

# Investigating Variations in Unemployment Between North and South Spain and Associated Implications

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## **Abstract**

Unemployment rates in Southern Spain have long been significantly higher than in Northern Spain, negatively affecting Spain's national unemployment rate. This has led Spain to have one of the highest unemployment rates in the EU, making it a target for corrective policies. The European Central Bank has enacted conservative fiscal policy across members and implemented further austerity policies on Spain due to its perceived high risk to the Euro and large amount of unpaid loans. The ECB has continued to increase interest rates for the currency which negatively effects economies trying to stimulate investment such as Spain. The regional difference has previously been explored through purely quantitative methods and is widely attributed to a deficit in industrial output or a cultural aversion to work. The purpose of this research is to use a combination of quantitative decomposition through regression and various historical, policy, and geo-sensing sources to gain a deeper understanding of factors which may contribute to unemployment, to explore possible avenues for development which could improve employment in the South.

## Introduction

Spain has an unemployment problem. It currently has the highest unemployment rates of all EU members at 14.8%— over double the EU average of 6.8% and exceeding the notorious unemployment rates of Greece in 2021<sup>1</sup>. They have consistently had the highest rates of unemployment in Western Europe by nearly five percentage points, and in the last decade have not been surpassed by any EU member nation other than Greece. This alone has made Spain the subject of EU scrutiny and led to austerity policies and global concern. Increased unemployment has caused more people to be below the poverty line or at risk of poverty, stresses social security systems, and currency. There are social, humanitarian, health and gender outcomes of Spain's failure to correct unemployment. Due to the negative effects of this high unemployment, Spain will likely fail to meet the objectives of the United Nations Sustainable Development Goals and the EU Pillar of Social Rights objectives<sup>2</sup>.

What is especially troubling about the Spanish case is the regional disparities in unemployment rates. The rates in Southern Spain are significantly higher than the rates in Northern Spain, an average of seven percent higher. The lagging labor economy of Southern Spain has generally been linked to low productivity, low motivation, and quantitative measures of labor exchange, but employment rates have not been responsive to policy corrections that target those problems. The regional disparities are an affront to classical economic theories and have not responded well to the classical solutions that have been attempted<sup>3</sup>. I believe previous one-dimensional assessments of unemployment in Spain, and a focus on correcting current problems rather than building sustainable labor systems, have been insufficient to measure and

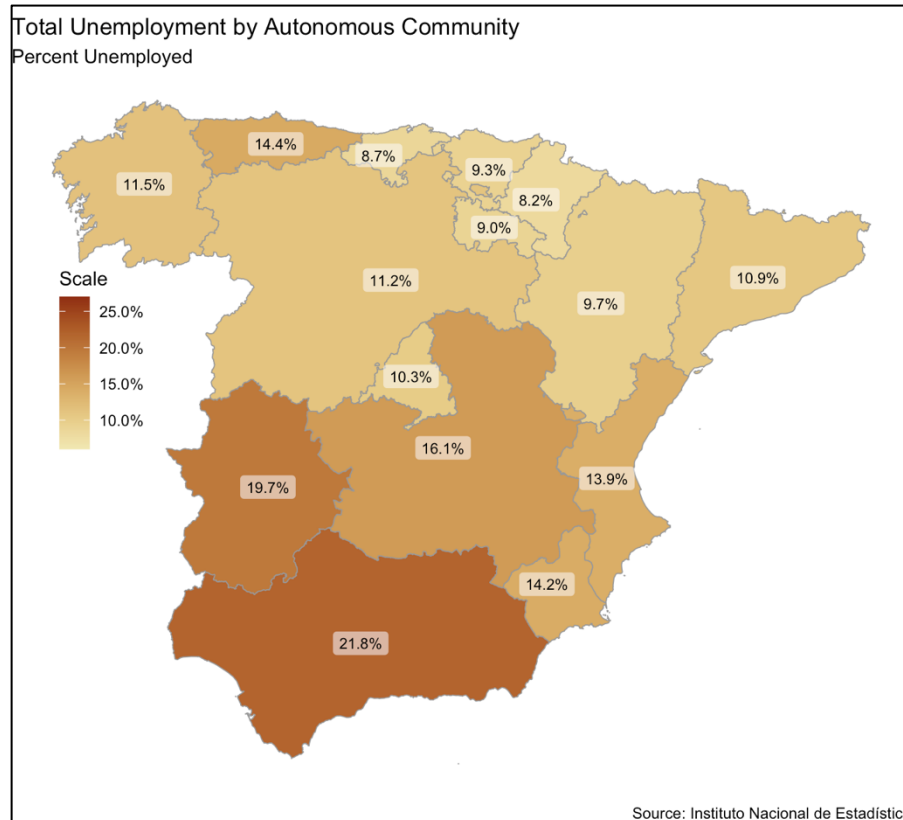
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<sup>1</sup> "Unemployment by Sex, Age and Citizenship," 2022.

<sup>2</sup> Malgesini Rey, Graciela. "Poverty Watch Spain 2019."

<sup>3</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 10.

correct the regional unemployment problem in Spain. In this paper I attempt to decompose the problem of regional unemployment differences in Spain and determine how much of unemployment is explained by region alone. I theorize that unemployment is not heightened in the South due to a lack of productivity or a difference in the labor market policies but rather sustained effects of regional differences in historical practices, policies, and disparities.



### Setting the Scene

The Iberian Peninsula was ruled by various caliphates and Islamic kingdoms until the Catholic reconquest of Spain began in the 13<sup>th</sup> century. The *Reconquista* was completed in 1492 with the fall of the Kingdom of Granada at the hands of Ferdinand and Isabella. The Spanish Kingdom established a massive empire, holding at one point or another land in every occupied continent. Notably, they possessed North America from Florida to British Columbia, the entirety

of Southern and Western South America, the entirety of the Caribbean Islands, Spanish Sahara (now Western Sahara), Equatorial Guinea, Spanish Morocco, and the Philippines. Most imperial holdings won freedom in the 1800's, but Spain retained Spanish Morocco until 1956 and Spanish Sahara until 1975. Modern Spain experienced several coups and wars, the most prominent of which occurred between 1936 and 1939, which resulted in the Franco Dictatorship. Franco's Nationalist government lasted until 1975 and employed many protectionist and fascist policies which shaped Spain's approach to problems, economic and social, even after the fall of the regime. The current democratic government was formed in October 1978.

Today, Spain is a constitutional monarchy in Southwestern Europe, occupying most of the Iberian Peninsula. The diplomatic head of state is the King, currently Felipe VI, and policy is determined by the legislature, the *Cortes Generales*, which is bicameral. The lower chamber, the *Congreso de los Diputados*, is made up of 350 members elected by citizens of the 50 provinces and 2 autonomous cities of Spain. The upper chamber, the *Senado*, is made up of four senators from each mainland province, with non-mainland provinces having fewer senators, and the number of representatives from regional legislatures based on population. Representatives at the national level are elected every four years.

Regional governments are formed primarily at the level of Autonomous Communities. The Autonomous Communities are 17 regions, and two autonomous cities. Spain is considered a decentralized unitary nation, with the central government retaining full sovereignty. The division into Communities began in 1977 and was completed in the current form in 1983. Each Community has their own legislature, the powers of which are outlined in the constitution, although there has been some conflict regarding jurisdiction and issues with cooperation. Communities have different levels of devolution, granted in a provision of the constitution, in

order to protect and respect the historic rights of territories with respect to local laws<sup>4</sup>. Some Communities are labeled as “historic nationalities”, and granted additional powers and expedience of full autonomy, and two others designated as “communities of chartered regime” and maintain fiscal autonomy.

There are two lower levels of regional government. *Provincias* are the 50 subdivisions of the Autonomous Communities, acting mostly as electoral districts<sup>5</sup> and to carry out the activities of the state<sup>6</sup>. *Ayuntamientos* are municipal governments which carry out local tasks and enact laws within the bounds of higher law, and can levy taxes, a power which provincial governments do not have.

According to the Constitution, article 149 section 1 part 7, the national government has the right to enact “Legislación laboral; sin perjuicio de su ejecución por los órganos de las Comunidades Autónomas” [Labor legislation; without influence in its execution by the bodies of the Autonomous Communities]<sup>7</sup>. Spain is generally known as a country that gives great amounts of welfare, which some believe allows citizens to survive without doing any work<sup>8</sup>.

Unemployment benefits in Spain have specific qualifications. To receive them, one must be completely out of work, or have one’s working day reduced by 10-70 percent for partial unemployment<sup>9</sup>. Discontinuous workers, such as seasonal workers, may receive unemployment during periods where there is no work. The duration of the unemployment benefit is dependent on the number of days in the last six years the worker contributed to social security. To receive

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<sup>4</sup> Constitución Española. Disposiciones Adicionales, Primera.

<sup>5</sup> Constitución Española. Artículo 68, 2.

<sup>6</sup> Constitución Española. Artículo 141, 1.

<sup>7</sup> Constitución Española. Artículo 149, 1:7.º; unless otherwise noted, all translations are my own.

<sup>8</sup> O’Callaghan, Sheila Mary. Cinderella of Europe; Spain Explained, 127.

<sup>9</sup> Servicio Público de Empleo Estatal, Contributory unemployment benefit.

any benefit, those filing for unemployment must have contributed to social security for at least 360 days of those six years. Benefit periods range from 120 to 720 days, and contribution days can only count for one benefit period. Benefit amounts depend on previous contributions to social security but have legal minimum and maximum amounts based on national average income. Benefit amounts are calculated based on household income rather than individual income. There is additionally a clause which dictates job seekers must apply actively for jobs and cannot reject a suitable job offer<sup>10</sup>. Any form of paid work or research, including self-employment will result in the termination of benefits.

While unemployment had been a major issue in Spain for decades, in the early 2000's, it seemed as though Spain had regained economic traction and the labor market was recovering. The late 90's had been reasonably successful, and Spain had been more effective at reforming labor and welfare systems than other European nations<sup>11</sup>. From 1996 to the onset of the recession, the Spanish economy had been growing nearly 1.5 percent quicker than the EU average. In 2007, unemployment in Spain had fallen below 8 percent, the lowest level since the formation of the current government. However, the foundations of this growth were tenuous. As unemployment improved, productivity suffered, boosted by an unusually sustained credit impulse, immigration, positive demand shocks, and the ability to fiscally consolidate<sup>12</sup>. Most of the existing growth was based on services and construction, which ultimately suffered most during the 2008 housing bubble and subsequent recession. Prior to the recession, many developments were planned in small, rural towns which left an estimated 3.4 million homes abandoned when loans defaulted en masse, and developers went bankrupt- the most deserted

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<sup>10</sup> "Compromiso De Actividad." Servicio Público de Empleo Estatal.

<sup>11</sup> Royo, Sebastián. "From Boom to Bust: The Economic Crisis in Spain 2008–2013."

<sup>12</sup> Martinez-Mongay, Carlos, and Luís Angel Maza Lasierra. "Competitiveness and Growth in EMU: The Role of the External Sector in the Adjustment of the Spanish Economy."

homes of any European nation<sup>13</sup>. Many developers were in debt, many construction workers went without paychecks, and many rural communities were deprived of the anticipated population boost. In an attempt to arrest the economy's fall, the government took out over 13 billion dollars in loans. Spain neared, and in 2010 crossed, the EU deficit threshold of 60% of national GDP. Initially, the Spanish government enacted a sweeping austerity policy to avoid triggering the EU Excessive Deficit Procedure, which would have given the EU rights to establish preventative policy and establish corrective measures<sup>14</sup>. The initial austerity plan included a reduction in spending in all sectors except education and social benefits and focused on reducing institutional spending on employees; it was expected to save 50 billion Euro over the course of three years<sup>15</sup>. That plan was not sufficient to meet EU debt standards, and a second austerity plan including pay cuts and pay freezes for public workers, expected to save an additional 15 billion Euro, passed Spanish parliament by a single vote four months after the initial austerity measures passed<sup>16</sup>. Despite the expected 65 billion Euro savings, these austerity plans did nothing to improve employment but rather reduced incomes and slashed public spending. Spanish debt continued to climb, and the EU continued to issue warnings until Spain took on a monitored gross public debt through the EU Financial Assistance Program<sup>17</sup> which had reached over 100% of its GDP by 2014, when they exited the program<sup>18</sup>. Before the COVID-19 pandemic, debt had fallen to 95.5% of GDP, unemployment was beginning to recede, and various labor reforms were being made.

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<sup>13</sup> Neate, Rupert. "Scandal of Europe's 11m Empty Homes."

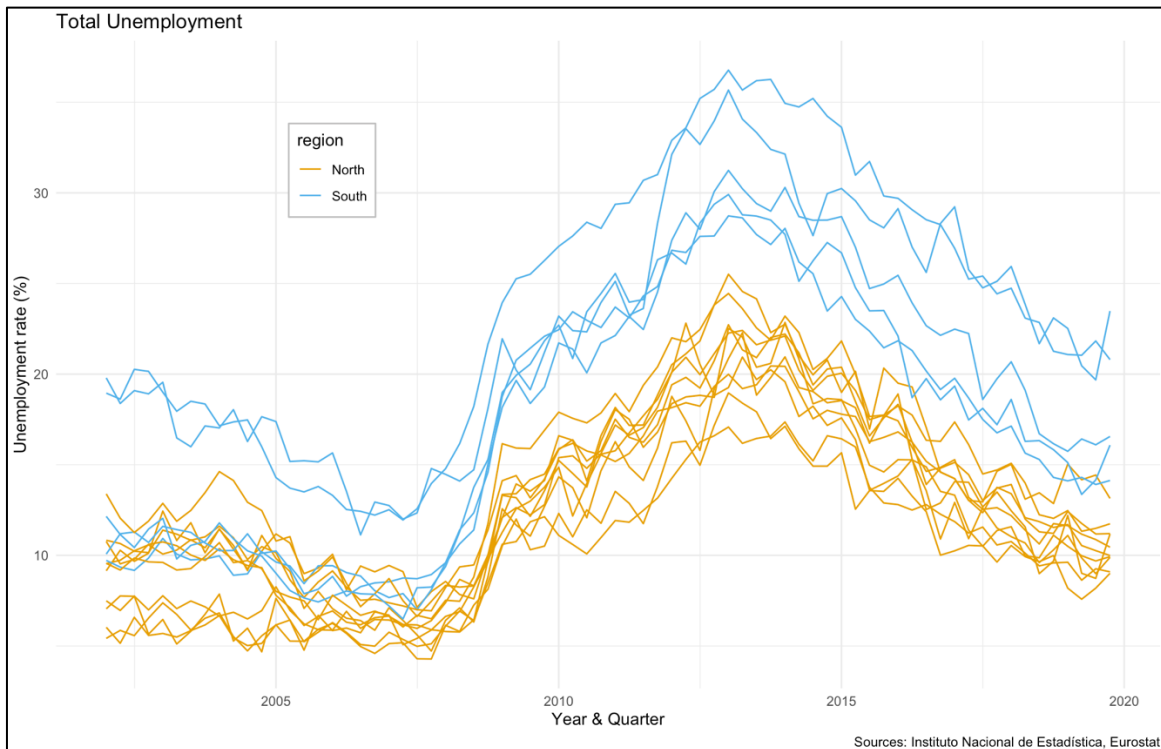
<sup>14</sup> Publications Office of the European Union, Excessive deficit procedure (EDP)

<sup>15</sup> "Spanish Government Announces €50 Billion Austerity Plan." *News Wires*.

<sup>16</sup> Dowsett, Sonya. "Spain Austerity Plan Scrapes through Parliament." *Reuters*.

<sup>17</sup> "Financial Assistance to Spain." European Commission.

<sup>18</sup> International Monetary Fund, General government gross debt for Spain



### Division in Spain

Unemployment rates are divided in Spain between Northern and Southern autonomous communities. The Northern communities have significantly lower unemployment than the Southern communities. Via a two-tailed t-test, the probability of observing the difference between unemployment between the Northern autonomous communities and Southern autonomous communities if the true difference in unemployment between the two is zero is significantly small ( $P < 0.00001$ ). While this division has long existed, the causes of its occurrence and persistence are still generally uncertain.

### Division in This Paper

For the purposes of this research, Spain has been divided geographically along the 40<sup>th</sup> parallel, halfway between the northernmost point at Punta de Estace de Bares in Galicia at 43°47' North and the southernmost point on the Spanish mainland at Punta de Tarifa in

Andalucía at 36°00' North. The Spanish islands of the Baleares and Canarias and the Spanish Autonomous Cities of Ceuta and Melilla on the African coast were omitted from the analysis and therefore, from the regional division of North and South. There are additional complex factors at play in these four places, both political and geographic, which would make it inappropriate to include them in this analysis. Autonomous Communities were designated to be part of either the North or the South based on whether they lay above or below the 40<sup>th</sup> parallel. Castilla la Mancha, Comunitat Valenciana, Extremadura and Comunidad de Madrid all had landmass on both sides of the dividing line, and were divided based on the majority of their landmass. For the remainder of this paper, the North will refer to the Autonomous Communities North of the 40<sup>th</sup> parallel and the South will refer to the Autonomous Communities South of the 40<sup>th</sup> parallel.

Designations are as follows:

<u>North</u>	<u>South</u>
Aragón	Andalucía
Asturias, Principado de	Castilla la Mancha
Cantabria	Extremadura
Castilla y Leon	Murcia, Región de
Catalonia	Valenciana, Comunitat
Galicia	<u>Omitted</u>
Madrid, Comunidad de	Baleares, Islas
Navarra, Comunidad Foral de	Canarias, Islas
País Vasco	Ceuta, Ciudad de
Rioja, La	Melilla, Ciudad de

One will notice when viewing maps and regarding cultural, demographic, historical and economic differences, that most regional differences divide the nation very near to this line created by the 40<sup>th</sup> parallel.

## Causes of Division

There are many divisions between the Northern and Southern halves of Spain, both physical and cultural. Geographic determinants such as mountain ranges have divided the peoples of the Iberian Peninsula since their arrival and led to the development of many individualized people groups. These distinctive groups developed a variety of unique languages; Spain has 5 co-official languages, and several more that are recognized but not official<sup>19</sup>. These cultures became more differentiated due to environmental factors and proximity to other nations. The South is far more arid than the North<sup>20</sup>, with more flat land that can be used for farming and ranching, so Southern communities developed to be more agrarian. The increased heat<sup>21</sup> and aridity of the South led to the development of customs such as siestas, and unique architecture such as internal patios, which are barely practiced or seen in the North, illustrative of the cultural differences within Spain which developed as a result of environmental factors and remain today. Due to its African historical foundations and proximity to Africa, Southern Spain has retained some remnants of Moorish culture. The longevity of the Moorish Caliphates in the South have left more liberal gender and religious ideals as opposed to the more Catholic and conservative values which were solidified in the North. Political lines have fallen on this cultural divide as well, with the South tending to have a higher proportion voting for more politically left candidates than the North<sup>22</sup>. The three original officially recognized “historical nationalities” within Spain lie in the far North and had the advantages of an additional five years of full autonomy and heightened recognition of cultural validity. As a result, autonomy and validity

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<sup>19</sup> Turell, M. Teresa. *Multilingualism in Spain: Sociolinguistic and Psycholinguistic Aspects of Linguistic Minority Groups*, 121.

<sup>20</sup> Mapas Climáticos de España (1981-2010) y ETo (1996-2016), 36.

<sup>21</sup> Mapas Climáticos de España (1981-2010) y ETo (1996-2016), 19-21.

<sup>22</sup> Andrino, Borja, Daniele Grasso, and Kiko Llaneras. “El Mapa De La Renta De Los Españoles, Calle a Calle.”

were solidified in the North as a whole. These Northern regions were additionally able to develop and establish themselves more quickly and easily than any other Autonomous Communities. In general, the inconsistent levels of devolution lead to various divisions and imbalances throughout the Autonomous Communities. As a result, the North and South have differences of educational attainment, with the South generally having lower levels of educational attainment<sup>23</sup>. The less profitable agrarian economy and low population density of the South led to this difference, which has economic implications. As such, the South has less wealth, both in general and per-capita. These differences, and many further economic differences, are a residual of these long-standing differences between the Iberian identities.

### A Brief History of Economic Division in Spain

Many economic differences between the North and South of Spain can be attributed to history. The regional differences in unemployment have existed since before the formation of the current system of Autonomous communities in 1977<sup>24</sup>, which alludes to a heavier historical influence of region, North or South, on unemployment than previously explored.

The first great point of division in Spain was the Catholic-Muslim division that occurred during the Middle Ages. From before 1000 AD until 1212, the North of Spain was controlled by Christian kingdoms, and the South of Spain was controlled by the Almohad Caliphate, a Berber Muslim empire<sup>25</sup>. The fall of Moorish Spain began in 1212 with the Christian victory at Navas de Tolosa<sup>26</sup> in the center of Southern Spain and continued slowly for the next two and a half

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<sup>23</sup> "Population by Educational Attainment Level, Sex and NUTS 2 Regions (%)," 2021

<sup>24</sup> Blanchard, Olivier, and Centre for Economic Policy Research. *Spanish Unemployment: Is There a Solution?* 26

<sup>25</sup> *Spanish Kingdoms 1210 A.D. Maps of the Spanish Kingdoms 1030 A.D. - 1556 A.D.*

<sup>26</sup> Gomez, Miguel Dolan, "The Battle of Las Navas de Tolosa: The Culture and Practice of Crusading in Medieval Iberia."

centuries. By 1360, the Moorish kingdoms had been consolidated to the Kingdom of Granada, in what is now eastern Andalucía. The Kingdom of Granada held until it was conquered by King Ferdinand II of Aragon and Queen Isabella I of Castile in January 1492, only three months before Ferdinand and Isabella turned their interest and financial attention to the New World. This financial shift from the crusade of Spain to the creation of a worldwide empire led to a neglect of the newly conquered Southern Spain. The newly conquered regions were not properly integrated, and were given general religious liberty until forced conversions began being widely enforced in 1502<sup>27</sup>. Few resources were allocated for the development of the South aside from the construction of cathedrals. Even with the institution and insistence of Catholicism, mosques and synagogues were mostly left standing, in stark contrast to the North where they had most commonly been destroyed or repurposed. The former Kingdom of Granada was recognized as its own region well into the 1500s, culturally and practically separate from the rest of Spain<sup>28</sup>. The concerns of the Spanish Crown were conquest and the spread of Catholicism, not the establishment of any social or economic integration or cohesion, causing a lasting cultural and developmental divide between the North and South.

In the several hundred years between the fall of the Moors and the twentieth century, the different regions of Spain developed different economic specialties due to the differences of climate, resources, and proximity to other nations. Spain obtained a section of Northern Morocco, strengthening the southern connection to their Moorish history, while northern Spain developed its relationships with France and Britain.

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<sup>27</sup> “The Conquest of Granada.” In *Encyclopædia Britannica*, n.d.

<sup>28</sup> Ortelius, Abraham. “Regni Hispaniae Post Omnium Editiones Locuplessi Ma Descriptio.”

The second great point of division began at the Spanish Civil War of 1936 through 1939. The beginning of the military rebellion against the Republican Spanish government by the Nationalist Faction was initiated in Spanish Morocco, led by Francisco Franco, and devolved rapidly into war. Conflict advanced to Cádiz and Seville, and quickly spread up to the Northern Coast, but the majority of Southern Spain remained under Republican control until the end of the war<sup>29</sup>. The Nationalists were victorious, and Franco ascended to Caudillo. The majority of economic division and suffering from this period came as a consequence of the policies enforced by the Nationalists during the Spanish State of 1939 through 1975. During the Second World War, there were shortages of basic goods such as food, raw materials, and capital goods, as well as the shortfalls of infrastructure which was still in disrepair from the bombings and land battles of the Civil War<sup>30</sup>. These shortages were especially bad in the rural areas of the South, which had limited accessibility to major hubs where goods would be distributed. Under Franco, the Catholic Church, the military, and centralizing government administrators all had excessive powers which reduced efficiency and promoted unilateral decision making, which led to a constriction of domestic production during the Second World War<sup>31</sup>. Protectionist tariffs established before the Civil War were still in effect and made it more challenging for Spain to obtain necessary goods, especially during the global shortages throughout and directly following World War II<sup>32</sup>. Due to the great unmet needs of the people, Franco signed an agreement with the Eisenhower administration to receive aid at the cost of liberalizing the economy and opening trade<sup>33</sup>.

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<sup>29</sup> “Spanish War Chronology.” *The New York Times*.

<sup>30</sup> Harrison, Joseph, and Economic History Society. *The Spanish Economy: From the Civil War to the European Community*, 9.

<sup>31</sup> Harrison, Joseph. *An Economic History of Modern Spain*, ix.

<sup>32</sup> Harrison, Joseph. *An Economic History of Modern Spain*, 101.

<sup>33</sup> Harrison, Joseph, and Economic History Society. *The Spanish Economy: From the Civil War to the European Community*, 9.

Following this change, the Spanish economy saw impressive growth, especially in agriculture, but protectionist policies were maintained. The protectionist tariffs and policies were a central aspect of Franco's obsession with self-sufficiency<sup>34</sup> and the Spanish domestic market quickly grew reliant on a combination of these protectionist policies, state patronage, and artificially inflated domestic markets to stay afloat<sup>3536</sup>. Agriculture benefited from the influx of technology as a result of opening the economy and grew with little need for protection. However, over the course of the 50s and 60s, Spain became less and less isolationist, and agriculture suffered as the market gained competition<sup>37</sup>. Franco had built a reliance on agriculture during this period, and as the proficiency of agriculture fell, he turned to an obsession with industry, leaving the unprotected agriculture sector to languish<sup>38</sup>. Agriculture was highly concentrated in the South, and high unemployment in the agriculture sector as a result of this downturn especially affected this region. Francoist labor policy also had a huge effect. Franco saw labor movements as a threat to the government's power and wanted to limit workers' ability to revolt with minimal cost. In some cases in the early days of the regime, to incentivize compliance, the government guaranteed work to those seeking jobs in exchange for their political acquiescence and toleration of low wages<sup>39</sup>. This gave the government the power to outlaw all unions except the state controlled Syndical Organization (*Organización Sindical Española*; OSE) and to control who worked and how much they were able to earn. After this guarantee was removed, the government retained labor market power by enforcing tight political controls of wage and employment,

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<sup>34</sup> Harrison, Joseph, and Economic History Society. *The Spanish Economy: From the Civil War to the European Community*, 8.

<sup>35</sup> Harrison, Joseph. *An Economic History of Modern Spain*, x.

<sup>36</sup> Jimeno, Juan, Toharia, Luis. Unemployment and Labour Market Flexibility: Spain, 3-4.

<sup>37</sup> Harrison, Joseph, and Economic History Society. *The Spanish Economy: From the Civil War to the European Community*, 9.

<sup>38</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 14.

<sup>39</sup> Jimeno, Juan, Toharia, Luis. Unemployment and Labour Market Flexibility: Spain, 92.

encouraging the dismissal of any workers who complained of conditions or wages<sup>40</sup> leading to a weak and inflexible labor market<sup>41</sup>. The eradication of non-OSE unions was expanded to include mandatory membership of all workers to the organization<sup>42</sup>. The OSE operated on the principle of far-right nationalism and worker rights as a cooperation with firms rather than with other workers. Unions similar to the OSE were also popular in Nazi Germany and Fascist Italy. Strikes were outlawed and firing employees became expensive for firms, effectively maintaining government control of labor movement and protests without the job guarantee. As a result, the unemployed simply emigrated to other nations<sup>43</sup> rather than try to navigate the meager employment opportunities, low wages, and strict anti-organization culture. Most emigrants were from the Southern agricultural hubs of Andalucía and Extremadura<sup>44</sup> where there were few opportunities outside of the failing agricultural sector.

A major part of the Nationalist beliefs, driven by what were publicized as traditional Catholic values, was the subversion of women that discouraged the entry of women into the workforce<sup>45</sup>. Women were encouraged to volunteer or train in traditionally feminine roles, and this became the sole way women could gain marketable skills, but these opportunities were more limited in the South where women had more homemaking duties as a result of rural living. The low labor force participation rate of women and the exodus of unemployed workers contributed to the maintenance of an artificially low unemployment rate throughout the Franco dictatorship. In the 1960's, manual workers lost their exemption from direct taxation and the family bonus meant to incentivize women to remain in the home were both lifted, flooding the job market with

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<sup>40</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 5.

<sup>41</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 22.

<sup>42</sup> Barreda, Mikel, Rosa Borges, and Diana Cuadros. "Las Asociaciones De Interés De España."

<sup>43</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 6.

<sup>44</sup> Harrison, Joseph. *An Economic History of Modern Spain*, 23.

<sup>45</sup> Reeser, Victoria. "Exploring Female Identity in Francoist Spain." 76.

a high supply of labor as people scrambled to accommodate family expenses<sup>46</sup>. Some attempts were made by the Nationalist government to fix regional poverty and unemployment differences, but these policies failed to reach the targeted underdeveloped regions in the South and benefitted the richer regions of the North<sup>47</sup>.

Finally, one cannot ignore the lasting impact the killings which occurred during both the Civil War and the Franco regime had on the Spanish workforce. During the Civil War alone, approximately 700,000 Spaniards died as a result of the conflict<sup>48</sup>, with up to 200,000 of those being the direct result of political killings by Nationalists<sup>49</sup>, 51,000 as the result of death sentences at concentration camps<sup>50</sup>, and an additional 56,000 political killings carried out by the Republicans. This alone was over five percent of the population of Spain at the start of the Civil War<sup>51</sup>, and the political assassinations and killings at concentration camps continued throughout the regime. Combined with the continued outflow of workers, for reasons economic or otherwise, the population of young, labor-eligible individuals in Spain was greatly depleted.

After Franco's death in 1975, the Spanish labor market faced implosion. Franco's legacy was "an archaic system of labor relations and an inadequate production structure" which affected the economy as a whole, but especially Spanish employment rates<sup>52</sup>. Protectionist policies and artificial demand of the Francoist period were removed. In the five years following the fall of the regime, manufacturing jobs were lost at 2.5 percent annually, and construction jobs at 3.0 percent annually- rates which only increased into the 1980's<sup>53</sup>. Employment in the service sector

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<sup>46</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 5.

<sup>47</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 10

<sup>48</sup> Philip, P. J. "Franco's Victory Won At Huge Cost to Spain."

<sup>49</sup> Jackson, Gabriel. *The Spanish Republic and the Civil War, 1931-1939*.

<sup>50</sup> Payne, Stanley G. *The Spanish Civil War*, 110.

<sup>51</sup> "Casualties in Spain's War 5 Per Cent of Population." *The New York Times*

<sup>52</sup> Bentolila, Samuel, and Olivier J. Blanchard. "Spanish Unemployment." 233.

<sup>53</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 9.

increased in compensation for the fall in agriculture, industry, and construction<sup>54</sup>, which increased the susceptibility of the labor market to fluctuations, especially in regions where agriculture, industry, and construction used to be prominent. Industrial output fell<sup>55</sup> and all sectors in Spain suffered with the rest of the world during the energy crisis of the 70's<sup>56</sup>. High rates of inflation occurred, and disinflation was only accomplished at the cost of increasing unemployment<sup>57</sup>. The majority of these employment effects were felt in the South, where the majority of agriculture and large construction ventures were located.

The low inflationary measures in tandem with a relaxed budget prevented the economy from responding quickly enough to the 1992 recession to maintain the economy and employment<sup>58</sup>. The recession was a surprise to the Spanish economy; unemployment was expected to fall in the early 90's due to a rise in investment, but instead both fell<sup>59</sup> with a reduction of agricultural output to 25% of the rates in the 60s<sup>60</sup> and the expected investment boom failing to ever come<sup>61</sup>. The system of wage bargaining that was established in the 1990's as a reaction to the minor economic crash led to inflationary bias<sup>62</sup>, the effect of which was felt immediately at the onset of the 2008 recession. Tax benefits temporarily aided the situation in 2008, but were reduced with social spending in the wake of austerity policies in 2012<sup>63</sup>. During the recession, there was a reported eight-point rise in financial inequality in Spain, six points of which can be explained by a rise in unemployment that has not yet been recovered.

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<sup>54</sup> Harrison, Joseph, and Corkill, David. *Spain: A Modern European Economy*, 154.

<sup>55</sup> Harrison, Joseph, and Corkill, David. *Spain: A Modern European Economy*, 145.

<sup>56</sup> Harrison, Joseph. *An Economic History of Modern Spain*.

<sup>57</sup> Blanchard, Olivier, and Centre for Economic Policy Research. *Spanish Unemployment: Is There a Solution?* 3.

<sup>58</sup> Pérez Díaz, Víctor. *Spain at the Crossroads: Civil Society, Politics, and the Rule of Law*. 112.

<sup>59</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 15.

<sup>60</sup> Harrison, Joseph, and Corkill, David. *Spain: A Modern European Economy*, 145.

<sup>61</sup> Blanchard, Olivier, and Centre for Economic Policy Research. *Spanish Unemployment: Is There a Solution?* 5.

<sup>62</sup> Blanchard, Olivier, and Centre for Economic Policy Research. *Spanish Unemployment: Is There a Solution?* 6.

<sup>63</sup> Organisation for Economic Co-operation Development, Issuing Body. *In It Together: Why Less Inequality...*

## Causes for Concern

High unemployment has grave consequences. For the greater economy, high unemployment means lower national productivity and increases in social spending<sup>64</sup>. Not only is the government spending more and investing less, but consumer spending drops when unemployment rises<sup>65</sup> which causes the slowing of the economy as a whole.

For workers, some financial effects of unemployment include long term earnings losses, lower quality of subsequent jobs<sup>66</sup>, and the more acute problems of lower income: a reduction of savings and fewer or lower quality available resources, both financial and material<sup>67</sup>.

Experiencing unemployment has also been shown to result in reduced physical health, displayed in factors such as somatization, stillbirths and length of illness<sup>68</sup>, and to have negative mental health effects such as lowered self-esteem, social withdrawal, disruption of the family<sup>69</sup>, and lower satisfaction with their life and vocation<sup>70</sup>. Aside from these objective effects, the processes of applying for unemployment and seeking new employment are both time consuming and stressful activities which may have further adverse effects on physical and mental health.

When unemployment is high, these negative health effects are reflected in the greater population. Because the larger population is a collection of individuals, high unemployment will lead to higher general incidences of negatives such as stillbirths, suicides, substance use and

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<sup>64</sup> Fosu, Grace Ayiwah, "Government Expenditure and Unemployment: Empirical Investigation of Sub-Saharan African (SSA) Countries"

<sup>65</sup> Banerjee, Asha, and Ben Zipperer. "All Pain and No Gain; Unemployment Benefit Cuts Will Lower Annual Incomes by \$144.3 Billion and Consumer Spending by \$79.2 Billion."

<sup>66</sup> Brand, Jennie E. "The Far-Reaching Impact of Job Loss and Unemployment."

<sup>67</sup> Ahn, Namkee, García Juan Ramón, and Juan Francisco Jimeno. *The Impact of Unemployment on Individual Well-Being in the EU*.

<sup>68</sup> Linn, M W et al. "Effects of unemployment on mental and physical health."

<sup>69</sup> Brand, Jennie E. "The Far-Reaching Impact of Job Loss and Unemployment."

<sup>70</sup> Ahn, Namkee, García Juan Ramón, and Juan Francisco Jimeno. *The Impact of Unemployment on Individual Well-Being in the EU*.

mental health disorder diagnoses<sup>71</sup>. A lack of accessible health care may be further exacerbated by inability to afford healthcare or to take preventative measures to safeguard health. Higher unemployment is closely linked with a higher proportion of a population at risk of poverty or in poverty, and therefore susceptible to the effects of poverty. These effects include homelessness, food insecurity, lower education accomplishment by children, and poorer health outcomes<sup>72</sup>.

The regional aspect of the unemployment differences, and of the greater economic differences, in Spain is especially concerning. Regional unemployment disparities are troubling on their own as they stand as an affront “to the standard labor market theories, since the neoclassical model can explain neither their existence nor their persistence”<sup>73</sup>. If regional unemployment exists outside the bounds of traditional economic models, then we must look beyond traditional models for a solution, something nations are neither accustomed to nor enamored with doing. Regions that have chronically lower economic performance and unemployment experience many negative effects: lost potential, instability, and social consequences, for example. When some regions are suffering from unemployment without equal distress to the entire nation, they overwhelm the system by requesting aid without the nation being incentivized to rebuild the whole system for them<sup>74</sup>. There is concern that if monetary policy were to be adjusted for the benefit of lower performing regions, the economic stability of the high performing regions would be ruined. This leads to a deadlock of solutions, where there are not sufficient lasting answers to solve the disparity without great negative effects. Were the

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<sup>71</sup> Buffel, Veerle, Sarah Missinne, and Piet Bracke. “The Social Norm of Unemployment in Relation to Mental Health and Medical Care Use: The Role of Regional Unemployment Levels and of Displaced Workers.”

<sup>72</sup> Brooks-Gunn, Jeanne, and Greg J. Duncan. “The Effects of Poverty on Children.”

<sup>73</sup> Bande, Roberto, and Marika Karanassou. “The Natural Rate of Unemployment Hypothesis and the Evolution of Regional Disparities in Spanish Unemployment.” 2.

<sup>74</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 15.

entire nation to be suffering similarly, the decision to change fiscal policy to correct the problem would be clearer.

### **Review of Previous Literature**

Unemployment as we currently perceive it has been the subject of concern and study since it was conceived by the Works Progress Administration and US Census Bureau in the 1930's<sup>75</sup>. According to Mulhearn and Vane, there has been a consensus that high and stable employment is the objective, but there is division as to the best methods and theories to achieve this<sup>76</sup>. Regional differences in unemployment have been reported on<sup>77</sup> and studied at various scales from large international regions to groups as small as NUTS-3 (Nomenclature of Territorial Units for Statistics) or county levels. These studies focus on both empirical and theoretical applications<sup>78</sup>, and oftentimes discuss policy implications or possible economic adjustment mechanisms<sup>79</sup>.

Regional unemployment in Spain specifically has been the topic of economic research, with many reports on regional unemployment featuring sections on Spain<sup>80</sup>. Papers dedicated to Spanish regional unemployment are almost always purely empirical, and study only fiscal causes with very little regard for other factors. These papers factor in wage setting and wage effects<sup>81,82</sup>,

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<sup>75</sup> Card, David. "Origins of the Unemployment Rate: The Lasting Legacy of Measurement without Theory."

<sup>76</sup> Schiavone, Michael. *Austerity and the Labor Movement*.

<sup>77</sup> OECD, "Unemployment by region"

<sup>78</sup> Elhorst, J. Paul. "The Mystery of Regional Unemployment Differentials: Theoretical and Empirical..."

<sup>79</sup> Mauro, Paolo, Eswar Prasad, and Antonio Spilimbergo. *Perspectives on Regional Unemployment in Europe*.

<sup>80</sup> Bermeo, Nancy Gina. Unemployment in the New Europe.

<sup>81</sup> Bande, Roberto, and Marika Karanassou. "Spanish Regional Unemployment Revisited: The Role of Capital..."

<sup>82</sup> Bande, Roberto, Melchor Fernández, and Víctor Montuenga. "Regional Unemployment in Spain: Disparities..."

the business or economic cycle<sup>8384</sup>, the costs of labor market movement<sup>85</sup>, costs and prices<sup>8687</sup>, entrepreneurship<sup>88</sup>, interest rates<sup>8990</sup>, and dominant industry<sup>91</sup>. Some papers regress or study the effects of a few factors with special regard to Spain, with Lopez-Bazo et.al.<sup>92</sup> regressing gender differences, Bande and Karanassou<sup>93</sup> regressing working age population, and de la Fuente Moreno<sup>94</sup> specifically focusing on the impact of educational policy on Spanish unemployment. Despite the existing literature, the regional aspect of unemployment in Spain has been poorly studied as a factor in understanding larger unemployment trends and issues in Spain<sup>95</sup>.

The general effect of the variables regressed against unemployment in this paper, other than region, have been studied more thoroughly individually, generally, or for other nations. The effects of an aging workforce<sup>96</sup>, average age changes and population changes within the working age range have been studied for the United States<sup>97</sup> and Europe<sup>98</sup>, but not for Spain, nor specifically with a regional emphasis. The gap between employment levels for men and women has been studied at great length, focusing on vulnerability<sup>99</sup>, changing dynamics and

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<sup>83</sup> Almeida, Alejandro, Aida Galiano, Antonio A. Golpe, and Juan M. Martín. "Regional Unemployment and..."

<sup>84</sup> Bande, Roberto, Melchor Fernández, and Víctor Montuenga. "Regional Unemployment in Spain: Disparities..."

<sup>85</sup> Bande, Roberto, and Marika Karanassou. "Spanish Regional Unemployment Revisited: The Role of Capital..."

<sup>86</sup> Bande, Roberto, and Marika Karanassou. "Labour Market Flexibility and Regional Unemployment Rate..."

<sup>87</sup> López-Bazo, Enrique, Tomás del Barrio, and Manuel Artis. "The Regional Distribution of Spanish..."

<sup>88</sup> Cueto, Begoña, Matías Mayor, and Patricia Suárez. "Entrepreneurship and Unemployment in Spain: A Regional Analysis."

<sup>89</sup> Bande, Roberto, and Marika Karanassou. "Labour Market Flexibility and Regional Unemployment Rate..."

<sup>90</sup> Bande, Roberto, and Marika Karanassou. "Spanish Regional Unemployment Revisited: The Role of Capital..."

<sup>91</sup> López-Bazo, Enrique, Tomás del Barrio, and Manuel Artis. "The Regional Distribution of Spanish..."

<sup>92</sup> López-Bazo, Enrique, Tomás del Barrio, and Manuel Artis. "The Regional Distribution of Spanish..."

<sup>93</sup> Bande, Roberto, and Marika Karanassou. "Labour Market Flexibility and Regional Unemployment Rate..."

<sup>94</sup> de la Fuente Moreno, Ángel. "Can Investment in Human Capital Reduce Regional Disparities? Some..."

<sup>95</sup> Jimeno, Juan, Toharia, Luis. Unemployment and Labour Market Flexibility: Spain, 43.

<sup>96</sup> Zipperer, Ben. "How Is Ageing Affecting US Unemployment Rates?"

<sup>97</sup> Ochsen, Carsten. "Age Cohort Effects on Unemployment in the USA: Evidence from the Regional Level."

<sup>98</sup> "Demographics and the Economy: How a Declining Working-Age Population May Change Europe's Growth..."

<sup>99</sup> "The Gender Gap in Employment: What's Holding Women Back?" InfoStories.

importance<sup>100</sup><sup>101</sup>, and even Spanish specifics<sup>102</sup>, but not with a regional context. The effects of population<sup>103</sup>, population growth<sup>104</sup> and population density<sup>105</sup> have been studied, but mostly in the United States. The effect of education on unemployment<sup>106</sup><sup>107</sup> and its duration<sup>108</sup> have been studied at great length, and the effect of increasing education on regional employment in Spain has been investigated<sup>109</sup>, however this has not been paired with a larger analysis or other factors. The relationship between industrial production and employment has been studied<sup>110</sup>, often with relation to oil production<sup>111</sup> and without the context of policy.

Demographic and unemployment effects have been studied more generally, at a greater European level<sup>112</sup>, and with implications of emigration on host countries<sup>113</sup>. There has however been no specific study of these varied, less financial variables in combination with one another in any empirical regard or with any consideration of possible contextual effects of history, policy, and uncorrectable regional differences.

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<sup>100</sup> Albanesi, Stefania, and Ayşegül Şahin. “The Gender Unemployment Gap.”

<sup>101</sup> Simmons, Michael, and Reamonn Lydon. Rep. *The Ins and Outs of the Gender Unemployment Gap in the...*

<sup>102</sup> Nagore García, Amparo. “Gender Differences in Unemployment Dynamics and Initial Wages over the...”

<sup>103</sup> Growing population causes of unemployment. Asian Forum Newsl.

<sup>104</sup> Sweezy, Alan, and Aaron Owens. “The Impact of Population Growth on Employment.”

<sup>105</sup> Hummel, Daniel. “The Effects of Population and Housing Density in Urban Areas on Income in the United...”

<sup>106</sup> Núñez, Imanol, and Ilias Livanos. “Higher Education and Unemployment in Europe: An Analysis of the...”

<sup>107</sup> Riddell, W. Craig, and Xueda Song. “The Impact of Education on Unemployment Incidence and...”

<sup>108</sup> Kettunen, Juha. “Education and Unemployment Duration.”

<sup>109</sup> de la Fuente Moreno, Ángel. “Can Investment in Human Capital Reduce Regional Disparities? Some...”

<sup>110</sup> Owyang, Michael T, E Katarina Vermann, and Tatevik Sekhposyan. “Output and Unemployment: How Do...”

<sup>111</sup> Shah, Muhammad Imran, Irfan Ullah, Alam Rehman, Fakhr E Alam Afridi, and Muhammad Zeeshan. “Causality Nexus between Oil Production, Industries Energy Consumption and Unemployment in Iran.”

<sup>112</sup> Biagi, Federico, and Claudio Lucifora. “Demographic and Education Effects on Unemployment in Europe...”

<sup>113</sup> Marchetti-Mercer, Maria C. “Those Easily Forgotten: The Impact of Emigration on Those Left Behind.”

## Quantitative Analysis

The purpose of this quantitative economic analysis is to decompose the unemployment rates of autonomous communities in Spain to determine two things. Firstly, what factor, or factors, most greatly explain the unemployment rates in Spain? Second, how much of the unemployment difference is explained purely by a difference in region, and therefore factors that cannot be 'corrected' such as climate, proximity, race, religion, and culture?

The model used is an ordinary least squares estimation for linear regression of several variables on unemployment. Unemployment level is regressed against Region, Industrial Production, Education, Population, Gender, Age and Age Within Working Range. This multiple regression indicates the proportion of the difference in unemployment between the North and South that can be 'explained' by each variable, as well as the significance of this proportion. The regression is then controlled for time to eliminate effects of any given year and quarter that affects each region. The coefficient given is the amount that a one-unit increase in each variable is expected to affect unemployment. The R-squared indicates how much of the variation in unemployment is explained by the model. A high R-squared, close to 1, indicates that the data closely matches the model, while a low R-squared indicates that the data is not well explained by the model. Significance was determined at a level of 0.05 for the P-value, representing the probability of receiving the result were there to be no difference between the groups North and South.

### Variables and Their Importance

#### Unemployment

Unemployment is measured as the percent unemployed using the standard parameters: the number of unemployed individuals in the labor force divided by the total number of

individuals in the labor force. The labor force is made up of individuals who are employed or actively seeking employment; in Spain this is collected quarterly in the Economically Active Population Survey. An unemployed person is classified as an individual 16 years or older who, during the week of the survey, has “been without work, available to work and actively seeking work.”<sup>114</sup>. To be considered employed, an individual must have worked at least one hour during the week of the survey for which they were paid with money or in kind or be temporarily absent due to illness or holiday from work of this nature to which they will return. Inactive individuals are neither employed nor actively seeking or moving toward employment. A one-unit increase indicates an additional percent of the population unemployed. In this model, unemployment is the dependent variable on which the effect of all other variables is regressed.

Unemployment has a real effect on communities due to its negative impacts such as increases in poverty, negative health outcomes, and a decrease in the national production threshold. In Spain, southern regions have significantly higher unemployment than in the north. I believe that much of this difference will be explained by other variables, but that some will be explained by region alone.

### Region

Region is a binary variable for if the Autonomous community designation. The division was made on the 40<sup>th</sup> parallel, with non-mainland communities excluded- more information can be found in the section *Division in This Paper*. The variable is an indicator variable, with a value of either “North” or “South”, and the coefficient represents a value of “South”.

Regional differences can be detrimental because they indicate that resources in those areas are likely underutilized, and generally increases economic and policy strain on central

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<sup>114</sup> “Economically Active Population Survey (EAPS).” Instituto Nacional de Estadística Press Section.

governments<sup>115</sup>. There is a massive challenge in implementing policies across regions where there is a difference in language or culture; in the Spanish case this exists within and across the communities and the nation as a whole. Asymmetrical needs require sensitivity in implementation of policy and division of aid.

I believe that a portion of the regional difference in unemployment will not be explained by the other variables in the regression. This would indicate that other regional factors such as climate, industry composition, or non-correctable demographic factors are significantly contributing to unemployment, and should be further studied and accounted for in policy.

### Industrial Production

Industrial Production denotes the Industrial Production Index (IPI) of each autonomous community. The IPI measures the productive output of industrial sectors excluding construction. For each sector, a group of representative products is chosen, and production is measured in an appropriate unit and value in Euros. The Index is set against a reference period, currently 2015, and the value of the index conveys how much production occurred in a period with respect to the reference period as a numerical value, with 100.0 signifying production was equal to the reference period. A one-unit increase indicates that output was 1 percent higher in the period of interest than in the reference period.

Low industrial output has long been given as a primary reason for high unemployment in the South. In publications about Spanish unemployment, it has been stated that low output is bad for employment and increasing output is given as a main strategy for employment recovery<sup>116</sup>. In theory, when and where less is produced, fewer workers are needed to produce. However, the increase in productivity driven by automation may be unraveling the direct connection between

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<sup>115</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 20.

<sup>116</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 19.

productivity and unemployment. Over one-third of current jobs in Spain “are at high risk of automation”<sup>117</sup>. Some are unconcerned by the automation of jobs, stating that the wave of technology will create more jobs than it destroys, not considering that those new jobs will likely require different skills than the manual labor they will replace<sup>118</sup>.

Industrial output varies by region, with the Northern communities producing nearly double that of the Southern communities in total. The Southern regions, however, produce more per person than the Northern regions.

I believe that the differences in unemployment will be explained more by other factors than by industrial output.

### Education

Education is a standardized score based on International Standard Classification of Education (ISCED) levels. The ISCED scale changed in 2013, making the data inconsistent in scale; education levels were grouped so the measure of education would be consistent across time.

ISCED 2011	ISCED 1997	Description	Grouped Level
0	0	Early Childhood/Pre-Primary Education	1
1	1	Primary Education	
2	2	Lower Secondary Education	
3	3	Upper Secondary Education	2
4	4	Post-Secondary Non-Tertiary Education	
5	5B	Short-Cycle/First Stage Tertiary Education	3
6	5A	Tertiary Education (Bachelor's Equivalent)	
7		Tertiary Education (Master's Equivalent)	
8	6	Tertiary Education (Doctorate Equivalent)	

<sup>117</sup> Doménech, R., J. R. García, M. Montañez, and A. Neut. Working paper. *How Vulnerable Is Spanish Employment to the Digital Revolution? 2*.

<sup>118</sup> Nunes, Ashley. “Automation Doesn't Just Create or Destroy Jobs - It Transforms Them.”

Data was given as the percentage of the population that had attained each grouped level for all individuals aged 25 to 64 years. The grouped education levels were multiplied by the percent of the age group that had attained that level then divided by 100 to attain the average level of education. The equation used was

$$\frac{\sum_1^3(\%population \cdot level)}{100} = average\ level\ of\ education$$

A one-unit increase would signify that the average level of education moved up a group equivalent.

Education is noted as one of the most important aspects of global competitiveness and economy building or rebuilding<sup>119</sup><sup>120</sup>. Education has long been a focus of foreign assistance by foreign aid donors, and in 2018 Spain spent 4.3% of its GDP on education<sup>121</sup>. Education has been identified as one of the main problems with the economy in Spain- most economic problems occur where technical preparation is not sufficient<sup>122</sup>. Non-transferable skills lead to lower employment rates, and transferable skills are gained most easily and frequently through education<sup>123</sup>. Education is also important from generation to generation. Parental prioritization of education is important, and 53% of the Spanish population think having educated parents is one of the most important factors in the success of children<sup>124</sup>.

Education levels vary greatly by region, with the Southern communities having lower education attainment than Northern communities. In rural, agrarian societies, higher education is likely to be deprioritized, and lower educated parents are less likely to prioritize education.

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<sup>119</sup> Vegas, Emiliana. "Investing in Public Education Worldwide Is Now More Important than Ever."

<sup>120</sup> "Foreign Assistance and the Education Sector: Programs and Priorities." Congressional Research Service

<sup>121</sup> "Education at a Glance 2021: OECD Indicators," OECD

<sup>122</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 17.

<sup>123</sup> Ibid.

<sup>124</sup> OECD, *A Broken Social Elevator? How to Promote Social Mobility*, OECD

Children whose parents are educated completed college at three times the rate of those with uneducated parents<sup>125</sup>. There is also a ‘brain drain’ effect in Southern Spain, with many educated individuals leaving the South to seek jobs in the North or elsewhere in Europe.

In recent research, it has been concluded that increasing education would be critical for low-income communities such as those in the South<sup>126</sup>. As a result, I believe that education will have a large effect on unemployment in Spain.

### Population

Population is the total number of people in an autonomous community in the given period. A one-unit increase indicates an additional resident.

While this variable was mostly introduced for control purposes, population can also have an effect on employment in several conflicting ways. Overpopulation can lead to more competition for jobs, but more populated, well connected areas are more likely to see industry growth<sup>127</sup>, and as a result, job growth. Increases in population are often correlated with increases in available resources, but also spread those resources more thinly across the population. As such, I believe population will have some sort of effect on employment, and that the population difference between the South and the North will in part explain the unemployment difference.

### Gender

Gender is the percentage of the population of each autonomous community that is male. The number of men was divided by the total population, then multiplied by 100 to obtain

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<sup>125</sup> Ibid.

<sup>126</sup> de la Fuente Moreno, Ángel. “Can Investment in Human Capital Reduce Regional Disparities? Some Evidence for Spain.” 118.

<sup>127</sup> Kummerow, Max. “More People, Less Unemployment?” Center for the Advancement of the Steady State Economy.

percentages rather than proportions. A one-unit increase indicates an additional percentage of the population that is male, and conversely one fewer percent of the population that is not male.

Low female labor participation affects general economic outlooks as it is a form of subpar utilization of resources. If women are not utilized at the same rate as men, this represents an untapped portion of the labor market which could be used to increase national productivity.

Gender has been shown to influence one's likelihood of being unemployed. In Spain, women have a lower labor force participation rate, likely due to their traditional role as homemakers. In a study on the mental health effects of unemployment, women who were married or had children were shown to have better mental health than men in the same situation, hypothetically because their children act as a buffer and give them a similar sense of purpose as employment<sup>128</sup>. In traditional society, women are more likely to value raising children or be expected to do so, which can increase the elasticity of their labor supply. Furthermore, time away from work to raise a family can decrease the robustness of their resumé compared to men who did not take time away from the workforce to raise children. It has also been found that women are more prone to long term unemployment than men, meaning they remain unemployed for longer and are "less able to escape unemployment than men"<sup>129</sup><sup>130</sup>. This could be in part due to the persistence of the view that men are more suited to work than women, especially in manual sectors, an idea which is carried forward from the Franco era<sup>131</sup>.

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<sup>128</sup> Artazcoz, Lucía, Joan Benach, Carme Borrell, and Immaculada Cotres. "Unemployment and Mental Health: Understanding the Interactions Among Gender, Family Roles, and Social Class." 87.

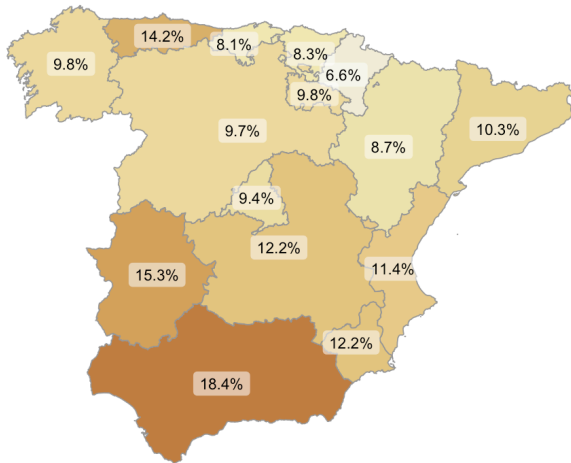
<sup>129</sup> Harrison, Joseph, and Corkill, David. *Spain : A Modern European Economy*, 156.

<sup>130</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 52.

<sup>131</sup> Reeser, Victoria. "Exploring Female Identity in Francoist Spain." 79.

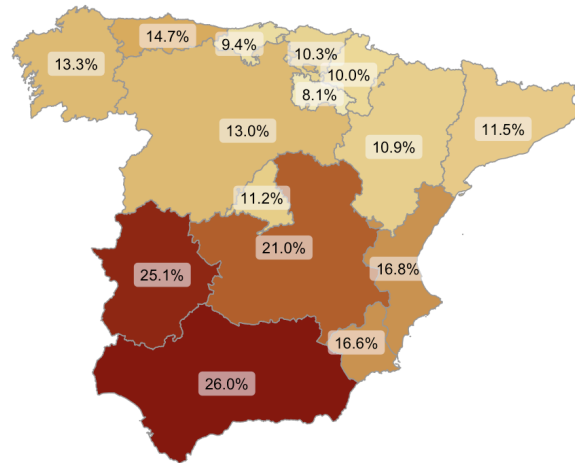
Women have much higher unemployment rates than men in the South, but rates are more similar to male rates in the North. I believe this difference will lead to gender being a significant component of regional unemployment differences.

Male Unemployment  
By Autonomous Community, Percent Unemployed

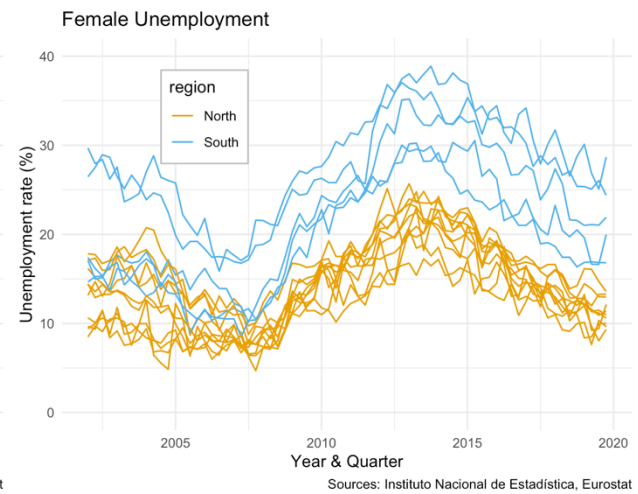
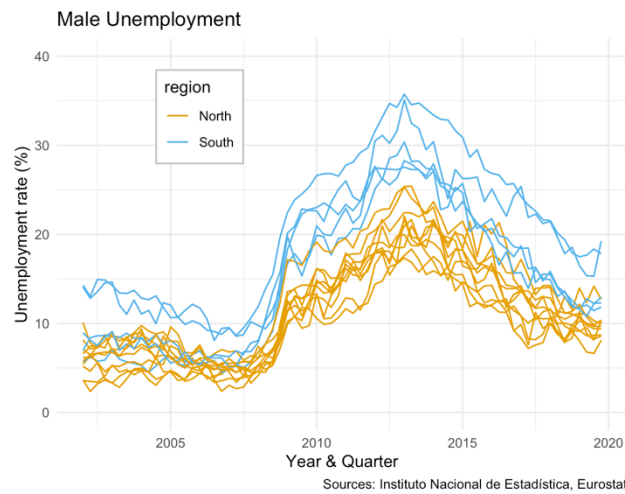


Source: Instituto Nacional de Estadística

Female Unemployment  
By Autonomous Community, Percent Unemployed



Source: Instituto Nacional de Estadística



### Age and Age Within the Working Range

Age is the average age of the entire population and Age Within the Working Range is the average age of persons between 16 and 65 years of age, which is the period in which one is eligible to work in Spain; measurement of labor force participation begins at 16, or at the search

for one's first employment, so an individual could be part of the labor force as early as age 16, and the legal age of retirement in 65 years 6 months. Average age is calculated by

$$\frac{\sum_0^{100}(\text{years} \cdot \text{population at age})}{\text{total population [0,100]}} = \text{average years per person [0,100]}$$

and Age Within the Working Range is calculated by

$$\frac{\sum_{16}^{65}(\text{years} \cdot \text{population at age})}{\text{total population [16,65]}} = \text{average years per person [16,65]}$$

These formulas generate average years per person, or average age. A one-unit increase indicates that the population average is an additional year older.

The age of the population and the average age of the working range population have significant implications on the dynamics of the employment and social security scene. The older the population, the more people on pension or close to receiving a pension compared to people in the workforce or close to entering the workforce. High youth unemployment also has future implications, with the effect of youth unemployment expected to affect economic outcomes for years. There is an expected negative effect of the cumulative lack of experience by young workers on economic capacities, and an additional negative effect on generational aspirations which could hamper production growth<sup>132</sup>.

Youth unemployment is a major problem in Spain. Not only are young people employed at a lower level, but they are also more likely to have non-standard terms of employment, with nearly 60% of young workers age 16 through 29 currently employed at either a temporary, part time, or self-employment situation<sup>133</sup>. These non-standard employment terms are less stable and often yield less pay. To cope with high levels of unemployment and lower pay, youth stay in

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<sup>132</sup> Pérez Díaz, Víctor. *Spain at the Crossroads: Civil Society, Politics, and the Rule of Law*, 106.

<sup>133</sup> Organisation for Economic Co-operation Development, Issuing Body. *In It Together: Why Less Inequality Benefits All*.

their parental household until age 30, on average four years higher than the EU average<sup>134</sup>. This helps reduce expenses and helps non-married individuals meet their emotional needs when they are unemployed<sup>135</sup>.

Regions with higher unemployment are logically more likely to see individuals staying in their employment longer to counteract the higher likelihood of at least one household member being unemployed. If a member of a household is unemployed, the other members may decide to postpone retirement in order to help pay for expenses in the absence of the other income.

Worldwide, we are seeing people waiting longer to retire, which reduces employment opportunities for younger people. As such, these regions will likely have higher youth unemployment. With youth unemployment so high, Age is liable to have an effect on overall unemployment. As such, I believe Age Within the Working Range will have a significant effect on unemployment.

#### Omitted Variables

Some variables were omitted, generally due to them being encapsulated by the region variable. Variables such as religion and race were omitted because they can't be 'fixed'; there is no better or improved religion or race, nor an ethically sound policy that could change these demographic variables. While these factors may have an effect, it is also very likely that disenfranchised communities gravitate toward less affluent regions, which have a lower cost of living, therefore creating a false causal effect if regressed. Therefore, religion and race were absorbed into the region variable. The variable of prevalent industry was also omitted for several reasons. First, the relationship between certain industries and labor volatility has already been

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<sup>134</sup> "Age of Young People Leaving Their Parental Household." Statistics Explained. Eurostat,

<sup>135</sup> Artazcoz, Lucía, Joan Benach, Carme Borrell, and Immaculada Cotres. "Unemployment and Mental Health: Understanding the Interactions Among Gender, Family Roles, and Social Class." 86.

studied at great length. Second, any given industry becomes prevalent in a region for a variety of reasons, often having to do with the environment or natural resources. These factors may confound with the region variable or result in a reverse causality, so industry composition was omitted. Variables for climate and environment were also omitted, due to their natural absorption into the region variable. Climate change has had an effect on regional disparities and production in Spain but is outside of the scope of this research. For these reasons, it was determined to be best to omit these variables from the regression.

### Results

The R-squared of the model which is adjusted for fixed effects is approximately 0.91, indicating that the model explains 91 percent of the variation in unemployment between autonomous communities. From this, we can determine that the variables in the model are predictive of unemployment. In this model, five of the variables are significant: Education, Population, Gender, Age Within Working Range and Region. Education is the most significant of these, and Region the second most significant. Age Within the Working Range was also significant, with results that may indicate the problem of youth unemployment in Spain. The significance of the coefficient regarding Gender reveals that regions with higher proportions of men have lower unemployment. Population is also significant, implying that people might move to regions which are less costly, and regions with less employment opportunities tend to be less costly.

	Initial		Intermediate		All Coefficients		Controlled	
	<i>Unemployment and Region</i>		<i>Add Education and Production</i>		<i>Add Population, Gender and Age.</i>		<i>All, controlled for fixed effects</i>	
	Coef. Est.	P (> t )	Coef. Est.	P (> t )	Coef. Est.	P (> t )	Coef. Est.	P (> t )
Intercept	12.542	<2e <sup>-16</sup> *	47.814	<2e <sup>-16</sup> *	8.739	0.605		
South	7.252	<2e <sup>-16</sup> *	7.557	<2e <sup>-16</sup> *	7.688	<2e <sup>-16</sup> *	3.91	4.39e <sup>-9</sup> *
Industrial Production			-0.096	<2e <sup>-16</sup> *	-0.09	<2e <sup>-16</sup> *	-0.003	7.609e <sup>-1</sup>
Education			-1.71	0.122	-7.655	1.15e <sup>-9</sup> *	-19.528	1.497e <sup>-10</sup> *
Population					4.896e <sup>-7</sup>	1.29e <sup>-14</sup> *	3.49e <sup>-7</sup>	2.479e <sup>-8</sup> *
Gender (percent male)					-0.092	0.707	-0.668	7.645e <sup>-3</sup> *
Age					0.295	5.532e <sup>-4</sup> *	-0.012	9.616e <sup>-1</sup>
Age (Working Range)					1.489	7.90e <sup>-9</sup> *	1.223	2.972e <sup>-5</sup> *
Adjusted R-Squared	0.246		0.613		0.661		0.909	
R-Squared Within							0.78	
RMSE	5.97		4.28		4.01			

*Significance measured at a level of P (>|t|) = 0.05.*

The significance of Education in this regression shows that education is potentially the greatest contributor to unemployment. This is consistent with findings of other research, which found that 40% of productivity differences between regions in Spain could be explained by differences in schooling<sup>136</sup>. If one interprets these point estimates of coefficients as describing causal relationships, the improvement of education systems, therefore, would likely have the greatest positive effect towards reducing unemployment. Increasing education and promoting secondary and tertiary education in Southern areas with low levels of education attainment and high unemployment would likely attract more businesses who desire skilled workers. As a result, fewer young people would need to leave the region to find employment, and more income would circulate in these regions. Additionally, the retention of more young workers would help offset the negative increased age effect displayed in the controlled regression. The coefficient for Gender also showed significance in the controlled regression. This suggests a preference for men in the labor market. The regions with a higher percentage of a male population had lower

<sup>136</sup> de la Fuente Moreno, Ángel. "Can Investment in Human Capital Reduce Regional Disparities? Some Evidence for Spain." 116.

unemployment, and the significance of this effect suggests a possible bias against women in the labor market. This is likely a direct effect of Francoist inculcation of the idea of female inferiority in the labor market and the practical deficits that became more prevalent for women during the period. Initiatives to further female preparation for and participation in the labor market, especially in sectors which could be transplanted to high unemployment regions, would help reduce the effect of this negative gender bias. This practice would be in line with the UN's Sustainable Development Goals for 2030 and would bring Spain up to par with other Western European nations. The significance of Population indicates a positive relationship between unemployment and population. This could be explained by several factors. Firstly, Spain is one of the main reception points to the EU for migrants and displaced persons. The South, being closest to Africa, will have the highest initial influx of displaced persons seeking employment. Second, impoverished individuals of Spanish citizenship would be expected to relocate to the autonomous community with lowest living expenses. It could be predicted that regions with high unemployment would have the lowest occupancy demand and therefore would be the most cost-effective communities in which to live.

In this model, overall population age did not return a significant result. This is to be expected, as the population of children and retired individuals should bear no effect on the labor market. Contrary to prior beliefs, this regression model does not show a significant effect of the difference in the industrial index on unemployment. This suggests that it is not a lack of productivity that separates the labor situations in the North and South, but rather other less apparent indicators. This is a direct contradiction to the theory that it is a "cultural laziness" that causes high unemployment in the South of Spain and Spain in general.

## Effects

Due to the regional differences in unemployment, we see regional differences in the many effects of unemployment and a less active economy. In many ways, welfare systems in Spain have allowed the nation to have a high level of unemployment and fewer negative outcomes than expected, but these policies have not been enough to entirely counteract negative effects<sup>137</sup>. Some would argue that accommodations made by social policy and cultural norms have adequately compensated for the consequences of unemployment<sup>138</sup>, but Spain still falls short of major metrics of development. Due to the effects of high unemployment, some regions in Spain will likely fail to meet the EU Social Rights pillar and several of the United Nations Sustainable Development Goals<sup>139</sup>. There have been numerous attempts to fix regional unemployment and its effects, dating back to the *Bienio Reformista* in 1931 which noted the rectification of regional distributions of unemployment as a main goal. Many of these efforts have missed their mark and benefitted richer regions more than poorer ones<sup>140</sup><sup>141</sup>. This continued disparity has had lasting effects on the economy and poverty, resources, wellbeing, and immigration both regionally and nationally.

## Economy & Poverty

Related to the significant difference in unemployment rates, regions in southern Spain have lower household income<sup>142</sup>, leading to significantly higher rates of poverty<sup>143</sup>, and higher At Risk of Poverty and Exclusion (AROPE) rates<sup>144</sup>. The ten large cities with the highest

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<sup>137</sup> O'Callaghan, Sheila Mary. *Cinderella of Europe; Spain Explained*, 127.

<sup>138</sup> Pérez Díaz, Víctor. *Spain at the Crossroads: Civil Society, Politics, and the Rule of Law*, 106.

<sup>139</sup> Malgesini Rey, Graciela. "Poverty Watch Spain 2019."

<sup>140</sup> Harrison, Joseph. *An Economic History of Modern Spain*, 125.

<sup>141</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 10.

<sup>142</sup> Andrino, Borja, Daniele Grasso, and Kiko Llaneras. "El Mapa De La Renta De Los Españoles, Calle a Calle."

<sup>143</sup> González, Jesús SÉrvulo. "Wealth Map of Spain: These Are the Country's Richest and Poorest Areas."

<sup>144</sup> Malgesini Rey, Graciela. "Poverty Watch Spain 2019." 20.

population in risk of poverty are all in the South, and the ten with the least population at risk are all in the north<sup>145</sup>. Southern regions tend to have AROPE rates four to eighteen points higher than the national average, while Northern communities have rates three to fourteen points lower<sup>146</sup>. People in poverty or at risk of poverty are often unable to receive healthcare due to economic reasons, and can't afford basic goods such as sufficient clothing, nourishing meals, and technology such as computers and internet. These things are important for engagement and retention in the labor market and in education. People without these material basics are more at risk of bullying and harassment at school and in the workplace, which can have lasting effects<sup>147</sup>. Between 2009 and 2014, severe material deprivation in Spain rose by 53%, likely as an effect of heightened unemployment resulting from the recession<sup>148</sup>. Poverty also has major effects on children and families beyond lack of material goods and food, such as poorer physical, emotional, and cognitive health, poorer future life outcomes, and higher risk of unhealthy or unsafe home environments<sup>149</sup>. In some cases, the cyclical effects of poverty and high unemployment have caused ghettoization in Spain that has been exemplified in school districting and has a definite negative effect on students and families as a whole<sup>150</sup>.

### Resources

Areas with lower employment have also been less developed. In more metropolitan areas, there are more opportunities for people who are highly qualified, and more avenues through

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<sup>145</sup> Rep. *La Tasa De Población En Riesgo De Pobreza Se Ceba Con Los Municipios Del Sur De España*.

<sup>146</sup> Malgesini Rey, Graciela. "Poverty Watch Spain 2019."

<sup>147</sup> Ibid.

<sup>148</sup> López del Amo González, M. Puerto, Vivian Benítez, and José J. Martín-Martín. "Long Term Unemployment, Income, Poverty, and Social Public Expenditure, and Their Relationship with Self-Perceived Health in Spain (2007–2011)." 2.

<sup>149</sup> Brooks-Gunn, Jeanne, and Greg J. Duncan. "The Effects of Poverty on Children."

<sup>150</sup> Malgesini Rey, Graciela. "Poverty Watch Spain 2019."

which people can obtain qualification, which can be seen in the education effect of the North<sup>151</sup>. Rural areas have insufficient infrastructure, both public and industrial, such as lacking energy systems and means of transport<sup>152</sup>. The North has double the number of airports compared to the South, meaning there are on average 407,638 more people in the population per airport and an additional 3510 square miles covered by each airport in the South compared to the North<sup>153</sup>. They also have more major train stations in the North, with 16,868 more people per Southern train station<sup>154</sup>, and hospitals, with 22,206 more people per Southern hospital<sup>155</sup> when compared to their Northern counterparts. Lack of access to healthcare has been associated with a significant difference in health outcomes between high and low employment communities<sup>156</sup>. It has been stated that the increase of infrastructure is vital for the economic recovery of rural areas, especially an increase in transport. The lack of healthcare opportunities contradicts the higher needs resulting from higher poverty and can be seen in wellbeing outcomes.

### Wellbeing

In rural and more impoverished areas, health effects are poorer. In Spain, there is a very stark divide in wellbeing effects between high employment and low employment areas. Long term unemployment was associated with a negative perception of one's own health, likely driven not only by the real effects of poverty on lifestyle and health access, but by stress, anxiety, uncertainty and loss of hope<sup>157</sup>. In studies of the Spanish population, "rates of poor mental health

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<sup>151</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 19.

<sup>152</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 75.

<sup>153</sup> Dirección General de Aviación Civil, Tráfico en los aeropuertos españoles

<sup>154</sup> "Mapa General Serviciocio Publico." Madrid: Renfe

<sup>155</sup> "Análisis De Situación 2021." Sanidad privada, aportando valor.

<sup>156</sup> Luque-Fernandez, et.al. "Unemployment and Stillbirth Risk among Foreign-Born and Spanish Pregnant Women in Spain, 2007–2010: A Multilevel Analysis Study." 995.

<sup>157</sup> López del Amo González, M. Puerto, Vivian Benítez, and José J. Martín-Martín. "Long Term Unemployment, Income, Poverty, and Social Public Expenditure, and Their Relationship with Self-Perceived Health in Spain (2007–2011)." 11.

were much higher among those who were unemployed”, and these rates were even worse among those who were unemployed from manual labor sectors<sup>158</sup>. Due to the concentration of unemployment and manual labor sectors to the South, Southern communities have higher rates of poor mental health. High rates of unemployment within a Spanish community have been associated with an increased rate of the prescription of antidepressants, especially among populations who generally have lower antidepressant prescription rates such as older males<sup>159</sup>, and a rise in suicide rates<sup>160</sup>. The relationship between community unemployment rates and incidences of suicide was significant, especially during periods of general stability<sup>161</sup>. In communities with higher unemployment, the chance of stillbirth delivery was two times higher, with an adjusted odds ratio of 2.6 for high unemployment regions, all of which are in the South<sup>162</sup>. Unemployment benefits were found to reduce the negative health effects of unemployment<sup>163</sup> but with the rising incidence of fixed term employment, individuals are likely to spend more time filing for unemployment due to increased turnover, and the positive effect of unemployment benefits will be reduced<sup>164</sup>.

These negative well-being effects occur in a cycle. Poor conditions erode human capital by reducing physical and mental wellbeing. This reduces employment, which in turn leads to

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<sup>158</sup> Artazcoz, Lucía, Joan Benach, Carme Borrell, and Immaculada Cotres. “Unemployment and Mental Health: Understanding the Interactions Among Gender, Family Roles, and Social Class.” 83.

<sup>159</sup> Alameda-Palacios, José, Miguel Ruiz-Ramos, and Beatriz García-Robredo. “Suicidio, Prescripción De Antidepresivos y Desempleo En Andalucía.”

<sup>160</sup> Córdoba-Doña, Juan Antonio, et.al. “Economic Crisis and Suicidal Behaviour: The Role of Unemployment, Sex and Age in Andalusia, Southern Spain.”

<sup>161</sup> Iglesias-García, Celso, et.al. “Suicidio, Desempleo y Recesión Económica En España.”

<sup>162</sup> Luque-Fernandez, et.al. “Unemployment and Stillbirth Risk among Foreign-Born and Spanish Pregnant Women in Spain, 2007–2010: A Multilevel Analysis Study.” 995.

<sup>163</sup> Artazcoz, Lucía, Joan Benach, Carme Borrell, and Immaculada Cotres. “Unemployment and Mental Health: Understanding the Interactions Among Gender, Family Roles, and Social Class.” 86.

<sup>164</sup> Jimeno, Juan, Toharia, Luis. Unemployment and Labour Market Flexibility: Spain, 18.

worse conditions<sup>165</sup>. This cyclical effect can be seen with other factors, such as poverty and education.

### Emigration

The labor market situation in Southern Spain also has implications on migration. Blanchard et. al. suggests that workers do not migrate for personal and regional characteristics, but rather for housing prices, regional wage rigidity, and unemployment benefits. Because there is no variance in benefits across Spain, people would only be expected to move internally due to prices and wages. However, places with lower prices have the highest unemployment rates and places with the best wages have the highest prices. As a result, other EU countries have been the destination of much Spanish emigration, which have reached rates of 400,000 outward emigrants annually since the onset of the recession in 2007<sup>166</sup>. While foreign nationals have left at high rates, increasing numbers of Spanish born individuals have also been emigrating out of Spain.

### Policy and Relations

Spain is currently subject to annual review as a result of sustained high debt levels in defiance of the Treaty of the Functioning of the European Union, Article 126. Recent action because of infraction has included monitoring and economic standards and actions set by the EU, austerity policies set by the Spanish government in an attempt to reduce the debt and avoid EU scrutiny, and high interest rates for the lending of further funds.

It is not an acute issue, but rather policy systems in Spain which cause this suffering. Policies that were enacted to reduce debt also reduced incomes nationwide. The current wage setting system has an inflationary bias that has contributed to negative effects of constant hiring

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<sup>165</sup> López del Amo González, M. Puerto, Vivian Benítez, and José J. Martín-Martín. “Long Term Unemployment, Income, Poverty, and Social Public Expenditure, and Their Relationship with Self-Perceived Health in Spain (2007–2011).” 11.

<sup>166</sup> Izquierdo, Mario, Juan F. Jimeno, and Aitor Lacuesta. “Spain: From Massive Immigration to Vast Emigration?”

as an effect of fixed term and other non-traditional contracts<sup>167</sup>. Labor policies have made the labor market extremely inflexible, and as a result the labor market has not benefited from the economic peaks Spain has seen in the past. For years, trade unions were seen as a reason for high unemployment and were discouraged<sup>168</sup>. Labor demands were met slowly and indirectly<sup>169</sup>. This practice has set Spain back in terms of labor flexibility and labor rights. Labor market reform was also seen negatively due to high costs incurred by ineffective income maintenance programs<sup>170</sup> and massive inefficiencies of public employment offices<sup>171</sup>. Spain continues to attempt to improve labor relations to see less of a destructive effect from future recessions<sup>172</sup>.

### **Discussion and Conclusion**

The effects of regional unemployment disparities in Spain are great. Implications range from increased poverty, to worse physical and mental health, to fewer resources and an outflow of laborers from Spain. The results of the regressions show that it is social factors, rather than industrial and labor market factors, that are negatively impacting unemployment. If the focus of the ECB and the Spanish government were to turn from conservative fiscal policy to expanding social programs to promote factors such as education, unemployment would likely recover at a more rapid rate. Presently, the easement of the current situations in poor economies and savoring in good economies has been prioritized over anticipating problems and building sustainable systems. This will have long term effects on Spain and the economy of the EU, as the Spanish

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<sup>167</sup> Blanchard, Olivier, and Centre for Economic Policy Research. *Spanish Unemployment: Is There a Solution?* 6.

<sup>168</sup> Harrison, Joseph, and Corkill, David. *Spain: A Modern European Economy*, 164.

<sup>169</sup> Pérez Díaz, Víctor. *Spain at the Crossroads: Civil Society, Politics, and the Rule of Law*, 110.

<sup>170</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 114.

<sup>171</sup> Jimeno, Juan, Toharia, Luis. *Unemployment and Labour Market Flexibility: Spain*, 91.

<sup>172</sup> Ángel Diaz, Miguel. "Spain: Labor Reform Will Increase the Number of Worker Representatives."

economy and labor economy will recover slowly, incurring great cost along the way<sup>173</sup>. Widespread attempts have done little to reduce regional disparities, and strategies will only be truly effective if they are varied across regions to cater to specific needs<sup>174</sup>. Once Spain is on par with Northern European nations in terms of metrics such as education, gender equality, and youth unemployment rates, conservative fiscal policy could be implemented with greater efficacy. Spanish recovery would also decrease the number of emigrants from Spain, which would further stoke the economy by increasing knowledge retention. Until the economy recovers, the policies and restrictions enacted by the Spanish government and the EU will do nothing but hamper the growth of business and subsequently reduce unemployment in Southern Spain. Economically slow regions have been abandoned by policy and by non-economic considerations, which continue to affect the economy and labor market<sup>175</sup>. Spain has been riding a roller coaster of growth that has been lost each recession due to labor policy and lack of investment in measures such as education. We must remember “no se pueden tener a la vez las ventajas de una expansión rápida, y las de un enraizamiento continuado”<sup>176</sup>- you cannot have the benefits of both rapid growth and continued rooting. To benefit from the economic highs, further investment must be made in lacking sectors nationwide, and a strong base must be fashioned upon which a strong, new Spanish labor economy can be built.

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<sup>173</sup> Jimeno, Juan, Toharia, Luis. Unemployment and Labour Market Flexibility: Spain, 114.

<sup>174</sup> de la Fuente Moreno, Ángel. “Can Investment in Human Capital Reduce Regional Disparities? Some Evidence for Spain.” 117-118.

<sup>175</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 11.

<sup>176</sup> Plaza Prieto, Juan. *El Desarrollo Regional Y España*, 22.

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