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LONG-TERM CARE: EVIDENCE FROM POLICY IMPLEMENTATION

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Abstract

Population aging together with the family's change (shrinking of families, women's participation in labor force and intra-family distances) have driven the formal demand on Long Term Care (LTC). Spanish government has passed, in 2006, the Dependency Bill (LEPA) to afford the LTC demand. By employing a unique individual dataset, with information on all LEPA's applicants in one Spanish region, Catalonia, we estimate how different covariates (age, civil status, disability status and location) can have an effect on the degree of dependency. Our results show how age and psychical disability are the most important factors to explain huge degree of dependency, with substantial patterns among gender. Instead we do not find relevant difference across cities. We can conclude that the Bill cover a part of Spanish population that not perform daily basic activities and face high financial care expense.

Keywords: aging, long-term care, LEPA, Spain, disability.

JEL classification: J11, I18, H55

1 Introduction

According to Grossman (1972), as an individual becomes elder, his health's depreciation rate increases deteriorating individual's physical and intellectual capabilities. Population's ageing is a well-known phenomenon shared by most of economic-advanced countries, as consequence socioeconomic development. One of its repercussions is the increment in dependent situation suffered by older generations.

In many countries, a significant share of health-care needs is concentrated among the oldest age people, who are typically more likely to have severe or very severe functional limitations (Lafortune, 2007). Hence, ageing is one of the greatest social and economic challenges for European societies. It will affect all EU countries and in many policy areas. In 2025 more than 20% of Europeans will be 65 or over, with a particularly rapid increase in numbers of over-80s. In response of that the European Commission in 2012 has launched the European Innovation Partnerships within the Innovation Union, with the follow objectives: improve the health and quality of life of older people, improve the sustainability and efficiency of care systems, creating growth and market opportunities for businesses. The Strategic Implementation Plan, which was adopted by the Partnership's Steering Group in November 2011, focuses on actions developed around 3 points: prevention, screening and early diagnosis; care and cure; and, active ageing and independent living. Focusing on care and cure, the European Commission wants to build an integrated care systems based on innovative tools and services, and to promote an integrated care models for chronic diseases, including the use of remote monitoring at regional level.

Given this scenario the welfare state of many western countries was forced to develop a strategy to regulate and provide medical, social, and personal care services for people with chronic physical or mental disorders, i.e. the Long Term Care (from now on, LTC).

Most OECD countries currently allocate between about 1 and 1.5% of their GDP to LTC. Some countries allocate more than 2% of their GDP (e.g. the Netherlands, Sweden and Norway) while some others allocate less than 0.5% (Portugal, Hungary). While still relatively small, however due to the demographic and societal changes described above and other factors such as the change of family solidarity (associated principally with the

participation of women in the labor market), will lead to higher ageing-related cost in the future. Changes in the prevalence of dependency, defining as terms of limitations in performing daily activities (such as eating, dressing or bathing), among the elderly could have important effects on the demand and expenditure for LTC.

In most of developed countries Long-term care is predominantly funded from public sources even when taking underreporting of private expenditures into account, in most developed countries. Some countries have implemented changes or reforms affecting only specific aspects of the system, without however changing the main features. Among pioneering countries formalizing LTC, it could be found the UK (1990), Germany (1994) and The Netherland (1995). Their systems have not been permanent but have evolved over the time: they have been reformed according to need. France, Italy and Denmark, as well as Nordic countries, have also established a system to deal with the elderly and disable care. There exist disparities among systems in terms of coverage, financing and provision: Germany follows a compulsory insurance system from which eligible dependents can opt among services or in cash transfer; the UK has put efforts to distinguish between health care needs (managed by State) and assistance (with local authorities in charge); in Denmark no social act was created but extended social protection managed at municipalities level; Italian system bases on cash transfer to help in LTC funding and the Netherland allows services or in cash transfer to compensate dependency handicaps, and it is managed by local authorities.

In Spain, a new scenario appeared by approval of the bill for the *Promotion of Personal Autonomy and Care for Persons in Dependent Situation*[1] (LEPA), in 2006, and the constitution of the Autonomy and Dependency Care System to guarantee the universal coverage of individuals in dependent situations, in particular, to support for the financial risk faced up by the people with dependency. An individual, who considers himself as a dependent[2], applies for the recognition from regional authorities, which work in cooperation with the State. The regional authority assesses individual's eligibility by a mean-test and evaluates his severity. The bill establishes three degrees of dependency: Moderate (I), Severe (II) and Serious (III) dependency. In case of favorable resolution,

[1] Ley 39/2006. December, 14.

[2] In many cases social service or GP advise in-risk population to apply.

individual's financial capability is considered. This, together with dependency degree, will determine the provision of service or cash transfer in order to compensate expenses risen from the handicap.

Studies on the implementation of this new bill in Spain do not exist due to lack in the data. Nevertheless, some studies on LTC can be found, among them, it could be quoted the works by Alonso-Albarrán (2009), in which projections on public expenditure were computed under the umbrella of the new bill; Jiménez and Villaplana-Prieto (2012), who analyzed the tradeoff between for formal and informal care within the new framework; and, Baloncé et al. (2012) that estimated the cumulative cost over life cycle of LTC. Almost all this literature is based on data on *Disability, Personal Autonomy and Dependency Situations* run by the National Institute of Statistic (INE) in 2008. Apart from that, López-Casanovas and Nicodemo (2012) estimate the probability of transiting from non-dependent to dependent, as well as, intra-dependency transition and its causes. They used *Spanish Social Security* data jointly with the Spanish *Survey of Living Conditions*.

Thanks to new database we can supply to this lack and so far, better understand future needs and its associated cost of LTC for Spain. The main objective of this paper is to explore the implementation of this new bill in Spain. In particular, we aim to study the first stage in dependency recognition process (the period between individual's application and mean-test resolution) in terms of dependency acknowledge and its linked severity, by focusing on the covariates (age, gender, disability,..) that could affect it. Due the recent reform of the LTC, the debate is said to be relatively new and literature on LTC policies is limited.

Using a unique database at individual level we explore the implementation of LTC for the Catalonia region, from January 2007 to October 2011. Catalonia is the second region in order of number of dependency people in Spain (16.40% in 2011). After mean-test, applicants were classified as dependent or non-dependent. In case of dependency status, individuals have assigned a degree and level according to their daily limitations.

Using a order probability model for each different level of dependency our results confirm that age and the presence of illness and/or a disability has a significant impact on

the severity of a dependent status. Also gender remain an important factor of discrimination in LTC. We find that across years, due to the gradually implementation of the law, we have covered a the major parte of population that have need LTC services.

Looking at the implementation of the bill seems that is quite discretional the system of score assigned at each person that ask the recognition of dependency. From a policy perspective, this may be triggered by an unfair system in terms of LTC. We explore in this study also a possibility to eliminate this kind of inequality across people.

In conclusion, improvements in the functional status of the elderly could help to mitigate the rise of the LTC demand and its associated expenditure. Governments need to put more effort in providing protection against the financial risk associated with LTC, whilst ensuring that LTC revenues and expenditures are sustainable in the long-run.

The paper is organized as follows: Section 2 and 3 describes the Bill and the data; Section 4 shows the empirical strategy; Section 5 presents the results and, finally, Section 6 discusses and concludes.

2 Institutional setting and structure of the Spanish LTC system

For the case of Spain, in 2008, about 50% of LTC recipients were older than 80 years old, of whom more than 75% were women who are also at highest risk of poverty. Because at that age, the financial risk associated with LTC is generally substantial whereas the disposable income is typically the lowest over the lifetime. According to the IMSERSO[3] –an Spanish Public Institution working on aging– in 2011, the over 65's represented the 16.5% of the population and the older-old (+ 80) the 4.7%. The dependency ratio (measured as population over 65 relative to active population and according to Spanish Institute of Statistic) was set at 24.43% in 2010. And, it is estimated at 34.23% in 2030 and, at 59.07% in 2060.

On the base of these data and other social evidence, the Spanish Government in

[3]The IMSERSO is an State-Governmental institution that gives every year, at aggregate level, the evolution of the LEPA at regional leve

2006 forced a LTC Bill 39/2006 with the objective to promote de Personal Autonomy and Care for Dependent Persons (LEPA), with a progressive implementation since January 1st, in 2007.

On September 2011 the total number of applications counts up $1,549,738$; 16.40% of them belong Catalonia. Concerning basic statistics of applicants, more than 65% of applicants are women and, beyond 78% are above 65. Following this trend, around 66% of allowance's beneficiaries are woman and around 76% over 65. Among Spanish old-older 25% has a dependency status acknowledge in 2010, and for those ranged from 65 to 79, the percentage drops to 7%.

The bill's basis has universal character, covering all forms of autonomy's loss, whatever the cause is, without account for age or income. LEPA defines three types of dependency: Moderate (I), Severe (II) and Serious (III); and each of these groups are divided into two levels. The recognition process starts with individual's application, which includes a GP's form stating his health's problems and handicaps. It follows by a technician test at applicant's residence (private home or institution) with the aim to check his daily limitations. Based on that and the medical report, the technician gives to the applicant a score. How to build up the score is regulated by the law 504/2007, and it follows a questionnaire based on technician observability to compute the final score, which weights the limitation in the performance of different daily tasks[4]. This score is aligned with a degree and level of dependency, which are notified to the individuals, instead of the score. After a favorable dependent status assessment, individual's financial capability –jointly with the degree and level of dependency– are considered to determine the allowance. This could be either a cash transfer or inkind benefit, and in the latter, the type the co-payment level is also established.

The punctuation system is ranged between 0 and 100, being 0 non-dependent and 100 the maximum level. Seven brackets are set to link the punctuation to the degrees and levels, summarized in the Table 1. From 0 to 24 points no dependency status is acknowledged. The bracket between 25 and 49 points belong to moderate dependency. A

[4]Including: eating and drinking, urination and defecation incontinence, personal hygiene and bathing, getting dressed, keeping a minimum of health standards, mobility (both, inside and outside home), housework and decision-making capacities. For each of these items the act specify different actions to be assessed

severe dependency ranges from 50 to 74 points, and finally, serious dependents have from 75 to 100 points.

The LEPA's implementation has been done gradually, prioritizing more severe cases and it financing by local and central Government. As an example of Bill's benefit, in 2011, the Spanish Government contribution covered from Moderate Dependency-level two (60€) to the Serious Dependency-level 2 (266€), as we can observe from Table 2. These funds are said to be inadequate since only cover a third of the system[5]. The State guidance specifies also the monthly maximum for the allowance related to each type of care, reported in Table 3. For instance, a Moderate dependent-level 2 has to receive, at maximum, 834€ in case of a hired care-assistance or 521€ if the caregiver is a family member. The benefits could vary by personal income, degree of dependency and type of service (residence, formal or informal caregiver etc.) For example, an individual who has an financial capacity valued in less than 16,000€ and the highest degree of dependency will receive 833€ in case of being in a residence, 500€ if the service is a care-day-center or 520€ if he receives the help of a caregiver at home. If, in turn, the dependency level is severe, an individual with the lowest economic capacity as mentioned before will receive 625€ for a residence service, 375€ for care-day-center and 437€ for a caregiver help at home.

3 Data and Descriptive Statistics

The data used in this paper is a unique micro-dataset provided by the Catalonia regional Government. Concretely, data is directly drawn from Catalan Institute of Care and Social Services (ICASS). This data allows us to understander better the LTC's evolution in Catalonia and so far in Spain, and LEPA's implementation, from 2007 until 2011.

The dataset explored in this work is focused on first time that people apply to the LTC admission. It contains information covering 5 years, from 2007 until 2011 for people with age between 40 and 100 years old, with a a total of 387,984 individuals. However, we were forced to drop data with implausible information (such as negative age and other mistakes recorded-induced). We constraint the sample to those individuals aged from 40

[5]Observatory for Dependency, December 2010.

to 100 years old, ending up with 348,213 individuals[6].

In Table 4, we report the descriptive statistics about our sample. First two columns refers to the whole sample whereas the third and fourth together with the fifth and sixth provides statistics by gender. Around 22% of the applications are denied. From all dependents, 27% are qualified as moderate, 35% as severe and the rest, 38%, are serious cases. More than the half of the application and succeeded applications belong to females, in particular around 68%. The average age of recognized dependency status is 79 years old, being slightly higher of female, 80 years old –4 more years than for men–. The predominant civil status of applicants are either widow (a bit more than 42%) or married (around 38%).

With regard to additional individual's characteristics recorded in our dataset, we consider important to add a comment on dependency and disability. Around 74% of applicants have no disability recognized[7] (neither physical nor psychical. This pattern is also found for people acknowledged with a degree of dependency: less than 30% of dependents have any kind of disability.

Hence, data seems to validate that this new bill it was necessary because population's needs are rooted in non-disability factors. and most of their daily limitations come from "age". The fact of being older reduces the health stock, instead of a disability per se. This has been proved to be true for the German case by Hacker and Hackman (2011). They, in line with previous work, conclude that age raises LTC expenditure, as well as, the proximity to death. LTC expenditure increases due health status worsening, which translates into the expansion of care needs demand. The LEPA is playing a crucial role for elderly dependency status triggered by degenerative limitations because it represents the unique source of additional economical contribution to offset the cost of daily care.

With reference to territorial distribution, we can observe that around 73% of the applicants belong to Barcelona. Lleida is the province with lower number of applications. Looking across years, we can observe how the applications increase in 2008 and 2009 and

[6] Age sample restriction and implausible information lead to drop 39,771 individuals that represents 10% of the original sample.

[7] Individual's with a disability recognition tend to receive governmental cash allowance. These allowances are incompatible with dependency benefits and are rated higher than dependency cash benefits. Hence, disables prefer to keep disable conditions rather than inquiring for dependency acknowledge

decrease after 2009. In Table 5 we present the principal statistics classifying the sample by dependency status. Age is an important factor to explain the serious dependency, such as gender. Women represent more than 55% of total sample, this could originate from two factor: high expectancy life and low income. The expectancy life of women in 2012 is around 80 years old, with a difference of 7 years with respect to male. Women, due their low participation rate in the labour market in the previous years also are the sub-sample of population that more is exposed to poverty. In addition, this is confirmed by that more than 30% of the sample is widowed. We also observe that people with serious dependency suffer more disability either physical and/or psychical. People with a non dependency recognized are also people with less disability.

The degree are quite homogenous across province, while across years we can see how the bill was implemented gradually, we find in in year 2008 and 2009 an increase in application of serious and severe dependency, while in 2010 moderate dependency increases. In 2011, the dependency decrease, while the rejected people increase.

4 Empirical Strategy and Results

In this section we present the empirical strategy used and the results found. The aims of this study is to determine individuals characteristics affecting the dependency status of LEPA's applicants, as well as, their signs and magnitudes. To achieve this objective we estimate the following model:

$$y_i^* = \beta_1 X_i + \phi_r + \gamma_t + \varepsilon_i \tag{1}$$

Where y_i^* is a latent index of reported dependency. The latent index measures the scale of dependency and it depend on a series of individual characteristics, X_i, province effect, ϕ_r, and time effect γ_t. Once, the latent index $y_i^* t$ crosses the values (y_i) no dependency, moderate, severe and serious dependency. So, y_i assume the following values:

$$yi = 1 if y_i^* < u_1 where u_1 = NoDependency \tag{2}$$

$$yi = 2if y_i^* < u_2 where u_2 == ModerateDependency \tag{3}$$

$$yi = 3if y_i^* < u_3 where u_3 == SevereDependency \tag{4}$$

$$yi = 4if y_i^* < u_4 where u_4 == SeriousDependency \tag{5}$$

The whole econometric analysis split the sample by gender, which is mainly motivated by the fact that, at older ages, females tend to follow different trends with respect to male of mortality and illness episodes, which affects directly the dependency needs, as suggested by significant sample statistics difference.

The result of the model above are reported in Table 6 that shows the result by applying maximum likelihood estimation method, an ordered probit given the nature of dependency status ordered in 4 ordered categories: non-dependent, moderate dependent, severe dependent and serious dependent. The categories of reference is serious dependency.These results are presented in marginal effects form for each category, again separating by gender.As we can see the age, the presence of an illness, disability and widowed affect in higher magnitude the chance of being dependent and increases with severity, specially for women. Disabilities and civil status keep a significant secondary role, too.

5 Discussion and Conclusion

In Figure 1 we report the score distribution that people who have applied to LTC have obtained. As we can see they vary a lot not only across degree and level but also inside each level. Due this picture we can draw that the system seem not equalitarian at the moment to define the LTC. One way to deal with the bias might be to associate a point to a monetary value; the allowance will be the amount of points times the monetary value of a point, which may have an equivalence to inkind benefits and may be adjusted by economic capabilities. The proposed mechanism will not only overcome the non-negligible bias, but also will become a solution for those expert who criticize the unfairness between somebody with 49 points with respect to somebody with 51, as we previously have mentioned. This research represents the first step to analyze the implications of LEPA in Spain. The

relevance relies on the opportunity that all data recorded, of those who have asked the acknowledge, is available. This allows to determine how different factors affect the status and the degree and how the evolution of such factors affect dependency's evolution.

As main conclusion, this work recognizes the must for dependent's caring needs coverage in Spain. Family change and socioeconomic development have driven the demand for a formalized care system. Notwithstanding, dependent individuals may not have enough resources to face the expenses generated by their handicap. Spanish welfare state responses to the problem with LEPA, which contributes to offset the funding. Through LEPA, applicants are classified into different dependency status that are particularly triggered from age and psychical disability.

Some criticism rose concerning the system because the difference in terms of dependency between somebody with 49 and 50 points in terms of dependency is minimal, but the former receives the benefits of Moderate-level 2 and the latter Severe-level 1 that are substantially different.

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TABLES & FIGURES

Table 1: **Degree, levels and punctuation**

	Points
Degree III	
Level 2	[90, 100]
Level 1	[75, 89]
Degree II	
Level 2	[65, 74]
Level 1	[50, 64]
Degree II	
Level 2	[40, 49]
Level 1	[25, 39]
Non-dependent	[0, 24]

Source: Own production.

Table 2: **Contribution by the Spanish Government**

	2010	**2011**
Degree III		
Level 2	266,57	266,57
Level 1	181,26	181,26
Degree II		
Level 2	103,02	103,02
Level 1	70,70	70,70
Degree II		
Level 2	Zero*	60,00
Level 1	Zero*	Zero*

*Gradual application

Source: Own production

Table 3: **Maximum monthly benefits establish by Spanish Government in 2011 by degree of dependency**

	Home help	**Help of a family member**	**To pay for other**
Degree III			
Level 2	833,96	520,69	833,96
Level 1	625,47	416,98	625,47
Degree II			
Level 2		337,25	462,18
Level 1		300,90	401,20
Degree II			
Level 2		60,00	300,00
Level 1		Zero*	Zero*

Source: Own production

Table 4: **Descriptive Statistics by Gender**

	All Sample		**Males**		**Females**	
	Mean	*Sd*	*Mean*	*Sd*	*Mean*	*Sd*
Males	0.34	0.47				
Age	78.92	11.48	76.72	12.43	80.05	10.79
Age Cohort 40-54	0.05	0.23	0.08	0.27	0.04	0.20
Age Cohort 55-69	0.11	0.31	0.14	0.35	0.09	0.29
Age Cohort 70-84	0.49	0.50	0.49	0.50	0.49	0.50
Age Cohort +85	0.35	0.48	0.29	0.45	0.38	0.49
Married	0.38	0.49	0.56	0.50	0.29	0.45
Widow	0.42	0.49	0.18	0.39	0.54	0.50
Single	0.11	0.31	0.14	0.35	0.09	0.28
Other	0.10	0.29	0.11	0.32	0.09	0.28
No disability	0.74	0.44	0.72	0.45	0.76	0.43
Physical disability	0.19	0.40	0.20	0.40	0.19	0.39
Psychological disability	0.04	0.20	0.06	0.24	0.03	0.18
Both types of disability	0.02	0.14	0.02	0.14	0.02	0.13
Illness	0.29	0.45	0.28	0.45	0.29	0.45
Barcelona	0.73	0.44	0.72	0.45	0.74	0.44
Girona	0.09	0.28	0.09	0.29	0.08	0.28
Lleida	0.07	0.25	0.07	0.26	0.06	0.25
Tarragona	0.11	0.32	0.12	0.32	0.11	0.31
No dependency	0.22	0.42	0.26	0.44	0.21	0.40
Dependency I	0.21	0.41	0.20	0.40	0.22	0.41
Dependency II	0.27	0.44	0.27	0.44	0.27	0.44
Dependency III	0.29	0.46	0.28	0.45	0.30	0.46
Year of application 2007*	0.12	0.32	0.11	0.32	0.12	0.32
Year of application 2008	0.28	0.45	0.27	0.44	0.28	0.45
Year of application 2009	0.25	0.43	0.25	0.43	0.25	0.43
Year of application 2010	0.21	0.41	0.22	0.41	0.21	0.40
Year of application 2011**	0.15	0.36	0.16	0.36	0.14	0.35
Tot Obs.	348213		117604		230609	

Note: the variable *Males (first row) provides the percentage of men in the sample. (*)The applications started in June, 2007 and (**)2011 observations do not contain December.*

Table 5: **Descriptive Statistic by Dependency Status**

	No Dependency		**Moderate Dependency**		**Severe Dependency**		**Serious Dependency**	
	Mean	*Sd*	*Mean*	*Sd*	*Mean*	*Sd*	*Mean*	*Sd*
Males	0.39	0.49	0.31	0.46	0.34	0.47	0.32	0.47
Age	77.94	11.30	77.10	11.47	78.38	11.82	81.48	10.85
Age Cohort 40-54	0.05	0.23	0.07	0.25	0.06	0.25	0.04	0.19
Age Cohort 55-69	0.13	0.34	0.14	0.34	0.11	0.32	0.07	0.26
Age Cohort 70-84	0.52	0.50	0.53	0.50	0.48	0.50	0.43	0.50
Age Cohort +85	0.30	0.46	0.27	0.44	0.34	0.47	0.45	0.50
Married	0.41	0.49	0.42	0.49	0.39	0.49	0.32	0.47
Widow	0.38	0.48	0.39	0.49	0.42	0.49	0.47	0.50
Single	0.10	0.30	0.11	0.31	0.12	0.32	0.10	0.30
Other	0.11	0.31	0.08	0.27	0.07	0.26	0.11	0.32
No disability	0.78	0.42	0.71	0.45	0.73	0.45	0.75	0.43
Physical disability	0.19	0.39	0.23	0.42	0.20	0.40	0.17	0.38
Psychological disability	0.02	0.15	0.04	0.19	0.06	0.23	0.05	0.22
Both types of disability	0.01	0.11	0.02	0.13	0.02	0.14	0.02	0.15
Illnes	0.07	0.25	0.25	0.43	0.40	0.49	0.38	0.48
Barcelona	0.75	0.43	0.73	0.45	0.72	0.45	0.74	0.44
Girona	0.07	0.26	0.08	0.27	0.10	0.30	0.09	0.29
Lleida	0.07	0.26	0.07	0.25	0.06	0.25	0.06	0.25
Tarragona	0.10	0.30	0.13	0.33	0.12	0.32	0.10	0.31
Year of application 2007*	0.07	0.25	0.02	0.15	0.06	0.24	0.27	0.44
Year of application 2008	0.20	0.40	0.20	0.40	0.29	0.45	0.37	0.48
Year of application 2009	0.22	0.41	0.30	0.46	0.30	0.46	0.20	0.40
Year of application 2010	0.21	0.41	0.30	0.46	0.24	0.42	0.11	0.32
Year of application 2011**	0.30	0.46	0.18	0.38	0.11	0.32	0.05	0.21
Tot Obs.	78081		73688		93845		102599	

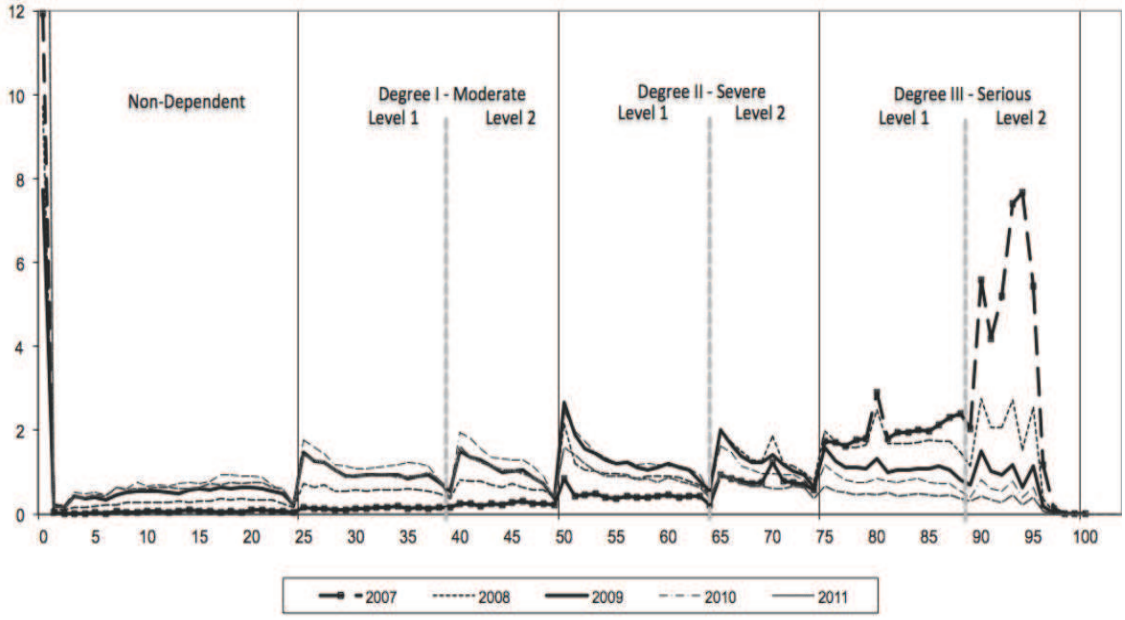
(*)The applications started in June, 2007 and (**)2011 observations do not contain December.

Table 6: **Marginal Effects of Ordered Probit**

	MALES				FEMALES			
	P(D=0)	P(D=1)	P(D=2)	P(D=3)	P(D=0)	P(D=1)	P(D=2)	P(D=3)
Age Cohort 55-69	-0.01493***	-0.00518***	0.00397***	0.01614***	-0.01049***	-0.00646***	0.00238***	0.01456***
	-0.00428	-0.00155	-0.00108	-0.00475	-0.00323	-0.00206	-0.00067	-0.00462
Age Cohort 70-85	-0.04454***	-0.01481***	0.01234***	0.04702***	-0.07398***	-0.04392***	0.01763***	0.10027***
	-0.00424	-0.00142	-0.00117	-0.00449	-0.00308	-0.00182	-0.00074	-0.00418
Age Cohort + 85	-0.08278***	-0.03156***	0.01899***	0.09536***	-0.14381***	-0.09500***	0.02199***	0.21682***
	-0.00412	-0.0018	-0.00077	-0.00519	-0.00278	-0.00199	-0.00049	-0.00458
Married	-0.02608***	-0.00853***	0.00736***	0.02724***	-0.00708***	-0.00426***	0.00169***	0.00965***
	-0.00332	-0.00107	-0.00095	-0.00344	-0.00226	-0.00137	-0.00053	-0.00311
Widow	-0.01046***	-0.00357***	0.00283***	0.01119***	-0.01595***	-0.00943***	0.00395***	0.02143***
	-0.00381	-0.00134	-0.001	-0.00415	-0.00224	-0.00132	-0.00056	-0.003
Single	0.03291***	0.00986***	-0.01003***	-0.03275***	-0.00206	-0.00123	0.0005	0.00279
	-0.00429	-0.00116	-0.00141	-0.00404	-0.00276	-0.00167	-0.00066	-0.00377
Physical disability	-0.02783***	-0.00990***	0.00717***	0.03057***	-0.00407***	-0.00245***	0.00098***	0.00554***
	-0.00245	-0.00093	-0.00058	-0.0028	-0.0015	-0.00091	-0.00035	-0.00206
Psychological disability	-0.04393***	-0.01712***	0.00988***	0.05117***	-0.05708***	-0.04255***	0.00568***	0.09396***
	-0.00431	-0.00195	-0.00072	-0.00556	-0.00261	-0.00241	-0.00033	-0.00525
Both type of disabilities	-0.04643***	-0.01856***	0.00999***	0.05500***	-0.03201***	-0.02166***	0.00549***	0.04818***
	-0.00639	-0.00302	-0.00091	-0.00851	-0.00373	-0.00286	-0.00033	-0.00628
Illness	-0.24664***	-0.11759***	0.01630***	0.34793***	-0.17744***	-0.13583***	0.00178***	0.31149***
	-0.00166	-0.00127	-0.001	-0.00274	-0.00102	-0.00103	-0.00068	-0.00196
Observations	**117,604**				**230,609**			
Region Dummies	**Y**				**Y**			
Time Dummies	**Y**				**Y**			

Dependent variable: categorical variable, which takes 0 if individual is non dependent and 1, 2 or 3 if individual is dependent. Standard errors each second row each covariate. The reference variables are age cohort from 40 to 54 years old, other civil status (either divorced or separated), Tarragona location, no-disability. Significance levels: One star (*) if $p < 0.05$, two stars(**) if $p < 0.01$, and three stars (***) if $p < 0.001$.

Figure 1: **Score's distribution by year**



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