows the risk of poverty or exclusion of the foreign-born population divided by the values of the same indicator for the native-born population, both under 60.

Source: Own research using cross-sectional 2009 and 2011 SILC anonymised user databases, versions 01-08-2011 and 01-03-13 respectively.

[40] This worsening has also been highlighted by Ballester, Velazco and Rigall-i-Torrent (2015), who used Family Budget Survey data to analyse the effects of the Great Recession on immigrants' household consumption in Spain.

According to the Labour Force Survey data, the unemployment rate of the foreign-born population increased from around 12% in 2007 to 21% at the end of 2008 and to 32% at the beginning of 2011. Following a transitory stabilisation in 2011, the foreign-born unemployment rate continued to rise until at least the first trimester of 2013, when it reached a striking 39% (42% among those born outside the EU). This deterioration was not only larger than that suffered by native workers, but also had very different implications in terms of the risk of poverty and social exclusion. Many immigrant families were already receiving low incomes and/or suffering material deprivation when the economic cycle was at its peak in 2007, but nevertheless were in work. Since the start of the economic crisis, the deprived-in-all-dimensions group has risen at a higher rate among the foreign-born, thus intensifying their risk of poverty and exclusion and widening the origin-related gap. It results in a picture in which, as in France, the position of immigrant compared to native families deteriorates as the value of k grows from 1 to 3 (Graph 1.6).

The Europe 2020 indicator has the advantage of simultaneously taking into account these three basic domains (income, employment and material living conditions) to evaluate the risk of poverty. Yet the analysis above suggests that this measure may not be sufficient to reflect the growing intensity of multidimensional deprivation in some groups or countries. This seems to be precisely the case in Spain when evaluating the impact of the beginning of the crisis on the situation of immigrant households. A decomposition of changes in the M_0 measure throughout the period 2009-2011, for the intermediate identification approach (k=2), reveals that 18% of the increase in the value of the Adjusted Headcount Ratio for immigrants in Spain can be attributed to the "intensity of poverty" effect, compared to only 2% for the native-born. In Italy, the other country showing significant (but lower) increases in the at-risk-of-poverty or exclusion rates during the period, this contribution amounted to 6%, for both native and foreign-born individuals (see Table A.1.8 in Appendix).

Table A.1.9 shows in more detail how the three dimensions and the overall summary measures have evolved in Spain throughout the period 2008-2011, for the entire population under 60 and for immigrants, broken down between prime-age adults (25-59 years old) and the youngest (0-24 years old). The ratio in the final column indicates the proportional change between the first and last years considered. This table clearly confirms that work intensity is by far the dimension which most contributed to the

worsening risk of poverty and exclusion, with values that have almost doubled in only three years. As explained above, this indicator has deteriorated to a greater extent for the immigrant population, whose very low work intensity rates have risen from below 4% in 2008 to above 17% in 2011.

The data in Table A.1.9 also make it clear that the recession's impact on the risk of poverty and exclusion is higher when using the Adjusted Headcount Ratio and the Adjusted Poverty Gap, especially for immigrants. According to the Europe 2020 indicator, between 2008 and 2011, the overall Spanish poverty or exclusion rate has risen by about 30% for the total population aged under 60 (around 20% in the case of immigrants). By contrast, this increase would amount to between 40% and 150% for the A-F measures, with growing impacts as the value of k changes from 1 to 3.

It should be highlighted that the rise of the M_0 and M_1 indices in Spain has been huge for k=3 measures, especially among children and young people under 25 in immigrant households (Table A.1.9). For this group, the percentages simultaneously suffering low income, material deprivation and very low work intensity is eight times higher in 2011 than in 2008. In 2011, almost 10% of immigrant children lived in households deprived in all three dimensions, compared to a value of 3% (not shown in the Table) for children in households with native-born heads. This growing gap, if not corrected, could seriously undermine not only current but also the future integration of migrant minorities in Spain, given the strong influence, widely suggested in the literature, of children's economic well-being on adult outcomes.

1.5. Conclusions

The new multidimensional index launched by the European Strategy 2020 in 2010, as the vehicle to monitor progress in combating poverty (AROPE), can be seen as a progress towards a multidimensional perspective of poverty, one more consistent with the social inclusion policy approach prevalent in the EU. The choice of three dimensions seems to be coherent if we consider the new index as an adaptation of the traditional risk of poverty indicator, which tries to adjust the poverty concept to the wider notion of social exclusion, while avoiding the "explosion of concern" of many indiscriminate listings of problems, as Sen has warned against.

The use of income and deprivation indicators would confirm the trend, increasing over the last decade, towards combining the two approaches when analysing poverty. On the other hand, the introduction of the work intensity dimension contributes to giving political priority to the unemployment problem, so reinforcing the shared view that jobs are crucial to minimize the risk of poverty and make social inclusion easier. It also allows policymakers to identify those households which, despite suffering neither low income nor material deprivation at present (because they are receiving temporary transfers or are relying on savings), do in fact have a problem of lack of economic autonomy and are vulnerable to poverty and social exclusion if the low work intensity situation persists.

The three dimensions considered are also especially useful to study immigrant integration. Employment is in fact regarded as a key part of integration in EU countries. On the other hand, although the integration of immigrants is a long-term process involving other aspects that go beyond income and jobs, the ability to avoid poverty and achieve a minimum standard of living is vital for integration in the remaining domains.

Nevertheless, the definition used by the EU has some shortcomings, which must be highlighted. Firstly, as discussed in the paper, the indicators and thresholds used to represent deprivation in each domain may not be the best choice for all countries, due especially to the combination of relative national income standards with EU-wide common material deprivation indicators. For longstanding EU members, the abovementioned definition results in large groups who live on low incomes but do not report severe material deprivation (and the opposite is true for many of the poorer new member countries). Secondly, the identification method used when constructing the "at-risk-of-poverty or social exclusion" indicator is based on a "union approach", thereby ignoring differences in the degree of overlap among the three dimensions. Thirdly, the Europe 2020 poverty indicator provides a simple headcount measure, which is sensitive neither to the number of deprived dimensions of those identified as poor nor to the size of the gaps within each domain.

These limitations imply that there is room to supplement or adapt the new basic indicator, in order to gain insight when analysing vulnerability to poverty and social exclusion in a particular subset of European Union countries. A productive way to do so

may be to insert the Europe 2020 indicator into a more general class of multidimensional poverty indices, flexible enough to permit the robustness of conclusions to be checked when a set of basic parameters are modified. The Alkire-Foster family of measures provides a very appropriate methodology to support this generalisation within the Europe 2020 framework. Although other interesting multidimensional poverty measures exist in the literature, the A-F indices have certain properties which make them a good choice to analyse poverty and social exclusion in the European context.

The empirical part of this paper explores multidimensional poverty profiles of immigrant households in Spain and five other developed countries, using both the standard Europe 2020 approach and the A-F methodology. According to the original EU2020 indicator, France and Germany have the lowest overall risk of poverty or exclusion (approximately 20%), while the highest levels correspond to Italy and Canada (above 25%), with Spain and the United Kingdom lying in between. If we focus on immigrants, however, there is a clear difference between Germany (26.7%) on the one hand, and France, Italy and Spain, on the other, with rates of around 38-40%. Immigrants in Canada would show a risk only slightly lower than these latter countries and slightly above the United Kingdom.

Using the Alkire-Foster measures M_0 and M_1 for the three possible values of k compatible with the Europe 2020 dimensional structure changes the comparative performance of immigrants in some countries. On the one hand, when the degree of overlap among dimensions and the intensity of deprivation are taken into account, the immigrant-native gap is significantly increased in the United Kingdom and, especially, France. By contrast, the relative position of immigrant population improves in Germany and Ontario (the region chosen to represent Canada, due to data restrictions). For Spain and Italy, the results are mixed: compared to the initial AROPE picture, the relative risk faced by the foreign-born grows (Spain) or remains stable (Italy) when using the union or the intermediate identification approach, but drops sharply in the case of the intersection measures. Italy, Spain and, most markedly, France showed in 2009 the highest disparities between native and immigrants, with poverty and exclusion rates among immigrants that almost double (or more than double, in the case of France) those existing for the native-born.

The dimensional decomposition of M_0 shows that the comparatively high values of the Adjusted Headcount Ratios for immigrants in Italy and Spain are mainly due to the high incidence of low income and, especially, material deprivation among immigrant families, even when working full time. Both dimensions taken together contribute to overall immigrant poverty well above their weight, explaining at least 90% of total poverty for k=1, and around 85% for k=2. The fact that only very few immigrant households had low work intensity in 2009 in some of these countries largely explains the decline in risk rates when employing an intersection approach, but also means that jobs and high work intensity are not always sufficient to lift immigrants out of poverty and material deprivation.

As many studies have emphasised, the labour integration of migrants has been comparatively high, but also extremely precarious, in Spain and other new European immigration countries. The current economic recession has worsened sharply the employment position of the foreign-born in many countries. The results obtained clearly show that Spain, and, to a lesser extent, Italy, are the countries where immigrants have suffered the highest increases in the risk of poverty and social exclusion since the beginning of the crisis (among the five large European countries compared in this paper), for any value of k. The decomposition of changes in the M_0 (k=2) measure into "incidence" and "intensity" effects uncovers a higher than average role of the intensity component in Spain for the foreign-born population. In fact, the number of immigrant families suffering simultaneously low income, material deprivation and very low work intensity is six times higher in 2011 than in 2008. The increase has been even more noticeable for households with children, a trend that casts a shadow over current integration opportunities for migrant workers and their offspring. This change is not adequately reflected through the new Europe 2020 indicator, but becomes evident when using A-F measures sensible to the degree of overlap among dimensions.

Appendix

Table A.1.1. Material deprivation indicators for Ontario population, year 2009

	% People
Household cannot afford to obtain dental care when needed.	10.1
Household cannot afford to replace or repair broken or damaged appliances such as a vacuum cleaner or a toaster.	6.4
Household cannot afford to eat fresh fruit and vegetables every day.	5.2
Household cannot afford to have each member of the household have a hobby or leisure activity.	5.0
Household cannot afford to have friends or family over for a meal at least once a month.	4.9
Household cannot afford to have appropriate clothes for job interviews or other special occasions.	3.1
Household cannot afford to buy some small gifts for family or friends at least once a year.	2.4
Household cannot afford to eat meat, fish or a vegetarian equivalent at least every other day.	2.0
Dwelling not free of pests and insect such as mice, bedbugs or cockroaches.	0.6
Household cannot afford to get around the community, either by having a car or by taking the bus or an equivalent mode of transportation.	0.6
% People living in households reporting deprivation:	
1+ items	19.5
2+ items	9.8
3+ items	5.6
4+ items	2.9
5+ items	1.7

Notes: The table shows the percentage of people living in households reporting deprivation, related to the total population answering the material deprivation module. Households answering "Do not know" simultaneously to all the deprivation questions (about 13% of the sample) have been excluded from calculations.

Source: Author's elaboration based on the SLID-2009 Public Use Microdata File.

Table A.1.2. Demographic shares of immigrants by age group, 2009

	GE	**SP**	**FR**	**IT**	**UK**	**CN**	**ONT**
Native-born	91	91	87	91	87	81	73
Aged 0-24	23	23	25	21	25	24	22
Aged 25-59	46	48	41	44	40	42	38
Aged 59+	21	21	20	25	21	15	14
Immigrants	9	9	13	9	13	19	27
Aged 0-24	2	3	5	3	5	6	9
Aged 25-59	3	5	6	5	7	9	12
Aged 59+	4	1	3	1	2	4	6
Total	100	100	100	100	100	100	100

Source: Author' elaboration based on cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

Table A.1.3. Low income, material deprivation, low work intensity and at-risk-of-poverty or social exclusion rates by immigrant status and age group, 2009

	Low income	Severe material deprivation	Very low work intensity	At risk of poverty or exclusion
Total population (aged <60)				
FR	0.137	0.062	0.085	0.204
GE	0.154	0.062	0.108	0.210
SP	0.183	0.038	0.069	0.230
UK	0.163	0.039	0.128	0.230
CN	0.195	(Na)	0.107	0.255(s)
IT	0.185	0.075	0.088	0.259
Ontario	0.196	0.057	0.115	0.261
Immigrants (aged <60)				
FR	0.305	0.132	0.151	0.388
GE	0.208	0.071	0.129	0.267
SP	0.300	0.116	0.068	0.378
UK	0.268	0.083	0.162	0.326
CN	0.280	(Na)	0.127	0.362(s)
IT	0.302	0.170	0.057	0.404
Ontario	0.247	0.090	0.098	0.326
Immigrants: aged 25-59				
FR	0.249	0.120	0.142	0.340
GE	0.191	0.063	0.140	0.249
SP	0.259	0.103	0.069	0.339
UK	0.214	0.072	0.137	0.269
CN	0.249	(Na)	0.121	0.328(s)
IT	0.272	0.161	0.059	0.378
Ontario	0.205	0.069	0.085	0.275
Immigrants: aged under 25				
FR	0.369	0.146	0.162	0.443
GE	0.236	0.084	0.110	0.297
SP	0.369	0.139	0.067	0.443
UK	0.340	0.098	0.197	0.404
CN	0.328	(Na)	0.137	0.414(s)
IT	0.352	0.186	0.055	0.447
Ontario	0.306	0.120	0.117	0.398

Notes: (Na) Not available. (s) Estimated adjusting upwards the risk of low income or low work intensity by using the same proportions derived for Ontario.

Source: Author's elaboration based on cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

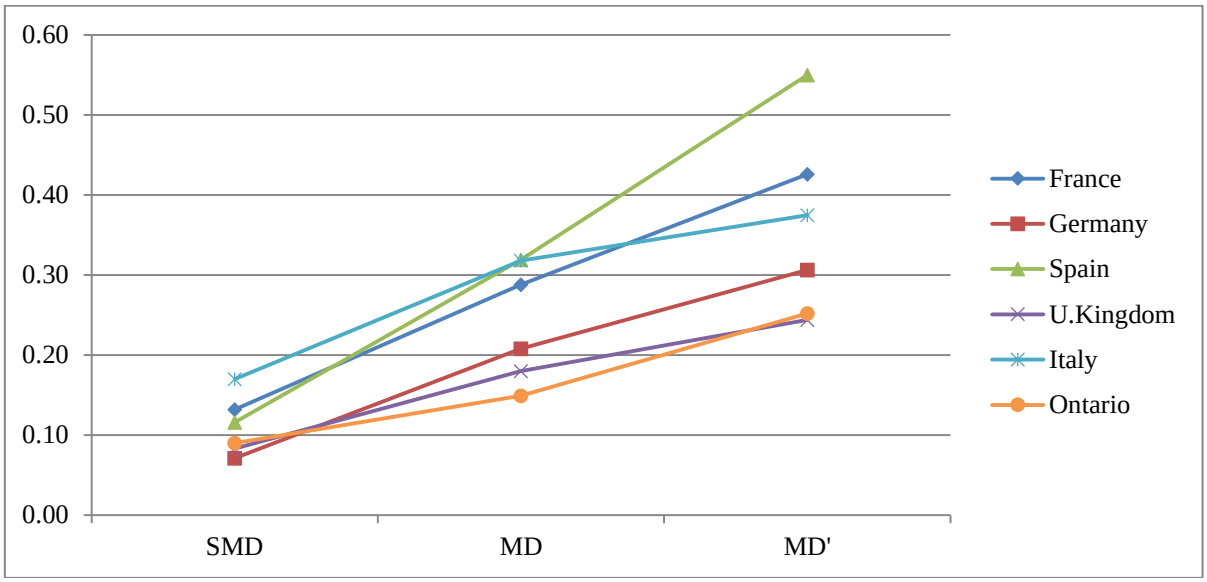
Table A.1.4. Material deprivation and at-risk-of-poverty or social exclusion rates using different deprivation indicators and thresholds, 2009

	Material deprivation			At-risk-of-poverty/exclusion		
	SMD	MD	MD'	Using SMD	Using MD	Using MD'
Total population (aged <60)						
FR	0.062	0.150	0.259	0.204	0.256	0.336
GE	0.062	0.142	0.211	0.210	0.250	0.293
SP	0.038	0.123	0.275	0.230	0.280	0.383
UK	0.039	0.115	0.174	0.230	0.265	0.296
IT	0.075	0.166	0.200	0.259	0.313	0.337
Ontario	0.057	0.100	0.197	0.261	0.287	0.340
Immigrants (aged <60)						
FR	0.132	0.288	0.426	0.388	0.462	0.544
GE	0.071	0.208	0.306	0.267	0.349	0.418
SP	0.116	0.319	0.550	0.378	0.489	0.638
UK	0.083	0.180	0.244	0.326	0.365	0.395
IT	0.170	0.318	0.375	0.404	0.478	0.522
Ontario	0.090	0.149	0.252	0.326	0.369	0.422

Notes: SMD=Severe material deprivation, using current Eurostat definition. MD= Material deprivation, using current 9 items deprivation list, but changing threshold to 3+ items. MD'= Material deprivation using the 3+ items threshold in the alternative 9 items deprivation list, obtained substituting the enforced lack of three widely possessed durable goods (a television set, a washing machine and a telephone) for the following items: a) the household cannot afford a computer; b) the household cannot afford dental care for each member of the family when needed; c) the household cannot afford replacing worn-out furniture. For Ontario, the three definitions correspond to applying the thresholds of 3+ items, 2+ items and 1+ items respectively to the list of 10 indicators included in the Ontario Material Deprivation Index.

Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

Graph A.1.1. Material deprivation rates for immigrants with different indicators and thresholds, 2009



Notes: See Table A.4 for an explanation of the definitions of material deprivation used.

Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

Table A.1.5. Headcount (H), Adjusted Headcount (M_0) and Adjusted Poverty Gap Ratios (M_1) for different values of the dimensional threshold *k,* 2009

	k=1			k=2			k=3	
	H	**M_0**	**M_1**	**H**	**M_0**	**M_1**	**H=M_0**	**M_1**
Total population (aged <60)								
FR	0.256	0.124	0.085	0.087	0.067	0.046	0.029	0.021
GE	0.250	0.135	0.094	0.110	0.088	0.063	0.044	0.033
SP	0.280	0.125	0.085	0.078	0.057	0.041	0.017	0.013
UK	0.265	0.135	0.095	0.108	0.083	0.061	0.034	0.025
IT	0.313	0.146	0.103	0.104	0.076	0.056	0.021	0.017
Ontario	0.287	0.137	0.084	0.097	0.073	0.050	0.026	0.019
Immigrants (aged <60)								
FR	0.462	0.248	0.163	0.203	0.162	0.111	0.078	0.057
GE	0.349	0.181	0.124	0.147	0.114	0.079	0.048	0.036
SP	0.489	0.229	0.162	0.172	0.123	0.084	0.027	0.020
UK	0.365	0.203	0.145	0.185	0.143	0.106	0.060	0.048
IT	0.478	0.226	0.154	0.176	0.125	0.085	0.024	0.019
Ontario	0.369	0.165	0.098	0.097	0.074	0.052	0.028	0.021
Immigrants: aged 25-59								
FR	0.413	0.217	0.148	0.172	0.136	0.096	0.066	0.049
GE	0.316	0.172	0.123	0.147	0.116	0.083	0.054	0.041
SP	0.454	0.207	0.151	0.144	0.104	0.072	0.024	0.018
UK	0.311	0.173	0.127	0.157	0.122	0.092	0.052	0.042
IT	0.452	0.208	0.144	0.153	0.109	0.074	0.020	0.015
Ontario	0.327	0.142	0.086	0.078	0.059	0.040	0.020	0.015
Immigrants: aged under 25								
FR	0.520	0.284	0.180	0.240	0.191	0.127	0.092	0.066
GE	0.405	0.197	0.126	0.148	0.112	0.072	0.038	0.027
SP	0.547	0.266	0.181	0.218	0.156	0.104	0.032	0.023
UK	0.440	0.244	0.170	0.222	0.171	0.126	0.070	0.057
IT	0.520	0.254	0.170	0.212	0.151	0.104	0.030	0.024
Ontario	0.430	0.198	0.116	0.125	0.096	0.069	0.039	0.029

Note: Values obtained using the intermediate material deprivation index in Table A.4.

Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

Table A.1.6. H, M_0 and M_1 measures for different values of *k*: EU-5=100

	k=1			k=2			k=3	
	H	**M_0**	**M_1**	**H**	**M_0**	**M_1**	**H=M_0**	**M_1**
Total population (aged <60)								
FR	94	93	92	89	91	86	99	94
GE	91	101	102	113	119	118	153	152
SP	103	94	92	80	77	76	59	61
UK	97	102	103	111	111	115	117	116
IT	115	110	111	107	102	104	72	76
Ontario	105	103	91	99	98	94	90	89
EU-5	100	100	100	100	100	100	100	100
Immigrants (aged <60)								
FR	108	114	109	115	121	119	165	158
GE	81	83	83	83	86	85	101	100
SP	114	105	108	97	92	90	57	55
UK	85	93	97	105	107	114	126	135
IT	111	104	103	99	94	92	50	52
Ontario	86	76	66	55	56	56	59	58
EU-5	100	100	100	100	100	100	100	100
Immigrants: aged 25-59								
FR	106	111	107	111	116	115	152	147
GE	81	88	89	95	99	100	124	124
SP	117	106	109	93	88	86	56	55
UK	80	89	92	102	104	110	121	127
IT	116	107	104	99	93	89	46	46
Ontario	84	72	62	50	50	48	47	46
EU-5	100	100	100	100	100	100	100	100
Immigrants: aged under 25								
FR	107	114	109	115	122	119	176	169
GE	83	79	76	71	71	68	73	69
SP	113	107	109	105	100	98	60	57
UK	90	98	103	107	110	118	133	145
IT	107	102	103	102	97	97	58	61
Ontario	88	80	70	60	62	65	75	74
EU-5	100	100	100	100	100	100	100	100

Notes: EU5=100 represents the unweighted average of rates for the five EUSILC countries.

Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

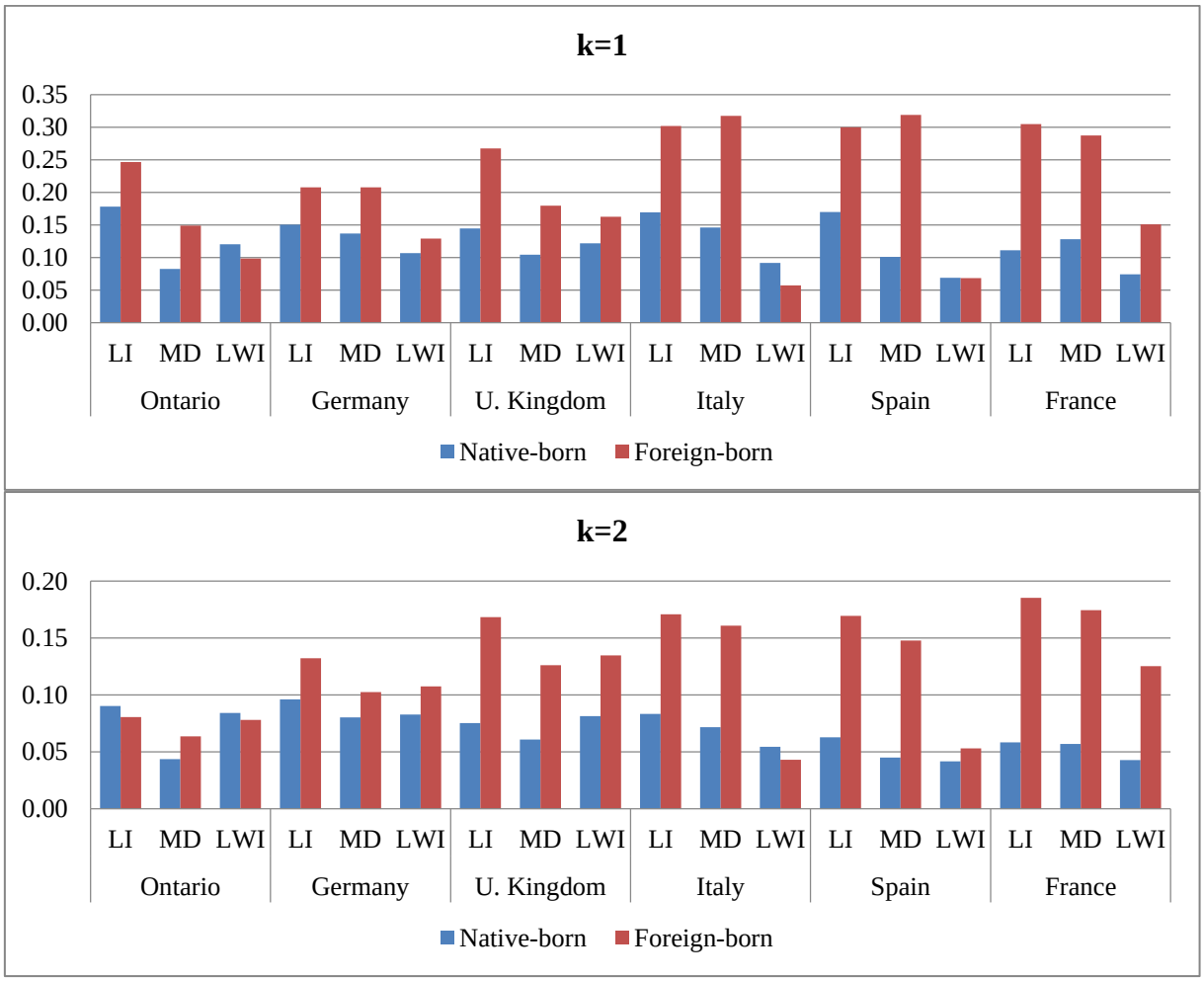
Table A.1.7. H, M_0 and M_1 measures for different values of *k*: Relative risk for immigrants in different countries

	k=1			k=2			k=3	
	H	**M_0**	**M_1**	**H**	**M_0**	**M_1**	**H=M_0**	**M_1**
Immigrants: total								
FR	1.8	2.0	1.9	2.3	2.4	2.4	2.7	2.8
GE	1.4	1.3	1.3	1.3	1.3	1.3	1.1	1.1
SP	1.7	1.8	1.9	2.2	2.1	2.1	1.6	1.5
UK	1.4	1.5	1.5	1.7	1.7	1.7	1.8	1.9
IT	1.5	1.5	1.5	1.7	1.6	1.5	1.2	1.1
Ontario	1.3	1.2	1.2	1.0	1.0	1.0	1.1	1.1
Immigrants: aged 25-59								
FR	1.6	1.7	1.7	2.0	2.0	2.1	2.3	2.4
GE	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2
SP	1.6	1.7	1.8	1.8	1.8	1.8	1.4	1.4
UK	1.2	1.3	1.3	1.5	1.5	1.5	1.6	1.7
IT	1.4	1.4	1.4	1.5	1.4	1.3	1.0	0.9
Ontario	1.4	1.5	1.5	1.6	1.6	1.6	1.5	1.5
Immigrants: aged under 25								
FR	2.0	2.3	2.1	2.8	2.8	2.8	3.2	3.2
GE	1.6	1.5	1.3	1.3	1.3	1.1	0.9	0.8
SP	2.0	2.1	2.1	2.8	2.7	2.6	1.9	1.7
UK	1.7	1.8	1.8	2.1	2.1	2.1	2.1	2.2
IT	1.7	1.7	1.7	2.0	2.0	1.9	1.5	1.4
Ontario	1.8	1.9	1.8	2.1	2.1	2.0	1.8	1.8

Notes: The relative risk ratios are obtained by dividing each group's rate by the values for the whole population aged 60 or less.

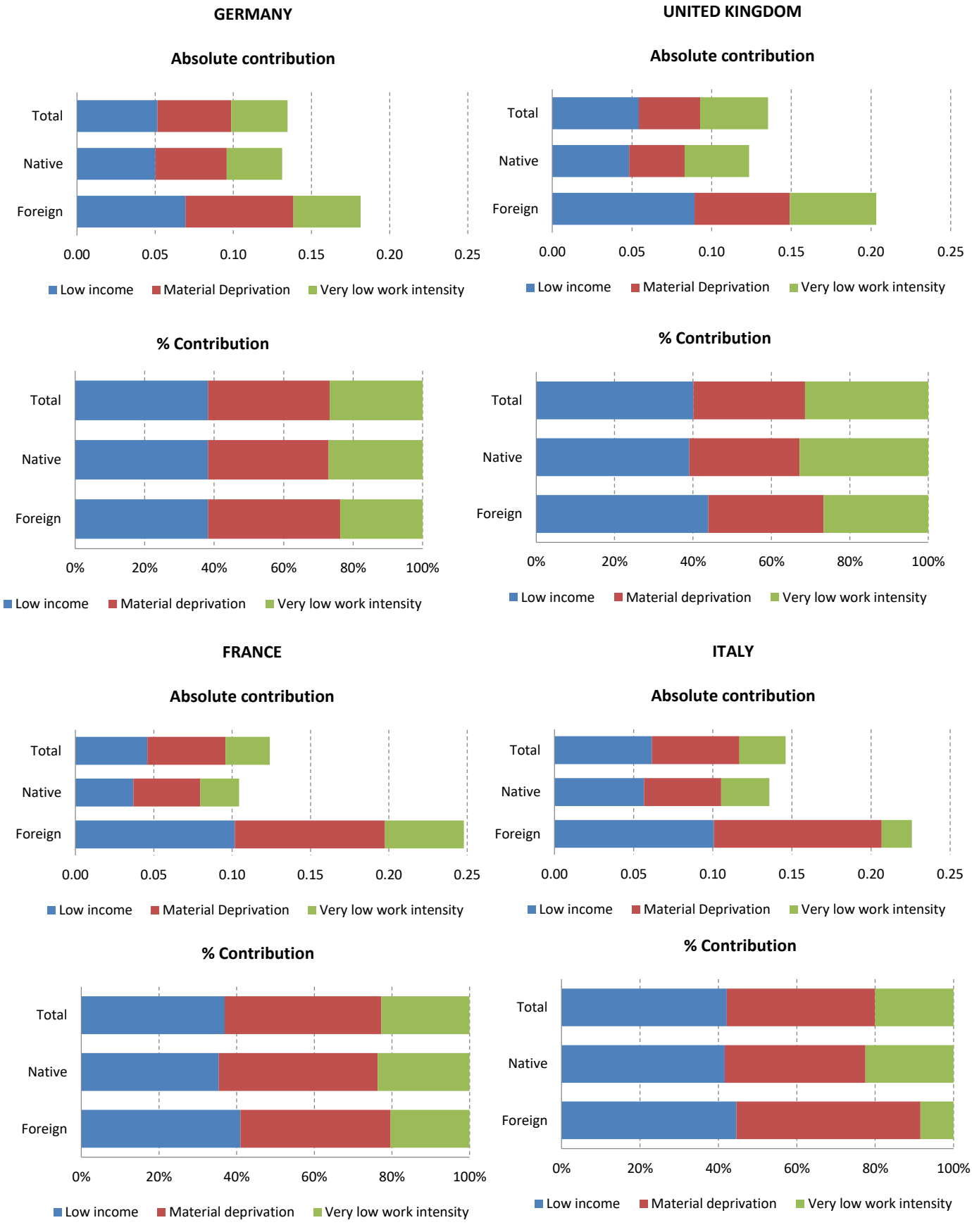
Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada.

Graph A.1.2. Censored headcount ratios by dimension in 2009, for k=1 and k=2

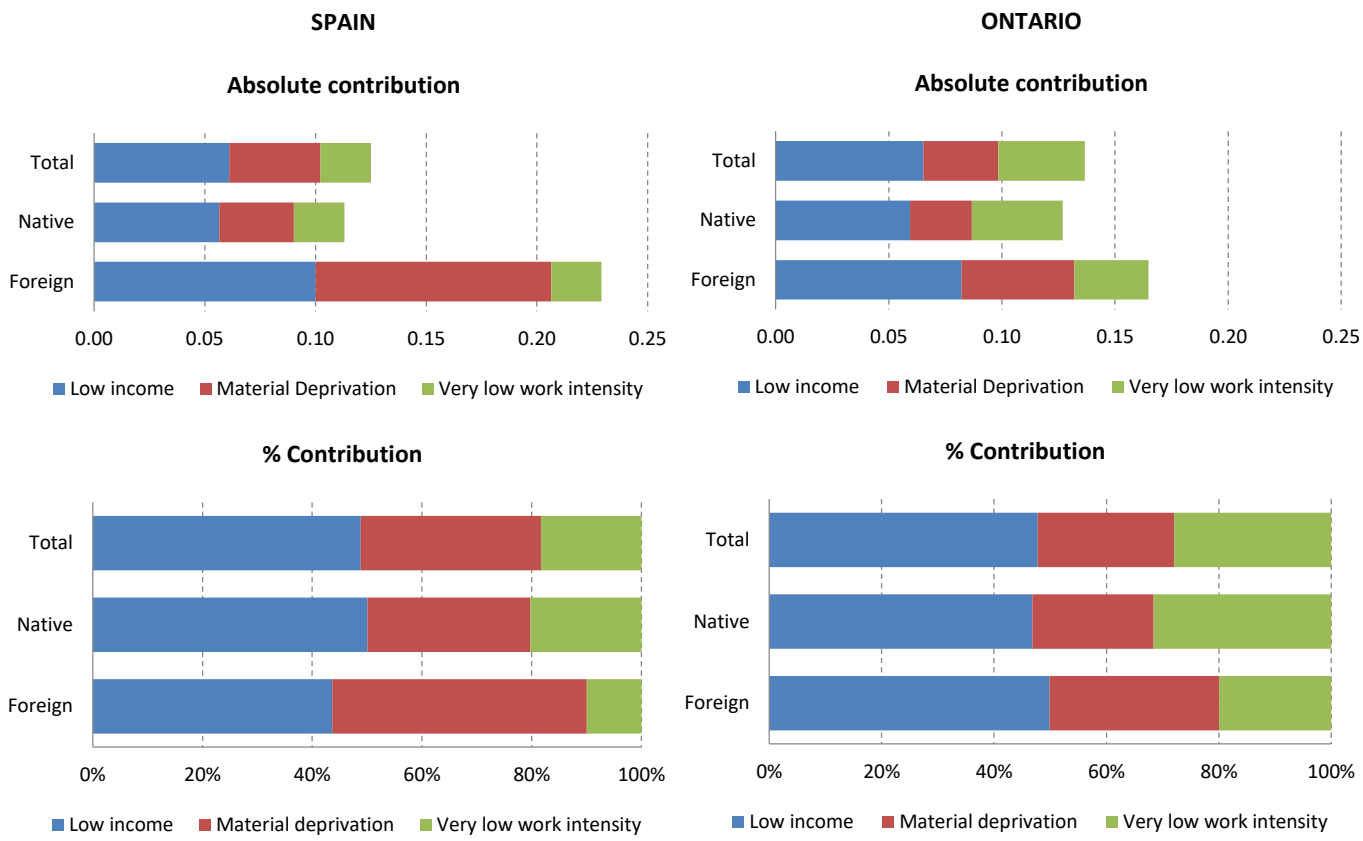


Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada

Graph A.1.3. Dimensional breakdown of the Adjusted Headcount Ratio M_0 in 2009 (k=1)

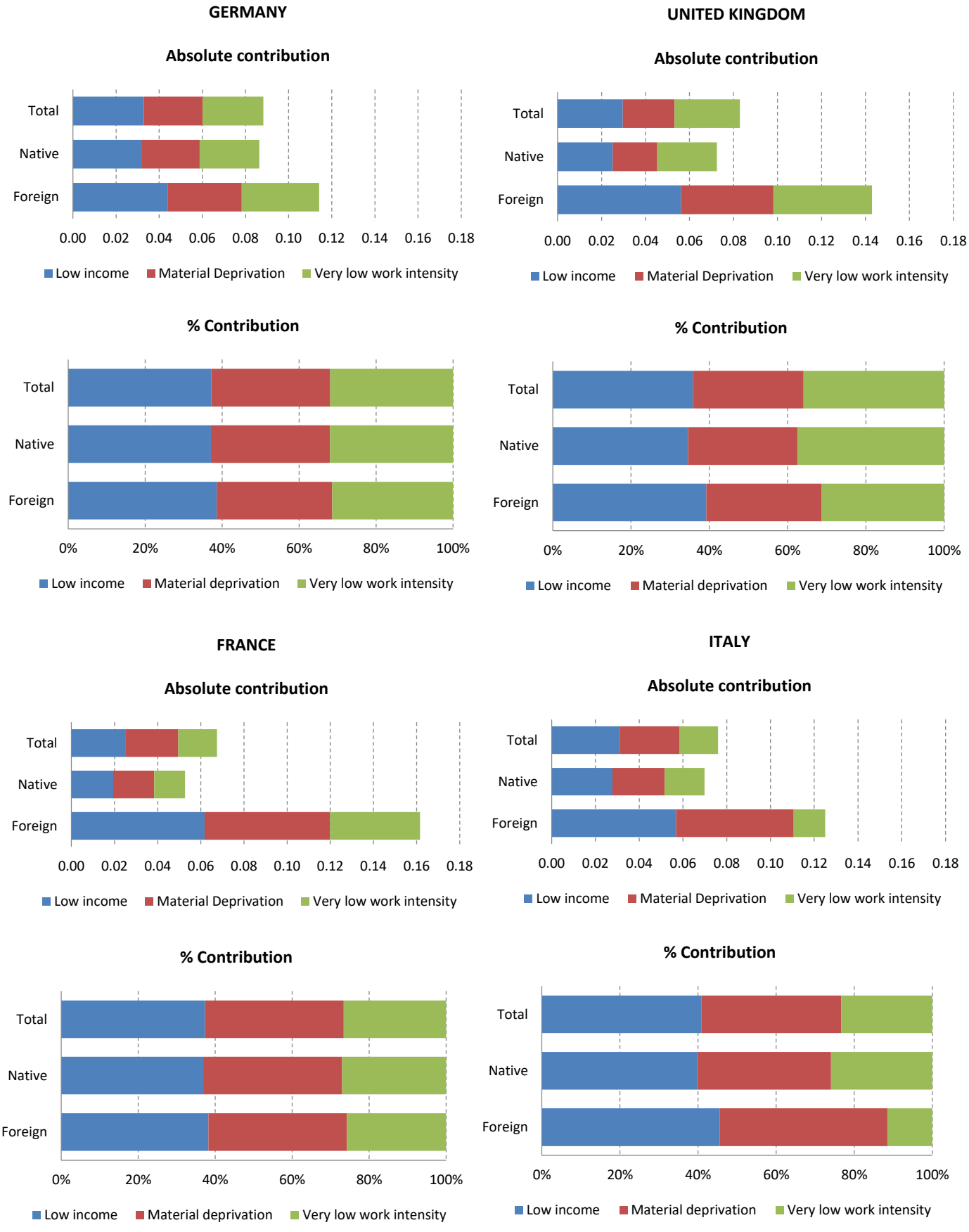


Graph A.1.3. (Continued)

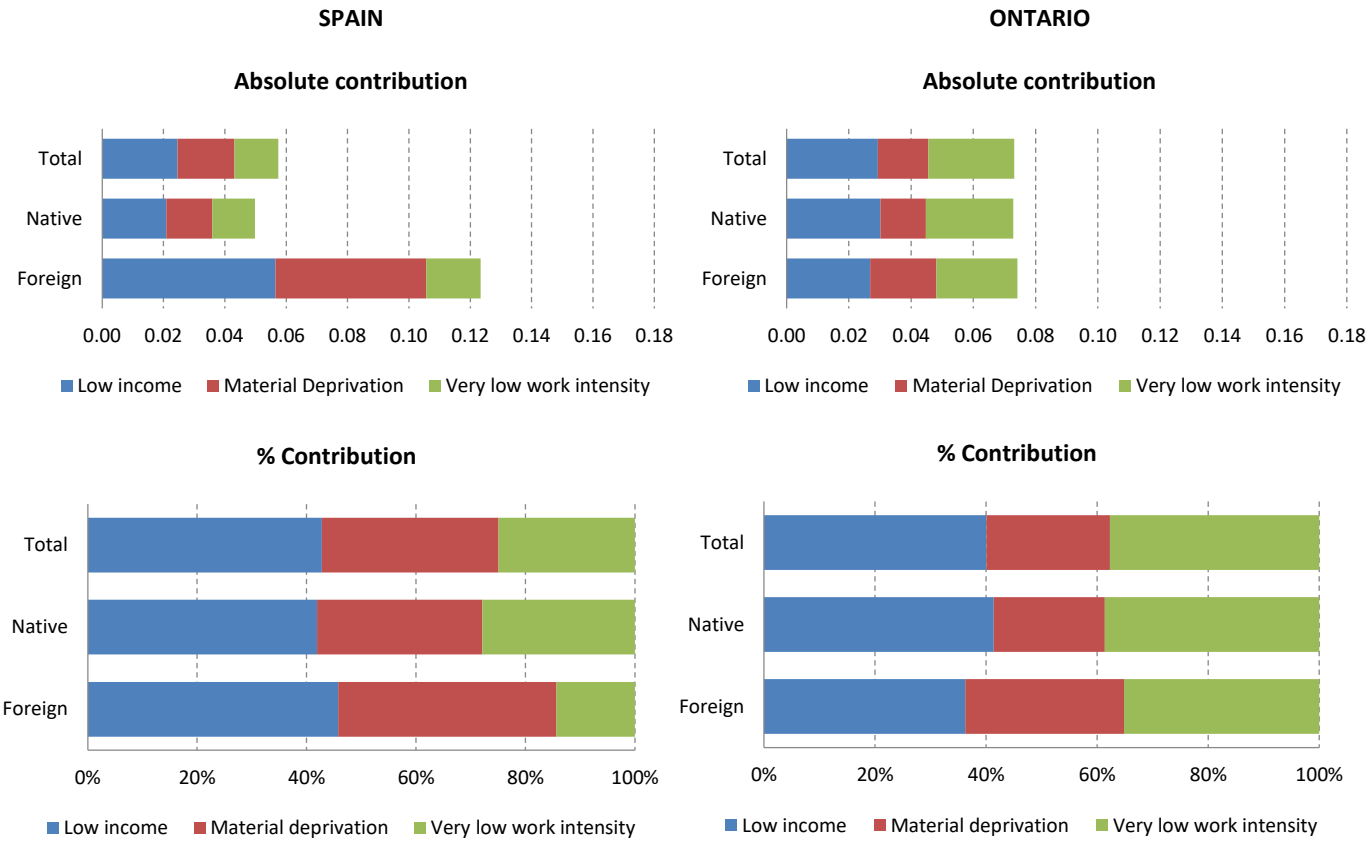


Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada

Graph A.1.4. Dimensional breakdown of the Adjusted Headcount Ratio M_0 in 2009 (k=2)

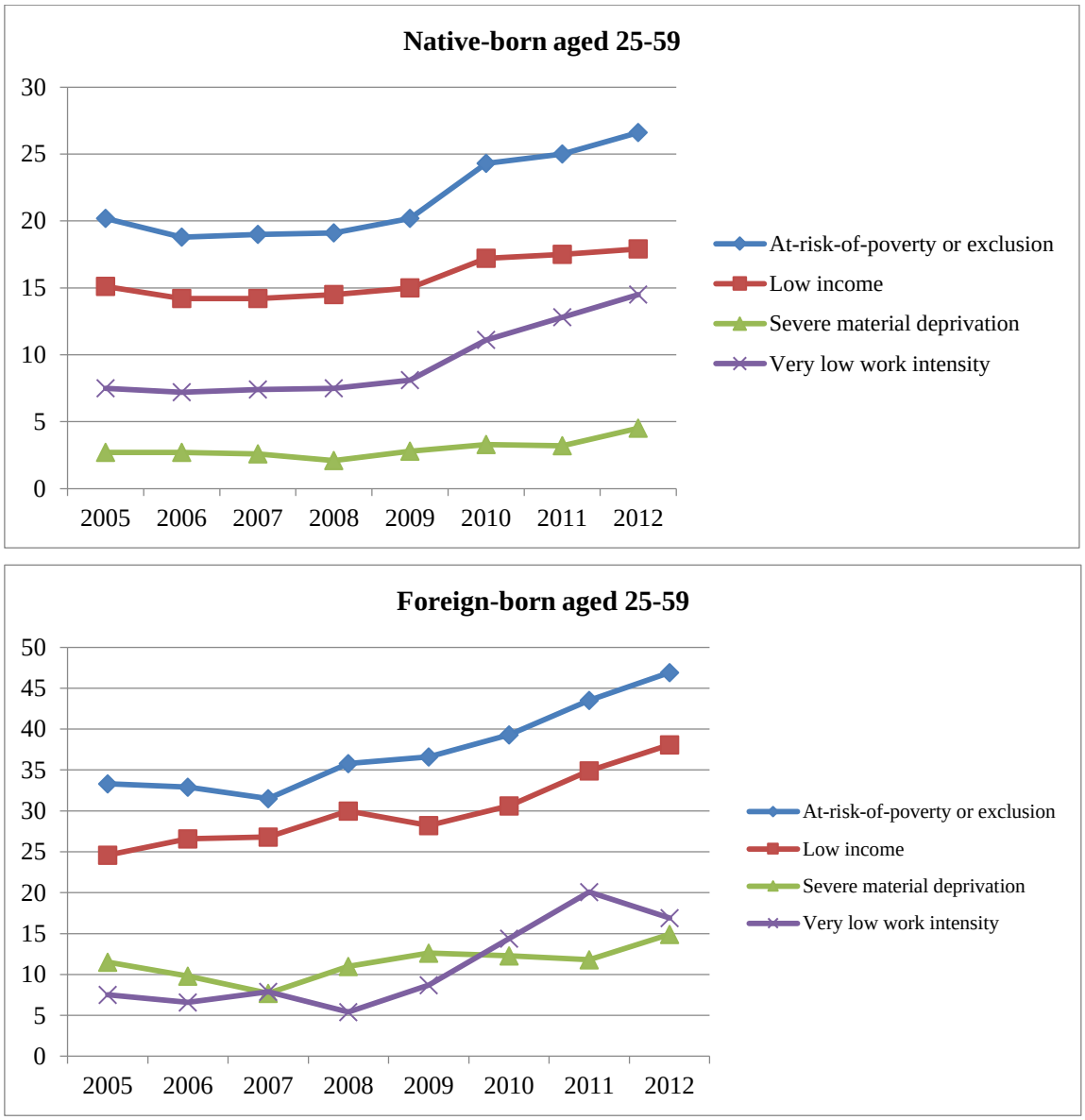


Graph A.1.4. (Continued)



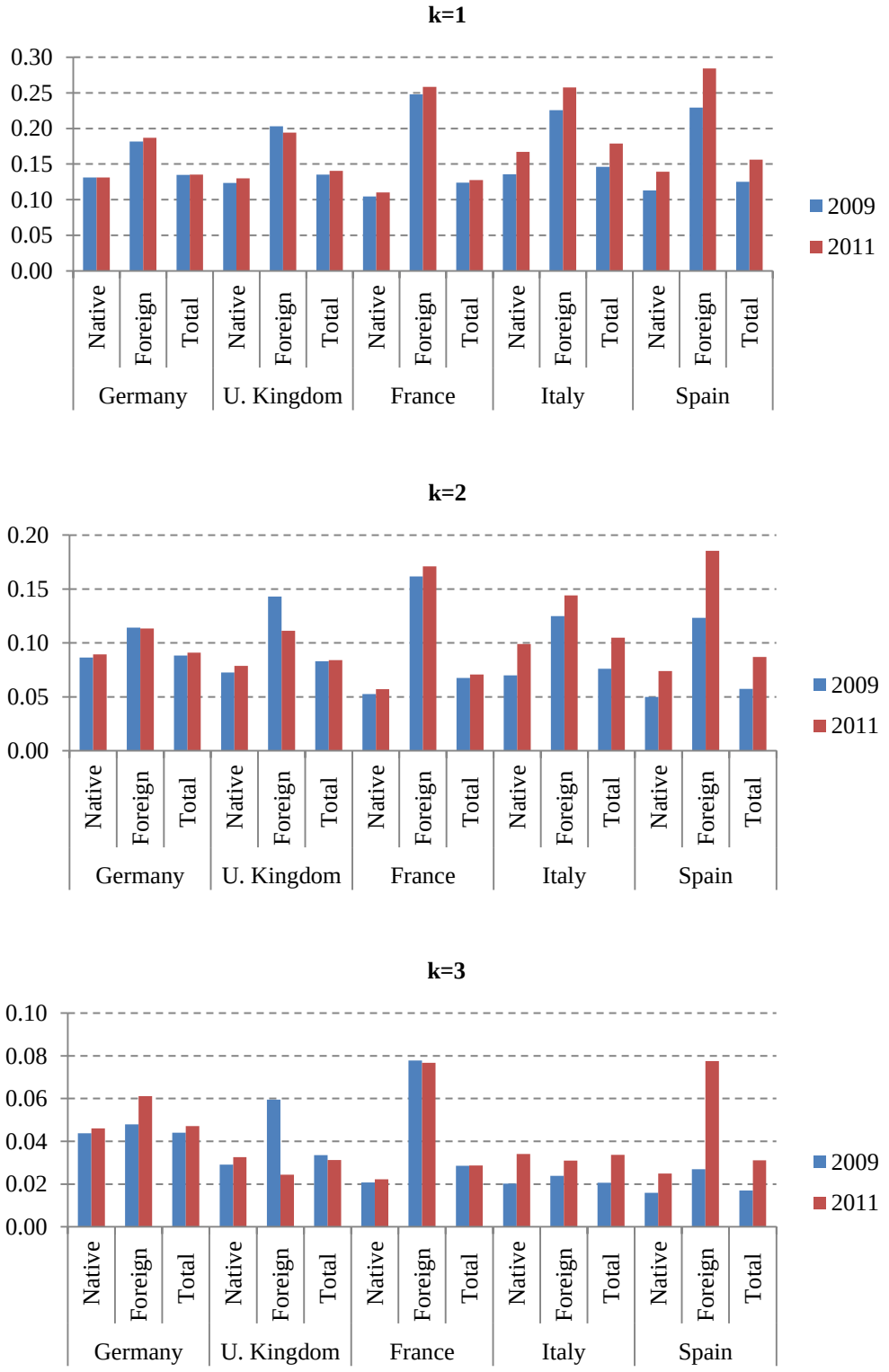
Source: Own research using cross-sectional 2009-SILC anonymised user database, version 01-08-2011, for European countries, and SLID-2009 Public Use Microdata File for Canada

Graph A.1.5. Trends in low income, severe material deprivation, low work intensity and AROPE measure in Spain over the period 2005-2012, for native and foreign-born persons aged 25-59



Source: Eurostat, Income and Living Conditions Database, October 2013.

Graph A.1.6. Change in the Adjusted Headcount Ratio (M_0) between 2009 and 2011



Source: Own research using cross-sectional 2009 and 2011 SILC anonymised user databases, versions 01-08-2011 and 01-03-13 respectively.

Table A.1.8. Decomposition of the change in the Adjusted Headcount Ratio $M_0(k=2)$ between 2009 and 2011: incidence and intensity effects

		ΔM_0		Decomposition of change (%)		
		Absolute	%	Poverty incidence effect	Intensity of poverty effect	Total
Germany	Native-born	0.00	3	90%	10%	100%
	Foreign-born	0.00	-1	745%	-745%	100%
	Total	0.00	3	76%	24%	100%
United Kingdom	Native-born	0.01	9	94%	6%	100%
	Foreign-born	-0.03	-22	71%	29%	100%
	Total	0.00	1	191%	-91%	100%
France	Native-born	0.00	8	102%	-2%	100%
	Foreign-born	0.01	6	123%	-23%	100%
	Total	0.00	5	114%	-14%	100%
Italy	Native-born	0.03	42	94%	6%	100%
	Foreign-born	0.02	15	94%	6%	100%
	Total	0.03	38	94%	6%	100%
Spain	Native-born	0.02	48	98%	2%	100%
	Foreign-born	0.06	50	82%	18%	100%
	Total	0.03	51	94%	6%	100%

Source: Own research using cross-sectional 2009 and 2011 SILC anonymised user databases, versions 01-08-2011 and 01-03-13 respectively.

Table A.1.9. At risk-of-poverty or exclusion in Spain over the period 2008-2011: components and summary measures

	2008	2009	2010	2011	Ratio 2011/2008
Total population (<60)					
Low income	0.180	0.183	0.208	0.221	1.2
Severe material deprivation	0.028	0.038	0.044	0.042	1.5
Material deprivation	0.093	0.123	0.141	0.126	1.4
Very low work intensity	0.063	0.069	0.097	0.122	1.9
AROPE	0.222	0.230	0.266	0.284	1.3
k=1, H	0.262	0.280	0.321	0.322	1.2
k=1, M0	0.112	0.125	0.149	0.156	1.4
k=1, M1	0.069	0.085	0.104	0.108	1.6
k=2, M0	0.046	0.057	0.075	0.087	1.9
k=2, M1	0.032	0.041	0.053	0.063	2.0
k=3, M0	0.012	0.017	0.027	0.031	2.6
k=3, M1	0.009	0.013	0.020	0.024	2.5
Total immigrants (<60)					
Low income	0.303	0.300	0.315	0.376	1.2
Severe material deprivation	0.101	0.116	0.142	0.113	1.1
Very low work intensity	0.039	0.068	0.120	0.174	4.5
Material deprivation	0.273	0.319	0.339	0.303	1.1
AROPE	0.370	0.378	0.395	0.442	1.2
k=1, H	0.462	0.489	0.500	0.536	1.2
k=1, M0	0.205	0.229	0.258	0.284	1.4
k=1, M1	0.134	0.162	0.191	0.201	1.5
k=2, M0	0.097	0.123	0.165	0.185	1.9
k=2, M1	0.067	0.084	0.120	0.136	2.0
k=3, M0	0.013	0.027	0.057	0.077	6.1
k=3, M1	0.010	0.020	0.044	0.059	5.9
Immigrants (<25)					
Low income	0.397	0.369	0.384	0.430	1.1
Severe material deprivation	0.111	0.139	0.179	0.129	1.2
Material deprivation	0.296	0.361	0.391	0.323	1.1
Very low work intensity	0.036	0.067	0.121	0.170	4.8
AROPE	0.448	0.443	0.454	0.496	1.1
k=1, H	0.537	0.547	0.554	0.577	1.1
k=1, M0	0.243	0.266	0.299	0.308	1.3
k=1, M1	0.147	0.181	0.215	0.212	1.4
k=2, M0	0.124	0.156	0.204	0.203	1.6
k=2, M1	0.083	0.104	0.147	0.148	1.8
k=3, M0	0.010	0.032	0.072	0.084	8.3
k=3, M1	0.007	0.023	0.055	0.065	8.8

Source: Own research using cross-sectional 2008, 2009, 2010 and 2011-SILC anonymised user databases, versions 01-08-2011 for 2008 and 2009, 01-03-12 for 2010 and 01-03-13 for 2011.

CHAPTER 2

POORER AND MORE DEPRIVED?
LOW INCOME AND MATERIAL DEPRIVATION
IN SPAIN OVER THE GREAT RECESSION

Chapter 2

Poorer and More Deprived? Low Income and Material Deprivation in Spain Over the Great Recession[41]

Poverty entails fear and stress and sometimes depression.
It means a thousand petty humiliations and hardships.
J.K. Rowling, 2008.

Abstract

This paper analyses how the economic crisis has modified the relationship between income and material deprivation in Spain, one of the European countries most affected by the crisis. The results show that the degree of overlap between low income and material deprivation has increased by around 50% from 2008 to 2012, even despite the offsetting effect of the reduction in the (relative) income poverty threshold. The paper demonstrate that the Great Recession has produced a significant recomposition of the poverty profile in Spain. In its conclusions, the study underlines the increasing role played by long-term unemployment and by differences in tenure status of households in predicting this overlap, four years after the bursting of the property bubble.

Keywords: Low income, poverty, material deprivation, poverty profile, Great Recession.
JEL codes: D31, I31, I32

[41] A first version of this paper, co-authored with Carolina Navarro, was presented at the *XVII Encuentros de Economía Aplicada*, Gran Canaria, Junio 2014, http://www.alde.es/encuentros/anteriores/xviieea/trabajos/n/pdf/259.pdf. There is also a working paper version published as EQUALITAS WP 34/2015, as well as an article version published in *Hacienda Pública Española / Review of Public Economics*, 218-(3/2016). I would like to express special gratitude to two anonymous reviewers who revised the paper and made useful comments and suggestions. Most of these suggestions have been used to improve the present final non-article version.

2.1. Introduction

Empirical research has shown that poverty definitions based on income and on standard of living indicators identify different individuals as poor. This "mismatch" poses problems when considering low income statistics from a social policy perspective, since families with similar incomes do in fact have different levels of deprivation. Used for a long time as the only benchmark to monitor progress in combating poverty, low income is now regarded at the European level as a mere indicator of "risk" of poverty, no longer as "poverty" itself. The definition of the new Europe 2020 poverty target, based simultaneously on low income, material deprivation and low work intensity indicators, represents a first attempt to combine these two approaches at the European level.

On the other hand, a number of studies have demonstrated, for different periods and contexts, that material deprivation measures can be useful to separate individuals and families who really experience economic shortages from those who, for different reasons, do not appear to be "poor" despite their low incomes (McKay and Collard 2004: 65). As recently illustrated by Hick using British data, households combining low income and material deprivation are also more likely to suffer from wider forms of multidimensional disadvantage, compared to those on low incomes (Hick 2014: 1100). These findings give empirical support to the "consistent" poverty measures currently included in official poverty statistics by some countries, as one of the possible routes to take advantage of direct indicators when analysing poverty[42].

This question is even more important at the current time, following several years of economic recession in a large part of the developed world. In many countries, the crisis appears to have had different effects upon income poverty and material deprivation, and little is yet known of the final impact of the macroeconomic shock on the overlap between the two phenomena and the concrete transmission mechanisms. Although a recession

[42] "Consistent poverty" is usually defined as people simultaneously having low income (delimited according to some previously settled poverty line) and material deprivation (identified using some specific set of deprivation indicators). The concept was initially proposed by Nolan and Whelan (1996), as a way to achieve better coherence between theoretical definition and empirical measurement of poverty. The "consistent poverty" approach is not, however, the only way to combine income and deprivation indicators, with some authors favouring a separate analysis of the two spheres (Chzhen 2014, UNICEF Innocenti Research Centre 2012).

typically involves changes which could increase the match between low income and deprivation, as a rise in long-term unemployment, there also exist, as discussed later in the text, processes which can counteract the previous outcome. Moreover, the decrease in average family income, significant in many countries, may cancel out the rise in monetary poverty if the threshold is not "anchored", potentially affecting the degree of overlap between low income and deprivation[43]. Some recent research shows that deprivation rose significantly more for lower than for middle or higher income groups in some, but not all, the European countries (Whelan, Nolan and Maître 2015), so that low income and material deprivation relationship can have followed different patterns during the Great Recession.

This study aims to shed light on this issue, by investigating changes in the degree of overlap and its determinants in Spain over the recent period. Spain has been one of the European countries most affected by the crisis and is especially valuable as a case study. After a decade of strong economic growth with average annual rises in GDP well over 3%, growth rates became negative from 2009 on and the unemployment rate increased from 8% in 2007 to 26% in 2013, the second highest rate in the EU-28 after Greece. In addition, the decade before the beginning of the economic crisis was also a time of large increases in housing prices, fuelled by abnormally low interest rates and a remarkable migratory boom. As in the case of the United States, many families with insecure jobs and low salaries purchased a home, thereby taking out mortgage loans which became a significant economic burden after the recession.

In this paper, cross-sectional data from the Living Conditions Survey (LCS), the Spanish component of EUSILC, are used to analyse changes in the degree of overlap between low income and material deprivation over the period of crisis. The results show that the two criteria have become closer in Spain after the Great Recession, even despite the offsetting effect of successive declines in the poverty lines used to delimit the poor. A multinomial logistic regression model is estimated in order to analyse the cross-sectional correlates of the probability of belonging to each of the four groups generated by combining low income and material deprivation before and after the crisis,

[43] "Anchored" poverty lines are obtained by keeping the initial poverty threshold fixed in real terms over a certain time period. In contrast, "moving" poverty lines are typically calculated as a proportion of *current* median household income levels.

highlighting the similarities, but also some significant changes, in the factors associated with the low income and material deprivation profiles.

The structure of the study is as follows. Firstly, a review is made of the factors which may affect the degree of overlap between low income and material deprivation and the potential sources of change following the onset of the crisis. Secondly, the material deprivation index used is derived, paying special attention to the aim of avoiding some limitations of the measure currently employed in EU statistics. Thirdly, recent trends in the degree of overlap between low income and material deprivation are described, using data for the period 2008-2012. Fourthly, the results of the multinomial logistic model estimated using 2008 and 2012 data are presented and succinctly discussed. The study ends with some brief conclusions.

2.2. Conceptual framework and previous studies

One of the main empirical regularities confirmed by the literature on poverty and material deprivation is the existence of a limited overlap between the groups receiving "low income" and those experiencing "material deprivation", whatever the thresholds chosen. This imperfect coincidence has been observed in both national studies and in comparative international analyses (Kis and Gábos 2015, Sullivan, Turner and Danziger 2008, Whelan, Layte and Maître 2004, Bradshaw and Finch 2003, Perry 2002, among others). Although it has been shown that the imbalance between low income and deprivation depends partly on the indicators and dimensions considered, even when selecting the subgroup of indicators most closely linked to income, and establishing thresholds which identify groups of the same size, the degree of overlap remains modest.

The explanation and evaluation of this fact has generated a broad debate in the literature, with diverse approaches to the theoretical and empirical reasons for the disparity of results and their social policy implications. This section examines some different visions of the "mismatch" between low income and material deprivation and discusses the foreseeable changes during a recessionary phase.

2.2.1. Making sense of the "mismatch"

Material deprivation is usually regarded as a "direct" approach to poverty. By contrast, income has traditionally been conceptualised as a variable indirectly related to poverty (Sen 1979, Ringen 1988). When analysing the limited overlap between low income and deprivation, it is important to highlight that the interpretation given to the "mismatch" may vary, depending on the conceptual approach to poverty and on several aspects related to the measurement process. In fact, various viewpoints exist in the literature regarding the correct way of treating this lack of adjustment.

An influential group of authors has defended the convenience of simultaneously using both approaches, proposing a criterion of "consistent" or "true" poverty, defined on the basis of the intersection of the two indicators (Maître, Nolan and Whelan 2013, 2006, Layte et al. 2001, Nolan and Whelan 1996, Halleröd 1995). Such an approach to the problem is in line with the well-known Ringen's suggestion that income and material wellbeing provide two incomplete evaluations of poverty, so that combining income and deprivation may help to identify those who suffer a low standard of living due to a lack of resources (Ringen 1988). Under this perspective, those not included in the intersection group are not poor in the strict sense, since they fail to meet at least one of the two basic requirements.

Within the "consistent" poverty approach, the material deprivation indicators are seen as a way of validating the information regarding income, useful to separate those who really suffer economic shortages from those who, for different reasons, "do not appear to be «poor»"(McKay and Collard 2004: 65) despite their low income. Yet at the same time, income levels permit the state of deprivation to be validated, since those households with incomes above the poverty line showing deprivation are also excluded. This procedure of double-check would serve to eliminate the inconsistency between the theoretical concept of poverty and the tools used to identify the poor according to the conventional criterion, based only on income[44]. Notten (2016) has recently argued, after

[44] Ireland is the country which has gone furthest in the application of this approach: the national plans to fight poverty include as an objective, from the year 2002 on, a measure of consistent poverty (Government

analysing EUSILC data for six European countries (Germany, France, Ireland, the Netherlands, Sweden and the United Kingdom), that triangulation between poverty indicators also allows a better evaluation of the poverty reduction effects of income transfers.

The consistent poverty approach is nevertheless open to various possible criticisms. On the one hand, the identification of the "true" poor on the basis of the intersection between low income and material deprivation indicators rests on the implicit assumption that both measure sufficiently well the two key concepts, resources and standard of living. If one of the two indicators presents strong biases (for example, significant economic resources are excluded from the definition of income) the justification for considering only the intersection group as poor loses strength.

On the other hand, arbitrariness in the establishment of the threshold may also pose problems. Given that the lines established to delimit the poor and the non-poor in the two dimensions are essentially arbitrary, so, up to a certain point, is the size of the intersection group. Furthermore, once set at a starting point, the two thresholds may follow divergent patterns of evolution over time, given that the low income line is routinely determined as a certain proportion of the median national income in the European countries, while material deprivation is usually measured by a fixed (yet periodically reviewed) standard. Thus, individuals classified as "consistent" or "non-consistent" poor may vary due to the "moving" nature of the income threshold applied, in both time and space terms. Even if the analysis is restricted to a specific country, a person who suffers simultaneously low income *and* material deprivation in a base year can be reclassified within the group of "non-consistent" poor in successive years, as a result of the decrease in the poverty line due to an economic crisis, without real changes in his or her income or standard of living.

This possibility is not merely theoretical, but rather describes the real evolution undergone in many countries during the current recessionary period. The 2013 follow-up report published in Ireland shows a sharp increase in the rate of material deprivation

of Ireland 2007: 24). In the United Kingdom, the Child Poverty Law of 2010 also includes a consistent poverty index, defined as the combination of income lower than 70% of the average *and* material deprivation (HM Government 2012: 14).

which is scarcely reflected, nevertheless, in the levels of "consistent" poverty, which continue to be low due to the scanty variation in the relative poverty rate (CSO 2013). Equally, in the United Kingdom, the Government implemented in 2012 a consultation process to improve the measures of child poverty, after confirming that in 2011 around 300.000 children left poverty behind due almost exclusively to the decline in average household income (HM Government 2012). Of course, the difficulties of interpretation derived from combining a relative indirect criterion with a direct measurement of the standard of living are multiplied when tackling international comparisons which include countries with very heterogeneous levels of wealth.

These problems have led some authors to favour a separate analysis of the two spheres, especially when the study covers different countries. From this perspective, low income and material deprivation represent two concepts of poverty which are related but intrinsically different, and which empirically may coincide to a greater or lesser degree, depending on a series of factors. Thus, the lack of overlap between the two criteria cannot be interpreted as an imbalance or incoherence, but rather as the most likely outcome. A recent example of this vision is the child poverty report published by UNICEF in 2012, which defends that low income and material deprivation are two "complementary" but basically "incompatible" measures of poverty, and thus the combination of the two criteria gives a whole that is "less useful than the sum of the parts" (UNICEF Innocenti Research Centre 2012: 4)[45].

The perspective adopted in this study is situated at a point between the two foregoing positions. The two approaches outlined above are considered useful to identify the risk of poverty. Furthermore, the combination of low income and deprivation offers a valuable criterion to investigate the profile of an especially vulnerable group of households. However, given that they are different approximations to poverty, which may obey different dynamics, it would be risky to identify this group with the "true" poor. Thus, it is necessary to monitor changes in the level and composition of "consistent"

[45] As stated in the report, "(b)oth the child deprivation rate and the relative child poverty rate are useful to policymakers, to social scientists, to the media, and to advocates for child wellbeing. Combining them into a common measure would be like combining oil and water, in that the whole would be less useful than the sum of the parts" (UNICEF Innocenti Research Centre 2012: 14). However, the author of the report accepts that the "consistent" poverty approach may make sense when analysing poverty in a specific country.

poverty, but also to track those households which, at a given moment, are classified as poor from only one of the two perspectives.

2.2.2. Explanatory factors

Whatever the approach adopted, it is obviously interesting to determine, theoretically and empirically, why these two perspectives, "low income" and "material deprivation", identify as poor distinct groups of people, even when omitting the differences derived from the level at which the threshold is fixed (in other terms, why each criterion generates different rankings of the population). Thanks to the strength of the material deprivation approach in recent decades, a number of studies have made it possible to explore the principal causal links.

From a theoretical perspective, there exist at least three groups of reasons which may prove significant when explaining the "mismatch" between income poverty and material deprivation, and whose importance has been confirmed in diverse contexts by previous literature[46]. Firstly, there are potentially important economic resources beyond current income, whose availability affects the extent to which an episode of low income has effects on the level of material deprivation. Accumulated wealth, human capital, access to public services or informal family networks are obvious candidates. Home-owners have, according to diverse studies, levels of deprivation inferior to those living in rented accommodation, especially if the mortgage is totally paid off (Berthoud, Bryan and Bardasi 2004, Nicholas and Ray 2012, Figari 2012, Perry 2002, Fusco, Guio and Marlier 2011). Such differences are a potentially important factor in Spain, due to the great predominance of owner-occupied dwellings and the intense rise in property prices and mortgage indebtedness in the period prior to the onset of the crisis. Similarly, human capital has also been shown to significantly reduce the probability of simultaneously suffering low income and material deprivation (i.e. "consistent" poverty), probably due to the ability of the education variable to summarize processes related to long-term command over resources (Figari 2012, Berthoud and Bryan 2011, Whelan, Layte and Maître 2004).

[46] Although it is true that, as noted by De Neubourg et al. (2012), relatively few overlap analyses based on EUSILC data exist so far.

Secondly, households may have different needs, which could be inadequately translated into the "adjusted" income indicator. Corrections of income to reflect needs are usually based on very simple equivalence scales which take into account household size, but not other sociodemographic factors which may increase or reduce expenditure needs. Similarly, geographical and urban/rural variations in the cost of living are often neglected, although they may be substantial in the case of important household expenditures, such as transport or housing (Tunstall et al. 2013, Nicholas and Ray 2012). In Spain, it has been shown that the poverty map varies when account is taken of the regional differences in the cost of living (Ayala, Jurado and Pérez-Mayo 2014). Poor health status, the number of dependent children or lone parenthood also tend to increase the risk of material deprivation, even after controlling for the "adjusted" income level of the household (Bárcena-Martín et al. 2014, Fusco, Guio and Marlier 2011, Dewilde 2008, Ayllón, Mercader and Ramos 2007, Layte et al. 2001). A relative robust finding is the existence of a reverse relationship between age and material deprivation, with the elderly being much less deprived than expected according to their income levels (Figari 2012, Muffels and Fouarge 2004, Whelan, Maître and Nolan 2007, among others).

Thirdly, but no less importantly, the deprivation indicators may be capturing dynamic aspects of poverty which are not adequately reflected in an income indicator whose standard reference period is the previous calendar year. Numerous empirical studies have found a greater correlation between long-term income or consumption and material deprivation, in comparison to current income (Meyer and Sullivan 2013, Sullivan, Turner and Danziger 2008, Berthoud, Bryan and Bardasi 2004, McKay and Collard 2004). On the other hand, transitions into and out of the labour market and employment insecurity can have a significant effect, independently of income, on the level of material deprivation, reflecting the economic vulnerability associated with the instability of the income flow (Ayala, Jurado and Pérez-Mayo 2011, Ayllón, Mercader and Ramos 2007, Benito 2006, Layte et al. 2001). Thus, contemporary material deprivation indicators would provide a relatively simple and cost-efficient way to study the outcomes of dynamic processes that otherwise would have to be analysed using longitudinal data.

From a *practical* point of view, there exist additional questions related to the operational measurement of the variables considered. The collection of data on household

income is a complex statistical operation subject to diverse types of measurement error (e.g. biases associated with non-responses, reporting errors due to forgetfulness, ignorance or desire to conceal). There also exist differences in the reliability of income according to the collection method (surveys, tax and administrative registers, or mixed), which affect comparability among countries or over time. Material deprivation indicators can also be biased, due to subjectivity in the interpretation of the questions formulated, feelings of shame of the interviewees[47] or difficulties in eliminating the impact of differences in tastes and lifestyles.

In real life, one or more of the foregoing causes may be decisive in explaining a specific pattern of overlap between low income and material deprivation, with potentially important consequences when it comes to deciding how to treat groups in a situation of risk from only one of the two perspectives.

2.2.3. Low income and material deprivation in a period of crisis: what do we know?

Whatever are the variables which at a given time explain a specific pattern of overlap between low income and material deprivation, it is foreseeable that a prolonged period of recession entails changes which modify the initial situation. The most straightforward effect of a recession is, generally, the loss of jobs and the reduction or disappearance of the regular income sources on which the family economy of many households was based.

At overall level, the most probable consequence is an increase in the at-risk of poverty rate, although the impact may vary depending on the income replacement mechanisms of a public or private nature available to families, as well as the intra-family distribution of unemployment (Pilkausas, Currie and Garfinkel 2012, Ayala, Cantó and Rodríguez 2011, 2016). It is important to qualify that, given that recessions usually entail a reduction in household median income, the increase in poverty may be of different

[47] As highlighted by Peter Adamson: "The published survey results may have the appearance of objective data, but behind every statistic of child deprivation is an individual parent answering a survey question about whether or not they can afford to allow their child 'to participate in school trips and events', or 'to invite friends home to play and eat', or 'to have a quiet place with enough room and light to do homework'" (UNICEF Innocenti Research Centre 2012: 12).

magnitude depending on whether a "moving" or an "anchored" threshold is applied. In general, it is to be expected that economic downturns have clear effects upon "anchored" poverty and material deprivation, while the effects upon relative poverty can be mixed, depending largely on inequality trends. Recent European experience seems to confirm this idea (Chzhen 2014, Duiella and Turrini 2014, Natali et al. 2014).

The impact of changes in employment upon material deprivation may vary depending on the strategies used by households to cope with economic shocks (Blundell 2011). Changes in labour supply of household members and a fall in consumption, especially spending on durable goods, are typically important reaction mechanisms in the face of adverse shocks suffered by labour income (Blundell 2011, Benito 2006). In the case of Spain, some studies have shown that the crisis has provoked, among other effects, an increase in the underground economy, a reduction in the purchase of luxury goods and an increase in precautionary saving behaviours, especially among immigrants (Velazco and Ballester 2010, Ballester, Velazco and Rigall-i-Torrent 2015). It is important to emphasise that the possibilities of cushioning the negative effects of a loss of income are usually lower in less affluent families, which do not have significant quantities of savings or wealth, and greater in households with higher levels of capital and better educational levels (Casado 2011). A decisive element in the scenario of the current crisis is probably the room for manoeuvre of families to adjust housing costs downwards.

Also of great importance in predicting the potential effects of the crisis is the duration of episodes of unemployment, typically higher in recessionary phases, increasing the probability that households go through situations of persistent low income. Several studies with long time series published in the United States have shown that both income and consumption poverty are sensitive to macroeconomic conditions (Meyer and Sullivan 2011) and that differences between income and consumption inequality trends can be explained by changes in the persistence of income shocks (Blundell, Pistaferri and Preston 2008). In the Spanish case, there also exists sufficient evidence of the negative effect of unemployment upon the risk of low income and material deprivation, but studies to investigate possible changes in the overlap of the two phenomena during the crisis are still lacking.

The increase in unemployment, especially that of long duration, the drop in income levels, the difficulties of adjusting housing costs downwards and uncertainty with regard to the future are all factors which make foreseeable an increase in the degree of overlap between low income and material deprivation. Nevertheless, aspects such as the decrease in the income level used as a threshold may limit this effect to a certain extent, as it can increase the size of the group facing material deprivation without having "low" income. Other compensatory elements to be taken into account may be the decreases in the prices of certain goods during the crisis (as has been the case of housing in Spain, following the bursting of the property bubble) or a downwards re-evaluation of "need" (McKnight 2013).

Therefore, it is essential to empirically analyse the effects of the crisis on the size and profile of the population combining low income and material deprivation, as well as on those groups who are poor using exclusively one of the two criteria. Recent research by Whelan and Maître (2014) of the Irish case shows that income poverty became less closely associated with material deprivation and economic stress in this country after the Great Recession, but a wider analysis focused on sixteen economically advanced European countries found highly diverse patterns in the rise of material deprivation by income class since 2008 (Whelan, Nolan and Maître 2015).

2.3. Data, definitions and material deprivation index

2.3.1. Source of data

The data used in this study come from the Living Conditions Survey (LCS), which is the Spanish component of the European Statistics of Income and Living Conditions (EUSILC). For the analysis presented here, the cross-sectional user microdata files published by the Spanish National Statistical Office are used, covering the period 2008-2012. The first dataset reflects situation at a moment prior to the crisis, while the last covers the same set of variables after four years of deep economic recession. The 2012 survey is also the latest available which is fully comparable with pre-crisis data, since

2013 marks the start of the new LCS Base 2013 series, with a novel methodology to estimate household incomes partly based on administrative data[48].

For this empirical analysis, cross-sectional rather than longitudinal data are used, because the main focus is on exploring changes in the contemporary relationship between low income and material deprivation, the two main current European poverty measures. The underlying assumption is that contemporary material deprivation indicators are able to provide a fairly simple but reliable way to summarize the outcomes of dynamic processes causing current poverty, thereby offering a relatively cost-efficient alternative to the use of longitudinal data[49]. All results are calculated taking survey design into account[50].

2.3.2. Low income and material deprivation definitions

The measurement of the degree of overlap between low income and material deprivation requires the selection of a measure of monetary poverty and an index representing the accumulation of deprivations.

In this study, the conventional Eurostat definition of low income is used to identify the poor, so that we can analyse the material wellbeing implications of the indicator with the largest impact in the Europe 2020 poverty target in the Spanish case. According to

[48] In 2013, a major methodological change was implemented in the LCS, starting the use of a mixed survey-register methodology to estimate household income data. See INE (2014) for more detail on this change and its impact on poverty indicators.

[49] Of course, longitudinal data would provide a direct way of analysing the joint dynamics of income and material deprivation, though they would also entail a significant reduction of sample size, apart from limiting the time span covered. The use of panel data would also allow for a better assessment of the lagged effect of income on material deprivation, suggested by previous literature. As stated by Fusco, Guio and Marlier (2011) in their analysis of the links between income poverty and material deprivation, disposable income is only a partial measure of resources available to the household, so that it is to be expected a stronger link with "permanent income" than with "current" income. Moreover, the impact of income on material deprivation may not be immediate, which means that lagged income may have a greater influence than current income on contemporary material deprivation. These relationships have tended to be confirmed by panel data based empirical research (see among others Muffels and Fouarge 2004, Berthoud, Bryan and Bardasi 2004, McKay and Collard 2004, Iceland and Bauman 2007, Sullivan, Turner and Danziger 2008, Berthoud and Bryan 2011, or Fusco 2012).

[50] The variables accounting for survey design have been programmed using the Stata *svyset* command, so that standard errors estimates obtained are robust to the fact that we are dealing with a stratified two-stage sample in which individuals do not form independent units of observation, but are clustered within households. Given that the original stratification variable is missing in the user data files, due to confidentiality reasons, use has been made of the region of residence as a *proxy*, as suggested by Goedemé (2013).

this criterion, people is considered to have low income if they live in a household whose equivalised disposable income (after tax and transfers) falls below the at-risk-of-poverty threshold, which is set at 60% of the national median equivalised current disposable income. Around 22% of the population had incomes below this level in 2012, two points higher than in 2008. Although this is the basic definition used throughout the analysis, changes in the degree of overlap between low income and deprivation are also checked using an "anchored" threshold (taking 2008 as base year), in order to assess the impact of trends in median family income following the onset of the crisis.

In the case of material deprivation, the analysis takes as a starting point the set of material deprivation indicators available in EUSILC, but uses a deprivation index which deviate on some variables from the "severe material deprivation" measure used in Eurostat statistics. As is well known, this is defined as the lack of at least four elements from a list of nine indicators, which include the impossibility of permitting oneself certain activities (a week's holiday away from home, heating the home sufficiently, eating meat or fish at least every second day), the existence of financial difficulties (not being able to avoid arrears, not being able to face unexpected expenses) and the lack, for economic reasons, of several consumer durables (telephone, television, washing machine and car).

Although this is the index currently included in the Europe 2020 strategy (together with low income and very low work intensity), it presents certain limitations which reduce its usefulness for the analysis of levels and changes in material deprivation in European countries. On the one hand, three of the nine indicators are consumer durables whose possession is highly generalised in Western Europe (television, telephone, washing machine), to the point at which their enforced lack is very rare and of little empirical relevance (less than 1% of total population). On the other hand, the inclusion of four durable goods (the car and the three already mentioned) reduces the sensitivity of the index to the economic cycle, given that the lack of this class of elements is only made clear at the moment of renovation, following a prolonged period of insufficient income. In fact, the percentage of families suffering from severe material deprivation did not reach in Spain the level of 5% until 2012, after four years of crisis.

These and other limitations of the current 9-item material deprivation euro-indicator have been analysed in detail by Guio, Gordon and Marlier (2012), who used the

special 2009 material deprivation module to suggest guidelines for the required revision and update of the material deprivation variables. As a result, a new widened list of indicators is being collected in all countries since 2013 and will probably serve to support a new deprivation index. However, the majority of these additional indicators are not available for the period 2004-2012, except as part of the special module of material deprivation which accompanied the 2009 survey.

The strategy followed in the present study is to employ an index which improves the properties of the Eurostat measure of material deprivation, within the limitation of not yet having available the widened list of variables. To do this, use is made of the principal tests of validity, reliability and suitability used in Guio, Gordon and Marlier (2012) and also in other previous studies undertaken for Spain (Ayala and Navarro 2008), applying them to the list of indicators included in the LCS 2012[51].

The definition of the material deprivation measure takes as a starting point a set of eighteen indicators of diverse forms of material deprivation and household problems which are usually included in material deprivation indexes and are available in the Spanish Living Conditions Survey for the whole period (see Table 2.1).

These indicators cover a range of basic activities, financial difficulties, durable goods, housing conditions and environmental problems. All the variables are collected solely for the household as a whole, which requires the adoption of the hypothesis that they adequately describe the situation of its members. For the possession of consumer durables the habitual criterion is followed of considering that deprivation is suffered only by those who declare that they do not possess the good due to not being able to afford it, and not for other reasons. The answers to these questions show that the five elements are possessed or "desired" (lacked for economic and not for other reasons) by over 80% of the population, although there exist differences among the television, the telephone and the washing machine (with almost 100%) and the other two (89% for cars and 83% for computers).

[51] This analysis is described in more detail in Martínez and Navarro (2015).

Table 2.1. List of available material deprivation items

Items
1. Cannot afford to face unexpected expenses
2. Cannot afford to pay for one week annual holiday away from home
3. Cannot afford to avoid arrears in mortgage or rent, utility bills or hire purchase instalments or other loan payments
4. Cannot afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day
5. Cannot afford to keep home adequately warm
6. Overcrowding(1)
7. Housing costs overburden(2)
8. Cannot afford a car
9. Cannot afford a computer
10. Cannot afford a telephone
11. Cannot afford a TV
12. Cannot afford a washing machine
13. Absence of indoor flushing toilet for sole use of the household or bath/shower in the dwelling(3)
14. Leaky roof, damp walls/floors/foundations or rot in window frames or floor
15. Darkness, not enough day-light
16. Suffer from noise from neighbours or from the street
17. Suffer from pollution or other environmental problems
18. Suffer from crime violence or vandalism in the area

Notes: (1) According to Eurostat definition, a household is considered as overcrowded if it doesn't have at its disposal at least: i) one room for the household; ii) one room for each couple; iii) one room for each single person aged 18+; iv) one room for two single people of the same sex between 12 and 17 years of age; v) one room for each single person of different sex between 12 and 17 years of age; and vi) one room for two people under 12 years of age". In this analysis, one-person households are not considered overcrowded, even if they live in a studio with a bedroom not separated from the living room. (2) Eurostat defines housing costs overburden as a situation in which total housing costs (net of housing allowances) represent more than 40% of disposable income (also net of housing allowances). (3) To avoid redundancy problems, the variables of lacking an indoor toilet and lacking a bath or shower are combined into a single indicator, as proposed by Guio, Gordon and Marlier (2012).

Source: LCS 2004-2012 cross-sectional data, author's computation.

Some authors have suggested that material deprivation items collected in EUSILC measure different (sub)dimensions of material poverty, not perfectly correlated. This is particularly true for the indicators reporting problems in the house/neighbourhood. For that reason, the dimensional structure of the data has been firstly explored using factor analysis[52]. The first factor grouped together twelve of the eighteen initial indicators, excluding six variables related to housing and environmental problems (lack of bath/toilet, leaks, damp or rot, noise, crime, contamination or insufficient natural light).

[52] In this analysis, tetrachoric correlations are used in order to take into account the binary or dichotomic nature of the indicators employed, as suggested by Guio, Gordon and Marlier (2012).

This coincides with the results of numerous previous studies (e.g. Hick 2016b, Whelan, Nolan and Maître 2013, Guio, Gordon and Marlier 2012, Guio 2009).

The lack of a television was excluded for validity reasons, since it is not significant in two of the three variables used to validate deprivation indicators (low income, health problems and subjective economic difficulties)[53]. On the other hand, the enforced lack of a telephone and a washing machine were eliminated for reliability reasons, after performing a Cronbach's Alpha test[54]. The final list includes nine indicators meeting all the required conditions to be part of a material deprivation index, including irrelevant non-response rates. Compared to the Eurostat initial material deprivation measure, it drops the television, the washing machine and the telephone indicators, adding instead three variables related to overcrowding, housing costs overburden and the enforced lack of a computer at home. The final Alpha value for the nine remaining indicators reaches 68%, very close to the threshold of 70% habitually used, while the current list of nine indicators used by Eurostat is six points below, at 62% (see Table A.2.1 in the Appendix).

Table 2.2. Two-parameter Item Response Theory Model. Results.

Items	Severity parameter	Discrimination parameter	Standardized factor loading
Cannot afford to pay for one week annual holiday	0.132	3.245	0.9556
Cannot afford to face unexpected expenses	0.316	3.785	0.9668
Cannot afford to avoid arrears	1.772	1.965	0.8912
Cannot afford to keep home adequately warm	1.984	1.743	0.8674
Cannot afford a computer	2.198	1.802	0.8744
Cannot afford a car	2.414	1.703	0.8623
Housing cost overburden	2.427	0.983	0.7009
Overcrowding	2.924	0.155	0.7559
Cannot afford meat every second day	3.028	1.605	0.8487

Source: Living Conditions Survey 2012 cross-sectional data, author's computation.

[53] Validity tests are intended to check the relationship between the material deprivation scale and some external variables theoretically and empirically correlated with the latent concept which the scale is supposed to measure. The three validations variables proposed by Guio, Gordon and Marlier (2012) are low income, represented by the at-risk-of poverty rate, self-reported health status (limitations or strong limitations in daily activities because of health problems), and subjective poverty (difficulties or great difficulties to make ends meet.

[54] Cronbach's Alpha evaluates the reliability of a scale or set of indicators to measure the same latent concept, material deprivation in this case, via the degree of internal correlation of those indicators.

The consistency of the previous list has been further checked by estimating a two-parameter Item Response Theory model based on the nine indicators selected (Table 2.2). The results show that the individuals who say that they cannot face unexpected expenses or cannot pay for one week annual holiday away from home are those who suffer the lowest level of deprivation (lesser severity). In turn, those who cannot afford a meal with meat, chicken, fish every second day and those who live in overcrowded dwellings are likely to experience a more severe level of deprivation. This is consistent with recent findings by Deutsch et al. (2015), who show that, when households face economic difficulties, certain expenditures, such as holidays or furniture, tend to be curtailed first, producing a "deprivation sequence" which does not differ substantially between EU member states or social groups.

2.4. Basic descriptives

2.4.1. Global trends

Table 2.3 shows the values of the nine indicators chosen to represent the concept of material deprivation in 2008 and 2012. As can be seen, the majority of the indicators followed an upward trend between 2008 and 2012 (the only exceptions were the two referring to the possession of consumer durables, which decreased their incidence). This implies a reversion of the downward trend followed by the same indicators in the period 2004-2008, except for the housing costs overburden variable, which was already rising before the bursting of the property bubble (Martínez and Navarro 2015).

Table 2.3. Material deprivation in Spain, 2008 and 2012

Items	2008	2012	%Δ 2008-12
Cannot afford to pay for one week annual holiday	0.362	0.466	29
Cannot afford meat every second day	0.022	0.026	17
Cannot afford to keep home adequately warm	0.059	0.091	54
Cannot afford to face unexpected expenses	0.299	0.421	41
Cannot afford to avoid arrears	0.082	0.109	33
Cannot afford a car	0.059	0.057	-3
Cannot afford a computer	0.089	0.066	-26
Housing cost overburden	0.101	0.143	42
Overcrowding	0.056	0.057	1
Material Deprivation (3+items)	0.169	0.231	36

Source: Living Conditions Survey 2008 and 2012 cross-sectional data, author's computation.

The last row in Table 2.3 shows the percentage of persons who can be considered as living in material deprivation, taking as threshold the existence of three or more material hardships. Following common practice in the "consistent poverty" literature, this threshold has been chosen to delimit a population group similar in size to that derived from applying the relative poverty line, which facilitates the analysis of the overlap between the criteria of low income and material deprivation.

Table 2.4 shows the percentages of the population having only low income (according to the conventional threshold of 60% of median income, adjusted by using the OECD modified equivalence scale), only material deprivation, low income and material deprivation, or neither of the two problems, over the period 2008-2012.

Table 2.4. Low income, material deprivation and distribution of the population according to the overlap between the two indicators, 2008-2012

			Overlap group				
	Low income	Material deprivation	None	Only material deprivation	Only low income	Both	Overlap ratio
2008	0.207	0.169	0.700	0.092	0.130	0.077	0.26
2009	0.201	0.203	0.687	0.112	0.110	0.091	0.29
2010	0.215	0.214	0.676	0.110	0.111	0.104	0.32
2011	0.222	0.201	0.684	0.095	0.116	0.106	0.34
2012	0.222	0.231	0.665	0.114	0.105	0.117	0.35
%Δ 2008-12	7%	36%	-5%	24%	-20%	51%	35%

Note: The overlap ratio is obtained by dividing the number of people suffering low income *and* material deprivation by the number of people suffering low income *or* material deprivation.

Source: Living Conditions Survey 2008-2012 cross sectional data, author's computation.

There are some points that are worth highlighting. On the one hand, in any of the years considered there is a limited overlap between the two phenomena, which coincides with other studies undertaken to date (e.g. Hick 2014, Fusco, Guio and Marlier 2011, Nolan and Whelan 2011a). On the other hand, there is a sharp increase in the degree of overlap during the crisis, so that in 2012 the percentage of persons responding to the profile of "consistent" poverty was 11.7%, approximately 50% greater than in 2008. This increase is larger, in relative terms, than that registered by the rate of low income and by

material deprivation[55]. It is clear, therefore, that following four years of crisis the poor[56] in Spain experienced greater levels of deprivation than at the onset of the recession. Or, in other terms, there are fewer and fewer poor whose low income is not linked to situations of material deprivation.

In parallel, the two groups which are disadvantaged according to only one of the two criteria have experienced a contrary evolution during the crisis: in 2012 there were fewer families with low income but without material deprivation than in 2008 and, in turn, more who suffered deprivation even with incomes above the threshold. This is important, since this last group has been found to have levels of multiple deprivation and wellbeing deficits somewhat lower than the "consistent" poor, but significantly higher than the "only low income" group (Hick 2014, Nolan and Whelan 2011a).

As argued earlier, various factors may explain this evolution. Firstly, the impact of the reduction of the poverty threshold itself, due to the declining median income during the crisis, should be taken into account. This effect could have limited the increase in consistent poverty, by converting situations of "low income and deprivation" into situations of "deprivation without low income". This is coherent with the fact that the "only deprived" group is the profile with the second highest increase during the crisis (24%). Another possible outcome of the reduction of the threshold, with different implications for the degree of overlap, is the crowding-out effect from poverty of persons who did not suffer material deprivation despite their low incomes and who, following the crisis, came to form part of the group of those having no disadvantage in either of the two fields. This may be the case of many pensioners, given the sharp decline in their relative poverty rate during the crisis. The reduction in the size of the group having only low income suggests that this explanation has also intervened in the Spanish case.

[55] It should be noted that the increases in the rate of material deprivation and that of "consistent" poverty between 2008 and 2012 are statistically significant for a confidence level of 95%, which is not the case for the increase in the relative poverty rate. This conclusion is confirmed when using the new LCS 2013 Base data files (not perfectly comparable with Base 2004 data) to draw 2012 results, even though changes are somewhat less intense.

[56] To simplify, the label "poor" will be employed to refer to persons with incomes below the threshold, without this implying any agreement with the identification between poverty and low income. The same caveat is applicable to the term "consistent poor", which will be used frequently to refer to persons simultaneously showing low income and material deprivation.

2.4.2. Effects of "anchoring" the poverty line

The magnitude of the two effects can be evaluated by comparing the results obtained when using relative and "anchored" thresholds in 2012, taking LCS-2008 incomes as reference to calculate the second poverty line (Table 2.5)[57]. The comparison suggests that 14.1% of the population would have suffered low income and deprivation in 2012 if the poverty threshold had not been lowered, 2.4 points above the rate observed with the "moving" threshold. In parallel, 3.6% of the population was considered "not poor" in 2012 using the relative threshold, but would remain within the profile of "only low income" if the 2008 line had been maintained constant in real terms.

Table 2.5. Low income and material deprivation overlap groups in 2012, mobile vs. anchored income poverty lines

	Mobile poverty line				
Anchored poverty line	Both LI & MD	Only MD	Only LI	Non-poor	Total
Both LI & MD	11.7	2.4	0.0	0.0	14.1
Only MD	0.0	9.0	0.0	0.0	9.0
Only LI	0.0	0.0	10.5	3.6	14.1
Non-poor	0.0	0.0	0.0	62.9	62.9
Total	11.7	11.4	10.5	66.5	100.0

Notes: The anchored poverty line is calculated as 60% of 2008 median household disposable income, updated to 2012 using the Harmonised Index of Consumer Prices. LI= Low income. MD= Material Deprivation. Non-poor= Neither low income nor material deprivation.

Source: Living Conditions Survey 2012 cross sectional data, author's computation.

Thus, the decrease in the threshold has generated, in net terms, a reduction of the rate of consistent poverty and of the ratio of overlap. The fact that consistent poverty has actually increased by somewhat more than 50%, despite the foregoing effect, reinforce the idea that the crisis has produced a genuine transformation in the link between low income and material deprivation, deteriorating the living conditions of the poor and intensifying the risk of social exclusion for those on the lowest rungs of income.

[57] The "anchored" poverty line is calculated as 60% of the initial median household disposable income, updated using the Harmonised Index of Consumer Prices. To make this adjustment, it has been taken into account the fact that the LCS income data refer always to income obtained by the household during the calendar year prior to the interviews.

Various processes may have played an important role in this change. Long-term unemployment and labour precariousness tend to generate, in recessionary contexts, situations of persistent low income, more associated with material deprivation than transitory episodes of a fall in income. In addition, housing costs, in the form of rents, mortgages, taxes and bills, can generate a burden which is difficult to adjust downwards in the short term, following income drops. Likewise, the inadequacy of the guaranteed minimum income system in Spain makes possible very sharp levels of monetary poverty in families which have exhausted the right to unemployment benefits. Lastly, the very uncertainty with regard to the unemployment and economic situation and the increasing restrictions on the access to credit can cause a strong reduction of consumption, reflected in the goods and activities included in the material deprivation index.

2.5. Results of the multinomial model

To analytically explore the change in the low income and material deprivation profiles following the Great Recession, a multinomial logistic regression model is estimated, at the onset of the crisis (2008) and four years later (2012), using data from the Living Conditions Survey. This type of model has been successfully employed to characterize the income poor and the materially deprived in some previous research (among others, Fusco, Guio and Marlier (2011) for the European Union countries, or Ayllón, Mercader and Ramos (2007) for Catalonia). More recently, Kis and Gábos (2015) used a similar (but not identical[58]) strategy to identify the main individual and household-level factors predicting consistent poverty status in EU-27 countries.

As a complementary analysis and sensitivity test, it has also been estimated a multinomial logit based on the 2008 to 2012 five years pooled data, introducing time dummies and the other socioeconomic variables. This offers an alternative way to capture the impact of the economic downturn on the structure of poverty. The results of this sensitivity analysis are briefly explained in section 2.5.2.

[58] They used a set of logistic regressions to separately compare the socioeconomic profile of the consistent poor and the features of the three other relevant groups (the non-poor, the only income-poor, and the only materially deprived).

As categories of the dependent variable, consideration has been made of the four possibilities which delimit the two criteria proposed: (1) the individual is neither poor nor deprived, (2) he/she is deprived, but not poor, (3) he/she is poor, but not deprived, and (4) he/she is simultaneously poor and deprived. Groups 2 and 3, associated with the profiles of "only deprivation" and "only low income", are the most interesting categories to compare, since the differences in the profile of these two groups can help to clarify which factors "push" a household towards monetary poverty, but not towards deprivation, and vice versa. Consequently, one of these two categories has been chosen in the model, in particular the category of "only low income", as base category.

The characteristics used as predictors are the variables which, according to the theoretical framework presented before, can involve differences in the household resources and/or needs not reflected in current income, together with some basic sociodemographic features of the reference person. The predictors attempt to reflect the situation of the household as a whole even for variables collected at the individual level, such as educational level or gender. In such cases, the status of the household reference person (the member of the household who is responsible for the accommodation) has been attributed to all the household members.

In the final model, the explanatory variables are housing tenure, low work intensity status, labour market position, type of contract in the current or previous job, existence of health-related limitations in daily activities, country of birth, educational level, sex, household type and population density of the area of residence. All the variables are categorical and the classes defined are shown in Table 2.6.

2.5.1. Main findings

The results of the final model are summarized in Table 2.6, which shows the log odds ratios and the significance level for all the variables in 2008 and 2012. Robust standard error estimations are set out in Table A.2.2 in the Appendix.

Table 2.6. Multinomial Logistic Regression Results. Log odds ratios and significance levels.

Variables	2008			2012		
	Neither poor nor deprived	Only deprived	Poor and deprived	Neither poor nor deprived	Only deprived	Poor and deprived
Sex of reference person						
Male						
Female	1.41***	2.03***	1.15	1.48**	1.68***	1.24
Household Type						
2 adults, no dependent children, both <65						
2 adults, no dependent children, at least one >65	0.55***	0.41**	0.61*	0.72*	0.65*	0.44**
One person household <65	0.45***	0.93	1.23	0.50**	0.72	0.81
One person household >65	0.33***	0.25***	0.80	0.90	0.92	0.45**
Other households without dependent children	1.50**	1.97**	0.97	1.03	1.15	0.66
2 adults, one dependent child	0.56**	0.71	1.24	0.52***	0.60**	0.84
2 adults, two dependent children	0.24***	0.20***	0.73	0.31***	0.25***	0.76
2 adults, three or more dependent children	0.11***	0.10***	1.75*	0.13***	0.24***	0.68
Single parent household, 1+ dependent children	0.20***	0.53	2.26**	0.33***	0.58	1.79*
Other households with dependent children	0.59**	1.07	1.95**	0.41***	0.80	1.12
Country of birth of reference person						
Spain						
Rest of Europe[a]	0.41***	1.21	1.24	0.63	0.53	1.94*
Other countries	0.42***	1.79**	2.18**	0.27***	0.86	1.16
Highest ISCED level of reference person						
Tertiary education						
Upper secondary education and post-secondary	0.67**	1.31	1.36	0.49***	1.09	1.39
Lower secondary education	0.44***	1.46*	1.47	0.28***	1.04	2.09**
Primary education	0.32***	1.38	1.59*	0.22***	1.01	2.47***
Pre-primary education	0.22***	1.80**	3.45***	0.21***	1.71*	5.29***
Very low work intensity status of household						
Not						
Yes	0.22***	0.43***	1.95**	0.17***	0.33***	1.93***
N/A (aged 60 or over)	0.52***	0.46***	1.02	0.54***	0.51***	1.24
Employment status of reference person						
Stable[b] salaried worker, working full time						
Stable[b] self-employed, working full time	0.10***	0.09***	0.38***	0.10***	0.10***	0.84
Stable[b] part-time worker	0.47**	0.51**	0.81	0.23***	0.33**	1.02
Working, job found last year	0.22***	0.31***	0.91	0.33**	0.45**	1.01
Unemployed for at least one year	0.18***	0.24***	0.93	0.27***	0.55**	1.88**
Unemployed, less than one year	0.27***	0.53*	0.91	0.35***	0.57*	1.60
In retirement	0.49***	0.54**	0.47**	0.89	0.79	0.79
Other inactive person	0.20***	0.20***	0.65	0.40***	0.41***	0.96
Reference person is/was a temporary worker	0.77**	1.23	2.13***	0.73**	0.95	1.47**
Housing tenure status						
Outright owner						
Owner paying mortgage	1.81***	4.76***	1.98**	1.96***	5.32***	4.72***
Tenant paying rent at market rate	1.02	4.08***	5.48***	1.27	7.70***	10.19***
Accommodation is rented at a reduced rate	0.84	2.37**	4.35***	0.84	3.59***	5.26***
Accommodation is provided free of charge	0.76*	1.61**	1.82**	0.74*	1.59*	2.90***
Live in a densely populated area	1.51***	1.85***	1.93***	1.44***	1.35**	1.60**
Health-related limitations of reference person	0.93	1.65**	1.20	1.08	1.81***	1.68**
Constant	58.17***	0.52**	0.10***	69.66***	1.17	0.09***

Source: Living Conditions Survey 2008 and 2012 cross sectional data, author's computation.

Notes: [a] Rest of EU-27 for 2012. [b] Labour status unchanged over the past year. Base category= Only low income. All results are calculated taking survey design into account. Parameter significance: *p<0.10, **p<0.05, ***p<0.001. In 2008: Num. Observations: 35794; F(96, 1957)= 22.12; Prob>F= 0.0000. In 2012: Num. Observations: 33487; F(96, 1914)= 22.27; Prob>F=0.0.

The first interesting result is that in both years the housing tenure status, the type of area of residence and the existence of health-related limitations in daily living are identified as the main discriminant factors between the low income groups and the materially deprived. Having a mortgage or paying rent, residing in densely populated areas or having physical limitations are circumstances which increase the risk of material deprivation more than the risk of having low income, compared to those whose dwelling is fully paid for, reside in less populated areas or are healthy, regardless the income level and controlling for the remaining explanatory variables. This result is in line with theoretical expectations with regard to the mismatch between low income and material deprivation, as well as with previous evidence, as shown in the literature review presented before.

Together with housing-related costs, the existence of limitations in daily activities because of health problems is more closely associated to situations of material deprivation than to those of low income. Furthermore, in 2012 having limitations due to health problems significantly increases also the probability of combining low income and deprivation, in comparison with healthy individuals. As in the case of housing costs, this variable may be considered as associated to additional expenditure needs not taken into account in the income indicator, which would imply a greater risk of deprivation for similar income levels. Also, residing in an urban dwelling (a densely populated zone) is linked to higher odds of material deprivation than of low income, compared to those living in less populous areas, both at the beginning of the crisis and four years later –although in this case the probability is significantly lower in 2012 than in 2008.

A second important finding is that labour market categories are strongly related to the probability of having low income, but they do not always have the same impact in terms of material deprivation. Moreover, some of the profiles most closely associated to deprivation are precisely the ones which have grown rapidly with the crisis. Low work intensity of the household, one of the three indicators selected in the Europe 2020 Strategy to identify the risk of poverty or social exclusion, increases significantly more the probability of combining low income and deprivation than that of having only low income, in 2008 and 2012[59]. It is also

[59] Kis and Gábos (2015) have also highlighted the relevance of low work intensity to predict consistent poverty, in their analysis of EU-27 countries.

interesting to stress some differences related to the duration of unemployment: in both years, the newly unemployed are less likely than the employed to belong to the group of the "non-poor", but they are not clearly concentrated in any of the three risk profiles. In contrast, the long-term unemployed are more concentrated (especially in 2012) in the "consistent poverty" group. The temporary nature of the previous or current job, a factor also identified as significant by Ayllón, Mercader and Ramos (2007) in their analysis of Catalonia, makes it more likely to live in consistent poverty than to be "non-poor" or to have only low income or only deprivation, both at the beginning of the crisis and four years later.

A third finding which should be underlined is the importance of the educational level of the reference person as an explanatory factor of consistent poverty. Having less than primary education was in 2008 a feature differentiating the consistent poor from those displaying only low income or only material deprivation. In 2012, the profile of the consistent poor reaches as far as those who have basic secondary education, being remarkable the worsening of households whose reference person has completed only lower secondary or primary school. The significance of this variable in a model which incorporates many other predictors of poverty is relevant, since it implies that a high level of education protects to some degree against the risk of belonging to the most vulnerable group (that of the consistent poor), even after controlling for other factors.

The last finding to be emphasised is the decrease in the explanatory weight of sociodemographic factors such as household type, age, gender or the origin of the reference person after four years of crisis, together with a certain rearrangement of the characteristics of risk. For example, elderly people living alone were significantly associated to a low income profile in 2008, but this association disappears in 2012. Equally, other households without dependent children were more linked to deprivation than to low income profiles in 2008, but not in 2012. It is interesting to note that the elderly have in 2012 a lower probability than non-elderly adults of combining low income and material deprivation, whether living alone or as part of a couple. This is coherent with results from other studies showing that in Spain, as well as in other countries, elderly people do not only show comparatively low material deprivation levels (Bárcena-Martín et al. 2014), but also are the age group least affected by the crisis, probably due to their lower exposure to recent fluctuations in labour and property markets.

2.5.2. Sensitivity analysis

Pooled data models offer an alternative way to analyse the impact of the crisis on the poverty profile. Tables A.2.3 and A.2.4 in the Appendix show the results obtained when estimating the same multinomial logit model with 2008 to 2012 pooled data, introducing time dummies to identify the year of observation.

A first conclusion from this model is that time dummies capturing the economic downturn actually matter in explaining the probability of belonging to a specific income/deprivation profile. An interesting result is that 2009, 2010 and 2012 dummies are significantly linked to a greater probability of suffering problems of deprivation without low income, compared to the base result (low income without deprivation in year 2008). In the same vein, 2009, 2010, 2011 and 2012 increase the relative risk of belonging to the consistent poverty profile compared to the 2008's "only low income" base group. This makes sense since there are fewer and fewer poor in these years whose insufficient income is not linked to situations of material deprivation.

The remaining coefficients show the average effect of the selected characteristics on the poverty profile throughout the period. They generally support the main conclusions set out in the previous section, though some variables and categories become more significant after pooling the data (e.g., gender or migrant origin).

Comparing the "only materially deprived" with the "only low income" group, the role of housing clearly stands out, with odds ratios above 4 for families paying mortgage or rent at market rates. This variable is also the main differentiating factor between the "only income" poor and those in "consistent poverty", with tenants showing the highest odds ratios in this case. Other two variables highly correlated with the probability of combining low income and deprivation are low educational levels and very low work intensity.

2.6. Conclusions

The Great Recession has caused important changes in the income distribution and living conditions of broad social groups. Spain belongs to the small group of countries whose unemployment rate more than doubled over the first four years of crisis, reaching values above 25% of the active population. Nevertheless, the impact of this economic shock upon the level and composition of poverty varies significantly according to the indicators adopted.

The present paper has investigated this question by combining the perspectives supplied by the approach to poverty as low relative income, dominant in the European Union, and that of material deprivation, which also has a long tradition in some European countries. The study has assessed the effects of the crisis upon the degree of overlap between low income and material deprivation, with particular attention paid to the profile of the "consistent poor" and of those who display material deprivation despite not having low income, as opposed to that of households whose low income is not accompanied by situations of objective deprivation. To do this, previous definition has been made of an index of material deprivation that replaces some of the indicators currently employed by Eurostat by others whose enforced lack affects to a significant minority of population, apart from giving less weight to items not enough sensitive to the economic cycle. These configure an aggregate index which presents adequate properties in terms of suitability, validity and reliability.

The analysis has revealed some important changes in the structure of poverty in Spain over the recent period. On the one hand, the crisis has increased by 50% the percentage of persons who simultaneously suffer low income and material deprivation, reaching 12% of residents in 2012, compared to 8% in 2008. Although the degree of overlap between the groups delimited by these two criteria continues to be modest, the consistent poor have increased during the crisis at a greater pace than relative poverty and material deprivation taken separately. Moreover, it has been shown that the increase in the size of this group would have been greater if use had been made of a poverty threshold anchored at 2008 income levels, since the decrease in the poverty line has meant a certain reallocation from the group of the "consistent poor" to that displaying only material deprivation.

On the other hand, there have been some modifications in the poverty and deprivation profiles, following four years of crisis. Firstly, the effect of tenure status, which was already important in 2008, is reinforced in 2012, coming to constitute the main differentiating factor to discriminate between those who have "only low income" and those who suffer material deprivation. This result is especially important in Spain, a country notable for the small size and high prices of the rental market and the negative impact of the property bubble upon housing affordability for new households (principally young people and immigrants).

Secondly, long-term unemployment appears in 2012 as a significant factor of the consistent poverty profile. Four years after the start of the crisis, households headed by a person unemployed for at least twelve months have greater odds of simultaneously having low income and deprivation than of belonging to any of the remaining profiles. An important change is that this group of households, whose demographic weight has increased from 3% of the population in 2008 to 10% in 2012, has at the end of the period a significantly greater risk of deprivation than in 2008. It is important to emphasise that the group of the consistent poor has increased not only due to the extension of unemployment, but also because unemployment is in 2012 more closely associated to situations of material deprivation than it was in 2008.

Together with unemployment and housing costs, the educational level of the reference person is a relevant explanatory factor of consistent poverty. It is worth to highlight that the economic crisis has significantly impacted on those households whose reference person has completed only lower secondary or primary education. Equally, the existence of health-related limitations in daily activities has in 2012 a significant effect on consistent poverty. These results confirm the idea that the economic crisis has not harmed all workers equally, but instead has struck more deeply those having a lower level of human capital and more fragile positions in the labour market at the end of the expansionary phase. In parallel, sociodemographic variables as gender, household composition or the urban/rural divide lose explanatory weight as determinants of the pattern of overlap between low income and material deprivation.

Finally, it should be stressed the usefulness of combining low income and material deprivation indicators in the monitoring of poverty. This study has shown that variations in the low income rate can seriously underestimate the effects of the economic crisis upon poverty,

due to the downward adjustment of the threshold and to the possible changes in the relationship between low income and deprivation. The experience of Spain shows that the Great Recession has had sharper consequences upon material deprivation than upon low income levels, increasing the incidence of material poverty at a much faster pace than suggested by the statistics of the population "at risk of poverty". Furthermore, this process has been due not only to the increase in the demographic weight of the vulnerable groups because of the recession, but also to the greater impact of factors such as long-term unemployment or housing costs on material deprivation, after four years of crisis. The analysis presented in this chapter provide results which should be taken into account when redesigning the mechanisms of social protection for families of working age, in a country whose welfare state model has proved to be barely effective in mitigating the social impact of the crisis.

Appendix

Table A.2.1. Scale reliability coefficient of the final material deprivation list. Cronbach's Alpha.

Item	Item-test correlation	Item-rest correlation	Average inter-item covariance	Alpha
Cannot afford to face unexpected expenses	0.771	0.578	0.0132	0.593
Cannot afford to pay for one week annual holiday	0.747	0.536	0.0138	0.610
Cannot afford to avoid arrears	0.558	0.405	0.0194	0.645
Cannot afford a meat every second day	0.311	0.218	0.0235	0.679
Cannot afford a car	0.429	0.305	0.0219	0.666
Cannot afford a computer	0.465	0.332	0.0213	0.661
Cannot afford to keep home adequately warm	0.509	0.357	0.0204	0.655
Overcrowding	0.370	0.230	0.0225	0.676
Housing cost overburden	0.459	0.271	0.0209	0.671
Test Scale			0.0197	0.681

Source: Living Conditions Survey 2012 cross-sectional data, author's computation.

Table A.2.2. Multinomial Logistic Regression Results. Robust standard error estimates.

Variables	2008			2012		
	Neither poor nor deprived	Only deprived	Poor and deprived	Neither poor nor deprived	Only deprived	Poor and deprived
Sex of reference person						
Male						
Female	0.1357	0.3009	0.1910	0.1709	0.2400	0.1876
Household Type						
2 adults, no dependent children, both <65						
2 adults, no dependent children, at least one >65	0.0841	0.1137	0.1673	0.1319	0.1576	0.1151
One person household <65	0.0826	0.2397	0.3456	0.1035	0.1846	0.2209
One person household >65	0.0549	0.0740	0.2444	0.1845	0.2487	0.1387
Other households without dependent children	0.2536	0.4735	0.2758	0.1786	0.2553	0.1705
2 adults, one dependent child	0.0964	0.1664	0.3749	0.0941	0.1381	0.2310
2 adults, two dependent children	0.0349	0.0484	0.2012	0.0549	0.0561	0.1846
2 adults, three or more dependent children	0.0246	0.0372	0.5637	0.0327	0.0901	0.2143
Single parent household, 1+ dependent children	0.0590	0.2077	0.8674	0.0917	0.1940	0.5847
Other households with dependent children	0.1063	0.2580	0.5842	0.0848	0.1967	0.3051
Country of birth of reference person						
Spain						
Rest of Europe[a]	0.0988	0.4039	0.4836	0.2061	0.2249	0.6979
Other countries	0.0967	0.4847	0.5996	0.0568	0.1830	0.2557
Highest ISCED level of reference person						
Tertiary education						
Upper secondary education and post-secondary	0.1044	0.3095	0.3952	0.0798	0.2436	0.3382
Lower secondary education	0.0614	0.3241	0.4105	0.0429	0.2176	0.4698
Primary education	0.0460	0.3158	0.4475	0.0359	0.2240	0.5720
Pre-primary education	0.0377	0.5372	1.1464	0.0429	0.4898	1.4978
Very low work intensity status of household						
Not						
Yes	0.0335	0.1029	0.4317	0.0259	0.0645	0.3640
N/A (aged 60 or over)	0.0443	0.0588	0.1701	0.0636	0.0737	0.1994
Employment status of reference person						
Stable[b] salaried worker, working full time						
Stable[b] self-employed, working full time	0.0143	0.0242	0.1010	0.0151	0.0262	0.2367
Stable[b] part-time worker	0.1273	0.1739	0.3267	0.0706	0.1240	0.4240
Working, job found last year	0.0593	0.1024	0.3256	0.1158	0.1535	0.3780
Unemployed for at least one year	0.0424	0.0804	0.3231	0.0574	0.1375	0.5638
Unemployed, less than one year	0.0739	0.1770	0.3539	0.0885	0.1630	0.5421
In retirement	0.0815	0.1296	0.1326	0.1693	0.1847	0.2569
Other inactive person	0.0324	0.0481	0.1828	0.0823	0.1044	0.3150
Reference person is/was a temporary worker	0.0818	0.1874	0.3596	0.0951	0.1415	0.2234
Housing tenure status						
Outright owner						
Owner paying mortgage	0.2218	0.8282	0.4267	0.2536	0.8517	0.9131
Tenant paying rent at market rate	0.1865	1.0307	1.3908	0.2902	1.7904	2.5617
Accommodation is rented at a reduced rate	0.1746	0.7566	1.3504	0.2583	1.2405	1.8789
Accommodation is provided free of charge	0.1091	0.3840	0.4112	0.1260	0.4058	0.6184
Live in a densely populated area	0.1274	0.2454	0.3020	0.1451	0.1689	0.2203
Health-related limitations of reference person	0.0838	0.2374	0.1781	0.1164	0.2546	0.2945
Constant	10.9545	0.1472	0.0364	14.6677	0.3214	0.0340

Notes: (a) Rest of EU-27 for 2012. (b) Labour status unchanged over the past year. Base category= Only low income. All results are calculated taking survey design into account.

Source: Living Conditions Survey 2008 and 2012 cross sectional data, author's computation.

Table A.2.3. Multinomial Logistic Regression Results on pooled data (2008-2012). Log odds ratios and significance levels.

Variables	Neither poor nor deprived	Only deprived	Poor and deprived
Sex of reference person			
Male			
Female	1.32***	1.67***	1.26**
Household Type			
2 adults, no dependent children, both <65			
2 adults, no dependent children, at least one >65	0.67***	0.50***	0.57***
One person household <65	0.48***	0.79*	1.05
One person household >65	0.58***	0.49***	0.66**
Other households without dependent children	1.32***	1.51***	0.95
2 adults, one dependent child	0.58***	0.63***	1.06
2 adults, two dependent children	0.31***	0.28***	0.82
2 adults, three or more dependent children	0.15***	0.18***	1.32*
Single parent household, 1+ dependent children	0.20***	0.48***	1.73***
Other households with dependent children	0.62***	1.00	1.44**
Country of birth of reference person			
Spain			
Rest of Europe[a]	0.69**	1.16	1.62**
Other countries	0.41***	1.44**	1.90***
Highest ISCED level attained of reference person			
Tertiary education			
Upper secondary education and post-secondary	0.61***	1.21*	1.39**
Lower secondary education	0.38***	1.39**	1.80***
Primary education	0.30***	1.41**	2.41***
Pre-primary education	0.20***	1.85***	3.58***
Very low work intensity status of household			
Not			
Yes	0.22***	0.38***	2.16***
N/A (aged 60 or over)	0.57***	0.51***	1.11
Employment status of reference person			
Stable[b] salaried worker, working full time			
Stable[b] self-employed, working full time	0.09***	0.08***	0.66**
Stable[b] part-time worker	0.30***	0.35***	0.98
Working, job found last year	0.28***	0.46***	1.00
Unemployed for at least one year	0.23***	0.50***	1.58**
Unemployed, less than one year	0.38***	0.81	1.60**
In retirement	0.58***	0.55***	0.65**
Other inactive person	0.28***	0.30***	0.82
Reference person is/was a temporary worker	0.70***	1.14*	1.52***
Housing tenure status			
Outright owner			
Owner paying mortgage	1.65***	4.35***	2.87***
Tenant paying rent at market rate	1.15	5.75***	6.97***
Accommodation is rented at a reduced rate	0.84	3.35***	4.64***
Accommodation is provided free of charge	0.81**	1.59***	2.06***
Live in a densely populated area	1.55***	1.71***	1.53***
Health-related limitations of reference person	0.93	1.63***	1.34***
Dummy 2009	1.24***	1.55***	1.31**
Dummy 2010	1.16**	1.46***	1.47***
Dummy 2011	1.03	1.10	1.30**
Dummy 2012	1.06	1.40***	1.66***
Constant	51.56***	0.52***	0.07***

Notes: (a) Rest of EU-27 for 2012. (b) Labour status unchanged over the past year.
Parameter significance: *p<0.10, **p<0.05, ***p<0.001. Number of Observations: 177060; F(108, 2051)= 65.57; Prob>F= 0.0000. Wald test of joint significance of time dummy variables: (H0: dummy2009=dumm2010=dummy 2011=dummy 2012=0): F(12, 2147) = 6.43, Prob > F = 0.0000.

Source: LCS 2008, 2009, 2010, 2011 and 2012 pooled cross-sectional data, author's computation.

Table A.2.4. Multinomial Logistic Regression Results on pooled data (2008-2012). Robust standard error estimates.

Variables	Neither poor nor deprived	Only deprived	Poor and deprived
Sex of reference person			
Male			
Female	0.0671	0.1195	0.0927
Household Type			
2 adults, no dependent children, both <65			
2 adults, no dependent children, at least one >65	0.0593	0.0627	0.0713
One person household <65	0.0478	0.1031	0.1384
One person household >65	0.0545	0.0652	0.0911
Other households without dependent children	0.1138	0.1719	0.1175
2 adults, one dependent child	0.0532	0.0761	0.1387
2 adults, two dependent children	0.0259	0.0330	0.1014
2 adults, three or more dependent children	0.0188	0.0349	0.2017
Single parent household, 1+ dependent children	0.0268	0.0758	0.2722
Other households with dependent children	0.0612	0.1251	0.1931
Country of birth of reference person			
Spain			
Rest of Europe[a]	0.1064	0.2279	0.3115
Other countries	0.0465	0.1756	0.2282
Highest ISCED level attained of reference person			
Tertiary education			
Upper secondary education and post-secondary	0.0474	0.1308	0.1756
Lower secondary education	0.0286	0.1480	0.2086
Primary education	0.0234	0.1596	0.2940
Pre-primary education	0.0196	0.2747	0.5214
Very low work intensity status of household			
Not			
Yes	0.0170	0.0409	0.2337
N/A (aged 60 or over)	0.0300	0.0362	0.0934
Employment status of reference person			
Stable[b] salaried worker, working full time			
Stable[b] self-employed, working full time	0.0070	0.0102	0.0857
Stable[b] part-time worker	0.0388	0.0570	0.1740
Working, job found last year	0.0358	0.0659	0.1747
Unemployed for at least one year	0.0247	0.0658	0.2389
Unemployed, less than one year	0.0437	0.1119	0.2574
In retirement	0.0526	0.0668	0.1009
Other inactive person	0.0261	0.0353	0.1234
Reference person is/was a temporary worker	0.0438	0.0904	0.1198
Housing tenure status			
Outright owner			
Owner paying mortgage	0.1074	0.3662	0.2533
Tenant paying rent at market rate	0.1224	0.7335	0.8678
Accommodation is rented at a reduced rate	0.1087	0.5504	0.7272
Accommodation is provided free of charge	0.0635	0.2007	0.2315
Live in a densely populated area	0.0789	0.1196	0.1161
Health-related limitations of reference person	0.0453	0.1078	0.0969
Dummy 2009	0.0637	0.1162	0.1141
Dummy 2010	0.0641	0.1227	0.1359
Dummy 2011	0.0575	0.0944	0.1222
Dummy 2012	0.0642	0.1229	0.1663
Constant	5.2531	0.0756	0.0124

Notes: (a) Rest of EU-27 for 2012. (b) Labour status unchanged over the past year.

Source: LCS 2008, 2009, 2010, 2011 and 2012 pooled cross-sectional data, author's computation.

CHAPTER 3

THE BEST YEARS OF OUR LIVES? AGE AND MULTIDIMENSIONAL POVERTY IN SPAIN AFTER THE GREAT RECESSION

Chapter 3

The Best Years of Our Lives? Age and Multidimensional Poverty in Spain After the Great Recession

> *Talking 'bout my generation*. Such energy, such luck. Nurtured in the post-war settlement with the State's own milk and juice, and then sustained by their parents' tentative innocent prosperity, to come of age in full employment, new universities, bright paperback books, the Augustan age of rock and roll, affordable ideals. When the ladder crumbled behind them, when the State withdrew her tit and became a scold, they were already safe, they consolidated, and settled down to forming this or that – taste, opinion, fortunes.
>
> Ian McEwan, *Amsterdam* (Vintage 1999, p. 12).

Abstract

According to the conventional at-risk-of-poverty indicator, the Great Recession has dramatically changed the age structure of poverty in Spain, with a clear worsening in working-age population's poverty levels and an intense reduction in the risk of poverty faced by those over the age of retirement. This paper scrutinises the extent of this shift applying a multidimensional approach to poverty to 2009 and 2014 Living Conditions Survey data. To that end, use is made of a poverty measure based on five basic domains (e.g., income, housing wealth, employment deprivation, material deprivation and subjective financial stress). Data analysis shows that multidimensional poverty has increased for *all* age groups during the Great Recession, with a significant deterioration in four of the five dimensions. The breakdown by age points to young people (aged 16-30 in 2014) and the baby-boomers generation (aged 45-59) as the groups hardest hit by the crisis. The results obtained also prove the role played by within-group socioeconomic heterogeneity in shaping the final impact of the crisis, as well as the increased influence of some variables, such as the educational level, among younger generations.

Key words: Low income, multidimensional poverty, material deprivation, poverty profile, life cycle, Great Recession.

JEL codes: J15, D31, I32

3.1. Introduction

Spain stands out as being one of the countries that has been most affected by the economic downturn, with huge impacts in terms of real incomes and job losses. After a "miracle decade", both in demographic and economic terms, there is evidence that from 2008 onwards unemployment, stagnant wages, job insecurity and high mortgage debt have reduced the standard of living of many families. This deterioration has affected not only working-class households but also middle-class families that had managed to make ends meet during the previous period of strong economic growth.

From a demographic perspective, one of the clearest transformations after the crisis, in common with other countries, is the improvement in the relative position of elderly people, which contrasts with the worsening of families with children and adults of working age. Using 2014 Living Conditions Survey (LCS) data, some 30% of children under 16 years of age are at risk of poverty, compared to only 11% of seniors over 65. The gap is even wider if the imputed rent for owner-occupied dwellings is taken into account, which lowers the index of poverty for elderly people almost by half (6%). If these figures are right, the poverty pattern would have changed from a stage in which children and the elderly were the most vulnerable groups (a U-shaped poverty-age relationship) to a period in which the risk of poverty holds an inverse relationship to age.

These changes raise important questions that warrant a careful analysis, in order to draw meaningful conclusions. This requires going beyond the conventional risk-of-poverty indicators, based on purely relative and unidimensional thresholds, to measures able to capture the extent and breadth of the different deprivations suffered by the poor. With this objective in mind, this paper analyses the extent to which the current recession has generated a widening gap between older and younger age groups in terms of multidimensional poverty. To that end, a measure is designed that meets the basic requirements of being sensitive to the crisis, including the most relevant variables for analysing the effects of the macroeconomic shock and being applicable to all age groups. Using this measure, the paper analyses how the economic

crisis has affected the different age groups (children, young people, adults, and seniors), taking as temporal points for comparison the years 2009 and 2014.

The study attempts to make various contributions. First, it adds empirical evidence concerning the social consequences of the current economic crisis in a country that has been particularly hard hit by unemployment and that has implemented important austerity measures. Second, it proposes a combination of indicators that allows it to overcome some of the limitations that both the conventional measurement of risk of poverty and the new Europe 2020 index of risk of poverty or social exclusion currently have. Third, it contributes to recent advances in the applied multidimensional poverty literature by showing how different measures affect the assessment of levels and trends of economic disadvantage. Fourth, it uses the new series of data on household income contained in the Living Conditions Survey, the Spanish component of EUSILC, estimated for the first time in Spain using a methodology that combines information from interviews and fiscal data. All this makes it possible to gain better insight into the distribution of the social costs of the crisis by age groups, an issue of clear policy relevance.

Apart from this introduction, this paper is organised into four sections. Section two makes some initial considerations on the relationship between economic crises and the age poverty profile and reviews the previous evidence. Section three discusses the main issues and options when implementing a multidimensional poverty index with EUSILC data and describes the data, definitions and measures used. Section four presents the results obtained. The paper ends with some brief conclusions.

3.2. The Big Recession and (multidimensional) poverty: does age really matter?

The differences between age groups and generations have traditionally occupied an important place in economics and sociology due to their capacity to synthesise a great number of social processes. Below, the principal hypotheses that relate age and poverty are briefly reviewed, both in structural terms and through the economic cycle, and the available evidence concerning the effects of the Great Recession is synthesised.

3.2.1. Age and poverty

The relationship between age and risk of impoverishment was already clearly suggested by Seebohm Rowntree in his famous study of poverty in York, published in 1901. According to Rowntree, in the life of a worker, a succession of periods of scarcity and abundance tied to the life cycle is expected, which would lead to the risk of poverty being greater in infancy, in early adulthood (when one has small children), and again in old age. According to Rowntree's analysis, the periods of least risk would be youth, when one is earning money but does not yet have family responsibilities, and later adulthood, when one is still earning money and some of the children are already contributing with their own salaries, before becoming independent, to the family economy (Rowntree 1902: 136-137). Both childhood and old age are conceived as periods in life in which poverty is almost inevitable.

It is worth to remember that the objective of Rowntree's study was to investigate the living conditions of the working class[60] in a period before the consolidation of the British Social Security system, and that his findings gave an impetus to important social reforms, including a law for pensions and the introduction of diverse benefits and social services. As an effect of the implementation of the tax and transfer policies that define the Welfare State, the imbalance between needs and resources over the course of the life cycle was attenuated, albeit with important cross-country differences (Kangas and Palme 2000, Hedström and Ringen 1987).

In the final quarter of the 20th century, the emergence of the so-called "new" social risks put again in the agenda the life-course perspective on poverty and social exclusion. The incorporation of women into the workforce, the diversification of family forms, the insecurity and precarity of careers, and the crisis of the Welfare State form a scene that some authors have analysed in terms of the "de-institutionalisation" of the life course. This would run parallel to an "individualisation" and a certain "democratisation" of the social risks, according to some authors (Leisering and Leibfried 2001). Different from the "old" social risks, which were clearly tied to the exclusion from paid work due to age, illness or disability, the "new" social risks would affect more people, in a more transitory manner and at younger stages of their lives (Whelan and Maître 2008). The traditional social policies, which were centred on redistribution

[60] Families that could allow themselves a domestic worker were not included in the sample.

mechanisms over the course of the life cycle, would be ineffective in responding to these new social risks, which place specific groups of people of working age in the situation of poverty.

The degree to which the emergence of these new social risks implicates or not the move to a "classless" society (Beck 2002) has been an object of debate in the social sciences. A great number of recent studies appear to refute the idea that the majority of episodes of poverty are of a temporary nature and tied to life transitions more than to socioeconomic position (e.g., Mood 2015, Snel, Reelick, and Groenenboom 2013, Pintelon et al. 2013, Whelan and Maître 2008). The majority of empirical studies highlight the need to combine the structural and biographical perspectives in poverty analysis, stressing the interrelationship between life-cycle events and the socioeconomic background (Kauppinen et al. 2014, Whelan and Maître 2008, Dewilde 2003). Although it is true that life trajectories are currently less linear and that risks such as unemployment or divorce can affect all social classes, risky life events do not have the same effects for all social groups (Vandecasteele 2011).

3.2.2. Age and the business cycle

The age-based differences that are observed at a specific moment can be due both to factors connected to the course of the life cycle ("age effect") and to influences related to the moment of birth ("cohort effect"). In addition, account must be taken of the effects that are attributable to the moment of observation ("period effect"), which in principle act, although not necessarily with equal intensity, upon the entire population. The economic crisis is a change with potentially far-reaching consequences for society as a whole, though it can certainly touch more certain age groups.

There is evidence that the Great Recession has effectively modified the age-based structure of poverty in a large part of Western countries, even if the impacts vary depending on the depth of the crisis and of the public and private responses to it. In countries such as Canada or Australia, where the recession has had very mild effects, the changes in the level and structure of poverty have not been very important (CPJ 2012, Saunders and Wong 2011). Among countries most affected by the crisis, changes have tended to be greater, although far from

homogenous. There follows a summary of recent poverty trends for the three main demographic groups (i.e. working-age adults, children, and the elderly).

a) Working-age population

Both theory and the experience of previous recessions suggest that persons of working age have the highest risk of impoverishment during a recession, due to the direct effect of unemployment, underemployment, and salary reduction. Young people are particularly vulnerable, given the tendency of businesses to first dismiss recent contracts and the greater difficulty in acquiring first employment for those who enter the labour market during crisis times. The effect can be even more intense when other risk factors, such as those related to gender, level of studies, productive sector, type of contract, or immigration status, are superimposed on age. In the case of the United States, for example, it has been demonstrated that previous recessions have tended to hit most strongly males, blacks, Hispanics, young people, and people with low educational attainment (Hoynes, Miller, and Schaller 2012).

Recent empirical evidence tends to confirm that the Great Recession has hit the working-age population hard, especially younger workers. In Europe, a 2014 report notes that there is an increasing generational divide in terms of material deprivation, income and unemployment (European Parliament 2014). In their analysis of Southern European countries, Matsaganis and Leventi (2014) highlight that the risk of poverty increased among people under the age of 30 in countries such as Greece, Spain, and Portugal. Recent comparative research by Chzhen and Richardson (2014) has also stressed the substantial worsening in the youth labour market situation during the Great Recession, particularly in countries that suffered greater declines in economic output per capita. There are also studies for the US and the UK, countries where poverty rates rose sharply among the working-age population, especially among young people (Bell and Blanchflower 2011, Thompson and Smeeding 2013, Cribb et al. 2013).

b) The elderly

By contrast, the economic situation of elderly people is much less affected by the economic cycle due to the greater role played by social benefits, and particularly by pensions, as the principal source of income, and to the protective effect of wealth accumulated in previous phases of the life cycle (with housing playing a central role). Many recent comparative or country-case studies have found evidence confirming this reduced impact of the Great Recession on older people (e.g., Belfield et al. 2014, Matsaganis and Leventi 2014, Danziger, Chávez and Cumberworth 2012, among others).

This does not at all imply that elderly people are invulnerable to recessions. On the one hand, the crisis can entail a devaluation of wealth, both in real estate and in pension plans. On the other hand, unemployment can affect them indirectly, through the need to economically help children or grandchildren who have lost their jobs or in their status as cosignatories or guarantors of loans that their descendants are now incapable of repaying. Finally, though no less importantly, many elderly people use intensively public services, such as health care, dependency aid or social services, whose provision can be affected by fiscal consolidation policies. This can produce a deterioration not reflected in the statistics based on monetary income, but with impact in other direct indicators of living conditions.

c) The children

At the other end of the age spectrum, children are traditionally viewed as a very vulnerable group in recession periods. This is due to the main role played by work income in the family economy and the potential negative effects, both direct and indirect, of unemployment, financial difficulties, or changes in housing (UNICEF Office of Research 2014, Kalil 2013, Jones, McKay, and Espey 2009). In fact, numerous studies show the impact of the Great Recession on the poverty and quality of life of children. In their analysis of changes in children's wellbeing during the crisis in 32 countries, Chzhen et al. (2014) show that reductions in child wellbeing have been larger in the countries that were most affected by the crisis[61]. In

[61] Specifically, in Spain, the indicators that have worsened most are those related to the unemployment of household members and the median income of families with children. By contrast, relative child poverty has not substantially increased in Spain over the period.

another far-reaching comparative study, Natali et al. (2014) conclude that, since the beginning of the crisis, Italy and Spain show the greatest increases in the absolute number of children in poverty when the quality of life in the year 2008 is taken as a reference (anchored poverty). Similarly, Chzhen (2014) finds that child poverty and severe deprivation rose faster for children than for the population as a whole, and especially for the elderly, in many countries[62].

However, families with children are not necessarily those that are most impoverished in crises. The final impact depends on factors such as the manner in which unemployment affects different groups of adults, the distribution of children by socioeconomic level of the parents, and the degree to which families with children benefit from specific social protection programmes, which can act as a protective shield from poverty. Given many governments' prioritisation of reducing childhood poverty, most countries have aid programmes that only families with children can receive. A clear example is the United Kingdom, a country in which the rate of relative poverty of families with children has continued to decline during the crisis, though this did not prevent an increase in child material deprivation or absolute poverty after housing costs (Belfield et al. 2014, Joyce 2014).

d) Conclusion

In summary, the majority of the studies available for OECD countries tend to point to adults, especially young adults, as the demographic group that was most affected by the crisis, with a clear impact in terms of unemployment, income and material deprivation. In the case of children, the picture is more mixed, with different trends in different countries. Although the gap between children and pensioners tends to grow in many countries, families with children can find themselves better protected from the crisis than adults without children, due to their entitlement to social benefits that provide a much more stable source of income than private wages in a period of recession. With regards to elderly people, the more general tendency is an improvement in their relative position during the crisis.

[62] Using data from the Life in Transition Survey 2010, the same author shows that adults in households with children were more likely to report an impact of the crisis and to adopt a wider range of coping strategies than the rest, prioritising expenditure on basic necessities (Chzhen 2016).

An important additional aspect can be the existence of different intergenerational monetary and non-monetary support conventions. This can be relevant in countries in which the family plays a recognised protector role, such as in the case of Spain and other Southern and East-European countries (Moreno and Acebes 2008)[63]. The functioning of family protection networks can attenuate the impact of the crisis on the most vulnerable members, simultaneously extending and diluting the risk of impoverishment along the structure of ages. However, it must be taken into account that this is not necessarily a chosen strategy; rather, it may happen that this is viewed as the only possible alternative to avoid poverty. Informal family protection can incur costs both for the beneficiaries of the help, who lose some of their freedom and autonomy, and for those who offer it, who see their standard of living reduced and/or must assume new care obligations that can provoke physical and emotional overload.

3.2.3. The Spanish context: recent changes in main poverty indicators

In Spain, the economic crisis went hand in hand with a reduction in real household income and a rise in relative poverty and inequality. The LCS data show that the rate of risk of poverty increased by approximately 10% during the period of the crisis, going from 20% to 22%. This rather modest increase is partly due to the lowering of the poverty threshold (calculated as 60% of current median income) during the period of the crisis. It is worth noting that the income data based on the new LCS Base 2013 methodology suggest a different timing for this increase in relative poverty, with a more concentrated effect in 2014, compared to the old series[64].

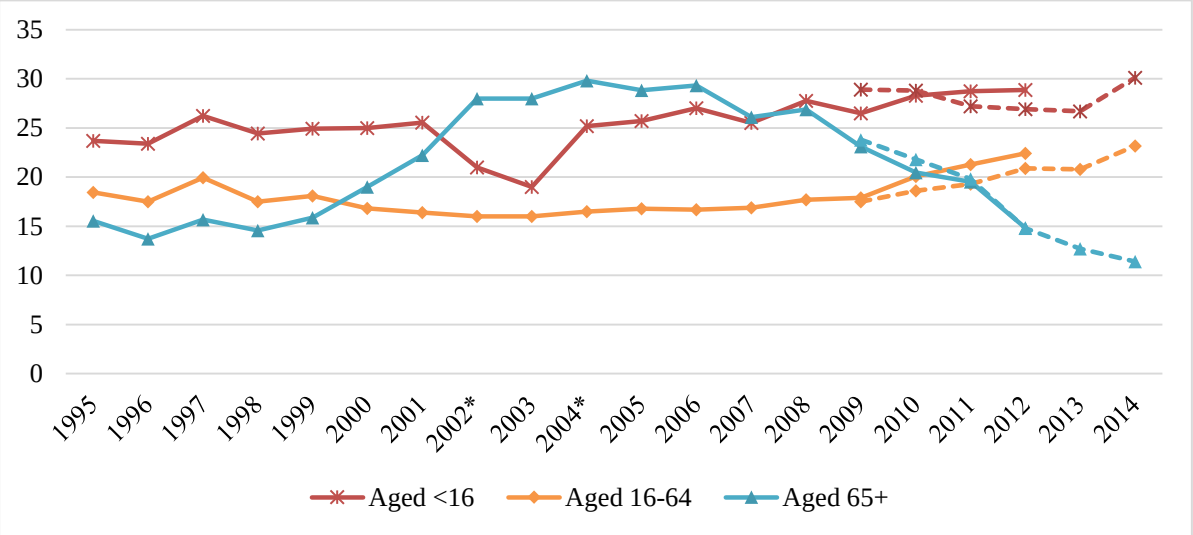
This relative stability of the rate of risk of poverty hides changes of very different magnitude for different population groups. If we consider age, the collective whose risk of poverty has varied with greatest intensity in the last two decades is elderly people, with a strong increase during the expansive phase prior to the crisis and a notable reduction starting in 2008

[63] In these countries, the age of emancipation is late, there are comparatively fewer young people who live alone, multigenerational homes still maintain an important weight, and there are more elderly individuals who cohabitate with their descendants (Iacovou and Skew 2010).

[64] In 2013, a fundamental change in the principal source of data occurred, due to the application of a mixed methodology that combines data declared in interviews with tax registration data held by the Tax Authority for the estimation of household income (INE 2014). To reduce the effect of the inconvenience that this rupture entails, the INE offers retrospective files of microdata with incomes calculated in a comparable form available from 2009.

(Graph 3.1). Taking the threshold of 60% of median income, the population 65 years of age and older with low incomes went from 15% in 1995 to 30% in 2004, to then return to below 15% starting in 2012. The slopes of this veritable "rollercoaster" are steeper for specific subgroups, such as those older than 75 or elderly people who live alone (Martínez and Navarro 2014).

Graph 3.1. At-risk-of poverty rates by age group in Spain, 1995-2014

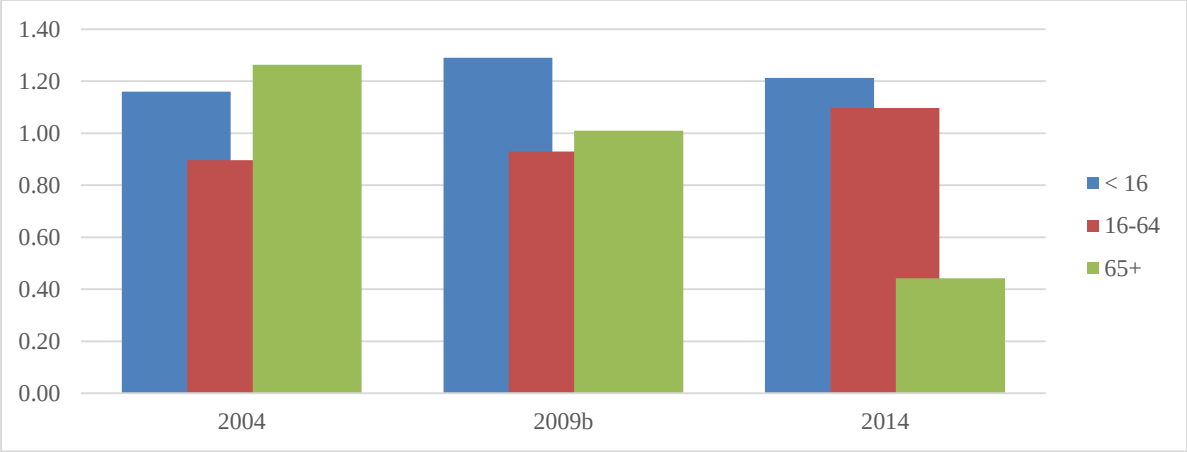


Note: The dotted lines show estimations based on the new LCS Base 2013 series.

Source: Eurostat and own research using European Community Household Panel and Living Conditions Survey data, various waves.

As clarified in the previous section, this change in the age-based structure of the risk of poverty is not unique to Spain but instead responds to an economic cycle effect that has also appeared, albeit with less intensity, in the EU-15 group. The EU2020 poverty indicator, available from 2004 on, shows results that are similar to those of the rate of relative poverty. According to this indicator, the overall risk of poverty and social exclusion (AROPE) has increased from approximately 24% during the 2004-2007 period to 29% in 2014, which implies going from some 10.4 million people at risk before the crisis to 13.4 million in 2014. This evolution makes it difficult to achieve the target established for Spain, which consists of a reduction of around 1.5 million in the number of people at risk of poverty or exclusion by year 2020, with respect to the existing level in 2010 (12 million people at risk).

Graph 3.2. Relative incidence of AROPE by age group, 2004, 2009 and 2014



Notes: Relative incidence is calculated by dividing the AROPE rate for each group by the AROPE rate for the whole population. (b) Break in the series in 2009. From 2009 onwards, the at-risk-of poverty rates estimates included in the AROPE measure are based on the Living Conditions Survey-Base 2013 new income data series.

Source: Own research using LCS data, 1st-11th waves.

As in the case of relative poverty, the worsening of the AROPE rate has been far more severe for working-age adults, whereas seniors have significantly improved their situation since the crisis began. In terms of relative incidence, it means a clear departure from the U-pattern observed before the crisis (Graph 3.2). Thus, at the end of the period analysed, the risk of poverty and exclusion reaches its maximum level for children, with a value that almost triples that of elderly people. Adults aged 16-64, who had risk levels lower than the national average before the crisis, show in 2014 AROPE rates well above this average. Altogether, 9.7 million adults and 2.4 million children would currently be at risk of poverty or exclusion, 3.8 million more than before the crisis. At the same time, elderly people are characterised by a pattern of decreasing risk, with figures clearly placed below the national average since 2010. The balance of all of this is a drastic reduction in the number of elderly people at risk of poverty or exclusion, from two million in 2007 to one million in 2014.

3.3. Age and multidimensional poverty: a methodology applicable to LCS-EUSILC data

The review of the studies and statistics on poverty that are available at European level shows that the crisis has significantly broadened the differences between elderly people and the working-age population and its dependants, increasing the existing gap in terms of the risk of

poverty and/or social exclusion. Although this result matches what was expected and reflects tendencies that have also appeared in other countries, the magnitude of the change in Spain calls for a more detailed analysis that helps clarify which interpretation of these data can be made in terms of social policy priorities.

To better explore this change, this section proposes a multidimensional measure of poverty that can be obtained from the data of the Living Conditions Survey, the Spanish component of EUSILC. To that end, revision is made of the possibilities and limitations of the data contained in the LCS-EUSILC when designing a multidimensional measure useful to analyse changes in the age-related poverty profile during the Great Recession. Not discussed here are the different methodologies of the multidimensional analysis of poverty, a question about which there already exists an extensive literature (two recent syntheses can be found in Aaberge and Brandolini 2015 and Alkire et al. 2015).

3.3.1. Data description

The LCS is the Spanish survey intended to provide comparable income and social inclusion data within the EUSILC framework, and it constitutes the principal source of data for the study of poverty and inequality in this country. For the analysis of the situation before and after the crisis, the cross-sectional microdata of the LCS Base 2013 for 2009 and 2014 are used. The survey conducted in 2014 offers the most recent data available; in addition, 2014 apparently marks the inflection point towards the beginning of the economic recovery. With regard to the year 2009, it was chosen for two reasons. First, it is the only wave before 2013 containing a broadened set of indicators of material deprivation, thanks to the inclusion of a specific module. Second, it is the first year for which data on income calculated retrospectively by applying the new mixed-methodology survey-register started in 2013 exists[65]. Although certainly in 2009 the first effects of the crisis had already been observable, especially among immigrant workers (Martínez 2010), the 2009-2014 period is generally adequate to analyse the changes that were caused by the recession and the subsequent austerity measures.

[65] Currently, the LCS is composed of two series, whose income data are not strictly comparable due to the change in methodology in 2013. The LCS Base 2004 offers income data obtained through the traditional method, from interviews, for the 2004-2012 waves. In the LCS Base 2013 household income is estimated from tax registration data, with partial support from answers to the survey, and it is available, using retrospective estimations, from 2009 onward.

The LCS is a household survey, which means that the household, and not the individual, is the level of reference of most of the indicators available in the data source. Nevertheless, the survey also provides individual data for adults (defined as people 16 years of age and older) on some income sources as well as on education, employment, health, and other aspects. Both types of data have been used when characterising multidimensional poverty, though the household is the unit of analysis for measuring all key variables, such as income, work intensity or living conditions.

Regarding the survey structure, the Spanish LCS is based on a stratified two-stage sample design, in which first-stage units are census sections and second-stages unit are familiar dwellings. When computed, standard errors estimates have been obtained taking into account the survey design and the fact that individuals are clustered within households. Given that the original stratification variable, reflecting the size of the municipality, is not provided in the user data files, the region of residence has been used as a *proxy*, following the procedure suggested by Goedemé (2013).

3.3.2. Dimensions, indicators, and thresholds

The question of which concrete dimensions a multidimensional poverty measure should contain does not have a clear answer. It greatly depends on the poverty approach adopted and the socioeconomic context to which one wants to apply it, as well as on the available indicators (Alkire 2007). The current push of the multidimensional perspective of poverty has already led to diverse empirical studies conducted in European countries using EUSILC data. These studies have some coincidences but also important differences, which is logical given the existence of different objectives and methods.

The majority of the available European studies focus on those aspects that are most related to the material quality of life, following the vision of poverty as a low standard of living due to the lack of resources (Townsend 1979, Mack and Lansley 1985). The concept of material deprivation has occupied a central role in many studies conducted from this perspective, and it is also the concept that sustains the "consistent" measures of poverty adopted at the official level in countries such as Ireland or the United Kingdom.

In parallel, various authors have tried to identify and analyse different facets of material poverty, generally, though not always, using statistical methods such as factorial analysis or cluster analysis. Although these methodologies present some limitations (Alkire et al. 2015), they have allowed to identify a catalogue of (sub)dimensions that are susceptible to separate study, i.e. basic lifestyle, consumer durables, financial stress, housing, and environmental problems. Of these five dimensions, there is a relative consensus concerning the delimitation of the latter two and their lesser relationship with income and the other living standard indicators. For their part, the first three have been defined and regrouped in different ways by different authors.

In addition to the aforementioned dimensions, which are all tied to the material conditions of life, many studies based on EUSILC data include other elements such as education, health, employment, or social capital[66]. These aspects constitute in themselves important dimensions of the quality of life and their inclusion in a multidimensional measurement of poverty can be theoretically justified (e.g. from the Sen's capability approach or the social exclusion framework). The advantage of including these elements is that the level of poverty is evaluated taking into account not only the material aspects but also other facets that affect wellbeing. The principal difficulty is that, as the number of elements included increases, so too do the difficulties in interpretation, with causal analysis becoming more elusive (Ravallion 2011, Alkire at al. 2015).

In this study, multidimensional poverty is defined using the following five basic domains: low income, low housing wealth, weak labour market position, material deprivation, and financial stress. As in the Europe 2020 poverty target indicator, income, employment and material deprivation intervene in the definition of the aggregate measure, though the definitions that are used differ in all three cases. The other two dimensions are intended to reflect the non-

[66] The inclusion of additional dimensions is also common in studies based on other data sources. Hick (2016), for example, uses the British Panel Household Survey to analyse the relationship between material poverty and multiple deprivation, a concept that brings together the dimensions of health, housing deprivation, low life satisfaction, lack of autonomy, financial stress and unemployment. The same is true for various research works based on the ECHP (e.g., D'Ambrosio, Deutsch, and Silber 2011, Devicienti and Poggi 2011, Tomlinson, Walker, and Williams 2008).

monetary resources that come from the housing property and the level of perceived financial stress. Education and health are not included in the measure, due to difficulties to measure deprivation in a homogeneous manner for people of different ages and generations. Material deprivation related to housing and environmental conditions is also excluded, due to conceptual and operational reasons[67].

The first three dimensions represent three types of resources – income, work, and housing – whose effects complement and reinforce each other. Income is the principal resource for avoiding the risk of poverty. Remunerated employment has positive effects in itself and, in addition, it provides current (wages and salaries) and future (pensions) income sources. Housing, for its part, crystallises previous investment processes and is the principal form of wealth in the majority of households; it provides security and reduces the need for current income. The other two dimensions constitute two domains that are representative of the conditions of life. On the one hand, material deprivation evaluates the difficulties in accessing a series of goods and activities that constitute a referent of the general quality of life in European countries. On the other hand, the subjective financial stress reflects situations in which households perceive a financial overload due to an imbalance between income and spending or overindebtedness.

The indicators and thresholds that are used to define the different dimensions (see Table 3.1) have been set taking into account the double objective of achieving a measure that is applicable to all age groups and that is sensitive to the economic cycle. The justification and quantification of each of the five areas that compose the multidimensional poverty measure are explained in greater detail below.

[67] Apart from being difficult to adequately measure this kind of deprivation with the indicators available in the EUSILC, housing and environmental deprivation respond to different poverty dynamics, compared to life-style deprivation (Fusco 2012, Whelan and Maître 2012, 2008).

Table 3.1. Dimensions, indicators and thresholds in the multidimensional poverty measure

Dimension	**Indicator**	**Threshold**
Income	Adjusted(1) household income	60% median, anchored in 2009
Housing wealth	Adjusted(1) imputed rent derived from home-ownership	
Employment	% adult household members' potential working time spent in employment or being retired or permanently disabled to work.	35%
Material deprivation	Scale 0-14 based on these items(2): • Cannot afford meat, chicken, fish every second day • Cannot afford to heat the home adequately • Cannot afford one week holiday away from home • Cannot afford to replace worn-out furniture • Cannot afford a car/van for private use • Cannot afford a computer at home • Cannot afford an internet connection • Cannot avoid arrears in mortgage or rent, utility bills and hire purchase instalments • At least an adult member cannot afford a dental treatment • At least an adult member cannot afford to replace worn-out clothes by some new (not second-hand) clothes • At least an adult member cannot afford two pairs of properly fitting shoes • At least an adult member cannot afford to spend a small amount of money each week on oneself. • At least an adult member cannot afford to get together with friends/family for a drink/meal at least monthly • At least an adult member cannot afford to have regular leisure activities	4
Subjective financial stress	Scale 0-3 based on these items: • Difficult or very difficult to make ends meet • Unable to face unexpected expenses • Total housing costs (rent, mortgage, bills, etc.) perceived as a heavy burden	3

Notes: (1) Adjusted according to the modified OECD equivalence scale. (2) For items analysed separately for all household members aged 16 or over, a household is considered to be deprived if there is at least one adult member lacking the item. The same criterion was followed in the case of Internet connection, which was gathered at an individual level in 2014 but at a household level in 2009.

Source: Own research based on the Living Conditions Survey.

a) Income

Income is traditionally considered households' fundamental resource for avoiding poverty. In societies based on a market economy, in which the majority of needs are satisfied by goods and services that cost money, the level of income constitutes a central dimension of quality of life. Although income can be partially and temporarily replaced by some other resources, such as accumulated wealth or access to public goods, the disappearance or drastic reduction in income places the majority of families in poverty or in its closest precursor.

There are diverse criteria for quantifying the level of income that is necessary to avoid poverty. The dominant European approach uses the standard of 60% of the equivalent median income, which is considered the official threshold of "risk of poverty". As shown in Table 3.1, low-income status is defined in this study as in the European Union risk of poverty indicator, but the initial threshold is fixed in real terms throughout the period. In other words, an *anchored* definition of income poverty is used, so that we can avoid an individual being classified as non-poor in 2014 merely due to a reduction in median income during the crisis. To that end, the initial income poverty line is updated to 2014 using changes in the Harmonised Index of Consumer Prices. Using this poverty line, 20.4% of the population had low income in 2009. Five years later, the percentage was 31.8%.

b) Housing wealth

Housing constitutes the most important (and very often the only) asset for a majority of households, as well as a relevant source of in-kind consumption. Because the conventionally measured concept of disposable income does not include any imputed rent from this non-monetary consumption, the income flow does not adequately reflect real living standards when housing circumstances differ. Many studies have shown that the consequences of omitting housing wealth are especially relevant when evaluating the risk of poverty across age groups, but it also modifies the picture based on other factors (such as type of household, migrant status, or region of residence).

Although there are strong theoretical reasons for taking into account home ownership when evaluating household resources, the best method for doing so is not straightforward. At the European Union level, in the last few years, the statistical office has promoted the production of imputed rent estimates[68] within the EUSILC framework, as well as comparative research on the distributional impact of the widened income concept (Törmälehto and Sauli 2010, Juntto and Reijo 2010). Despite these efforts, the measure of poverty based on income including imputed rent is still considered to be experimental, and therefore, to date, it is not used to produce official risk of poverty statistics for EU countries. One of the reasons is the complexity and comparability problems of the imputed rent estimates. Another important issue is the extent to which this imputed income should be treated exactly like the remaining monetary income sources, given the imperfect substitutability between monetary and non-monetary resources[69].

To avoid this problem, disposable income and housing wealth are considered separately in the multidimensional poverty measure. Given that the objective is to construct a proxy for the level of housing wealth, only imputed rent for own dwellings, and not for other situations (such as housing given up freely or rented at a reduced rate), has been taken into account to evaluate this dimension. With obvious limitations, these values can serve as an approximation of the level of complementary resources that household members derive from the property of the housing in which they reside. The definition and actualisation of the threshold is made following the same criterion applied for monetary income. Thus, those individuals living in households whose imputed rent falls below 60% of the 2009 median imputed rent are defined as "house-poor". This group includes families living in a rented house, together with households that own houses whose (equivalised) imputed rent is low. The percentage of people deprived in this dimension amounted to 24.5% of the population in 2009 and to 26.4% in 2014.

[68] The imputed rent refers to the value that is imputed for all households that do not report paying full rent because they are owner-occupiers, because they live in accommodation that is rented at a lower price than the market price, or because the accommodation is provided rent-free (see http://ec.europa.eu/eurostat/web /income-and-living-conditions/methodology/main-concepts-definitions).

[69] These caveats are particularly relevant in Spain, which stands out for being one of the countries with the highest rates of so-called "house rich/cash poor" households. This means that a substantial part of the cash-poor individuals have their incomes more than doubled when adding the imputed rent for the dwellings they live in, as shown in Törmälehnto and Sauli (2010).

c) Employment

Employment is simultaneously a clear determinant of family income and an important element in itself for personal wellbeing. This explains the main role currently given to jobs in the Europe 2020 Strategy and its use in defining the new European poverty/social exclusion target. As part of a multidimensional definition of poverty, it has a double interpretation. On the one hand, it can be viewed as an intrinsically important element from a broad perspective on poverty that understands employment as a right, a dimension of quality of life, or, as shown by diverse studies, an element of social integration, health and wellbeing (Waddell and Burton 2006). On the other hand, it can be included for its instrumental importance, since it facilitates access to income that, in turn, permits access to consumption.

The inclusion of indicators of employment in a multidimensional measurement of poverty can pose comparability problems between age groups, because there are phases of the life cycle in which work is not expected to be, and in fact often is not, the principal source of income. This is the case of children, whose situation, however, may be evaluated as a function of the employment or unemployment of the adults living in the household, as occurs in the European indicator of low work intensity. More complex is the treatment of people who have withdrawn from the labour market due to retirement or disability. The AROPE measure, for example, directly opts for not defining the indicator of low work intensity for people aged 59 or older, as a way of avoiding this problem, but this leads to a certain loss in comparability.

For this reason, to quantify this dimension, use is made of an indicator that follows criteria that are similar to those applied to define people who suffer very low work intensity at the European level, changing certain aspects in order to make it calculable for the entire population. In particular, as shown in Table 3.1, the indicator measures the percentage of adult household members' potential working time spent in employment *or* being retired or permanently disabled to work, and therefore, it can vary between 0% and 100% for all members of the household. Thus, situations of retirement and permanent incapacity are not assimilated to employment deprivation, since the person is definitively out of the labour market and is not expected to live based on his or her salary. In contrast, situations of unemployment and other

forms of inactivity for adults that are different from those mentioned above (studies, domestic work, etc.) are treated as low labour intensity. In the case of part-time work, only half is computed as work time. In all cases, the indicator is based on the month-to-month activity of household members during the year leading up to the interview.

The threshold used is 35%, which is a level that is somewhat more demanding than the value applied in the case of the European indicator (20%). This allows to consider as low work intensity the situation of a household with two adults in which only one of them works part-time, as Ward and Ozdemir (2013: 11) recommend. Applying these criteria, some 15.3% of the population lived in employment-deprived households in 2009. In 2014, it was 24.6%.

d) Material deprivation

Material deprivation is a central dimension of most concepts of multidimensional poverty based on EUSILC data and the dimension that is most directly related to the living conditions of individuals and families. The concrete elements that should be part of the concept of material deprivation vary depending on the studies. The European measure of material deprivation consists of a nine-indicator index based on independent research developed by LISER researcher Anne-Catherine Guio and colleagues, who, using the successive waves of the EUSILC, have updated the work that was initially performed with data from the European Community Household Panel (ECHP)[70]. The new 13-variable index of material deprivation suggested by Guio, Gordon, and Marlier (2012) responds to the same profile, even though it broadens the number of indicators and drops some widely owned durable goods (e.g., television, washing machine, telephone). Other studies have used more or less extensive lists of indicators to define the concept of material deprivation[71].

[70] The ECHP was the first European survey to include harmonised data on material deprivation. See principally Guio and Maquet (2007), Guio (2009), Guio, Gordon, and Marlier (2012), Fusco, Guio, and Marlier (2013), and Guio and Marlier (2013).

[71] Thus, for example, the "basic deprivation" dimension identified by Whelan and Maître (2013) with EUSILC-2009 data includes a significantly shorter list of indicators than that suggested by Guio, Gordon, and Marlier (2012).

Here, this dimension is analysed using the wider set of indicators contained in the surveys conducted in 2009 and from 2013 onwards, which makes it possible to build a material deprivation index that is more consistent than the index included in the Europe 2020 poverty indicator. The specific indicators selected to represent this dimension are listed in Table 3.1. They coincide with the variables proposed by Guio, Gordon, and Marlier (2012) for measuring material deprivation except for two facts. First, the inability to meet unexpected expenses indicator (used in the financial stress index explained below) is replaced by the existence of unmet dental needs. Second, computer possession and internet access are not aggregated into a single indicator, given that the latter is increasingly available without the former, thanks to the expansion of new types of mobile devices. The overall reliability level of the 14-item scale, as measured by Cronbach's Alpha, reaches a satisfactory level, both for the entire population (0.806 in 2009 and 0.860 in 2014) and by age groups (the minimum value is obtained for seniors aged 75 or older in 2009, 0.7060, as shown in Table A.3.1).

Material deprivation is defined as the enforced lack of at least five items out of the fourteen included in the previous list. This threshold produces a material deprivation rate of 19.7% in 2009, thus delimiting a disadvantaged group similar in size to the one obtained in the income dimension. The value obtained for 2014 is 26.3%.

e) Subjective financial stress

Household surveys often include questions related to the (perceived) financial difficulties suffered by respondents, such as the family's ability to make ends meet, the ability to face unexpected expenses, or the financial burden associated with housing costs or other loan repayments. These types of indicators have occasionally been used to delimit an independent dimension of material poverty, related less to a low level of resources than to economic insecurity and/or difficulties in adjusting family expenditure when faced with negative shocks to income and/or employment[72]. As noted by Tomlinson, Walker, and Williams (2008),

[72] Both the term used ("economic stress", "financial strain", "financial situation", "financial pressure", "subjective financial stress", or even "subjective poverty") and the concrete indicators vary according to the study. In its simplest version, financial stress is identified using a single variable, typically a question about the existence of difficulties in making ends meet (e.g., Whelan, Nolan, and Maître 2008, Whelan and Maître 2008, Hick 2016, Fahmy 2014). In other studies, however, the concept is constructed using data on delays in periodical payments

material deprivation captures the effects of long-term financial hardship on the household, whereas financial strain is intended to reflect monetary pressure in specific circumstances (for example, high mortgage payments).

One of the most frequently discussed aspects when defining this dimension is the degree to which the indicators mentioned are "objective" or "subjective", as well as the implications of this distinction. Authors such as Guio, Gordon, and Marlier (2012) directly exclude variables reflecting self-reported difficulties in making ends meet or the perception of debts as a heavy burden, considering them too conditioned by the subjective views of the interviewees. However, as Boarini and D'Ercole (2006: 15) underscore, the distinction is largely arbitrary, since the majority of the indicators of material deprivation imply a certain degree of subjective appreciation (for example, to evaluate whether the household can allow itself a specific activity, or to determine whether the lack of a certain good is o not "enforced").

To represent this dimension in the current study, the three indicators related to the existence of financial difficulties, e.g., the difficulties to make ends meet, the inability to face unexpected expenses, and the perception of housing costs (rent, mortgage, bills, etc.) as a heavy burden, have been combined. As shown in Table A.3.1, this three-variable scale has a reliability level, as measured by Cronbach's Alpha, of 0.7270 in 2009 and 0.7530 in 2014, which is similar to the value obtained by the ESRI team (see, for example, Whelan, Nolan, and Maître 2014). A household is considered to be deprived in this dimension if there is a positive answer to the three subjective financial stress questions. This threshold implies that 22.5% of the population showed financial stress in 2009 and 28.1% in 2014.

3.3.3. Aggregation

Although it is possible to address the information describing each dimension in a disaggregated manner (*dashboard approach*), the added value of a multidimensional approach to poverty resides precisely in the possibility of capturing the degree to which the same person accumulates deprivations in different areas. Various recent studies based on EUSILC data

and/or the inability to face unexpected expenses (Betti et al. 2015, D'Agostino and Regoli 2013) or from a combined list that can also include perceptions tied to overindebtedness (Whelan, Nolan, and Maître 2014, Whelan and Maître 2012, 2013, Dewilde 2008).

incorporate diverse interdimensional aggregation formulas, ranging from a simple count (D'Agostino and Regoli 2013) to the computation of some of the axiomatic multidimensional poverty indices developed in recent years (Alkire, Apablaza, and Jung 2014, Whelan, Nolan, and Maître 2014, Notten and Roelen 2012) or the use of approaches such as fuzzy set theory (Betti et al. 2015) and latent class analysis (Whelan and Maître 2014)[73]. As illuminated by Alkire et al. (2015) in their review of the different methodologies of multidimensional poverty assessment, all of them have strengths and weaknesses; thus, the choice ultimately depends on the research objectives.

To aggregate the five dimensions included in Table 3.1, the Multidimensional Headcount Ratio (H) and the Adjusted Headcount Ratio (M0) developed by Sabine Alkire and James Foster (2011a,b) are used. The latter will be the central measure, given its capacity to summarise both the extent and the intensity of the multidimensional poverty experienced by individuals and households. Compared to H, this index has the advantage of taking into account the number of deprived dimensions of those identified as poor. On the other hand, unlike the Adjusted Poverty Gap (M1), M0 does not depend on the within-dimensional gaps, which are not strictly comparable among dimensions in this case, given that the measure combines continuous and discrete indicators. When calculating the aggregate measures, equal weights are assigned to the five dimensions.

The A-F multidimensional indices of poverty are dual cutoff measures. The implication is that in addition to the *z* thresholds used within each dimension to determine the existence of deprivation, the global index depends on the dimensional cutoff employed (k). The basic results presented in this paper are based on the choice of k=3; that is, a person is considered multidimensionally poor if he or she is deprived in at least three of the five dimensions. Nevertheless, the strength of the principal results is examined for the thresholds defined by k=2 and k=4.

[73] Other methodologies that have tested their utility in multidimensional analyses of poverty, though they are only feasible with a low number of dimensions, are the dominance tests proposed by Duclos and colleagues (Duclos, Sahn and Younger 2006) and the Multiple Overlapping Deprivation Analysis (MODA), developed by UNICEF to analyse child poverty (Chzhen et al. 2016).

An important aspect of multidimensional measures that is not always explicitly discussed is the opportunity to aggregate "direct" and "indirect" indicators of poverty in the same global measurement or, from another perspective, "causes" and "outcomes". Approaches such as that of UNICEF-MODA advocate for a radical separation between the two spheres, even excluding those material indicators in which the financial aspects are inseparable and analysing only a posteriori the relationship between low income and multidimensional poverty. However, many other studies have combined direct and indirect aspects within the same concept (e.g., Alkire, Apablaza, and Jung 2014 and Dewilde 2008 for EU countries, Hick 2016a and 2016b for the UK, and García, González and Prieto 2016 for Spain)[74]. The measure of poverty proposed here includes dimensions related to both resources and the quality of life. For this and other reasons, the aggregate index used should allow a separate evaluation of the contribution of each dimension to overall poverty. In the same line, the relationships between the different dimensions should be modellable and empirically contrastable. To that end, it is convenient to rely on measures that are decomposable both by dimensions and by subgroups. In this sense, the A-F indices are also a satisfactory choice.

3.3.4. Age groups' characterisation

For the analysis by age groups, the population has been divided into six groups at approximate intervals of 15 years (Table A.3.2). The first of these includes children under 16 years of age, for whom there is no individual information in the survey, apart from basic demographic data. It is worth highlighting that the six defined groups, in addition to age, differ in other relevant aspects, such as mean educational level, family status, housing situation, or the weight of the population born abroad. A basic profile of each group is presented below, following the rule of "seniors first". These profiles attend to their distinguishing features as cohorts in the final year of analysis (2014).

a) *75 years of age or older*. This group is composed of people born during the Civil War or before, who grew up in very difficult socioeconomic conditions. Their educational level is low: some 78% did not surpass primary school. However, most had long labour trajectories and

[74] In fact, the use of the concept of "consistent poverty" can be understood as a bidimensional measure that attributes equal weight to the two measures.

stable family relationships, and the processes of upward social mobility were predominant. They retired in a period of consolidation of the Spanish Welfare State and had access to increasingly better funded pensions. Nevertheless, this is the group that reached rates of *relative* poverty close to 30% around 2005, given that pension income did not increase at the same pace as wages and salaries during the expansive phase prior to the crisis. Six out of every ten people in this age group are women, half of whom live alone in housing that is almost always property with no outstanding charges. The most frequent work situation is retirement, though there are important differences by sex (almost 100% of the men are retired, whereas among the women, other forms of inactivity, such as household tasks, play a greater role).

b) *60-74 years of age.* This group, born in the post-war period between the years 1939 and 1953, grew up in somewhat more favourable conditions than their immediate elders. The average person was born in 1946 and was 29 years old when Franco died, this is therefore the generation that played a leading role in the transition to democracy in the 1970s. The education level attained is higher than that of the previous generation, with very broad differences between the younger and older members. The work trajectories, also long, have been less differentiated by sex, due to the incorporation of increasingly more active cohorts of women in the workforce. They reached the age of retirement starting in 2004, though a certain percentage had already retired before the age of 65 through a pre-retirement formula. The most frequent work situation in 2014 is retirement, followed by household tasks and employment. Half live with another adult and one-third with other people, but only 7% live with dependent children. The residential situation is secure for a broad majority because eight out of every ten are outright owners, though some 11% continue to pay mortgage.

c) *45-59 years of age.* Born between 1954 and 1968, this group includes the majority of the members of the Baby Boom generation, which occurred in Spain some 10 years later than in other Western countries[75]. This is the generation that grew up and was educated during the economic take-off of the final stage of Francoism and the first phase of democracy (the youngest were 7 years old when Franco died, the oldest 21). Beneficiaries of the greatest advance in education and in gender equality of the 20th century, they are the generation that began to gain universal access to universities in the 1980s, producing a clear inversion of the

[75] The year with the greatest number of births in Spain was 1964, with 697,697 babies.

educational pyramid. They reached the labour market in the 1980s and early 1990s, in a period marked by high rates of youth unemployment. However, despite initial difficulties, they integrated into the labour market at an elevated percentage, and the increase in the rate of women's activity in successive years stands out. The residential situation is less consolidated than in the previous age group because some 30% have a mortgage and 9% pay rent at market prices. On the other hand, it is a demographic group in which the impact of the immigration boom can already be felt, with 11% born outside the country. The mean household size is 3.1 members, and almost half of the families have dependent children.

d) *30-44 years of age*. Born between 1969 and 1983, and sometimes known as Generation X, they are largely the children of those who brought forth the transition and constitute the first generation educated entirely under democracy. The average person was born in 1976 and reached the labour market in the bullish phase of the economic cycle, in a context of strong increase in demand for employment, though also of a certain imbalance between young people's expectations and the characteristics of the work posts. Even still, they are the generation with the highest average educational level in the history of Spain, with more than 40% holding university degrees. Labour integration is almost full, with a rate of activity above 90%, with barely any gender gap. It is also the age group with the highest percentage of employed people, though the crisis had a clear impact. With regard to their residential situation, only one out of four lives in his or her own housing without outstanding charges in 2014, and almost half have a mortgage, whereas one out of five pays rent. The mean household size is 3.1 members, and six out of every ten families have dependent children.

e) *16-29 years of age.* Born between 1984 and 1997, this group largely overlaps with what the media have baptised Millennials. The typical member was born in 1990, learned prices in euros, and grew up in a very favourable economic context, in the midst of an expansive phase. Today, these individuals are the age group most affected by the crisis in terms of work, with a clear decrease in the level of employment, masked in part by longer stays in the educational system[76]. Non-independent young people, who are the majority (three out of four), have an average age of 22 years and live in families whose head of household is 52. Somewhat

[76] Some 41% are studying in 2014, almost 10 points more than in 2009. On the other hand, some 23% are NEETS (Not in Education, Employment or Training) in 2014, which is eight points more than before the crisis.

more than half are still students, and only one out of four works, generally with temporary contracts and/or part-time posts that pay a mean of 750 euros per month (970 euros before the crisis). For their part, independent young people (one out of every four) have a mean age of 26 years and live with a partner, the majority without children. Among those who work, the rates of temporal and part-time work are lower than in the case of non-emancipated young people, but the average net income is only 919 euros per month. With regard to housing, some 42% pay rent at market prices, and 30% pay a mortgage, a situation that practically inverts the percentages from before the crisis and that reflects the real estate crunch and the severe restriction in the concession of new loans.

e) *0-15 years of age.* Born from 1998 onwards, they are in large part the children of the recession because the oldest were only 10 years old when the crisis began. The majority of their parents are adults from the 30-44 group or late Baby Boomers. They live in homes whose head of household has a mean age of 42 years and is, very frequently (42%), a university degree holder. The percentage of children in households headed by someone with a low educational level was only 13% in 2014, whereas it still amounted to 28% in 2005. In one out of five cases, the principal adult is from outside of Spain, a consequence of the immigration boom that occurred in the stage before the crisis. In general, the children live in homes in which housing is paid for as rent at market prices (15%) or as mortgage payments (50%); only one out of four lives in an owned dwelling without outstanding charges. The mean household size is 4.3 members, and the most frequent type of family is a couple with two children (44%), followed by a couple with one child (21%), a couple with three or more children (15%), and other households with children (13%). About 8% of children are raised in a single-parent home.

3.4. Main results

3.4.1. Global changes

Table 3.2 shows the global levels of multidimensional poverty existing before and after the crisis for the entire population, as measured using the Multidimensional Headcount Ratio (H) and the Adjusted Headcount Ratio (M0) for three different dimensional cutoffs (k=2, k=3, and k=4).

Table 3.2. Changes in A-F multidimensional poverty measures H, M0 and M1 (k=2, 3, 4) for the whole population, 2009 and 2014

Multidimensional index	**2009**		**2014**		**Relative change**
	Mean	Standard error	Mean	Standard error	
K=2					
H	0.276	(0.007)	0.372	(0.007)	35%
M0	0.153	(0.005)	0.229	(0.005)	49%
K=3					
H	0.136	(0.006)	0.228	(0.006)	68%
M0	0.097	(0.004)	0.172	(0.005)	76%
K=4					
H	0.059	(0.004)	0.129	(0.005)	118%
M0	0.051	(0.004)	0.112	(0.005)	119%

Note: Standard errors are calculated taking survey design into account.

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

It can be observed that the aggregate measures of multidimensional deprivation clearly increased for the entire population, regardless of the cutoff value used. With the intermediate threshold, almost 23% of the population was multidimensionally poor in 2014, nine points more than in 2009. In addition, relative growth is greater when changing from H to M0 and also as the k value increases. This finding indicates that not only its incidence but also the intensity of multidimensional deprivation has risen. Taking as a basic measure the Adjusted Headcount Ratio (M0), calculated for k=3, the crisis entailed an increase of 76% in the multidimensional poverty index.

Thus, as a result of the changes in available resources and living standards experienced by the population during the crisis, multidimensional poverty has become unequivocally more extensive and more intense in Spain. However, the global impact has been very different depending on the position in the life cycle (Table 3.3). Although multidimensional poverty has increased significantly for *all* age groups, the increase has been much milder among people older than 60 years of age than in the working-age population. On the other hand, within the population younger than 60 years of age, multidimensional deprivation has increased more among young people (16-29 years of age) and Baby Boomers (45-59 years of age) than among children under the age of 16 and Generation X adults (30-44 years of age).

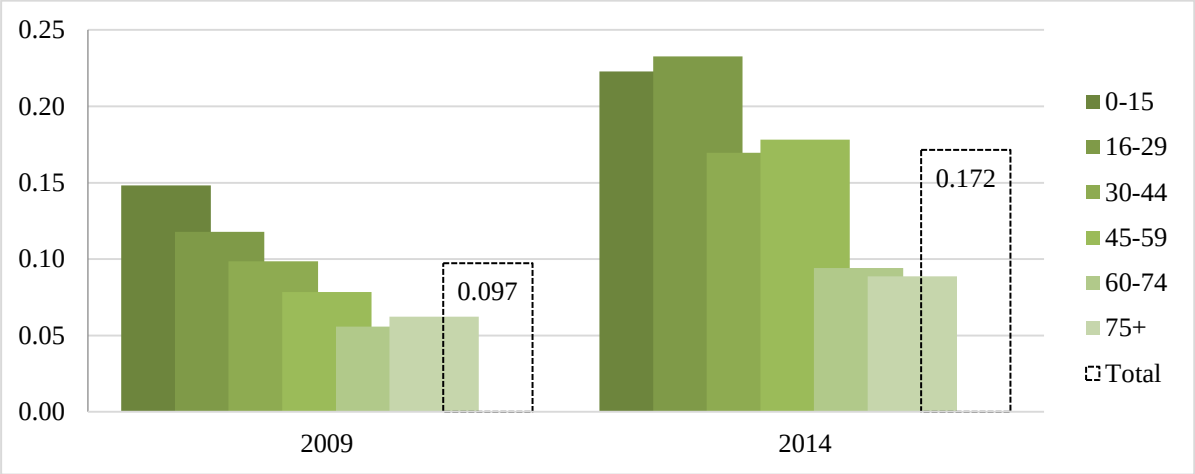
Table 3.3. Adjusted Headcount Ratio (M0) by age group for different dimensional cutoffs (k=2, 3, 4), 2009 and 2014

	M0 Index		Change		Relative risk	
	2009	2014	Absolute	%	2009	2014
k=2						
Children <16	0.206	0.276	0.07	34%	135	120
Youth 16-29	0.179	0.300	0.12	67%	117	131
Adults 30-44	0.152	0.226	0.07	48%	100	99
Adults 45-59	0.133	0.234	0.10	76%	87	102
Seniors 60-74	0.105	0.146	0.04	39%	69	64
Seniors 75+	0.125	0.155	0.03	24%	82	68
Total	**0.153**	**0.229**	**0.08**	**50%**	**100**	**100**
k=3						
Children <16	0.148	0.223	0.07	50%	152	138
Youth 16-29	0.118	0.233	0.11	97%	121	144
Adults 30-44	0.099	0.170	0.07	72%	101	105
Adults 45-59	0.078	0.178	0.10	127%	81	110
Seniors 60-74	0.056	0.094	0.04	69%	57	58
Seniors 75+	0.062	0.089	0.03	42%	64	55
Total	**0.097**	**0.172**	**0.06**	**76%**	**100**	**100**
k=4						
Children <16	0.089	0.157	0.07	77%	173	140
Youth 16-29	0.067	0.160	0.09	138%	132	143
Adults 30-44	0.052	0.110	0.06	111%	102	98
Adults 45-59	0.037	0.117	0.08	218%	72	104
Seniors 60-74	0.021	0.053	0.03	149%	42	47
Seniors 75+	0.024	0.039	0.02	66%	47	35
Total	**0.051**	**0.112**	**0.06**	**119%**	**100**	**100**

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

The evolution described leaves a final picture (year 2014) in which the level of multidimensional poverty has three clear rungs, with a very high cumulative disadvantage for children and young people, somewhat less but also high in comparison to the pre-crisis situation for adults, and markedly less for people older than 60 years of age (Graph 3.3). The results obtained for k=3 are maintained in broad strokes with a lower (k=2) or a higher (k=4) dimensional cutoff. It should be highlighted that the gap between children and the elderly is accentuated as the k value increases. The housing wealth dimension, in which only a minority of elderly people demonstrate poverty, is particularly influential on this outcome

Graph 3.3. Adjusted Headcount Ratio (k=3) by age group, 2009 and 2014



Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

The changes presented above have therefore modified the age-profile of poverty. The Baby Boomers were better positioned before the crisis than Generation X, but their situation practically evens out (downward) after the crisis. Similarly, young people, who in 2009 had a lower level of multidimensional poverty than children, worsen until their risk exceeds that of children younger than 16 years of age, traditionally the most vulnerable group and whose relative (though not absolute) risk decreases. For the three values of k, the increasing incidence of multidimensional poverty among young people aged 16-29 and adults aged 45-59 is clear. It is worth noting that these are precisely the age groups in theory most protected from poverty in Rowntree's classic analysis, since they comprise people who "already earn money and do not yet have family responsibilities" and people who "still earn money and no longer have family

responsibilities", respectively. The data shown appear to refute the idea that this is an accurate description of the situation of these groups in contemporary Spain.

3.4.2. Subgroup and dimensional decompositions

Taking advantage of their decomposability properties, changes in the contribution of the different groups and dimensions to the aggregate measure of multidimensional poverty are analysed below. Specific attention is also paid to the way in which the dimensional profile of poverty differs between age groups.

a) Subgroup decomposition

The changes described have had effects on the participation of each age group in the aggregate index of multidimensional poverty. Table 3.4 shows the population shares and the sub-group decomposition of M0 in 2009 and 2014. In both dates, those younger than 45 years of age contribute to multidimensional deprivation in greater proportion than their demographic weight, a situation that is inverted for those aged 45 or above.

Table 3.4. % Sub-group decomposition of the Adjusted Headcount Ratio M0

	Children 0-15	Youth 16-29	Adults 30-44	Adults 45-59	Seniors 60-74	Seniors 75+	Total
Population shares							
2009	0.16	0.17	0.26	0.19	0.13	0.08	1.00
2014	0.16	0.15	0.24	0.22	0.14	0.09	1.00
Sub-group decomposition							
k=2							
2009	0.24	0.21	0.26	0.16	0.08	0.05	1.00
2014	0.21	0.20	0.24	0.22	0.08	0.05	1.00
k=3							
2009	0.21	0.20	0.26	0.17	0.09	0.07	1.00
2014	0.20	0.19	0.24	0.22	0.09	0.06	1.00
k=4							
2009	0.28	0.23	0.27	0.14	0.06	0.04	1.00
2014	0.23	0.21	0.24	0.22	0.07	0.03	1.00

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

The most significant changes as a result of the crisis affect children (whose contribution is reduced) and adults of the Baby Boom generation, whose contribution increases until it equals their population share. Millennials, however, do not see an increase in their relative contribution to the global index due to the compensating effect of the demographic decline between 2009 and 2014. In fact, this decline can be an indirect symptom of the difficulties experienced by this group in the crisis and the adaptation of defensive strategies such as immigrants' returning home and the exodus of degree holders.

b) Dimensional decomposition

Between 2009 and 2014, poverty increased with different intensity in the five areas that comprise the global measure. Situations of low income and work deprivation grew by around 60%, and material deprivation and subjective financial stress increased by 34% and 25%, respectively (Table A.3.3). The greatest stability can be observed, as expected due to its nature, in the indicator of low housing wealth, which increased by only 7% (a non-significant variation at a confidence level of 95%).

As a result of these changes, the dimensional composition of poverty has been modified (Table 3.5). For the total population, the decomposition of M0 shows that, in 2009, the material deprivation and subjective financial stress fields were overrepresented in overall multidimensional poverty, whereas work deprivation contributed relatively little to the global index. By contrast, in 2014, the relative contribution of material poverty remains the same or is slightly reduced, and that related to employment clearly increases. In addition, the weight of low monetary income increases and that of low housing wealth falls.

Table 3.5. % Dimensional decomposition of the Adjusted Headcount Ratio (k=2, 3, 4)

	2009			**2014**		
	k=2	k=3	k=4	k=2	k=3	k=4
Income poverty	20	21	21	24	23	22
Housing wealth deprivation	20	19	19	16	15	15
Employment deprivation	14	14	17	19	19	20
Material deprivation	23	23	22	21	21	22
Subjective financial stress	24	23	21	21	21	21
TOTAL	100	100	100	100	100	100

Source: Own research using Base 2013 LCS data, 2009 and 2014 waves.

These changes clearly reflect the strong impact of the crisis on employment and family incomes in Spain. In any case, it is worth highlighting that both before and after the beginning of the recession, low income, material deprivation and financial stress are the dimensions that contribute the most, above their relative weight, to the aggregate index. This result fits expectations, since income is the most decisive resource for economic poverty and, in parallel, material deprivation and financial stress are its most direct manifestations[77].

c) Age differences in multidimensional poverty profiles

The profiles of multidimensional deprivation systematically vary over the life course (Graph 3.4 and Tables A.3.3-A.3.4). Housing wealth deprivation, for example, is high among young people and adults under the age of 45, many of whom live in rented housing. By contrast, very few people older than 60 are "house-poor". Something similar occurs with employment deprivation, which also reaches its maximum level among young people. For elderly people, however, the element that contributes the most to their (relatively low) multidimensional poverty indices is subjective financial stress, followed by problems of low income and material deprivation, whereas children tend to accumulate more problems in the areas of income, financial stress and material deprivation. In 2009, they were also the second-worst-positioned group in terms of housing wealth (behind young people), but they still lived in households with acceptable levels of workforce integration.

It is interesting to highlight that the U-shaped pattern of poverty by age groups is only observed, and only in 2009, in the case of disposable income. In the dimensions that are related to housing, material deprivation and financial stress, disadvantage maintains an inverse relationship with age. In terms of employment, the lowest deprivation levels correspond (in 2009) to adults between 30 and 44 years of age (11.1%), children (14.1%), and people between 60 and 74 years of age (14.2%), many of whom had already retired.

[77] In fact, data analysis show that the growth in the levels of material deprivation and subjective financial stress between 2009 and 2014 is fundamentally explained by the increase in the number of individuals simultaneously suffering from both forms of poverty.

Graph 3.4. % People deprived in each dimension by age group, 2009 and 2014

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.
Notes: 2009, 2014.

Graph 3.4 also makes clear the changes affecting the different groups after five years of crisis. Young people are the group with the clearest increase in work deprivation and income poverty, reaching around 37% in both cases in 2014. Although changes in housing wealth deprivation are minor at the global level, a clear increase is also observed for this group, affecting almost 40% in 2014. Thus, there has been a significant rise in the percentage of young people who, after the crisis, fall below the threshold in one or several of the basic resources considered: employment, income, housing.

The analysis of the situation of adults between 45 and 59 years of age, who are persons of reference for the households in which the majority of non-independent young people live, also suggests a certain carry-over effect, with very significant increases in multidimensional poverty. In fact, this age group ranks second in terms of the relative increase in work deprivation and income deprivation (both have almost doubled) and leads the increase in the levels of material deprivation and subjective financial stress.

For children under 16 years of age, the recession has also clearly increased their levels of deprivation in four of the five dimensions, though their relative risk has remained similar or even reduced (disposable income and financial stress). Nevertheless, in 2014, they continue to be the group with the highest levels of monetary poverty, material deprivation and subjective financial pressure.

Those born before 1954 present in 2014 the lowest levels of deprivation in all dimensions and are also the least affected by the economic crisis. This does not mean that the people of these generations have been completely immune to the effects of the recession: low income levels, material deprivation and subjective financial stress have also increased between the two dates. In particular, some 20% of the adults of the Transition Generation suffered material deprivation in 2014, and 23% demonstrated subjective economic pressure, in both cases five points higher than the pre-crisis values. However, housing wealth deprivation is much less prevalent than among the other age groups due to higher ownership rates. These higher non-monetary income levels have probably been able to act as a protective mechanism during the crisis, extending their effects to non-emancipated adult offspring (or those with truncated emancipation processes who have temporarily returned to the family home).

3.4.3. Within-group differences

Multidimensional poverty levels vary by age and that, in addition, each group has suffered different increases with the crisis. These differences are due to the diverse degree of exposure to poverty risk factors (e.g. unemployment, low salaries or family duties) over the life course. However, age is not the only relevant variable. In fact, analysing the situation of "children", "young people", or "the elderly" implies in a certain sense constructing artificially homogeneous social categories that ignore the internal socioeconomic variability. As noted by Dewilde (2003), the analysis of stratification *of* the life course should not lead us to hide the processes of stratification *over* the life course.

This section studies the existing inequalities within each age group as a function of other socioeconomic stratification factors, such as gender, place of residence or social class. The variables included are characteristics that can theoretically be related to multidimensional poverty, such as housing type, educational level, immigrant origin, socioeconomic status, or type of income. Most of the variables are measured at the household level, thus describing the situation of the household or its reference person (the person responsible for the accommodation); only sex and marital status, in addition to age itself, are analysed at the individual level. Table A.3.5 explains in detail the definitions of all of the variables used and shows the population frequencies in 2009 and 2014.

With some exceptions, the structure of the Spanish population according to these variables has not substantially changed during the crisis period. The greatest change affects families' main source of income, with a clear increase in the percentage of individuals whose households depend on other incomes/transfers (unemployment benefits, family allowances, social assistance, etc.) different from employment income or retirement pensions. At the same time, the mean educational level of the population has continued to rise, the percentage of people living in families with economically dependent children has increased, and the proportion of middle-class individuals has slightly decreased, as measured using the European Socio-economic Classification (ESeC)[78].

[78] The ESeC uses information on occupation, employment status and size of the organisation to allocate individuals to one of nine possible socioeconomic groups. These nine groups can be collapsed into six-, five-, or three-class models. An additional class of those excluded from employment relations can be added.

Tables A.3.6-A.3.11 in the Appendix show the intragroup differences in the basic index of multidimensional poverty (M0, k=3) in the years 2009 and 2014[79]. At the global level, the highest multidimensional poverty rates (using 2014 data) are those obtained for children and young people in households living from "other transfers/other incomes" or whose reference person has a low educational level. The lowest poverty levels correspond, in turn, to upper class seniors aged 60 or over.

The significance and marginal effects of the selected socioeconomic variables have been econometrically analysed for 2009 and 2014. To that end, for each age group, a binary logistic regression model for the Multidimensional Headcount Ratio (H, k=3) status has been estimated (Table 3.6). The dependent variable takes the value of 1 when the individual is classified as poor in at least three of the five dimensions and is 0 otherwise. The results presented should be interpreted taking into account that the odds ratios are not directly comparable between groups because the populations taken as a reference differ. However, they can be useful in identifying the most relevant factors for each age group and the possible changes between 2009 and 2014.

The presence of dependants and single parenthood increase the risk of multidimensional poverty in all age groups. In 2009, single parenthood was a very relevant factor in the case of children, young people and adults under 45 years of age. After the crisis, the plus of risk of poverty associated with single parenthood is reduced in the three groups, remaining the same in the case of mature adults (45-59 years). On the other hand, the existence of dependants is a more powerful predictor of multidimensional poverty among mature adults or elderly people than in younger families. The sign and magnitude of this relationship is maintained or reinforced with the crisis, especially from the age of 45 and up. In the case of children, for whom the reference category is couples with one/two dependants, the most relevant change is the reduction of the coefficient associated with single parenthood and the growing disadvantage of complex households with dependants, which more than double the risk of the base category.

[79] For this analysis, some categories that barely have cases have been reorganised for certain age groups. In particular, for the 60-74 and 75+ groups, the household structure has been simplified, due to the low frequency of some categories. For similar reasons, the socioeconomic categories for those younger than 60 years of age have also been simplified into three classes, given the low number of households whose reference person cannot be classified due to never having been employed (the "excluded" group).

Table 3.6. Within-group differences in multidimensional poverty (H, k=3) in 2009 and 2014. Logistic Regressions.

	Children<16		**Youth 16-29**		**Adults 30-44**	
	2009	2014	2009	2014	2009	2014
Female	(o)	(o)	0.99	1.28*	1.05	1
Not married/partner	(o)	(o)	0.81	1.39	1.34	1.79**
Family type						
Without dependants	(..)	(..)	(b)	(b)	(b)	(b)
Couple 1-2 dependants	(b)	(b)	3.07***	2.51***	1.65*	1.70**
Couple 3+ dependants	2.71***	2.61***	8.28***	9.33***	4.27***	5.33***
Lone-parent household	3.60***	2.29***	5.11***	3.86***	4.51***	2.14*
Other with dependants	1.51	2.76***	3.24***	5.91***	2.20**	4.88***
Education						
University	(b)	(b)	(b)	(b)	(b)	(b)
Upper secondary	1.1	1.73*	0.92	2.45***	1.41	1.38
Lower secondary	2.07**	2.57***	1.64	3.39***	2.99***	2.29***
Primary or less	4.47***	5.34***	3.37***	6.10***	6.12***	2.94***
Bad health	3.35***	2.13*	3.27***	1.28	2.15**	1.45
Immigrant status	4.01***	3.39***	4.14***	2.13**	5.24***	3.03***
Social class						
Upper	(b)	(b)	(b)	(b)	(b)	(b)
Middle	8.73***	2.21**	2.21	1.56	3.68***	2.35***
Working	12.63***	3.49***	2.52*	2.28***	5.65***	3.07***
Excluded	(1)	(1)	(1)	(1)	(1)	(1)
Temporary work	2.74***	2.19***	2.61***	2.32***	2.58***	2.68***
Income source						
Work	(b)	(b)	(b)	(b)	(b)	(b)
Pensions	1.08	1.41	1.48	1.69*	0.93	1.85**
Other incomes/transfers	2.84***	5.86***	2.96***	4.36***	3.87***	6.05***
High housing costs	1.98***	3.74***	2.93***	4.08***	2.22***	4.20***
Area of residence						
Madrid	(b)	(b)	(b)	(b)	(b)	(b)
Catalonia	0.75	0.68	0.82	1.14	1.01	0.9
North	0.37**	0.64	0.68	1.12	0.62	0.73
Centre	0.73	0.86	0.91	1.31	0.8	0.76
East	0.75	0.91	0.9	1.35	0.81	1.53
South	0.95	1.35	1.68	1.99**	1.33	1.65*
Constant	0.00***	0.01***	0.01***	0.01***	0.00***	0.01***
N	6024	5091	6066	4746	8168	6371
Pseudo R2	0.3418	0.3913	0.2950	0.3134	0.3115	0.3508

Table 3.6. (Continued)

	Adults 45-59		Seniors 60-74		Seniors 75+	
	2009	2014	2009	2014	2009	2014
Female	1.02	1.15*	1.22	1.17	2.09***	1.42**
Married/partner	1.99***	1.73***	2.34***	1.51**	2.43***	1.61*
Family type						
Without dependants	(b)	(b)	(b)	(b)	(b)	(b)
Couple 1-2 dependants	2.62***	2.93***	4.76***	5.00***	0.79	4.85***
Couple 3+ dependants	8.46***	8.43***	(2)	(2)	(2)	(2)
Lone-parent household	2.32**	2.27**	(2)	(2)	(2)	(2)
Other with dependants	3.07***	6.23***	5.37***	6.65***	4.85***	7.56***
Education						
University	(b)	(b)	(b)	(b)	(b)	(b)
Upper secondary	1.1	1.4	1.67	1.11	1.22	1.03
Lower secondary	1.66	2.34***	2.69*	1.91*	1.48	2.47
Primary or less	3.31***	3.24***	4.36***	3.19***	1.79	2.5
Bad health	2.86***	1.42	1.92***	1.65**	2.01***	2.06***
Immigrant status	4.26***	2.80***	2.25*	1.65	4.49**	1.02
Social class						
Upper	(b)	(b)	(b)	(b)	(b)	(b)
Middle	2.4	2.35***	2.71*	2.60**	1.98	3.87**
Working	3.56*	4.07***	2.86*	4.61***	3.07*	4.60**
Excluded	(1)	(1)	2.38	3.60**	7.43***	8.03***
Temporary work	2.58***	2.17***	1.87**	3.19***	2.54***	0.96
Income source						
Work	(b)	(b)	0.91	1.06	0.27***	0.32***
Pensions	1.27	1.4	(b)	(b)	(b)	(b)
Other incomes/transfers	2.65***	4.40***	1.3	2.70***	0.78	1.63*
High housing costs	2.69***	4.55***	6.95***	7.75***	5.62***	4.54***
Area of residence						
Madrid	(b)	(b)	(b)	(b)	(b)	(b)
Catalonia	0.58	1.3	1.61	0.6	2.18*	0.9
North	0.57*	0.87	1.31	0.65	0.82	0.69
Centre	0.92	1.54	2.50**	0.84	1.35	1.13
East	0.82	1.37	1.73	1.23	3.38**	0.71
South	1.35	2.33***	2.96***	1.70*	2.42**	1.68
Constant	0.01***	0.01***	0.00***	0.01***	0.00***	0.00***
N	7600	7365	5720	5077	3189	2972
Pseudo R2	0.2841	0.3171	0.2263	0.3059	0.2201	0.1922

Notes: Significance levels: * p<.05, ** p<.01, *** p<.001. (b) Base category. (1) Included in "Working class". (2) Included in "Other households with dependants". (o) Omitted. (..) No cases.

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Being female is only a clearly significant factor in both dates for the oldest group (although the coefficient declines in 2014), though, after the crisis, the variable also becomes significant in the case of young people and adults 45-59 years of age. Not being married/living with a partner increases the risk of being multidimensionally poor in both dates starting at the age of 45 and, in 2014, also among adults from Generation X. The maximum effect is registered among seniors in 2009, but the coefficient considerably decreases in 2014. This change may have been influenced by both circumstantial and structural factors, such as the progressive equalisation of professional careers between men and women.

A deficit in one of the two variables representative of personal human capital, education or health, increases the probability of being multidimensionally poor, both in 2009 and in 2014. In the case of a low educational level, its effect on poverty is higher for the younger generations and milder in contrast for those 45 years of age and older, becoming not significant for those aged 75 and older. Moreover, the crisis has amplified the impact of educational differences among children and particularly among young people. An important change is the increase in the existing gap between the level of higher education and the intermediate level after the crisis, especially among young people and the heads of households with children.

Immigrant households have a greater risk of multidimensional poverty than those whose reference person was born in Spain, for all age groups. However, the gap associated with the country of origin is generally reduced with the crisis. Although immigrants were the first to suffer the effects of the recession, unemployment and job insecurity were extended during the recession to other groups of vulnerable workers, slightly blurring the correspondence between immigration and economic disadvantage that had been becoming more marked during the expansive phase. Nevertheless, in 2014, immigrant origin continues to entail significant differences in the under-60 age groups, with a maximum impact in the case of children.

The social class of the head of household is a significant predictor of the level of multidimensional poverty: in any age group, working-class family members have a probability of poverty that at minimum doubles (for young people) and generally triples or more that of a similarly aged upper-class individual. The most marked socioeconomic gradient is that

observed in 2009 between children and adults 30-44 years of age: at the beginning of the crisis, the risk of poverty among young families was very concentrated in working-class households, a category that included lower sales and service occupations as well as lower technical and routine occupations. With the crisis, intragroup differences associated *strictly* with class are reduced in the under-45 population, particularly in families with children, whereas they increase among those older than 45.

Current or previous temporary work contracts double or more the risk of multidimensional poverty in all age groups, except among people aged 75 or older, a segment in which the variable is not significant in 2014. With the crisis, the estimated odds ratios for this variable slightly decrease or remain the same, except in the case of the Transition Generation (60-74 years), among whom temporary work becomes more influential. In this group, which is divided between work and retirement, those who have (or had in their last job) a temporary contract almost triple the risk of multidimensional poverty compared to those not affected by this situation.

For individuals under 60 years of age, but especially in families with children, the risk of multidimensional poverty appears to be very clearly tied to the category of "other transfers/other incomes" as the main source of income. When the family economy is based on incomes that do not come from work or retirement pensions, the risk of multidimensional poverty multiplies in relation to the base category (work incomes). This connection may be explained by factors such as the lower level of non-pension benefits or the negative effects of the job insecurity itself on the standard of living. It should be highlighted that the impact of living from other benefits is clearly greater after the Great Recession in all age groups. The maximum effect is observed for children and young adults (30-44 years), with odds ratios of approximately 6 in 2014. In the case of elderly people, this category implies a greater risk of poverty than pensions in 2014, whereas before the crisis the differences between the two groups were not significant. At the same time, among people aged 16-44, pensions-based households have in 2014 (unlike in 2009) a higher risk of poverty.

The final variable that also appears to be clearly tied to the risk of multidimensional poverty in all age groups is the one capturing the existence of housing costs overburden. It is

worth highlighting that its negative impact is greater among elderly people: although those who have high housing costs are a minority (below 10%), they find themselves comparatively very disadvantaged. Notwithstanding, the effect of this variable has grown faster since 2009 among the working-age population, and particularly among children and young adults.

The area of residence does not seem relevant once the other predictors are controlled for, perhaps with the exception of the negative effect associated with living in a southern region (Andalusia, Murcia, the Canary Islands, Ceuta, and Melilla) after the crisis, significant for all age groups except children. In 2014, the only significant coefficient, in addition to that associated with living in the south, is that which corresponds to Catalonia and the communities of the Mediterranean area (Valencia, Alicante, and the Balearic Islands) for the oldest age group (75 years or above).

3.4.4. Main drivers of multidimensional poverty before and after the crisis

The above analysis confirms the impact of some socioeconomic variables that shape the risk of multidimensional poverty, introducing important differences between individuals in the same age group. In this section, a global analysis of the profile of the multidimensionally poor in 2009 and 2014 is conducted with the aim of ascertaining the extent to which age and the other variables jointly determine the probability of being poor before and after the crisis.

To that end, first, a logistical model has been estimated for each year, including age and the other socioeconomic characteristics as regressors. Household structure is taken into account by using two dummy variables that aim at collecting the impact of single parenthood and households with three or more children or young dependants. The remaining variables coincide with those used in the intragroup models. In addition, the same model has been estimated using the pool formed by the data from 2009 and 2014, including the observation year as a binary variable (model 1) and adding a variable capturing the possible interaction between year and age group (model 2). These pooled data models make it possible to contrast through a different path the significance and the size of the "period effect" associated with the crisis.

Table 3.7. Logistic Regression for Multidimensional Poverty (H, k=3). Log odds ratios.

	Base model		**Full model**		**Pooled data**	
	2009	**2014**	**2009**	**2014**	**Model 1**	**Model2**
Age						
Children <16	1.57***	1.39***	0.94	0.97	0.95	0.94
Youth 16-29	1.21*	1.48***	1.02	1.36***	1.19**	1.05
Adults 30-44	(b)	(b)	(b)	(b)	(b)	(b)
Adults 45-59	0.79**	1.06	0.94	1.23**	1.12	0.94
Seniors 60-74	0.57***	0.51***	0.59***	0.49***	0.52***	0.58***
Seniors 75+	0.65***	0.51***	0.68**	0.36***	0.45***	0.70**
Female			1.13***	1.12***	1.13***	1.13***
Not married/partner			1.36***	1.31***	1.35***	1.34***
Lone-parent household			2.34***	1.83***	1.99***	1.97***
Three or more dependants			3.37***	4.03***	3.76***	3.75***
Level of education of reference person						
University			(b)	(b)	(b)	(b)
Upper secondary			1.28	1.72***	1.52***	1.52***
Lower secondary			2.26***	2.69***	2.49***	2.50***
Primary or less			4.30***	4.12***	4.15***	4.23***
Bad health of reference person			2.12***	1.57***	1.79***	1.79***
Immigrant reference person			4.51***	2.82***	3.51***	3.53***
Socioeconomic class						
Upper class			(b)	(b)	(b)	(b)
Middle class			3.18***	2.15***	2.46***	2.46***
Working class			4.37***	3.22***	3.56***	3.56***
Temporary contract of reference person			2.51***	2.23***	2.36***	2.36***
Main source of income						
Employment			(b)	(b)	(b)	(b)
Retirement pensions			1.13	1.46**	1.34**	1.28**
Other transfers/other incomes			2.64***	4.42***	3.61***	3.65***
High housing costs ratio			2.69***	3.87***	3.29***	3.29***
Area of residence						
Madrid			(b)	(b)	(b)	(b)
Catalonia			0.96	0.94	0.97	0.96
North			0.67*	0.8	0.75*	0.75*
Centre			0.97	1.04	1.03	1.03
East			0.99	1.23	1.13	1.13
South			1.61**	1.84***	1.75***	1.75***
Year 2014					2.18***	2.11***
Year 2014 * Age						
2014 Children < 16						1.01
2014 Youth 16-29						1.25*
2014 Adults 30-44						(b)
2014 Adults 45-59						1.31*
2014 Seniors 60-74						0.85
2014 Seniors 75+						0.51***
Constant	0.16***	0.29***	0.00***	0.01***	0.00***	0.00***
N	36767	31622	36767	31622	68389	68389
Pseudo R2	0.015	0.021	0.281	0.3168	0.3073	0.3088

Notes: (b) Base. Significance levels: * p<.05, ** p<.01, *** p<.001.

Source: Own research using Base 2013 LCS data, 2009 and 2014 waves.

Table 3.7 shows the results of the estimated models. To achieve a better understanding of the manner in which the inclusion of socioeconomic heterogeneity alters the age group profiles of poverty, the first columns show the results of a base model that takes into account only the age group to which the individual belongs. The categories taken as a reference in the full model, considered jointly, correspond to a native-born man between 30 and 44 years of age, who lives with his partner in Madrid in a work-income based household not overburdened by housing costs, who holds a university degree, has high socioeconomic status, is in normal or good health, and has been unaffected by temporary work.

The model with only age as a predictor shows, in a different format, the result presented in the descriptive analysis: the probability of multidimensional poverty is greatest in children and decreases with age in 2009, rebounding slightly for those older than 75 years of age, while it appears to be structured in three clear rungs in 2014 (e.g., children/young people, adults, and people aged 60 and over). When the remaining explanatory variables are incorporated into the model, the variable of age continues to be significant, though to a lesser extent and not for all groups. Both in 2009 and, even more so, in 2014, being older than 60 reduces the risk of multidimensional poverty with respect to the category taken as a reference (adults 30-44 years of age). For those younger than 60, the model does not find significant differences in risk between children, young people and adults in 2009. By contrast, in 2014, the risk of multidimensional poverty for young people 16-29 years of age and that of adults 45-59 years of age is 1.36 and 1.23 times that attributed to the reference category, respectively. This result reinforces the idea that young people and mature adults are the groups whose situation has worsened the most with the economic crisis, even explicitly taking into account the impact of other variables that are potentially related to the risk of multidimensional poverty.

In 2009, the socioeconomic characteristics that clearly influence the risk of multidimensional poverty are low socioeconomic status, an immigrant origin, a low educational level, temporary work contracts, bad health, single-parenthood, living in family with three or more dependents, other incomes or transfers as the main source of income, and housing costs overburden. There are also some regional differences that are significant, with a negative coefficient in the northern regions and a positive coefficient in the South.

In 2014, the factors that structure the (globally higher) risk of multidimensional poverty are largely coincident, but some elements see their influence accentuated. Among these, forming part of a household based on other incomes/social benefits and the overload associated with housing costs particularly stand out. In addition, there is an increase, albeit softer, in the coefficient associated with households with three or more children or economically dependent young people, intermediate levels of education, having retirement pensions as the principal source of income or living in the south. By contrast, immigrant origin, socioeconomic status, and, to a lesser extent, bad health, single parenthood, and temporary labour contracts lose part of their explanatory power.

The pooled data model, which shows the average effects of the variables throughout the period, indicates that a low educational level (odds ratio greater than 4), the existence of three or more dependants, the immigrant origin, belonging to the working class, being overburdened by housing costs, and living in households whose main source of income is neither work nor retirement pensions are the categories globally most closely associated with multidimensional poverty. The coefficient for the year 2014 is positive and significant, which implies that living in Spain in 2014 entails a risk of multidimensional poverty that is greater than that which existed in 2009 for the entire population; in other words, the crisis has had a generalised impoverishing effect.

The results of the second pooled data model confirm that the impact of the crisis has nevertheless been different depending on one's position in the life cycle, even after controlling for the heterogeneity represented by the other variables included. In particular, the interaction variables associated with young people and adults between 45 and 59 years of age are significant, with a positive sign, as well as (with a negative sign) the interaction variable corresponding to people 75 years of age or older, who are by far the age group that was least impacted by the Great Recession.

3.5. Conclusions

In Spain, more intensely than in other Western countries, the statistics on risk of poverty and/or social exclusion show a marked deterioration in the position of young people and adults and a clear improvement in the comparative situation of elderly people after the economic crisis that began in 2008. This change in the age structure of poverty reflects important social processes that warrant detailed analysis due to their potential political, economic, and social repercussions. To that end, it is necessary to apply analytical approaches that go beyond monetary income and that directly analyse different aspects of people's quality of life.

In this paper, these changes have been studied from the perspective of multidimensional poverty using LCS data. Accordingly, a poverty index based on five dimensions, related to both resources (income, housing, and employment) and living conditions (material deprivation and subjective financial stress) has been defined. The five dimensions have been delimited such that they are applicable to the entire population. On the other hand, the monetary thresholds have been held constant in real terms in the two years analysed (2009 and 2014), to better evaluate the effect of global impoverishment generated by the crisis.

The analysis shows that multidimensional poverty, measured using the AF Adjusted Headcount Ratio, has become more extensive and intensive during the crisis, with increases of between 50% and 120% according to the threshold used. Furthermore, multidimensional poverty, has grown for all age groups, in contrast to what occurs when the European indicator of risk of poverty or social exclusion is analysed. Four of the five domains worsened between 2009 and 2014, with income and, above all, employment being the dimensions that increase most their participation in global poverty. At the same time, the contribution of housing wealth deprivation goes down. In any event, low income, material deprivation and financial stress continue to be in 2014 the dimensions that contribute most to the aggregate index of multidimensional poverty.

The increase in multidimensional poverty, though generalised, has been very different depending on the individual's position in the life cycle, with a smaller change for those older than 60 years of age than in the case of younger families. Within the under-60 population,

multidimensional deprivation has increased at a greater pace among young people (16-29 years of age) and Baby Boomers (45-59 years of age) than among children and adults from Generation X (30-44 years of age). Consequently, the risk of multidimensional poverty is structured in three levels in 2014, with children and young people showing the highest poverty index, followed by adults between 30 and 59 years of age, who fall into an intermediate position, and people born before 1954, with significantly lower figures of multidimensional poverty.

Therefore, the question of whether the crisis has entailed a change in the profile of poverty by age requires a nuanced response. It is true that the crisis has tended to "erase" the pre-existing differences between children and young people as well as the differences between Generation X adults and Baby Boomers, but it has widened the gap between the working-age population and those older than 60 years of age. However, the substitution of a U-shaped pattern of risk by a linear decreasing pattern, suggested by the statistics on monetary poverty, is not confirmed for multidimensional poverty. In the dimensions that are related to housing, material deprivation and financial stress, the disadvantage maintains, both in 2009 and in 2014, an inverse relationship with age. In the case of employment, the dimension most affected by the crisis, deprivation has a higher relative contribution among young people and adults between 45 and 59 years of age, who are the heads of household of the majority of the households in which the former are found. In both groups, employment deprivation and income poverty have doubled or almost doubled with the crisis.

The econometric analysis of the socioeconomic variables that, together with age, shape the multidimensional risk of poverty makes it possible to confirm that the effect of age is much milder when other elements of social stratification are incorporated. Nevertheless, elderly people still have a lower risk of poverty than the working-age population and its descendants. Within the under-60 population, there are only significant differences, and only in 2014, in the case of young people 16-30 years of age and adults 45-59 years of age, in both cases with a risk of multidimensional poverty that is greater than that of the reference category (adults 30-44 years of age).

Variables such as educational level, socioeconomic status or immigrant origin clearly structure the risk of multidimensional poverty, with greater effects than age alone. Something similar occurs with family structure, the main source of income, or the costs associated with housing, among other factors. In 2014, the key drivers of multidimensional poverty are largely the same as those before the crisis, but the impact of the type of income, the overburden associated with housing expenses, and the presence of children or economically dependent young people in the home has increased. The most common profile of the post-crisis poor household is a family with children or young dependants, that no longer has its principal income coming from work, and that finds it difficult to meet housing-related costs. Many of these newly poor families have intermediate education levels, which have suffered a clear devaluation in the new labour context after the beginning of the crisis. Social class, single-parent status, health, the type of work contract, and immigrant or native origin continue to be very significant elements, but they make less of a difference in 2014 than they did before the crisis.

The results presented have many interpretations and implications in terms of social policy. First, the crisis has extended the risk of poverty to families that do not belong to groups that have traditionally been considered "at risk", narrowing to a certain extent the gaps associated with origin, social class, or factors such as single-parent status but generating or amplifying others. Among these, the increase in the differentials tied to education among young people stands out. Although the crisis has severely hurt those younger than 30 years of age, the deterioration has been much more pronounced among those who belong to homes with lower educational levels.

Second, although they were not the age group that was most harmed by the crisis, children continue to face an elevated risk, with 29% accumulating deficiencies in at least three dimensions in 2014. The differences associated with the main source of income, which were already high in 2009, have broadened in 2014, sketching a profile of particular vulnerability in the case of families that depend on social benefits other than pensions. These results newly demonstrate the insufficiency of social protection schemes that are directed at families with children. Differently from other countries, Spain does not have mechanisms that allow it to optimally complement the incomes of household with children receiving low salaries or in which jobs are lost. Better protecting families would not only reduce the levels of childhood

poverty but also have positive repercussions in terms of the equality of opportunities and the risk of poverty in adult life. Similarly, it is important to improve the quality of the educational system and to prevent young people from dropping out, given the growing demands for academic or professional training in the labour market.

Third, there is indirect evidence that family networks have played an important role complementing that of the Welfare State, redistributing resources within the household. Although this intra-family redistribution has been able to compensate for the shortcomings of social policies to a certain extent, it has also entailed an important overload for many households with limited resources. This has been especially true for adults of the Baby Boom generation, who are, together with young people, the age group whose position has worsened the most during the crisis, but is also observable among those older than 60 years of age who cohabitate with several economically dependent children or grandchildren. In the case of the Baby Boomers, the deterioration of resources accessible to young people could have exerted a carryover effect on their parents' generation, with adults between the ages of 45 and 59 heading up the increase in indices of material deprivation and subjective financial stress.

Fourth, people born before 1954 are those who, in 2014, present lower levels of deprivation in all dimensions and are also those who were least affected by the economic crisis. This does not mean that they have been immune to the recession or that their levels of poverty have decreased with the crisis. Despite the protection derived from pensions, the higher wealth in housing and the lower incidence of employment deprivation, the 2014 levels of low income, material deprivation and subjective financial stress are significantly higher than those in 2009. This is especially true for the Transition Generation, which is more directly affected by the increase in unemployment (their own or that of a member of the family unit). It is worth highlighting that the impact of social class, the type of income, or the existence of dependants rises with the crisis among the elderly, while the differences tied to the state of health or whether one cohabitates with a partner are reduced. Therefore, although the resources and the quality of life of the elderly have globally suffered a lesser deterioration than the other age groups, the crisis has clearly harmed certain subgroups of these generations.

Finally, both the socioeconomic stratification and the phase of the life cycle have demonstrated their relevance in explaining the risk of multidimensional poverty that people face. In this sense, the results of this research work coincide in broad strokes with those that underscore the interrelation between life cycle events and the socioeconomic background. Although unemployment and difficulties in integrating into the workforce have reached, for example, many middle- and even upper-class young people, multidimensional poverty still has a clear socioeconomic gradient in all age groups. Traditional social policies, which are centred on redistribution over the life course, have been effective in isolating many elderly people from the effects of the crisis, also allowing benefits to trickle down to younger generations through intra-family solidarity networks. Simultaneously, however, they have contributed to stress the comparative disadvantage of households whose main sources of income are other benefits and subsidies, especially in cases of high family burdens. Future reforms to programmes that fight against poverty in Spain should pay special attention to reinforcing the basic resources of young people and families, which requires not only reviewing specific welfare payments but also improving access to education, housing and employment, three fundamental pillars of social wellbeing.

Appendix

Table A.3.1. Cronbach's Alpha reliability coefficient for the material deprivation and the subjective financial stress scales, total y age breakdown

	Material deprivation		Subjective financial stress	
	2009	2014	2009	2014
<16	0.8420	0.8796	0.7552	0.7729
16-29	0.8176	0.8630	0.7210	0.7490
30-44	0.8175	0.8637	0.7304	0.7552
45-59	0.8034	0.8601	0.7254	0.7599
60-74	0.7696	0.8337	0.7112	0.7340
75+	0.7060	0.8020	0.6811	0.7030
Total	0.8093	0.8598	0.7270	0.7531

Source: Own research using Base 2013 LCS data, 2009 and 2014 waves.

Table A.3.2. % Distribution of Population by Age Group, 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<16	16	16	16	16	16	16	16	16	16	16
16-29	20	19	19	18	17	17	16	15	15	15
30-44	25	26	25	26	26	26	26	26	25	24
45-59	18	19	19	19	19	20	20	21	21	21
60-74	14	14	13	13	13	13	14	14	14	14
75+	8	8	8	8	8	8	8	9	9	9
Total	100	100	100	100	100	100	100	100	100	100

Source: Own research using LCS data, 1st-11th waves.

Table A.3.3. % People deprived in each dimension, 2009 and 2014

	2009		2014		Relative risk	
	Mean	Standard error	Mean	Standard error	2009	2014
Income	**0.204**	**(0.006)**	**0.318**	**(0.007)**	**1.00**	**1.00**
Children <16	0.289	(0.012)	0.397	(0.013)	1.42	1.25
Youth 16-29	0.183	(0.009)	0.375	(0.012)	0.90	1.18
Adults 30-44	0.185	(0.008)	0.311	(0.010)	0.91	0.98
Adults 45-59	0.158	(0.008)	0.300	(0.009)	0.78	0.94
Seniors 60-74	0.192	(0.008)	0.231	(0.010)	0.94	0.73
Seniors 75+	0.270	(0.012)	0.285	(0.012)	1.33	0.89
Housing Wealth	**0.245**	**(0.007)**	**0.264**	**(0.007)**	**1.00**	**1.00**
Children <16	0.289	(0.013)	0.299	(0.012)	1.18	1.14
Youth 16-29	0.327	(0.012)	0.392	(0.013)	1.33	1.49
Adults 30-44	0.274	(0.010)	0.310	(0.011)	1.12	1.17
Adults 45-59	0.212	(0.009)	0.232	(0.009)	0.87	0.88
Seniors 60-74	0.139	(0.008)	0.135	(0.008)	0.57	0.51
Seniors 75+	0.149	(0.009)	0.141	(0.009)	0.61	0.53
Employment	**0.153**	**(0.005)**	**0.246**	**(0.006)**	**1.00**	**1.00**
Children <16	0.141	(0.009)	0.230	(0.011)	0.92	0.93
Youth 16-29	0.201	(0.009)	0.377	(0.011)	1.31	1.53
Adults 30-44	0.111	(0.007)	0.195	(0.009)	0.73	0.79
Adults 45-59	0.168	(0.007)	0.299	(0.009)	1.10	1.21
Seniors 60-74	0.142	(0.008)	0.160	(0.008)	0.93	0.65
Seniors 75+	0.193	(0.010)	0.213	(0.010)	1.26	0.86
Material deprivation	**0.197**	**(0.007)**	**0.263**	**(0.007)**	**1.00**	**1.00**
Children <16	0.242	(0.012)	0.311	(0.012)	1.23	1.18
Youth 16-29	0.231	(0.011)	0.297	(0.012)	1.18	1.13
Adults 30-44	0.205	(0.010)	0.265	(0.010)	1.04	1.01
Adults 45-59	0.176	(0.008)	0.272	(0.009)	0.90	1.04
Seniors 60-74	0.150	(0.008)	0.202	(0.009)	0.76	0.77
Seniors 75+	0.134	(0.009)	0.187	(0.010)	0.68	0.71
Subjective financial stress	**0.225**	**(0.006)**	**0.281**	**(0.007)**	**1.00**	**1.00**
Children <16	0.286	(0.012)	0.327	(0.013)	1.27	1.16
Youth 16-29	0.249	(0.011)	0.316	(0.012)	1.11	1.12
Adults 30-44	0.227	(0.009)	0.278	(0.010)	1.01	0.99
Adults 45-59	0.201	(0.009)	0.288	(0.009)	0.89	1.02
Seniors 60-74	0.172	(0.008)	0.229	(0.010)	0.77	0.81
Seniors 75+	0.188	(0.010)	0.219	(0.011)	0.84	0.78

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.4. % Dimensional decomposition of the Adjusted Headcount Ratio (k=3) by age group, 2009 and 2014

	Children <16	**Youth 16-29**	**Adults 30-44**	**Adults 45-59**	**Seniors 60-74**	**Seniors 75+**
2009						
Disposable income	22	20	20	19	21	26
Housing wealth	19	20	20	19	15	13
Employment	12	16	13	16	15	19
Subjective financial stress	24	22	23	23	24	24
Material deprivation	22	23	24	23	24	19
Total	100	100	100	100	100	100
2014						
Disposable income	24	22	23	22	23	23
Housing wealth	16	17	17	14	13	12
Employment	16	21	17	20	17	20
Subjective financial stress	22	20	22	22	24	24
Material deprivation	22	20	22	22	23	22
Total	100	100	100	100	100	100

Note: The percentage contribution of each dimension has been calculated using the DASP software, developed by Araar Abdelkrim and Jean-Yves Duclos at the University of Laval (Québec). See Araar and Duclos (2007) for more detail.

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.5. Distribution of Population by Socioeconomic Characteristics in 2009 and 2014

	2009							2014						
	<16	**16-29**	**30-44**	**45-59**	**60-74**	**75+**	**Total**	**<16**	**16-29**	**30-44**	**45-59**	**60-74**	**75+**	**Total**
Sex														
Male	51	51	51	50	47	39	50	52	50	51	50	48	40	49
Female	49	49	49	50	53	61	50	48	50	49	50	52	60	51
Marital status														
Married/Living with partner	0	21	71	80	73	46	51	0	18	70	77	73	46	51
Other situations	100	79	29	20	27	54	49	100	82	30	23	27	54	49
Type of household(1)														
Without dependants	0	42	42	53	89	93	48	0	30	41	46	89	93	45
Couple 1-2 dependants	68	34	44	33	5	2	35	68	45	47	41	7	3	39
Couple 3+ dependants	14	3	4	2	0	0	4	16	6	5	4	0	0	6
Lone-parent household	4	4	2	2	0	0	2	8	6	3	3	1	0	4
Other with dependants	14	18	8	10	5	5	10	8	12	5	6	4	4	6
Level of education of reference person														
University	30	23	33	24	14	11	25	37	26	38	28	20	11	29
Upper secondary	23	21	23	20	9	8	19	22	21	22	21	11	8	19
Lower secondary	27	27	24	23	16	12	23	28	31	26	29	20	13	25
Primary or less	20	29	21	32	60	70	33	14	21	14	23	49	68	27
Bad health of reference person	3	6	5	7	15	24	8	3	6	5	7	13	25	8
Immigrant status of reference person(2)	22	16	19	10	5	3	14	19	15	17	9	5	2	12
Socioeconomic class of ref. person(3)														
Upper class	22	19	22	22	16	10	20	25	19	24	23	21	13	22
Middle class	32	32	32	33	35	35	33	29	29	30	32	33	32	30
Working class	45	48	44	43	44	44	45	45	50	45	45	43	44	46
Excluded	1	1	1	1	4	11	3	1	2	1	1	3	11	2
Temporary work of reference person(4)	25	23	23	17	12	11	20	26	24	25	20	11	8	21
Main source of income														
Work	90	88	88	84	34	19	75	82	77	80	73	25	13	64
Retirement pensions	2	3	5	4	51	75	16	2	5	5	5	55	60	16
Other transfer/other income	9	9	8	12	15	6	10	17	19	16	22	20	27	19
Housing cost/investment overburden(5)	32	22	31	15	7	5	21	30	23	30	17	8	5	21
Area of residence(6)														
Madrid	14	14	15	14	12	12	14	14	14	15	14	13	12	14
Catalonia	16	16	16	16	16	16	16	17	16	16	16	16	16	16
North	16	17	18	21	22	24	19	16	17	18	20	22	24	19
Centre	12	12	11	12	13	16	12	11	12	12	12	12	15	12
East	13	13	13	13	13	12	13	13	13	13	13	13	12	13
South	29	28	26	25	24	21	26	28	29	27	26	24	21	26

Notes:

(1) Dependants are defined as children aged 15 or less, as well as young people aged 16-29 who: i) are not main breadwinners in the household, ii) are not married, nor live with a partner, and iii) are not earning in excess of two thousand euros a year.

(2) Immigrants are defined as foreign-born people, irrespective of their nationality.

(3) Socioeconomic class is based on the European Socioeconomic Classification (ESeC) scheme. The ESeC classification is intended to measure social class position according to the scheme originally developed by Goldthorpe and Erikson in the seventies. This scheme uses occupation, employment status and size of the organisation to allocate individuals to one of nine possible socioeconomic groups. These nine groups can be collapsed into six-, five-, or three-class models. A supplementary class grouping those excluded from employment relations is occasionally added. In this paper, the variable has been defined applying the conversion criteria recommended by recent literature (Harrison and Rose 2006), with some simplifications due to the fact that only the 2-digits breakdown is available in the occupation variable. Then, the original categories have been collapsed into three wide socioeconomic classes. The upper class groups together professionals and managers, large employers and higher supervisors/technicians. The middle class includes intermediate occupations, as well as small employers and self-employed in non-professional occupations and lower supervisors and technicians. Finally, the working class consists of lower sales and service occupations, as well as lower technical and routine occupations. Excluded from this classification are people who have never been employed.

(4) This variable is based on current job's situation for the employed and in last job's conditions for the unemployed and the inactive who have ever worked before.

(5) This variable takes value 1 when housing outlays are above 40% of household monetary income, and 0 otherwise. The outlays considered are not only the direct costs related to housing (rental payments, mortgage loans interests, community receipts, etc.), but also mortgage repayment instalments, usually defined as inversion in economic terms.

(6) The area of residence variable is defined as follows: "North" includes Galicia, Asturias, Cantabria, Rioja, Aragón, Navarra and the Basque Country. "Centre" includes Castilla-León, Castilla-La Mancha and Extremadura. "East" includes C. Valenciana and Baleares. "South" includes Andalucía, Murcia, Canarias, Ceuta and Melilla.

Source: Own research using Base 2013 LCS data, 2009 and 2014 waves.

Table A.3.6. Within-group differences in multidimensional poverty: Children <16

	2009			2014		
	M0	**H**	**A**	**M0**	**H**	**A**
Sex						
Male	0.15	0.20	0.75	0.22	0.29	0.77
Female	0.15	0.20	0.73	0.22	0.29	0.77
Type of household						
Couple 1-2 dependants	0.10	0.13	0.72	0.16	0.22	0.75
Couple 3+ dependants	0.27	0.35	0.76	0.36	0.43	0.83
Lone-parent household	0.29	0.39	0.74	0.34	0.45	0.77
Other with dependants	0.24	0.31	0.76	0.37	0.48	0.76
Level of education of r.p.						
University	0.04	0.06	0.73	0.06	0.09	0.70
Upper secondary	0.10	0.14	0.71	0.21	0.28	0.76
Lower secondary	0.17	0.23	0.73	0.30	0.39	0.77
Primary or less	0.34	0.44	0.76	0.53	0.65	0.81
Health status of r.p.						
Good (very good/good/fair)	0.14	0.19	0.74	0.22	0.28	0.77
Bad (bad/very bad)	0.38	0.49	0.78	0.48	0.59	0.81
Country of birth of r.p.						
Spain	0.09	0.13	0.73	0.16	0.21	0.76
Other country	0.35	0.46	0.75	0.47	0.60	0.79
Socioeconomic class of r.p.						
Higher/Salariat	0.01	0.01	0.63	0.03	0.05	0.70
Intermediate/Middle class	0.10	0.15	0.70	0.15	0.21	0.71
Low/Working class	0.25	0.33	0.75	0.37	0.47	0.79
Temporary work of r.p.						
No	0.13	0.17	0.74	0.16	0.21	0.76
Yes	0.32	0.42	0.77	0.39	0.50	0.78
Household main source of income						
Work	0.12	0.17	0.72	0.15	0.20	0.73
Retirement pensions	0.20	0.25	0.78	0.28	0.35	0.79
Other transfer/other income	0.40	0.50	0.81	0.59	0.71	0.83
Housing cost/investment overburden						
No	0.10	0.14	0.72	0.14	0.19	0.76
Yes	0.24	0.32	0.76	0.41	0.53	0.78
Area of residence						
Madrid	0.15	0.20	0.74	0.19	0.24	0.79
Catalonia	0.16	0.22	0.71	0.20	0.25	0.79
North	0.07	0.10	0.72	0.15	0.19	0.75
Centre	0.14	0.19	0.78	0.20	0.26	0.77
East	0.14	0.19	0.73	0.24	0.32	0.77
South	0.19	0.25	0.75	0.30	0.40	0.77
TOTAL	0.15	0.20	0.74	0.22	0.29	0.77

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.7. Within-group differences in multidimensional poverty: Youth 16-29

	2009			2014		
	M0	**H**	**A**	**M0**	**H**	**A**
Sex						
Male	0.11	0.15	0.73	0.22	0.29	0.76
Female	0.13	0.18	0.73	0.24	0.32	0.77
Marital status						
Married/couple	0.11	0.15	0.72	0.24	0.31	0.77
Not married/couple	0.16	0.21	0.75	0.22	0.28	0.77
Type of household						
Without dependants	0.05	0.07	0.65	0.11	0.15	0.74
Couple 1-2 dependants	0.13	0.18	0.74	0.22	0.29	0.76
Couple 3+ dependants	0.38	0.48	0.79	0.48	0.58	0.82
Lone-parent household	0.26	0.34	0.78	0.38	0.49	0.76
Other with dependants	0.18	0.24	0.73	0.37	0.47	0.79
Level of education of r.p.						
University	0.05	0.07	0.70	0.07	0.09	0.75
Upper secondary	0.09	0.12	0.74	0.21	0.28	0.75
Lower secondary	0.12	0.17	0.70	0.28	0.36	0.76
Primary or less	0.19	0.26	0.74	0.40	0.50	0.79
Health status of r.p.						
Good (very good/good/fair)	0.11	0.15	0.73	0.22	0.29	0.77
Bad (bad/very bad)	0.25	0.34	0.74	0.39	0.49	0.79
Country of birth of r.p.						
Spain	0.08	0.12	0.70	0.20	0.27	0.75
Other country	0.30	0.39	0.77	0.40	0.50	0.81
Socioeconomic class of r.p.						
Higher/Salariat	0.02	0.03	0.79	0.06	0.08	0.70
Intermediate/Middle class	0.08	0.12	0.69	0.18	0.24	0.74
Low/Working class	0.17	0.24	0.74	0.33	0.42	0.78
Temporary work of r.p.						
No	0.08	0.11	0.71	0.18	0.24	0.76
Yes	0.26	0.34	0.74	0.39	0.50	0.79
Household main source of income						
Work	0.10	0.14	0.72	0.16	0.22	0.73
Retirement pensions	0.10	0.16	0.67	0.22	0.29	0.76
Other transfer/other income	0.28	0.38	0.76	0.52	0.63	0.82
Housing cost/investment overburden						
No	0.09	0.12	0.71	0.17	0.23	0.75
Yes	0.24	0.32	0.75	0.43	0.54	0.80
Area of residence						
Madrid	0.11	0.15	0.71	0.16	0.21	0.77
Catalonia	0.09	0.13	0.71	0.21	0.28	0.76
North	0.07	0.10	0.70	0.16	0.21	0.74
Centre	0.09	0.12	0.78	0.23	0.31	0.75
East	0.12	0.17	0.74	0.23	0.31	0.76
South	0.18	0.24	0.73	0.33	0.41	0.79
TOTAL	0.12	0.16	0.73	0.23	0.30	0.77

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.8. Within-group differences in multidimensional poverty: Adults 30-44

	2009			2014		
	M0	**H**	**A**	**M0**	**H**	**A**
Sex						
Male	0.10	0.13	0.72	0.17	0.23	0.74
Female	0.10	0.14	0.71	0.17	0.23	0.75
Marital status						
Married/couple	0.10	0.14	0.69	0.20	0.27	0.74
Not married/couple	0.10	0.14	0.73	0.16	0.21	0.75
Type of household						
Without dependants	0.06	0.09	0.68	0.13	0.18	0.72
Couple 1-2 dependants	0.09	0.13	0.72	0.15	0.20	0.75
Couple 3+ dependants	0.23	0.30	0.78	0.35	0.43	0.82
Lone-parent household	0.28	0.37	0.75	0.37	0.47	0.77
Other with dependants	0.21	0.28	0.74	0.37	0.47	0.78
Level of education of r.p.						
University	0.03	0.04	0.69	0.06	0.09	0.70
Upper secondary	0.08	0.11	0.70	0.16	0.22	0.74
Lower secondary	0.11	0.16	0.70	0.25	0.33	0.76
Primary or less	0.22	0.30	0.74	0.32	0.42	0.77
Health status of r.p.						
Good (very good/good/fair)	0.10	0.13	0.72	0.16	0.22	0.75
Bad (bad/very bad)	0.16	0.23	0.70	0.32	0.41	0.78
Country of birth of r.p.						
Spain	0.06	0.09	0.71	0.13	0.18	0.74
Other country	0.25	0.34	0.72	0.36	0.46	0.77
Socioeconomic class of r.p.						
Higher/Salariat	0.01	0.01	0.67	0.03	0.05	0.69
Intermediate/Middle class	0.06	0.09	0.67	0.12	0.17	0.70
Low/Working class	0.17	0.23	0.73	0.27	0.36	0.77
Temporary work of r.p.						
No	0.06	0.09	0.69	0.11	0.16	0.73
Yes	0.22	0.29	0.74	0.33	0.44	0.76
Household main source of income						
Work	0.08	0.12	0.69	0.11	0.15	0.71
Retirement pensions	0.06	0.09	0.65	0.16	0.22	0.71
Other transfer/other income	0.34	0.42	0.80	0.47	0.59	0.80
Housing cost/investment overburden						
No	0.07	0.10	0.70	0.11	0.15	0.74
Yes	0.16	0.22	0.74	0.31	0.41	0.75
Area of residence						
Madrid	0.07	0.11	0.67	0.12	0.17	0.73
Catalonia	0.11	0.15	0.72	0.14	0.18	0.75
North	0.06	0.09	0.70	0.10	0.14	0.74
Centre	0.08	0.11	0.71	0.14	0.18	0.78
East	0.09	0.13	0.68	0.22	0.30	0.74
South	0.15	0.20	0.75	0.25	0.33	0.75
TOTAL	0.10	0.14	0.72	0.17	0.23	0.75

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.9. Within-group differences in multidimensional poverty: Adults 45-59

	2009			2014		
	M0	**H**	**A**	**M0**	**H**	**A**
Sex						
Male	0.08	0.11	0.70	0.18	0.23	0.75
Female	0.08	0.11	0.69	0.18	0.24	0.75
Marital status						
Married/couple	0.11	0.16	0.68	0.23	0.30	0.75
Not married/couple	0.07	0.10	0.70	0.16	0.22	0.75
Type of household						
Without dependants	0.05	0.08	0.66	0.14	0.19	0.75
Couple 1-2 dependants	0.08	0.11	0.70	0.17	0.23	0.74
Couple 3+ dependants	0.28	0.38	0.75	0.38	0.45	0.83
Lone-parent household	0.18	0.22	0.81	0.28	0.37	0.75
Other with dependants	0.14	0.19	0.72	0.31	0.41	0.76
Level of education of r.p.						
University	0.03	0.04	0.68	0.06	0.08	0.73
Upper secondary	0.05	0.07	0.70	0.13	0.18	0.74
Lower secondary	0.07	0.10	0.68	0.22	0.30	0.73
Primary or less	0.14	0.20	0.71	0.31	0.40	0.78
Health status of r.p.						
Good (very good/good/fair)	0.07	0.10	0.69	0.17	0.22	0.75
Bad (bad/very bad)	0.19	0.26	0.71	0.32	0.42	0.76
Country of birth of r.p.						
Spain	0.06	0.09	0.68	0.16	0.21	0.74
Other country	0.25	0.35	0.72	0.37	0.46	0.80
Socioeconomic class of r.p.						
Higher/Salariat	0.02	0.02	0.78	0.03	0.05	0.71
Intermediate/Middle class	0.05	0.08	0.66	0.13	0.18	0.72
Low/Working class	0.12	0.18	0.70	0.29	0.37	0.77
Excluded	0.17	0.24	0.73	0.22	0.31	0.72
Temporary work of r.p.						
No	0.05	0.07	0.68	0.13	0.18	0.74
Yes	0.21	0.30	0.71	0.36	0.47	0.77
Household main source of income						
Work	0.06	0.09	0.69	0.11	0.16	0.72
Retirement pensions	0.07	0.11	0.63	0.13	0.18	0.75
Other transfer/other income	0.19	0.26	0.71	0.40	0.51	0.79
Housing cost/investment overburden						
No	0.06	0.09	0.69	0.13	0.18	0.73
Yes	0.19	0.26	0.72	0.39	0.50	0.78
Area of residence						
Madrid	0.08	0.12	0.67	0.12	0.16	0.75
Catalonia	0.05	0.07	0.67	0.15	0.20	0.72
North	0.04	0.06	0.67	0.11	0.14	0.76
Centre	0.07	0.10	0.68	0.18	0.25	0.73
East	0.08	0.11	0.72	0.18	0.24	0.78
South	0.13	0.18	0.72	0.28	0.36	0.76
TOTAL	0.08	0.11	0.70	0.18	0.24	0.75

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.10. Within-group differences in multidimensional poverty: Seniors 60-74

	2009			2014		
	M0	**H**	**A**	**M0**	**H**	**A**
Sex						
Male	0.05	0.07	0.66	0.08	0.11	0.72
Female	0.07	0.10	0.68	0.11	0.15	0.72
Marital status						
Married/couple	0.10	0.15	0.69	0.15	0.21	0.72
Not married/couple	0.04	0.06	0.66	0.07	0.10	0.72
Type of household						
Without dependants	0.04	0.06	0.66	0.07	0.11	0.71
Couple 1-2 dependants	0.13	0.20	0.65	0.22	0.29	0.78
Other with dependants	0.20	0.27	0.73	0.30	0.40	0.74
Level of education of r.p.						
University	0.01	0.02	0.72	0.02	0.03	0.70
Upper secondary	0.03	0.05	0.67	0.05	0.07	0.73
Lower secondary	0.04	0.07	0.67	0.09	0.12	0.70
Primary or less	0.07	0.11	0.67	0.14	0.19	0.73
Health status of r.p.						
Good (very good/good/fair)	0.05	0.07	0.67	0.08	0.11	0.72
Bad (bad/very bad)	0.10	0.14	0.67	0.18	0.24	0.73
Country of birth of r.p.						
Spain	0.05	0.08	0.66	0.09	0.12	0.71
Other country	0.17	0.23	0.75	0.25	0.31	0.83
Socioeconomic class of r.p.						
Higher/Salariat	0.01	0.01	0.61	0.01	0.02	0.69
Intermediate/Middle class	0.05	0.07	0.65	0.06	0.09	0.70
Low/Working class	0.08	0.11	0.68	0.15	0.21	0.73
Excluded	0.08	0.11	0.69	0.19	0.25	0.79
Temporary work of r.p.						
No	0.04	0.07	0.66	0.07	0.10	0.71
Yes	0.14	0.20	0.70	0.29	0.40	0.74
Household main source of income						
Work	0.06	0.08	0.67	0.08	0.11	0.71
Retirement pensions	0.04	0.07	0.66	0.06	0.08	0.70
Other transfer/other income	0.10	0.14	0.70	0.21	0.28	0.74
Housing cost/investment overburden						
No	0.04	0.06	0.65	0.07	0.10	0.70
Yes	0.24	0.34	0.72	0.35	0.45	0.77
Area of residence						
Madrid	0.02	0.04	0.66	0.07	0.10	0.69
Catalonia	0.05	0.07	0.67	0.06	0.08	0.69
North	0.04	0.06	0.69	0.05	0.08	0.67
Centre	0.06	0.09	0.66	0.08	0.11	0.73
East	0.05	0.08	0.65	0.12	0.16	0.77
South	0.09	0.14	0.68	0.16	0.22	0.73
TOTAL	0.06	0.08	0.67	0.09	0.13	0.72

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

Table A.3.11. Within group differences in multidimensional poverty: Seniors 75+

	2009			2014		
	M0	**H**	**A**	**M0**	**H**	**A**
Sex						
Male	0.03	0.04	0.63	0.05	0.07	0.66
Female	0.09	0.13	0.67	0.12	0.17	0.69
Marital status						
Married/couple	0.09	0.14	0.67	0.12	0.18	0.70
Not married/couple	0.03	0.04	0.63	0.05	0.07	0.65
Type of household						
Without dependants	0.06	0.09	0.67	0.08	0.12	0.68
Couple 1-2 dependants	0.02	0.04	0.60	0.22	0.30	0.73
Other with dependants	0.10	0.15	0.65	0.20	0.27	0.74
Level of education of r.p.						
University	0.02	0.04	0.62	0.02	0.03	0.65
Upper secondary	0.04	0.06	0.65	0.03	0.05	0.66
Lower secondary	0.05	0.08	0.64	0.09	0.14	0.69
Primary or less	0.07	0.11	0.67	0.11	0.15	0.69
Health status of r.p.						
Good (very good/good/fair)	0.05	0.08	0.66	0.07	0.10	0.68
Bad (bad/very bad)	0.09	0.14	0.67	0.14	0.21	0.70
Country of birth of r.p.						
Spain	0.06	0.09	0.66	0.09	0.13	0.68
Other country	0.20	0.29	0.68	0.08	0.10	0.81
Socioeconomic class of r.p.						
Higher/Salariat	0.01	0.02	0.60	0.01	0.02	0.64
Intermediate/Middle class	0.03	0.05	0.62	0.07	0.10	0.69
Low/Working class	0.07	0.10	0.66	0.10	0.14	0.68
Excluded	0.18	0.26	0.69	0.22	0.31	0.69
Temporary work of r.p.						
No	0.06	0.08	0.67	0.09	0.13	0.68
Yes	0.12	0.18	0.66	0.12	0.17	0.71
Household main source of income						
Work	0.04	0.06	0.69	0.04	0.06	0.67
Retirement pensions	0.07	0.10	0.66	0.06	0.09	0.67
Other transfer/other income	0.06	0.09	0.64	0.18	0.26	0.70
Housing cost/investment overburden						
No	0.05	0.08	0.66	0.08	0.12	0.67
Yes	0.22	0.32	0.68	0.32	0.42	0.75
Area of residence						
Madrid	0.04	0.07	0.65	0.07	0.11	0.67
Catalonia	0.06	0.09	0.66	0.08	0.11	0.69
North	0.03	0.04	0.65	0.06	0.09	0.67
Centre	0.05	0.07	0.66	0.10	0.14	0.68
East	0.11	0.16	0.69	0.06	0.09	0.68
South	0.10	0.15	0.66	0.14	0.20	0.70
TOTAL	0.06	0.09	0.66	0.09	0.13	0.68

Source: Own research using Base 2013 Living Conditions Survey, waves 2009 and 2014.

FINAL REMARKS

Poverty is a complex issue, with many causes and consequences. It is related to insufficient income, but also to economic insecurity, inadequate housing, limited opportunities or the absence of real choice. It can affect, albeit in different forms and with different frequency, any type of person or any social group. The present document has addressed the question using approaches that examine direct indicators of living conditions, and not only family income. Additionally, the three essays have tried to take advantage of the combination of indicators and dimensions, in order to obtain better results, both conceptual and empirical.

The first essay takes as its starting point the new Europe 2020 at-risk-of poverty or exclusion indicator and discusses how the Alkire-Foster multidimensional poverty measurement framework provides a natural way to enhance its analytical insight, making it possible to overcome some limitations of the AROPE indicator. The A-F indices are then used to analyse the immigrant/native poverty gap in Spain and another five developed countries. The second paper combines the perspectives of low income and material deprivation to examine recent trends of poverty in Spain, investigating to what extent the crisis has changed the degree of overlap between the two phenomena and modifying the material derivation profile of low income groups. Finally, the third essay uses a multidimensional poverty measure based on five domains (e.g., income, housing wealth, employment deprivation, material deprivation and subjective financial stress) to analyse changes in the age profile of poverty throughout the Great Recession. In all cases, empirical research has used microdata from the Spanish Living Conditions Survey and (with the exception of Canadian data) other EUSILC datasets, covering a period between 2008 and 2014.

The research performed here has made it possible to obtain some important methodological and empirical conclusions. Some of these findings have social policy implications which have been emphasised in various chapters. Naturally, there are also several limitations that should be recognised, arising from data constraints or from the research design itself. This last section briefly summarises all these aspects, providing a joint reading of the lessons learned in the three essays included in the dissertation.

Methodological issues

The definition of poverty used in the European Union since the launching of the first antipoverty programs in the 1970s, based on the concept of relative low income, has some important advantages, but also two major drawbacks. The first is its unidimensional nature, according to which the identification of the poor relies on a single variable, namely disposable income. The second is the complete relativity of the poverty line, established as a certain proportion of the current mean or median income level. Both decisions have led to a concept easy to measure and able to yield poverty statistics in a simple, though sometimes also fragmentary, way.

This ease and simplicity has however involved a certain loss of meaning of the concept of poverty and an erosion of the credibility of the indicator, which sometimes shows clearly counter-intuitive results. All this has potential implications for policy-making. Under a purely relative approach, a programme focused on raising the earnings of the poor and a plan intended to reduce the incomes of the rich could have exactly the same impact on the poverty rate. Similarly, a recession can involve a decrease in poverty if average incomes lose ground at a quicker pace than those of the poor, while an expansionary phase would not have a positive impact on poverty if all households benefit from economic growth in the same proportion. A rich European country may have higher poverty rates than a much poorer but more egalitarian country. These and other possible examples make evident, in our view, the need for alternative or complementary approaches to poverty.

The conversion of the "poverty" rate into an "at-risk-of poverty" indicator, first, and its subsequent replacement by the new "at risk of poverty or social exclusion" measure when establishing the Europe 2020 poverty target may be a recognition of this problem. The material deprivation approach, the multidimensional poverty literature and the social exclusion framework have all served to supplement traditional poverty measures, in different ways. At the same time, measurement of household income, which must in any case play a central role in measuring poverty, is improving, due to the increased use of administrative data and better estimation procedures of some large non-monetary components, such as imputed rent for owner-occupied dwellings. The effects of the Great Recession on poverty have been increasingly analysed using "anchored"

thresholds, more revealing of real changes in poverty situations during a period of crisis. While it is true that recessions cause a certain downward realignment of expectations regarding the "normal" standard of living, it is doubtful that the relative approach to poverty pioneered by Peter Townsend should imply the automatic annual adjustment of the poverty line.

In this context, material deprivation indicators have progressively taken centre stage in poverty analysis within the European Union. In one sense they can be seen as a back to basics, given the important role played by this kind of analysis in Townsend's own studies, as well as in other groundbreaking works, such as Mack and Lansleys' in the 1980s or the study conducted by Nolan and Whelan in the mid-1990s. The three essays included in the present study use, in different ways, material deprivation indicators contained in EUSILC. The results obtained confirm the utility of combining direct and indirect indicators when analysing and monitoring poverty.

Material deprivation data provided by households have a series of advantages for the analysis of poverty. First, they are based on questions that are easier to answer than those regarding incomes. Second, they concern a list of socially valued goods and services, giving a tangible content to the idea of living in poverty. Third, they offer valuable information for the design of anti-poverty programmes, by making explicit the domains in which people experience deprivation. Fourth, they eliminate the need to use equivalence scales to adjust household incomes, as they are indicators focused on results rather than on means. Fifth, and for the same reason, they offer a simple way to capture the impact of changes on the economic situation of households. Sixth, but no less important, they reflect problems and deprivation perceived as such by the population. In a certain sense, the subjectivity of answers, sometimes regarded as a problem, constitutes one of the main strengths of the approach. Compared to the "external expert" judgement, which introduces adjustments to the income data in order to better calibrate their ability to reflect needs, material deprivation questions take a shorter and simpler route: to ask people directly.

European experience with material deprivation indicators has also made evident some difficulties and limitations, not always easy to overcome. On the one hand, material deprivation questions do not provide a direct metric of the standard of living, but they

must be combined in "deprivation indices" whose design involves complex methodological choices (e.g. selection of indicators, weighting, aggregation, thresholds). The list of indicators, in particular, can be restricted by the specific variables collected in the survey. On the other hand, it is difficult to construct indices equally valid for all social groups, due precisely to the concrete nature of the indicators. Furthermore, choice and constraint are not always easy to distinguish. Lastly, as with consumer baskets used to derive consumer price indices, selected variables must be periodically revised and updated. In this respect, questions related to durable goods have been far more problematic than those linked to socially valued activities or the existence of financial difficulties, due to the rapid change in consumption patterns, and especially in goods related to the new technologies.

Although the multidimensional nature of poverty is now widely recognised, some poverty measures based on the concept of material deprivation are not multidimensional *strictu sensu*, since they are built by selecting those indicators that are able to represent a single latent dimension. Yet many truly multidimensional poverty definitions have been proposed in the last few years, following Sen's capacity approach or other conceptual traditions (e.g. the analysis of social exclusion or the multiple deprivation approach to poverty). Such measures have expanded rapidly since the turn of the century, and have today become a fundamental strand in poverty analysis. There is, however, substantial heterogeneity in the dimensions considered, the weights applied and the procedures used to aggregate across individuals and dimensions. As in the poverty dynamics literature, the multidimensional approach provides new insights, but also introduces complexity, multiplying the options and decisions to take.

Whether this complexity is worthwhile depends upon a number of factors: the research objectives, the adequate justification of dimensions included/excluded, the quality of available indicators, and the ease of interpretation. The first and last elements play a decisive role and should serve as a guide for the remaining decisions. The present dissertation has used measures that combine between two and five dimensions, a choice grounded in the belief that an excessive number of dimensions results in scales whose meaning is hard to disentangle. In the same vein, priority has been given to aggregate indices which, like those proposed by Sabine Alkire and James Foster, are relatively simple to calculate and understand.

The results described in the three essays show the potential of the multidimensional approach to poverty. Although many traditional problems of poverty analysis still remain, the ordering of households changes, permitting a better identification of the most vulnerable groups. Furthermore, the three studies have highlighted the advantages of using measures that are decomposable by dimension, so that the contribution of each domain or the heterogeneity of poverty profiles can be examined. Aggregate indices are obviously one of the strengths of the multidimensional approach, but the different combinations of deficits that can generate a given poverty score must be borne in mind.

Principal findings

The Great Recession has caused important changes in employment, income and living conditions for broad social groups. Spain belongs to the set of countries hardest hit by the crisis, making it relevant for the study of recent changes in poverty and social exclusion. The results obtained show that the impact of this economic shock upon the level and composition of poverty varies significantly according to the indicators adopted. Using both the conventional at-risk-of poverty rate and the new AROPE measure, changes are modest at the global level, though the virtually flat overall trend conceals opposing outcomes for different demographic groups. For example, the intense reduction in the risk of poverty faced by those over the age of retirement particularly stands out: only 11% of people aged 65 or older were considered to be at risk of poverty in 2014, compared to almost 30% in 2006.

Material deprivation and multidimensional measures of poverty employed in the three essays suggest that the crisis has had a more intense overall effect than that implied by traditional indicators. Even maintaining the relative income threshold as the basic point of reference, the recession has increased the degree of overlap between low income and material deprivation, as well as among the three dimensions included in the current Europe 2020 index. This means that people currently suffering relative poverty do in fact have worse living conditions than those classified as poor in 2008, when the crisis began. “Consistent” poverty, defined by the overlap between material deprivation and income poverty, affected 12% of citizens in 2012 compared to 8% in 2008. This group has

expanded during the crisis at a greater pace than relative poverty and material deprivation taken separately, despite the compensatory effect of the downward adjustment in the relative poverty threshold. Multidimensional poverty, as measured in the third essay, affected in 2014 some 23% of the total population, while it was below 14% in 2009. Even though measurement approaches differ, the three essays confirm the idea that the increase in poverty is larger when measures sensitive to the intensity, and not only to the extension, of multiple deprivation are used.

It therefore seems clear that multidimensional poverty has become unequivocally more extensive and more intense in Spain during and following the Great Recession. Furthermore, multidimensional poverty has increased for all age groups, in contrast to what occurs when the European indicator of risk of poverty or social exclusion is used. The results presented show that four of the five dimensions measured in the third essay worsened between 2009 and 2014, with income and, above all, employment being those domains whose participation in global poverty most increased. Taken together, the findings contained in the three essays support the idea that the at-risk-of poverty rate or the Europe 2020 indicator alone may not be sufficient to reflect the growing intensity of multidimensional poverty and deprivation in Spain.

The analysis has also revealed some important changes in the structure of poverty in Spain during the period of recession. Altogether, the poor population in the post-crisis Spain is younger and has lower and more insecure incomes than before the recession. Many of the newly poor families are middle- or working-class households with dependants, affected by unemployment or precarious employment, living on social transfers and facing housing affordability problems. The crisis has extended the risk of poverty to families that do not always belong to the groups traditionally considered "at risk", narrowing to a certain extent the gaps associated with origin, social class or single-parent status, but amplifying others. Considering age, to a certain extent there has been a shift of poverty away from retired people towards the working-age population, yet one less marked than that suggested by low income or AROPE rates. Reductions in conventional poverty rates among the elderly were largely caused by the downward adjustment of the poverty line throughout the crisis, but this reclassification did not really change the standard of living of senior generations.

Both the second and third essays highlight the role of differences in the housing situation as a key factor in explaining material deprivation and multidimensional poverty, beyond current income. Housing costs differ across regions, generations and social classes, but nevertheless generally impose a heavy burden on low income families of certain social groups, such as immigrants or young people. There is evidence that this burden has become more prominent during the recession, increasing the risk of consistent and multidimensional poverty of the new low-income groups.

The level of education is also a central variable in preventing poverty and one of the most powerful predictors of consistent and multidimensional poverty, especially among younger generations. Moreover, post-secondary education is increasingly important to reduce the risk of poverty. The economic crisis has significantly impacted on those households whose reference person had completed only primary or lower secondary school, and the differentials linked to education have expanded among young people since the year 2008.

Unemployment and low work intensity are essential variables, as both causes and manifestations of poverty. As the present paper argues, employment can be regarded as having both instrumental and substantive importance in the definition of poverty, since it provides income, but also direct wellbeing, in terms of economic security, social rights, self-respect, socialisation or a sense of belonging. The second essay has shown the important role played by long-term unemployment and low household work intensity in shaping "consistent" poverty, but also the significance of variables related to low quality jobs, such as temporary work. The first and third essays have both considered employment deprivation as a part of the multidimensional poverty measure, albeit with some variations in the definitions applied. The two papers highlight the marked, but also uneven, deterioration in this dimension since 2008 and its increasing contribution to the overall index of multidimensional poverty.

Both the second and third papers point to a certain reduction in the role of some sociodemographic stratification factors throughout the crisis. This is the case of variables such as gender, single-parenthood, socioeconomic status, immigrant origins or the urban/rural divide. In general, all these elements continue to be highly significant to predict poverty in 2014, but they make less of a difference after the Great Recession, once

all other factors have been taken into account. Some qualifications regarding this issue should be made. On the one hand, comparing relative changes can be misleading if there are huge differences in absolute levels at the starting point, which in fact occurs in not a few cases. On the other hand, characteristics used as regressors in the estimated models are not totally independent, making it difficult to separate their effects adequately. Additionally, the impacts of the crisis were concentrated in different moments for different social groups.

The case of immigrants can serve as an example. In the pre-crisis period, native- and immigrant-headed households had similar low work intensity rates, but very different levels of monetary poverty, material deprivation, housing wealth and financial stress. In other words, there was a huge multidimensional poverty gap, except in the case of "intersection" measures including the employment deprivation dimension. The Great Recession widened the absolute and (generally) also the relative gaps in all these dimensions, taken separately, as well as in most aggregate measures. This trend is nevertheless partially obscured by comparisons starting in 2009, given the different timing of the impacts of the crisis (visible among immigrants as early as in 2007-2008).

The changes in the age structure of poverty have received special attention in the third chapter. Both socioeconomic factors and the phase of the life cycle have been shown to be important when explaining the impact of the Great Recession on poverty. Although the labour market shock has reached directly or indirectly many middle- or even upper-class families, socioeconomic factors still play a clear role in multidimensional poverty in all age groups.

The three essays, and especially the third, confirm that the crisis has affected more intensely the working-age population than the elderly, mainly due to protection derived from pensions and housing wealth. This is not to say that the retired have improved their economic situation, since only under the relative low income approach does their poverty rate clearly fall over the period of crisis. In any case, according to most multidimensional measures, the elderly are the age group displaying the lowest poverty levels in Spain following the Great Recession.

Children, the other traditionally disadvantaged age segment, are not the group most harmed by the crisis, in relative terms. This means that the position of other groups has deteriorated more intensely, not that families with children have remained untouched by the Great Recession. It is important to highlight that multidimensional poverty was already very high for this group before the crisis. Moreover, children are a highly heterogeneous group, which implies very unequal poverty risks depending on factors such as parental education, social class or country of birth. The three essays show that multidimensional poverty rose rapidly among certain groups of children, such as those living in immigrant-headed families or low work intensity households. The study also uncovers a profile of particular vulnerability in the case of families with children or young dependants who have to rely on social benefits.

The analysis included in the third essay shows that multidimensional deprivation has increased at a greater pace among young people of 16-29 years of age and baby boomers aged 45-59 than among any other age bracket. Both groups had poverty rates well below the average before the crisis. In 2014, their poverty indices equal those of children and younger adults, respectively. In the case of the baby boomers, the deterioration of resources accessible to young people may have exerted a carryover effect on their parents' generation, who head the increase in material deprivation and subjective financial stress. This is indirect evidence that family networks have played an important role in helping the unemployed during the Great Recession, but at the cost of the increased poverty of other family members.

Limitations and ways forward

It would be useful now to comment upon a number of limitations of the papers included in this volume and some possible ways forward.

Firstly, dimensional structures used are not necessarily the best ones. As multidimensional poverty measurement becomes more widespread, it is increasingly important to test the usefulness of different combinations of domains and indicators. The choosing of dimensions depends on the objectives of the research, as well as on data restrictions, and has an inescapable normative nature. The first paper has taken for granted the dimensional structure of the main Europe 2020 poverty indicator, while the third

expands the number of dimensions to five, including low housing wealth and subjective financial stress. Given this context, it would be interesting to discuss new dimensions, relevant either to the whole population or to the analysis of particular groups, such as children, the elderly or migrant households. In fact, the usefulness of A-F measures becomes clearer when applying a truly multidimensional approach, in which a number of distinctive domains are taken into consideration.

Secondly, the operationalisation of each dimension could be improved in several ways. Material deprivation indicators are now routinely included in EUSILC surveys, and much more is known about their performance and potential biases in the analysis of poverty today. But apart from improving the individual indicators used, research into material deprivation within the Europe 2020 framework could be extended in several ways (e.g. exploring alternative weighting and aggregation schemes, or further investigating the different (sub)dimensions of material poverty).

In the case of low income, significant efforts have already been made to increase both reliability and comparability within the EU-countries, but a number of key issues remain unsolved. The question of which is the most relevant reference group has become crucial in the context of the enlarged EU, due to the increased differences in the average standard of living in member countries. The same is true for the issue of how non-monetary resources, such as imputed housing rent, should be taken into account when measuring poverty, and how the reliability of current imputed rent estimations could be improved. Neither of these aspects has been addressed in depth in these papers, but both deserve close attention. Similarly, it would be worthwhile to further refine the definition of employment deprivation, given the central role of this domain in multidimensional poverty.

Thirdly, there is still room for improving the definition of some socioeconomic categories, depending on the availability of additional information in the data source. A clear example is the identification of "immigrants" using EUSILC. The definition used in the first chapter is most probably too simple to account for the experiences of different subgroups within the foreign-born population, apart from being based on different criteria in Canada and the remaining countries. Another important case is "social class", which cannot be perfectly identified using the ESeC scheme, due to insufficient breakdown of

the occupational status variable. Similarly, the number of lone-parent households detected by the survey would possibly increase if the category labelled "other households with dependants" could be further disaggregated.

Fourthly, all this research has been based on cross-sectional data from surveys with a rotating panel structure. One of the advantages of combining income and living conditions indicators when identifying the poor is the possibility of capturing, at least in part, long-term processes not fully reflected in current income. Yet the availability of repeated observations over a four-year period for each individual would permit direct scrutiny of certain common assumptions regarding the dynamic relationships between employment status, income and the standard of living. This could help to better analyse the effects of different demographic, labour market or social policy changes in transitions in multidimensional poverty.

Additionally, and in relation to the above, it might be worth further exploring the causal links between certain socioeconomic variables and the level and dimensional composition of poverty, both at the national level and in a comparative framework. This would require going beyond the type of models used in this research, in order to better control for observed and unobserved heterogeneity among households.

Finally, more research is still needed in order to better justify the poverty lines employed in the measurement of poverty, both within and across dimensions. This study has employed a pragmatic approach on this point, selecting those cut-offs which delimit poor populations that prove to be similar in size to the traditional low income approach. This is useful to analyse differences in the orderings induced by the two perspectives, but does not answer the question of what is sufficient to avoid poverty. In fact, research on poverty in Europe has so far mostly managed to bypass this basic issue. Perhaps it might be the time to bring research on budget standards once more out of the cold in Spain and other countries. This would help to determine how much income is required by different types of households, in different parts of the country, to meet a predefined consumption basket. Such an approach could serve, like the material deprivation indicators themselves, to give a more concrete (and easier to communicate) content to current low income statistics.

Concluding comments

To conclude, it may be useful to summarise the main implications of the research presented, particularly with regard to possible reforms in existing anti-poverty programmes.

Pensions have mitigated the adverse impact of the crisis, allowing older people to maintain their living standards –and even in some cases support their economically fragile descendants. From a long-term perspective, the protection derived from pensions is one of the main achievements of the Spanish welfare state and a central instrument of redistribution. The consolidation of the social security system was undoubtedly a key element in the great leap forward in equality achieved in Spain during the 1970s and 1980s.

At present, there is reasonable concern regarding the possibility of maintaining the present situation, not only due to the ups and downs of the economic cycle, but also to the system's own problems of sustainability. Future pensions may be lower and more unequal than those currently paid, given the increasing role of private pension plans and the potential financial stress imposed on the public system by the retirement of the baby boomers, the first large generation whose children have paid social contributions in the era of precarious employment. In this context, the necessary reform measures should be guided by the objective of preserving pensions' ability to serve as a fundamental social and economic stabilising element.

Housing wealth has also played an important protective role, and one which might similarly be less effective in the near future. Spain has traditionally had high home ownership rates, with only slight differences according to income level. Nevertheless, people reaching pensionable age in the years to come will probably have higher mortgage costs, since many of them bought their house during the property boom, with rising prices and cheap credit, signing mortgage loans that extend well beyond the normal retirement age. At the same time, the recession has reduced housing affordability, because of declining household incomes and increasing credit restriction. The underdeveloped housing rental market and the insufficient social housing programs have done little to expand poor people's options. It is therefore necessary to reinforce and give a clearer

social dimension to existing housing policies, recognising decent housing *de facto*, and not only in theory, as a basic human right.

Apart from fulfilling a basic need, housing is the main form of wealth that many people manage to accumulate in their lives. Taking into account differences in housing status helps to better measure the true level of resources available to households. However, housing is only one part of total households' wealth, which, according to many studies, is more unevenly distributed than income (and, particularly, than housing imputed rent estimates contained in household surveys). Over recent years, there has been a trend towards reduced wealth taxes in many Spanish regions, which perhaps should be reversed if there is a genuine desire to increase equality of opportunity. This should be coupled with a major reform of wealth tax, aimed at enhancing its redistributive capacity and its level of social acceptance.

The three essays contained in this thesis have highlighted, in different ways, the need to strengthen social protection programs targeted at the working-age population, and especially to the most vulnerable groups –e.g., immigrants, young people, poor families with children. Spain still invests less than half the European average per head in the social protection of families and children. Many experts have recommended a substantial reform of these policies, increasing the coverage and generosity of cash benefits and combining them with measures in other relevant fields, such as gender equality, childcare services, timetable rationalisation or family-work reconciliation measures.

In addition, it is essential to fight both unemployment and in-work poverty, ensuring that all jobs pay a living wage. Unemployment has been by far the most influential variable in many families' impoverishment during the crisis, and thus accelerating recovery of employment should be the highest priority. The experience of the expansionary period prior to the crisis has made it clear, however, that having a job is not always enough to avoid poverty, especially among immigrant families and a part of the native working class. Spain was before the crisis, and still is after the Great Recession, one of the European Union countries with highest in-work poverty rates, around 13%, a figure only clearly exceeded by Romania. Making jobs available to anyone who wants to work and making work pay would clearly be the most effective antipoverty policy in Spain.

Improving the quality of the education system must be part of the broad strategy to reduce poverty and inequality. The intangible capital provided by a good level of education reduces in a significant and long-lasting way the risk of multidimensional poverty, allowing people to adapt better to changing circumstances and to obtain more from available resources. As in the case of family policy, Spain has still far to travel in this regard, both in quantitative (an adequate level of expenditure) and qualitative terms (correcting the well-known deficiencies of the current system).

The last consideration included in this document focuses on immigration. Recently, the refugee crisis has reopened the public and academic debate about migratory policy in the European Union and beyond. In Spain, the full integration of immigrants, both those arriving in the pre-crisis boom and those to come, should be a key component of any national antipoverty strategy.

So far, the Spanish integration model has displayed both lights and shadows. The positive aspects might include educational and health-care inclusion, progress in administrative regularisation processes and the relative serenity shown by society in facing the new phenomenon. Some of the areas requiring improvement are occupational upward mobility or the aforementioned weakness of family and housing policies. Even though national contexts of the main receiving countries differ, as do the migratory flows themselves, Spain could probably adapt some of the programs that have proven to be effective in the best integration models, such as Sweden, Canada or New Zealand. The goal might be to reach a society in which, as in Canada, a large amount of people are unable to decide whether to classify themselves as immigrants when completing a survey.

RESUMEN

Privación y Pobreza Multidimensional: Tres Ensayos Basados en Datos EUSILC

Resumen

La tesis contenida en este documento está formada por tres ensayos independientes, aunque relacionados entre sí. Aunque el propósito concreto de cada estudio es diferente, la suma de los tres se inscribe en un programa de investigación cuyo objetivo último es mejorar el conocimiento de las tendencias de la pobreza en España durante la etapa de la Gran Recesión, empleando perspectivas de análisis complementarias a la más tradicional del nivel de ingresos monetarios de las familias.

El trabajo ha permitido obtener algunas conclusiones relevantes, en el doble plano metodológico y empírico. Muchas de estas conclusiones tienen también implicaciones para la política social, que se ha procurado resaltar en los diferentes capítulos. En este resumen se explica la motivación y estructura de la tesis, y se sintetizan brevemente sus hallazgos e implicaciones, haciendo una lectura conjunta de lo aprendido en los tres trabajos.

Antecedentes

En su último libro, *Inequality: What Can Be Done?*, publicado en 2015, Tony Atkinson afirmaba que la desigualdad ocupa hoy en día un lugar destacado en el debate público. La misma idea se desprende de la serie de informes impulsados en los últimos años por instituciones como la OCDE, desde el *Growing Unequal?* difundido en 2008, tras varios años de bonanza económica, hasta el más reciente *In It Together: Why Less Inequality Benefits All*. El motivo de este protagonismo es la acumulación de evidencias sobre el aumento tendencial de la desigualdad económica en gran parte del mundo desarrollado, a partir de los años ochenta del pasado siglo. Las razones de este aumento son múltiples y complejas, pero en casi todas las explicaciones intervienen los efectos del cambio tecnológico y la globalización en los mercados de bienes y trabajo, así como la

menor eficacia redistributiva de las políticas públicas. La consecuencia es una sociedad en la que tanto los frutos del crecimiento como el impacto negativo de las recesiones se reparten de forma muy desigual.

Desde una perspectiva de largo plazo, se argumenta que el aumento de la desigualdad ha significado un estancamiento en los niveles de renta de las familias pobres de los países ricos, así como, en algunos casos, una disminución del tamaño de las clases medias y procesos de movilidad descendente. Como ha sugerido Branco Milanovic en su famoso gráfico de la *curva del elefante*, el ingreso de los hogares ha crecido desde finales los años ochenta tanto en las economías orientales emergentes como para el 1% más rico a nivel global, mostrando en cambio progresos bajos o incluso negativos en el extremo inferior de la distribución mundial de la renta, así como en la zona correspondiente a las rentas medias y bajas de los países ricos. Aunque el gráfico es una agregación de muchos países con experiencias diferentes y, como tal, supone una cierta simplificación, los datos recogidos respaldan la necesidad de examinar más a fondo las tendencias actuales de la pobreza y la desigualdad. El alza de los populismos en varios países occidentales, tanto en Europa como en EEUU, tiene para algunos analistas raíces objetivas en el descontento de muchos con la creciente falta de oportunidades.

En este contexto, España ha seguido una evolución peculiar, con descensos de la pobreza y las diferencias sociales en los años setenta y ochenta, cuando otros países iniciaban ya lo que Atkinson ha llamado el "vuelco de la desigualdad". La combinación de democracia, crecimiento económico y desarrollo social marcó una etapa que, pese a los vaivenes del ciclo económico y las disfunciones del mercado de trabajo, se saldó con un gran salto adelante en el nivel de vida y la igualdad de oportunidades. Esta conjunción virtuosa de elementos de progreso no se ha vuelto a repetir con la misma claridad en las décadas recientes. El período de crecimiento iniciado a mediados de los años noventa llevó aparejadas mejoras en los niveles de renta y empleo, así como un importante boom inmigratorio, pero también fuertes aumentos en el precio de la vivienda, excesivo endeudamiento de los hogares, crecimiento del número de empleos de baja calidad y escasos avances en la distribución de la renta. Aunque existen datos que indican que la desigualdad en el consumo pudo disminuir lo largo del período, las disparidades de ingresos y los niveles de pobreza relativa no registraron cambios significativos.

El inicio de la Gran Recesión en 2008 supuso para España un revés importante, cuyas consecuencias distributivas aún no se han calibrado por completo. Los años transcurridos entre 2009 y, como mínimo, 2014, se caracterizaron por la fuerte destrucción de empleo, el descenso de la renta nacional y las crecientes dificultades de muchos hogares para satisfacer sus necesidades básicas y hacer frente a los pagos periódicos relacionados con la vivienda, el transporte o los recibos. Las políticas públicas, constreñidas por la prioridad otorgada al ajuste presupuestario en un contexto de crecientes exigencias de estabilidad interna, fueron capaces de moderar, pero no de frenar, el aumento de la pobreza y la desigualdad. Más allá de los niveles de ingresos, siempre difíciles de medir con precisión, el empeoramiento del clima social tuvo su reflejo en indicadores de gran visibilidad e impacto mediático, como los desahucios, la pobreza energética o el recurso a las ayudas proporcionadas por CARITAS, Cruz Roja y otras organizaciones no gubernamentales.

El trabajo presentado ahonda en el estudio de las consecuencias distributivas de la gran Recesión en España, tomando como hilo conductor los cambios en la pobreza multidimensional. Bajo este concepto se engloban hoy en día diversos enfoques cuyo denominador común es el análisis de la pobreza en términos no solo, o no principalmente, del nivel de ingresos, sino de las carencias experimentadas en distintos aspectos significativos del nivel de vida. La justificación conceptual de este cambio de énfasis puede hallarse en propuestas tan conocidas como la de la pobreza en términos de capacidades de Amartya Sen, pero también en estudios sociológicos clásicos de la pobreza, como los realizados por Peter Townsend en Reino Unido. La principal justificación empírica viene dada por la posibilidad de identificar mejor a las personas y grupos más vulnerables dentro de la sociedad. Desde el punto de vista político, las medidas multidimensionales tienen la ventaja de clarificar qué elementos concretos del nivel de vida necesitan ser protegidos, permitiendo orientar de forma más precisa los programas de lucha contra la pobreza.

Objetivos

La tesis está organizada en tres capítulos que recogen los tres ensayos que forman el núcleo principal del trabajo, precedidos por una introducción general, y seguidos por

un apartado de conclusiones y otro de referencias bibliográficas. La introducción expone la motivación, enfoque y organización del documento. El apartado final de conclusiones ofrece, por su parte, una síntesis de los principales hallazgos y sus implicaciones para la política social, así como algunas limitaciones de la investigación y las posibles vías de avance.

El primer capítulo examina la brecha entre familias inmigrantes y autóctonas en los primeros años de la crisis en España y otros cinco países desarrollados, utilizando una medida de pobreza multidimensional basada en los tres ámbitos que definen el objetivo de reducción de la pobreza fijado en la Estrategia 2020 (AROPE). El estudio discute hasta qué punto la metodología de medición de la pobreza multidimensional propuesta por Sabine Alkire and James Foster (Alkire and Foster 2011a,b) puede utilizarse para mejorar las propiedades del indicador de riesgo de pobreza o exclusión de la Unión Europea, superando algunas de sus limitaciones. Las medidas AF son luego aplicadas en el análisis de la brecha de pobreza entre personas inmigrantes y autóctonas en España, Francia, Reino Unido, Alemania, Italia y Canadá (Ontario), en el año 2009. También se examina el modo en que los resultados básicos se ven alterados en 2011, tras el inicio de la crisis.

El segundo capítulo investiga los cambios en las condiciones de vida de los grupos de baja renta en España, entre 2008 y 2012. Para ello, el trabajo combina las perspectivas proporcionadas por los ingresos y los indicadores de privación material para analizar las tendencias de la pobreza durante la crisis. Tras definir un índice de privación que mejora las propiedades del empleado actualmente en el ámbito europeo, se examina el grado de coincidencia entre las familias de baja renta y las que sufren privación material, mostrando hasta qué punto la crisis ha modificado el grado de solapamiento entre los dos fenómenos. Utilizando un modelo logístico multinomial, se describe el perfil socioeconómico de los grupos resultantes de combinar los dos criterios (baja renta y privación material) en 2008 y 2012, poniendo de relieve los elementos de continuidad, pero también algunas modificaciones importantes del patrón de pobreza durante los años centrales de la Gran Recesión.

El tercer capítulo toma como argumento principal el vuelco en la estructura por edades de la pobreza durante la crisis, para rastrear la distinta suerte de seis grupos de edad que constituyen también distintas generaciones (niños, *millenials*, generación X,

baby-boomers, generación de la transición, y generación de la posguerra). Para ello, se emplea una medida de la pobreza basada en cinco dimensiones (renta, vivienda, empleo, privación material y dificultades financieras subjetivas). Utilizando índices AF basados en estas dimensiones, se analiza el aumento de la pobreza entre 2009 y 2014, a nivel global y para cada grupo de edad. Se estudia también la contribución de cada uno de los cinco ámbitos a la pobreza total, así como los diferentes perfiles dimensionales de la pobreza en unos y otros grupos. Por último, se examinan las diferencias intra-grupo y los factores socioeconómicos asociados a un mayor riesgo de pobreza multidimensional.

Metodología y datos

Una de las hipótesis básicas que ha guiado el diseño de la investigación es la idea de que las medidas de la pobreza empleadas tradicionalmente en el ámbito europeo no son suficientes para evaluar las consecuencias de la crisis, debido a su carácter indirecto, relativo y unidimensional. Por un lado, la disminución del valor del umbral tomado como referencia para medir la pobreza a lo largo de la crisis enmascara, pudiendo llegar incluso a ocultar por completo, la caída en el nivel de renta de las familias afectadas por la recesión. Por otro, el indicador convencional no muestra el impacto de la crisis en dimensiones significativas del nivel de vida, como pueden ser el empleo, la privación material o la inseguridad económica subjetiva. Además, dada la imperfecta correlación entre ingresos y condiciones de vida, los cambios en el indicador de baja renta no dan necesariamente una idea precisa de los cambios en la intensidad de la pobreza.

Para superar estas limitaciones, el enfoque metodológico adoptado en el trabajo es el de la pobreza multidimensional. Las medidas utilizadas varían en cada capítulo, en función de los objetivos concretos planteados y las variables incluidas en las bases de datos disponibles. En todos los casos se añaden indicadores que tienen en cuenta directamente las condiciones de vida, y no solo los ingresos obtenidos por las familias. Se han empleado definiciones que combinan entre dos y cinco ámbitos a la hora de analizar la pobreza, en la convicción de que las listas muy largas de dimensiones generan escalas cuyo sentido es difícil descifrar. Igualmente se ha primado el uso de índices agregados que, como los propuestos por Alkire-Foster, conservan cierta sencillez de diseño y lectura.

Los resultados obtenidos en los tres ensayos muestran las posibilidades del enfoque multidimensional. Aunque se siguen planteando problemas tradicionales ineludibles en el análisis de la pobreza, como el del criterio para fijar el umbral, la ordenación de los individuos cambia, permitiendo identificar mejor los segmentos de población más vulnerables. En todo caso, los tres estudios han dejado clara la necesidad de trabajar con medidas que sean descomponibles por dimensiones, de modo que pueda investigarse la contribución de los distintos aspectos a la pobreza global y la existencia de perfiles diferenciados según el grupo de población. Aunque la posibilidad de obtener medidas agregadas es uno de los valores añadidos del enfoque multidimensional, es preferible no perder de vista las distintas combinaciones de carencias que pueden dar lugar a un mismo nivel de pobreza global.

Los tres trabajos utilizan como fuente de datos principal las encuestas utilizadas para elaborar las estadísticas europeas armonizadas sobre renta y condiciones de vida (EUSILC). En el caso de España, la fuente de datos básica es la Encuesta de Condiciones de Vida (ECV), que es, desde el año 2004, la fuente elegida para calcular los indicadores europeos en el ámbito de la distribución de la renta y la inclusión social. También se han utilizado las encuestas incluidas en EUSILC para el análisis de los restantes países europeos en el primer capítulo (Francia, Alemania, Italia y Reino Unido). En el caso de Canadá, se han explotado los datos provenientes de la Encuesta de Dinámica Laboral y de Rentas (*Survey of Labour and Income Dynamics*), la base de datos cuyas características resultan más similares a las encuestas EUSILC.

Los años de referencia empleados abarcan un período que se extiende entre 2008 y 2014, permitiendo así cubrir la parte principal de la crisis económica en España. Los períodos precisos analizados varían según el capítulo, y están condicionados por los objetivos concretos de cada estudio, pero también por los datos disponibles en el momento de elaboración y por las necesidades metodológicas. Entre estas últimas, cabe destacar la ruptura en la Encuesta de Condiciones de Vida, con dos series distintas según se utilicen o no los datos administrativos y fiscales para la estimación de los ingresos. Además, las encuestas del año 2009 y del 2013 en adelante ofrecen información más amplia sobre privación material, de la que se ha sacado partido en el tercer ensayo.

Principales conclusiones

La Gran Recesión ha causado importantes cambios en el empleo, la renta y las condiciones de vida de amplios grupos de la sociedad. España está dentro del grupo de países más duramente afectados por la crisis, lo que añade interés al análisis de los impactos en términos de pobreza y exclusión social. Los resultados obtenidos muestran que los efectos de la crisis en el nivel y composición de la pobreza varían según los indicadores adoptados. Empleando la tasa de riesgo de pobreza convencional o el nuevo indicador europeo de riesgo de pobreza o exclusión (AROPE), las variaciones son modestas a nivel global, aunque esa relativa estabilidad oculta cambios opuestos para diferentes grupos demográficos. En particular, destaca la intensa reducción del riesgo de pobreza experimentado por quienes superan la edad de jubilación: solo un 11% de los mayores de 65 años estaban en riesgo en 2014, frente a casi un 30% en 2006, según la estadística publicada por Eurostat.

Las medidas de privación material y pobreza multidimensional obtenidas en los tres ensayos sugieren que la crisis ha tenido un efecto global más intenso de lo que muestran los indicadores tradicionales. Incluso manteniendo el umbral de baja renta relativa como referencia principal, la recesión ha aumentado el grado de solapamiento entre baja renta y privación, así como entre esas dos dimensiones y la baja intensidad laboral. Esto significa que las personas que sufren pobreza relativa en la actualidad tienen de hecho peores condiciones de vida que las clasificadas como pobres en 2008, al comienzo de la crisis. La pobreza "consistente", definida por la intersección entre baja renta y privación material, pasó del 8% en 2008 al 12% en 2012. En términos relativos, es un crecimiento mayor que el experimentado por los indicadores de baja renta y de privación material tomados por separado. La pobreza multidimensional, tal como se mide en el tercer ensayo, afectaba a un 23% de la población en 2014, frente a menos del 14% en 2009. Aunque las estrategias de medición aplicadas difieren, los tres trabajos confirman que el incremento de la pobreza durante la crisis es mayor cuando se emplean índices sensibles a la intensidad, y no solo a la extensión, de la privación multidimensional.

Resulta claro, por tanto, que la pobreza se ha hecho inequívocamente más extensa y más intensa en España, tras la Gran Recesión. Además, la pobreza multidimensional ha

aumentado en todos los grupos de edad, en contraste con lo apuntado por el indicador convencional. Los resultados presentados en el trabajo muestran que, a nivel global, cuatro de las cinco dimensiones analizadas empeoraron entre 2009 y 2014, siendo la baja renta (utilizando umbrales anclados) y, sobre todo, la privación de empleo los ámbitos que más aumentaron su participación en la pobreza global. Analizados conjuntamente, los resultados de los tres trabajos refuerzan la idea de que la tasa de riesgo de pobreza y el nuevo indicador de riesgo de pobreza o exclusión son, por sí solos, insuficientes para captar la creciente intensidad de la pobreza y privación multidimensionales en España.

El estudio ha revelado también algunos cambios importantes en la estructura de la pobreza. En conjunto, la población pobre en la España de después de la crisis es más joven y recibe ingresos más bajos e inseguros que antes de la crisis. Muchas son familias de clase media o trabajadora con descendientes a su cargo, afectadas por el desempleo, dependientes de las prestaciones sociales y con dificultades para hacer frente a los pagos de la vivienda. La crisis ha extendido el riesgo de pobreza a hogares no siempre pertenecientes a los grupos de riesgo tradicionales, cerrando en cierta medida algunas brechas, como las asociadas al género, a la clase social o al tipo de hogar, pero ampliando otras. Por lo que respecta a la edad, se ha dado un cierto trasvase de la pobreza desde las personas retiradas a la población en edad de trabajar, aunque menos intenso de lo sugerido por el indicador tradicional de baja renta. Hay que tener en cuenta que la fuerte disminución de la tasa de pobreza convencional entre los mayores se debe en buena medida al ajuste a la baja del umbral de pobreza durante la crisis, sin que ello haya implicado cambios reales apreciables en el nivel de vida de los jubilados.

Tanto el segundo como el tercer ensayo subrayan el papel de la vivienda como un factor clave para explicar el riesgo de privación material y pobreza multidimensional, al margen del nivel de renta. Los costes de la vivienda difieren entre regiones, generaciones y clases sociales, imponiendo una carga pesada a las familias pobres de ciertos grupos, como jóvenes o inmigrantes. Existe evidencia de que esta carga se ha vuelto más decisiva durante la crisis, aumentando el riesgo de pobreza consistente y privación multidimensional de los grupos de baja renta.

El nivel educativo es también una variable central para prevenir la pobreza y uno de los predictores más poderosos del nivel de pobreza consistente y multidimensional,

especialmente en las generaciones más jóvenes. Además, la formación post-secundaria es cada vez más importante para reducir de forma significativa el riesgo de pobreza. La crisis económica ha afectado con mayor intensidad a las personas de niveles educativos bajos e intermedios, y los diferenciales ligados a la educación se han ampliado desde 2008 entre los jóvenes menores de 30 años.

El desempleo y la baja intensidad laboral del hogar son variables esenciales, como causas y manifestaciones de la pobreza. Como se ha discutido en el trabajo, el empleo puede ser contemplado como un elemento de importancia tanto instrumental como sustantiva en la definición de la pobreza, puesto que genera rentas, pero también aporta directamente bienestar, en términos de seguridad económica, derechos sociales, autoestima, socialización o sentido de pertenencia. El segundo ensayo ha mostrado el importante papel del desempleo y la baja intensidad laboral para el perfil de la pobreza "consistente", pero también la relevancia de variables asociadas al empleo de baja calidad, como la temporalidad laboral. Los capítulos primero y tercero consideran ambos la privación laboral como parte de la definición de la pobreza, aunque con algunas diferencias en su operacionalización. Ambos trabajos subrayan el intenso, aunque también desigual, deterioro de esta dimensión a partir de 2008 y su creciente contribución al índice global de pobreza multidimensional.

Tanto el segundo como el tercer ensayo sugieren un menor peso de algunos factores de estratificación sociodemográfica, como consecuencia de la crisis. Es el caso de las diferencias de género, el impacto de la monoparentalidad, el origen inmigrante o las diferencias entre campo y ciudad. En general, todos esos elementos siguen siendo significativos para predecir la pobreza, pero su impacto es menor tras la crisis, *una vez que todos los demás factores han sido tenidos en cuenta.* Hay que introducir algunos matices al interpretar este resultado. Por un lado, centrarse en los cambios *relativos* puede resultar engañoso cuando los niveles de pobreza de partida difieren mucho en términos absolutos, lo que ocurre de hecho para ciertas variables de clasificación. Por otro, las variables empleadas como regresores en los modelos no son en realidad totalmente independientes, lo que dificulta separar sus efectos. Muchos factores de riesgo implícitos en 2008 o 2009 son situaciones de pobreza explícitas en 2012 o 2014. Además, los efectos de la crisis se concentraron en distintos momentos del tiempo, según los grupos de

población. Ello es de especial relevancia para las comparaciones entre inmigrantes y nativos.

El tercer trabajo ha prestado una especial atención a los cambios en la estructura por edades de la pobreza durante la crisis. Los resultados obtenidos confirman que la crisis ha afectado con menor intensidad a las personas mayores que a la población en edad de trabajar, debido sobre todo a la protección derivada de las pensiones y la riqueza inmobiliaria. Ello no significa necesariamente que los retirados hayan mejorado su situación económica: solo bajo el enfoque de la baja renta relativa su índice de pobreza se reduce con claridad. Pero sí es cierto que, tras la crisis, los mayores de 65 años son el grupo de edad con menores niveles de pobreza, tanto desde la perspectiva de la pobreza multidimensional como aplicando medidas de pobreza consistente o privación material.

Los niños, el otro grupo de edad tradicionalmente vulnerable, no han sido el colectivo más golpeado por la crisis. Esto significa que la posición de otros grupos ha sufrido un mayor deterioro relativo, no que los niños no hayan notado los efectos de la recesión. Es importante señalar que la pobreza multidimensional de los menores era ya muy alta antes de la crisis. Además, los niños sobre un grupo particularmente heterogéneo, lo que implica riesgos de pobreza muy distintos dependiendo de factores como la educación de los padres, la clase social o el país de nacimiento. Los tres ensayos muestran que la pobreza ha crecido más en ciertos grupos de niños, como los que viven en familias de origen inmigrante o en hogares de baja intensidad laboral. El estudio también pone de relieve la especial vulnerabilidad de las familias con niños o jóvenes dependientes económicamente que tienen las prestaciones sociales como principal fuente de ingresos.

El análisis incluido en el tercer ensayo ha mostrado que la pobreza multidimensional ha crecido a mayor ritmo entre los jóvenes de 16-29 años y entre la generación de los *baby-boomers* (45-59 años) que entre los restantes grupos de edad. Ambos grupos tenían en 2008 tasas de pobreza muy inferiores al promedio nacional. En 2014, sus índices de pobreza se han igualado a los de los niños y los adultos de 30-44 años, respectivamente. Además, el deterioro de la situación de los jóvenes parece haber ejercicio un cierto efecto de “arrastre” sobre la generación de sus padres, una mayoría de

los cuales pertenece a la generación de los *baby-boomers*, grupo que lidera el aumento relativo en los niveles de privación material objetiva y dificultad financiera subjetiva.

Implicaciones para la política social

El trabajo presentado tiene diversas implicaciones útiles para el diseño de la política social en España. A continuación se destacan aquellas que se consideran más relevantes.

Las pensiones han amortiguado el efecto de la crisis, permitiendo a la mayoría de las personas mayores mantener su nivel de vida e incluso ayudar a sostener el de sus descendientes con dificultades económicas. Desde una perspectiva de largo plazo, la protección derivada de las pensiones es uno de los principales logros asociados a la consolidación del Estado de Bienestar en España y un instrumento central de redistribución, tanto en términos contemporáneos como a lo largo del ciclo vital. La generalización del sistema de pensiones ha sido sin duda una parte importante del salto adelante en igualdad conseguido en España en los años setenta y ochenta del siglo XX.

En el momento actual, existen dudas razonables sobre las posibilidades de mantener esta situación, debido no solo a los vaivenes del ciclo económico, sino a los propios problemas de sostenibilidad del sistema. Las pensiones futuras pueden llegar a ser más bajas y desiguales que las presentes, debido al mayor protagonismo de los planes privados y al estrés del sistema público ante el retiro de los *Baby-Boomers*, primera generación muy numerosa cuyos hijos han sido cotizantes en la era del trabajo precario. En este contexto, las medidas de reforma, ineludibles, han de estar guiadas por el objetivo de preservar la capacidad de las pensiones para servir como elemento de estabilización económica y social.

La riqueza en forma de vivienda ha jugado también, para ciertos grupos sociales, un papel protector importante, cuya continuidad puede estar en juego. España es un país que destaca por el elevado porcentaje de vivienda en propiedad entre las familias, sin apenas distinción por niveles de renta. Sin embargo, las personas que irán alcanzando la edad de retiro en los años venideros tendrán probablemente más cargas por este concepto que los actuales jubilados, ya que muchos de los que compraron vivienda en el período

expansivo, con los precios en alza y el crédito barato, tienen hipotecas que llegan hasta más allá de la edad de jubilación. Al mismo tiempo, la crisis ha disminuido la accesibilidad de la vivienda, tanto por la caída en los ingresos de muchas familias como por las crecientes restricciones de crédito. Un mercado del alquiler poco desarrollado y la escasez de programas de vivienda pública no han ayudado mucho a mejorar las opciones de las familias de baja renta o empobrecidas por la crisis. Por ello, es preciso reorientar la política de vivienda en España con un decidido enfoque social, que reconozca de facto, y no solo en teoría, que el acceso a una vivienda adecuada constituye un derecho básico de ciudadanía.

Además de satisfacer una necesidad fundamental, la vivienda es la forma principal de riqueza que muchas personas consiguen acumular. Tener en cuenta las diferentes situaciones residenciales ayuda a medir mejor el verdadero nivel de recursos de los hogares. Sin embargo, la vivienda es solo una parte de la riqueza total mantenida por los hogares, riqueza que, según diversos estudios, se distribuye de forma mucho más desigual que la renta (y en especial, que la renta "en especie" imputada estadísticamente por la propiedad de la vivienda principal). En los últimos años se ha dado una creciente desfiscalización del patrimonio, que quizás habría que frenar si realmente se desea promover una mayor igualdad de oportunidades. Para ello convendría probablemente rediseñar y modernizar las principales figuras tributarias que recaen sobre la riqueza, para aumentar su capacidad redistributiva y mejorar su nivel de aceptación social.

Los tres ensayos que componen este trabajo han subrayado, de distintas formas, la necesidad de reforzar las políticas de protección dirigidas a la población en edad de trabajar, y muy especialmente a los grupos más vulnerables, como los inmigrantes, los jóvenes o las familias con niños. España sigue invirtiendo por habitante menos de la mitad del promedio europeo en protección social de niños y familias. Muchos expertos han defendido la conveniencia de revisar estas políticas, incrementando la cobertura y dotación de las prestaciones monetarias y combinándolas con medidas en los ámbitos de la conciliación entre trabajo y vida familiar, la igualdad de género, la racionalización de horarios y los servicios públicos relacionados con la infancia.

Además, resulta fundamental combatir tanto el desempleo como la pobreza de los trabajadores, y asegurar que los empleos proporcionan un salario decente. El desempleo

ha sido con diferencia la variable más decisiva en el empobrecimiento de muchas familias durante el período de crisis, por lo que acelerar la recuperación del nivel de empleo se convierte en una absoluta prioridad. Pero la experiencia de los años anteriores a la crisis ha dejado claro que tener trabajo no siempre es suficiente para evitar la pobreza, especialmente entre las familias inmigrantes y en un segmento de las clases trabajadoras autóctonas. España era antes de la crisis, y sigue siendo actualmente, uno de los países europeos con mayor tasa de pobreza entre los trabajadores, en torno a un 13%, un dato solo superado con claridad por Rumanía. Conseguir que trabajar no solo sea posible para todo el que quiera hacerlo, sino que además permita ganar lo suficiente para cubrir las necesidades, constituiría sin lugar a dudas la política más efectiva de lucha contra la pobreza en España.

La mejora de la calidad del sistema educativo ha de constituir una prioridad en el diseño de una estrategia a largo plazo de lucha contra la pobreza, dado el claro impacto del nivel de educación en la posición económica, incluso cuando se tienen en cuenta otros factores. El capital invisible proporcionado por una buena formación reduce de forma duradera y significativa el riesgo de sufrir pobreza multidimensional, permitiendo a las personas adaptarse mejor a los cambios y obtener mayor rendimiento de los recursos disponibles. Como en el caso de las políticas de familia, España tiene todavía un camino que recorrer en el ámbito de las políticas educativas para llegar al nivel de los mejores, tanto en términos cuantitativos (nivel adecuado de gasto público) como cualitativos (corrigiendo las conocidas disfunciones del sistema educativo).

La última reflexión del trabajo se centra en la inmigración. La reciente crisis de los refugiados ha reabierto el debate público y académico sobre la política migratoria tanto en la Unión Europea como fuera de la misma. En España, el avance hacia la plena integración de los inmigrantes, tanto los llegados en la última etapa como los que, previsiblemente, seguirán acudiendo en el futuro, debe ser un objetivo clave en cualquier plan nacional contra la pobreza.

Hasta el momento, el modelo español de integración ha mostrado luces y sombras. Entre las primeras, cabe destacar aspectos como la inclusión educativa y sanitaria de los inmigrantes, el progreso en los procesos de regularización administrativa y el relativo sosiego con el que la sociedad se ha adaptado al nuevo fenómeno. Entre las segundas, la

precariedad derivada de la incorporación de los inmigrantes a las ocupaciones menos protegidas y peor remuneradas del mercado de trabajo y la ya mencionada debilidad de las políticas de familia y vivienda. Aunque los contextos nacionales de los países que reciben inmigrantes son muy diferentes, como lo son los propios flujos de inmigración, España podría probablemente adoptar programas que han mostrado su eficacia en los países con mejores prácticas de integración, como Suecia, Canadá o Nueva Zelanda. El objetivo podría ser llegar a construir una sociedad en la cual, como ocurre en el caso de Canadá, una parte muy importante de la población no sea capaz de decidir si se define o no como inmigrante ante un encuestador.

REFERENCES

Aaberge, R., & Brandolini, A. (2015), "Multidimensionalpoverty and inequality", in A.B. Atkinson, A. B., & Bourguignon, F. [eds.], *Handbook of Income Distribution* (pp. 141-216). Oxford: North-Holland.

Alcobendas, M., & Rodríguez, N. (2009), "Immigrants' Assimilation Process in a Segmented Labor Market", IZA Discussion Paper No. 4394, Institute for the Study of Labour, Bonn.

Aleksynka, M., & Algan, Y. (2010), "Assimilation and Integration of Immigrants in Europe", IZA Discussion Paper No. 5185, Institute for the Study of Labour, Bonn.

Alkire, S. (2007), "Choosing dimensions: the capability approach and multidimensional poverty", CPRC Working Paper No. 88, Chronic Poverty Research Centre, Oxford.

Alkire, S., Apablaza, M., & Jung, E. (2014), "Multidimensional poverty measurement for EU-SILC countries", OPHI Research in Progress No. 36c, Oxford.

Alkire, S., & Foster, J. (2011a), "Counting and Multidimensional Poverty", *Journal of Public Economics*, 95, 476-487.

Alkire, S., & Foster, J. (2011b), "Understandings and misunderstandings of multidimensional poverty measurement", *Journal of Economic Inequality*, 9, 289-314.

Alkire, S., Foster, J., Seth, S., Santos, M. E., Roche, J. M., & Ballon, P. (2015), *Multidimensional poverty measurement and analysis*. Oxford: Oxford University Press.

Alkire, S., Roche, J.M., & Seth, S. (2011), "Sub-national disparities and inter-temporal evolution of multidimensional poverty across developing countries", OPHI Research in Progress No. 32a, Oxford.

Amuedo-Dorantes, C., & de la Rica, S. (2009), "Complements or Substitutes? Task Specialization by Gender and Nativity in Spain", IZA Discussion Paper No. 4348, Institute for the Study of Labour, Bonn.

Amuedo-Dorantes, C., & de la Rica, S. (2007), "Labour Market Assimilation of Recent Immigrants in Spain", *British Journal of Industrial Relations*, 45(2), 257-284.

Araar, A., & Duclos, J-I. (2007), "DASP: Distributive Analysis Stata Package", PEP, World Bank, UNDP and Université Laval.

Atkinson, A.B. (2003), "Multidimensional Deprivation: Contrasting Social Welfare and Counting Approaches", *Journal of Economic Inequality*, 1, 51-65.

Atkinson, A.B., & Marlier, E. (2010), *Analysing and Measuring Social Inclusion in a Global Context*. New York: United Nations Publications.

Ayala, L., Cantó, O., & Rodríguez, J. G. (2011), "Poverty and the business cycle: The role of the intra-household distribution of unemployment", ECINEQ Working Paper No. 222.

Ayala, L., Cantó, O., & Rodríguez, J. G. (2016), "Poverty and the business cycle: A regional panel data analysis for Spain using alternative measures of unemployment", *The Journal of Economic Inequality*, doi:10.1007/s10888-016-9343-5.

Ayala, L., Jurado, A., & Pérez-Mayo, J. (2011), "Income Poverty and Multidimensional Deprivation: Lessons From Cross-Regional Analysis", *Review of Income and Wealth*, 57(1), 40-60.

Ayala, L., Jurado, A., & Pérez-Mayo, J. (2014), "Drawing the Poverty Line: Do Regional Thresholds and Prices Make a Difference?", *Applied Economic Perspectives and Policy*, 36(2), 309–332.

Ayala, L., & Navarro, C. (2008), "Multidimensional indices of housing deprivation with application to Spain", *Applied Economics*, 40(8), 597-611.

Ayllón, S., & Gábos, A. (2015), "The interrelationships between the Europe 2020 social inclusion indicators, ImPRovE Discussion Paper N. 15/01, Herman Deleeck Centre for Social Policy, University of Antwerp.

Ayllón, S., Mercader, M., & Ramos, X. (2007), "Caracterización de la privación y de la pobreza en Cataluña", *Revista de Economía Aplicada,* 44(15), 137–175.

Aysa-Lastra, M., & Cachón, L. (2013), "Movilidad ocupacional segmentada: el caso de los inmigrantes no comunitarios en España", *Revista Española de Investigaciones Sociológicas*, 144, 23-47.

Ballester, R., Velazco, J., & Rigall-i-Torrent, R. (2015), "Effects of the Great Recession on Immigrants' Household Consumption in Spain", *Social Indicators Research,* 123(3), 771-797.

Bárcena-Martín, E., Lacomba, B., Moro-Egido, A. I., & Pérez-Moreno, S. (2014), "Country differences in material deprivation in Europe", *Review of Income and Wealth*, 60(4), 802-820.

Bárcena E., & Pérez-Moreno, S. (2016), "Immigrant–native gap in poverty: a cross-national European perspective", *Review of Economics of the Household,* 1-32, doi:10.1007/s11150-015-9321-x.

Bhalla, A.S., & McCormick, P. (2009), *Poverty among Immigrant Children in Europe*. Houndsmills: Palgrave, McMillan.

Beck, U. (2002), *La sociedad del riesgo: hacia una nueva modernidad*. Barcelona: Paidós Ibérica.

Belfield, C., Cribb, J., Hood, A., & Joyce, R. (2014), *Living standards, poverty and inequality in the UK: 2014*. London: Institute for Fiscal Studies.

Bell, D. N., & Blanchflower, D. G. (2011), "Young people and the Great Recession", *Oxford Review of Economic Policy*, 27(2), 241-267.

Benito, A. (2006), "Does job insecurity affect household consumption?", *Oxford Economic Papers*, 58(1), 157-181.

Berthoud, R. (2012), *Calibrating a cross-European poverty line*. University of Essex: Institute for Social and Economic Research.

Berthoud, R., & Bryan, M. (2011), "Income, deprivation and poverty: a longitudinal analysis", *Journal of Social Policy*, 40(01), 135-156.

Berthoud, R., Bryan, M., & Bardasi, E. (2004), "The dynamics of deprivation: the relationship between income and material deprivation over time", Research Report No. 219, Department for Work and Pensions.

Betti, G., Gagliardi, F., Lemmi, A., & Verma, V. (2015), "Comparative measures of multidimensional deprivation in the European Union", *Empirical Economics*, 49(3), 1071-1100.

Blundell, R. (2011), "From income to consumption: understanding the transmission of inequality", *Focus*, 28(1), 23-28.

Blundell, R., Pistaferri, L., & Preston, I. (2008), "Consumption Inequality and Partial Insurance", *American Economic Review*, 98(5), 1887–1921.

Boarini, R., & d'Ercole, M. M. (2006), "Measures of Material Deprivation in OECD Countries", OECD Social, Employment and Migration Working Papers No. 37.

Borjas, G.J. (1985), "Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants", *Journal of Labour Economics*, 3(4), 463-89.

Borjas, G. J. (2006), "Making it in America: Social mobility in the immigrant population", NBER Working paper No. 12088, National Bureau of Economic Research, Boston.

Bossert, W., Chakravarty, S.R., & D'Ambrosio, C. (2013), "Multidimensional poverty and material deprivation with discrete data", *Review of Income and Wealth*, 59(1), 29-43.

Boubtane, E., Coulibaly, D., & Rault, C. (2011), "Immigration, unemployment and growth in the host country: Bootstrap Panel Granger Causality Analysis on OECD countries", IZA Discussion Paper No. 5853, Institute for the Study of Labour, Bonn.

Bourguignon, F., & Chakravarty, S.R. (2003), "The measurement of multidimensional poverty", *Journal of Economic Inequality,* 1(1), 25-49.

Bradshaw, J., & Finch, N. (2003, "Overlaps in Dimensions of Poverty", *Journal of Social Policy,* 32(4), 513-525.

Büchel, F., & Frick, J. (2005), "Immigrants' economic performance across Europe –does immigration policy matter?", *Population Research and Policy Review,* 24(2), 175-212.

Burstein, M. (2005), "Combating the Social Exclusion of At-Risk Groups", Research Paper, November 2005, Policy Research Initiative (PRI), Ottawa.

Cachón, L. (2009*), La "España inmigrante": marco discriminatorio, mercado de trabajo y políticas de integración*. Barcelona: Anthropos.

Calderón, M.J., & Hidalgo, A. (2007), "La segregación sectorial y ocupacional de los inmigrantes en España: Identificación de los espacios laborales prioritarios en los países de origen", VII Jornadas de Economía Laboral, 12-13 julio 2007, Las Palmas de Gran Canaria.

Canal-Domínguez, J.F., & Rodríguez-Gutiérrez, C. (2008), "Analysis of wage differences between native and immigrant workers in Spain", *Spanish Economic Review,* 10(2), 109-134.

Caparrós, A., & Navarro, M.L. (2010), "Movilidad ocupacional de los inmigrantes en España", *Investigaciones de Economía de la Educación,* 5, 873-890.

Casado, J. M. (2011), "From income to consumption: measuring households partial insurance", *Empirical Economics*, 40(2), 471-495.

Causa, O., & Jean, S. (2007), "Integration of Immigrants in OECD Countries: Do Policies Matter?", OECD Economics Department Working Paper No. 564, OECD Publishing.

Cebolla-Boado, H., & González-Ferrer, A. (2013), *Inmigración, ¿integración sin modelo?*, Madrid: Alianza Editorial.

Chiswick, B. R. (1978), "The effect of Americanization on the earnings of foreign-born men", *Journal of Political Economy*, 86(5), 897-921.

Chzhen, Y. (2014), "Child poverty and material deprivation in the European Union during the Great Recession", Innocenti Working Paper No. 2014-06, UNICEF Office of Research, Florence.

Chzhen, Y. (2016), "Perceptions of the Economic Crisis in Europe: Do Adults in Households with Children Feel a Greater Impact?", *Social Indicators Research*, 127(1), 341-360.

Chzhen, Y., de Neubourg, C., Plavgo, I., & de Milliano, M. (2016), "Child Poverty in the European Union: the Multiple Overlapping Deprivation Analysis Approach (EU-MODA)", *Child Indicators Research*, 9(2), 335-356.

Chzhen, Y., Martorano, B., Natali, L., Handa, S., & Holmqvist, G. (2014), "Trends in Child Well-being in EU Countries during the Great Recession: A cross-country comparative perspective", Innocenti Working Paper No. 2014-10, UNICEF Office of Research, Florence.

Chzhen, Y., & Richardson, D. (2014), "Young People (not) in the Labour Market in Rich Countries during the Great Recession", Innocenti Working Paper No. 2014-12, UNICEF Office of Research, Florence.

CPJ (2012), *Poverty Trends Scorecard. Canada 2012*. Ottawa: Citizens for Public Justice. http://www.cpj.ca/files/docs/poverty-trends-scorecard.pdf

Cribb, J., Hood, A., Joyce, R., & Phillips, D. (2013), *Living Standards, Poverty and Inequality in the UK: 2013*. London: Institute for Fiscal Studies.

CSO (2013), "Survey on Income and Living Conditions (SILC): 2011 & revised 2010 results". http://www.cso.ie/en/media/csoie/releasespublications/documents/silc/2011/silc_2011.pdf. Accessed 5 September 2014.

D'Agostino, A., & Regoli, A. (2013), "Life conditions and opportunities of young adults: evidence from Italy in European comparative perspective", *Social indicators research*, 113(3), 1205-1235.

D'Ambrosio, C., Deutsch, J., & Silber, J. (2011), "Multidimensional approaches to poverty measurement: an empirical analysis of poverty in Belgium, France, Germany, Italy and Spain, based on the European panel", *Applied Economics*, 43(8), 951-961.

Danziger, S., Chavez, K., & Cumberworth, E. (2012), "Poverty and the Great Recession", Stanford Center on Poverty and Inequality, October 2012.

De Neubourg, C., Bradshaw, J., Chzhen, Y., Main, G., Martorano, B., & Menchini, L. (2012), "Child deprivation, multidimensional poverty and monetary poverty in Europe", Innocenti Working Paper No. 2012-02, UNICEF Office of Research, Florence.

Deutsch, J., Guio, A-C., Pomati, M., & Silber, J. (2015), "Material Deprivation in Europe: Which Expenditures Are Curtailed First?", *Social Indicators Research*, 120(3), 723-740.

Deutsch, J., & Silber, J. (2006), "Ethnic origin and multidimensional relative poverty in Israel: a study based on the 1995 Israeli census", *Research in Labour Economics*, 24, 235-264.

Devicienti, F, & Poggi, A. (2011), "Poverty and social exclusion: two sides of the same coin or dynamically interrelated processes?", *Applied Economics*, 43(25), 3549-3571.

Dewilde, C. (2003), "A Life-course perspective on social exclusion and poverty", *British Journal of Sociology*, 54(1), 109-128.

Dewilde, C. (2008), “Individual and institutional determinants of multidimensional poverty: A European comparison”, *Social Indicators Research*, 86(2), 233-256.

Duclos, J. Y., Sahn, D. E., & Younger, S. D. (2006). “Robust multidimensional poverty comparisons”, *The Economic Journal*, 116*(*514), 943-968.

Duiella, M., & Turrini, A. (2014), “Poverty developments in the EU after the crisis: a look at the main drivers”, *ECFIN Economic Brief*, Issue 31, European Commission.

European Commission (2010a), *Handbook on Integration for policy-makers and practitioners*, 3rd edition. Brussels: Directorate-General for Justice, Freedom and Security, European Communities.

European Commission (2010b), “Europe 2020. A strategy for smart, sustainable and inclusive growth”, Communication from the Commission, COM (2010) 2020 final, Brussels, 3.3.2010.

European Parliament (2014), *Austerity and Poverty in the European Union*. Brussels: European Union.

Fahey, T. (2007), “The case for an EU-wide measure of poverty”, *European Sociological Review*, 23(1), 35-47.

Fahmy, E. (2014), “The Complex Nature of Youth Poverty and Deprivation in Europe”, in Antonucci, L., Hamilton, M., & Roberts, S. [eds.], *Young People and Social Policy in Europe. Dealing with Risk, Inequality and Precarity in Times of Crisis*. London: Palgrave Macmillan UK.

Fernández, C., & Ortega, A.C. (2008), “Labour Market Assimilation of Immigrants in Spain: Employment at the Expense of Bad Job-Matches?”, *Spanish Economic Review*, 10(2), 83-107.

Figari, F. (2012), “Cross-national differences in determinants of multiple deprivation in Europe”, *The Journal of Economic Inequality*, 10(3), 397-418.

Fusco, A. (2012), "The relationship between income and housing deprivation in Luxembourg: a longitudinal analysis", CEPS/INSTEAD Working Paper No. 2012-10, Luxembourg.

Fusco, A, Guio, A-C., & Marlier, E. (2010), "Characterizing the income poor and the materially deprived in European Countries", in A. B. Atkinson and E. Marlier [eds.], *Income and Living Conditions in Europe*. Luxembourg: Publications Office of the European Union.

Fusco, A., Guio, A.-C., & Marlier, E. (2011), "Income poverty and material deprivation in European countries", CEPS/INSTEAD Working Paper No. 2011-04, Luxembourg.

Fusco, A., Guio, A-C., & Marlier, E. (2013), "Building a Material Deprivation Index in a Multinational Context: Lessons from the EU Experience", in V. Bérenger and F. Bresson [eds.], *Poverty and Social Exclusion Around the Mediterranean Sea,* Economic Studies in Inequality, Social Exclusion and Well-Being, Vol. 9. New York: Springer.

Gábos, A., & Goedemé, T. (2016), "The Europe 2020 social inclusion indicators: main conclusions of the ImPRovE project on validity, methodological robustness and interrelationships", ImPRovE Discussion Paper No. 16/13, Herman Deleeck Centre for Social Policy, University of Antwerp.

García, C., González, Y., & Prieto, M. (2016), "Identifying the Multidimensional Poor in Developed Countries Using Relative Thresholds: An Application to Spanish Data", *Social Indicator Research,* 1-13, doi:10.1007/s11205-016-1248-y.

García-Serrano, C., & Malo, M.A. (2008), "Mercado de trabajo", in Arriba, A. [coord.], *Políticas y bienes sociales. Procesos de vulnerabilidad y exclusión social*. Madrid: Fundación FOESSA.

Gilbert, N. (2012), "Anomalies in European Measures of Poverty and Social Exclusion", in Besharov, D.J. & Couch, K.A. [eds.], *Counting the Poor. New Thinking about European Poverty Measures and Lessons for the United States*. Oxford: Oxford

University Press.

Giulietti, C., Guzi, M., Kahanec, M., & Zimmermann, K.F. (2011) "Unemployment Benefits and Immigration: Evidence from the EU", IZA Discussion Paper No. 6075, Institute for the Study of Labour, Bonn.

Goedemé, T. (2013), "How much confidence can we have in EU-SILC? Complex sample designs and the standard error of the Europe 2020 poverty indicators", *Social Indicators Research*, 110(1), 89-110.

Goodam, S.W. (2010), "Integration Requirements for Integration's Sake? Identifying, Categorising and Comparing Civic Integration Policies", *Journal of Ethnic and Migration Studies*, 36(5), 753-772.

Government of Ireland (2007), *National Action Plan for Social Inclusion 2007-2016*. Dublin: Stationery Office.

Gradín, C., Cantó, O., & del Río, C. (2012), "Measuring employment deprivation among households in the EU", ECINEQ Working Paper No. 2012-247.

Gradín, C., & del Río, C. (2013), "El desempleo de inmigrantes, mujeres y jóvenes", in Fundación Alternativas [ed.]: *Informe sobre la Desigualdad 2013*, 135-192.

Guio, A.-C. (2009), "What can be learned from deprivation indicators in Europe?", Eurostat Methodologies and Working Papers, Publications office of the European Union, Luxembourg.

Guio, A-C., Gordon, D., & Marlier, E. (2012), "Measuring material deprivation in the EU: Indicators for the whole population and child-specific indicators", Eurostat Methodologies and Working Paper, Publications office of the European Union, Luxembourg.

Guio, A.-C., & Maquet, E. (2007), "Material deprivation and poor housing", in *Comparative EU Statistics on Income and Living Conditions: Issues and Challenges*-

Proceedings of the EU-SILC Conference (Helsinki 6-8 November 2006). Luxembourg: Office for Official Publications of the European Communities.

Guio, A. C., & Marlier, E. (2013), "Alternative vs. current measures of material deprivation at EU level: What differences does it make?", CEPS/INSTEAD Working Paper No. 2013-29, Luxembourg.

Halleröd, B. (1995), "The truly poor: direct and indirect consensual measurement of poverty in Sweden", *Journal of European Social Policy*, 5(2), 111-129.

Harrison, E., & Rose, D. (2006), "The European socio-economic classification (ESeC) user guide", Institute for Social and Economic Research, University of Essex.

Hedström, P., & Ringen, S. (1987), "Age and Income in Contemporary Society: A Research Note", *Journal of Social Policy*, 16, 227-239.

Hick, R. (2014), "On 'Consistent' Poverty", *Social Indicators Research*, 118(3), 1087-1102.

Hick, R. (2016a), "Material poverty and multiple deprivation in Britain: the distinctiveness of multidimensional assessment", *Journal of Public Policy*, 36(02), 277-308.

Hick, R. (2016b), "The coupling of disadvantages: Material poverty and multiple deprivation in Europe before and after the Great Recession", *European Journal of Social Security*, 18(1)-3.

Hickman, M., Crowley, H., & Mai, N. (2008), *Immigration and social cohesion in the UK*. York: Joseph Rowntree Foundation.

Hildebrandt, V., Pi-Alperin, M.N., & Van Kerm, P. (2012), "Measuring and accounting for the deprivation gap of Portuguese immigrants in Luxembourg", CEPS/INSTEAD Working Paper No. 2102-13, Luxembourg.

HM Government (2012), *Measuring Child Poverty – A consultation on better measures of child poverty*. Presented to Parliament by the Secretary of State for Work and Pensions by Command of Her Majesty. London: TSP (The Stationery Office). Available on www.tsoshop.co.uk. Accessed May 2014.

Hoynes, H., Miller, D., & Schaller, J. (2012), "Who suffers during recessions?", *Journal of Economic Perspectives*, 26(3), 27–48.

Iacovou, M., & Skew, A. (2010), "Household structure in the EU", in Atkinson, A.B., & Marlier, E. [eds.], *Income and living conditions in Europe* (pp. 79-100). Luxembourg: Publications Office of the European Union.

Iceland, J., & Bauman, K. J. (2007), "Income poverty and material hardship: how strong is the association?", *The Journal of Socio-Economics*, 36(3), 376-396.

INE (2014), *Aprovechamiento de los Ficheros Administrativos en la Encuesta de Condiciones de Vida*. Madrid: Instituto Nacional de Estadística. http://www.ine.es/daco/daco42/condivi/ ecv_aprov_ficheros.pdf.

Izquierdo, M., Lacuesta, A., & Vegas, R. (2009), "Assimilation of Immigrants in Spain: A Longitudinal Analysis", *Labour Economics*, 16(6), 669-678.

Jacobs, D., & Rea, A. (2007), "The end of national models? Integration courses and citizenship trajectories in Europe", *International Journal on Multicultural Societies*, 9(2), 264-283.

Jin, R.L., Shah, C.P., & Svoboda, T.J. (1995), "The impact of unemployment on health: a review of the evidence", *Canadian Medical Association Journal*, 153(5), 529-540.

Jones, N., McKay, A., & Espey, J. (2009), *Children in Times of Economic Crisis: Past Lessons, Future Policies*. UK: Overseas Development Institute, 2009.

Joppke, C. (2007), "Beyond National Models: Civic Integration Policies for Immigrants in Western Europe", *West European Politics*, 30(1), 1-22.

Joppke, C. (2010), *Citizenship and Immigration*. Cambridge: The Polity Press.

Joyce, R. (2014), "Pobreza infantil en el Reino Unido: tendencias recientes y perspectivas futuras", *Panorama Social*, 20, 71-88.

Juntto, A., & Reijo, M. (2010), "Comparability of imputed rent in EU-SILC 2007. Differences in variable definitions and methods concerning institutional housing", Methodological paper, Paper prepared for the Conference in Warsaw, March 2010.

Kalil, A. (2013), "Effects of the Great Recession on Child Development", *The ANNALS of the American Academy of Political and Social Science*, 650.1 (2013), 232-250.

Kangas, O., & Palme, J. (2000), "Does social policy matter? Poverty cycles in OECD countries", *International Journal of Health Services*, 30(2), 335-352.

Kauppinen, T. M., Angelin, A., Lorentzen, T., Bäckman, O., Salonen, T., Moisio, P., & Dahl, E. (2014), "Social background and life-course risks as determinants of social assistance receipt among young adults in Sweden, Norway and Finland", *Journal of European Social Policy*, 24(3), 273-288.

Kis, A. B., & Gábos, A. (2015), "*Consistent poverty across the EU",* ImPRovE Discussion Paper No. 15/22, Herman Deleeck Centre for Social Policy, University of Antwerp.

Koopmans, R. (2008), "Tradeoffs between Equality and Difference. Immigrant Integration, Multiculturalism, and the Welfare State in Cross-National Perspective", Discussion Paper SP IV 2008-701, Wissenschafstzentrum Berlin für Sozialförschung (WZB).

Kraal, K., Roosblad, J., & Wrench, J. [eds.] (2009), *Equal Opportunities and Ethnic Inequality in European Labour Markets: Discrimination, Gender and Policies of Diversity*. Amsterdam: IMISCOE-AUP Series.

Kraszewska, K. (2011), "Indicators of Immigrant Integration. A Pilot Study", Eurostat Methodologies & Working Papers, Publications Office of the European Union, Luxembourg.

Layte, R., Maître, B., Nolan, B., & Whelan, C. T. (2001), "Persistent and consistent poverty in the 1994 and 1995 waves of the European Community Household Panel Survey", *Review of Income and Wealth*, 47(4), 427-449.

Leisering, L., & Leibfried, S. (2001), *Time and poverty in Western welfare states: United Germany in perspective*. Cambridge: Cambridge University Press.

Lelkes, O., & Zólyomi, E. (2011), "Poverty and social exclusion of migrants in the European Union", *Policy Briefs*, 1-17.

Mack, J., & Lansley, S. (1985), *Poor Britain*. London: George Allen & Unwin.

Mahía, R., & De Arce, R. (2014), "Pobreza de la población extranjera en España", in Arango, J., Moya, D., & Oliver, J. [dir.], *Inmigración y emigración: Mitos y realidades. Anuario de la Inmigración en España 2013* (pp. 135-162). Barcelona: CIDOB.

Maître, B., Nolan, B., & Whelan, C. T. (2006), "Reconfiguring the measurement of deprivation and consistent poverty in Ireland", Economic and Social Research Institute Research Series No. PRS 58, Dublin.

Maître, B., Nolan, B., & Whelan, C. (2013), "A Critical Evaluation of the EU 2020 Poverty and Social Exclusion Target: An Analysis of EU-SILC 2009", GINI Discussion Paper No. 79.

Martín, A., López, P., & Molina, O. (2011), "Movilidad ascendente de la inmigración en España: ¿asimilación o segmentación ocupacional?", *Papers*, 96(4), 1311-1338.

Martínez, R. (2010): "Baja renta y privación material de la población inmigrante en España", *Presupuesto y Gasto Público*, 61 (4/2010), 311-336.

Martínez, R., & Navarro, C. (2014): "Envejecimiento y riesgo de pobreza en España durante el período 1994-2013: un análisis basado en el PHOGUE y la ECV", XIV Congreso Nacional de la Población, Sevilla, 10-12 September 2014. http://www.agepoblacion.org/images /congresos /sevilla/DOC14.pdf.

Martínez, R., & Navarro, C. (2015), "Poorer and more deprived? Low Income and Material Deprivation Overlaps in Spain after the Great Recession", EQUALITAS Working Paper No. 34.

Martínez, R., & Navarro, C. (2016), "Has de Great Recession Changed the Deprivation Profile of Low Income Groups?", *Hacienda Pública Española / Review of Public Economics,* 218-(3/2016), 77-104.

Martínez, R., & Ruiz-Huerta, J. (2014), "Multidimensional poverty of immigrant households: a comparative analysis within the Europe 2020 framework", Centre Interuniversitaire de Recherche en Analyse des Organisations, Série Scientifique 2014s-18. http://www.cirano.qc.ca /files/publications/2014s-18.pdf.

Matsaganis, M., & Leventi, C. (2014). "The distributional impact of austerity and the recession in Southern Europe", *South European Society and Politics*, 19(3), 393-412.

McKay, S., & Collard, S. (2004), "Developing deprivation questions for the Family Resources Survey", Working Paper 13, Department for Work and Pensions, London.

McKnight, A. (2013), "Measuring material deprivation over the economic crisis: Does a re-evaluation of 'need' affect measures of material deprivation?", GINI Policy Paper No. 4.

Meyer, B. D., & Sullivan, J. X. (2011), "Consumption and Income Poverty over the Business Cycle", National Bureau of Economic Research Working Paper No. 16751.

Meyer, B. D., & Sullivan, J. X. (2013), "Consumption and income inequality and the Great Recession", *The American Economic Review*, 103(3), 178-183.

Mood, C. (2015), "The not-very-rich and the very poor: Poverty persistence and poverty concentration in Sweden", *Journal of European Social Policy*, 25(3), 316-330.

Moreno, A.; & Acebes, R. (2008), "Estado de bienestar, cambio familiar, pobreza y exclusión social en España en el marco comparado europeo", *Revista del Ministerio de Trabajo e Inmigración*, 75, 31-50.

Muffels, R., & Fouarge, D. (2004), "The role of European welfare states in explaining resources deprivation", *Social Indicators Research*, 68(3), 299-330.

Muñoz de Bustillo, R., & Antón, J.I. (2011), "From Rags to Riches? Immigration and Poverty in Spain", *Population Research and Policy Review*, 30(5), 661-176.

Natali, L., Handa, S., Chzhen, Y., & Martorano, B. (2014), "Changes in Child Poverty in the OECD/EU during the Great Recession: An initial view", Innocenti Working Paper No. 2014- 16, UNICEF Office of Research, Florence.

Natali, L., Martorano, B., Handa, S., Holmqvist, G., & Chzhen, Y. (2014), "Trends in Child Well-being in European Union Countries during the Great Recession", Innocenti Working Paper No. 2014-10, UNICEF Office of Research, Florence.

Nicholas, A., & Ray, R. (2012), "Duration and Persistence in Multidimensional Deprivation: Methodology and Australian Application", *Economic Record*, 88, 106–126.

Nolan, B., & Whelan, C.T. (1996), *Resources, deprivation, and poverty*. Oxford: Clarendon Press.

Nolan, B., & Whelan, C.T. (2010), "Using non-monetary deprivation indicators to analyze poverty and social exclusion: Lessons from Europe?", *Journal of Policy Analysis and Management*, 29(2), 305-325.

Nolan, B., & Whelan, C.T. (2011a), *Poverty and Deprivation in Europe*, Oxford: Oxford University Press.

Nolan, B., & Whelan, C.T. (2011b), "The EU 2020 Poverty Target", GINI Discussion Paper 19, November 2011.

Notten, G. (2013), "Child deprivation in Ontario: A (less than perfect) comparison with Europe", UNU-Merit Working Paper Series, No. 2013-030, Maastricht.

Notten, G. (2016), "How poverty indicators confound poverty reduction evaluations: The targeting performance of income transfers in Europe", *Social Indicators Research*, 127(3), 1039-1056.

Notten, G., & Roelen, K. (2012), "A New Tool for Monitoring (Child) Poverty: Measures of Cumulative Deprivation", *Child Indicators Research*, 5(2), 335-355.

OECD (2012), *Settling In: OECD Indicators of Immigrant Integration 2012*. Paris: OECD.

Papadopoulos, F., & Tsakloglou, P. (2015), "Chronic Material Deprivation and Long-Term Poverty in Europe in the Pre-Crisis Period", IZA Discussion Paper No. 9751, Institute for the Study of Labour, Bonn.

Penninx, R. (2004), "Integration of Migrants: Economic, Social, Cultural and Political Dimensions", UNECE European Population Forum 2004, Geneva, 12-14 January 2004.

Perry, B. (2002), "The Mismatch between Income Measures and Direct Outcome Measures of Poverty", *Social Policy Journal of New Zealand*, 19, 1-34.

Pi-Alperin, M. (2008), "A comparison of multidimensional deprivation characteristics between natives and immigrants in Luxembourg", IRISS WP No. 2008-14, Luxembourg.

Picot, G., & Sweetman, A. (2005), "The Deteriorating Economic Well-Being of Immigrants and Possible Causes: Update 2005", Statistics Canada Research Paper Series, 11F0019MIE No. 262.

Pilkausas, N.V., Currie, J., & Garfinkel, I. (2012), "The Great Recession, public transfers and material hardship", *Social Service Review*, 3, 401-427.

Pintelon, O., Cantillon, B., Van den Bosch, K., & Whelan, C. T. (2013), "The social stratification of social risks: The relevance of class for social investment strategies", *Journal of European Social Policy*, 23(1), 52-67.

Presupuesto y Gasto Público (2010), *Immigration and Public Policies in Spain.* Vol. 61 (4-2010) Instituto de Estudios Fiscales.

Ravallion, M. (2011), "On multidimensional indices of poverty", *The Journal of Economic Inequality*, 9(2), 235-248.

Reinders, C. (2016), "A Comparative Analysis of Social Deprivation between Immigrants and Natives in the United States", SSRN, https://ssm.com/abstract=2784945.

Ringen, S. (1988). "Direct and indirect measures of poverty", *Journal of Social Policy*, 17(3), 351-365.

Rowntree, B.S. (1902), *Poverty. A Study of Town Life,* 3rd edition. London: MacMillan.

Saunders, P., & Wong, M. (2011), "The social impact of the global financial crisis in Australia", *The Australian Journal of Social Issues*, 46(3), 291-309.

Sen, A. (1979), "Issues in the Measurement of Poverty", *Scandinavian Journal of Economics*, 81, 285-307.

Sen, A. (2000), "Social Exclusion: Concept, Application and Scrutiny", Office of Environment and Social Development, Asian Development Bank, Social Development Papers No. 2000/1.

Simón, H., Sanromá, E., & Ramos, R. (2008), "Labour Segregation and Immigrant and Native-born Wage Distributions in Spain: An Analysis Using Matched Employer-Employee Data", *Spanish Economic Review*, 10(2), 135-168.

Snel, E., Reelick, F., & Groenenboom, N. (2013), "Time and poverty revisited: A replication of Leisering and Leibfried", *Journal of European Social Policy*, 23(2), 179-191.

Sullivan, J.X., Turner, S., & Danziger, S. (2008), "The Relationship between Income and Material Hardship", *Journal of Policy Analysis and Management*, 27(1), 63–81.

Thompson, J. P., & Smeeding, T. M. (2013), "Inequality and poverty in the United States: the aftermath of the Great Recession", Federal Reserve Board Working Papers No. 2013-51.

Tomlinson, M., Walker, R, & Williams, G. (2008), "Measuring poverty in Britain as a multi-dimensional concept, 1991 to 2003", *Journal of Social Policy*, 37(4), 597-620.

Törmälehto, V-M., & Sauli, H. (2010), "The distributional impact of imputed rent in EU-SILC", Eurostat Methodological and Working Papers, Luxembourg.
Townsend, P. (1979), *Poverty in the United Kingdom*. London: Allen Lane and Penguin Books.

Tsui, K.Y. (2002), "Multidimensional Poverty Indices", *Social Choice & Welfare*, 19, 69-93.

Tunstall, R., Bevan, M., Bradshaw, J., Croucher, K., Duffy, S., Hunter, C., Jones, A., Rugg, J., Wallace, A., & Wilcox, S. (2013), "The links between housing and poverty: an evidence review". Joseph Rowntree Foundation Reports. http://www.jrf.org.uk/sites/files/jrf/poverty-housing-options-full.pdf. Accessed 10 January 2014.

UNICEF Innocenti Research Centre (2012), "Measuring child poverty. New league tables of child poverty in the world's rich countries", Innocenti Report Card 10, UNICEF Innocenti Research Centre, Florence.

UNICEF Office of Research (2014), "Children of the Recession: The impact of the economic crisis on child well-being in rich countries", Innocenti Report Card 12, UNICEF Office of Research, Florence.

Urbanos, R, & González, B (2013), "Desempleo y salud: un análisis de la repercusión de la crisis económica sobre la salud de los españoles", *Estudios de Economía Aplicada*, 31(2), 303-326.

Vandecasteele, L. (2011), "Life course risks or cumulative disadvantage? The structuring effect of social stratification determinants and life course events on poverty transitions in Europe", *European Sociological Review*, 27(2), 246-263.

Velazco, J., & Ballester, R. (2010), "Economic crisis and household decisions: Evidence from Spain", Paper presented at the XXXIV Conference of the Spanish Economic Association, Madrid 16-18 December 2010.

Waddell, G., & Burton, A. K. (2006), *Is work good for your health and well-being?*. London: TSO (The Stationery Office).

Ward, T., & Ozdemir, E. (2013), "Measuring low work intensity – an analysis of the indicator", ImPRovE Discussion Paper No. 13/09.

Whelan, C.T., Layte, R., & Maître, B. (2004), "Understanding the Mismatch Between Income Poverty and Deprivation: A Dynamic Comparative Analysis", *European Sociological Review*, 20 (4), 287-302.

Whelan, C. T., & Maître, B. (2008), "New'and 'old'social risks: life cycle and social class perspectives on social exclusion in Ireland", *The Economic and Social Review*, 39(2), 131-156.

Whelan, C. T., & Maître, B. (2009), "Comparing Poverty Indicators in an Enlarged European Union", *European Sociological Review*, 26(6), 713-730.

Whelan, C. T., & Maître, B. (2012), "Understanding material deprivation: A comparative European analysis", *Research in Social Stratification and Mobility,* 30(4), 489-503.

Whelan, C. T., & Maître, B. (2013), "Material deprivation, economic stress, and reference groups in Europe: An analysis of EU-SILC 2009", *European Sociological Review,* 29(6), 1162-1174.

Whelan, C. T., & Maître, B. (2014), "The Great Recession and the changing distribution of economic vulnerability by social class: The Irish case", *Journal of European Social Policy,* 24(5), 470-485.

Whelan, C.T., Maître, B., & Nolan, B. (2007), "Multiple deprivation and multiple disadvantage in Ireland: An analysis of EU-SILC", Policy Research Series No. 61, The Economic and Social Research Institute, Dublin.

Whelan, C.T., Nolan, B., & Maître, B. (2008), "Measuring Material Deprivation in the Enlarged EU", ESRI Working Paper No. 249, The Economic and Social Research Institute, Dublin.

Whelan, C. T., Nolan, B., & Maître, B. (2014), "Multidimensional poverty measurement in Europe: An application of the adjusted headcount approach", *Journal of European Social Policy*, 24(2), 183-197.

Whelan, C.T., Nolan, B., & Maître, B. (2015), "The "Squeezed Middle" in the Great Recession: A Comparative European Analysis of the Distribution of Economic Stress", WP2015/12UCD, Geary Institute for Public Policy Discussion Paper Series, Dublin.

Widmaier, S, & Dumont, J-C. (2011), "Are recent immigrants different? A new profile of immigrants in the OECD based on DIOC 2005/06", OECD Social, Employment and Migration Working Papers No. 126, Directorate for Employment, Labour and Social Affairs, OECD.

Multidimensional Deprivation and Poverty: Three Essays Based on EUSILC-Data

Rosa María Martínez López