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The impact of immigration on health, longevity and dependency of the elderly in the Spanish and European population

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Chapter 6

Conclusions

In the present dissertation I have addressed empirically a number of topics relevant to understanding the links between socio-economic characteristics and health in older populations living in Spain and other continental European countries. The results obtained while researching these topics are currently very relevant to guide public policies in the countries under study. Economic evaluation of health policy is a valid tool for assigning resources, and can be a good tool for decision-making (Oliva et al., 2003). Specific issues include three studies of the same group of European countries, which are gender differences in health, health differences among immigrants and native-born populations, and differences in the use of health care between foreign and

native-born populations. In addition, changes in healthy life expectancy and life expectancy with disability in Spain caused by the increase in the number of immigrants in recent years together with the assumed prevalence of disability for immigrants are also examined. In order to study these topics, I have used various methodologies, techniques, and econometric models, with mainly two collections of cross-sectional European and Spanish surveys, as well as information from the Spanish National Statistics Institute (INE) and the World Health Organization (WHO).

The essays contained in this dissertation are important at this time in our society, when there is an emphasis on understanding the development of individuals' health over their lifespan and to understand how to promote health improvements for the elderly population across Europe. These improvements are changing rapidly in modern societies due to tools that improve in efficiency daily, as in the case of hospitals (Cabasés et al., 2003). At the same time, migration movements are increasing in all developed countries. Governments, public and private institutions, even society in general can directly contribute to advances in health as well as indirectly help to improve in the economy. To contribute to the increase in knowledge on individuals' health, and immigrants' health in particular, the present dissertation provides results based on current information obtained from a recent European survey which is available to researchers on these and other topics. Results presented in this dissertation are also an important piece in contributing to define future socioeconomic policies. Some similarities in gender differences in health across eleven European countries are found. While subjective assessment of health is poorer among women compared to men, part of this difference is due to women being older and having more functioning problems. Concerning the question of health of older immigrants and native-born populations, in general, it appears that growing numbers of

immigrants may portend more health problems in the population in subsequent years. Moreover, this dissertation analyzes health care usage and the impact of immigration on life expectancy. Results can contribute to promoting the design of economic and health improvement plans. In relation to the use of health care of older immigrants and native-born populations, elderly immigrants use health services on average more than native-born population individuals with the same characteristics, which might be due to cultural reasons, lack of information, and even socioeconomic characteristics in some countries. Lastly, scenarios provided for the Spanish and the foreign-born populations living in Spain reveal that the impact of recent immigration flows on the calculation of healthy life expectancy and life expectancy with disability is moderate. Current literature and a review of existing literature on these topics in the last few decades are provided in this dissertation. Previous studies and investigations with the present results are compared.

It is important to emphasize that immigration has significant implications in social, demographic, economic and cultural environments in society, and the governments of all developed countries have been updating their laws to reflect the new characteristics and structures of their societies in the last few decades. In Spain, for example, immigration has arisen as one of the main political issues in recent elections. The first immigration law passed in 1985 by the Spanish government was one of the strongest immigration laws in Europe. Since 1986, when Spain became a member of the European Union, the Spanish government has introduced the issue of immigration in public policies. The new immigration law (2000) has significantly reduced immigration rights. Since then, some regulations have been added to the law[1].

[1] Spanish Ministry of Interior, http://www.mir.es/

The aim of this chapter is to summarize and discuss the results obtained in this dissertation. So, the following sections resume the arguments presented in the previous chapters. In the next section, the main findings are described. The last section explains possible improvements and extensions, as well as the limitations, policy-implications and related works of this research.

6.1 Main results

Results are summarized by emphasizing the most important ideas related to each chapter presented in the present dissertation. Each conclusion is described in four subsections, which are directly related to findings in the previous chapters.

First of all, gender differences in health are examined in various continental European countries to see whether differences between men and women in multiple dimensions of health are the same across the countries under study. Particularly, the hypothesis that sex differences are similar across social and economic circumstances is supported. Ideas about significant differences in health behaviors and cultural environment are also discussed in the following paragraph.

Findings from SHARE database indicate many similarities in gender differences in some health conditions across the eleven European countries examined. Men are more likely to be overweight and to be current and ever-smokers; while women are more likely to report having recently seen or talked to a doctor, except in Denmark. Functioning problems and IADL difficulties are more prevalent among women in all countries; the presence of ADL difficulties does not always differ by gender in many countries, although the

prevalence is somewhat higher among women. Eight major chronic diseases are analyzed in the second chapter of the present dissertation. Hypertension, depression and arthritis are significantly more prevalent among females in many countries. Gender differences in the prevalence of cancer are also notable in some countries, but not in others. Being female is related to an increased odd of having had cancer in three European countries. The relative level of cancer between men and women obviously depends on the distribution of some types of cancer (Bray et al., 2002). However, heart disease is less prevalent among females. There is a lack of gender differences in the prevalence of strokes. When diabetes and lung disease are considered, they are significantly more common among men in four and three European countries, respectively. In general, it has been found that women in late middle-aged and older have worse functioning problems and higher disability levels than men, but differences in disease presence are not as well predicted by gender. In general, part of this difference is due to women being older and having more functioning problems. Results about gender differences in health are further explained in **Chapter 2** with more facts and specifications about the line of investigation.

Second, the health of immigrants in some European countries is analyzed to examine whether similarities and differences in health between immigrants and native-born populations will affect the demand for social support and health care in social security systems, as well as possible variability across countries. In particular, the hypothesis is that if immigrants have poorer health than the native-born population increased immigration could cause an excessive use of health services and an increased stress on the management of the health system by governments.

There is no indication that immigrants have fewer functioning problems or less disability than native-born populations. Variables studied were functioning problems, ADL and IADL difficulties, chronic diseases, self-perceived health, and two health habits, smoking and being overweight. All significant differences between immigrants and native-born populations indicate worse functioning and more disability problems, for immigrants. There is only one case of a chronic disease for which immigrants (Austrian) have significantly better health than a native-born population. But, it is interesting to highlight that if immigrants were less likely to visit medical doctors, they would be less likely to know of and report the existence of a disease. These results show that the use of healthcare by immigrants and the native-born populations is very similar across countries. Only on one occasion do immigrants report fewer visits to the doctor than the native-born population. In some countries, immigrants appear relatively worse off than native-born individuals in terms of self-perceived health. The same analysis is done when education is controlled. Education is added to see if the poorer health of immigrants is due to their lower levels of education or socioeconomic status. But the results are relatively stable, indicating that differences in socioeconomic status between immigrants and native-born populations do not appear to be the cause of health differences.

A brief summary of immigrant´s health results is included in **Chapter 3**, where extended and more comprehensive findings are provided to the readers.

In the fourth chapter, the use of physician services among immigrants relative to the native-born populations aged 50 years and older is examined to see the relative importance of multiple factors in explaining variations in health care use in multiple European countries. The analysis of the use of physician services is made for three different types of medical care: (1) times

seen a medical doctor, (2) visits to a general practitioner (GP) and (3) times a hospital patient for at least a night. I took advantage of a relatively new survey to do the present analysis, its data come from the Survey of Health, Ageing and Retirement in Europe (SHARE, 2004).

Results specify that on average, there is extensive variability in the use of each type of health care across these countries under study. In 9 out of 11 countries for the physician visits, the mean average for immigrants exceeds that of native-born populations. The exceptions include Italy and Spain. For GP visits, in only three countries (Austria, Spain and Italy) do the native-born populations have a higher average of visits as compared to immigrants. In 7 out of 11 countries, immigrants have on average more hospitals stays than native-born populations. Austria, France and Italy are the exceptions, while Sweden remains the same for both groups. Four models are considered in this analysis. In the first model, it is found that the expected number of visits is significantly larger for immigrants than for native-born populations, in all types of physician visits considered. In the second model, when health conditions variables are include, the results are slightly lower than in the previous model. Moreover, in the third model, when socioeconomic variables are added, the magnitude of differences between those populations is about the same for the second and third model, but is considerably smaller for hospital stays in the third model. Finally, and for the last model analyzed, when controls for voluntary supplementary health insurance are added, the results obtained are very similar to the preceding model. An extended explanation of the results about the use of health care is presented in **Chapter 4**.

Lastly, the change in the calculation of healthy life expectancy and life expectancy with disability among immigrants and native-born population is

examined in Spain to see the consequence of the magnitude of immigrants that have arrived in Spain in the last decade. This analysis is performed for the population 65 years old and older, which I am interested in. The percentage of immigrants in the population is used to define different scenarios of life expectancy with disability by gender. The three possible scenarios are established: (1) when the foreign-born residents have a null prevalence rate, (2) when the prevalence rate for foreign-born residents is total and (3) when the prevalence rate for the immigrants is the same as that of the native-born Spanish population from the Spanish survey (EDDES).

Results indicate that when the proportion of foreign-born individuals increases in the total population, for example from 15% to 20%, there is a direct impact on life expectancy with disability. This range of percentages is chosen because in some parts of the age structure, the magnitude of foreign-born residents is about 15% of the Spanish population. An increased proportion of immigrants in the population seemed to cause a larger gap between the possible scenarios described above. When gender differences are considered, life expectancy in disability is always higher for women than for men. All scenarios indicate that the impact of the foreign-born residents in Spain on life expectancy with disability is limited. This means that an increase in the size of the foreign-born population in Spain, with similar prevalence rates, does not have a significant impact on life expectancy.

Chapter 5 includes the extended results on the impact of life expectancy, as well as more details and specifications. In general, results indicated that the differences between the mortality table estimated for the foreign-born resident population and that estimated for the Spanish population were relatively large and were more evident in women. At 65 years of age and in the worst scenario, which occurs when all the members of the foreign

residents population are disabled, life expectancy with disability would be 2 more years for men and 3 more years for women than with no foreign population. Overall, I found that the potential impact on the curves of life expectancy with disability in the Spanish population by the foreign-born population is mild.

6.2 Improvements, Implications and Extensions

The current dissertation might be improved in the near future by overcoming some limitations. Some of the less obvious nuances to these future research projects are also explained in this section.

6.2.1 Substantive Value of Findings

Gender differences in some health conditions are quite large and regular across these eleven European countries described in **Chapter 2**. While similarities in gender differences in health across eleven European countries are encountered, now it is important to address how these results can be put to use. First of all, these results can give directions to policy-makers, governments, public and private institutions, even to society in general, by indicating which measures to implement in social security systems in order to face up to a society that is constantly changing. So, if new measures adequate to the new society are implemented and the public system is equipped with a revised set of priorities in health policies, the public system will acquire added value. Some examples may be: (1) Possible measures to implement will include health prevention so that the prevalence in terms of functioning problems diminishes both for men and women, knowing that this prevalence

rate is higher for woman than for men; (2) The idea that women need to be regularly screened and treated at the same ages as men for hypertension, for example, needs to become part of public health policy; and (3) The provision of devices to improve performance of daily activities might be inexpensive but effective in improving functioning, self-rated health and overall health status. While females might continue to live longer than males, they may do so with less functioning problems.

Chapter 3 reflected European trends in different measures of health among immigrants and the native-born population. Mainly, the results confirm that the growing numbers of immigrants in developed countries, especially within Europe, where borders are no longer restricted and individuals' move easily, may affect the population at destination and their health systems in subsequent years. However, there is no indicator that immigrants have worse health than native-born populations. There is evidence that, in the last few years, the composition of the population has changed affecting the age-structure pyramid in almost every developed European country. Results presented in **Chapter 3** could push social policies towards a plan of action to diminish health problems for both, immigrants and native-born populations. So, in the near future, if these tools are implemented, the improvements in these two groups will be demonstrated. For instance, the poorer health that immigrant have after the "healthy immigrant effect" in some countries, means that, after some years of immigration, health can deteriorate compared to the native-born populations. As a consequence, governments have to lead the way and increase the health perception and status of immigrants in health among these two groups providing appropriate tools to inform immigrants what, how and when they can use public services. At the same time, they need to find ways to be sure that there is not a lack of information about this group, without discriminating, because there is a

possibility that immigrants do not report or are not aware of the existence of a disease.

Chapter 4 established that those immigrants above age 50 use health services more than native-born populations with the same characteristics. Models show that immigrants have between 6% and 27% more expected visits to the doctor, GP or hospital stays when compared to native-born populations with the same age, gender and health characteristics in a number of European countries. These results allow the following measures to be used by policy-makers: (1) Better diffusion of information on how immigrants can use the health services provided in each country and which type of medical care is more appropriate; (2) Given that total health expenditure as a percent of GDP has been increasing in the last few years, as more individuals receive care, it is necessary to invest more and do more research on this topic in order to decrease the rate of expenditure growth. However, health expenditure as a percent of GDP needs to increase; (3) Avoid discrimination due to countries of origin, so that all citizens receive a similar level of care. And last, but not least, (4) Adjust health coverage to the needs of the elderly because uniformity in health care provisions may be inadequate to guaranty quality of life in the later years, when patients need intensive treatments.

Finally, during **Chapter 5** is found that the impact of increasing the proportion of the foreign-born population on life expectancy with disability is moderate. For researchers, there is still room to explore trends in life expectancy. As the population of older people grows in both numbers and proportion, it will be of increasing interest to know what factors are influencing trends in disability, dependency and health in the older population. It is well known that life expectancy has increased notably in the last few years across Europe (see Figure B), and especially in Spain which has one of

the highest life expectancies in the world. However, there remain significant differences in life expectancy between men and women in developed countries, and some improvements can be made to increase longer life in the best health conditions.

All the work done in this dissertation, apart from the possible guide for policy-makers and social policies, can be used to reflect how our society can be improved, especially quality of life with increased age.

6.2.2 Limitations

This dissertation primarily involved a complex, multidisciplinary and cross-national analysis of mainly two large datasets, a European survey and a Spanish survey, some different models and methodologies, and was potentially affected by several major limitations, which are explained in the following paragraphs. The limitations follow the structure of the dissertation.

First of all, different response rates by immigrants and native-born populations in SHARE, with and without health problems, may affect observed differences among them. As a consequence, the group of immigrants in the surveys may be more or less selected than the native-born population, as well as influencing the size of immigrant groups represented in the survey. Second, the European survey used here, with data from 2004, does not have information on the area of origin of migrants and there may be differences in origin across countries. While country of origin was collected, these data are not yet available for analysis. Consequently, this study was unable to include country of birth of the immigrant population, and I was

unable to expand new lines of investigation in this direction. Third, the SHARE database was limited to the population aged 50 and above. Because of that, it does not represent the new flow of immigrants who are younger than this in the sample. Fourth, and also for the same European database, a longitudinal analysis was considered. SHARE now has two waves and a significant number of sample members were added in the second wave. In order to take advantage of this increased sample size, data was pooled using unique sample members from both the first and the second wave of the SHARE database, but some variables of interest were not available yet. The first wave took place in 2004 and the second wave in 2007. Without longitudinal data, it is not possible to understand the processes that led to the observed differences in prevalence. Fifth, the main findings using SHARE dataset are based on self-reported health conditions, which is another limitation. Conditions depend on whether men and women report their conditions accurately in the same way. Sixth, and specifically for Spain, the lack of specific information about mortality and prevalence of disability for the foreign-born population living in Spain does not allow me to examine healthy life expectancy and life expectancy with disability for this group of people. The available information on mortality rates is not separated into the two groups, immigrant and native-born populations. This is also a problem with prevalence rates; as this information is used in **Chapter 4** and is from the 1999 EDDES survey. However, a new wave of the EDDES survey, 2008, collected more recent information on prevalence rates, as well as all indicators under study. But microdata information of EDDES 2008 are not yet available.

As far as the present dissertation is concerned, the section included above explains current limitations relevant to this research.

6.2.3 Policy Implications

The results of the current dissertation provide several policy implications relevant to some of the most interesting issues related to health, medical services and healthy life expectancy for the elderly European population. These implications are related to the regulations in health services by policy-markers in response to the continuously increasing number of immigrants in the last decade, as well as, the possible impact on the demand in health services produced by gender differences in health and its effect on the calculation of the healthy life expectancy in the population. In fact, I assume that emphasizing the health implications may affect public policies due to the importance of these topics for society. However, it is well known that these topics have become more of a priority in the political agenda of the population during the last few years. So, it would be relevant for policy to assure the accuracy of and adjust policy to suit these implications in modern times.

First of all, according to the framework of gender differences described in **Chapter 2**, the results obtained have interesting policy implications for society. As has been shown, women live longer and with more disabilities than men. Thus these results can be useful in understanding health behaviors, the presence of functioning problems, disease prevalence, self-rated health, and health care utilization by gender into the public policies of multiple European countries. Results revealed in which cases males are more affected by some health limitations or problems than females and vice versa. Using these patterns, policy-makers can adjust and update future health implications, controlling major and common health problems by gender.

Concerning **Chapter 3**, the relationship between health and migration, one of the most worrisome political issues is the availability of healthcare

services to serve the increasing number of immigrants, and to provide equity in access to healthcare services for this population. It is important to look in depth at the concept of the "healthy immigrant effect", which means that the immigrant populations arrive healthier in the country of destination than the native-born populations because of a previous natural selection procedure, but in years subsequent to their arrival, these differences become smaller or even inverted as compared to the native-born population. In general, immigrants arrive in the country of destination at working age. As a result, when immigrants age they may experience higher health problems than the native-born populations. While these trends represent negative news for policy-makers by suggesting that the demand for health and health care resources may increase more rapidly in the country of destination in subsequent years because of the increment in migration into many countries society, there are still places in which policy interventions could lead to further declines in future decisions.

Concerning **Chapter 4**, one of the most important issues in terms of older immigrant's health care usage is to understand the behaviour of elderly citizens across Europe. For this reason, it is important to evaluate why immigrants use medical care units more often than native-born individuals. This might be due to cultural reasons or lack of information. In this case governments have to design campaigns to explain to residents how medical care units should be used. If the cause of differential demand in the appropriate use of health care for both, immigrants and native-born populations, is the lack of social networks, then a strong action must be executed to integrate the elderly immigrants into European society before more evidence of exclusion is discovered. If none of these situations are corroborate in this direction, then a growing number of elderly immigrants

will exert more pressure on the respective health care systems in the subsequent years.

The composition of the population is constantly changing by ethnicity and gender, and also varies by countries. Some results suggest that in the near future there are likely to be increases in the age of disability onset for the elderly, as well as reductions in the prevalence of disability among younger cohorts reaching older age groups. While these trends represent positive news for policy-makers, by suggesting that the demand for supportive services may increase more slowly than the growth of the older population, policy interventions could be influential in further declines. Relative to **Chapter 5** and after the first law to *Promote Personal Autonomy and to Attend to Persons in the Situation of Dependency* passed by the Spanish government in 2006, the debate about the social, economic and healthy consequences of the migration phenomenon in the Spanish population has become stronger. Spain, as a consequence of the increase in the number of foreign-born residents, will have to pay attention to the basic dependency coverage which this group will need. Results affirm that in the worse case scenario, the impact of immigrants on non-healthy life expectancy is insignificant. Consequently, the incorporation of the foreign-born population into the Spanish population won't cause a substantial relative increment of public health costs per capita, but it may affect the number of people demanding services, or the costs associated with dependency. But, future investigations need to be done to predict the possible trends on healthy life expectancy of the impact of Spain's massive number of immigrants.

Moreover, in the near future, researchers all over the world might consider how the current economic crisis will affect international immigration movements. Will immigration trends reverse? What are the new attractive

destinations for immigrants going to be? For example, some Eastern Europeans are losing their jobs in the West and are returning home. As a consequence of the economic crisis, the situation may change in the near future.

In summary, the present dissertation has provided several implications that must be considered by policy-makers at the present time and in subsequent years when policy-makers update health program designs for society.

6.2.4 Recommendations for further studies and related works

This dissertation addressed how demographics, economic and social characteristics might be related to health differences between gender and immigrant populations in various European countries, and especially in the case of Spain. In general, future research should examine the link between the health of immigrants and their place of origin, as well as the length of stay of immigrant groups in the country of destination. In relation to the health care usage analysis, a comparative international analysis of health care usage between immigrants and native-born populations should be undertaken working with a combination of different databases from Europe (SHARE), the U.S. and even Japan. And also, this information might be examined in different ways because the determinants of health care use could vary by type of use (need, predisposing and enabling), as well as by country. Recently transformation in migration flows through increased globalization has encouraged the analysis of health differences and health care usage by immigrants in a range of countries by researchers (McDonald and Kennedy, 2004; Cacciani et al., 2006). In addition, inequalities in health have been

investigated by investigators in the last few years, but further studies need to be done to understand these behaviors in the near future.

Nevertheless, there is a lack of empirical research on this topic, which needs enhancement to compare the foreign and the native-born populations across countries. Recent studies show that individual differences in health accounted for the major part of the variation between countries in the area of physician visits, suggesting that changes in the organizational framework might affect utilization patterns (Bolin et al., 2008). Others try to assess how much the variability of the demand for health services can be represented through a joint model which explains the differences in the health system across countries (Jiménez-Martin et al., 2002, 2004). However, they do not compare the immigrant and the native-born populations in terms of health care utilization.

Studying the sources of medical payments among different immigrant groups would lead to a deeper understanding of their health service utilization. In addition, it would be interesting to compare the level of service use in two different groups among older immigrants and native-born population, one before the age of retirement and one after the retirement.

Finally, a future research project concerns a comparative analysis of the situation of dependent elderly people in England and Spain. The work will focus on people staying at home and evaluate the private and social cost of dependence in the two countries. This work will aim to compare the financial, social and human supports developed for older people to live independently and to enrich their quality of life in each country under study. This research project will use two datasets, the Spanish National Health Survey (SNHS) and the English Longitudinal Study of Ageing (ELSA). The SNHS contains seven

waves since 1987 and has particularly been enriched with new questions in the last three waves. As for the ELSA, it is a recent and detailed dataset especially focusing on elderly people in England, which now contains four waves and which started in 1998. Furthermore, ELSA is based on the sample from the Health Survey of England so relevant information before 1998 could be obtained from this source. SHARE, the European database used in this dissertation, is harmonized with ELSA, so this future research project, apart from the new investigation, will provide an opportunity to explore a new national database.

To conclude, the present dissertation has dealt with relevant topics in the field of gender differences, immigrants' health, health care usage and healthy life expectancy and also has tested three different hypotheses which are supported by the main results obtained in each area of study. At the same time, some policy implications are derived either directly or indirectly from these results, as they affect some of the most challenging issues surrounding longevity and health differences in the population. In addition, some improvements, implications and extensions have been considered in this section for further research.