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Ashley N. Usseglio
University of Vermont

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THE NORTH-SOUTH DIVIDE: Regional Economic Inequality in Contemporary Italy

Ashley Usseglio

I. Abstract

This paper analyzes data from the International Social Survey Program's 2009 Social Inequality Survey in order to explain the contemporary economic inequality between the macro-regions of Italy. Economic inequality will be measured by household income. I use multiple regression analysis to first determine the degree of the regional disparity and then to determine what factors explain that inequality. My overall findings from this analysis are that while all of these variables contribute to household income inequality, it is difficult to pinpoint a consistent factor affecting household income inequality across all of the regions.

II. Introduction

The differences in infrastructure, housing, poverty, and quality of life are clear to the eye as one travels down the Italian peninsula. Both to native Italians and to foreigners alike, it seems that Northern Italy is better off economically than Southern Italy. This is not just something on the surface: data has shown time and again that regional inequality is a real and present phenomenon in the nation. In contemporary Italian society, the regional differences present themselves in varying forms and degrees of severity, creating a great divide in the nation. This research focuses on regional economic inequality, assessed by examining household income.

Several studies have been carried out by Italian, European, and American researchers with the purpose of explaining the "Southern Question"¹, or the regional inequality. Most have

¹ The 'Southern Question', referred to as 'le questione meridionale' in Italian is a term first used in 1873 by Lombard Antonio Billia to describe the disastrous economic and political situations in the South. Throughout the 1900s the 'Southern Question' was one that top politicians had to face and create a plan help the economy of the South. It is still used in the contemporary vocabulary of the nation to encompass all of the differences between the South and the rest of the nation. Giustino Fortunato, a Southern politician said of the Southern Question (translated from Italian): "There is, without a doubt, a Southern question in an economic and political sense. There is, between

resulted in general theories as to why the South has been left behind the North. Some have focused on just raw data collection and interpretation (Ballarino et al. 2012; UN Development Programme 2013) while others have supported theories such as inequality of opportunity/employment (Brunello, Lupi, and Ordine 2001; Checchi and Peragine 2010; Faini et al. 1997), trade (Buch and Monti 2010) and human capital (Felice 2011; Gagliardi and Percoco 2011; Larcinese 2008; Raspadori 2011). The industrialization theory is closely linked to inequality of opportunity; if certain types of jobs did not develop in the South until much later than in the North, there would be a disparity in the types of occupations available.

These studies adequately gather data to develop specific theories but do not analyze multiple types of variables at once. By doing so in this study, I will be able to gauge which factors are most important and thus gather stronger evidence to support the already existing theories or create new ones. Previous research has demonstrated that there are regional inequalities in Italy in categories such as employment opportunities and education (human capital), but it has used individual income as a dependent variable as opposed to household income (Noi-Italia 2105; Felice 2011; Checchi and Peragine 2010). An individual's income does not capture the whole picture, however. As explained below, that variable includes only individuals who are in the labor force. This analysis takes into account those who are unemployed, retired, or not in the paid labor force using the most up-to-date data to find out how significant those theories are in explaining the overall economic inequality.

This paper analyzes data from the International Social Survey Program, focusing on what variables are able to explain the contemporary economic inequality between the macro-regions

the North and the South of the peninsula, a great disproportion in the field of human activity, in the intensity of collective life, to the extent and in the kind of production, and therefore the intimate ties that exist between the welfare and the soul of a people, even a profound difference between the customs, traditions, intellect and morality” (Gilmour 2011).

of Italy. I first provide evidence that there is significant regional economic inequality. Next, I use multiple regression analysis to determine what factors explain that inequality. Lastly, I discuss the implications of my findings on the economic inequalities that exist amongst the Italian regions. I expect to find in my research that much of the regional inequality can be explained by labor force participation, resulting from an inequality of employment opportunities.

History

The history and geography of Italy are imperative in understanding why and in what ways there are regional inequalities. Prior to unification the Italian peninsula and islands were categorized into different kingdoms and states. The Northwest Area of Piedmont and the island of Sardinia made up the kingdom of Piedmont-Sardinia, which was the most developed part of the soon-to-be Italian nation (Gilmour 2011). The Northeast, including Lombardy and Venetia, was under the control of the Austrian-Hungarian Empire. The area south of Rome to the island of Sicily made up the Kingdom of the Two Sicilies, which was under control of the French House of Bourbon. A large area from Rome up to the Northeast consisted of Papal States under strict control of the Vatican. There were also small independent states on the West Coast of the peninsula, including the Duchies of Tuscany, Lucca, Modena, and Parma.

The nation of Italy was not unified until the mid to late 19th century. *Il Risorgimento* (the Unification) was led by the Kingdom of Piedmont-Sardinia (the Northwestern part of the Italian peninsula), the wealthiest and most liberal of the Italian kingdoms and states (Gilmour 2011). The Piedmontese army had conquered enough land to declare a Kingdom of Italy in 1861; shortly afterward they annexed the Vatican² and moved the capital from Florence to Rome by

² Most of the Papal States were broken away from the Vatican and added to the Kingdom of Italy by 1861, but the Vatican, and by consequence the Greater Rome area, was able to defend itself from the conquering army for almost a decade. It was not until 1870 that the Italian army was able to capture Rome, to the displeasure of the Pope, and the capital was moved to Rome the following year (Clark 2008).

1871. Italy as we know it today was not fully formed until post-WWI when it annexed several Northern territories, including parts of the former Austrian-Hungarian Empire. However, the states and kingdoms that made up the Italian peninsula prior to unification were so distinct from each other that they were unable to unify culturally, linguistically, politically or economically in the following decades (Clark 2008). In particular, the South, previously the Kingdom of Two Sicilies, was underdeveloped in comparison to the rest of the new nation and its people were viewed as “barbaric” by the conquering army³ (Gilmour 2011). Malaria was endemic in the region, in addition to other illnesses to which underdeveloped areas were prone. Illnesses such as malaria present a great obstacle in the economic development of a region, disrupting every day life and straining the potential labor supply. While each region had its own language, the Sicilians’ language was indecipherable to the Northern and Central Italians.

The turn of the century marked the first ‘Economic Miracle’ in Italy. Previously restrained by its lack of natural resources, the introduction of hydro-electric power catalyzed the industrial revolution in Northern and Central Italy. Prior to this, the entire peninsula was dominated by the agricultural sector but by the early 20th century industry had taken over, particularly in the Northwest. An Italian ‘Industrial Triangle’ was formed by the cities of Milan, Genoa, and Turin (Clark 2008). Many factories cropped up in this area, most famously producing cars, clothes, and shoes among other goods. The South, however, was left out of the developments politically and economically.

³ The Army of the Kingdom of Piedmont-Sardinia is credited as having sparked the revolution leading to Unification, but by 1861 there were two major figures: Victor Emmanuel II and Giuseppe Garibaldi. Victor Emmanuel II was indeed the King of Piedmont-Sardinia and conquered the North of the peninsula going down. He worked with Garibaldi, who started in Sicily and went up the peninsula. The two men met in the middle and Victor Emmanuel II became the first King of Italy (Clark 2008).

Prior to the era in which Italian society was under the control of Mussolini and the Fascist Party, virtually no progress had been made in unifying the people of Italy. Italian was the official language of the nation, but the majority of Italian residents still spoke their regional dialects, which varied from region to region and even from town to town. Most could not even read or speak standard Italian (Gilmour 2011). Fascist policies dictated that Italy needed more national unity, and that Italians should identify themselves with their country, not just with their town. It was during this period that the national education system was formed and standard Italian became commonplace in schools and other institutions (Carter 2010). There was some effort during this time to help the economic situation in the South, but the primary goal was to do so only in a way that benefitted the regime and not much progress was made (Gilmour 2011).

Historically, the South has suffered the negative consequences of the regional divide, resulting in expenditures of billions of Euros in the South (through the Southern Development Fund) in an attempt to shrink the regional disparity (Sassoon 1997). The Southern Development Fund spent about the equivalent of twenty million dollars (from both the Italian government and the EU) in an attempt to increase employment opportunities through public sector jobs and to industrialize Southern cities and towns. These efforts had some impact, but they largely failed to bring any real equality between the regions. The SDF worked primarily by making more land available for building factories, meaning it released potential labor, but not by directly developing industry (Sassoon 1997). As this was during the time of the second Economic Miracle in Italy, which primarily affected the North, the small improvements in the South brought it nowhere near the level of economic success and prosperity in the North. Lasting primarily from 1958 to 1963 the Economic Miracle laid the groundwork for the South to

industrialize with the help of the Southern Development Fund and the abundance of low-wage labor available (Carter 2010).

The Cold War also had an economic impact on the nation. To ensure that Italy did not elect a communist government, a very real and consequential possibility, the United States funneled millions of dollars into supporting the Anti-Communist Christian Democratic Party (Clark 2008). This enabled the Christian Democrats to implement liberal social welfare policies, including early and massive pension programs. During this time, the United States reinstated *Mafiosi*⁴ into positions of power in the South that they were deprived of during World War II. The Americans promoted the *Mafiosi* because they pledged to support the Christian Democrats, creating close ties with them. In doing this and with the *Mafiosi* new positions of power, they were able to guarantee the West that the Communists would never rise to power, especially in the South. The funding from the United States benefited generations of Italians during the era of the Christian Democrats by way of social welfare programs but the overspending eventually led to the collapse of the government and an economic crisis for which current young Italians are paying the price (Mammone and Veltri 2010).

The individual and collective histories of the pre-Italian lands and states are an integral part in understanding the regional divide that exists today. Unlike most other European countries, there is still a poor sense of nationhood or unity among the regions. Perhaps the most obvious example of the contemporary regional divide is *Lega Nord*, a Northern political party dedicated to seceding from the South to form two independent nations (Sassoon 1997). Italy's history and geography outlines the difficult process of unification that many would argue, at least socially and economically, the country has not yet completed. All of the factors mentioned above created

⁴ Members of the Sicilian Mafia

an atmosphere in which equality between different parts of the country seemed an almost impossible task. The continuation of economic inequality has prevented other forms of regional disparities from converging, perhaps even exacerbating them.

These were just some of the reasons why the ‘Southern Question’ developed, which still plagues the country today. The major inequalities of the macro-regions, particularly between the South and the rest of the nation, existed at the time of unification and still exist in contemporary Italy. Despite the efforts by various Italian leaders, the regional economic inequality not only exists, but after an economic peak in the South in the 1980s, is getting worse again by way of climbing unemployment rates (Brunello, Lupi and Ordine 2001).

Geography

The republic of Italy consists of 20 regions, categorized into macro-regions for analysis purposes. Aosta Valley, Liguria, Lombardy, and Piedmont make up the Northwest macro-region; Northeast Italy consists of Emilia-Romagna, Friuli-Venezia Giulia, Trentino-Alto Adige, and Veneto; in Central Italy are Lazio, the Marche, Tuscany, and Umbria; the rest of the regions Abruzzo, Apulia, Basilicata, Calabria, Campania, Molise, Sardinia, and Sicily make up Southern Italy. It should be noted that five of Italy’s twenty regions: Aosta Valley, Trentino-Alto Adige, Friuli-Venezia Giulia, Sicily, and Sardinia have an autonomous status⁵. The autonomous status will not be a part of the analysis, and since the regions are grouped into macro-regions there won’t be a distortion in the results. In the individual regions, however, autonomous statuses may

⁵ A ‘special autonomy’ status is granted to a region by the national government if the region in question has special needs that the national government does not or cannot address. The government in a region with autonomous status has political, economic, and social powers that ordinary status regions do not have. Their powers concern issues related to the following: The preservation of the cultural identity (education system, language policy, cultural affairs) and territorial functions (labor market, regional sector economic policies, urban planning, health and social services, environmental protection, public transport, energy, local administration and management of local resources).

have an effect on the labor market and education systems. Simply put, the autonomous regions have more economic and political power over its own people than ordinary regions, which are heavily controlled by the federal government and have little economic power (Benedikter 2006).



This paper focuses on the four macro-regions of Italy: Northwest, Northeast, Center, and South. My main interest is in the North-South comparison. Preliminary statistical analysis suggests Central Italy to be a kind of buffer zone between the North and South. The Center is therefore included as well in order to examine economic inequality in the entire country. The map on the left shows the exact geographical breakdown of the macro-regions being used for this

study. These are the macro-regions used in measuring data by ISTAT (*L'Istituto nazionale di statistica*⁶), the main producer of official statistics in Italy. As can be seen from the map the micro-regions differ considerably in size, meaning analyzing the macro-regions will also help to reduce any error due to geographic and/or population sizes.

III. Previous Research

The income inequality between inhabitants of the North and South in Italy is a well-documented and highly discussed phenomenon in Italian scholarly literature. The rate of Italian families living below the poverty line for the country as a whole is 10.2%, but when looking at each region the numbers vary greatly. The poverty rate for the two Northern macro-regions

⁶ The National Institute of Statistics

combined is only 4.4%, while in the South it is 20.6%. The median income per capita is also significantly different by region. In the South, the median income per capita is about 5,000 euro per month, but in the North it is about 8,000 euros a month (Materia et al.). Given the all evidence, regional income inequality is present in contemporary society just as it has been since the birth of the nation in 1870.

Theories in the recent literature regarding the regional economic differences focus on three major explanations: opportunities, human capital and industrialization. These theories help to explain the economic inequality still seen in Italy today. I am building upon this previous research to find clarity in regards to what the most important factors in determining the regional economic inequality in contemporary Italy. One of the ways I will do this is by using the dependent variable household income, which previous studies have not, but is the main variable used by the U.S. census and other researchers as the measure of economic standard of living (Hisnanick and Rogers 2007).

In the late nineteenth century, particularly prior to 1873, when the entire country was still mainly agricultural and no regions were industrialized the productivity rates were fairly similar. The productivity rates diverged the most in the post-WWII era, causing the South to fall behind. Instead of industries and factories developing in the South, much of the work there remained largely agricultural (Faini et al.). Some scholars argue that it was this divergence of productivity that exacerbated the inequality between the North and the South, making it almost impossible for the South to catch up to the North and the subsequent continuing inequality in contemporary society (Alesina et al.). This intertwines with the inequality of opportunity theory. While it is impossible to determine causation with survey data I am still able to gather evidence to support causation between industrialization and the opportunity theory.

Opportunity refers to the differences in employment opportunities between the macro-regions. It has already been documented by previous research that there is more unemployment and fewer opportunities in the Southern regions than in the Northern ones (Checchi and Peragine 2010). Employment is a key indicator of the economic state of a country or region (Ballarino et al. 2012). In the case of Italy, there is more unemployment in the South macro-region than in the Northern macro-regions. This inequality of employment opportunities is important in shaping the culture and the standard of living in the South. Employment inequality has existed since the unification of Italy, but decreased slightly from the 1950s to 1980, partly as a consequence of the Southern Development Fund established in 1950. This undertaking did have some positive effect, but the unemployment rate in the South still remained three times higher than in the North (Carter 2010). After the discontinuation of the Southern Development Fund in 1980 the inequality in employment began to rise drastically (Alesina et al., *noi-italia* 2012).

In 1975, the unemployment rate for the Northern regions was at 3% and at 8% for the Southern region. By 1995, however, the unemployment rate rose from 3% to 6% in the North and up to 25% in the South, increasing by 17 percentage points (Brunello, Lupi, and Ordine). Two factors have been found to be the main contributors to the unequal employment rates. One of the factors was the end of the Southern Development Fund in 1980 which led to a decrease in the amount of jobs and opportunities in the labor market. The other factor was a change in social policy in the 1970s which had an effect on the internal migration in Italy (Brunello, Lupi, and Ordine). In the fifteen years prior to 1970, three million Italians, primarily young men, left the South for the more economically prosperous North in search of work (Faini et al 1997). In the 1970s there was an effort by the Italian government to eliminate the institutions that allowed for significant regional wage differentials. This means that public employers in the South had to pay

their employees as much as Northerners were paid (Gagliardi and Percoco). These new policies had two major consequences: fewer Italians were choosing to migrate to the North for work, increasing the labor supply in the South and, in order to try to offer more employment opportunities for Southern workers, the government created an excess of public jobs, leading to multiple people doing one person's job. Regardless of that effort, unemployment rates in the South have been steadily increasing since the early 1980s.

This inequality of employment opportunities is important in shaping the culture and the standard of living in the South. Unemployment rates in the South are higher than those in the North. Occupational status, measured with values that reflect the prestige (and often the salary) of a job, is also a substantial factor for inequality of rates of unemployment. This study examines the occupations held by the person or persons in a household in each region. Occupational status is a measure of job quality; if a higher percentage of people in the North hold more prestigious jobs than those in the South that is also a type of inequality of opportunity. If not as many high-paying jobs exist in the South, it would help to explain the regional inequality. I expect my findings will provide evidence to support this inequality of opportunity theory.

Another prominent theory in the contemporary literature is that the difference in human capital in the Northern and Southern regions was and still is one of the catalysts for economic inequality. Human capital in this instance refers to the educational level of the population. It is well-established that human capital is one of the pre-conditions for economic growth (Felice). The historical presence of human capital inequalities and an inability to overcome them led to the regional differences still seen today. A 2011 study found a high correlation between human capital and industrial specialization. This is evidence that specialization of work is the main way in which education affects productivity. The authors of the study argue that the low extent of

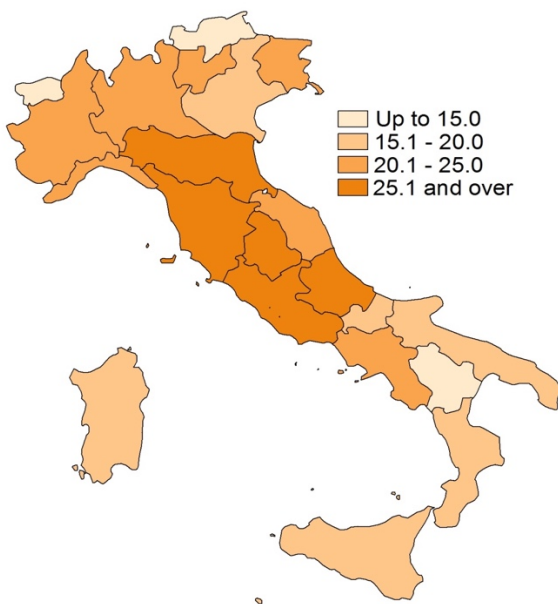
human capital in the South prevented the region from transitioning from an agricultural-based economy (Gagliardi and Percoco) to an industrialized economy. This study utilizes education as a possible explanatory variable.

Although there is a strong national educational system in place in Italy, participation in higher education (universities and technical schools) is unequal throughout the country. The South has always lagged behind the rest of the nation in regards to school attendance and literacy rates. In 1871 the literacy rate in the North was 58%, while it was only 16% in the South. By 1950 the literacy rate in the Northwest, Northeast, and Center had reached 90% but was still only 70% in the South (Gagliardi and Percoco 2011). Italians in the southern regions still have lower rates of participation in, and graduation from, both upper secondary schools and tertiary education in contemporary Italy. Out of the five regions in Italy with the lowest levels of education attainment (there are twenty regions in total), four are in the South.

There are fewer Southern Italians enrolled in tertiary education as well. Of people aged 20 to 24 years old, the highest rate of enrollment in higher education is in Central Italy, followed by the Northwest, then the Northeast, and lastly the South. In the four regions that make up Central Italy, at least 87.5% of 20 to 24 year olds are enrolled in tertiary education. This differs greatly from Southern Italy, where the lowest rate of tertiary enrollment is 10.7% and the highest is 60.2% (Ballas et al. 2012). The graphs below represent the current education trends in the Italian population as discussed. The graph on the right depicts the percentage of adults in Italy with at most a lower secondary school education, the equivalent of middle school in the U.S. Regions in Southern Italy have rates much higher than most regions in the Center, Northwest, and Northeast. This would suggest that there is still a difference in human capital between the macro-regions which could help explain household income inequality. That data looks at a wide

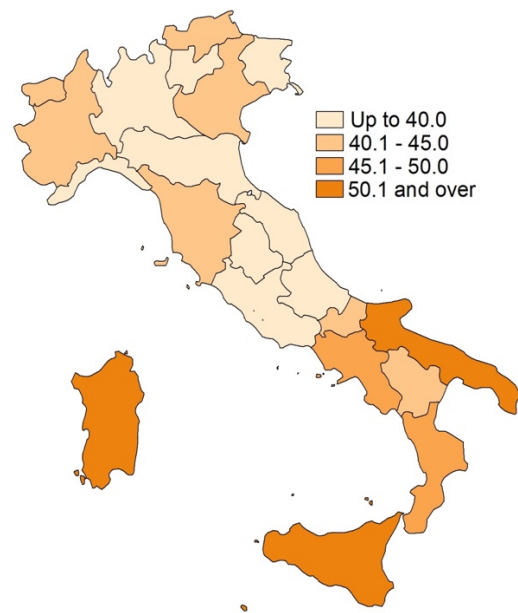
range of ages, however. In the graph on the left, the data represents only young adults. The rate of young people enrolled in education and training programs looks to be more equally distributed, with the highest rate in Central Italy. That could suggest that the human capital gap is shrinking with the young generations. Human capital (including education) was certainly a major contributor to inequality throughout Italy's history, and the analysis done here will glean the impact it has in contemporary Italy. I expect education to still be a significant factor in regional inequality based on the education statistics gathered recently.

Enrolment rates of people aged 20-29 in education and training programs (all ISCED levels) by region*
Year 2012 (percentage values)



*Source: Istat, Rilevazione sulle forze di lavoro

Population aged 25-64 years with at most lower secondary education by region*
Year 2013 (percentage values)



*Source: Istat, Rilevazione sulle forze di lavoro

IV. Data and Methods

This research and analysis use an existing data set which was gathered for the International Social Survey Program (ISSP). ISSP surveys are cross-national research collaborations that have been conducted annually since 1984. They now include up to 53 nations

a year, including the country of interest, Italy. The data being used come from the 2009 survey on Social Inequality, but the Italian Social Inequality data was not published until 2012. Only the responses gathered from Italians are being analyzed; this paper is comparing regions within Italy, not different countries. The Italian survey was carried out by the Institute of Social Research at the University of Eastern Piedmont between June 2011 and January 2012. It is a 4-stage stratified sample. In the first stage municipalities were selected; next the GIS methodology is used to randomly generate a set of coordinates for each primary sampling unit and find the closest address; the third stage was the actual household selection at the given address; the final stage involved choosing the respondent to be interviewed within each household. 6032 households were chosen and 1083 households responded, the sample size for this study (ISSP Research Group 2012).

The distribution of the respondents in each macro-region is shown below:

Table 1. Frequencies of the Macro-Regions Sample Sizes

	Frequency	Percent	Cumulative Percent
Northwest	426	39.3	39.3
Northeast	228	21.1	60.4
Center	158	14.6	75
South and the Islands	271	25	100
Total	1083	100	

Central Italy is slightly under sampled in this study; it has approximately the same population size as the Northeast. The Northwest, by contrast, was over sampled. The largest macro-region in regards to population is the South, followed by the Northwest. It is also a fairly small sample size overall (the population of Italy is about 60 million people), meaning that the standard errors are generally large, but the sample size is still large enough to be able to get accurate results and apply those results to the larger population.

The dependent variable for this study is household income, as it is the most well-rounded variable in terms of measuring economic well-being within populations. It is the main variable used by the U.S. Census and ISTAT, among other researchers, as a measure of economic standing (US Department of Commerce; ISTAT). It is preferable to earnings, which include only individuals in the labor force. The dependent variable is being measured in ordered categories. The value for each category was calculated by taking the mid-point value of the parameters for the category. The value for the upper-most category, which was open-ended, calculated the median value using Pareto's Curve: the formula for open-ended income distributions in survey research.

The independent variables for this study (apart from region) include: age, size of town, public or private employment, retired, unemployed, occupational status, labor force participation, hours worked weekly, and education. When possible, such as with occupational status and labor force participation, household measures are used; for variables such as age, education and hours worked weekly the characteristic of the individual respondent are used. Most of the variables used in this analysis are standard in research attempting to explain economic inequalities, but one: retirement, is specific to analysis of Italy for reasons discussed below. Understanding the variables in the Italian context is necessary to being able to interpret the results.

Italy has one of the highest ageing indexes⁷ in Europe and in the World (*noi-italia* 2015), and therefore high rates of retirement. While this would not have much of an effect on household income in many countries, there is reason to believe that it may in Italy. Starting in the 1950s, Italy has awarded very generous pensions to its former workers, both in the public and private

⁷ The ageing index is a composite demographic ratio, defined as the percentage between the old age population (65 and over) and the young population (under 15). It is one of the demographic indicators that can measure a population aging level.

sectors. As household income accounts for income from social welfare programs including pensions, regional differences in the rate of the retired population could have an impact on the overall household income inequality. Italy as a whole has a large elderly population but the Center and Northwest have a more skewed aging population than the Northeast and South the graph below indicates the rate of retired workers and pension figures for each macro-region.

Table 2. Retired Populations, Pensions and Annual Gross Pension Income by Region in 2012

GEOGRAPHICAL AREAS	% of Population Retired*	Number of Pensions	Annual income**	Pensions as a % of GDP	Medium Pension income**
North-west	23.7	6,410,980	81,331,021	16.1	12,686
North-east	16.2	4,631,956	55,008,052	15.3	11,876
Centre	20.9	4,721,479	57,680,817	17.1	12,217
South and Islands	19.2	7,314,436	75,153,865	20.6	10,275
Italy		23,078,851	269,173,756	17.2	11,663

*Source: ISSP Raw Data; ** Measured in Euros
Source:Elaborazioni Istat su dati Inps

The rate of retired individuals in the ISSP survey and the medium pension income as measured by ISTAT signify that retirement could play a role in boosting the average household income. With between one-sixth and one-quarter of the population in each macro-region retired, the differences in pension income and percentage of population retired could be significant. I do not expect retirement status to be able to explain a large amount of the inequality, but I do expect it to play a small role.

There are several variables in the analysis relating to the employment structure of the household: occupational status, labor force participation, hours worked weekly, unemployed or not, and public or private employment are all measures of the work situation in the country. Employment variables will be able to provide evidence if the regional inequality can be

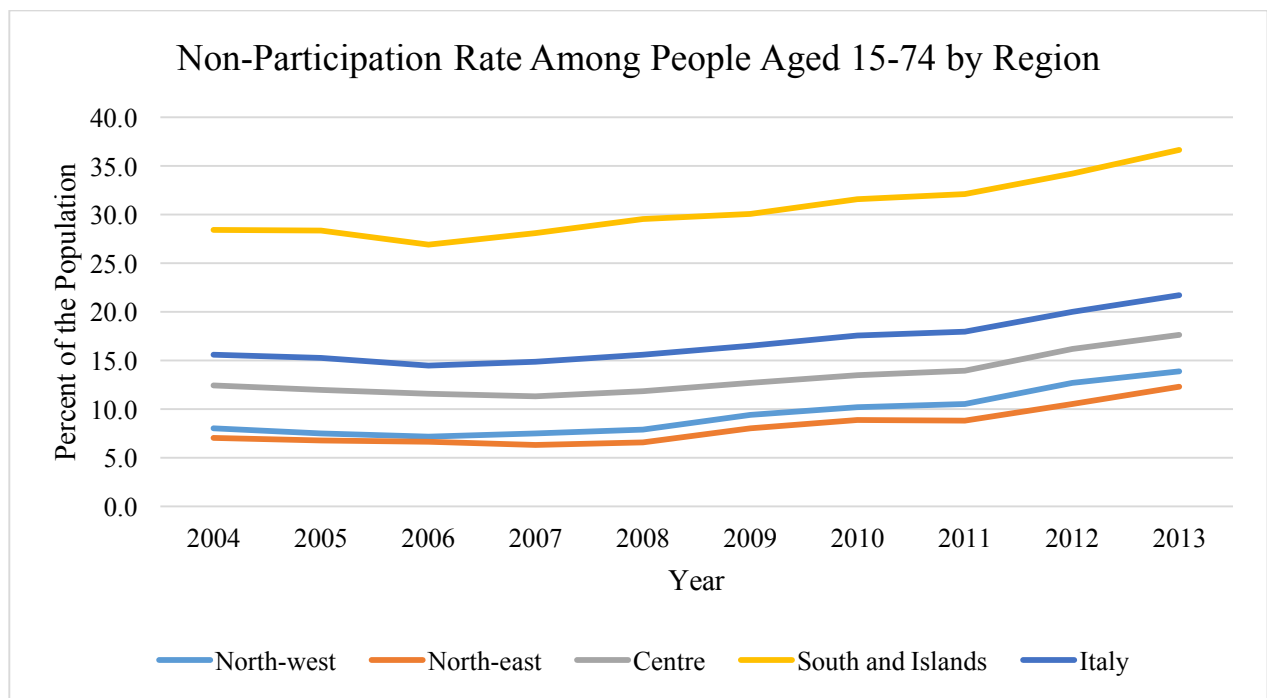
explained by one or more regions having more effective or prosperous jobs than others and if there is differing labor force participation; in other words, measuring the quality and quantity of jobs in the macro-regions. For instance, if these employment variables are significant but education is not a substantial factor, it would support the theory that an inequality of employment opportunities could be the reason for the regional inequality.

The occupational status variable uses the ISEI values for occupations, recoding into a continuous numerical variable assigning values to occupations based on their prestige. To account for households in which there are two people in the paid labor force, their occupational values are averaged to create one value for the household. In cases in which there is only one earner, his or her individual value is used. For these employment variables the two earners in the household refers to only having both *spouses* in the work force, not any other family member that may live in the household as well.

The labor force participation variables are coded as dummy variables: both spouses working full time, one working full-time and one working part-time, both working part-time, one person working full time, and one person working part-time. These are mutually exclusive; the categories measuring one person working full or part-time are either one-person households or households in which one spouse is not in the labor force. The excluded category is no individual in the paid labor force. These labor force participation variables are coded so that they account for the number of earners in the household. Full-time work is defined as 40 hours per week, part-time is anywhere from 1 to 39 hours per week. As part-time work is so varied, a more specific variable, hours worked weekly, is included measuring the exact number of hours the respondent works per week.

Unemployment status of the respondent is also entered as an independent variable.

Unemployment is becoming endemic in Italy, especially youth unemployment and long-term unemployment. Perhaps as a result of this, non-participation in the labor force is also quite high. This makes unemployment more difficult to measure because those people not actively seeking work are not counted as unemployed, but as a non-participant. While the labor force participation dummy variables will account for respondents not in the labor force, the non-participants will be mixed in with people not in the labor force for other reasons. This is a common problem with survey data but the extremely high rate of non-participation in Italian society is particularly problematic. So while I expect that unemployment plays a significant role in the regional household income inequality, it will be difficult to measure. The graph below depicts the non-participation rate of Italians in each of the macro-regions over the past 10 years.



As can be seen by the graph, the South has about double the non-participation rate as the next lowest macro-region, the Center. The rate has been going up in recent years in all the regions since the 2008 economic crisis.

The education system in Italy consists of primary, lower secondary (equivalent to middle school in the U.S.), and upper secondary (equivalent to high school in the U.S.) schooling, resulting in a high school diploma. Once high school is completed students have the option to continue on to university to get a degree. Post-tertiary is an advanced degree, such as a Masters or PhD. Public and higher education in Italy are free or low cost for its residents. There are four dummy education variables in the analysis: some secondary schooling, high school degree, college/bachelors degree (4-year degree), and post-tertiary degree. The excluded category for education is a primary school education or less.

Regression analysis is run utilizing the ISSP data set to determine which (if any) factors explain the household income differences between the macro-regions. This method of analysis involves first determining if there is a significant regional association with household income and the strength of the association. The regression analysis can determine the degree to which the independent variables explain the regional inequality in household income. A percentage is calculated by dividing the macro-region coefficient of Model VII by that of Model 1 and subtracting it by 1 to represent the percent of household inequality explained for that macro-region. If the independent variables were able to explain 100% of the inequality, the Regional coefficients for Model VII would be 0.

The independent variables are entered in seven models in order to determine the impact specific variables or categories of variables have on the dependent variable. The first model consists of only the macro-regions to create a foundation on which to compare the next six

models. Model II incorporates the demographic variables: age and size of community. The dummy variable 'public' is added to Model III, controlling for whether the respondent works in the public sector or not. The next model adds in occupational status, the numerical value for the respondent's job. All of the labor force participation dummy variables and the unemployment dummy variable are incorporated into Model V. Model VI adds the 'retired' dummy variable to understand whether retirement status does play a factor outside of just labor force participation. Finally, the education dummy variables are included in Model VII. Education is added in after the occupational variables to measure how much of an effect one's education has on household income besides influencing his or her labor force participation.

V. Findings

Table 3 presents the results of the analysis from the multiple regression using all of the independent variables. The variables were progressively entered resulting in seven models. The first model in Table 3 demonstrates the degree to which regional economic inequality exists in Italy as measured by household income. Using those results as a foundation, the rest of Table 3 then evaluates the effect each independent variable has on household income. The large differences in household income in Model demonstrate that there is a strong association between region and household income and therefore provides a basis for the following analysis.

The analysis shown in Table 3 addresses two major questions: What percentage of the variation in regional household income can be explained by the measurable variables; and what are the most significant variables that explain the regional inequality? If the independent variables relating to employment are more significant, that supports the theory of inequality of opportunity; if the education variables are more significant, it supports the human capital theory.

Table 3. Regressions of Household Income on Region and other Independent Variables as Measured in Euros⁸

Independent Variable	Model I	Model II	Model III ⁹	Model IV	Model V	Model VI	Model VII
R ²	0.029	0.048	0.064	0.154	0.221	0.228	0.301
Constant	2094.89	1870.146	1713.034	324.579	668.803	699.405	-248.2
Northwest	608.87**	606.399**	697.127**	545.493**	529.541**	505.466**	497.819**
Northeast	389.071*	405.084*	543.43**	429.457*	474.278**	458.298**	439.304*
Center	476.058*	430.212*	534.332**	439.488**	428.276*	404.017*	379.918*
Age		10.431*	8.898*	23.781**	13.867**	9.295	15.188**
Size of community		-69.674*	-63.671	-38.169	-18.439	-18.241	16.083
Public			387.65**	181.751	122.965	111.068	-35.84
Occupational status				19.495**	25.811**	27.58**	18.05**
Unemployed					-612.234*	-507.638	-491.212
Both full-time					-114.951	-2.586	180.756
One full-time one part-time					-402.38	-292.581	-61.608
Both part-time					-756.683*	-671.432	-486.481
One full – time					-758.513**	-684.403**	-478.179*
One part-time					-1061.401**	-995.81**	-779.521**
Hours worked weekly					8.449	8.118	10.011*
Retired						447.186*	222.959
Some secondary school							252.653
HS education							694.928*
4-year degree							1356.53**
Post-tertiary degree							1045.85**

*p ≤ .05, **p ≤ .005 (two-tailed).

⁸ Analysis was also carried out first controlling for education and then seeing the impact of occupational status and labor force participation but it was found it did not make much of a difference in which order the variables were entered; the occupation-related variables had a more significant impact in both analyses.

⁹ This study utilizes the regional variables for the baseline. However, the ‘public’ dummy variable is a suppressor variable so that could also be used as a baseline and it would have explained more of the regional household income inequality. Public employment is a suppressor as those jobs generally have a good salary and they are more common in the South than in the other three macro-regions.

Numbers in parentheses = Standardized Coefficients

Model 1 shows that the average income of a Southern household is €2095.89 per month. Households in the Northwest generally have the highest income, averaging €608.87 more than the South, followed by the Center and then the Northeast at €476.06 and €389.07 more than the South, respectively. Model II demonstrates that as age goes up, household income tends to go up as well. As town size gets larger, however, household income goes down. These variables have the most effect on Central Italy. They explain 9.6% of the difference in household income between the South and the Center. It has little effect on the income disparity between the Northwest and the South. It has the opposite impact in the Northeast than in the other two macro-regions because despite the Northeast and South having similar population ages and sizes of community, the inequality exists regardless. Model III takes into account whether the respondent's job is in the public or private sector. When first incorporated, it is significant, signifying that those in the public sector have a higher average household income. This variable increases the inequality when controlled for because the South tends to have more public sector jobs and they generally increase household income. In terms of public employment, this is a factor which actually benefits the South more so than the rest of the nation.

Model IV shows that the most significant factor in explaining household income differences is occupational status. It explains the largest percentage of difference out of all seven models, decreasing the disparity between the Northwest and the South over 100 euros, and just under 100 euros for each the Northeast and the Center. This finding supports the inequality of opportunity theory presented in section III; households in the South tend to have less prestigious jobs than those in the other three macro-regions. This suggests that those types of high-quality jobs do not exist in the quantity in the South as they do in the rest of the country, explaining the income inequality.

Model V incorporates all of the labor force participation variables. These variables were also able to explain some of the household income inequality for the Northwest and the Center, but not as much as occupational status did. As with occupational status, these findings suggest that more households in the Northwest and Center have two people in the labor force, while households in the South tend to have more people either unemployed, not in the labor force or have only one person in the household working in the labor force. This would also provide evidence for the inequality of opportunity theory. Once again, however, it had the opposite effect on the Northeast: when controlling for the labor force participation variables the household income difference increased. This demonstrates that Northeastern households share many of the labor force participation characteristics with the South, but still have a higher average household income. It cannot explain the inequality; it suppresses it.

Retirement status in Model VI explains a small percentage of the household income disparity in all three macro-regions against the South. The findings demonstrate that retired Italians generally have a higher household income than non-retired Italians. This supports my hypothesis that retirement does play a role in the regional inequality even after controlling for labor force participation. It suggests that more Italians in households in the Northwest, Northeast, and Center are retired than in the South; and their pensions contribute to a higher average household income.

Model VII incorporates the education variables. All of the education variables, except for 'some secondary schooling', are highly significant in explaining household income inequality but they only explain a small fraction of the regional inequality. The largest impact education has is in the Center, known for having very highly educated individuals. Overall, this result may signify that people are reasonably equally educated in contemporary Italy between regions or

that while education explains Italian household income inequality it does not explain much of the regional household inequality. This finding does not support the human capital theory. While educational differences surely existed and possibly still exist today, this analysis could suggest that educational differences in contemporary Italian society are declining, or that they don't play as large a role in explaining economic inequality as do occupational variables.

Overall, the analysis was able to explain about 20% of the difference between the South and the Northwest and the South and the Center. When adding in all the variables the difference in the household income between the Northeast and the South actually becomes larger. In the Northwest and the Center, the occupation factors (occupational status and labor force participation) explain the majority of the difference. In the Center, age and community size are also important. In the Northeast the difference only gets smaller when occupational status and the education variables are added.

VI. Discussion and Conclusion

My overall findings from the analysis are that while all of these variables contribute to household income inequality, it is difficult to pinpoint a consistent factor effecting household income inequality across all of the regions. This leads me to believe that there are unmeasurable factors at play that cannot be captured by the variables in the ISSP survey. However, it does provide evidence for the existing theories. The evidence did not support the human capital theory because education did not play a big role in explaining regional differences even though it is true that the more highly educated you are the higher your household income is. The findings provide more evidence for the theory of inequality of opportunity. There are more employment opportunities and higher paying jobs from the in the Northwest, Northeast, and Center: particularly in the Northwest. I expected both the employment and educational variables to play

a significant role in explaining the regional inequalities. I did not find these hypotheses to be completely correct. After controlling for labor force participation and occupational status, education did not explain much of the regional disparity of household income. This suggests that human capital is not playing as big of a role in contemporary Italy as employment opportunities. It is not the level of education that is preventing households from having higher incomes, it is the unequal opportunities for employment and types of occupations.

My impression after completing this research is that Italy's specific history, geography and culture have lead to the many factors that play a role in the continuation of regional inequalities. Seemingly small factors, such as having the most fertile lands in the North¹⁰ and the isolation for so many years of the South from continental Europe have led to the disparities that can still be seen today. One factor specific to Italy is the organized crime families that dominate the political, economical, and cultural landscapes in the South.

While the rest of the country industrialized in the late 19th and early 20th century, the South remained largely agrarian until after World War II. Literacy rates and opportunities for education remained low (Carter 2010). After being annexed to the Kingdom of Italy and then all but ignored by the central government, organized crime groups were able to take control over the Southern areas. While they claimed to offer protection to the people that the government refused to provide, they also used illegal means to collect as much money from the people as possible, took over entire industries, and used terror to control the population (Dickie 2014). While the South faced many other obstacles in terms of economic and social development, organized crime

¹⁰ The most fertile farm land in Italy is the area of the Po Valley, which stretches across Northern Italy, nestled between the Italian Alps and the Apennine Mountain Range which run the length of the Italian peninsula.

groups like the Sicilian Mafia, the Neapolitan Camorra, and the Calabrian 'Ndrangheta stunted any chance of growth and prosperity among average citizens in their quest for money and power.

Another factor that is difficult to measure using survey data is a country's ability or willingness to unify. My very first Italian professor used this saying to explain Italian society: "Italy is a very old culture, but a very young nation". This simple quote has stayed with me through my time living in Italy and I think that it perfectly encapsulates the country's struggle to unify and bridge the inequalities. Not only is Italy a very old culture but it is hundreds of very old and very strong cultures, some dating back thousands of years ago. Unlike other European nations, Italy's mountainous landscape made communication between villages and towns impossible for centuries, so individual areas became insolated and self-sufficient (Gilmour 2011). These cultural, political, and economic differences that developed over thousands of years are incomparable to nations that have a longer history of national identity or were able to quickly develop national unity. Given the composition of the peninsula prior to unification and the stark economic disparities at that time, it is understandable that inequalities exist in contemporary society. 2000 years of history cannot be re-written in just 150 years¹¹. These cultural and historical factors go beyond what can be measured by quantitative survey questions, but still have an impact on Italy's unique regional divide.

Compared to previous research, which targeted specific factors, my research was broader and took into consideration more possible variables to determine the reasons behind regional household income inequalities. Apart from occupational status and labor force participation, it is

¹¹ Italy and Germany are often compared when looking at a nation's ability to unify. Germany was also not unified until the mid-1800s but developed quite quickly into a cohesive nation. However, there were a couple important factors differentiating them: The economic disparities between the Germanic states were minute in comparison to the the economic situations of the South of Italy and the rest of the nation. Germanic people also had a general idea of what a nation of German would look like; many Italians, particularly in the South, had no concept of a united Italy until after they had been conquered and forced into the new Kingdom.

difficult to pinpoint any variables that explain a significant amount of the regional inequality. If I were to continue with this research I would attempt to find ways to measure the less concrete factors, such as the factors mentioned above. A particular interest introduced to me in the course of this research is the impact organized crime has on economic prosperity in the South and how that could be measured. It must be difficult for a society's economy to develop if much of the money is being funneled into one place. The overall implications of my research are that while more generic variables like demographics, employment, and education can explain some regional inequalities in various nations, the country's unique history will shape the economic landscape and how well regions can form an integrated nation.

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