THE FUTURE WAS A RIOT: CAUSES OF YOUTH UNEMPLOYMENT IN SPAIN AND CHALLENGES TO IMMIGRATION AND THE WELFARE STATE IN THE ERA OF THE COMMON MARKET (1999-2016)

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ABSTRACT

ANDREW MARK HAYES: The Future Was a Riot: Causes of Youth Unemployment in Spain and Challenges to Immigration and the Welfare State in the Era of the Common Market (1999-2016)
(Under the direction of Joshua Hendrickson)

The purpose of this thesis is to exam the causes behind unusually high youth unemployment in Spain, even after the 2007-8 financial crisis has subsided. The primary means of investigating these causes is through constructing a set of empirical models and then using these models to perform several time-series regressions to find whether changes in educational patterns, demographics, and immigration have had any concrete effect on the youth unemployment rate and social capital. Some qualitative work is done; particularly in describing the legal structure surrounding unemployment and in the description of the Spanish welfare state. In my research, I find that a change in educational patterns does not deeply impact youth unemployment, nor do demographic shifts. The collapse of the Spanish economy (in particular the housing market) has had a far more determinative effect than any of these factors named. Levels of immigration do bear a positive relationship with youth unemployment, but only for a period, and have no measurable effect on social capital and may in fact aid social cohesion to a small degree, given enough time. In conclusion, the causes of high Spanish youth unemployment are not being dealt with well by the present government and further research into this area (particularly in to the effects of reforms undertaken in 2010 and 2012) is warranted before any policy prescriptions are formulated.

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Introduction

Beginning in 2007, the global financial market collapsed, destroying livelihoods, evaporating pension funds, and leaving dozens of economies languishing in a decade-long recession. As economists and politicians cautiously autopsy global structures that led to the collapse, it is clear that some countries have bounced back, a few even performing better now than they did prior to the crisis. However, the wide majority of European countries have barely staggered away from the economic wreckage of the late-2000s. One case in which this is particularly true has been that of Spain.

A full decade after the beginning of the crisis, unemployment rates in Spain still hover above 20%, second only to Greece among EU members. Youth fare even worse in the country, with national youth unemployment standing at 48.8%, coming third in the EU after Greece and Italy. For the purposes of this analysis, youth unemployment is defined as the percentage of those under the age of thirty who are seeking work but are unable to secure it, the definition used by the Spanish Ministry of Employment and Social Security. In some regions of Spain, such as the rural province of Extremadura in the west, youth unemployment has soared to nearly 70% (Alonso and Masot, 2017). Even as greater distance is put between the events of the crisis and the present day, these unemployment rates remain well above what would be expected in a healthy economy.

It is clear that Spain's ineffective labor market is fast becoming a structural problem as higher youth unemployment has become the "new normal." However, Spain's exorbitant youth unemployment, almost unmatched in its deterioration in the last ten years, begs the

question: why has youth unemployment in Spain become such a chronic structural problem?

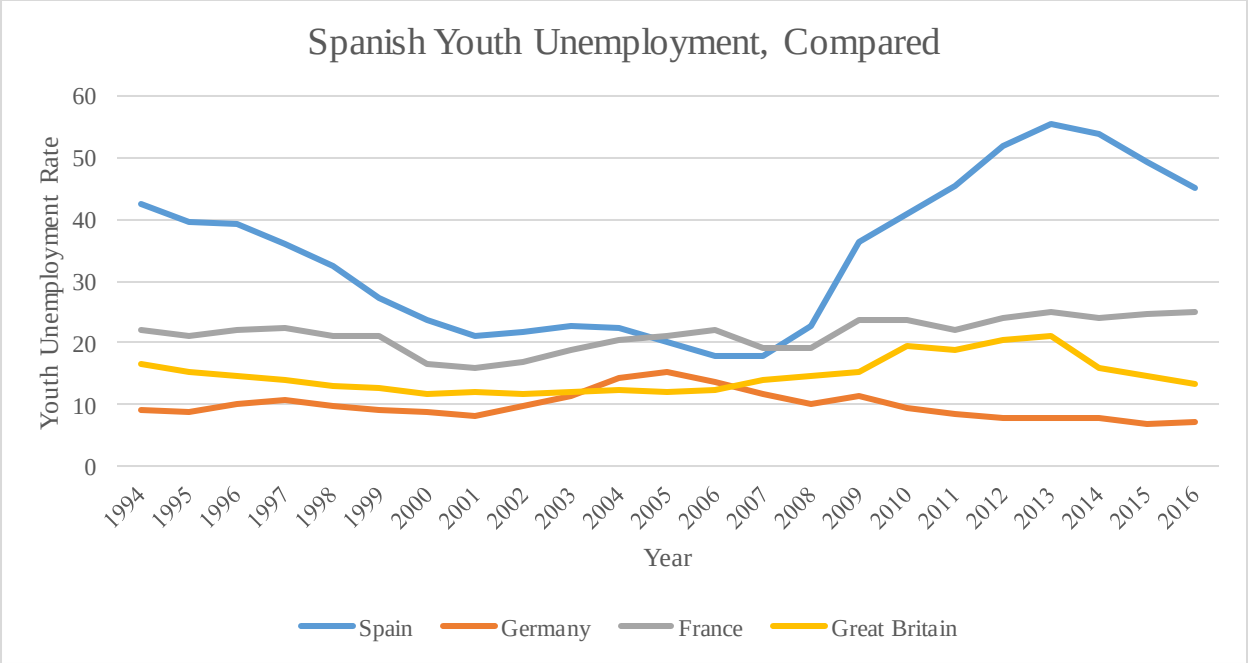

Figure 1: Youth unemployment rate in Spain, compared with those of other nations

This thesis proposes that Spanish cultural and policy changes have resulted in a situation in which Spanish youth are in the unenviable position of being both undertrained for the modern globalized marketplace while being poorly fitted for jobs available in Spain. In addition, I posit that these changes in the Spanish youth labor market bear the markers of economic hysteresis and these changes represent structural deficiencies that will persist after the initial causes are removed.

In order to accomplish this, I present Spain in its appropriate historical and geographical context as a young democracy located in Southern Europe. Spain's unique historical transition from relatively-poor dictatorship to first-world democracy with attendant social benefits structure, bypassing the slow growth of the economy along with

social institutions observed in the rest of Western Europe, has brought about unique challenges that inform the present Spanish economic situation. In addition, cultural forces, such as demographic change and immigration, which guide youth decisions are analyzed. In understanding the dynamics and flaws that have resulted in such a dire situation for Spain, we may gain greater understanding into the causes and effects of youth unemployment in advanced countries.

Methodology

The methodology employed consists of both quantitative and qualitative approaches. The backbone of this thesis' quantitative analysis is time-series regressions of the youth unemployment rate on various independent variables that my hypotheses claim as potential causes of the Spanish youth unemployment problem, then tabulating the correlation between explanatory variables and youth unemployment. More specifically, I employ empirical analysis in order to negate some of the uncertainties associated with the kind of time-series data constituted by unemployment figures, in which it is difficult to ascertain whether or not a set of variables, both independent and dependent, are highly collinear or not.

In addition, I engage with existing arguments made regarding the structure of the Spanish welfare state. In doing so, I construct arguments to explain some non-quantifiable elements in the persistence of high unemployment among young Spaniards, even though such arguments will certainly not constitute the backbone of my research. Because this is my goal, I will focus on Spanish secondary sources (both in English and Spanish) in order to gain a better understanding of the cultural dynamics contributing to Spanish conceptions of and attitudes toward joblessness.

Literature Review

A significant wealth of literature already exists regarding the phenomenon of youth unemployment. A wide number of writers have informed and inspired the particular research question of this thesis. A series of studies conducted by Blanchflower and Freeman describe the prevalence of youth joblessness in late-stage capitalist countries. This research has been compiled in their book *Youth Unemployment and Joblessness in Advanced Countries*. A study by Gugliemo Caporale carried out for the OECD and the Italian Ministry of Labor from 2014 has been instructional in its attempts to explain the persistence of youth unemployment in European models. Extensive research has also been carried out by Dietrich and Möller on the connection between European business cycles and youth unemployment. I have also drawn upon the works of a 2015 study by Stephen Sacht regarding the broader Spanish labor puzzle and his analysis of the effects of labor market reforms in 2010 and 2012. A 2011 study on assimilation and unemployment with regards to immigrants in Spain by Silva and Vázquez-Grinno has been valuable in the construction of questions regarding the problems caused and faced by immigrants to Spain. In addition, the book *The New Generations of Europeans*, edited by Wolfgang Lutz, has been useful in understanding the need for and public attitudes concerning mass immigration in the modern period. Beyond these more purely academic sources, I have also drawn upon the data and analysis of periodic surveys conducted by the EU and the OECD, as well as the World Values Survey.

A consistent missing element of these studies has been a lack of specific focus into Spanish youth unemployment; most of the studies listed above have focused on broader questions of unemployment in the country or of youth unemployment in Europe as a whole.

These studies, where they do focus on youth unemployment, often neglect to consider the factors across time that may have had a consequential effect on the employment situation of Spanish youth. To solve this problem, I study a range of potential causes for the youth unemployment crisis in modern Spain.

Chapter Outline

Chapter I details the construction and composition of the Spanish welfare state, beginning in the 1960s and continuing to the modern day. The main thrust of this chapter's analysis lies in determining what effect the structure of the Spanish welfare state has contributed to the Spanish youth joblessness situation. Necessary historical context concerning the fall of Franco's nationalist dictatorship and its corollary central planning are inserted as they are relevant to the discussion of Spain's unique approach to the social safety net, but the primary purpose of this chapter is not to simply reconstruct the existing general history of this era. An additional analysis focuses on the efficiency of labor market reforms adopted in 2010 and 2012. In this chapter I find that some disadvantages are presented by the welfare state to young workers and that it is difficult to ascertain the results of reform efforts with data extending only through 2016.

Following Chapter I, Chapter II focuses on the effects of Spanish demographics on the unemployment problem, testing the hypothesis that the declining birth rate in Spain has resulted in fewer new businesses being created and a drop-off in entrepreneurship. In order to test this hypothesis, I use data regarding birth rates and data obtained from Spain's National Institute of Statistics regarding the number of new licenses filed for businesses every year in the country and the part-time employment rate among young people. In this

chapter I find that the demographic shift in birthrates have not impacted economic development in any significant way.

In Chapter III, I explore the impact of education on the Spanish youth labor situation on two fronts. First, I test the hypothesis that inadequate training and education at the secondary level has produced a generation of Spanish workers unprepared to deal with the challenges of the modern global labor market. In order to test youth preparedness, I will use as variables Spanish PISA scores (internationally standardized tests measuring academic performance) and English-language acquisition, regressing these variables on youth unemployment. Secondly, I test the hypothesis that higher levels of university education have widened the gap between available jobs and the jobs for which university graduates are trained. In order to test this hypothesis, I use as an explanatory variable the percentage of students in majors divided by discipline (social sciences, hard sciences, humanities, etc.) over time. In this way, I find that reduced spending at the secondary level harms students' employment chances and that this effect carries across sectors of the economy, though students who study STEM fields generally carry better odds of employment.

In Chapter IV, I discuss the impact of youth unemployment in Spain in the areas of immigration. Much attention in Spanish media has been devoted to the effects of large-scale immigration from Eastern Europe and Northern Africa into the country and attendant problems caused in the job market. I use this chapter to dissect the actual effects of immigration by comparing rates of immigration with youth unemployment rates. I also observe and measure the effect that immigration has had on social capital and what effect this might carry for young workers and the struggles that they face in seeking meaningful

employment. In this chapter, I find that immigration has some small and temporary effect on youth unemployment but no effect on social capital.

Following this final chapter, a brief conclusion sums up the findings of the prior chapters. Through this thesis, I hope to add to existing knowledge regarding the broader Southern European labor puzzle and to enhance understanding of the specific complexities and tendencies of Spanish youth unemployment and the effects that this labor market phenomenon have had on the country's immigration patterns and welfare state.

Chapter I

The Legal Status of Unemployment in Spain and Challenges Posed by the Welfare State

Introduction

Before launching into the analysis of data regarding changes in youth unemployment brought about by changes in Spanish society and educational patterns, it is useful to examine the legal nexus that surrounds labor and unemployment in the Spanish state and, by extension, informs one aspect of the unemployment situation experienced by young people. It is no secret that the legal particularity of unemployment can deeply impact the choices made by both jobseekers and potential employers (Peinado and Serrano, 2017). In order to analyze what effects the legal recognition of and provision for the unemployed may have on youth unemployment, it is key to describe both the motivating factors experienced by young people as well as the incentives presented to businesses within a labor market.

Similarly, it is impossible to discuss the specific structures and practices of a nation with regard to welfare systems and unemployment protections without first locating these aspects within their historical and geographical context. Understanding the common problems of economic crisis and unemployment across a region (in Spain's case, that of Southern Europe) is helpful in both identifying the common traits that shape these issues as well as seeking out potential solutions to such problems that would function within a

specific cultural milieu (Contini, 2012). To that end, some significant cross-national comparison is necessary to diagnose the inadequacies that undermine Spanish efforts to curb job loss by reforms made to the welfare state. In this way, it will be possible to gain a fuller picture of pressures facing Spanish youth.

Theoretical Framework of the Spanish Welfare State

Compared to some of the more ample European benefits systems, such as the Nordic model, the provisions of the Spanish welfare state with regard to unemployment have been less extensively studied (Guogis, 2012). Historically speaking, the Spanish welfare state was underdeveloped by European standards (Pons and Rodríguez, 2012). The development of a social safety net that took place in the early twentieth century in Britain and Scandinavia did not come about in Spain until the 1960s and did not reach its full flowering until the 1980s (Royo, 234). Much of this could be attributed to the fact that Franco's dictatorship granted little of the democratic impetus to court voters with welfare spending that was observed in other nations at the same time (Castles and Obinger, 2008). Anti-Communist leanings and a Spanish society that still leaned heavily on the Catholic Church as its primary means of social support also influenced this calculus (Castles, 1994). It was not until the socialist governments of Felipe González (1982-1996) that social spending began to swell in Spain as a percentage of GDP, eventually coming to eclipse that of Spain's northern neighbors (Moreno, 149).

Despite the relative lack of intense study into the Spanish welfare state, it is important to locate the Spanish welfare state's governing philosophy within a theoretical framework at the outset, with which it will be possible to analyze subsequent changes and reforms to the Spanish unemployment system according to the framework. Most scholars

agree that the Spanish approach to welfare is not the full-throated socialist egalitarianism observed in, say, Sweden, but rather a *via media* dubbed 'conservative corporatism' (Moreno and Sarasa, 1992). Hallmarks of this structural philosophy involve a system of welfare benefits that is tied to one's status as a worker, pronounced income differentials, hierarchy among workers, a moderate provision of social rights, and a degree of social exclusion (Maguire et. al., 364). This philosophy often manifests itself through a deep reliance on transfer payments as a means of redistributing wealth.

Spain belongs to a specific family of nations whose approach to the provision of social welfare does not match the typical image of European welfare. This group of Southern European nations (defined for the purposes of analysis as Greece, Italy, Portugal, and Spain) are united by historical backgrounds, values systems, and institutional peculiarities. The researcher Maurizio Ferrera describes the Southern welfare state as having the following characteristics: (1) a highly fragmented and 'corporatist' income maintenance system, displaying a marked internal polarization (such as generous pensions accompanied by macroscopic gaps of protection), (2) a departure from corporatist traditions in the field of health care and the establishment (at least partially) of National Health Services based on universalistic principles, (3) a low degree of state penetration of the welfare sphere and a highly collusive mix between public and non-public actors and institutions, and (4) the persistence of clientelism and – in some cases – selective distribution of subsidies (Ferrera, 1996). Ferrera also suggests some factors to explain these peculiarities of the Southern model. Among these are the historical weakness of the state apparatus in this area of Europe, a history of authoritarian rule and ideological polarizations following democratization, in particular, the presence of a fractured Left in these countries.

It is possible to observe shared features of their welfare states that are applicable to the cases of Spanish youth. One important common trait is the division of workers within Southern economies into the categories of core workers, peripheral workers, and marginal workers (González and Miles-Touya, 2010). Core workers are specialized workers who enjoy significant protection from the risk of unemployment, such as doctors, lawyers, academics, and so forth. Peripheral workers are gainfully employed and educated workers with some protection against unemployment, but whose skills are not specialized and may be shifted among industries (such as an accountant). Finally, marginal workers are unskilled workers who primarily work on a temporary basis (not on contracts) and are consistently threatened by unemployment. For young workers in the Spanish case, moving into the realm of core workers is a persisting challenge, especially as specialized fields have become crowded in the last years (Parellada et. al., 2009).

The Spanish Contract System

The most important concept in Spanish labor law is that of the employment contract. The vast majority of salaried Spanish workers are employed on a contract of a fixed length and the procurement of such a contract is considered to be one of the hallmarks of middle-class economic achievement in Spanish society. The breach or rupture of a contract is considered to be a serious infraction and is typically met with a strong reprisal or penalty delivered to the offending party. This system of contract employment, designed to offer some level of protection to Spain's growing cohort of white-collar workers, has its origins in the late 1960s and the economic populism espoused by the Franco regime (Palomares, 184). For years after its introduction, this system was lauded as a major step forward for Spanish professional workers.

However, in recent years, louder criticisms of this system have arisen, particularly among young people. As Spain has transitioned to a service-based economy, the number of people seeking permanent contracts has dramatically increased. Young professionals in Spain often enter into the workforce by working a temporary contract (typically of three years) that offers fewer benefits and salary guarantees than a full-time contract offered to more senior employees. Typically, full unemployment insurance is not offered to those employed by a temporary contract (de Cuyper et. al., 2009). Because of this, young people who are unable to secure a permanent contract following their first contracted period are less well-protected. Following the financial crisis, some politicians have grown concerned about the high potential for labor market rigidity created by the contract system, as well as the discomfort experienced by young workers, and have opted for reform.

The Spanish Pension System

Additionally, the pensions systems within the Southern model differ significantly from other European models in that it relies more heavily on transfer payments from young workers to their retired counterparts (Díaz-Giménez and Díaz-Saavedra, 2017). In other words, active labor market participants finance the benefits accruing to their parents, benefits that are often more comfortable than those enjoyed by workers elsewhere in Europe (Hughes, 49). While this setup is certainly not unusual, it is the generosity of this arrangement that has proven troublesome for new workers.

For young workers in the Spanish state, this welfare system has several negative features. In the first place, it prioritizes and to some degree "overprotects" pensioners from the hazards of old age at the expense of younger workers. In a country such as Spain that is experiencing a rapid aging of its population, the demographic forecast bodes poorly for

young workers, as they are required to subsidize the pensions of more retirees. Secondly, the heavy concentration of government spending on income maintenance programs has drawn away from other government programs that constitute a better-rounded social welfare state in other European countries, such as family benefits and services and public housing (Brie, 101). These commonplace programs remained underdeveloped in Spain by European standards and may be unavailable to young jobseekers as a means of support. Finally, since the passage of the Non-Contributionary Pensions Act in 1990, Spain has taken a universalized approach to pensions and disability payments, regardless of income (Holzmann et. al., 2003). This is similar to what was present in much of Northern Europe until reforms were made to make their pension systems sounder, a step that has not yet been taken in Spain.

All of these factors place the modern young Spanish jobseeker in a catch-22 situation. For a mostly-educated young workforce that has attended university and subsequently attempts to join the workforce, the choice of employment may be unappealing. A skilled young worker who accepts a job will be forced to make a deep contribution to the pensions of less-skilled and older workers, an option some young people find less attractive than unemployment (Hill, 102). In addition, some significant doubt likely lingers in the minds of many young workers as to whether or not they will ever receive the retirement benefits they contribute toward now. This doubt warrant some hesitation before accepting a job on the mere reasoning that that money will provide for the same young workers in their own retirements. For some workers, this subtraction from their pay to fund an elusive retirement may be enough to cause them to pass on the first job offered to them.

For young people with solid family support and little debt, there is some economic sense in holding out for better-paid work in their field. However, the Spanish welfare state offers little recourse for other young people who find themselves out of work, due to the inadequacies of the Spanish social safety net outside of the pension structure and, as will be noted later in the chapter, unemployment protections that disadvantage entry-level workers. For young people who find themselves in this unattractive situation, the most common response is to rely on family aid. Indeed, the phenomenon of university-educated workers forced to live with their parents has been noted by many observers (Bergareche, 2011). This resulting state of limbo endured by young Spanish workers wreaks havoc on the prospects of young people and harms their ability to progress through traditional paths to advancement that are enjoyed by youth elsewhere.

Some Spanish youths who find themselves out of work enter into a "black market" for unemployment, informally offering off-the-books labor in exchange for payment, without the protection offered to workers in the formal sector (Congregado et. al., 2010). Despite the ominous-sounding term, this phenomenon typically does not encompass illegal activities, but rather forms of labor that allow Spanish youth to avoid the pension obligations of a contracted position. Many young Spanish workers take multiple forms of part-time work, at a restaurant or a bookstore, for example, and pursue further education, training, or search for a full-time contract (Dolado et. al., 2016). However, this ultimately neglects the investment of time made by the worker into his or her education.

Finally, a number of Spanish youth have taken advantage of the free movement of workers afforded to citizens of the European Union and have emigrated to countries with greater demands for labor, such as Germany, England, the Netherlands, and Finland

(Triandafyllidou and Gropas, 2014). Among those who remain in Spain, many choose to migrate to the country's larger cities, such as Madrid, Barcelona, and Seville, often with only mixed success (Ayuda et. al., 2010). More jobs exist, especially for university graduates, in the larger cities, but the crowding of the local labor markets means that urban migration does not necessarily guarantee work for young people.

The Spanish welfare state fits with a Southern model of welfare that relies heavily on transfer payments. This has resulted in a pension structure that disadvantages young workers, a situation that is only likely to worsen as the national populations of Southern Europe continue to age. The concentration of income maintenance spending, originating in and better suited to a past era in which the Mediterranean family and religious authorities were greater sources of public welfare provision, has crowded out spending on family services and public housing, leaving some Spanish youth in a state of perpetual uncertainty. Those unable to secure remunerative work often respond by taking informal or part-time labor, migrating to a more thriving labor market, or simply enduring a scant unemployment and relying on the support of family. A reform of the labor market in this regard would surely be helpful to young entry-level workers.

Unemployment protections in Spain and attempts at reform

Having examined the legal pressures that weigh on the decisions of workers in seeking and taking employment, it is worthwhile to analyze the strictures that influence the hiring patterns of companies and which may incentivize or discourage a company from taking on new employees. Specifically, it is valid to examine the status of unemployment benefits and contract law in the Spanish state and what effects recent reforms in this area have had on the situation faced by workers and employees.

In contrast to its universalist approach to pensions, the Spanish government ties unemployment insurance definitively to one's class of work and prior salary. This inconsistency is sharp between different sectors of workers, with scrawnier benefits for marginal workers but ample benefits for professional contract workers. Such a setup is common across the industrialized world and is not necessarily burdensome for young workers (Aguirregabiria and Alonso-Borrego, 2014). The logic behind this arrangement is simple to understand: offering a share of an unemployed worker's previous income as unemployment benefits incentivizes that worker to reenter the workforce as quickly as possible, and it would be unfeasible to promise all workers the same unemployment benefits. For young people, this counters the disincentive to employment presented by the pension system. However, as will be examined, the unemployment benefits promised to entry-level workers brings unfortunate disincentives to employers: a new worker is expensive to hire and easy to fire.

In the latter case, Spanish law guarantees up to 70% of one's former salary in unemployment benefits, largely covered by the former employer under normal circumstances, for a period determined by the length of one's employment (Arranz and Muro, 2004). This ratio of unemployment benefits to salary is one of the most comfortable in Europe, matching that offered in Scandinavia, and significantly higher than ratios of 60% in Italy and 53% in Germany (Keuschnigg, 2010). In addition, Spanish law does not stipulate a time limit on the reception of unemployment benefits, rather using the claimant's length of employment as a determinant of one's benefits eligibility period. For example, prior to 2010, an unemployed worker of ten years could claim benefits for up to fifteen months, rather than experiencing a cutoff in ten months (as in Sweden) or twelve

months (as in Germany). The unusually generous nature of Spanish unemployment benefits (especially compared to other Southern nations) makes the prospect of hiring a new employee a bit riskier than in Spain's neighbors. Because of this, the benefits system has been blamed in recent years for some of the nation's economic malaise and so attempts at reform have been made recently, tying these changes to unemployment benefits to reforms in Spanish contract law (Backus and Esteller-Moré, 2017).

The two most notable attempts at reforming the Spanish labor market took place in 2010 and 2012. The first reform, *Ley 35/2010* (Law 35/2010), was adopted on September 17, 2010, by the governing center-left Spanish Workers' Socialist Party (PSOE in Spanish) in an attempt to reduce the mounting unemployment rate, as well as improve their own political standing prior to the 2011 national elections. Among the reforms introduced in the bill were an obligation on employers to hire on a permanent basis those young people who successfully complete a temporary contract after three years of working for a company. On its surface, this part of the reform seems to allay some of the concerns about the contracting system. However, it has proven to be a bit of a double-edged sword for young people. Rather than ensuring full employment for young people who successfully complete their contracts, it has given incentive to employers to exploit loopholes, such as firing a temporary employee days before the conclusion of their contract and paying the associated penalties rather than bringing on the worker on a permanent basis and being forced to augment the employee's salary and benefits. However, the 2010 law did increase the penalty on companies that offer a series of temporary contracts to one employee, going some way to ending the practice of firing and rehiring an employee on a temporary basis.

In addition, the 2010 reform reduced the length of unemployment eligibility for all employees from 45 days per year worked to 33 days per year worked, bringing Spanish regulation in this area into alignment with that of most other European countries. The 2010 law also reduced the obligations experienced by companies to their fired workers if the company had reported consecutive losses. Companies were also made newly able to fire employees for missing 20% of workdays over a two-month period, a less stringent standard than that which had previously been in place. Finally, the government created a fund to help companies cover some of the indemnities faced by a company following the dismissal of an employee, known in Spanish as the *Flexiseguridad* (Flexisecurity) program, inspired by similar reforms pursued in Denmark in the mid-1990s and in Austria in 2006 (Muffels et. al., 2014). Despite the fact that these reforms did reduce the responsibility of the firm to its dismissed employees, thereby incentivizing firms to take the risk on more workers in the long run, its provisions for employers did little to encourage hiring in the throes of an economic crisis, lending instead to employers greater latitude in firing workers.

These muddled attempts at reform did little to curb rising unemployment among all classes of workers and the national unemployment rate continued to rise following 2010 reforms. Partially due to public dissatisfaction with this situation, the center-right People's Party (PP) took power in December 2011 and initiated a second round of reform that was introduced in March 2012, known as Law 3/2012. This round of reforms reduced the mandatory severance payment to twenty days' salary per year worked, further reducing the protections enjoyed by workers. However, greater allowances were mandated for benefits such as minimum paid absences; sixteen weeks are now permitted for maternity, fifteen days for marriage, and up to a week for a relative's death, depending on the circumstances.

Among young workers, nevertheless, the legal situation improved little with this second spate of new practices, as incentives were put in place for firms to hire older workers over young workers (García-Pérez and Sánchez-Martín, 2015).

Unfortunately, it is infeasible to test the results of these reforms at the present time, especially with data only extending through the end of 2016. Too little time has elapsed since the passage of these attempted reforms for meaningful quantitative analysis to take place. Were a researcher to revisit the question of the effects of reforms on Spanish youth unemployment in a few years' time, the question of what effect these reforms had could be more satisfactorily answered.

Some of the tone-deafness to needs of young workers can be partially explained by the political pressures faced by both of Spain's major political parties, especially the PP, which receives much of its electoral support from older voters. However, the reduction of employment benefits and the lack of change for new workers brought about by the 2012 reforms did spark outrage among young people, culminating in the nationwide 15-M protests in March 2014 (Flesher Fominaya, 2015). Historically, the widespread welfare state, the role of the informal economy, and the important support offered within Spanish families had softened the blow of unemployment for young people and mollified them to some degree. However, during and immediately following the economic crisis, it became clear that young people were no longer lulled into complacency by pared-back guarantees of the state (Taibo, 2013). It is difficult to ascertain with present data what these reforms have done to improve the odds of employment for young people.

Before concluding, it is worthwhile to examine empirically the current legal situation of workers in Spain and compare it to that experienced by other European

workers. The OECD calculates at intervals the degree of legal protection offered to workers in a country, including collective bargaining rights, unemployment insurance, prevalence of severance pay, and other factors, giving scores to countries from 1.0 (few protections) to 3.5 (comfortable protections). Prior to 2010, Spain registered a score of 2.9, above the average for a Western European country. Following the 2012 reforms, Spain's score had dropped to 2.0 for individual dismissals as of 2014, the most recent measurement. This is significantly lower than other European nations, such the Netherlands (2.8), Germany (2.5), and Sweden (2.4). Even among Southern European nations, Spain falls short in this dimension, compared to neighboring Portugal, which scored 3.0, Italy and France, which scored 2.6, and Greece, which scored 2.1 post-austerity (OECD, 2014).

In the years since the crisis, however, some analysts have commended the 2010 reforms as being necessary to make Spanish industry competitive in Europe (Guillén, 2013). The reduced "risk of employment" to firms has helped in some respects to reduce the youth unemployment rate from its peaks, but there is little chance that this generation of post-crisis workers will ever know the kind of protections enjoyed by their parents and grandparents. In addition, rigidity remains in a labor market that is clunky and inefficient. Therefore, it seems for the present as though the Spanish government has missed a golden opportunity to pursue structural reforms and young people simply must make do with fewer jobs and skinnier benefits.

Conclusion

In conclusion, there are several structural barriers to employment for young people in the Spanish state. The Spanish welfare state and pensions system, which shares traits with other Southern models of welfare, is marked by its universalization of pensions as

well as a reliance on a more diverse mix of public and private social service providers. The system relies heavily on transfer payments and the subsidization of the retired by the working, which bodes poorly for young workers, especially in Spain, which has a steeply aging population. Likewise, the concentration of Spanish social spending in pensions and other income maintenance programs draws resources away from some social services, such as family allowances and public housing that are commonplace in the better-rounded social safety nets of other welfare families. In Spain, the welfare system as it stands is less capable of providing support to unemployed youth than those of its Northern neighbors, harming their future odds of gainful employment (Bande and Karanassou, 2014).

Additionally, current Spanish policy toward unemployment offers mixed incentives to hire and keep employees while pruning away prior protections that were previously enjoyed by Spanish workers before the financial crisis. Given the current political climate in Spain, it is unlikely that the prior protections will be tenably reinstated for present young workers (Navarro, 2015). It can be best summarized, then, that the Spanish unemployment insurance system is in a state of permanent austerity.

Before concluding, it is worth noting that there is definitely room for reform within the Southern welfare model and even within the Spanish welfare state itself. In fact, reforms pursued in Italy to that country's pensions system by the second Prodi government in 2007 and 2008 helped the nation more steadily weather the financial crisis and largely avoid the string of defaults and stopgap funding measures that public providers faced in Spain (Magone, 331). In the Spanish case, in order to ease the pressures faced by young workers in the labor market, it is necessary for politicians to more squarely confront the

problems posed by an aging demographic and take measures to counteract these inconsistencies.

One concept that has been developed in the context of the Southern welfare model in the past two decades is that of the "family-serving" welfare mix that takes into account the changing nature of the Mediterranean family (Ferrera, 178). According to Ferrera, the family-serving model consists of a mix of public regulations and incentives, corporate arrangements, third-sector activism and private entrepreneurship to respond to the needs of new families (particularly women and single mothers). In parallel with labor market reforms introduced via social and territorial pacts, gradually establishing conditions of flexible security in the labor market, easing mobility and reabsorbing marginal workers, the family-serving mix may be a crucial ingredient for effectively reforming the Southern type of welfare and even for turning it, perhaps, into a proper model. The welfare state has been experimented with within the Spanish state in its regions of more devolved authority, the Basque Country and Catalonia, as well as elsewhere in Southern Europe (namely, by the Emilia-Romagna regional government in northern Italy) (Gallego and Subirats, 2012; Longo et. al., 2015).

Dealing with labor market rigidity and underdeveloped protections for marginal workers remains the biggest challenge to meaningful reform. As it stands now, young people face great struggles in advancing their careers, maintaining steady employment, and gaining a financial stability that is necessary to achieve their personal goals, such as marriage, childrearing, and home ownership. The frozen welfare state of Spain (and, to a certain degree, that of most of the Old Continent) stands in the way of greater worker liberty. The realization of this form of social justice (in which people are free to pursue

their own interests within their homeland) is essential if welfare systems of solidarity characteristic of European societies are to be revitalized (Pisani-Ferry, 54).

Chapter II

Demographic Shifts in the Spanish Population and Its Relationship to Entrepreneurial Activity

Introduction

Among the various demographic changes that have taken place in Spanish society, one of the most visible is the steep decline in the Spanish birthrate (Martínez and Marín, 2014). Well into the 1980s, Spanish birthrates remained well above the European average. A natalist social policy pursued by the Franco regime, coupled with traditional Catholic teachings regarding contraception and family planning, ensured that the birthrate within the country remained significantly above replacement rates into the 1980s. However, with the collapse of Franco's government and his particular brand of nationalism within Spain, as well as a growingly irreligious population that disregarded dogmatic teachings on sexuality, Spain quickly matched pace with its northern neighbors with respect to birthrates and experienced one of the sharpest declines in fertility in Europe.

Accordingly, it has been suggested by some sociologists and economists that this demographic malaise may have at least partially contributed to a decline in new economic development within the country (Lacalle-Calderon et al., 2017). While the negative relationship between economic development and fertility rates has been a concretely-demonstrated one in modern sociology, it is a novel inquiry to posit that, within a developed

country, a gradual decline in fertility can ultimately harm economic development. The purpose of this chapter is to examine empirically the causal relationship between changes in the Spanish birthrate and the creation of new businesses, using nationwide data from Spain since the year 1990.

In the examination of the dynamics of youth unemployment, it is generally unhelpful to examine the direct effects of birthrates on youth unemployment in itself. It has long been averred that a negative relationship between birthrate and youth unemployment would be paradoxical (Blanchflower and Freeman, 14). This is not to suggest that such a relationship is impossible, but rather that more thorough analysis might cause this relationship to dissipate.

The logic behind such a relationship is this: in an economic model that is experiencing diminishing fertility, successive generations of young people (dubbed for the purpose of analysis as "cohorts") will be smaller and smaller as a result. All other things remaining equal, this would demand a lower mean unemployment rate among these young people as fewer people compete over the same number of jobs and same quantities of resources. However, there is a flaw in this logic. A priori, there is no reason to expect lower unemployment as a result of lower birthrates. Job creation might decline because there are fewer people to create them but the labor supply has also declined. The notion that the number of jobs available remains constant is not necessarily true. It is for this reason that business creation, measured as a calculation of the change in the number of total businesses in Spain from the previous year to the period in question, has been chosen as a substitute for youth unemployment in this chapter's analysis.

An explanation of this decision is warranted, as this variable is not necessarily an intuitive indicator of youth employment status. However, it can nevertheless serve as a useful stand-in once the unique interaction between the creation of new businesses and the youth unemployment situation is accounted for.

In the first place, young Spanish workers are considered to be far more likely to start new businesses and be more productive in their existing jobs than their older counterparts (Ayala et al., 2017). This facet of job creation within the Spanish model may be reliably attributed to a handful of key factors. In the first place, young people face fewer economic entanglements. They are less likely to have held a long-term job and to have any established loyalty to a firm than an older worker, making them more likely to strike out on their own. Similarly, young people have fewer personal obstacles to starting their own businesses. The average young person will not have a spouse or children to support, making their decision to start a business less risky than that of an older worker with such personal commitments. Finally, young Spanish people are possessed of less personal debt than an older worker who has taken out loans for homes, cars, or any other encumbrance that would serve as a roadblock to the creation of a new business (Fisher, 2013).

A secondary effect is that new businesses are generally more likely to hire young people than established firms (Delfmann and Koster, 2016). This, too, can be attributed to a pair of important factors. This is primarily due to the fact that young people will typically accept a significantly lower salary and possess a skill level practically on par with older workers in the same field. Additionally, adapting the perspective of a worker, a young worker is more likely to choose to work for a new business that displays promise than an older worker who desires stability over profitability in the latter half of their careers. In this

way, the creation of a new business more directly impacts the employment situation of the young worker rather than that of the average worker.

Hypothesis testing

In order to test empirically the relationship between fertility and business creation, I have performed a series of time-series regressions using annual data available on business creation, measured by the change in the number of businesses in the country for each year, and the annual change in the birth rate per 1000 people twenty-five years prior to the time period in question, so that the changes in cohort size measured are reflective of the change in the number of young adults. In order to control for exogenous economic factors that likely influence job creation far more than birthrate and comparative youth cohort size, I have included annual GDP growth, in order to account for general economic trends within the Spanish economy, average annual interest rate, accounting for the relative difficulty of securing capital, annual inflation, and the Spanish labor regulations index, calculated by the OECD, whose stringency measures the degree of legal protection a worker enjoys, with a lower score representing a greater (more stringent) degree of legal protection offered to workers.

In order to test empirically the relationship between fertility and business creation, it is important to first deal with complications that arise from using time-series data, which can reasonably be expected to be correlated across time. In order to counteract this correlation, the regressions will be iterated across multiple periods. This will allow significant effects to present themselves without spurious correlation among the independent variables.

It is also worthwhile to consider the manipulation of the birthrate data into a more applicable form. Because the birthrate in Spain obviously declines seriously in the applicable period, it represents a trend variable that is not mean-reverting, violating one of the key assumptions of time-series analysis. Because of this, I have opted to use the year-on-year change in this variable, which eliminates the trend, provides the model an assumption-satisfying mean-reverting explanatory variable, and otherwise largely eliminates the need for more complicated analysis.

With all of these considerations, the resulting empirical model (known as model 2.1) is:

$$(2.1) \qquad Businesses_{t+h} = \beta_0 + \beta\delta birthrate_t + \beta\delta GDP_{t-1} + \beta interest_{t-1} + \beta inflation_{t-1} + \beta laborindex_{t-1} + e_{t+h}$$

In this model, t is the time period, h is the number of periods iterated into the future (the number of regressions performed), and β_0 is a constant that represents the number of businesses that would be created if the values of all other explanatory variables were set to zero and the other beta-terms represent the estimated change in the expected value of the number of businesses created (*Businesses*) if the value of the explanatory variable were to increase by a single unit. e is the error term, representing the difference between the predicted value for new businesses created and the actual value.

A key feature of this empirical model is the estimation of the effect of birthrates at various times in order to capture the effect of changes in birthrate on business creation over time rather than simply the immediate impact of these changes. This is done by setting the independent variables besides birthrate at a lag of one period and predicting the rate of

business creation several years into the future, then observing how closely these predictions match reality.

Results

Performing the time-series regressions and examining the coefficients of the independent variables yields some interesting results. First, the primary independent variable of interest, birthrate, is statistically insignificant across all periods and has a positive coefficient. Because of this, we can reject the notion that prior changes in birthrates have a statistically significant effect on the number of businesses created in any given period of interest. The dynamic effect of the variable, mapped graphically, is as follows:

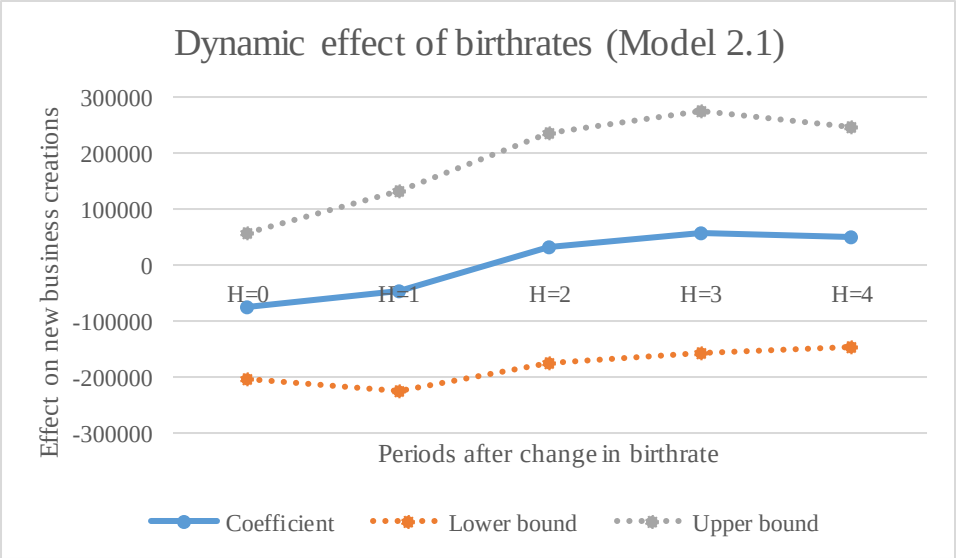

Figure 2: Effect of a change in birthrates on business creation

The full results of the regressions may be consulted at the end of this thesis in a table labeled "Regressions of Model 2.1." The results of the control variables are found in this appendix.

In conclusion, then, changes in birthrates may be found to have a statistically insignificant effect on the creation of new businesses. The expected immediate impact of GDP growth (representing general economic trends) and interest rates are confirmed, while the OECD labor index and inflation have no statistically significant effect on the creation of new businesses.

Before leaving this section, it should be noted that once interest rate is dropped from the regression model, it is possible to have a barely statistically significant effect (at the 10% significance level) from changes in birthrate in the fourth future iteration. However, though this coefficient is statistically significant, the coefficient is relatively small, even in a regression fine-tuned to expose greater results. Therefore, some small amount of a decrease in business development might be due to shrinking youth cohorts, but it is neither statistically consequential nor metrically feasible to serve as a base of analysis.

Interpretation of results

The most obvious interpretation of the trends observed in the model is that the paradox described by Blanchflower and Freeman holds true within the Spanish model: increasingly small cohorts of young people competing over the same resources are not guaranteed to eventually secure more positive economic results for themselves. If changes in the Spanish population pyramid do not have a measurable effect on business development, then the spikes in youth unemployment would certainly suggest that any relationship between youth cohort size and business creation is marginal at best.

The demographic trend and smaller returning cohorts of young people can, however, serve as a partial explanation of greater entrepreneurialism among the young, who increasingly enter into informal and self-directed work, as was mentioned in Chapter I (Serrano Pascual and Martín- Martín, 2017). At the individual level, a young person living in the present day is more likely to be an only child than a young person who came of age twenty years ago and will likely have attended less crowded schools and university classes. Accordingly, a young person in such a situation (which we must assume is growingly common in Spain) has access to more educational and financial resources than his predecessors.

It should be noted that this recent increase in entrepreneurial activity is at least partially due to the Spain's adoption of the Euro in 1999 and the lower interest rates experienced by borrowers in the country over much of the following decade. With the new economic reality created for Spain by full membership in the Eurozone, the development of new businesses and the securing of the sizable loans necessary for large-scale economic activity became more easily-obtained, causing a massive boost in economic development within the country (Neal and García-Iglesias, 2013). Therefore, it may be reasonably inferred that the exogenous decision of the Spanish government to join the European currency union has had a measurable effect on the attitudes toward and outcomes of entrepreneurial activity in a relatively brief period. However, because all of the data in the model used in this chapter comes from 1999 onward, in a period in which the Euro was the accepted currency of Spain, this reality affects neither the veracity nor negates the interpretation of the results found.

This development among young people could go some way in explaining the relative lack of youth protest and mobilization in Spain that has puzzled some political scientists (Antentas, 2017). Beyond the highly-publicized 2011 anti-austerity protests in which high unemployment was only one ingredient in a cocktail of complaints that included government corruption, cuts to education spending, and bank failures, as well as greater support among the youth for the newly-formed left-wing populist party *Unidos Podemos* (Together We Can), young people have accepted largely docilely the superficial worsening of their economic situation. Beyond some psychosocial explanations that are beyond the scope of this chapter, such as an encroaching sense of hopelessness with regards to traditional politics, the finding that the shrunken cohorts that are coming of age will likely eventually secure an acceptable economic future can lend greater understanding to this apparent passivity among young people toward their slipping economic position in Spanish society.

In addition, as was mentioned in Chapter I, a third option has emerged in recent years for those young people who lack the necessary economic resources to turn toward self-directed economic activity and cannot afford to remain unemployed: emigration. Many young Spaniards become low-income economic migrants to the more verdant pastures of employment in northern Europe, particularly in Germany, Sweden, and Great Britain (*El País*, May 6, 2014). Among those who stay in the country, home ownership and the starting of families are also often postponed. These changing practices among young people help us understand how they cope with the discomfort of the extended frictional unemployment presently featured in the Spanish model, this phenomenon will be discussed in greater detail in Chapter III.

We find that business creation has a unique interaction with the youth employment situation. In Spain itself, a paradox surrounding the economic outcomes among smaller youth cohorts is resolved: smaller cohorts are no more likely to generate greater economic activity than larger cohorts. The potential negative economic disadvantages of slowing birthrates seem to have been softened by a greater entrepreneurial activity noted among young Spaniards, owing partially to the greater amount of resources allocated to members of smaller cohorts on the aggregate, and the growing emigration of economically-disadvantaged Spanish youth to other parts of Europe. However, it is unlikely that the comparative benefits of a smaller youth cohort will be the experience of future cohorts that are presently children as youth cohort size stabilizes. Therefore, while present young adults in Spain should not necessarily participate in the popular pessimism over their overall economic state, the same optimism should not necessarily be shared by the young people who will succeed them in the university, in the workplace, and in the benefits lines.

Chapter III

The Effects of Education on Youth Unemployment and the Outcomes of Tertiary Education

Introduction

Moving on from these factors at play in the employment situation of Spanish youth, the focus of this third chapter is the examination of the effects of changing educational results and practices (both at the secondary and tertiary levels) on youth unemployment. In addition, the results of study into these phenomena will yield some insight into patterns of occupational outcomes following the conclusion of Spanish students' education.

The reasons to examine this aspect of the Spanish youth employment situation are twofold. The first and more obvious reason to study the effects of education on youth unemployment is that educational background is the most reliable predictor of future economic success experienced by a student or a worker. In studying the educational patterns of Spanish youth, it is possible to determine correlation between variables of education and variables of employment in order to seek an explanation from education of prolonged high youth unemployment in the country. The second and less apparent reason to study education as a potential variable in the determination of youth unemployment is that the observation of trends in educational practices and outcomes over time allow a researcher to observe how young people react to their concurrent economic situation while

still students and to measure whether or not these changed practices carry any meaningful effect on unemployment within the youth population as a whole. It is with these dual focuses in mind that I intend to test hypotheses regarding the effectiveness of Spanish secondary and tertiary education with respect to youth unemployment.

Historically, Spanish youth suffered from a lack of competitiveness as a result of various inadequacies of their nation's educational system. Under the Franco regime, nationalism trumped quality in Spanish curricula (Mar del Pozo Andrés and Braster, 2006). For example, at a time when most European nations were implementing robust English-learning programs in their schools, the Francoist Ministry of Education sought to play up Spanish as a crucial language and restricted foreign language education and exposure. It was not until the passage of the General Law of Education of 1970 that the Spanish government assumed an educational model similar to those of its neighbors (Payne, 565).

Given this piecemeal history of the Spanish educational system, it is unsurprising that Spanish students lagged behind the rest of their European counterparts into the late twentieth century. It is worthwhile, therefore, to examine whether or not this disparity has contributed to the unprecedented spike in youth unemployment in the modern period. In order to test any hypotheses related to this question, it is prudent to divide the focuses of research into education along the lines of educational level; that is to say, to examine separately the effects of changes in secondary educational patterns (those observed among secondary or high school-age students) and tertiary educational patterns (those observed among students at universities, vocational colleges, seminaries, or other postsecondary institutions). Not only is this demarcation useful, given the different pressures and factors faced by secondary- and tertiary-level students, but also yielding of more meaningful

results as the researcher is more capable of zeroing in on causes and effects among the two groups when examining their situations separately.

Hypothesis testing

The first hypothesis to be tested concerns the effects of secondary education quality on the later employment outcomes of Spanish students. Specifically, the first tested hypothesis postulates that a factor in higher Spanish youth unemployment has been inadequate secondary education that leaves its graduates less capable of maintaining employment upon reaching adulthood. In order to perform the necessary regressions to isolate changes in youth unemployment that arise as a result of these changes in secondary education, it is first necessary to describe the dependent and independent variables that will be measured and regressed.

The dependent variable in this regression model regarding secondary education will be youth unemployment. Among the independent variables selected for the model are four primary variables of interest with relation to Spanish secondary education. The first of these is the national average score on the PISA exam. The Programme for International Student Assessment (PISA) is a standardized international measure of secondary-level achievement, testing such subjects as verbal reasoning, mathematics, and science. The test often serves as useful benchmark for academic progress at the national level, with higher scores representing greater mastery of given subject material. Spanish students have participated in the exam since its inception in 1999. Regressing changes in Spanish PISA scores on the youth unemployment rate, therefore, promises to grant some insight into how changes in student success translate into occupational success later in the students' lives.

A second independent variable chosen as a representative for secondary education is the percentage of the Spanish federal government's education budget allotted to secondary education. I believe that is a superior measure of secondary spending than other potential choices for independent variable (Euros spent per student, raw budgetary figures, etc.). Beyond not being swayed by exogenous factors such as inflation and student population, the variable of percentage of federal education budget focused on secondary education allows the researcher to gauge more accurately the amount of emphasis that was being placed on secondary education by education administrators and how this presence (or lack) of focus on secondary education has impacted secondary students as they prepare for the job market.

A third independent variable tied to a secondary education is the percentage of students learning English at the secondary level. More specifically, the independent variable chosen measures the percentage of students who achieve a *bachillerato* (similar to an A-level in Great Britain or perhaps an A.P. certification in the United States) in English or participate in intensive English-language education (which includes travel to an English-speaking country as part of the education). While this variable might seem somewhat arbitrary, it actually represents an important factor to the future success of a student. In a global workforce (and in the European workforce, more specifically), English-language skills are required or encouraged for most white-collar jobs (Tabuenca-Cuevas, 2016). The ability or failure of a student to speak the language confidently can have significant impact on their future success in the job market. The inclusion of this variable takes this measure of linguistic capital into account and goes some way in measuring the adequateness of foreign-language education in Spanish high schools.

A final independent variable of interest that is not necessarily related to secondary education but is nevertheless relevant to patterns of youth unemployment in present period concerns the fortunes of the Spanish construction industry. Specifically, the variable in question measures the number of housing starts undertaken each year in Spain since 1990. In the past, during Spain's economic boom of the late 1990s and early 2000s, spurred by the low interest rates afforded to consumers largely as a consequence of the country's participation in the Eurozone, builders went on an unprecedented construction spree. During this period, wages were relatively high for construction workers and projects were plentiful. As a result, a significant number of people (primarily young men) chose to forego university or even drop out of secondary education without a certificate in order to pursue lucrative careers as builders (Bielsa and Duarte, 2011). Since the beginning of the financial crisis, however, it would be hard to imagine an industry harder-hit in the country than the construction industry, the number of housing starts having petered from a peak of 747,000 in 2005 to a low of only 5,900 housing starts nationwide in 2015 (Ministerio de Fomento, 2016). This cratering of the construction market has deeply impacted youth unemployment, and so in order to more fully capture the effects of changes in secondary education on the youth unemployment situation, it is necessary to include a variable that represents the vitality of the industry that drew so many dropouts and early leavers from the educational system.

In addition to these variables regarding secondary education, there is a handful of more "atmospheric" explanatory variables that, while not directly related to secondary education, are necessarily included in order to capture a fuller picture of factors that inform youth unemployment. These include change in GDP (representing the general trends of the

Spanish economy), inflation (representing changes in the cost of labor), and the OECD labor law index for Spain, representing the difficulty of hiring and maintaining an employee as it relates to employment law (see Chapter II for a fuller explanation of this measurement and its meaning). Finally, the independent variable of the EU-wide unemployment rate has been added, representing the general trends of unemployment in the European Union and seeking to capture the effect that extra-national trends might have on youth unemployment in Spain.

The final model is as follows:

$$(3.1)\quad Youth\ unemployment_{t+h} = \beta_0 + \beta\delta GDP_{t-1} + \beta PISA_t + \beta inflation_{t-1} + \beta secondary\ spending_t + \beta English\ learning_t + \beta housing\ starts_{t-1} + \beta EU\ unemployment_{t-1} + \beta laborindex_{t-1} + e_{t+h}$$

where *t* is the time period in question and *h* is the number of periods iterated into the future (the number of regressions performed). An important part of this model is the estimation of the effect of changes in education at various leads in order to capture the effect of changes in PISA, secondary spending, and English education on youth unemployment over time rather than simply the immediate impact of these changes. I set the independent variables besides PISA, secondary spending, and English education at a lag of one period and predict the rate of youth unemployment several years into the future. *e* is the error term, representing the difference between the predicted value for youth unemployment the actual value.

In addition, a second model must be calculated in order to measure the effects of changes in patterns of tertiary education on youth unemployment. This model is

remarkably similar to Model 3.1, with only some minor adjustments made to reflect the difference between secondary and tertiary education. The general indicators of change in GDP, inflation, EU-wide unemployment, and the labor index are included, as is the number of Spanish housing starts. Likewise, in place of the measurement of secondary spending as a percentage of the federal education budget, a model reflecting the effects of changes in tertiary education on youth unemployment contains the equivalent variable that measures tertiary spending as a percentage of the federal education budget.

The one major addition to Model 3.1 that differentiates it is the inclusion of a measurement of the percentage of students in different areas of study at the university level. Specifically, the model for tertiary education includes a variable representing the percentage of students in the technical sciences and a second variable representing the percentage of students in the humanities. The Spanish Ministry of Education defines technical sciences as physics, mathematics, biology, chemistry, and engineering (though it does not include health sciences pursued at the undergraduate level). Humanities, meanwhile, include philosophy, religion, linguistics, classics, literature, and other liberal arts that fall outside the realm of social science and law. The inclusion of such variables yields a twofold benefit: beyond examining the direct effect of changes in preferred area of study on youth unemployment, the inclusion of such variables allows some understanding of the concentration of youth unemployment in different sectors of the economy.

Consequently, the second model (hence known as Model 3.2) takes the following form:

(3.2) $Youth\ unemployment_{t+h} = \beta_0 + \beta\delta GDP_{t-1} + \beta inflation_{t-1} + \beta tertiary\ spending_t + \beta housing\ starts_t + \beta EU\ unemployment_{t-1} + \beta labor\ index_{t-1} + \beta technical\ sciences_t + \beta humanities_t + e_{t+h}$

where *t* is the time period in question and *h* is the number of periods iterated into the future (the number of regressions performed). This model predicts the rate of youth unemployment several years into the future, then observing how closely these predictions match reality. *e* is the error term.

Results

First remarking on the results of the regressions of Model 3.1, most of the variables that display a concrete effect also display the sign and direction of effect that one might expect. First, the variable of percentage of education funding at the secondary level carries a statistically significant (t = - 2.71) and negative coefficient. However, this effect is temporary. This means that youth unemployment is likely to fall as authorities place additional focus on secondary education, at least for a short period. Going back to the data, this helps to explain the trends observed in youth unemployment, as the percentage dedicated to secondary education dropped steadily in the years preceding the crisis, from 46.78% in 1999 to 37.66% in 2009, according to the Spanish Ministry of Education. This reduction in secondary spending goes some way in explaining the increased youth unemployment over the same period. The dynamic effect of the variable, mapped graphically, is as follows:

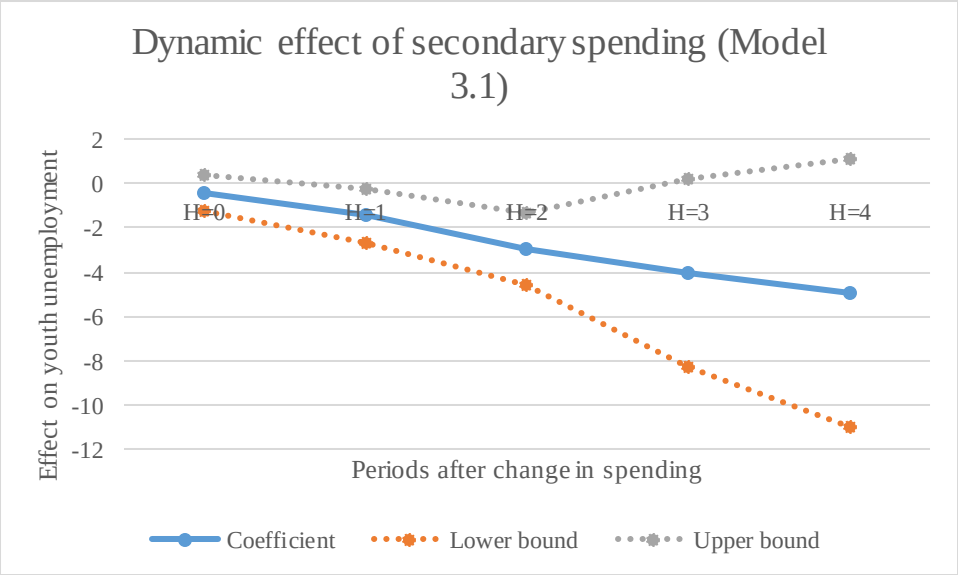

Figure 3: Effect of a change in secondary spending on youth unemployment

Similarly, the number of housing starts bore strong and negative correlation across multiple iterations. This is to be expected, as the number of starts functions as a useful proxy for the health of the Spanish economy as a whole, as well as reflecting the health of the blue-collar economy inhabited by students that do not continue with their education (Alonso-Nuez et al., 2015).

Surprisingly, the proportion of students engaged in English learning does not possess a significant effect in any period. This may be attributable to the status of Spanish as a major language. It is possible that students and young workers can still be accommodated in speaking only Spanish, whereas a similar regression performed using data obtained from speakers of a more minor European language (such as Hungarian or Finnish) would demonstrate a greater economic gain from the same instruction in the English language. It is worth noting that the percentage of students pursuing English education has increased since the crisis, from 22.5% in 2005 to 42.9% in 2015. This

suggests that young people increasingly see English-language education as a ticket to greater economic success. The dynamic effect of the variable, mapped graphically, is as follows:

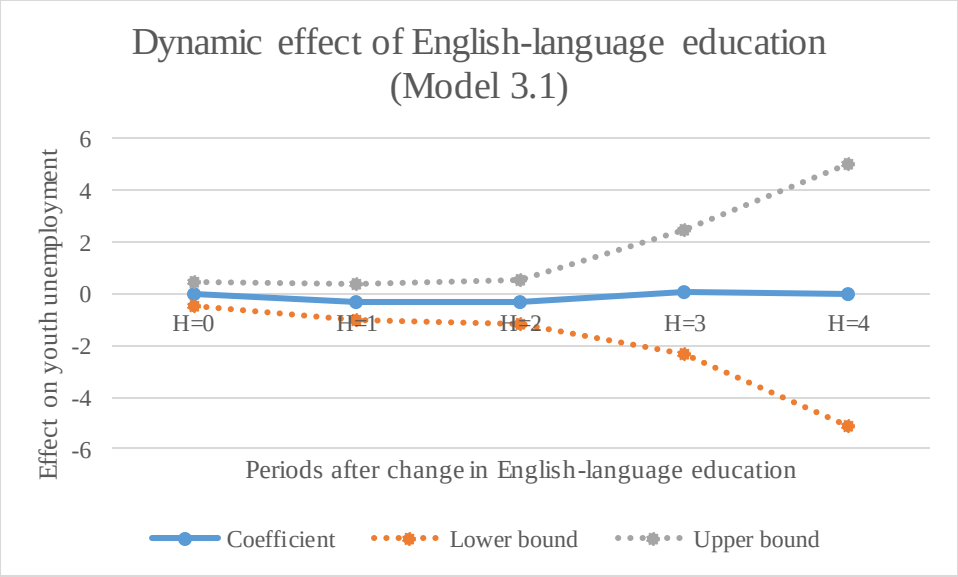

Figure 4: Effect of changes in English-language education on youth unemployment

Among the non-secondary-specific variables of interest, change in GDP has the expected sign and strong statistical significance. More than any other variable, naturally, the general health of the economy, reflected by GDP, demonstrates the greatest impact on the youth unemployment rate's spike at the time of the crisis and its subsequent amelioration matches the economy's slow recovery. Inflation also carries a statistically significant and positive coefficient. The variable of European Union-wide unemployment is also strongly significant ($t = 3.21$), suggesting that, to some degree, the fates of Spanish workers and the Spanish economy are inextricably tied to the economic and business cycles of its fellow EU members. While it has long been true that Spain's economy was tied to the strength of its trading partners on the continent (particularly France), the introduction

of the European Union and the Euro have only deepened the level of economic connectedness experienced by the country (Bastasin, 9). This fact has manifested itself in the youth unemployment rate. The complete results of the control variables may be found in a table labeled "Regressions of Model 3.1" at the end of this thesis.

Before moving on to the effects of changes in tertiary education, it is worthwhile to remark on the PISA score. The model displayed a negative and statistically insignificant immediate effect, but this coefficient builds into a small but statistically significant (t = 3.34) effect in the third iteration, however, this effect is extremely temporary, only enduring one period. One fact is necessary to square these facts; because the PISA exam is taken in the last year of high school, most of the students tested presumably do not enter the workforce until at least four years after sitting the exam. This would suggest that higher PISA scores only increase unemployment among young people of university age. This could be because better secondary preparation leads more students to enter university rather than vocational training and so those who exit university early (after two years) and enter the job market suffer from slightly higher unemployment, despite their higher PISA score. For the vast bulk of the students who sit the exam, however, the PISA results are statistically insignificant at the time of entering the workforce, and so it can be said that their secondary education has had no significantly positive or negative impact on their employment prospects. The dynamic effect of the variable, mapped graphically, is as follows:

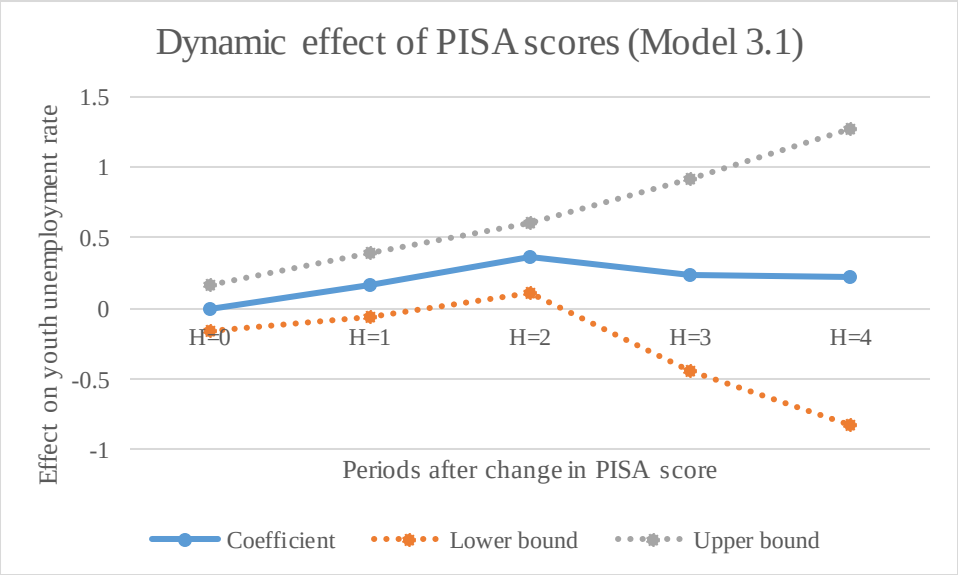

Figure 5: Effect of changes in PISA score on youth unemployment

Moving to the regressions of Model 3.2, remarkably similar patterns are observed in reflecting the effects of changes in educational patterns at the tertiary level. Coefficients of almost-identical significance and size are attached to the variables of GDP growth, inflation, housing starts, and the European Union's total unemployment rate. The complete results of the control variables may be consulted in a table labeled "Regressions of Model 3.2" at the end of this thesis.

Similarly, the number of housing starts bore strong and negative correlation across multiple iterations. As mentioned above, the variable ebbs and flows with the general health of the Spanish economy. The results obtained from these particular regressions aid much in the explanation of observed patterns of youth unemployment. The catastrophic state of the Spanish construction industry is reflected in the massive reduction in the number of housing starts that has happened over the intervening period. This cratering of

the housing industry helps to explain the swollen ranks of the young and unemployed in the present period. The dynamic effect of the variable, mapped graphically, is as follows:

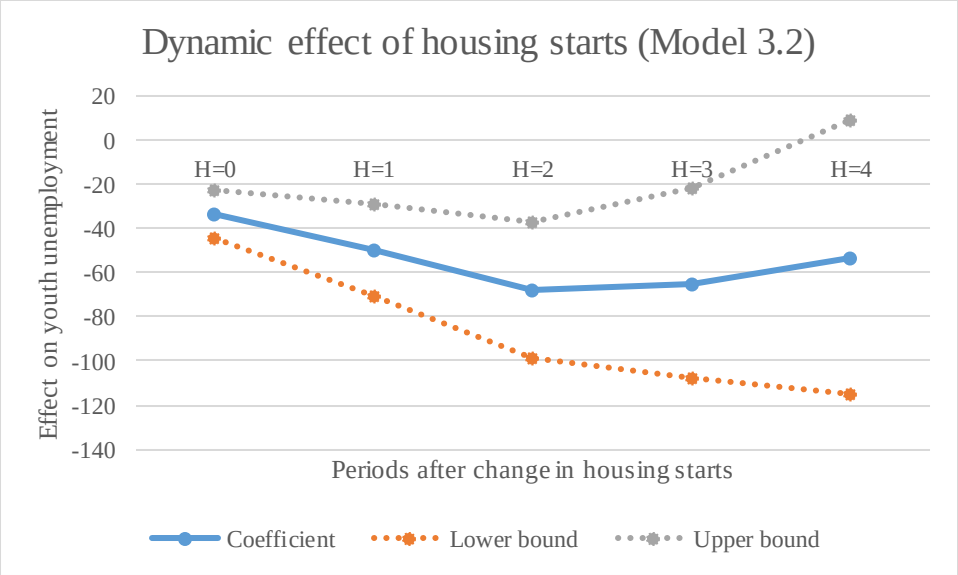

Figure 6: Effect of a change of 100,000 housing starts

The variable for university spending was statistically insignificant across all periods, suggesting that public expenditure at the tertiary level has no strong impact on the employment prospects of these institutions' graduates. The dynamic effect of the variable, mapped graphically, is as follows:

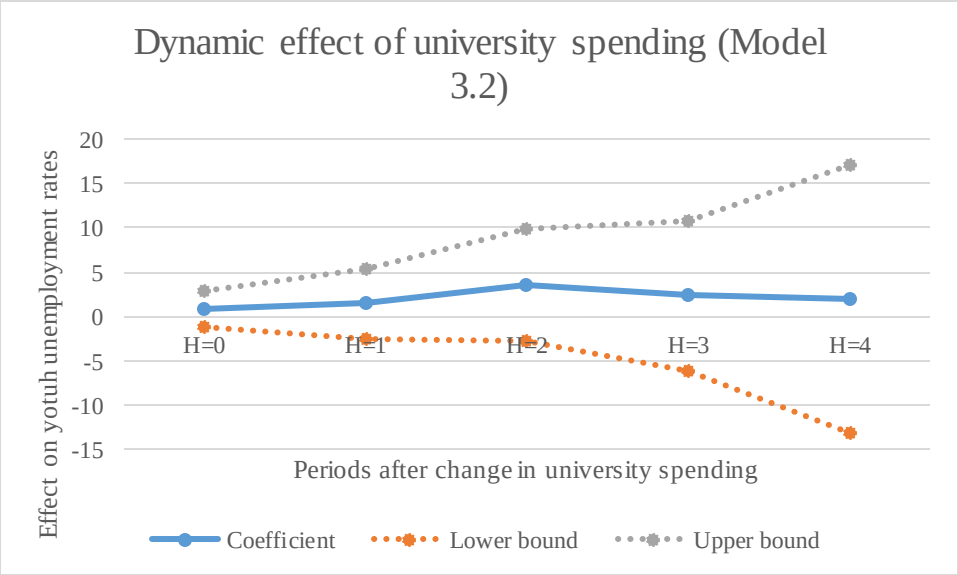

Figure 7: Effect of changes in university spending on youth unemployment

Among the two variables (humanities and technical sciences) designated to represent the areas of study of Spanish university students, some interesting results cropped up. Humanities was statistically insignificant across all periods regressed. This would suggest that changes in the number and percentage of students in these more abstract fields did not have any significant impact on the Spanish youth unemployment rate as a whole. The dynamic effect of the variable, mapped graphically, is as follows:

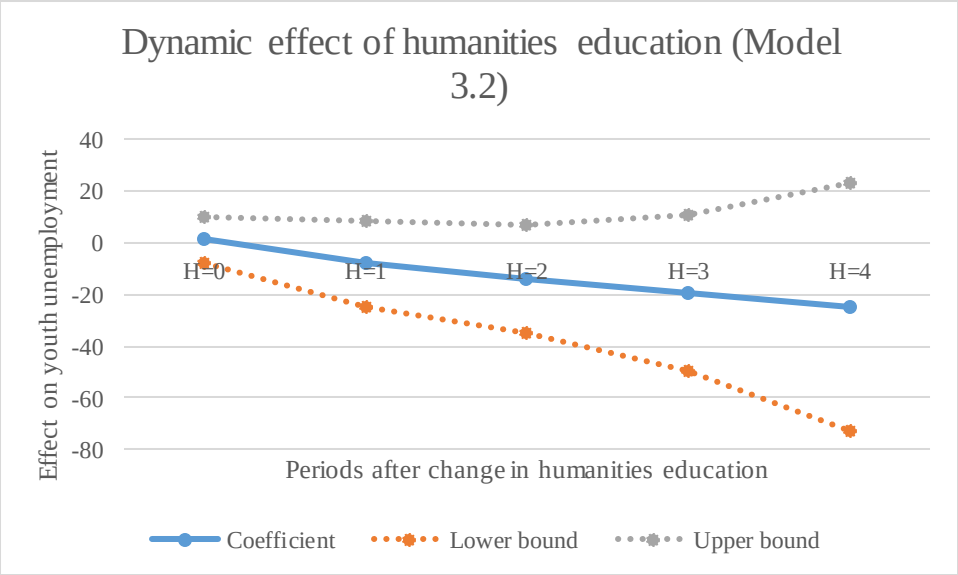

Figure 8: Effect of changes in humanities education on youth unemployment

However, the variable representing technical sciences was statistically significant (t = -2.25) and carried a negative coefficient. This suggests that students in the technical fields in Spain are more likely to achieve a positive economic outcome following graduation (Passaretta and Triventi, 2015). Looking at the data, this helps to explain some of the dip in Spanish youth unemployment in the past six years, as the share of students in these technical sciences rose distinctly in the years immediately following the crisis. It is likely, then, that a degree in a technical field is seen as a surer guarantor of success in precarious economic times than other forms of training (Pascual-Sáez et. al., 2016). The dynamic effect of the variable, mapped graphically, is as follows:

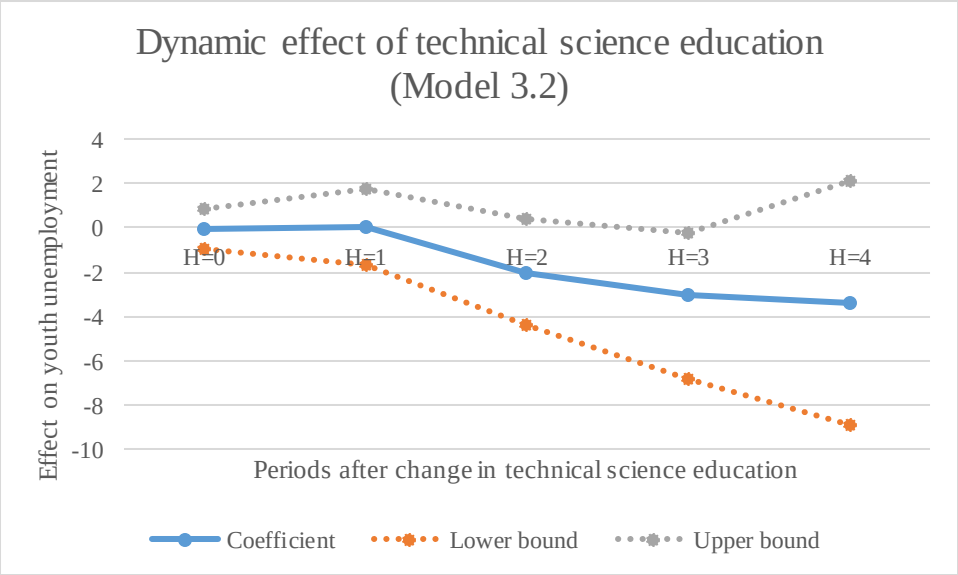

Figure 9: Effect of changes in technical science education on youth unemployment

Interpretation of results

In viewing both the history of the Spanish educational system and the effects that modern educational patterns have on economic outcomes of students, a narrative emerges that serves to explain part of the modern phenomenon of high youth unemployment. Historically, Spanish students suffered from an educational system that prioritized the teachings of a clerical and nationalist state, to the detriment of the competitiveness of the Spanish workforce. In this way, then, Spanish students stood at a distinct disadvantage compared to their counterparts in neighboring countries (Giménez Martínez, 2014).

However, as Spain has modernized economically in the past twenty years, this progress has been mirrored in their schools (Escardíbul and Villaroya, 2009). Higher standardized test results herald the arrival of Spain into the European average and have propelled many more students toward comprehensive university education (Egido and Valle, 273). Unfortunately, due to the staggering economic downturn of 2007-2011, Spain

and its workers have not enjoyed all of the economic benefits that would typically attend such a string of educational improvements.

On the one hand, Spanish educational authorities, in placing additional emphasis on university-level education and guaranteeing that tertiary education is available to almost all students, have slackened off on some aspects of secondary education and allowed the progress made in secondary education of earlier years to stagnate in the years following the crisis (Egido and Valle, 275). This has meant that some subjects (such as foreign-language instruction) remain underdeveloped in Spanish schools by European standards.

Likewise, during the period of economic growth that characterized Spain in the early 2000s, many young people (particularly young men) chose to exit formal education in favor of pursuing low-skill employment that nevertheless yielded a sufficient income (Alonso-Nuez, 3398). It is this segment of Spain's youth population that now find themselves thoroughly disenfranchised in a post-crisis Spanish economy. Without the requisite academic background and technical skills to take modern middle-skill employment and in the face of shrinking opportunities for meaningful low-skill employment, many of these young people have formed a growing cadre known colloquially in Spanish as the *generación ni-ni* ("neither-nor generation," coming from a phrase meaning "neither working nor studying"). In many cases, these young people find themselves definitively shut out of ladders of opportunity open to their younger siblings. It is this subset of the youth population that has fallen through the cracks of Spanish education and into a trap of long-term unemployment or marginal employment that was unforeseen ten to fifteen years ago.

Among the vast majority of students who attend university, the trends of the general economy are the strongest indicators of future economic success (though there is sufficient evidence to suggest that these students will fare better than those who have only a high school certification) (Corrales-Herrero and Rodríguez-Prado, 2016). However, a recent uptick in the number of students engaged in the hard sciences suggests that these fields are considered "safer" than more abstract areas of study.

In many ways, the changes observed in the trends of youth unemployment that arise from changes in educational practice may be interpreted to some extent as the economic growing pains experienced as the Spanish economy has shifted from its historical focus on agriculture and manufacturing to a service-oriented economy (Teiqeiro and Solís, 2007). While Spanish education has undeniably improved in the past twenty years as its economy has modernized, it is also the case that these changes have shut out a dissatisfied slice of Spanish youth who were permitted to neglect their education in more prosperous years. Only time will tell if these young people will achieve the same long-term economic footing enjoyed by their former classmates.

In conclusion, then, Spanish university education has done its part to improve the economic prospects of its graduates. However, the secondary educational system in Spain still leaves room for improvement, and those who fail to excel in the academic environment find little recourse in a more white-collar Spanish economy. There are certainly steps that could be taken to improve the collective lot of Spanish students with regard to the skills requisite of a modern workforce, safeguarding Spanish youth against the ravages of another recession. Whether or not these improvements take place will no doubt impact the future development of the youth employment situation.

Chapter IV

A Link Between Immigration and Youth Unemployment?

Introduction

In the aftermath of the financial crisis, it has become a popular political talking point in Europe to suggest that the large-scale migration taking place on the continent may be at least partly to blame for national economic woes. At the political level, this has resulted in the rise of a string of far-right and anti-immigration political parties and politicians, as well as secessionist movements. Amid this rancor over the benefits and drawbacks of immigration, Spain has been noticeably quiet, absent the large-scale backlash against immigrants observed in neighboring France, for example. This is somewhat surprising, given that Spain both continues to underperform economically and has been one of the largest destinations for immigrants in the European Union. In concluding this thesis, it is worthwhile to examine what concrete effect immigration has had on the situation of young workers and whether or not the perceived ambivalence of the Spanish public toward its immigration policies are rooted in reality (Izquierdo et. al., 2010).

In order to accomplish this analysis, this final chapter will primarily consist of two regressions testing the relationship of immigration with two factors facing young workers: youth unemployment and social capital. While the former of these factors is uncontroversial, the reasoning behind an analysis of the relationship between immigration and social capital deserves some explanation. One of the features of the Spanish labor

puzzle informing youth unemployment is the presence or absence of a support network of which a young unemployed worker may avail him or herself (Aguilar-Palacio, 2015). These "ties that bind" members of a society to one another see their strength reflected in a metric known as social capital (Villalonga-Olives and Kawachi, 2015). If the presence of a large number of immigrants disrupts or erodes this web of assumed societal connections, it is no stretch to presume that this mass immigration has worsened the situation of unemployed young workers. Further explanation of the variables and methodology behind these regressions will be included with the models used themselves. In addition, these regressions and their results will be bookended by qualitative discussions about the history and assimilation of immigrants within Spain. Understanding the role that immigrants play in the Spanish labor puzzle helps us to understand more completely the pressures and constrictions faced by young Spanish workers.

History of immigration to Spain

The development of Spain's modern immigration policy has not followed the same general trajectory as those of other European nations. During the Franco era, strict limitations were imposed on both the number and class of immigrants who were permitted to move to Spain (Encarnación, 2004). Because of this, the number of immigrants in the country remained small into the 1980s and 1990s. In addition, Spain never developed a formal system of inviting laborers from other countries to work in crucial but underpopulated fields, as opposed to systems such as the *Gastarbeiter* program that was constructed in West Germany during the same period (Plewa and Miller, 2005). Beyond the ideological reasoning behind this decision, Spain also did not suffer from the population shortages brought about in Northern Europe by the ravages of World War II and declining

birthrates until much more recently. Following the death of Franco, a slight increase in immigrants was noticed, but the majority of these immigrants came from former Spanish colonial holdings in the New World (particularly Argentina and Mexico) and from some neighboring countries in Europe (Escribano and Martínez-González, 2014).

However, Spain's status as a homogenous nation of Spanish-born citizens was to be short-lived. Following Spain's entry into the European Union in 1995 and induction into the common labor market in 1999, the number of immigrants entering the country annually has steadily (and expectedly) risen, from 64,000 in 1998 to 343,000 in 2000, peaking at 934,000 in 2007 (Eurostat, 2017). Figures from 2015 would suggest that among the country's residents, 12.0% were born outside of Spain (Lacomba, 2014). The only other European countries with larger populations born outside of Europe are Germany and Sweden (Pflegerl, 197).

In present-day Spain, immigrants to Spain largely fall into two groups. The largest group of immigrants to Spain consists of young and middle-aged low-skill workers and their families who come from poorer countries in North Africa (particularly Morocco), Latin America (particularly Ecuador, Bolivia, and Peru), Eastern Europe (particularly Romania, Bulgaria, and the Ukraine), and elsewhere, such as China and Nigeria (Álvarez and Benlloch, 2014; Vázquez Silva, 2013). Of these, Romania and Morocco are the two largest single producers of immigrants in Spain. This group of low-skill workers primarily arrives in Spain having already secured a temporary contract of around two to three years to work in the country in some fashion (Aznar, 2016).

The other sizable group of immigrants to Spain is composed of retirees from Northern Europe, particularly Great Britain and Germany, who take advantage of the EU's

permeable borders and the lower cost of living in Spain in order to enjoy their twilight years in the warmth of the Andalusian coastline. This second group, naturally, has little to do with the situation of youth unemployment and so the bulk of my analysis will deal with the trends observed among the first and larger group of migrants.

Before moving on to the regressions, it is important to note the ample legal safeguards given to immigrants in Spain. Chief among these is the granting of Spanish citizenship to the children of immigrants born in the country. These children are not considered to be "immigrants" in the eyes of the Spanish state, but their legal status grants their parents the right to stay in the country indefinitely (Ruíz de Huidobro, 2016). There has been some objection to this national practice, and there are some who feel this situation results in the underestimation of the size of the immigrant population in Spain (Cortina Trilla et. al., 2008). Nevertheless, it is most applicable to measure the effect of new arrivals to the country, because measuring the effect of the foreign-born population resident in Spain fails to grapple with questions of assimilation and neglects the difference between a recent immigrant and an immigrant who has lived in Spain for decades. With that in mind, it is possible to examine the effect of new immigration on youth unemployment.

Empirically testing the relationship between immigration and youth unemployment

In order to test the relationship between new immigration and youth unemployment, it is necessary to construct an empirical model that captures the various factors affecting youth unemployment and accounts for extraneous factors driving changes in the youth unemployment rate. In order to measure directly the relationship between changes in immigration and changes in youth unemployment with a relatively simple model.

On the left side of the model as a dependent variable, very simply, is the youth unemployment rate. On the right side of the model, representing the independent variables, is a set of variables which are predicted to have some effect on youth unemployment. Beyond a term representing the number of new immigrants allowed into Spain every year being included as an independent variable, it is necessary to include a set of ambient factors that clearly exert some influence over the youth unemployment rate. Similar control variables are included in the regressions performed in Chapter II and Chapter III, which offer more detailed discussions of the meanings behind these variables and the reasons for their inclusions in a regression.

These more general variables include general economic growth (represented by the change in GDP), the protections guaranteed to workers (represented by an OECD figure that grants a lower number to represent greater protection of workers), the general rate of unemployment in the European Union (representing continental economic cycles), the number of housing starts pursued nationwide in a year in the country (representing the health of the low-skill labor sector), and inflation. These non-immigration variables that nevertheless produce some sort of effect on youth unemployment are set at a one-period (one-year, in this instance) lag in order to counteract some of the complexities in dealing with time-series data, allowing for the true and measurable effects on youth unemployment due to immigration to emerge without worries of meaningless findings or spurious correlations. The model will also be iterated across several periods, as was the case in Chapters II and III, so as to capture any effects on youth unemployment caused by immigration, not merely those immediate ones which appear in the first period.

In the end, then, the model, known for purposes of clarity as model 4.1, used looks something like this:

(4.1) $$Youth\ unemployment_{t+h} = \beta_0 + \beta\delta GDP_{t-1} + \beta New\ immigrants_t + \beta inflation_{t-1} + \beta housing\ starts_{t-1} + \beta EU\ Unemployment_{t-1} + \beta labor\ index_{t-1} + e_{t+h}$$

where *t* is the time period in question and *h* is the number of periods iterated into the future (the number of regressions performed). A crucial facet of this empirical model is the estimation of the effect of immigration in various periods in order to capture the effect of changes in immigration on youth unemployment over time rather than simply the immediate impact of these changes. This is done by setting the independent variables besides immigration at a lag of one period and predicting the rate of youth unemployment several years into the future, then observing how closely these predictions match reality. *e* is the error term.

Results

Upon performing the regressions of this model, the effects of immigration on youth unemployment become clear. In the third iteration, it becomes evident that the introduction of a large number of immigrants into the Spanish labor market may have a severe and negative impact on the prospects of young people to be employed. According to calculations derived from model 4.1, the arrival of 100,000 new immigrants could raise youth unemployment by as much as 5% in a following period. As will be explored more thoroughly later in this chapter, many immigrants are pitted against young Spaniards for entry-level work and that the Spanish economy, though rebounding, is not creating entry-

level jobs rapidly enough to quell the competition between these two groups of jobseekers. The dynamic effect of the variable, rendered graphically, is as follows:

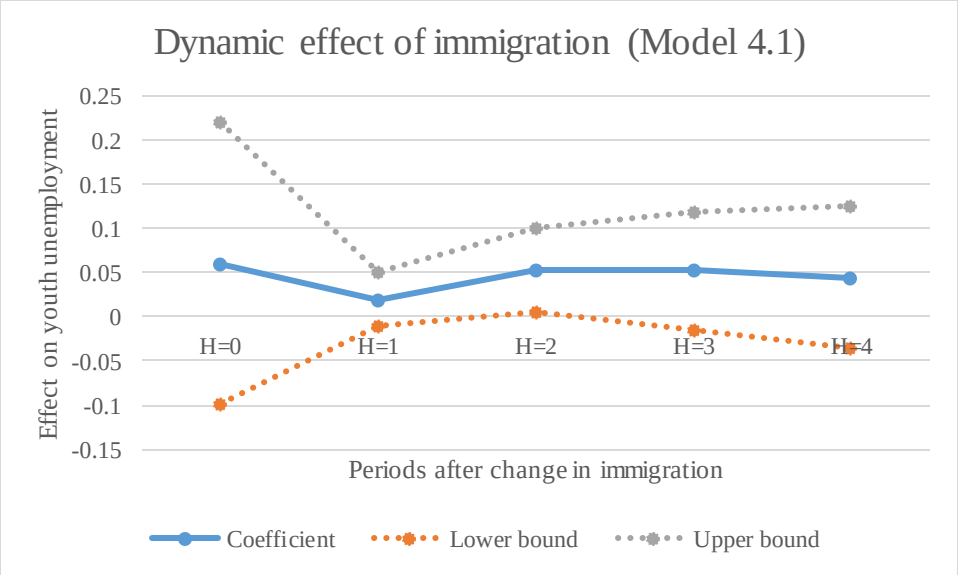

Figure 10: Effect of changes in immigration on youth unemployment

An interesting feature of these regressions is that this negative effect on youth unemployment does not appear until the third iteration. This would imply that youth unemployment is unaffected by immigrants immediately upon their arrival, but that immigrants contribute to youth unemployment after two or three years in Spain. This would suggest that, following the termination or expiration of their temporary work contracts, the contracts that brought them to the country, foreign-born workers face significant hardships in finding new work (Fernández Suárez, 2017; Rodríguez-Planas and Nollenberger, 2016).

Possible reasons behind this are several. First, and most basically, foreign-born workers likely possess fewer of the necessary skills to achieve success in the Spanish labor market (Muñoz de Bustillo, 2011). Not only are they less likely to be fluent in Spanish (especially those hailing from the Middle East and Eastern Europe), these workers are also

less well-versed in the informal rules and norms that accompany employment and with whose strictures only a native Spaniard would comprehend (Sanromá, 2015). In addition, foreign workers are less likely to be aware of the services and opportunities provided by both public and private entities to the jobless. Even if the foreign worker is aware that such supports exist, he or she may feel less comfortable appealing of them for various reasons. In addition, foreign workers, far removed from their families, friends, and hometowns in another country, lack the informal support networks that often provide so many young Spaniards with aid when they find themselves in between jobs.

Given the rigidity of the Spanish labor market (explored more thoroughly in Chapter I) it is unsurprising that so many immigrants have a harder time gaining their footing in the Spanish economy after their arranged period of employment ends. The uncertainty of the Spanish economy strikes harder on immigrants; according to the OECD, foreign-born workers in Spain suffer an unemployment rate of 27.1%, compared to the Spanish average of 20.8%, as of March 2018 (OECD, 2018).

Not all of this change can be due, however, to the mere influx of immigrants who have trouble remaining employed. An unavoidable effect of greater immigration is that of labor market crowding, wherein young people newly must compete with more people for jobs. Given the fact that many immigrants arriving in Spain for work are low-skilled workers, it is not a fallacious leap to assume that the presence of a large pool of unskilled workers set to compete with Spanish citizens for the same jobs will result in a tighter job market faced by young people. Geography also plays a part, as both immigrants and young Spaniards crowd to the country's major cities (particularly Barcelona) from smaller towns and poorer regions, shrinking further the pool of available work (Carrasco et. al., 2008).

These cities, more prosperous post-crisis than other areas of the country, act as magnets for the jobless. The lack of assimilation of foreign-born workers into Spanish (and, for that matter, European) labor markets is a chronic problem (Moreno-Colom, 2016).

The complete results of this regression may be found in an index at the end of this thesis in a table labeled "Regressions of Model 4.1".

Empirically testing the relationship between immigration and social capital in Spain

A second and perhaps more interesting factor in youth unemployment whose effect from immigration is unclear is that of social capital. As is expounded upon more thoroughly in Chapter I, an important contributing factor which informs youth unemployment is the degree to which unemployed young people may or may not have access to informal networks of support from families, friends, churches, community organizations, and other nongovernmental entities. However, these networks may only operate in the abundant presence of social capital. Social capital is a tricky sociological concept that may be best-described as the degree to which a citizen has reason to trust or aid an unknown fellow citizen (Westlund, 2008). There is some research to suggest that a large influx of immigrants disrupts the homogeneity of a settled population and that this ruptures the web of social capital that had been established by centuries of conventional unity between members of a society (Kesler and Bloemraad, 2010). Whether or not this disruption has occurred in the case of Spain is a worthwhile question and the focus of this second empirical test.

Measuring social capital is a difficult task. For the purposes of empirical analysis, I have chosen to use data from the World Values Survey, an international values poll that

has been administered intermittently in Spain since 1995. Specifically, I have chosen the percentage of the Spanish population that replied "yes" to the question "Can a stranger generally be trusted?" as a variable to represent the amount of social capital present between citizens. Upon examining the observations of the survey, the percentage of people responding "yes" to this question has fallen from 32.7% in 2003 to only 19% in 2015 (World Values Survey, 2015). Clearly, this represents a significant decline in social capital and, consequently, a more difficult situation for young workers who must, in the words of Blanche DuBois, always rely on the kindness of strangers (Williams, 170).

But is this drop in social capital the result of increased immigrant presence in Spain? In order to perform a regression on social capital, it is necessary to choose a set of variables that capture other potential influencers on social capital. The most important variable, and the variable of interest, is the number of new immigrants arriving in Spain every year. Among the necessary control variables for this model are GDP growth and the labor index representing the density of protections offered to workers. Research suggests that economic growth aids in the development of social capital, leading citizens to feel more positively about fellow members of their society as a whole, and so it is valuable to include this as a control in the regression (Whiteley, 2000). Likewise, the degree to which workers feel secure in their jobs plays a part in social capital, and so the labor index is likewise included as a control variable.

In addition these established control variables, I have decided to include the GINI index to represent income inequality in Spain. The inclusion of a proxy of income inequality is necessary because greater levels of income inequality lead to greater levels of social fragmentation and so reduce social capital (Ioakmidis and Heijke, 2016). Likewise,

I have decided to include the homicide rate as a proxy for crime within the country. Unsurprisingly, the presence of crime in a country does not aid in the development of social capital, and so it is necessary to include as a control a proxy that represents the amount of crime taking place in Spain.

In addition, two dummy variables have been added to the regression in order to capture the effects that singular events may have had on social capital in Spain in the period identified (1995 to the present). The first among these is joining the European common market in 1999. Not only may this event provoke a sense of unity and belonging within Spanish society, its inclusion also counteracts to some degree the impact that immigration alone may have had on social capital, as larger-scale immigration would be an expected consequence of membership within a union in which free movement of persons is guaranteed. Methodologically, this is carried out by entering "0" for each year prior to 1999 and "1" for 1999 and all years following.

The second dummy variable, equally presciently, regards the massive Madrid train bombings that took place in Spain in 2004. On the morning of March 11, 2004, a group of radical Islamic terrorists set off ten bombs in crowded train stations around the Madrid area at rush hour, purportedly with the goal of ending Spanish involvement in the War on Terror. The bombings killed 192 and injured more than 2,000. Not only was this the worst terror attack in Spanish history, but it remains the worst Islamic terror attack in Western European history. Needless to say, this violent act may be expected to have had a deep impact on the psyche of Spanish society. To capture the effect that this terror attack has had on the presence of social capital in Spain, a dummy variable is introduced to indicate whether or not an observation takes place after the Madrid train bombings. Methodologically, this is

carried out by entering "0" for each year prior to and including 2003 and a "1" for 2004 and all years following.

In the end, then, the empirical model is as follows:

(4.2) $$Social\ capital_{t+h} = \beta_0 + \beta\delta GDP_{t-1} + \beta New\ immigrants_t + \beta income\ inequality_{t-1} + \beta homicide\ rate_{t-1} + \beta EU\ membership_{t-1} + \beta labor\ index_{t-1} + \beta terror_t + e_{t+h}$$

where *t* is the time period in question and *h* is the number of periods iterated into the future (the number of regressions performed). An important feature of this empirical model is the estimation of the effect of immigration and terror in different years in order to capture the effect of changes in these variables on social capital over time rather than simply the immediate impact of these changes. I set the independent variables besides the number of immigrants and terror at a lag of one period and predict the level of social capital several years into the future. *e* is the error term, representing the difference between the predicted value for social capital and the actual value.

Results

Upon performing and iterating this regression across multiple periods, it becomes clear that terror, rather than immigration itself, is the biggest roadblock to the development of social capital in modern Spain. The coefficient on terrorism is not only statistically significant (t = -2.90), but also large enough to suggest that the terror attack alone may have reduced the percentage of the public willing to trust strangers by as much as nine percent. However, the effect was only temporary, affecting social capital only in the immediate aftermath of the attack. The dynamic effect of the variable, mapped graphically, is as follows:

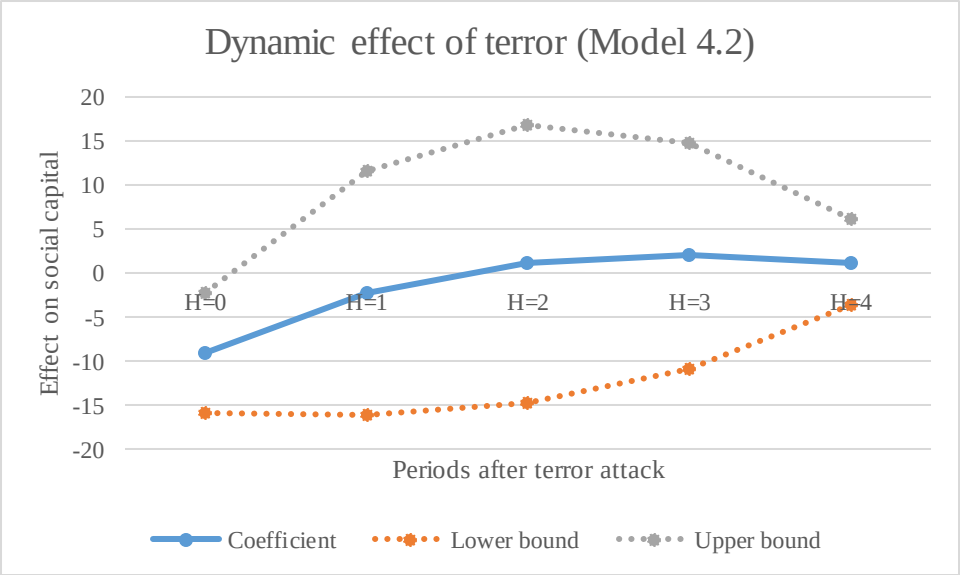

Figure 11: Effect of terrorism on social capital

The coefficient on immigration, meanwhile, offers a mixed but intriguing result. In the first iteration, representing the immediate effect of the arrival of new immigrants, immigrants have an insignificant impact on social capital, small enough that the arrival of 100,000 new immigrants would not be expected to move the metric of social capital by one-half of one percentage point. However, after several years, the coefficient on new arrivals is actually extremely small (0.007) and positive. This would suggest, unsurprisingly, that immigrants are not accepted immediately upon arrival into Spanish society and that some time is needed for both them and for their neighbors to adjust before ultimately being successfully absorbed into broader Spanish culture. Nevertheless, it can be comfortably stated that the increase in immigration has not led to a decline in social capital in the Spanish case. The dynamic effect of the variable, mapped graphically, is as follows:

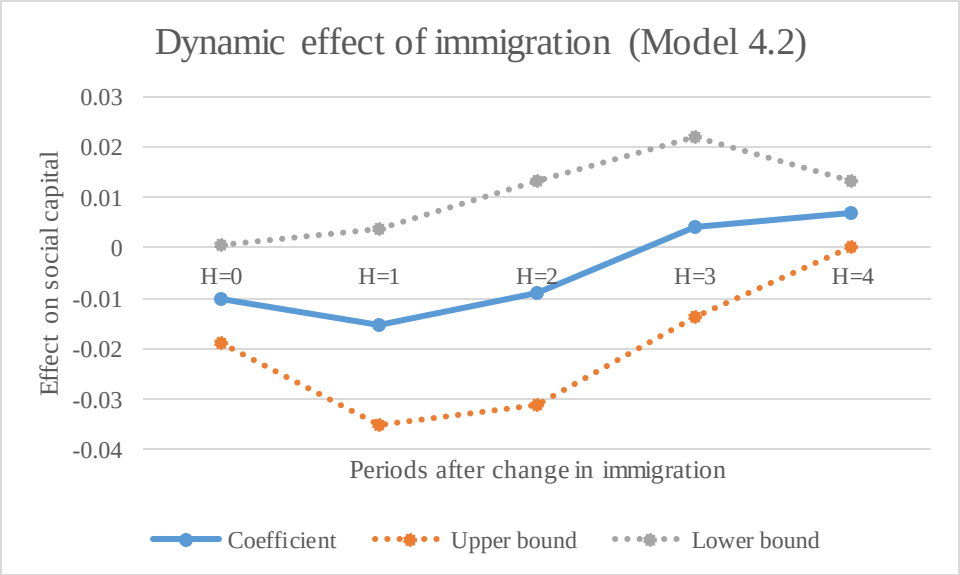

Figure 12: Effect of changes in immigration on social capital

As expected, GDP growth and the labor index have statistically significant and positive impacts on social capital. The complete results of these regressions may be consulted in a table labeled "Regressions of Model 4.2" in an appendix at the end of this thesis.

Before moving on, one methodological problem must be ironed out. In the initial set of regressions, it appears that the coefficient on income inequality is positive and strongly statistically significant (t = 4.40) in the later iterations. Not only does this confound logic, but the mechanism by which income inequality may be expected to enhance social cohesion is difficult to imagine. However, the data would suggest that income inequality is a product of economic growth and its overlap with this positive independent variable results in a false correlation with social capital presenting itself. In order to examine whether or not this was a genuine effect, I detrended the regression by adding the year as an independent variable and this removed the statistical significance of

income inequality in almost every period, except for the last iteration. In this last iteration, the coefficient on income inequality is only 1.65. Though this may seem significant, the Gini coefficient only varies in Spain during this period between 34.35 in 2000 and 36.1 in 2015. The standard deviation of the metric for social capital is 6.61. Therefore, the change in income inequality in the country could only explain a change of a bit less than half of one standard deviation in social capital, meaning that this variable is not economically significant. With this taken care of, this statistical anomaly is written off as a spurious correlation.

Spanish reactions to immigration

Before concluding, it is worthwhile to observe briefly and qualitatively the reaction among the Spanish public to the increased presence of immigrants in the Spanish workforce. After all, if evidence can be found to suggest that the influx of large numbers of new immigrants may be having a negative net effect on the ability of young people to secure low-skill and entry-level work, one would suspect that a greater societal backlash against this immigration would be seen. However, Spanish society has largely been absent the kind of anti-immigration sentiment that has taken hold in Sweden, Germany, Great Britain, France, and the Netherlands. One reason for this is the relatively comprehensive assumption of immigrants into Spanish society, as has been demonstrated by the regressions of model 4.2. A pair of additional reasons may also be identified.

In the first place, Spanish birth rates are far enough below replacement level to necessitate the intake of a relatively large number of immigrants for two reasons. First, these immigrants must take low-skill jobs for which Spanish young people are increasingly ill-suited. In addition, the aging native Spanish population will not be capable of

maintaining the welfare state that currently protects the elderly without an injection of young citizens who will form a new tax base for an enfeebled Spanish populace (Sgritta, 123). These two pressures that make large-scale immigration necessary in the Spanish case are visible in Spanish society. Public awareness of the necessity of immigration has muted a Spanish backlash against immigration akin to what has come about in other European nations (Benveniste and Pingaud, 2016).

In addition to this, the anti-immigration sentiment emerging elsewhere in Europe is typically considered a far-right proposition. Proponents of limitation of immigration, such as the National Front in France or the Alternative for Deutschland in Germany are uniformly (and likely correctly) defined as far-right parties (Davies, 223). Persistent memory in Spain of the cruelties and shortcomings of the Franco years make the odds of such a far-right movement emerging in Spain slim, to say the least. Public conversation regarding immigration and its impact are usually extremely civil and no voice in the contemporary Spanish political landscape could be considered to be a far-right or anti-immigration force. The Franco era left a bitter taste in the mouths of Spaniards vis-à-vis far-right politics and this has led to a great reluctance among politicians to condemn or propose limitation of immigrants (Davies, 196).

Before concluding, it is worth mentioning that some meeker attempts at prioritization of Spanish citizens over immigrants have been brought into the public square in recent years. The *Ciudadanos* (Citizens) party, which was founded in 2005 and entered parliament for the first time in 2015, has been described as both a center-right and a center-left party in Spanish media and has an observably populist streak within its policy platform (Burchianti and Zapata-Barrero, 2014). Since 2015, parliamentarians belonging to the

party have suggested banning immigrants from taking advantage of some welfare programs available to ordinary Spanish citizens, as well as suggesting that Spanish citizenship law should be more strictly circumscribed (*El Critic*, November 26, 2015). In addition, in Catalonia, a more extreme far-right regional party, known as *Plataforma per Catalunya* (PxC; Platform for Catalonia) has emerged. Barcelona is a major center for immigration to the country and PxC has responded with demands for limitation and deportation of immigrants, even calling on supporters to vandalize Arab-owned stores and mosques in 2011 (*El Pais*, August 25, 2011). While historically marginalized in Catalonian politics, PxC has gained a handful of city council seats in the region in the past few years and the terror attack in Barcelona that occurred in August 2017 has fueled new calls by the party to limit immigration. Whether or not this populist discontent with elements of mass immigration will mature into a more full-throated movement to curtail immigration into the country, following the pattern set in other countries, remains to be seen.

Conclusion

In the past eighteen years, since its admission into the European Union, the Spanish demography has been significantly altered by the presence by the growing presence of migrants, many of whom arrive in the country in order to work and so have the capacity to alter the forces affecting the Spanish labor market. Because of this, it is a worthwhile question to ask how this shift in the Spanish labor market has affected young workers in particular. In addition, it is possible that the presence of foreigners in Spanish society has had a deleterious effect on the social fabric that provides support to the unemployed, including unemployed young people, adding a secondary dimension to the effect of immigration on youth unemployment. In order to empirically measure the effect of

immigration on these forces on youth unemployment, it is necessary to construct time-series regressions that regress these and other factors on the youth unemployment rate.

Observing the results of these regressions, it can be stated that immigration has had a statistically significant impact, worsening youth unemployment in the country. This is unsurprising, as immigrants and young Spaniards are both concentrated within low-skill and entry-level work, as well as geographically concentrated in the labor markets of large cities. However, the cause of this friction is not as simple as first glance would suggest. The negative impact of immigration on youth unemployment only arises after two or three years, implying that the Spanish labor market poorly integrates immigrants and offers them little opportunity to advance after their first employment has ended. In addition, legal protections offered to immigrants protect them in many cases from swift deportation, leading to a glut of low-skill labor (Carrasco Carpio, 2016).

Along the dimension of social capital, immigration cannot be stated to have had an impact on Spanish society at the present time. The decline in social capital over the past twenty years is better explained by other events impacting Spanish culture, particularly the terror attacks suffered by citizens of Madrid in 2004, as well as other broad sociological trends, such as the financial downturn and the rise of an increasingly anonymous Internet-based culture in the same period (Bauernschuster et. al., 2014). Because of this lack of impact, it cannot be stated that the informal networks that offer support to young unemployed people have not been eroded by the increased presence of immigrants in modern Spain.

Despite the negative impact that immigration has presented to Spanish youth, there has been little of the backlash against immigration so commonplace in the rest of Europe.

Part of this has to do with the lingering disdain for the political philosophy of Franco and a public aversion to far-right politics that has kept politicians from taking up the issues of immigration seriously, much less proposing a ban or limits on immigration. However, a rising younger generation of policymakers, such as members of the *Ciudadanos* party, is somewhat more vocal in expressing discomfort with current levels of immigration. Whether or not this trend will continue will likely hang upon the economic fortunes of Spain moving forward.

In conclusion, the success of immigration in Spain is largely concentrated in the ability of society to absorb immigrants with the understanding that migration, particularly of young workers, is necessary for the perpetuation of an aging Spain. However, the Spanish labor market has a long way to go in the acculturation of immigrant workers, with immigration currently placing an undue burden on young workers, a fact that is not unnoticed among young people and their political representatives. How Spanish policymakers deal with these questions of assimilation and unemployment will decide the tone of Spanish politics and deeply impact the lives of the migrants and their children who presently call Spain "home."

Conclusion

The question of how to maintain economic dynamism in an advanced country is a crucial question with no clear answers. As has been cited in this thesis, the issue of youth unemployment touches on a wide array of contingent issues, such as politics, culture, immigration and migration patterns, education, and even the demographics that will govern Spain's future. How to go about unblocking the labor market puzzle in Spain first requires an understanding of the causes behind high mean youth unemployment in the wake of the financial crisis. A thorough and empirical analysis of potential causes, provided by this thesis, hopefully will serve as a groundwork for further exploration of the problems facing young Spanish workers and of possible solutions that will be helpful for the Spanish case and perhaps those of other developed Southern European nations.

In Chapter I, a brief description of the history and construction of the Spanish welfare state was provided in order to examine the legal situation of the unemployed in Spain. Presently, some serious roadblocks exist for young people in Spain. The Spanish welfare state relies strongly on transfers and the subsidization of the retired by the working. This bodes poorly for young workers in country with an aging population. In Spain, the welfare system is less capable of providing a well-rounded support to unemployed youth than its northern neighbors.

Additionally, current Spanish policy toward unemployment protections offer few incentives to firms to hire and keep employees while scaling down protections previously enjoyed by Spanish workers. Reforms embarked upon in 2010 and 2012 have done relatively little to solve underlying problems of labor market rigidity and lighten the permanent austerity experienced by young people. Spanish politicians have yet to squarely

confront the problems presented to young people by government policy. More data regarding the effects of the 2010/2012 reforms would be useful in determining what effect these laws have had on youth unemployment.

In Chapter II, the focus turned to an empirical analysis of the effects that demographic change (particularly shrinking birthrates) have had on Spanish economic productivity, searching for a connection between declining fertility and economic malaise that has been conjectured by some analysts. In the results, we find that business creation has a unique interaction with the youth employment situation. A paradox conjectured surrounding the economic outcomes among smaller youth cohorts is resolved: economic activity does not depend on the size of a generation of young people. The economic disadvantages of slowing birthrates seem to have been softened by a greater entrepreneurial activity, owing partially to the greater amount of resources allocated to modern young people, and the growing economic emigration of Spanish youth to other parts of Europe. However, it is unlikely that any benefits of a smaller youth cohort will continue to be the experience of future cohorts.

In Chapter III, the link between educational patterns and youth unemployment in Spain is examined. In surveying the Spanish educational system and the effects that modern education has on the economic outcomes of students, a story explaining high youth unemployment presents itself. Historically, Spanish students lagged behind their neighbors. However, modernization has helped somewhat to close this gap. Unfortunately, due to the staggering economic downturn of 2007-2011, Spain and its workers have not enjoyed the prosperity that these improvements usually promise and some subjects (such as foreign-language instruction) remain underdeveloped in Spanish schools. Likewise,

Spain's early-2000s boom, many young men chose to exit formal education to gain lucrative employment in the construction sector, young workers who now find themselves deeply disadvantaged without the academic and technical background necessary to succeed.

In the final chapter, the relationship between immigration and youth unemployment is examined, tackling a thorny political and cultural question with which other European countries are presently struggling to grapple. The Spanish population has been altered by a growing number of migrants, many of whom arrive in the country to work. This wave of immigration can be found to worsen young people's outcomes in the labor market. The Spanish labor market as it stands also poorly integrates immigrants and gives them few opportunities after their initial employment has ended. Further study at the regional level would be useful in examining the labor market crowding that is observed in these cases.

Along the dimension of social capital, immigration cannot be stated to have had an impact on Spanish society at the present time, and the decline in social capital in recent decades is better explained by other factors, such as terrorism and a shifting culture. The informal networks that offer support to young people have not been significantly eroded by the increased presence of immigrants in Spain.

Despite the negative impact that immigration has presented to Spanish youth, there has been little backlash against immigration. However, a rising younger generation of politicians, such as the *Ciudadanos* party, has become growingly vocal in calling for lower levels of immigration. Whether or not this trend continues will likely depend on the economic fortunes of Spain moving forward.

Once all of the data are processed and analyzed, a picture emerges of the challenges to the Spanish youth labor market. The Spanish government over the past fifteen years has consistently mishandled the challenge of youth unemployment and missed opportunities to aid young workers. The educational shortcomings presently experienced in the country threaten to undercut the progress of prior decades and make Spanish youth less competitive in a continental and global job market. Not only this, but the legal structures surrounding hiring and unemployment in Spain do a disservice to young workers. Moreover, immigration into the country has created a glut of low-skill labor in major cities that disproportionately harms young Spaniards. Though Spanish youth have responded with ingenuity, pursuing higher education and taking more economic initiative upon themselves, their positions in the economy and in society seem to be precarious and marginalized. All of these factors combine to mean that more young Spaniards than in prior generations will face serious roadblocks to long-term employment, starting their own families, and pursuing for themselves the happiness promised to them by a slipping developed economy. The greatest tragedy of this state of affairs is not an economic one, but an individual one marring the lives of each resident of the benefits line.

Anyone who knows me knows that I am an avid cinephile, and so I think it only appropriate to conclude this work with a quote from a film. In his 1958 classic *Touch of Evil*, Orson Welles plays a corpulent and corrupt border-town sheriff, Hank Quinlan, who attempts to double-cross Mexican official Miguel Vargas (played by Charlton Heston). Over the course of the film, the disheveled Quinlan pays a visit to a local brothel owned and operated by the comely Madam Tonya (played by Marlene Dietrich), who fancies herself an amateur fortune-teller. Quinlan pays her to have his palm read and, after laboring

over the lines of his palms, she gives him the ominous and classically *noir* line, "I can't read your palms. Your future has been all used up." For Spanish youth, this is an uncomfortably familiar feeling.

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Full Regression Results

Regressions of Model 2.1:

Immediate impact (F=0)

Businesses	Coefficient	t-value	|t|>p?
GDP Growth	20,030.67	2.31	Yes
Interest rate	-30,594.94	-1.29	No
Birthrate	-74,343.72	-1.25	No
Inflation	19,264.26	1.11	No
Labor index	-146,857.30	-0.69	No

First iteration (F=1)

Businesses	Coefficient	t-value	|t|>p?
GDP Growth	14,640.63	1.08	No
Interest rate	-16,348.99	-0.52	No
Birthrate	-46,949.81	-0.59	No
Inflation	11,334.93	0.47	No
Labor index	-186,800.40	-0.67	No

Second iteration (F=2)

Businesses	Coefficient	t-value	|t|>p?
GDP Growth	20,691.17	1.09	No
Interest rate	-12,024.68	-0.34	No
Birthrate	30,472.90	0.34	No
Inflation	-7,575.89	-0.23	No
Labor index	-301,585.70	-0.80	No

Third iteration (F=3)

Businesses	Coefficient	t-value	|t|>p?
GDP Growth	22,050.07	1.09	No
Interest rate	7,269.64	0.20	No
Birthrate	57,424.37	0.62	No
Inflation	-41,960.03	-1.10	No
Labor index	-918,189.80	-0.90	No

Fourth iteration (F=4)

Businesses	Coefficient	t-value	|t|>p?
GDP Growth	8,413.49	0.47	No
Interest rate	37,828.98	1.16	No
Birthrate	49,343.67	0.59	No
Inflation	-56,825.13	-1.69	No
Labor index	-976,541	-0.98	No

Regressions of Model 3.1:

Immediate impact (F=0)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-0.84826	-1.80	Yes
PISA	-0.00195	-0.03	No
Secondary spending	-0.40476	-1.10	No
Inflation	1.60851	3.02	Yes
English-learning	0.0276	-0.13	No
Labor index	6.99289	0.48	No
EU Unemployment	3.55385	3.21	Yes
Housing starts	-0.03409	-7.13	Yes

First iteration (F=1)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-0.59053	-0.75	No
PISA	0.17232	1.75	No
Secondary spending	-1.4363	-2.71	Yes
Inflation	1.2586	1.39	No
English-learning	-0.32357	-1.05	No
Labor index	26.033	1.26	No
EU Unemployment	1.99878	1.28	No
Housing starts	-0.035298	-5.05	Yes

Second iteration (F=2)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	0.9093	0.62	No
PISA	0.3593	3.34	Yes
Secondary spending	-2.9446	-4.27	Yes
Inflation	-1.1988	-0.70	No
English-learning	-0.3061	-0.87	No
Labor index	45.4272	2.14	Yes
EU Unemployment	1.0033	0.62	No
Housing starts	-0.0297	-3.44	Yes

Third iteration (F=3)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	2.1688	058	No
PISA	0.2401	0.86	No
Secondary spending	-4.0447	-2.32	Yes
Inflation	-2.5945	-0.56	No
English-learning	0.0508	0.05	No
Labor index	108.3465	0.84	No
EU Unemployment	0.6725	0.16	No
Housing starts	-0.0301	-1.39	No

Fourth iteration (F=4)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	2.3224	0.46	No
PISA	0.2236	0.55	No
Secondary spending	-4.9527	-2.10	Yes
Inflation	-2.5825	-0.42	No
English-learning	-0.042	-0.02	No
Labor index	111.2766	0.58	No
EU Unemployment	1.101	0.20	No
Housing starts	-0.0152	-0.52	No

Regressions of Model 3.2:

Immediate impact (F=0)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-1.0567	-2.07	Yes
University spending	0.8934	1.02	No
Technical sciences	-0.0384	-0.10	No
Inflation	1.6032	2.59	Yes
Labor index	2.1768	0.22	No
EU Unemployment	3.0771	2.06	Yes
Humanities	1.0606	0.28	No
Housing starts	-0.0336	-7.22	Yes

First iteration (F=1)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-0.158	-0.15	No
University spending	1.463	0.85	No
Technical sciences	0.0801	0.11	No
Inflation	-0.0233	-0.02	No
Labor index	23.9201	1.26	No
EU Unemployment	2.7371	0.98	No
Humanities	-8.0759	-1.13	No
Housing starts	-0.0497	-5.42	Yes

Second iteration (F=2)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	2.1016	1.07	No
University spending	3.6038	1.36	No
Technical sciences	-2.0021	-1.99	Yes
Inflation	-4.1921	-1.68	No
Labor index	24.2917	0.90	No
EU Unemployment	0.5674	0.16	No
Humanities	-13.8869	-1.58	No
Housing starts	-0.0677	-5.19	Yes

Third iteration (F=3)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	1.2412	0.48	No
University spending	2.3311	0.68	No
Technical sciences	-3.0302	-2.25	Yes
Inflation	-4.0547	-1.13	No
Labor index	60.6311	0.67	No
EU Unemployment	-1.3392	-0.26	No
Humanities	-19.1831	-1.56	No
Housing starts	-0.0648	-3.68	Yes

Fourth iteration (F=4)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	0.5862	0.15	No
University spending	1.97	0.33	No
Technical sciences	-3.3725	-1.58	No
Inflation	-3.7053	-0.68	No
Labor index	78.0245	0.63	No
EU Unemployment	-1.47	-0.19	No
Humanities	-24.9843	-1.34	No
Housing starts	-0.0533	-2.20	Yes

Regressions of Model 4.1:

Immediate impact (F=0)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-1.1796	-2.62	Yes
Inflation	2.014	2.51	Yes
Labor index	0.8944	0.29	No
EU Unemployment	0.2397	0.24	No
Housing starts	-0.0482	-5.63	Yes
New arrivals (1000s)	0.0595	0.82	No

First iteration (F=1)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-1.0078	-0.91	No
Inflation	1.2433	0.84	No
Labor index	4.0203	0.76	No
EU Unemployment	-4.1919	-2.41	Yes
Housing starts	-0.0684	-3.66	Yes
New arrivals (1000s)	0.0198	1.41	No

Second iteration (F=2)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	0.7795	0.35	No
Inflation	-1.1372	-0.47	No
Labor index	8.1783	1.20	No
EU Unemployment	-6.6368	-3.04	Yes
Housing starts	-0.1011	-3.20	Yes
New arrivals (1000s)	0.0531	2.52	Yes

Third iteration (F=3)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-1.2899	-0.42	No
Inflation	-0.7565	-0.22	No
Labor index	11.897	1.20	No
EU Unemployment	-7.0128	-1.99	Yes
Housing starts	-0.0699	-1.59	No
New arrivals (1000s)	0.0519	1.76	No

Fourth iteration (F=4)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	-3.7028	-0.96	No
Inflation	0.4977	0.12	No
Labor index	15.9318	1.39	No
EU Unemployment	-6.519	-1.38	No
Housing starts	-0.0279	-0.54	No
New arrivals	0.0447	1.29	No

Regressions of Model 4.2:

Immediate impact (F=0)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	0.4335	2.10	Yes
Labor index	-0.6563	-0.43	No
Income inequality	-0.3353	-2.10	Yes
Homicides/1000	2.966	-0.39	No
New arrivals (1000s)	-0.0091	0.49	No
Terror	-9.004	-2.90	Yes
EU Member	-1.7241	-0.38	No

First iteration (F=1)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	1.0499	2.27	Yes
Labor index	-1.269	-0.42	No
Income inequality	0.3633	0.21	No
Homicides/1000	6.3496	0.50	No
New arrivals (1000s)	-0.0156	-1.78	No
Terror	-2.2482	-0.36	No
EU Member	-3.9098	-0.43	No

Second iteration (F=2)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	1.3785	2.47	Yes
Labor index	-0.4855	-0.14	No
Income inequality	1.923	0.99	No
Homicides/1000	4.384	0.30	No
New arrivals (1000s)	0.0089	-0.92	No
Terror	1.0557	0.15	No
EU Member	-3.2662	-0.32	No

Third iteration (F=3)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	1.1005	2.57	Yes
Labor index	2.5071	0.91	No
Income inequality	3.4845	0.53	No
Homicides/1000	2.4045	2.35	Yes
New arrivals (1000s)	0.0041	0.20	No
Terror	1.9311	0.35	No
EU Member	-2.333	-0.28	No

Fourth iteration (F=4)

Variable	Coefficient	t-value	|t|>p?
GDP Growth	0.4468	2.83	Yes
Labor index	7.466	7.55	Yes
Income inequality	2.4264	4.40	Yes
Homicides/1000	1.9593	0.45	No
New arrivals (1000s)	0.0067	2.40	Yes
Terror	1.1907	0.58	No
EU Member	-1.7994	-0.59	No

Figures

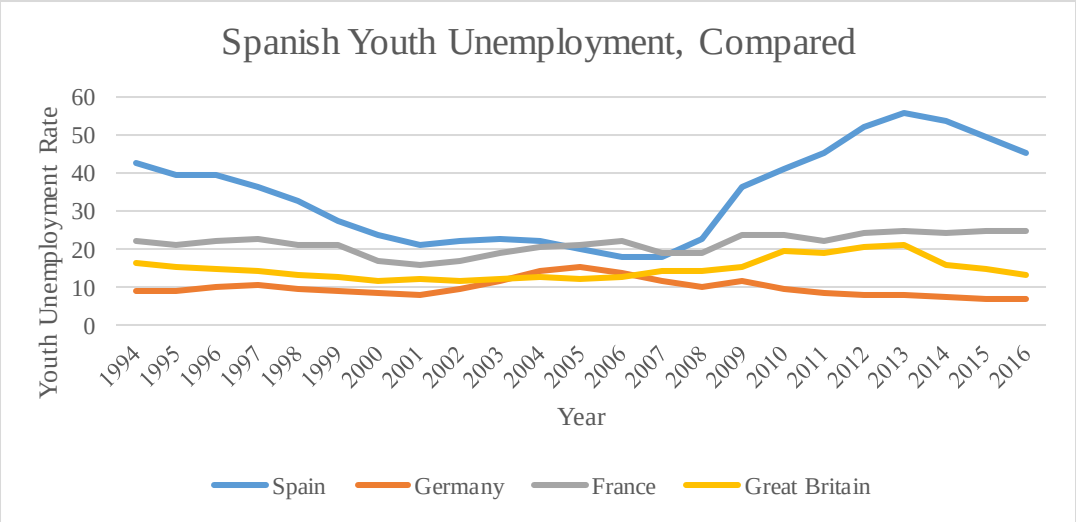

Figure 1: Youth unemployment rate in Spain, compared with those of other nations

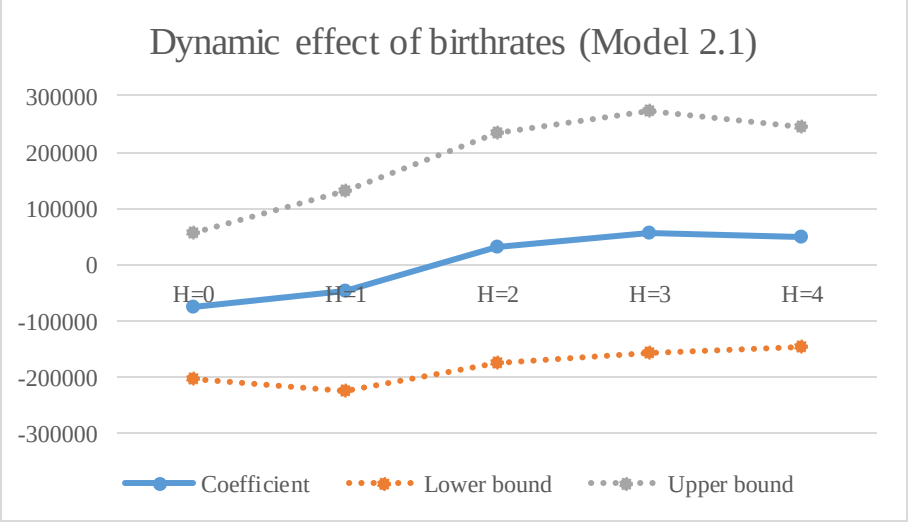

Figure 2: Effect of a change in birthrates on business creation

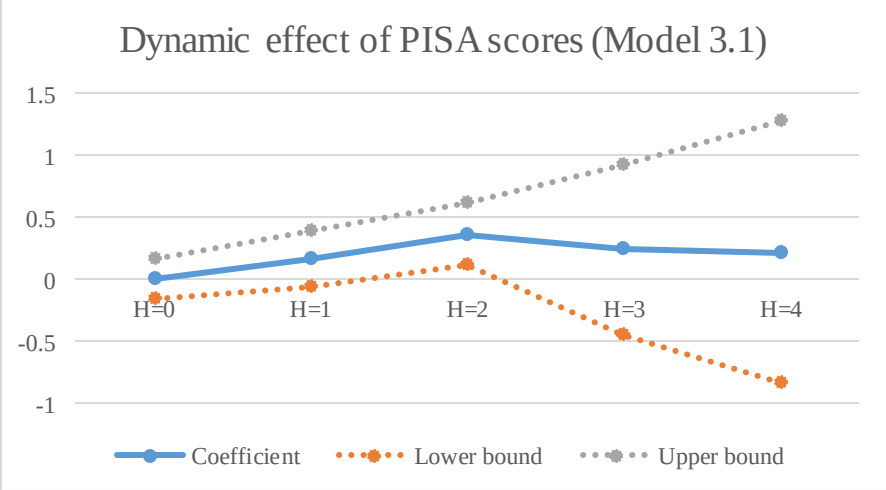

Figure 3: Effect of a change in secondary spending on youth unemployment

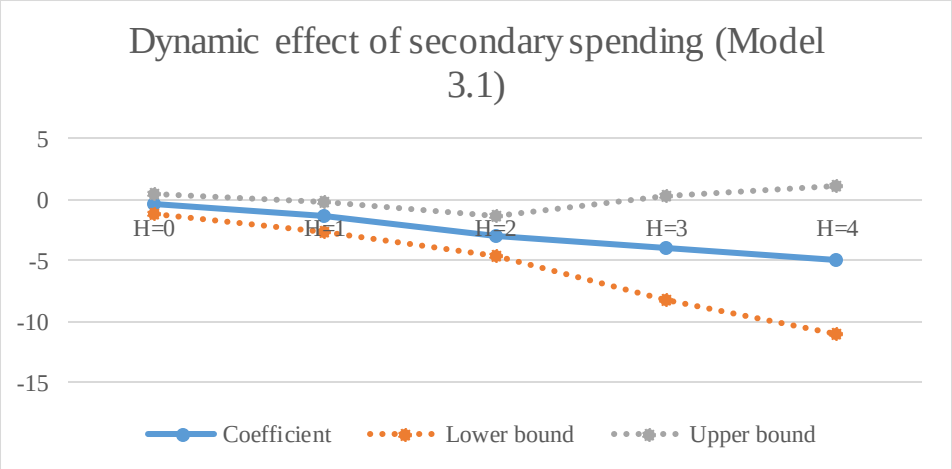

Figure 4: Effect of changes in English-language education on youth unemployment

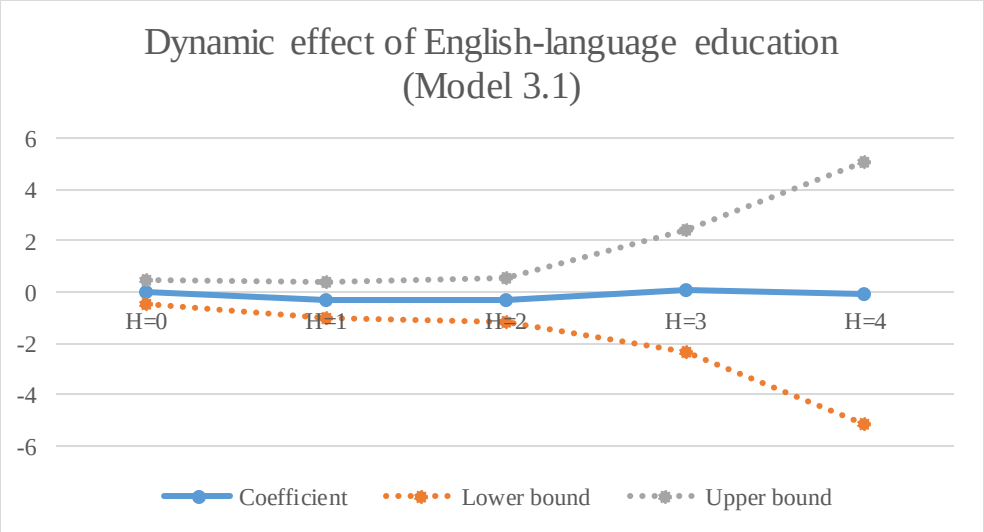

Figure 5: Effect of changes in PISA score on youth unemployment

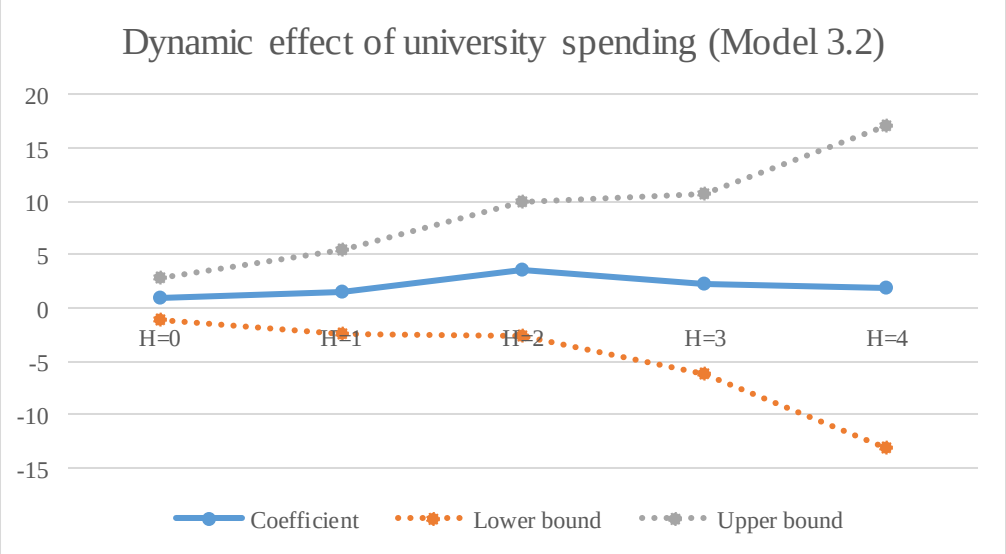

Figure 6: Effect of a change of 100,000 housing starts

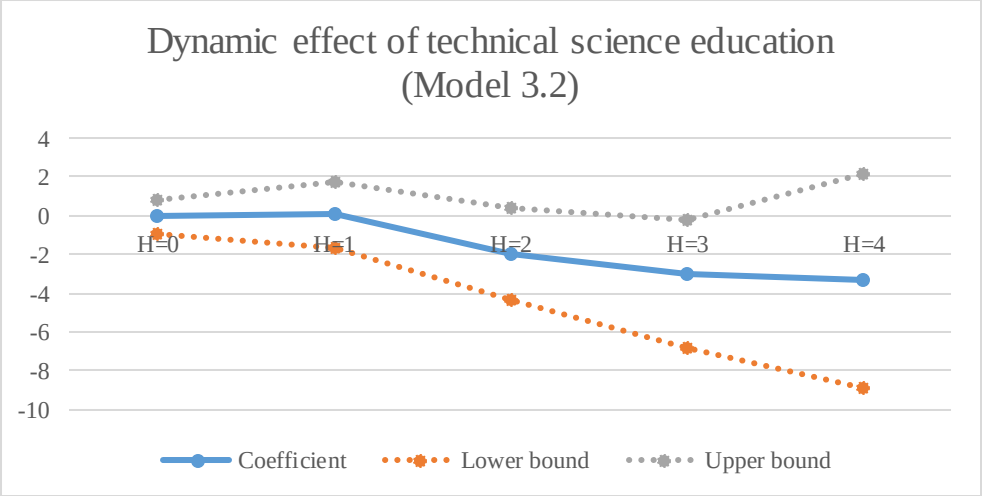

Figure 7: Effect of changes in university spending on youth unemployment

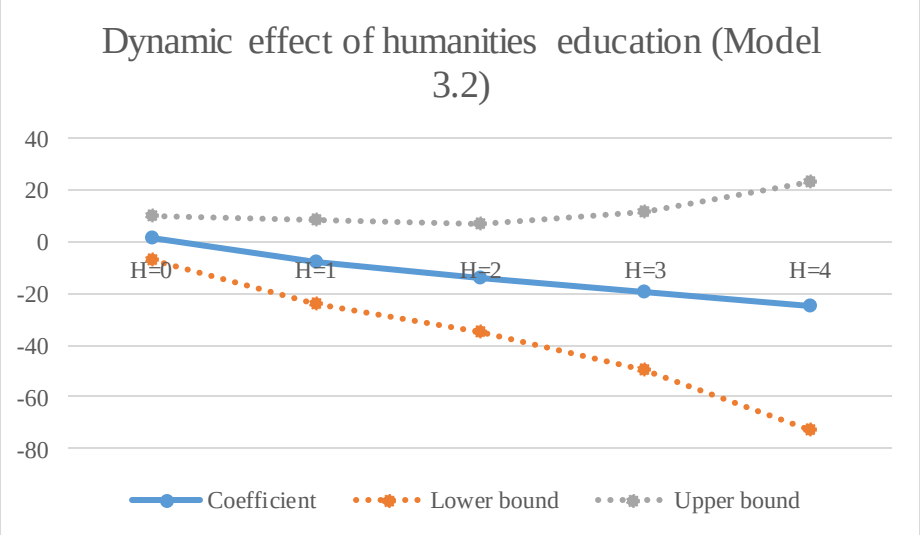

Figure 8: Effect of changes in humanities education on youth unemployment

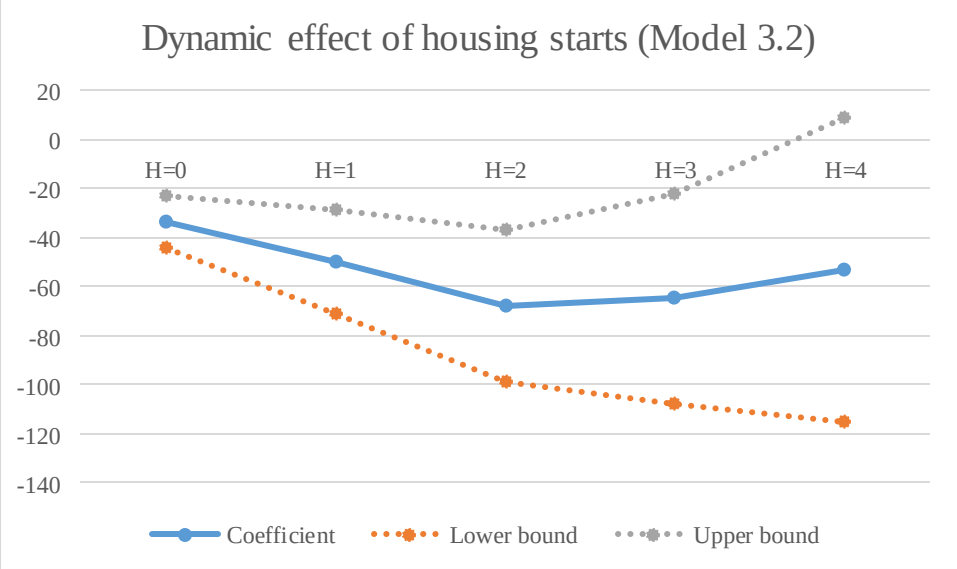

Figure 9: Effect of changes in technical science education on youth unemployment

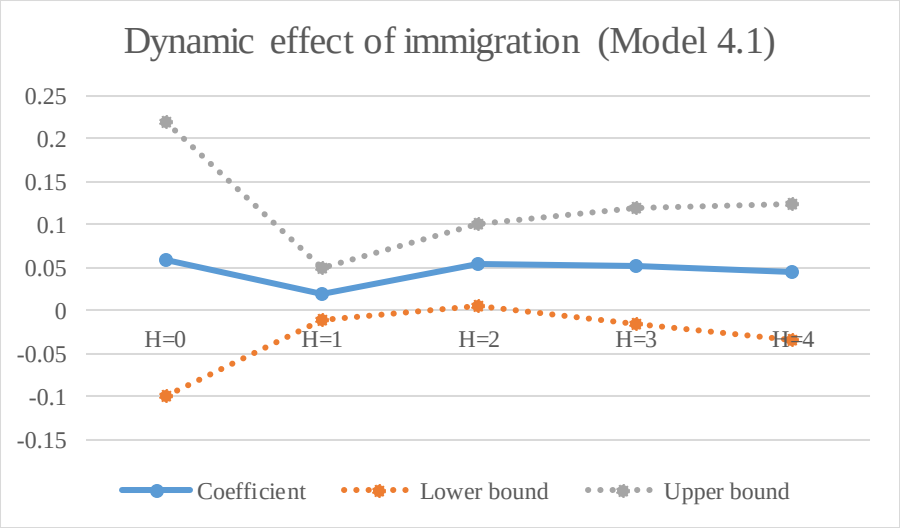

Figure 10: Effect of changes in immigration on youth unemployment

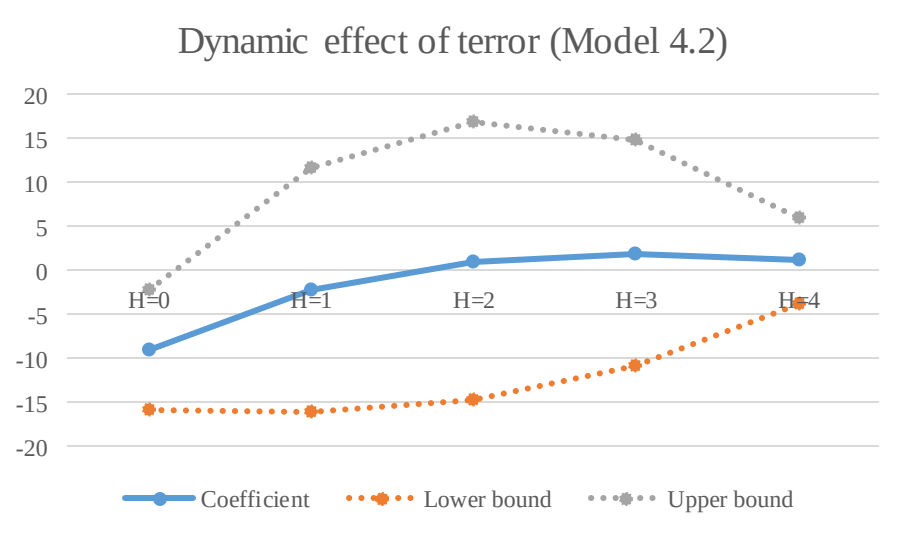

Figure 11: Effect of terrorism on social capital

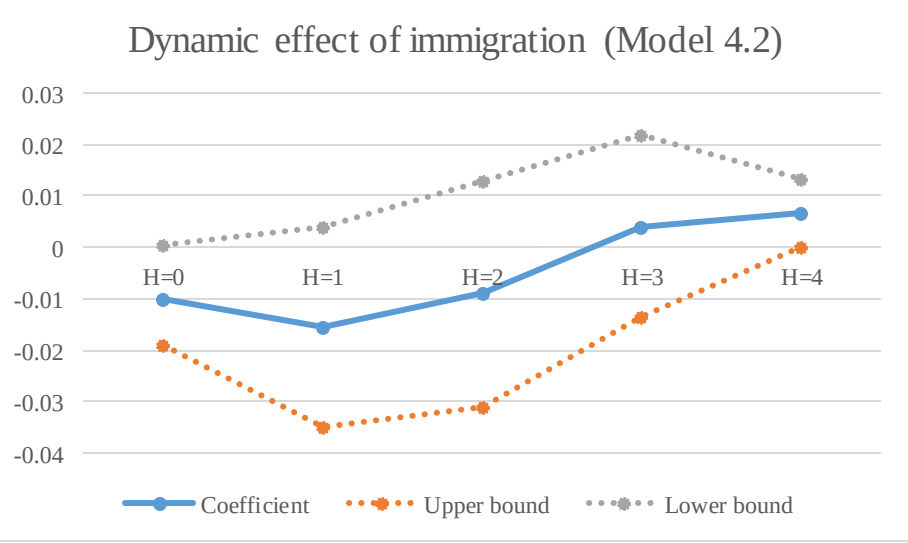

Figure 12: Effect of changes in immigration on social capital