The effect of an economic boom, a Law on Dependence, and an economic bust on elderly care providing strategies in Spain

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WORK IN PROGRESS

Abstract

Spain has one of the most aged populations in the world due to a combination of persistent well-below replacement fertility level and high life expectancy, including at older ages. However, despite improving morbidity and mortality rates there has been a sharp increase in disabled elderly and the subsequent need for caregivers. Spain has traditionally been a country that based its care regime for the elderly on (female members of) the family, but expansion in higher education since the 1980s (particularly among women), the legalisation of divorce (1981) and an economic boom (1995-2007) contributed to rising female labour force participation rates. This led to a demand for domestic help from outside the household and family and a need for a new system of long-term care (LTC). The latter was also because of changes in family structures (fewer offspring) and living arrangements (more non-traditional households). An important step towards this was the so-called "Law on Dependency" that came into force on 1-1-2007, a law that promotes personal autonomy and attention of people who are dependent on others due to physical and/or mental limitations. However, as the world economic crisis hit Spain particularly hard since 2008 and is only now slowly starting to recover, the economic crisis strongly affected government expenditure on health care, including on the implementation of the Dependency Law. The objective of this study is therefore to analyse whether changing employment patterns and a new social protection system for dependent people that commodified personal assistance, has changed care providing strategies. We do this by comparing results on caregiver characteristics from two large Spanish disability surveys (conducted in 1999 and in 2008) and the 2012 wave of the Survey of Health, Ageing and Retirement in Europe.

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Introduction

In Spain the support and care to dependent elderly has traditionally been organized within the family, being complementary to casual formal care (Rogero García 2010). As is typical in southern European countries care falls on a few people within the family, with greater participation of women (particularly spouses, daughters and daughters-in-law), while in northern and central European countries other components of the social network, such as friends or neighbours, are also involved in support mechanisms and informal care (Attias-Donfut et al. 2005; Ogg 2005).

The provision of care of family members to elderly is organised through different residential strategies ranging from the proximity of residence, intermittent coexistence and co-residence (Solsona and Treviño 1990; Tobío and Fernández Cordón 2013). Co-residence is one of the mechanisms of intergenerational solidarity that is more common in southern European countries (Albertini and Kohli 2012), not only due to cultural reasons, but also because social policies in the past have made the household rather than the state mainly responsible for the welfare of its members (Flaquer 2004).

However, due to the generally low wages, higher female survival rates and age difference at marriage, there is a strong gender imbalance in who the carers are, who is being cared for and the living arrangements of older people. Consequently, women tend to grow old alone, while men are more likely to do so in companionship with their spouses who are, due to the aforementioned factors, also their primary caregivers in case of dependency (Delbès et al. 2006; Spijker 2011). Elderly women are therefore more vulnerable and require support from others outside the conjugal nucleus, including descendants, siblings, other family members, friends or professionals.

Fortunately, due to both cultural and structural changes, over the last decade state social policy has played an important role in facilitating the reorganization of family care in Spain. As with other gendered roles, the traditional feminized system of family care was being challenged. But more decisively, there was a clear need for a new system of long-term care (LTC) due to changes in family structures (e.g. fewer offspring that could help with care), living arrangements (e.g. more single-parent and other non-traditional households), a higher rate of female labour force participation (fewer people and less time available to provide care) and, concurrently, a growing number of elderly with health care needs (López-Viso and Fernández Álvarez 2013). An important step towards this was the so-called "Law on Dependency" (*Ley 39/2006 de Promoción de la Autonomía Personal y Atención a las personas en situación de dependencia*) that came into force on the 1st of January 2007. The law promotes personal autonomy and attention of people who are dependent on others as a result of physical and/or mental limitations, recognising the universal nature of benefits and the entitlement to access them under equal conditions for all elderly or disabled people who need help carrying out basic daily living activities (Martínez-Buján 2011). This included the guarantee of an adequate amount of resources and services —including the prevention and the promotion of personal autonomy, remote assistance, home help, day/night centres and residential care— to meet the growing demand as a result of population ageing.

This new system of care, the Sistema para la Autonomía y Atención a la Dependencia in Spanish and abbreviated as SAAD, was also designed to reduce the burden of family members who take on the role of primary caregiver. As carers are predominantly women, the implementation of the law was also a step forward to reducing gender differences in both personal care and employment as it would stimulate women to continue working (full-time) despite having a family member with care needs.

SAAD was initially funded in three ways. First, a so-called "minimum level of protection", paid annually to each autonomous region by the central government and according to each region's number of beneficiaries, their degree of dependence and type of benefit. Second, an agreed level of financial support was initially distributed among the various autonomous regions according to their relative needs, paid for by a state fund but whereby a similar amount was paid by the region. Thirdly, each region was able to provide additional financing on a voluntary basis (Genaro Moya 2014).

While the provision of health care services to dependent people was still considered a family responsibility, with the administration limiting itself to providing LTC services only when family income was insufficient to provide such care and the person requiring care had a high grade of dependence, it was nevertheless an improvement. As expected, the initial demand was overwhelming as thousands required resources to be able to deal with their loss of autonomy. One could say that during at least the first three years, most needs were covered with the different services that were offered (on 1-1-2012 there were 752,005 recipients; (Ministerio de Sanidad Servicios Sociales e Igualdad 2012)).

However, when the economic crisis began to take hold in Spain, the central government introduced quite severe adjustments to the SAAD in 2012 as a way to reduce budget costs in order to meet public deficit objectives. This not only resulted in fewer applications being submitted, assessed and accepted and a decline in the number of individuals considered to have the highest level of dependency (Genaro Moya 2014). By transferring the burden of care back to the dependent persons and their families, it also implied a refamiliarisation and reprivatisation of what had been achieved during the previous five years (Rodríguez Cabrero 2008). Moreover, as since the new SAAD regulations non-professional carers can no longer affiliate themselves to the Social Security System, upon their own retirement many will only become eligible for a much lower non-contributory pension. As many non-professional carers are women who are not in a position to have an additional professional career, this downgrading of employment status will further marginalize them and only augment the already large gender gap in economic wellbeing.

In the context of the SAAD and data availability, this article investigates the way care is organized and by whom in 1999, 2008 and in 2012. While 1999 and 2008 coincide with a large Spanish survey on disability and dependence, 1999 is also well before the implementation of the SAAD and a time when the immigrant population was still relatively unimportant. 2008 was just a year after the SAAD came into effect and also the moment when the Spanish economy had reached the end of its boom, while foreigners formed an important part of the population in paid employment, including in the health care industry.

Finally, in 2012 Spain was at the height of the crisis and the earlier benefits and protection from the Law on Dependence had been substantially downgraded.

The next section of the paper briefly describes the data sources that are used for the study, followed by a description of the disability profile of the elderly (65+) by age group, sex and the severity of the disability where we compare the situation in 1999 and 2008. For both years we will then analyse the age, sex and severity-specific characteristics according to those who require personal assistance and according to their living arrangements. We will then turn to the carers and first describe their age, sex, marital and occupational status profile and subsequently their relationship with the elderly person that they care for. Finally, we conduct a multivariate logistic regression analysis to ascertain the independent effect of each factor on the odds that a disabled persons aged 65+ who receives personal assistance has a) a non-resident carer and b) a non-kin carer.

Data and method

Three large disability studies have been conducted in Spain over the last 3 decades: in 1986, 1999 and 2008. Unfortunately, results from the first survey are not considered comparable to the other surveys (see also Jiménez Lara and Huete García (2003)), but the 1999 Survey on Disabilities, Impairments and Health Status (EDDES99) and the 2008 Survey on Disability, Personal Autonomy and Dependency Situations (EDAD08) permit a detailed study of the changing profile of both dependent individuals and their carer(s) during the first decade of this century. The 1999 survey included 220.000 persons and 70.000 households and the 2008 survey 260.000 persons and 96.000 households. The in-between years also coincide with the economic boom (which ended in 2007) and the large influx of migration to Spain as well as a significant increase in female labour participation (Table 1).

Table 1. Characteristics of Spanish population resident in family households in 1999, 2008 and 2012.

	1999		2008		2012	
	Population	%	Population	%	Population	%
Total population in family households	39,247,019		45,027,197		46,371,815	
Population 65+ (% total)	6,434,523	16.4	7,358,690	16.3	7,826,328	16.9
Pop aged 65+ with disability (% 65+)	2,072,652	32.2	2,227,100	30.3	2,992,506	38.2
Dependent pop 65+ (% 65+)#	1,097,986	17.1	1,462,292	19.5	1,888,228	24.1
Foreign-born pop (% total*)	1,259,054	3.1	5,878,919	12.9	6,294,952	13.4
Foreign-born pop 20-64 (% 20-64*)	877,616	3.6	4,671,609	16.0	5,072,567	17.2
Female labour force participation 20-64*	6,434,200	52.8	9,504,300	66.2	10,490,000	72.2

Source: 1999 and 2008 – The disability surveys EDDES 1999 and EDAD 2008, verified with data published on the website of the Spanish National Statistics Office (www.ine.es). 2012 – Household population is taken from the latest Census (held on 1/11/2011). Disability and dependency data are estimated from SHARE. # As published in (Abellán García et al. 2011). *Source: www.ine.es. Population as at January 1 and includes population not resident in family households.

Comparability of the two surveys

EDDES99 detected persons with disability by asking directly if the respondent had some kind of disability. Around the same time, the World Health Organisation (WHO) began to change its focus from measuring disability to measuring health, with special interest in how individuals function in society. This culminated in their International Classification of Functioning, Disability and Health (ICF) (WHO 2002). The Spanish Statistical Institute decided to follow as close as possible the recommendations of the ICF, reason why the more recent EDAD08 asked about limitations of activity and participation, rather than disability *per se*.

To operationalize the definition of disability EDDES99 adopted a list of 36 basic everyday activities grouped into 10 categories (http://www.ine.es/daco/daco42/discapa/tarb.pdf), asking respondents aged 6 and over if they were unable or had difficulty to carry out any of them. The groups of disabilities considered in EDAD08 mostly coincide, although for the later survey the ICF terminology was used as much as possible to name the disabilities. This meant that several of the disabilities in EDDES99 were split up in EDAD08 according to ICF criteria, while several new ones were included. As a result, the number of disabilities rose to 44 but the main categories were reduced to 8 (http://www.ine.es/metodologia/t15/t1530418.pdf). However, to improve the comparability between the surveys and because our main interest is whether a person had at least one limitation or disability that resulted in the need for care[2], we initially grouped disabled people into five levels, which are, from least to most dependent: 1. disability of any type but without being dependent on technical or personal assistance to carry out so-called Basic Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL), 2. moderate disability but without being dependent on assistance to carry out ADL/IADL and being 3. moderately, 4. severely or 5. totally dependent on assistance to carry out ADL. The grade of latter three categories is determined on the basis of the cumulative severity of the disabilities to carry out ADL (see Appendix for more details on the construction of the variable).

SHARE

To analyse a more recent period that coincides with the economic bust in Spain we had to look for a different data source. The Survey of Health, Ageing and Retirement in Europe (SHARE) is, despite a much more limited initial sample size (Wave 5 (2012) of the Spanish sample included 6450 persons), still sufficiently suitable for the purpose of our study. Like EDDES1999 and EDAD2008, it is a random sample of the non-institutionalised population, while the fact that SHARE only focuses on the 50+ does not affect the study as we are only interested in the 65+. Regarding disability, SHARE also contains questions related to the presence of difficulties with ADL and IADL, although the types are not identical to the Spanish disability surveys (see Appendix). Neither can the level of severity of the disability be ascertained. Instead, SHARE asks respondents to only report them and indicate whether and from whom they received help. However, SHARE does permits to ascertain the relationship between the dependent person and his or her carer (irrespective of the age of the

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[2] According to the methodology report of EDAD08, two other factors were identified that could affect the comparability of the two surveys: While in 2008 answers were often provided by an indirect informant (proxy) as was the case in 1999, the actual person who suffered a disability had to confirm this, while in 1999 the answer provided by the proxy was automatically accepted. Secondly, when the interviews were conducted for the 2008 survey, the new SAAD had only been running for a year. Because of the media exposure surrounding the Law on Dependency this could have led to more people declaring a disability or those with a mild disability declaring it to be more severe, although this bias would have been less than during the pilot study that was undertaken just a couple of months after the SAAD became in force (http://www.ine.es/metodologia/t15/t1530418.pdf).

latter), whether informal care is provided by a coresident or from outside the household and/or if formal care is provided. To ensure that the 2012 SHARE results can be compared with those from the Spanish disability surveys data from Wave 2 of SHARE (2006) are also analysed and the results for several key variables compared with EDAD 2008 (e.g. percentage of people aged 65+ with disabilities who receive personal care).

Results

The prevalence of disability between the two Spanish disability surveys declined across all ages, except for a 1% rise among women aged 85+. In 2008 the proportion of the male population with at least one disability ranged from 14% among those aged 65-69 to 55% among the 85+, with a doubling of the prevalence between the last two age groups. In the case of women, prevalence increased more gradual, namely from 17% to 67%, whereby among all but the eldest elderly the prevalence was lower among men. In 2012 disability increased again across most ages, particularly among women. While in the case of men age-specific levels were similar to 1999 levels, the proportion of women disabled was substantially higher in 2012[3] than in 1999 (Table 2).

Next we analysed the use of personal care among people with a disability who live in a private household (Table 3). A substantial increase in people receiving personal care can be observed, both in absolute and relative terms, among both men and women and among all age groups. While in 1999 just over 1.1 million people aged 65+ and living in private homes received personal assistance, in 2008 this had increased to 1.4 million and by 2012 to over 1.8 million people. This is 61% of all people with a disability, 7.7% higher than in 1999 but 1.5% down from 2008. When broken down by level of dependency (this can only be done for the 1999 and 2008 surveys as no information on the level of dependency is collected in SHARE), coverage reaches around 100% among all ages when the person is totally dependent on others. In relation to elderly with severe dependency, coverage is also high (a minimum of 88% was observed among women aged 65-69 years in 2008), with little change with 1999. Coverage drops down to 64% among women aged 65-79 with moderate dependence, but increased between 1999 and 2008 by about 6% among men (to 79%) and 3% among women (to 81%). With regard to the two least severe categories, disability without dependence and moderate disability for ADL/IADL, results are inconclusive. On the one hand, the proportion of people with a disability but without a grade of dependence receiving personal assistance increased overall from 5% to 8% (a likely result of the SAAD), there was a decline in coverage among people suffering from a moderate disability in ADL/IADL but without dependence (from 66% to 57%).

Before analysing the relationship between the dependent elderly and her or his carer we briefly describe the profile of the main carer who resides with the disabled person (there is no information on the age and sex of *non-resident* carers from the 1999 survey and information

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[3] We did the same calculations for Wave 2 of the SHARE sample, which was held in 2006, in order to compare them with the 2008 Spanish disability survey EDAD. The age-specific results were virtually identical for men but were consistently higher (about 5%) for women.

is partially missing for 2008[4]). Results are shown in the form of population pyramids and separately for dependent elderly aged 65-79 and 80+ as profiles are very different (Figure 1). For those caring for younger elderly, the carers were largely of a similar age. Perhaps surprisingly, there were about the same number of male as female carers (in both years just over 90000 were aged 65+). For carers younger than 65 the sex ratio is dramatically skewed towards women (81% in 1999 and 77% in 2008). The main difference over time is the substantial increase in co-resident carers of working age, particularly in relation to those caring for the oldest-old (from 209,190 carers aged younger than 65 in 1999 to 344,900 in 2008).

Table 2. Population aged 65+ with disability and level of dependence, by age and sex. 1999, 2008 and 2012.

	Total Population			**Population with disability**					
Sex/Age	1999	2008	2012	1999	%	2008	%	2012	%
Men									
65-69	942198	887246	1027118	161083	17.1	124153	14.0	135153	13.2
70-74	768251	838727	780530	168643	22.0	147503	17.6	169338	21.7
75-79	531038	697059	743502	172670	32.5	183190	26.3	186381	25.1
80-84	280653	442150	501100	120382	42.9	148629	33.6	200007	40.1
85+	187666	279026	328874	111031	59.2	153281	54.9	195910	59.6
Total 65+	2669601	3080695	3381124	733809	27.1	756756	24.1	911587	27.0
Women									
65-69	1086712	992336	1134234	225255	20.7	168599	17.0	250849	22.1
70-74	964027	1015845	920792	288626	29.9	257237	25.3	361900	39.3
75-79	762259	934027	973521	304256	39.9	320637	34.3	456719	46.9
80-84	499911	689174	754444	250319	50.1	333930	48.5	467102	61.9
85+	411809	583136	662213	270388	65.7	389926	66.9	532174	80.4
Total 65+	3724718	4214518	4445204	1338844	35.9	1470329	34.9	2057175	46.3
Total									
65-69	2028910	1879582	2161352	386338	19.0	292752	15.6	396711	18.4
70-74	1732278	1854572	1701322	457269	26.4	404740	21.8	514426	30.2
75-79	1293297	1631086	1717025	476926	36.9	503827	30.9	662852	38.6
80-84	780564	1131324	1255542	370701	47.5	482559	42.7	662721	52.8
85+	599475	862162	991087	381419	63.6	543207	63.0	726978	73.4
Total 65+	6434524	7358726	7826328	2072653	32.2	2227085	30.3	2992506	38.2

Source: The disability surveys EDDES 1999 and EDAD 2008 and Wave 5 (2012) of SHARE. Due to the relatively small sample size in SHARE the obtained disability proportions for 2012 were applied to the 2011 census population to obtain the number of people disabled by sex and age group.

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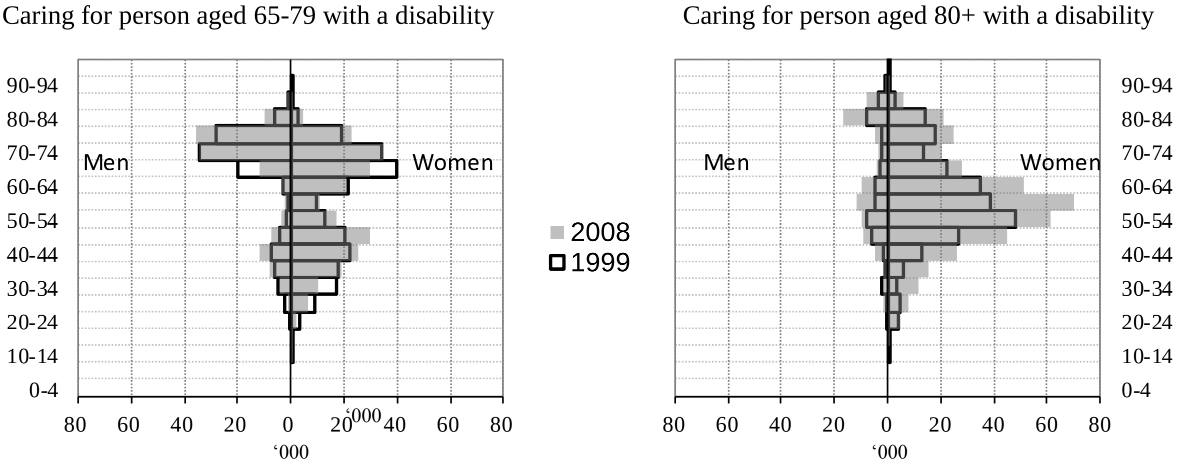
[4] Population pyramid for carers in 2012 still needs to be constructed.

Table 3. Population aged 65+ with disability receiving personal assistance, according to severity, by age and sex. 1999, 2008 and 2012.

	Receives personal assistance						**Level of dependency of people receiving personal assistance**									
	Total			% of all people with a disability			Disability without dependence (%)		Moderate disab. for ADL/IADL (%)		Severity of dependency to carry out basic ADL					
											Moderate (%)		Severe (%)		Total (%)	
Sex/Age	1999	2008	2012	1999	2008	2012	1999	2008	1999	2008	1999	2008	1999	2008	1999	2008
Men																
65-69	52691	52064	72929	32.7	41.9	54.0	4.2	2.9	52.5	41.5	65.0	72.5	94.6	90.0	100.0	100.0
70-74	65002	66042	104888	38.5	44.8	61.9	3.8	6.3	53.4	47.6	69.3	70.8	96.5	97.4	100.0	97.4
75-79	71814	94250	107039	41.6	51.4	57.4	5.4	7.8	56.8	50.3	68.0	79.2	96.0	95.5	100.0	100.0
80-84	59166	87090	113944	49.1	58.6	57.0	2.3	8.3	62.4	51.5	81.3	85.4	100.0	98.6	100.0	100.0
85+	73795	106082	137294	66.2	69.2	70.1	4.4	9.5	74.2	63.9	86.1	86.4	97.5	97.9	100.0	100.0
Total 65+	322468	405528	553971	43.9	53.6	60.8	4.1	6.8	59.0	51.2	73.2	79.0	97.1	96.5	100.0	99.7
Women																
65-69	100822	84993	124722	44.8	50.4	49.7	6.8	4.4	56.8	51.9	61.6	63.6	88.7	87.5	100.0	100.0
70-74	145799	144903	184533	50.5	56.3	51.0	4.0	5.2	68.1	57.1	70.1	74.6	97.1	89.4	100.0	100.0
75-79	168935	201127	224112	55.5	62.7	49.1	4.7	9.7	66.1	59.5	75.4	75.1	90.3	90.0	100.0	100.0
80-84	158693	239194	278019	63.4	71.6	59.5	5.1	10.6	71.0	62.3	86.7	86.0	92.0	97.1	100.0	99.7
85+	216776	324548	461288	80.2	83.2	86.7	3.6	12.6	81.0	67.8	91.9	91.6	98.7	98.2	100.0	100.0
Total 65+	791025	994765	1268866	59.1	67.7	61.7	4.9	8.3	68.6	60.2	77.2	80.5	94.7	94.4	100.0	99.9
Total																
65-69	153513	137057	202323	39.7	46.8	51.0	5.4	3.6	55.3	48.0	62.7	67.1	91.0	88.5	100.0	100.0
70-74	210801	210945	283089	46.1	52.1	55.0	3.9	5.7	63.5	54.4	69.9	73.4	96.8	92.1	100.0	98.9
75-79	240749	295377	338916	50.5	58.6	51.1	5.0	8.7	63.4	56.7	73.4	76.5	92.6	91.6	100.0	100.0
80-84	217859	326284	389150	58.8	67.6	58.7	3.9	9.5	68.7	59.4	85.0	85.8	94.6	97.6	100.0	99.8
85+	290571	430630	597285	76.1	79.3	82.2	4.0	11.1	79.1	66.5	90.4	90.4	98.4	98.2	100.0	100.0
Total 65+	1113493	1400293	1837698	53.7	62.9	61.4	4.5	7.5	65.8	57.4	76.0	80.1	95.5	95.0	100.0	99.9

Source and notes: see Table 2.

Figure 1. Population pyramid of carers according to age of persons with disability. 1999 and 2008.



Caring for person aged 65-79 with a disability

Caring for person aged 80+ with a disability

This sharp increase in resident carers of working age is not surprising as the first seven years of the new millennium were boom years in terms of employment, economic growth and international migration to Spain, particularly from former Latin American colonies with whom they share a common language, an important factor to consider when studying trends in elderly care. In addition, SAAD provided the possibility for those family members who were initially taking full-time care of the dependent elderly (particularly women) to either formalise their own labour situation as non-professional carer or externalise the care to others (which, for instance, would allow them to continue working). As expected, the proportion of non-Spanish born coresident carers increased sharply between 1999 and 2008: from just over 1% to almost 9%, with the largest increase among carers who care for the oldest old (Table 4). Given that only a small share of immigration to Spain during the previous decade came from women who dedicated to the care of dependent elderly, the table also provides figures according to kinship (as some foreigner born carers may be providing care to their own partner, not specifically to a non-related Spanish elderly). As the results show, the proportion of foreign coresident carers increased sharply among carers who were not related to the person being cared for: from 36% in 1999 to 90% in 2008. However, non-kin carers are still a small minority, forming just 7% of the total (up from 4% in 1999). Interestingly, while the proportion of foreign-born carers is low when they are family of the person being cared for (about 3% in 2008, up from about 0.5% in 1999), the proportion of women is substantially higher than that of men, particularly when the carer is also the partner. The latter result is likely due to the fact that on average men live with a younger partner and consequently are more likely to experience health declines before their partner does despite the slightly higher age-specific proportion of in-union women with a disability than that of in-union men.

We now turn to the relationship that the carers have with dependent elderly, including for those who do not coreside. While the two Spanish surveys only contain information concerning the main carer, SHARE covers that of *any* carer. As we are not only interested in how the economic boom and the Dependency Law altered caring strategies but also the more recent financial crisis we will first compare EDDES99 with EDAD08 before showing the results for the 2012 wave of SHARE. However, given the earlier mentioned difference in which carers are captured, we will compare the 2012 data with those of 2006 (wave 2).

Table 4: % foreign co-resident carers according to kinship and sex of carer and age of person that is cared for. Spain 1999 and 2008.

	1999					2008			
	Sex of carer					Sex of carer			
Age of person being cared for	Male	Female	Total	Number of carers		Male	Female	Total	Number of carers
					Partner				
65-79	0.4	0.5	0.4	193790		1.9	2.3	2.1	204440
80+	0.0	1.7	1.2	50533		0.2	8.4	5.4	87835
Total	**0.3**	**0.8**	**0.6**	**244323**		**1.5**	**4.4**	**3.1**	**292275**
					Other family				
65-79	1.2	0.7	0.8	151073		1.2	3.4	2.8	151991
80+	0.8	0.1	0.2	232101		2.4	2.4	2.4	352414
Total	**1.0**	**0.4**	**0.5**	**383174**		**1.9**	**2.7**	**2.6**	**504405**
					Non-kin				
65-79	0.0	23.9	21.0	6147		45.8	83.7	81.6	14434
80+	36.1	25.3	27.1	16660		71.0	93.1	92.2	43157
Total	**28.4**	**24.9**	**25.5**	**22807**		**63.1**	**90.8**	**89.5**	**57591**
					Total				
65-79	**0.6**	**1.2**	**1.0**	**351010**		**1.9**	**7.5**	**5.5**	**370865**
80+	**2.5**	**1.8**	**1.9**	**299294**		**3.0**	**12.8**	**11.0**	**483406**
Total	**1.1**	**1.5**	**1.4**	**650304**		**2.4**	**10.8**	**8.6**	**854271**

In 1999 few non-family carers resided with elderly persons requiring help, even among the oldest old (respectively, 3% among 65-79 year olds and 6% among the 80+; Table 5). In 2008 this had only increased marginally to, respectively 4% and 9% in 2008, although in absolute terms the increase was quite substantial for carers caring for the oldest old (from 19203 to 43005). As mentioned earlier, there were more female than male caregivers coresiding, although the proportion of husbands among the younger old is still quite substantial and only slightly lower than the proportion of wives (respectively 26% and 29% in 2008, with little change between the two surveys). Virtually no partner cared for their husband or wife without coresiding. On the other hand, the proportion of daughter caregivers is much higher than the proportion of son caregivers. When it pertained to a parent aged 65-74, 24% of all coresiding caregivers in 1999 were daughters and 7% were sons. When not co-residing, the proportion daughters increases to 37%, while sons just comprised 4% of the total. Proportions are very similar for sons and daughters caring for 80+ year old elderly, except for co-residing daughters caring for parents aged 80+ as they comprise a whopping 46% of all carers. In 2008 the proportion of non-coresiding main caregivers who were sons and daughters increased (and in absolute numbers quite substantially). At the same time, the proportion of main carers who were other relatives (particularly daughter-in-laws) of the younger and older elderly they cared for declined among both coresiders and non-coresiders. In terms of non-kin carers, only the proportion non-residing carers from social services caring for the 80+ increased between the two periods (from 10% to 12% of all non-residing carers). The oldest-old also make slightly more use of this service than younger elderly. Quite revealing is that the role of friends and neighbours declined significantly to just a couple of percentage points. Finally, it must be mentioned that the number of cases with an unknown residential status and relation to the person being cared for increased substantially between

Table 5. Kinship with dependent elderly and residential status of main caregiver in Spain. 1999 and 2008.

	Cared for elderly with disability aged 65-79						Cared for elderly with disability aged 80+					
	1999			2008			1999			2008		
	Co-resides	Lives elsewhere	% Co-resides	Co-resides	Lives elsewhere	% Co-resides	Co-resides	Lives elsewhere	% Co-resides	Co-resides	Lives elsewhere	% Co-resides
Husband	24.4		100.0	26.0	0.1	100.0	4.7		100.0	6.5		100.0
Wife	27.8		100.0	29.1	0.1	100.0	11.4		100.0	11.7		100.0
Daughter	24.1	37.0	59.0	22.3	44.0	64.0	45.6	36.2	71.6	44.8	43.5	72.6
Son	6.5	4.0	78.0	8.8	7.1	81.3	7.8	4.7	76.8	9.2	7.6	75.6
Other relative	13.8	18.7	62.1	9.9	13.1	72.5	24.4	17.5	73.6	19.0	13.6	78.3
Total family	**96.6**	**59.8**		**96.1**	**64.4**		**93.9**	**58.4**		**91.1**	**64.8**	
N	**358530**	**100263**	**78.1**	**356430**	**68234**	**83.9**	**295360**	**91778**	**76.3**	**440322**	**121309**	**78.4**
Employee	1.6	24.3	12.5	3.2	20.3	35.4	2.5	25.6	16.5	7.5	20.5	48.5
Friends & neighbours	0.2	7.2	4.5		2.0	0.0	0.2	5.3	8.5		1.5	0.0
Boarder	0.1		100.0	0.05		100.0						100.0
Social services	0.4	8.8	10.0		10.1	0.0	0.5	10.6	8.4		11.8	0.0
Other relation	1.1		100.0	0.7	3.2	41.9	2.8		100.0	1.4	1.4	72.0
Total non-family	**3.4**	**40.2**		**3.9**	**35.6**		**6.1**	**41.6**		**8.9**	**35.2**	
N	**12433**	**67488**	**15.6**	**14433**	**37664**	**27.7**	**19203**	**65274**	**22.7**	**43005**	**65847**	**39.5**
Total with known	**100.0**	**100.0**		**100.0**	**100.0**		**100.0**	**100.0**		**100.0**	**100.0**	
N	**370964**	**167751**	**68.9**	**370863**	**105898**	**77.8**	**314564**	**157052**	**66.7**	**483327**	**187156**	**72.1**
Unknown N	**66349**			**166618**			**36816**			**86431**		
Total N	**605064**			**643379**			**508432**			**756914**		

the two periods: from just over 100.000 to more than 250.000. It is quite likely that most of these “missings” are non-kin and non-residing carers. Note for instance that the number of coresiding carers of 65-74 year olds was about the same in 1999 as in 2008 but the number of carers who lived elsewhere declined by more than 60.000, while the number of carers with an unknown relation increased by 100.000. Given the earlier provided context (more dependent elderly, increase in female labour force participation and foreign born population and the new SAAD) a decline in non-coresiding carers does not seem very plausible. The situation among the 80+ is similar (50.000 more unknowns, 54% more coresiding carers and just 19% more non-coresiding carers). If we would add up the unknowns to the non-family carers than 24% of all carers caring for 65-79 year olds were non-family carers in 1999, increasing to 34% in 2008, while non family carers of the oldest old increased much less: from 24% to 26%.

If we now turn to the latest results from SHARE (Table 6) we see that when it comes to informal care from within the household, the partner was equally important as a child in 2006 (about 43%), while in 2012 partners were in fact slightly more often carers than children, a likely consequence of an increase in survival among the elderly. Grandchildren also became slightly more important, while conversely, more distant relatives and non-relatives became less important over time. As to help from outside the household, children made up 80% of the total in 2012, 6% up from 2006, while grandchildren also increased substantially (from 2% to 10%). On the other hand, siblings and other informal carers (besides other relatives include neighbours and friends) reduced in importance.

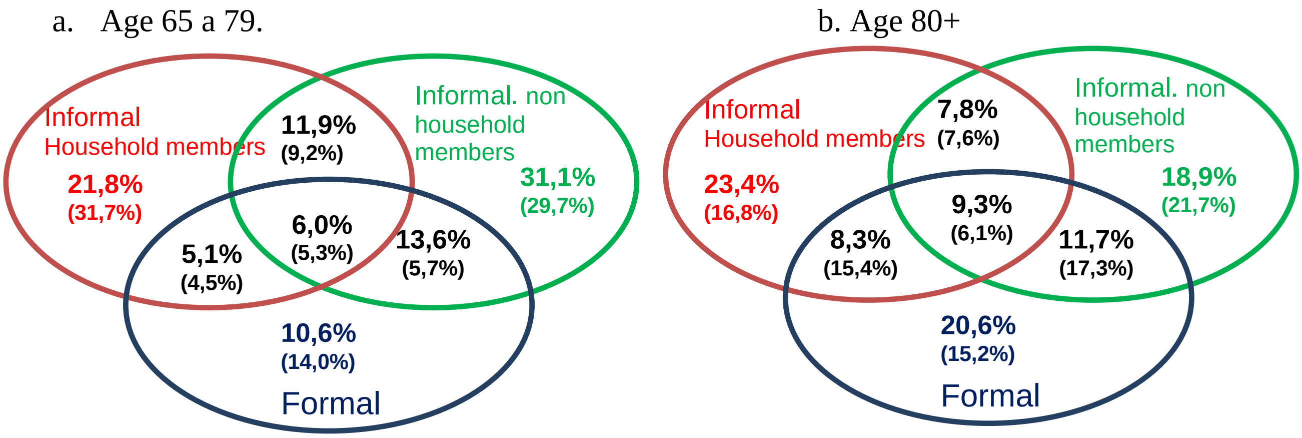
Table 6 Percentage of people aged 65+ with disabilities who receive informal personal care. Spain 2006 and 2012

	By household member		From outside the hh	
	2006	2012	2006	2012
Partner	43.3	48.5	2.5	2.4
Parents	1.9	0.2	0.0	0.0
Children	43.6	43.2	73.7	80.1
Siblings	4.5	5.9	4.9	2.1
Grandchildren	4.8	6.3	2.2	9.8
Others	9.3	7.5	24.0	16.1
Total (>1 possible)	107.5	111.7	107.3	110.4

Source: SHARE, waves 2 (2006) and 5 (2012)

As care from more than one person can be identified in the SHARE data, one can identify individuals who receive care from multiple sources, i.e. whether it is from informal care from inside the household, from outside the household and/or formal care. As Figure 2 shows, among the young-old most care was provided in 2012 by exclusively informal carers who do not coreside with the person who he or she cares for (31%). This is followed by care from household members (22%). However, as one can observe, although the latter was 10% higher in 2006, more people appear to be implicated in care than before. Likewise, formal care is more often combined with informal care from outside the household. Turning to the 80+ we see a different picture, namely a higher (and increasing) proportion of exclusive informal care from household members and formal care. The latter is double than by 65-79 year olds.

Figure 2. Provision of personal care among the elderly population with disability. 2012 (2006).


a. Age 65 a 79.

b. Age 80+

Source: SHARE, waves 2 (2006) and 5 (2012)

To disentangle the independent effect of individual and household factors on the odds that a disabled person aged 65+ who receives personal assistance has a non-resident carer or a non-kin carer we performed a multivariate logistic regression analysis for 1999 and 2008[5]. We only show the results for the full model because only that way we are able to compare the different models. However, in order for a variable to be included it had to provide a significant contribution in at least one model[6]). Besides the earlier mentioned dependency variable (although with the exclusion of the relatively few cases of individuals who have a disability but are not considered dependent according to the definition used despite receiving personal assistance) and the demographic factors age and sex, we also included the following variables:

- The educational level of the subject – we expect that the higher the level of education the less likely a carer resides with the subject or the carer is kin.
- If other household members are disabled or dependent – we expect the odds of a non-resident and non-kin carer to be higher if there are other disabled or dependent people living in the household.
- The number of household members who are in paid employment – we expect a positive association with both the odds of having a non-resident and a non-kin carer.
- Monthly household income – we expect odds of having a non-resident and non-kin carer to be positively associated with income[7].

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[5] Over the coming months we will look to see if we can conduct a similar analysis with the SHARE data.

[6] The contribution of a variable in a model was tested by comparing the Chi-squared and degrees of freedom of the full model with those when the variable was taken out of the model. The significance of each variable is provided in the table.

[7] The exact same variable categories could not be constructed because in 1999 the peseta was still the currency in Spain as well as the fact that respondents were asked to indicate an income category rather than an exact value. Nevertheless, the constructed categories have some logic behind them as the lowest of four income categories corresponds roughly with the legal minimum monthly salary in both survey years (20% of all respondents aged 65+ with a disability and carer in the 1999 kin model vs. 10% in 2008). The subsequent category contained, respectively 38% and 35% of the selected cases, followed by 18% and 22% and 17% and 25% regarding the highest income category. The remaining 8% in each year pertained to the category that was

- Union status, marital status and the type of household were combined into one variable for two reasons. First, because they are very much related. For instance, couple households comprise, by definition, of people who live with a partner (married or as a consensual union). Secondly, it informs better about the availability of family for care. For instance, the availability of kin for care is not the same for a widowed elderly living alone or in a household without nucleus than for someone who was never married as formerly married are likely to have children or in-laws who take on the responsibility as main caregiver. We also expect that the more complex the household, the more likely carers co-reside and are kin of the person receiving care. As to the residency model we excluded single-person households as per definition they cannot have their carer living with them.

However, as the reader may observe, other carers' characteristics were not tested. This is because any found association such as nationality on the odds of coresiding with the person being cared for or being kin would be difficult to interpret. Table 6 provides the models' results, including the 95% confidence intervals of the odds of each variable category. They can be summarized as follows:

- The explanatory value of the two models and for both years is quite similar: between a quarter and third of the variation in the data is explained by the model variables according to the Nagelkerke R-squared statistic. On four occasions was a variable not significant at the 0.05 level, namely income in both residency models and educational level and the number of household members in paid employment in the same model, but only in 2008. Looking with more detail at the results, we observe that:
- The odds of having a non-resident or non-kin carer were generally statistically higher for those with a moderate disability for an IADL than for the other categories. This result makes sense, given that IADLs pertain to the difficulty of not being able to do household chores and home management, which doesn't necessarily mean that such persons have difficulty in getting out of bed or taking care of their own hygiene. However, those who were totally dependent in 1999 were equally likely to have a non-resident carer, but this was no longer the case in 2008, possibly due to the increase use of professional help from carers who are less likely to coreside as family.
- With regard to age and sex, net of other factors the odds were more or less as expected. The only surprising result was that in each model the odds of the 75-84 and 85+ year olds were virtually identical, with little change over time. In both models they were also significantly higher than the reference age 65-74. In other words, with every else being equal, from the mid-70s carers are more likely to be non-resident and non-kin. Women were also significantly more likely to receive personal help from outside the household and not be kin than men are.
- The last individual-level variable, education, was not significant in the 2008 residency model while the variable categories were not statistically significant in the 1999 model. However, the secondary and higher educated had, respectively, three and two times higher odds to have non-kin as carers than those with primary-level education in 1999 and 2008,

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constructed for the cases where no information on household income was available as a way to keep them in the sample.

who in turn, where significantly more likely to have a non-kin carer than those with less than primary education.

- If we turn to the effect of household characteristics we see from Table 6 that in the residency model disabled individuals receiving care and living as a couple but without children, i.e. the reference category, have the highest odds of having a non-resident carer, followed by single parents (although the odds are halved) and formerly married people living in a household without a nucleus (odds are close to 0.4). The remaining categories, which consist of mostly larger size household, have odds that are expectedly low given the increased number of potential carers. In the kin model the two one-person household categories were included. While over time results did not change much, the odds that single people living alone have non-kin as carers was about 12 times higher than the reference category. If he or she had been previously married the odds were halved. The same pattern, although with odds that were somewhat lower, is observed for those living in a household without a nucleus. Conversely, odds for non-kin to carers care for elderly who live in an extended or polynuclear household are low due to the availability of family members.
- An interesting result is the high odds of having a non-resident carer when disabled elderly have someone else in the household who requires care (5 to 1 in 1999 and 6 to 1 in 2008). The odds that the carer is kin under these circumstances are about 2.5 to 1 in both years.
- Likewise, if someone else who lives in the household works the odds to have a non-resident carer increases by half (with no change over time). In the case of the carer being non-kin the odds were about 2.5 in 1999 but almost 8 to 1 in 2008 if one person worked and 10 to 1 if there were two or more household members in paid employment. This is perhaps the clearest example of a possible effect of the better economic situation in 2008 and the implementation of the SAAD law.

The significant reduction in the odds of the highest two categories of the household income category in the 2008 kin model might also suggests an effect of the SAAD law on the carers' profiles. Although it is not significant in the residency model, the fact that the odds of having non-kin carers was higher in the poorer segments of the population may be a reflection of the financial benefits and the entitlement to access to personalized care that the new law provided to low income families. We still need to confirm this by repeating the model comparing professional carers with all other carers (kin or non-kin).

Table 6. Logistic regression of the residency and kin status of personal carers in Spain in 1999 and 2008. Odds ratios (95% CI).

	Not resident (vs. resident)				**Not kin (vs. kin)**			
Variable by level and category	**1999**		**2008**		**1999**		**2008**	
<u>Characteristics of the disabled person</u>								
Level of dependency	*p=0.000*		*p=0.000*		*p=0.002*		p=0.000	
Moderate disability for an IADL (reference)	**1.00**	**[0.87, 1.15]**	**1.00**	**[0.83 , 1.21]**	**1.00**	**[0.87, 1.15]**	**1.00**	**[0.84 , 1.19]**
Moderate disability for an ADL	0.64	[0.55, 0.75]	0.49	[0.40 , 0.60]	0.74	[0.63, 0.86]	0.46	[0.38 , 0.56]
Moderate/Severe dependence	0.77	[0.67, 0.87]	0.46	[0.40 , 0.52]	0.99	[0.87, 1.13]	0.53	[0.47 , 0.60]
Total dependence	0.93	[0.75, 1.15]	0.51	[0.43 , 0.62]	0.76	[0.60, 0.96]	0.69	[0.58 , 0.82]
Age	*p=0.000*		*p=0.000*		*p=0.000*		p=0.001	
65-74 (reference)	**1.00**	**[0.88, 1.14]**	**1.00**	**[0.86 , 1.16]**	**1.00**	**[0.88, 1.13]**	**1.00**	**[0.85 , 1.17]**
75-84	1.76	[1.58, 1.96]	1.74	[1.55 , 1.96]	1.59	[1.43, 1.76]	1.47	[1.31 , 1.65]
85+	1.73	[1.51, 2.00]	1.74	[1.50 , 2.01]	1.42	[1.26, 1.61]	1.56	[1.37 , 1.78]
Sex	*p=0.000*		*p=0.000*		*p=0.000*		p=0.000	
Men (reference)	**1.00**	**[0.91, 1.10]**	**1.00**	**[0.90 , 1.11]**	**1.00**	**[0.90, 1.11]**	**1.00**	**[0.90 , 1.11]**
Women	2.66	[2.42, 2.94]	2.46	[2.22 , 2.73]	1.73	[1.57, 1.92]	1.67	[1.50 , 1.85]
Educational level	*p=0.025*		*p=0.416*		*p=0.000*		p=0.000	
Secondary or higher (reference)	**1.00**	**[0.80, 1.24]**	**1.00**	**[0.81 , 1.23]**	**1.00**	**[0.83, 1.20]**	**1.00**	**[0.85 , 1.18]**
Primary or equivalent	0.71	[0.61, 0.82]	0.87	[0.75 , 1.01]	0.34	[0.30, 0.39]	0.49	[0.43 , 0.56]
Illiterate or without studies	0.95	[0.83, 1.09]	0.99	[0.86 , 1.13]	0.26	[0.23, 0.29]	0.30	[0.27 , 0.34]
<u>Characteristics of the household</u>								
Household structure & marital/union status	*p=0.000*		*p=0.000*		*p=0.000*		p=0.000	
One-person - single		N/A	N/A		11.40	[8.00, 16.26]	12.67	[8.02 , 20.00]
One-person - formerly married		N/A	N/A		5.18	[4.06, 6.62]	6.36	[4.64 , 8.72]
Without nucleus - single	0.37	[0.26, 0.52]	0.35	[0.23 , 0.54]	1.64	[1.18, 2.27]	1.95	[1.31 , 2.91]
Without nucleus - formerly married	0.41	[0.30, 0.57]	0.35	[0.25 , 0.49]	1.99	[1.48, 2.68]	4.22	[3.19 , 5.59]
Single-parent	0.56	[0.44, 0.72]	0.49	[0.38 , 0.64]	0.39	[0.29, 0.54]	0.28	[0.20 , 0.38]
Couple without children (reference)	**1.00**	**[0.79, 1.26]**	**1.00**	**[0.76 , 1.31]**	**1.00**	**[0.81, 1.24]**	**1.00**	**[0.75 , 1.34]**
Couple with children	0.25	[0.19, 0.34]	0.06	[0.04 , 0.09]	0.15	[0.10, 0.22]	0.04	[0.02 , 0.07]
Extended/polynuclear - single	0.02	[0.01, 0.04]	0.02	[0.01 , 0.05]	0.82	[0.56, 1.20]	0.04	[0.01 , 0.15]
Extended/polynuclear - married/in union	0.05	[0.03, 0.07]	0.06	[0.04 , 0.10]	0.25	[0.18, 0.37]	0.25	[0.18 , 0.36]
Extended/polynuclear - formerly married	0.05	[0.04, 0.07]	0.04	[0.03 , 0.06]	0.15	[0.11, 0.21]	0.06	[0.04 , 0.09]

# of other disabled household members		*p=0.000*		*p=0.000*		*p=0.000*	p=0.000	
None	**1.00**	**[0.88, 1.14]**	**1.00**	**[0.88 , 1.13]**	**1.00**	**[0.86, 1.17]**	**1.00**	**[0.86 , 1.17]**
Lives with 1+ person who is disabled	1.26	[1.05, 1.51]	3.02	[2.62 , 3.47]	1.09	[0.87, 1.37]	1.59	[1.33 , 1.92]
Lives with 1+ person who is dependent	5.28	[4.62, 6.03]	6.44	[5.58 , 7.43]	2.63	[2.24, 3.08]	2.50	[2.10 , 2.98]
# of household members employed		*p=0.006*		*p=0.061*		*p=0.000*	p=0.000	
0	**1.00**	**[0.82, 1.21]**	**1.00**	**[0.80 , 1.24]**	**1.00**	**[0.81, 1.24]**	**1.00**	**[0.79 , 1.26]**
1	1.51	[1.27, 1.79]	1.57	[1.29 , 1.90]	2.53	[2.12, 3.01]	7.73	[6.53 , 9.15]
2+	1.56	[1.21, 2.00]	1.35	[1.00 , 1.83]	2.68	[2.11, 3.38]	9.96	[7.75 , 12.81]
Monthly hh income - pesetas(1999)/€(2008)		*p=0.313*		*p=0.059*		*p=0.010*	p=0.000	
<65,000 ptas / <500 €	**1.00**	**[0.80, 1.25]**	**1.00**	**[0.71 , 1.40]**	**1.00**	**[0.81, 1.24]**	**1.00**	**[0.81 , 1.23]**
65,000-130,000 ptas / 500-1000 €	0.81	[0.67, 0.96]	1.35	[1.15 , 1.60]	0.92	[0.76, 1.11]	1.07	[0.92 , 1.24]
130,000-195,000 ptas / 1000-1500 €	1.00	[0.86, 1.15]	1.20	[0.99 , 1.44]	0.92	[0.80, 1.07]	0.68	[0.57 , 0.82]
>195,000 ptas / >1500 €	1.07	[0.85, 1.34]	0.95	[0.75 , 1.19]	0.67	[0.55, 0.81]	0.53	[0.43 , 0.66]
Unknown	1.13	[0.88, 1.45]	2.02	[1.53 , 2.67]	1.18	[0.93, 1.49]	1.31	[1.02 , 1.68]
Chi-square		1051		980		863		1456
d.f.		23		23		25		25
p		*p=0.000*		*p=0.000*		*p=0.000*		*p=0.000*
Cox-Snell R-squared		0.20		0.15		0.14		0.19
Nagelkerke R-squared		0.31		0.29		0.24		0.35

Discussion

Comparison between the demand for care and the availability of carers can provide a better diagnosis of elderly dependency needs. As our detailed analysis attempted to show, both are not fixed and needs to be placed in a macro context: ageing indicators should be based on forward-looking measures that take into account the progress of mortality on which the demand for dependence is built (e.g. the shift in the age of onset of disease and disability). But when analysing the health status of a population, the introduction of a new law aimed at facilitating the caring of the disabled by providing families extra resources may not only affect the way care of an elderly person is organised among families but also how people respond to health surveys, for instance by over-reporting on the severity of a disability. For instance, while between 1999 and 2008 the proportion of elderly with a disability declined by several percentage points, the proportion elderly who were severely and totally dependent on help to carry out ADL doubled.

Another issue to consider is the non-response rates among key variables. Given the fact that the period between the two surveys coincided with the economic boom in Spain that provided a large influx of female migrants, particularly from Latin America (often arriving a situation of irregularity (Martínez-Buján 2011), we expected an externalization of personal care, i.e. that fewer kin would be involved in the main caring duties of elderly who are dependent on care. However, there was only partial evidence of this. While the proportion of foreign non-kin carers jumped from 26% in 1999 to 90% in 2008, numbers appear small (just over 50,000; Table 4). The number of non-family carers living elsewhere actually reduced by 40% among the 65-79 year olds (Table 5), although among the 80+ the number of co-residing non-family carers did increase. However, important to note is that information on the place of residence and kinship of carers was missing for more than 250,000 cases in 2008 (18% of the total), an increase of 150,000 (9% of the total in 1999). If we would assume that such carers are much more likely to be non-kin and non-resident and we consider them as such, then there would be substantial evidence for an externalisation of care[8].

On the question whether the implementation of the Law on Dependency has been successful in creating a new LTC model that relies less on unpaid family care, the answer is possibly and likely to be only in the first few years (i.e. 2007-09) as the financial crisis lead to austerity measures that also affected health care provisions, in particular raising the level of severity required to obtain government assistance.

Finally, we analysed data from the recently released wave 5 of the Survey of Health, Ageing and Retirement in Europe (SHARE) to see if care was still being externalised to the same extent in 2012 or whether the financial crisis, which hit Spain harder than most other European countries (in half the Autonomous Regions unemployment levels were above 25% early 2013), restructured elderly personal care again. As the SHARE does not allow the identification of the main carer, we compared the results with SHARE data from 2006. Results seem to suggest that the financial crisis has had some effect as more children and grandchildren appear to be involved in informal care (with regard to the latter, the likely effect of youth unemployment levels exceeding 50%), particularly those caring for the oldest

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[8] In this case there would have been a 51% increase in non-kin non-resident carers between 1999 and 2008 compared to a 22% decline that was actually observed (deduced from Table 5).

old. Partners also appear to be more likely than before taking care of their disabled husband or wife. This could be due to increasing survival, although we still need to dig deeper into the data. As Figure 2 showed, care is increasing combined between formal and informal, so perhaps some of these husband and wives are being aided by social services and other health (and mainly foreign) workers.

References

Abellán García A, Esparza Catalán C, Pérez Díaz J (2011) Evolución y estructura de la población en situación de dependencia. Cuadernos de Relaciones laborales 29 (1):93-123.

Albertini M, Kohli M (2012) The generational contract in the family: An analysis of transfer regimes in Europe. European sociological review 29 (4):828-840.

Attias-Donfut C, Ogg J, Wolf FC (2005) Family support. In: Börsch-Supan et al A (ed) Health, Ageing and Retirement in Europe. First Results from the Survey of Health, Ageing and Retirement in Europe. Research Institute for the Economics of Aging, Mannheim,

Delbès C, Gaymu J, Springer S (2006) Les femmes vieillissent seules, les hommes vieillissent à deux. Un bilan européen. Population Et Socièt̀ès 1 (419).

Flaquer L (2004) La articulación entre familia y el Estado de bienestar en los países de la Europa del sur. Papers: revista de sociologia 73:27-58.

Genaro Moya MD (2014) La gestión de la Ley de Dependencia en España: un balance desde la óptica fiscalizadora. Auditoría Pública (64):11-20.

Jiménez Lara A, Huete García A (2003) Las discapacidades en España: datos estadísticos: Aproximación desde la Encuesta sobre Discapacidades, Deficiencias y Estado de Salud de 1999. 2 edn. Real Patronato sobre Discapacidad, Madrid

López-Viso M, Fernández Álvarez AL Políticas de dependencia. Vuelta a los cuidados informales y al régimen de bienestar familista [Dependency politics. Return to the informal care and to the familist welfare system]. In: IV Congreso de la Red Española de Política Social (REPS): las políticas sociales entre crisis y post-crisis, University of Alcalá, Spain., 6-7 June 2013.

Martínez-Buján R (2011) La reorganización de los cuidados familiares en un contexto de migración internacional. Cuadernos de relaciones laborales 29 (1):93-123.

Ministerio de Sanidad Servicios Sociales e Igualdad (2012) Evaluación de resultados a 1 de enero de 2012 sobre la aplicación de la ley 39/2006, de 14 de diciembre, de Promoción de la Autonomía Personal y Atención a las Personas en Situación de Dependencia [Evaluation as of 1st January 2012 of the results of the application of law 39/2006, of 14th December, of Promotion of Personal Autonomy and Care of People in Situations of Dependency]. Ministerio de Sanidad, Servicios Sociales e Igualdad, Madrid

Ogg J (2005) Social exclusion and insecurity among older Europeans: the influence of welfare regimes. Ageing & Society 25 (1):69-90.

Rodríguez Cabrero G (2008) La protección social de la dependencia en España. Un modelo sui generis de desarrollo de los derechos sociales. Política y sociedad 44 (2):69-85.

Rogero García J (2010) Los tiempos del cuidado: el impacto de la dependencia de los mayores en la vida cotidiana de sus cuidadores. IMSERSO, Madrid

Solsona M, Treviño R (1990) Estructuras familiares en España. Instituto de la Mujer, Ministerio de Asuntos Sociales, Madrid

Spijker J (2011) Viudedad en la España del siglo XX: la evolución histórica de la población viuda y sus determinantes demográficos. Revista de Demografía Histórica 29 (2):119-150.

Tobío C, Fernández Cordón JA (2013) Family networks in Andalusia, Spain. International Review of Sociology 23 (1):68-84.

WHO (2002) Towards a common language for functioning, disability and health: ICF. World Health Organisation, Geneva

Appendix. Construction of the variable “dependency level” using data from the EDDES 1999 and EDAD 2008 surveys.

Both disability surveys were carried out by means of a series of questions that explored whether someone in the household where the survey was taken had a disability. The aim of the surveys was also to estimate the level of dependency of people with a disability in terms of the ability to carry out certain activities of daily living. Both surveys considered two types:

- Basic activities of daily living (ADLs): Essential self-care activities and physical mobility which they are necessary to lead an independent life at home;
- Instrumental Activities of Daily Living (IADL): activities associated with household chores and home management involving complex interactions with the environment.

The ADLs and IADLs that are used in the calculations of the disability/dependency level of respondents in each of the two surveys for this study are listed in the table on the last page. As mentioned in the main text, not all items are exactly the same but we tried to maximise the level of correspondence.

Key to the need for care is the severity of the disability. Both surveys identify four degrees of severity: Without any difficulty; with moderate difficulty; with severe difficulty; cannot carry out a particular everyday activity. However, while in the 1999 survey this was a general question, in the 2008 survey this was asked twice: in situations with and without technical or personal help. In addition, in the 2008 survey the question on severity was only asked after the question on whether a person had a particular disability or not. If the person did not have the disability in question, the answer was coded as “without any difficulty” and the remaining questions on that disability were not asked. On the other hand, if the person did have the disability, the severity (with and without assistance) and other questions were asked. This may be one reason that despite the fact that the proportion of elderly with a disability declined between 1999 and 2008 by about 2%, in 2008 the severity profile of the disability was substantially worse than in 1999 (e.g. 57% of those with a disability could not carry out at least one daily activity compared to 41% in 1999). Another possibility is because respondents in 1999 answered the question on the difficulty to carry out an activity by taking into consideration the help of technical and/or personal assistance in case they received this, even though the question did not specifically ask this[9]. Given these discrepancies and the very large proportion of elderly that could not do a particular daily activity, we decided to construct a variable that considered in first instance the level of dependence in ADL (and not all types of disabilities as this would seem more relevant for our research objective given that personal assistance is not always required, even if a disability is severe – for instance most deaf people live independent lives), followed by levels of disability. The following categories were therefore initially constructed:

- Total dependence to carry out basic ADL
- Severe dependence to carry out basic ADL

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[9] In fact, a small percentage (0.4%) received personal help in 1999 even though they had no problem at all in carrying out the daily activity in question.

- Moderate dependence to carry out basic ADL
- Disability with moderate severity to carry out basic ADL
- Disability with moderate to carry out IADL
- Disability without dependence

A person’s level of dependence is based on the accumulated severity to carry out ADLs. As the number of ADL differs between the surveys (9 in 1999 and 8 in 2008) the following aggregate scores were applied to obtain the different grades of dependency:

Moderate dependence	1999: 2-6	2008: 2-5
Severe dependence	1999: 7-15	2008: 6-13
Total dependence	1999: 16-27	2008: 14-24

Notice that the minimum score is 2 because that corresponds to a respondent who has at least one severe dependency regarding one ADL, which is the minimum threshold (the score for total dependency equals 3, while any disability with a dependency score of 1 – i.e. moderate dependency – is excluded from the aggregate).

The next category are individuals who have a moderate severity to carry out basic ADL, followed by the same but with regard to IADL and finally those who have a disability but no dependence. Cases in the latter category were subsequently removed from the analyses as we are interested in those cases where it would seem logical that personal assistance may be required.

Table A-1. List of basic daily activities used to calculate ADL and IADL from the 1999 EDDES and 2008 EDAD surveys.

	1999		2008	
Code	Activity	Code	Activity	Type
4.3.	Undertaking a simple task	4.3.	Undertaking a simple task	ADL
5.1.	Changing and maintaining body position	5.1.	Changing basic body position	ADL
		5.2.	Maintaining body position	ADL
5.2.	Lying down, standing, sitting		*** not available	ADL
5.3.	Moving around the home	5.3.	Moving around the home	ADL
8.1.	Washing oneself and caring for body parts	6.1.	Washing oneself (bathing, drying, washing hands, etc)	ADL
		6.2.	Caring for body parts (brushing teeth, shaving, grooming, etc.)	ADL
8.2.	Toileting	6.3.	Toileting. Regulating urination	ADL
		6.4.	Toileting. Regulating defecation	ADL
8.3.	Dressing, undressing and choosing appropriate clothing	6.6.	Dressing and undressing	ADL
8.4.	Eating and drinking	6.7.	Eating and drinking	ADL
4.1.	Orientation functions	4.1.	Purposeful sensory experiences (watching, listening, …)	ADL
7.1.	Walking and moving around without using transportation	5.4.	Moving around outside the home	IADL
9.1.	Acquisition of goods and services	7.1.	Acquisition of goods and services	IADL
9.2.	Preparing meals	7.2.	Preparing meals	IADL
9.3.	Cleaning and care of clothing		*** not available	IADL
9.4.	Cleaning living area	7.3.	Doing housework	IADL
9.5.	Taking care of the wellbeing of the rest of the family		*** not available	IADL