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INTRODUCTION

“Turning out to vote is the most common and important act of political participation in any democracy. Voting is also less well understood and explained empirically than other political acts engaged in regularly by citizens.”

John H. Aldrich

The aim of this research is to investigate the relationship between unemployment and voter turnout. Many different theories have been proposed to describe how the working condition affects the decision to participate at the electoral process, sometimes in contradiction between them. The starting point is to understand how economic conditions influence political participation.

The milestone Rosenstone’s research (Rosenstone, 1982) which link voter turnout rates to economic indicators propose two potential relationships: the Mobilization and the Withdraw effect. In the first case the hypothesis is that economic duress increases political participation because under economic strain citizens organize, protest and vote to reverse their economic condition. In the second case the opposite occur, economic duress decreases political participation because under financial difficulties citizens must deal with more relevant constraints withdrawing from political participation.

Nevertheless, recent studies contest the possibility that the Mobilization and Withdraw hypothesis are least too simplistic. Arceneaux (Arceneaux, The Conditional Impact of Blame Attribution on the Relationship between Economic Adversity and Turnout, 2003) argues that blame attribution has an intervening effect on the relationship between bad economic situation and political participation. People who blame the government for the state of the economy are more likely to view their economic situation in political terms whereas this link may be weak for people who do not draw connection between their economic situation and political performances. Moreover, Killian, Schoen, and Dusso (2008) suggest that people are motivated to vote when they perceive that their personal financial situation is falling behind national trends (Killian, Schoen, & Dusso, 2008) leading to the hypothesis of a non-linear relationship between economic indicators and voter turnout. Martins and Veiga (2013) found

that the relationship between unemployment rates and turnout is U-shaped. When unemployment rates are low, unemployment seems to have Withdraw effect. While when unemployment rates are high, unemployment seems to have Mobilization effect.

Since from the theoretical point of view the question “Does unemployment affects the decision to vote? And if yes, in which manner?” has not a unique answer the purpose of this analysis is to investigate this relationship from the empirical point of view. The empirical analysis is done looking the relationship between unemployment and voter turnout at individual level.

Exploiting Italian National Election Studies (ITANES) repeated cross sectional surveys analysing the voting behaviour of Italian citizens in Italian general election from 2001 to 2013 we regress self-reported voter turnout on self-reported employment condition. Moreover, heterogeneous effects along gender, educational level, social status, geographic conditions and past vote behaviour dimensions are explored.

Our findings support the Withdraw hypothesis in the base model, although the effect is found to be very small. While looking at the heterogeneous effects we found that the withdraw from electoral participation is counterbalanced by a positive effect along all five dimensions.

The structure of the analysis is structured as follow. The first chapter is devoted to the literature review, reviewing the main features of theoretical and empirical previous research. The second chapter presents the description of the data and the empirical strategy used for the analysis. The third chapter presents the findings and the Oster test. The fourth chapter is devoted to the heterogeneous effects. At last, the conclusion.

CHAPTER 1

Literature review

1.1) Competing theories

Voter turnout is a very popular topic in the academic research field, Ramirez and Sampson (2008), find out that “Voter turnout” is the fourth most important topic listed on Google Scholar search engine, it become the third ranked among all the topics considering JSTOR search engine.

This quite notable production of scientific research investigates in deep vote participation both from theoretical and empirical point of view. Different theories are proposed and different empirical achievement are shown; sometimes in contradiction between them.

From the theoretical point of view the traditional model is based on the rational choice perspective where the homo-economicus decide whether to vote or not as a result of a cost-benefit calculation (Downs, 1957). For simplicity the model can be described as follow: two alternatives are presented; a voter gets a benefit $B > 0$ if the alternative he prefers wins the election and 0 if the other alternative wins. There is a voting cost $C > 0$ determined by time physically spent in order to go to the polls and some information costs about the two alternatives. Then there is the probability that the preferred alternative will win the election denominated by P . Thus, the citizen will vote if $PB > C$ (Fowler, 2006) (Aldrich, 1993).

The pioneer model proposed by Downs in 1957 wanted to highlight the importance of including the rational behaviour into the scientific debate of that time where “political theorists have often created models without taking into account the economics of political action. Consequently, much of the evidence frequently cited to prove that democratic politics are dominated by irrational (non-logical) forces in fact demonstrates that citizens respond rationally (efficiently) to the exigencies of life in an imperfectly informed world” (Downs, 1957).

The main critique adressed to this model is that the impact of a single vote on the election is a decreasing function of the size of the population allowed to vote, because in order to have an impact on the outcome of the election there must be a situation of exact tie. Then the

individual cost - benefit calculation fails to explain turnout when there is large population with vote right. Fowler (2006) says that “although the probability that a single vote affects the outcome of an election is quite small, the number of people who enjoy the benefit when the preferred alternative wins is large. As a result, people who care about benefits to others and who think one of the alternatives makes others better off are more likely to vote”. The altruism theory of voting suggests that there is an interaction effect between a voter’s consideration for others and his awareness that one of the election outcomes will benefit others more than the other outcome, and then it extends the traditional calculus of voting model by incorporating the welfare of others into an individual turnout decision (Fowler, 2006). Moreover, in a laboratory experiment performing the dictator game Fowler (Fowler, 2006) finds that the more the individual shares with another anonymous individual, the more likely is the individual to vote in real world election.

Furthermore, the resource model of political participation tries to explain how turnout is driven by several key resources such as family income, free time and civic skills (communication and organization capacities). The presence or absence of these resources contributes substantially to individual participation leading to the assumption that higher socioeconomic group, which are better endowed than others, are more likely to vote (Brady, Verba, & Schlozman, 1995). These resources not only are distributed nonuniformly among the population but in addition they are built, perfected and improved in non-political institutional settings of life such as the workplace, social or religious organizations.

Performing a two-stage least squares analysis (Brady, Verba, & Schlozman, 1995) showed how resources of time, money and communication skills are powerful predictors on overall political participation in the United States of America.

Some empirical evidence supports the mobilization voter’s model. This model shows that people are more likely to attend electoral poll if someone else told them to go to vote. In particular, the theory developed by (Arceneaux & Nickerson, Who Is Mobilized to Vote? A Re-Analysis of 11 Field Experiments, 2009) distinguishes voters and election into two different categories: high-propensity or low-propensity voters and then high-salience or low-salience elections. High-propensity voters are those who voted regularly in the last three previous elections and because of their past we assume next round they will go to vote with high probability; low-propensity voters are those that since in their past habits did not figure out to vote we assume they have less probability to show up at poll next time.

Door-to-door canvassing is most likely to boost turnout among high-propensity voters but not low-propensity voters in low-salience elections. Conversely, in high-salience elections, door-to-door canvassing has little effect on high-propensity voters because they are already committed to voting. Instead, it is among low-propensity voters that face-to-face contact can be an effective nudge to the polls (Arceneaux & Nickerson, *Who Is Mobilized to Vote? A Re-Analysis of 11 Field Experiments*, 2009).

The milestone Rosenstone's research "Economic Adversity and Turnout" investigates whether the individual economic situation of the potential voter has an impact on his decision to vote or not; two competing claims are presented "Mobilization effect" and "Withdraw effect".

In the first case the point of the view is that economic duress increases political participation. The argument here is that people under economic strain blame the government for their situation and vote, organize, lobby, protest and so on to redress their grievances; economic adversity increases voter turnout (Schlozman & Verba, 1979). In addition, there is also evidence that the motivation to politically punish is greater than the motivation to politically reward (Kernell, 1977).

Looking midterm elections in the USA from 1946 to 1966 Kernell (1997) finds three relevant results: first, disapproval of the President's political conduct is associated to higher level of turnout in midterm elections; second, disapproval of the President work is a stronger cause of party defection than is approval; and, finally, among nonpartisan voters criticism on the White House's tenant seems to exercise greater impact on voting decision.

The second perspective makes the opposite claim: people with financial difficulties are less likely to vote. The reason is that economic adversity is stressful: it causes a preoccupation with personal economic wellbeing, and as a result, the citizen withdraws from such external matters as politics. The unemployed, the poor, and the financially troubled are less likely to vote. Turnout is lower when short-term unemployment is high, prices are unstable, and a large proportion of the population experience financial difficulties. Economic adversity decreases voter turnout (Rosenstone, 1982).

However, this link between personal wellbeing and political orientation may be weak. If people with economic problems either do not experience personal duress or do not draw a connection between their situation and politics, then economic adversity will not affect the likelihood of voting. (Rosenstone, 1982)

Some recent research opens the door to the possibility that the withdraw hypothesis is wrong, or at least too simplistic. On one hand, Killian, Schoen, and Dusso (2008) suggest that people are motivated to vote when they perceive that their personal financial situation is falling behind national trends (Killian, Schoen, & Dusso, 2008) and on the other hand, Burden & Wichowsky (2014) state that when times are good (unemployment rates are low and one has adequate employment) the economy does not provide a strong motivation toward participation. The reason is that in times of abundance there is little reason for potential voters to believe that turning toward government will do much to make a good situation better. In contrast, when economic indicators turn negative the public's attention is piqued (Burden & Wichowsky, 2014). Supporting their statement, they used a large dataset collecting data concerning U.S. presidential election from 1976 to 2008 thanks to the U.S. Bureau of Labor Statistics.

Furthermore, blame attribution has an intervening effect on the relationship between economic adversity and turnout. People who blame the government for the state of the economy are more likely to view their economic situation in political terms and vote. Whereas those who do not view the government as responsible for the economy are less likely to vote as their financial situation worsens. Economic adversity can lead to either Mobilization effect or Withdrawal effect depending on citizens' attributions of blame for economic conditions (Arceneaux, The Conditional Impact of Blame Attribution on the Relationship between Economic Adversity and Turnout, 2003).

The lack of consensus among scholars can be attributable to the possibility of a non-linear relationship between economic indicators and voter turnout. Robust empirical evidence is found to show that economic conditions affect turnout rates in Portugal's legislative and municipal elections. This empirical evidence supports the hypothesis that the presence and magnitude of mobilization or withdrawal effects on turnout depend on economic performance. Using five different datasets covering ten electoral periods for legislative election and eight electoral periods for municipal election from 1979 to 2005 in Portugal Martins and Veiga (2013) found that the relationship between unemployment rates and turnout is U-shaped.

When unemployment rates are low, unemployment seems to have withdraw effects. While when unemployment rates are high, unemployment seems to have mobilization effects.

Concretely, there is greater turnout in good and bad times, but participation rates are lower if the economy is neither too hot nor too cold (Martins & Veiga, 2013).

The level of industrialization of the state in which the election take place can also play an important role in defining the relationship between economic performance and turnout. In the industrial world, poor economic performance tends to depress turnout. In the developing world, exactly the opposite occurs. Poor economic performance drives more voters to the polls. It has been calculated that in the industrialized world real income is directly related to turnout while in the developing one there is inverse relationship. In addition to that, turnout is less elastic in relation to economic indicators in the former world than in the latter (Radcliff, 1992). He concludes explaining the reason of this difference by saying that *“the difference may be attributable to the stakes involved. In the absence of security programs, the potential human costs of poor economic performance are much greater. Thus, individuals may be considerably more sensitive to changes in the macroeconomy”* (Radcliff, 1992).

1.2) Determinants of turnout

“Browsing the empirical literature on voter turnout would most likely lead to the conclusion that little agreement has been reached about what explains this phenomenon” says Geys in his meta-analysis research “Explaining voter turnout: A review of aggregate-level research” (Geys, 2006).

Also looking at the phenomenon from the empirical perspective we realize that there is little consensus for what and how affect voter turnout. This is reflected in the huge number of variables brought in relation with turnout rates and in the observation that none of these variables is omnipresent (Geys, 2006). Smets and Van Ham (Smets & Van Ham, 2013) reviewed 90 empirical studies of individual level voter turnout in national elections during the decade of 2000 and 2010 and found that of the 176 different independent variables included in the 90 studies, less than 5 per cent were included in more than 25 per cent of the studies. In this section I will present those variables that are considered, statistically speaking, relevant affecting voter turnout.

Education is considered one of the strongest predictors of voter turnout, the meta-analysis of Smet and Van Ham (Smets & Van Ham, 2013) shows that education is positively related to individual level turnout as about 70 per cent of the reviewed studies used education as an independent variable. However Gallego (Gallego, 2010) underlines that the positive relationship does exist in some countries such as the USA, the Czech Republic, and Germany; but it is weak in other countries such as Cyprus, Greece, Belgium, Luxembourg, Australia, Spain and South Korea. This difference is relevant because it implies that the relationship between education and turnout is context dependent. In particular, using data from the Archivio Storico delle Elezioni of the Ministry of the Interior of Italy, the Istituto Nazionale di Statistica (ISTAT) and the Italian National Election Studies (Itanes), Harka and Rocco (Harka & Rocco, 2019) found a sizable negative effect between one year increase in average municipal education and voter turnout.

Population size has a statistically significant negative effect on turnout, that is turnout is lower when the population is larger (Geys, 2006). This finding is supported by the theoretical model proposed by Downs' (1957) – previously discussed – where the decision of voting is related to a cost-benefit valuation in which the rational voter's expected benefit increases with the probability of affecting the result of the election. The probability of affecting the election outcome is influenced by the size of the population. In fact, the larger the size of the population, the smaller is the probability that one single vote will influence the result of the election (Oween & Grofman, 1984).

Following the same theoretical hypothesis, another relevant factor which impact the single vote's probability of affecting the election result is the closeness of the election; where the standard measure to calculate closeness is the vote gap between the first and the second candidate in the political race. The smaller the gap, the closer the election is considered. The closer the election is expected to be, the higher becomes the probability that one vote affects the outcome. Then closeness is expected to be positively related with voter turnout (Geys, 2006).

An alternative explanation that leads to the same claim is given by Cox and Munger (1989) which say that the positive correlation between closeness and voter turnout is partially explained by an indirect effect through campaigning expenditures. Using Federal Commission data on campaign expenditures for 1982 U.S. House election they found that closeness increase campaigning expenditures that in turn increase voter turnout. The reason why this

occur is that campaign expenditures are expected to lower the costs of information acquisition (Chapman & Palda, 1983) and to stimulate interest in election leading to an increase in awareness levels of issues and benefits of electoral participation (Dawson & Zinser, 1976).

Another socio-economic variable that has been found to be an important determinant of voter turnout is population stability. Geys states (Geys, 2006) three reasons why higher population stability is expected to heighten voter turnout. The first reason is that *a "stable population increases feeling of identification and group solidarity and thereby "social pressure" towards voting "*. The second reason is concerned with information costs of voting because living in the same area for longer periods of time improves knowledge of local issues and candidates lowering information costs. The third reason says that lower population stability may suggest higher disinterest in local policy since potential voters might live elsewhere in the near future.

Population mobility (the percentage of the population that has moved out of or toward a certain area), population growth, and homeownership (the percentage of owner-occupiers in the community) are the measures used in literature in order to estimate the effect of population stability (Geys, 2006).

The institutional procedures governing the course of the elections strongly affect turnout. Whether the electoral system is consisting of majority, plurality or proportional representation is generally believed to have an effect on the number of people turning out (Geys, 2006).

Under proportional representation turnout is expected to be higher compared to plurality and majority systems. It is argued that the large disproportion between votes and seats in majority systems instils in many citizens the feeling that their vote is not important and thus discourages them from turning out. This is especially true of supporters of weaker parties, which are then themselves discouraged from making an effort. The result is fewer parties and thus less choice, which, in turn, discourages voters from participating (Ladner & Milner, 1999).

Furthermore, proportional representation, with its multi-member districts, makes it less likely that some districts will be non-competitive, so that parties have more incentive to campaign everywhere and voters more incentive to turn out and vote (Blais & Carty, 1990). Finally, proportional representation increases the number of parties and thereby the variety of options among which voters can choose (Blais & Carty, 1990). The more parties there are, the higher the number of options voters will have, and the more likely it is that voters will find a

party to identify with. The result is that more voters will be inclined to vote (Smets & Van Ham, 2013).

Compulsory voting, as seems obvious, increases turnout. Theoretically, the positive correlation between voter turnout and compulsory voting is explained through the increasing expected costs of not voting for the individual due to the possibility of getting caught and fined (Geys, 2006). Moreover Jackman (Jackman, 1987) estimates that compulsory voting increases turnout by about 13 percentage points. Compulsory voting increases turnout and its impact depends on its enforcement. It is not clear how strict that enforcement must be in order to work (Blais A. , 2006).

Several elections organized at the same time is found to positively affect voter turnout (Geys, 2006). Two main reasons are proposed to explain positive relation between concurrent elections and voter turnout: firstly, the cost of attending the ballot is a fixed cost, unrelated to the number of elections the voter needs to cast a vote upon then “an added election on the ballot spreads the cost of voting” (Carter, 1984). Secondly, more races increase the likelihood that media pays attention to at least one of the elections. This should increase the general awareness and information level of the electorate (Geys, 2006).

Investigating the determinant of voter turnout looking at the Italian municipality elections during the period from 2002 to 2013 Revelli (Revelli, 2017) find that turnout is systematically higher when those elections are held at the same time of elections for other tiers of government such as regions, state, and European Parliament. Thanks to a large dataset composed by official data from the Ministry of Interior of Italy and ISTAT he could focus on more than 6000 municipalities over fifteen Italian regions and he could observe over a decade more than 15000 elections.

The estimation results point out that electoral uncertainty, in terms of the degree to which an election is contested and of the win margin of the mayor, is a key determinant of individuals' participation decision. Turnout is increasing in the number of mayor candidates, it is decreasing in the win margin of the mayor, and it is significantly lower in uncontested elections (Revelli, 2017). Moreover it has been found a negative effect of the size of the electorate on turnout rates and a strong influence of age structure on voting behaviour where turnout is highest amongst people in their 40s and 50s, and lowest among young and elderly voters (Revelli, 2017).

1.3) UNEMPLOYMENT AT INDIVIDUAL LEVEL

As what we have seen so far, studies that analyse the impact of unemployment's level on aggregate participation rates do not find an unique effect, in contrast those studies that analyse the impact of an individual's being unemployed on his or her propensity to vote seem more uniform: the unemployed is generally less likely to show up at turnout than the employed (Aytaç, Rau, & Stokes, 2020).

Using European Social Survey data, a biennial cross-national survey of attitudes and behaviour that refers to twenty-four European countries, Gallego (Gallego, Unequal Political Participation in Europe, 2007) finds that unemployed vote less frequently than workers with an unlimited contract. Applying a logistic regression analysis, she predicted the voting rate to be 5.5 percent lower for unemployed compared to the employed.

Aytaç et al. (2020) try to explain the withdraw effect among unemployed shifting from the opportunity cost theory to a new point of view based on the social psychology of unemployed: "Job loss generates feelings of depression and self-blame, emotions that are not propitious for self-efficacy or participation. Thus, we generally observe a withdrawal effect among the unemployed". These emotions are, in turn, mitigate by a counter effect when unemployment is widespread and the challengers' campaigns blame the incumbent government for this situation or not mitigate by any counter effect when unemployment rate is not widespread and the challengers' campaigns do not focus attention on it.

Exploiting data from the Current Population Survey, a joint project of the US Census Bureau and the US Bureau of Labor Statistics which collects data on voting and voter registration in US elections from 1974 over a forty-year period, Aytaç et al. (2020) estimate twenty probit models, each corresponding to an election year from 1974 to 2014, in order to find in eighteen of the twenty elections a statistically significant and negative effect of the being unemployed.

Recent literature focused also on the disruptive potential of unemployment particularly among younger workers. Following the theoretical argument that political involvement combines civic voluntarism and political socialization, and assuming that workplace is a critical site for political socialization and to acquire civic skills being deprived of employment in early adulthood can lead to negative effects on political involvement (Emmenegger, Marx, & Schraff, 2016). Using data from the German Socio-Economic Panel collected between 1984

and 2013 by the German Institute for Economic Research, Emmenegger et al. (2016) find evidence that among younger labour force there is a highly significant negative effect of being unemployed on political interest. Thanks to the Propensity Score Matching approach they can estimate for those who have experienced unemployment before 30 year of age a depression of political interest of about 0.10 points on a scale from 1 to 4.

Even if the size of the effect might appear moderate it must be reported that the those who have experienced unemployment in early adulthood are associated with lower probability, roughly 7 percent, to participate in electoral turnout (Emmenegger, Marx, & Schraff, 2016).

Another study by Kern et al. (2015) highlights the negative relation between economic grievance and political participation in more than twenty European countries. Using data from the European Social Survey over a time period from 2002 and 2010 they found that unemployed people are significantly less likely to become engaged in political participation compared to those that are employed. Specifically they focused on the effect after the Great Crisis of 2008 supporting the hypothesis that “There is a negative relation between economic crisis and the level of political participation” (Kern, Marien, & Hooghe, 2015).

Using validated turnout data from seven consecutive elections held in Sweden between 1991 and 2014 Österman and Lindgren (Österman & Lindgren, 2019) studied how individual unemployment relates to voter turnout in high and low unemployment contexts. On one hand, they found that, without the interaction between individual and contextual unemployment, the unemployed on average is 10 percent less likely to attain voting poll than the employed. But on the other hand, this negative relationship between individual unemployment and voting weakens as overall contextual unemployment increases.

In contrast with the Mobilization effect theory, it is argued that “if the composition of the unemployed varies over the business cycle this could potentially explain why unemployment seems to have larger negative effects on political participation in low unemployment contexts” (Österman & Lindgren, 2019).

In fact, when controlling for dynamic selection of individual characteristics there is no longer any sign of a conditioning effect of contextual unemployment on turnout among the unemployed. These evidences imply that “the supposedly mobilising effect of high unemployment would not be a causal effect but only a matter of that in times of high

unemployment, more resourceful individuals with a higher level of turnout become unemployed” (Österman & Lindgren, 2019).

Moreover using cross-sectional data for 44 countries in four different continents including Europe, Asia, Africa and South America from 1996 to 2013, Carreras and Castañeda-Angarita (2019), found that individual-level characteristics and structural factors have a major impact on voter’s reaction to economic hardships. Their findings show that periods of economic downturns hit different socio-demographic groups asymmetrically. In particular, poorer and less educated citizens are affected more heavily by economic crisis. Therefore as a result, these socio-demographic groups are most likely to become mobilized during bad economic times.

Carreras and Castañeda-Angarita (2019) report that macroeconomic fluctuations have an influence on citizens’ turnout decision but they do not affect everyone symmetrically: “the mobilization effect of economic downturns is stronger in countries with low welfare spending and less globalized economies”.

For instance, “the predicted probability that citizens with a low level of education vote increases from 80% when the measure of change in unemployment is at its mean to 83% when there is a high increase in the level of unemployment” (Carreras & Castañeda-Angarita, 2019) but no effect is recorded on the probability of turnout for individuals with high socio-economic characteristics.

In addition to that the mobilizing effect of macroeconomic downturns on the voter turnout of citizens with low socio-economic characteristics is stronger in countries that are less exposed to globalization. In countries more exposed to globalization economic downturns do not influence electoral participation of citizens with low socio-economic characteristics (Carreras & Castañeda-Angarita, 2019).

Eventually, “citizens with low socio-economic characteristics are more likely to vote when economic conditions are adverse if welfare policies are less generous. By contrast, in generous welfare states an increase in unemployment has no effect on the likelihood of voting of citizens with low socio-economic. [...] An economic downturn does not influence the level of participation of high-income and well-educated voters. This is true regardless of contextual factors such as the level of globalization and welfare spending.” (Carreras & Castañeda-Angarita, 2019).

Another key factor in the determination of individual decision to go to the poll or not is the “consuetude”. Danny and Doyle (2009) state that “turning out to vote at election time may be habit forming. Habit occurs when, other things being equal, the decision to vote is depending on whether the individual did so in the previous election”. Using longitudinal data from the British National Child Development Study (NCDS) they find that 89% of British voters who attended general election ballot in 1997 also did it in the previous 1987 and 1979 elections. They estimated that participating in one electoral race increases the probability of voting in the following election by about 13% (Denny & Doyle, 2009).

Supporting this evidence Geber, Green and Shachar (2003) (Gerber, Green, & Shachar, 2003) conducted a field experiment concerning about 25200 registered voters in the municipality of New Haven, Connecticut (USA) finding that, all things being equal, an individual is 47% more likely to participate in the current election if he took part in the previous past election.

CHAPTER 2

Data

The main sources of data used in this analysis comes from Italian National Election Studies association (ITANES) and the Italian National Institute of Statistics (ISTAT). ITANES is a research group of leading academic scholars in the field of analysis of voting behaviour born in 2007 by the founding member Istituto Cattaneo plus Professors and researchers from a vast group of Italian Universities. ISTAT is the well-known *public research organization which is the main producer of official statistics in the service of Italian citizens and policy-makers*¹.

ITANES conducted several surveys analysing the voting behaviour of Italian citizens over national elections. All surveys are conducted soon after the election day in the form of face-to-face interviews lasting on average 50 minutes. In this analysis I focused on the electoral cycle from 2001 to 2013. Before examining the structure of ITANES surveys, I will briefly describe the electoral contest in which the analysis is made.

The Republic of Italy is a democratic country based on a parliamentary political system. The Parliament is composed by two houses, the upper house known as the Senate of Republic and the lower house known as the Chamber of Deputies. Both the Senate and the Chamber of Deputies are elected every five years in simultaneous general elections. Every Italian citizen can exercise his or her right to vote, the only requirement is the minimum voting age defined at 18 years old for the Chamber of Deputies and 25 years old for the Senate. The right to vote can be exercised only physically by the citizen casting his ballot in the municipality of legal residence.

For the purpose of the analysis the voter turnout will be referred only to the Chamber of Deputies elections since is the most participated.

From 2001 and 2013 two different electoral laws were enforced to rule the electoral process. The law called Mattarellum ruled the election of 2001 with a mixed criterion, the 75% of the seats were elected with a majority system and the last 25% with a proportional criterion. In 2006, 2008 and 2013 the law called Porcellum ruled the elections with a proportional voting

¹ Description from "<https://www.istat.it/en/organisation-and-activity>"

system and a majority premium; in 2014 the Constitutional Court declared the Porcellum against the Constitution and then three years later the electoral law was fully abrogated. Both electoral laws incentive political parties to attend the electoral session with large coalition to maximise the electoral score.

2.1) ITANES surveys

The analysis, in order to work with as similar as possible surveys, is conducted over the 2001, 2006, 2008 and 2013 ITANES investigations of the Italian national elections.

All four surveys are conducted soon after the election day, they are designed as repeated cross-section and contains similar information on individual's demographic and socio-economic characteristics. The structure of the questionnaires is designed as follow: the first part includes questions about the current economic situation, political culture and media exposure; the second part is related to the behaviour of voting, including question on past e present vote; lastly the third part is about socio-demographic characteristics. The second and the third part of the questionnaires are mainly considered for the purpose of the analysis.

The 2001 survey is conducted on a statistical sample of the Italian population composed by about 3200 individuals distributed from 258 different municipalities distributed all over the country aged from 18 years old to over 75 years old. Table 1 shows the sample distribution by gender and year of age compared with the actual Italian population; we can see that the sample distribution is good and representative of the full population. There is a slightly over representation of the gender male compared to the female if we consider the overall level but within the age categories the matching is quite good. The larger differences between the sample and the population are concentrated into the oldest category, the over 75 years old, that is excluded from the analysis for methodology reason.

Table 1 - Comparison between population and sample: gender and age. Survey 2001

	Man		Woman	
	Population (a)	Survey	Population (a)	Survey
18-24	5,6	5,5	5,3	4,1
25-34	9,9	10,3	9,7	10,6
35-44	8,8	8,7	8,9	9,8
45-54	7,8	8,5	8,0	8,4
55-64	6,9	7,9	7,5	7,7
65-74	5,4	6,5	6,7	6,0
75+	3,4	2,9	6,0	3,1
Tot.	47,9	50,3	52,1	49,7

(a) Source: Istat

In 2006 similar criteria as in the 2001 it has been used for the generation of the survey population but this time the sample is composed by about 2000 interviewed following the distribution by age and gender showed in table 2. Here too the oldest category is the less close to the actual population but it is not a major concern since it will be not taken into consideration.

Table 2 - Comparison between population and sample: gender and age. Survey 2006

	Man		Woman	
	Population (a)	Sample	Population (a)	Sample
18-24	4,6	5,3	4,5	4,8
25-34	9,0	8,5	8,7	7,7
35-44	9,8	9,2	9,7	11,2
45-54	7,9	8,8	8,1	9,4
55-64	7,0	8,5	7,5	8,6
65-74	5,8	6,6	6,9	5,6
75+	4,0	2,8	6,9	3,3
Total	48,0	49,7	52,0	50,3

(a) Source: Istat

For 2008 the phone-interviews were conducted over about 3000 respondents aged from 18 years old to over 75. Table 3 highlight the very close distribution by age and gender of the sample compared with the total population.

Table 3 - Comparison between population and sample: gender and age. Survey 2008

	Man		Woman	
	Population (a)	Sample	Population (a)	Sample
18-24	4,5	5,6	4,3	4,4
25-34	8,5	6,9	8,3	7,6
35-44	9,9	8,0	9,7	7,6
45-54	8,1	8,7	8,2	9,0
55-64	7,1	8,3	7,5	9,0
65-74	5,8	7,4	6,8	9,5
75+	4,2	3,1	7,2	5,0
Tot.	48,0	48,0	52,0	52,0

(a) Source: Istat

Finally, for what concern the survey of 2013 this time the interviews were conducted with the computer assisted personal interviewing (CAPI) method over only 1508 individuals in 172 different municipalities. The comparison between the sample and the population is the less accurate over the four surveys but it is still a good representation of the Italian population. Table 4 shows the distribution by gender, age and education of the sample and the Italian population.

Table 4 - Comparison between population and sample: gender and age. Survey 2013

	Man		Woman	
	Population (a)	Sample	Population (a)	Sample
18-24	4,4	6,3	4,3	4,8
25-34	7,3	7,5	7,3	6,0
35-44	9,5	6,7	9,6	8,0
45-54	9,0	8,5	9,3	10,2
55-64	7,2	8,5	7,8	10,8
65+	10,6	13,0	14,1	10,0
Tot.	48,0	50,5	52,4	49,8

(a) Source: Istat

It must be mentioned that if the samples are a faithful representation of the population from the demographic point of view on the other hand the reported voter turnout is very high well above official data, except for year 2006 which one underestimates the official data. This evidence supports the theory that self-reported data might be affected by measurement error

and that individuals are inclined to over-report vote participation presumably to please the interviewer (Harka & Rocco, 2019). Table 5 shows the self-reported voter turnout and the official voter turnout recorded from the Ministry of the Interior of Italy.

Table 5 - Comparison between self-reported voter turnout and official voter turnout

Year	Self-Reported voter turnout¹		Official voter turnout²
2001	95,43		81,38
2006	80,30		83,62
2008	91,50		80,51
2013	87,32		75,20

percentages of the population

Sources: 1 ITANES, 2 Ministry of Interior of Italy

Every survey contains a large amount of information since every questionnaire is composed by over than 200 queries. Despite the large number of questions the response rate is not very high. This is the reason why in order to preserve the solidity of the analysis I merged the four datasets into one. My final sample is composed by 5016 observations in total of which 1511 are from the wave of 2001, 1574 from the one of 2006, 1223 from the one of 2008 and 708 from the last one of 2013. The final sample is characterized by a voter turnout of 88.58% and a rate of self-reported unemployment declaration of 10.79%; if, self-reported turnout suffers from a substantial over representation of voters, on the other hand, self-reported unemployment is in line with the actual unemployment recoded by ISTAT in those years which varies from about 8% in 2001 to about 12% in 2013².

In the next section I will describe the variables used in the analysis.

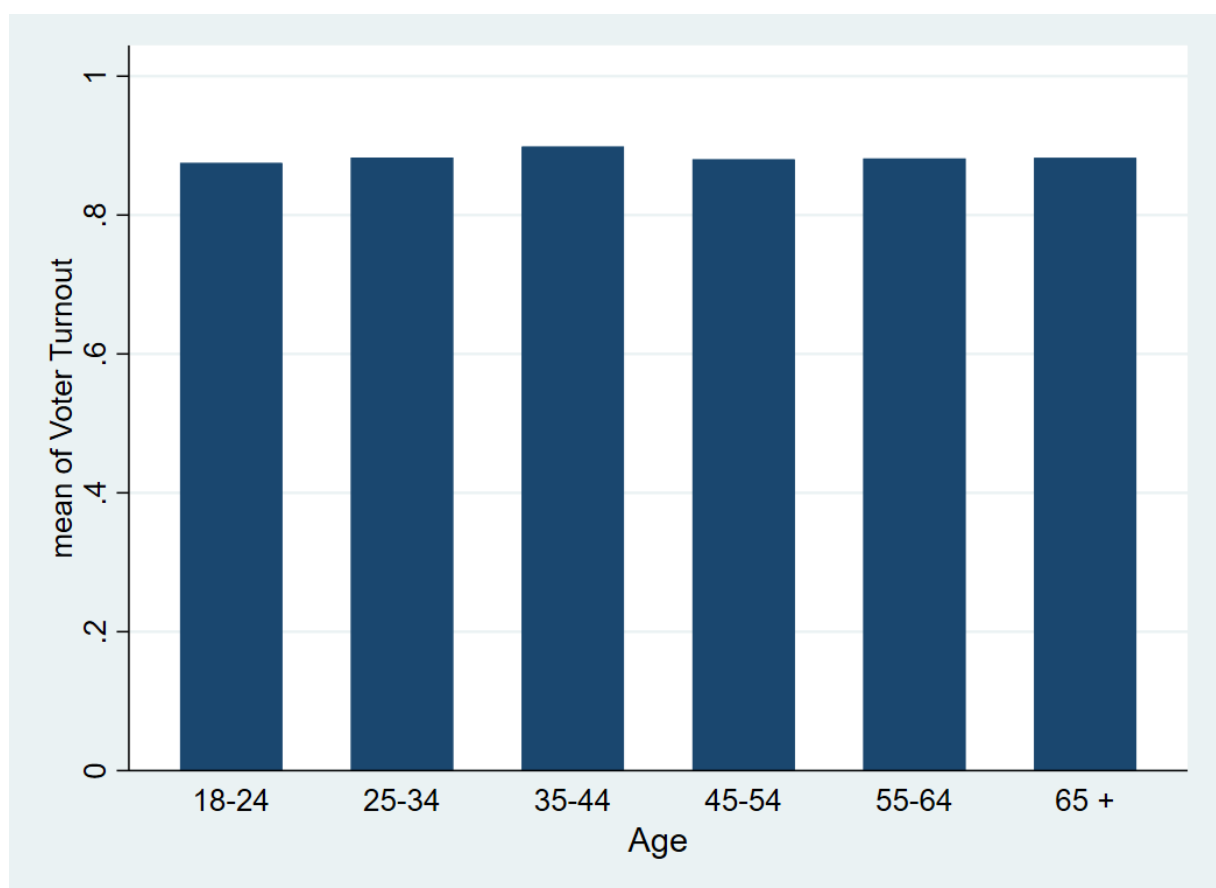
2.2) variables and controls

The dependent variable is called *VoterTurnout*, it is a dummy variable which assume values 0 if the interviewed answered “No, I did not go” to the question “Did you vote in the elections

² ISTAT - Labour force survey, age class over 15-year-old

held the last [13th May]³ ?” and 1 if the answer was “Yes, I did go to vote”. As previously highlighted self-reported voter turnout suffers of over representation bias, the distribution of voters among age cohorts it is represented in Figure 1. We can see that there is little variation between different cohorts, but the turnout rate level is stable.

Figure 1 - Distribution of Voter Turnout by age



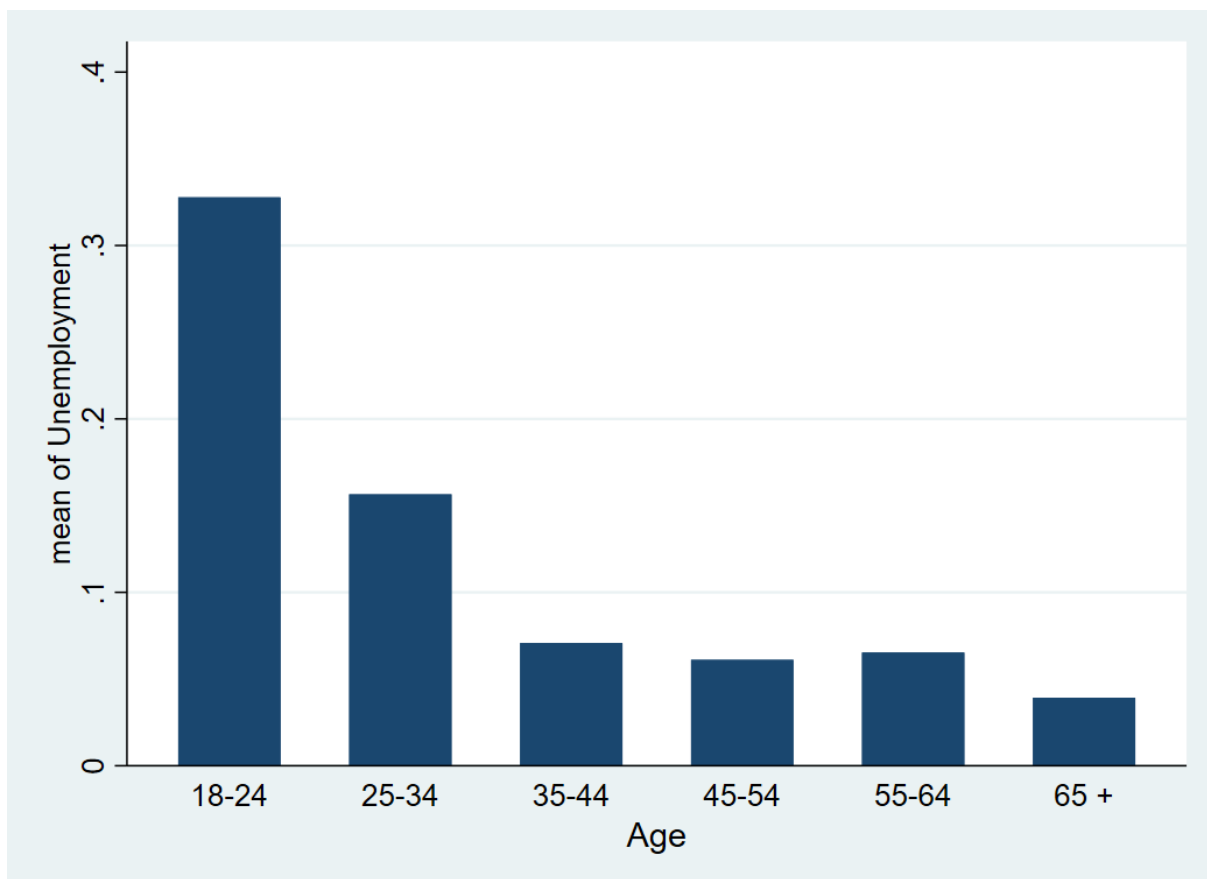
Source: elaboration on ITANES data

The variable of interest is called *Unemployment*, it is a dummy variable which assumes value 1 if the individual declared to be unemployed at the time of the interview. Since the objective of my study is to investigate the impact of being unemployed on the behaviour of voting and the interviews are held very soon after the election days, usually they started the surveys few days after and lasted for several weeks, I assumed that those who answered to be unemployed at the time of the interview they were in the same condition at the time of the elections.

³ 13th May for 2001, 9th and 10th April for 2006, 13th and 14th April for 2008 and 24th and 25th February for 2013

As we can see from Figure 2 unemployment is a major issue for younger population. From 18 to 24 years old the unemployment rate is about 30%, it decreases under 10% only for the group aged over 35 years old.

Figure 2 - Distribution of unemployment by age



Source: elaboration on ITANES data

A bunch of controls are taken into account. The criteria of selection of the controls respond to the necessity to avoid including variables that are themselves outcomes of the variable of interest, or in other words bad controls. The first set of variables wants to control for the demographic of the sample, they include a gender variable, *female*, and a level variable for age, *eta6*. The first control is a dummy variable which assume values 1 if the gender of the individual is female. The second control sort by age, classifying six group of age: 18-24, 25-34, 35-44, 45-54, 55-65 and over 65 year old.

The second battery of controls tend to measure the social status of the observed individual through three aspects: the individual's level of education, the level of education of the

individual's father and by the social status of the individual's parent occupation and individual's head of household occupation.

The level of education is based on the official degree obtained through the accomplishment of the study cycle that in Italy goes from the lowest degree called "*Licenza media*" to the highest "*Dottore di ricerca*". The variable *highedu* controls for the higher level of education assuming value 1 if she or he has obtained a bachelor or higher degree, it assumes value 0 if she or he has obtained a high school or lower diploma.

The same rationale is used for the creation of *fatedu*, the variable which controls for the father's level of education. The variable assumes value 1 if the father's education level of the interviewed is a bachelor or higher degree, zero otherwise.

Through several questions about the type of occupation, the level of the position assumed, the kind of sector of occupation, the type of industry, the dimension of the firm, the level of salary, the total amount of hours worked of both parents and head of household of the individual ITANES builds up a variable called *classe* which try to measure the social class of the interviewed sorting the sample into 5 categories: blue collar, rural petite bourgeoisie, urban petite bourgeoisie, white collar middle class and bourgeoisie. From this variable it was made *bourgeoisie* a dummy variable that assume 1 if he or she belongs to the bourgeois social class.

Then indicator of past vote behaviour is also included. The variable indicates if the individual has already voted in the five-year previous⁴ elections and for which political area he or she did vote in that occasion. The political areas are distinguished into far right, right, center, left, far left and blank ballot. The Italian political spectrum is very large and populated by numerous parties. In every electoral session we can observe the presence of new-born political parties which are not small and marginal, but determinant for the subsequent determination of the Parliamentary majority equilibrium. In the Annex the list of parties and their political location is presented.

To control for the rural dimension of the municipalities where he or she is resident a dummy variable called *smalltown* is created. The variable assumes value 1 if the resident population of the town is smaller than 50000 habitants, it assumes 0 otherwise.

⁴ In 2008 political crisis leads to anticipated general elections

Finally regional controls⁵, indicating the region of residence, and year dummy controls are also considered. We admitted for interaction between years and regions creating a set of time-region dummies for each electoral wave from 2001 to 2013 in order to allow for temporal effects to vary at regional level.

2.3) Empirical strategy

As seen in the previous chapter the relationship between unemployment and voter turnout is not uniformly defined, depending on whether *when* or *where* we focus the attention of the investigation, we can find divergent evidence. The purpose of this analysis is to understand how the relationship between unemployment and voter turnout works in the Italian contest looking deeper what happen at individual level, trying to understand how the circumstance of being unemployed during the electoral process impact the individual's decision to vote.

In order to reach this goal, I define a linear probability model defined as follow:

$$VoterTurnout_{it} = \alpha_0 + \alpha_1 Unememployment_{it} + \beta X_{it} + \varepsilon_{it} \quad (1)$$

Where *VoterTurnout* is a dummy variable equal to 1 if the individual *i* declares of having voted for the Chamber elections at time *t* and 0 otherwise. The treatment variable *Unemployment* is a dummy variable which that indicates if individual *i* is unemployed at the time of the electoral run, X_{it} is the matrix of individual specific controls which includes:

- *Female*
- *Eta6*
- *Highedu*
- *Fatedu*
- *Bourgeoisie*
- *Pastvote*

⁵ Valle d'Aosta is excluded

- *Smalltown*

Finally, regional dummies, years dummies and year-regional dummies are also added in the set of controls; ε_{it} is the error term.

Year-regional dummies plays a relevant role in this analysis mainly for three reasons. First, they account for the change in electoral rules that took place in 2005 with the approval of the so-called “Porcellum” electoral law which. Second, they account for the effect of the Great Recession of 2007 that hits severely Italy few years later, producing greater downturns in the industrial areas which are concentrated in the northern regions of the country. Third, they account for the great regional diversity of the Italian country from social, demographic and economic point of view.

Two more restrictions are made on the sample population, the first one is to consider only the working age population that goes from 18 years old to 67 and, the second one, is to keep out the economically inactive population. With this set up the treatment is given only to the active population of the sample in working age times.

The parameter of interest is α_1 which indicates the effect of unemployment on voter turnout, the estimation of the linear probability model is made through an Ordinary Least Squares (OLS) regression.

Before showing the results, it must be said that in general regressions do not identify causal relationship, they do only if the Conditional Independence Assumption holds.

The causal relationship is given only when the treatment variable is independent of the potential outcomes of the dependent variable; in other words when the treatment variable is randomly assigned. The Conditional Independence Assumption, also called selection on observables, states that the treatment variable is independent of potential outcomes of the dependent variable when it is conditional on observed characteristics (Angrist & Pischke, 2009). Unfortunately the CIA does not provide the indication of which and how many controls do you need to make the assumption holds. In this analysis the selection on observed characteristics is restricted to those that are actually recorded in the questionnaires of ITANES’s surveys, we had to rely on them. We are aware that the CIA assumption is a very strong assumption in this set up.

The possibility to face omitted variable bias must be considered, in order to deal with this problem several strategies are adopted. First, the unorthodox but common approach is to examine the sensitivity in changes of the treatment coefficient to the addition of observed controls. We can consider the coefficient stability as a sign that omitted variable bias is limited (Oster, 2019). Furthermore, a comparison with the parameter of interest estimated by the Propensity Score Matching technique will be presented. Finally, the more rigorous Oster Test will be performed.

2.4) Propensity Score Matching

Further analysis of the estimation of the parameter of interest is made applying the Propensity Score Matching technique.

The Propensity Score Theorem says that *“if potential outcomes are independent of treatment status conditional on a multivariate covariate vector X_i , then potential outcomes are independent of treatment status conditional on a scalar function of covariates, the propensity score, defined as: $p(X_i) \equiv E[D_i|X_i] = P[D_i = 1|X_i]$ ”*, where D is binary, formally (Angrist & Pischke, 2009):

$$\{y_{0i}, y_{1i}\} \perp D_i | X_i \quad \text{then} \quad \{y_{0i}, y_{1i}\} \perp D_i | p(X_i) \quad (2)$$

In other words, the propensity score theorem says that you need only to control for the probability of being treated is enough to guarantee conditional independence of the treatment. Then variables that explain the outcomes but not the likelihood of being treated can be excluded.

Moreover, Angrist and Hahn (Angrist & Hahn, 2004) explain that even though there is no asymptotic efficiency benefit from the implementation of estimators based on the propensity score theorem, there will be a gain in precision in finite samples.

In this analysis the estimation of the propensity score is done through a logit model because empirical literature proposes that logit model for the propensity score with low degree polynomials of continuous variables works well in practice (Angrist & Pischke, 2009).

Following these indications, the battery of controls used in this specification is slightly different from the OLS regression, the variable which accounts for the behaviour of five-years before vote is not included since it appears to not directly affect the likelihood of being unemployed five-years later. The following controls are instead included: *Female*, *Eta6*, *Highedu*, *Fatedu*, *Bourgeoisie*, *Smalltown*; regional and year dummy are also considered.

CHAPTER 3

3.1) Results

In this chapter the results of the analysis are presented, we are going to explore first the OLS regression, then the Propensity Score Matching estimate and at last the robustness check Oster test.

Table 6 shows the results for the baseline model estimated through the OLS regression following four different specifications. It is interesting to see the trend of the coefficients through the different specifications. In particular, in the first column only two controls are considered those that accounts for time e regional effects. The coefficient of unemployment is negative and statistically significant.

In column 2 the demographics controls referring to gender and age are added. Surprising the coefficient of *Female* is very small and not statistically significant, it will be not significant that for all the specifications.

In column 3 controls for high education level and social class are added, *Unemployment* remains negative and statistically significant at 1% but this time we can notice that the two statistically significant controls *Highedu* and *Burgesoise* are of the same magnitude but opposite in sign, +0.032 the former and -0.031 the latter. This evidence leaves the door open to the hypothesis that among the higher social classes of the country the very elite tend to withdraw from electoral participation.

In column 4 controls *Pastvote* and *Smalltown* are also considered. In this specification almost all controls are statistically significant with the exception of *Female* and *Fatheredu*. *Unemployment* is reduced in significance at 5% and slight decreased its effect to -0.032. *Smalltown* is small and positive suggesting that living in a small municipality contribute to increase the probability of voting which is in line with previous literature. *Pastvote* results to be in every level positive and statistically significant at 1%. We can interpret the positive coefficients of *Pastvote* saying that having previously voted at least one time, no matter for what side of the political spectrum, has a positive consequence on current electoral participation.

Table 6 - Treatment Effect on Voter Turnout

	(1)	(2)	(3)	(4)
dep. var.: Voter Turnout	OLS	OLS	OLS	OLS
Unemployment	-0.0511*** (0.0146)	-0.0459*** (0.0150)	-0.0463*** (0.0150)	-0.0323** (0.0147)
Female		0.00556 (0.00908)	0.00286 (0.00914)	0.00697 (0.00900)
Eta 25-34		0.0214 (0.0188)	0.0183 (0.0189)	-0.0896*** (0.0200)
Eta 35-44		0.0406** (0.0189)	0.0388** (0.0190)	-0.0732*** (0.0202)
Eta 45-54		0.0224 (0.0190)	0.0212 (0.0191)	-0.0932*** (0.0203)
Eta 55-64		0.0314 (0.0214)	0.0311 (0.0215)	-0.0834*** (0.0225)
Eta 65 +		0.0129 (0.0468)	0.0129 (0.0469)	-0.0960** (0.0464)
Highedu			0.0323** (0.0136)	0.0251* (0.0134)
Fatedu			-0.0123 (0.0227)	-0.00606 (0.0222)
Bourgeoisie			-0.0305* (0.0156)	-0.0317** (0.0153)
Pastvote=Far Right				0.267*** (0.0217)
Pastvote=Right				0.247*** (0.0192)
Pastvote=Center				0.292*** (0.0280)
Pastvote=Left				0.269*** (0.0188)
Pastvote=Far Left				0.229*** (0.0234)

Pastvote=Others				0.266*** (0.0466)
Pastvote=Blank Ballot				0.0104 (0.0430)
Smalltown				0.0197** (0.00946)
Year Dummies	Yes	Yes	Yes	Yes
Regional Dummies	Yes	Yes	Yes	Yes
Time – Regional Dummies	No	No	No	No
Constant	0.905*** (0.0983)	0.877*** (0.0998)	0.879*** (0.0997)	0.771*** (0.0981)
Observations	5016	5016	5016	5016
R ²	0.049	0.050	0.052	0.099

Standard errors in parentheses.

Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7 shows the specification of the model with all the controls taken into consideration. We can see that the value of the coefficient of *Unemployment* is -0.033, it is still negative and statistically significant at 5% proving that the status of being unemployed negatively affects the desire of voting. Looking at the trend given by the five specifications we can notice that the effect of unemployment, which goes from the highest value of -0.051 to the lowest -0.033, does not vary much across the different specifications but reduces its magnitude.

The coefficients of *Female* and *Fatedu* are close to zero but not statistically significant, by contrast almost all other controls are significant at 1%. It is interesting to notice that all the coefficients for different group of age are negative and highly significant. This indicates that with respect to the youngest cohort older individuals tend to vote less. *Highedu* is still positive but the statistical significance drops to 10%, in contrast *Bourgeoisie* holds its level of significance and increased to -0.035 which indicates that the highest social class tend to withdraw from the electoral competition. It is confirmed that living in a municipality with less than 50000 habitants gives a positive stimulus to the voter participation since the coefficient of *Smalltown* is positive and statistically significant at 5%.

Finally past vote behaviour has an important role affecting current turnout since all the coefficients result to be high statistically significant, positive and larger in magnitude with respect to other controls, with the exception for the case of blank ballot which is close to zero and not significant. This evidence suggests us that it is not important for what political party the individual voted in last election, the acting of voting itself is enough to generate a stimulus for voting for the next round.

Table 7 - Treatment Effect on Voter Turnout

dep. var.: Voter Turnout	OLS
Unemployment	-0.0331** (0.0147)
Female	0.00737 (0.00897)
Eta 25-34	-0.0897*** (0.0200)
Eta 35-44	-0.0729*** (0.0201)
Eta 45-54	-0.0894*** (0.0203)
Eta 55-64	-0.0756*** (0.0225)
Eta 65 +	-0.0966** (0.0464)
Highedu	0.0233* (0.0134)
Fatedu	0.00205 (0.0222)
Bourgeoisie	-0.0351** (0.0152)
Pastvote=Far Right	0.263*** (0.0217)
Pastvote=Right	0.247*** (0.0192)
Pastvote=Center	0.294*** (0.0279)
Pastvote=Left	0.265*** (0.0188)
Pastvote=Far Left	0.227*** (0.0234)

Pastvote=Others	0.275*** (0.0466)
Pastvote=Blank Ballot	0.00874 (0.0430)
Smalltown	0.0194** (0.00947)
Year Dummies	Yes
Regional Dummies	Yes
Time – Regional Dummies	Yes
Constant	0.769*** (0.0974)
Observations	5016
R^2	0.122

Standard errors in parentheses.

Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Furthermore, the estimation of the parameter of interest *Unemployment*, is made applying the Propensity Score Matching technique. The specification includes the following controls: *Female, Eta6, Highedu, Fatedu, Bourgeoise, Smalltown, Year Dummies and Regional Dummies*. The result showed in table 8 indicates that to be unemployed has negative impact on the decision to go to vote. The individual, all being equal, who is unemployed has about 4% less probability to go to vote with respect to the employed one, the result is statistically significant at 10%.

Table 8 - Propensity Score Matching estimation

	Voter Turnout
ATE	
Unemployment	-0.0439* (0.0263)
N	5016

Robust standard errors in parentheses
 * p < 0.10, ** p < 0.05, *** p < 0.01

3.2) Oster Test

In the previous section I mentioned the possibility for this analysis to have to deal with omitted variable bias. The omitted variable bias occurs when variables correlated either with the outcome variable and the explicative variable are not included in the regression, it can happen for several reason such as the lack of observed data availability or because the effect on the outcome variable is unknown.

Despite in some cases it is possible to assert that one or a set of controls fully capture a specific omitted variable, in many other cases observed controls do not fully capture the true omitted variable effect leading to biased results (Oster, 2019). In order to check if my results are affected by omitted variable bias even after adding the full set of controls, I performed the Oster test.

The Oster test developed by Oster (2019), under the assumption that a share of variance of the dependent variable is both influenced by the observed and the unobserved controls which are correlated with it, evaluates the value of the coefficient of interest if the unobserved controls would have been added to the regression. In particular, the test exploits the relationship between the omitted variables bias and the changes in R-squared determined by the introduction of the observable variables. Furthermore, to compute the Oster test two more assumption must be established: the relative degree of selection on observed and unobserved variables, denoted as δ , and the value for R_{max} .

Oster herself to allows other researchers to perform a consistent estimate of the bias-adjustment treatment effect suggest to set $\delta = 1$, indicating that the unobservable are as important as the observable controls, and $R_{max} = 1,3 * \tilde{R}$ where \tilde{R} is the R-squared from the regression computed with the observed controls (Oster, 2019).

Table 9 – Oster test

Coefficient of interest	OLS	Oster
<i>Unemployment</i>	-0.033	-0.020

In table 9 are reported both estimates of the treatment variable's coefficient *Unemployment* under OLS regression with full set of controls taken into account and the Oster test with the specification explained above. We can notice that the Oster estimation slightly reduce the magnitude of the coefficient but both estimations show a negative and small size effect.

This result confirms that the presence of omitted variable bias nevertheless we can suppose the size of the bias to be moderate.

CHAPTER 4

Heterogeneous Effects

The aim of this research is to investigate the relationship between the working status of an individual and his or her propensity to vote, the results presented in the previous chapter give us a clear indication on the negative nature of this relationship. The unemployed tend to vote less compared to the employed. Although, what happens when we look deeper into the unemployment category, what are the relationships within the unemployed category?

Within the unemployed category many heterogeneous situations can be found, especially in a country such as Italy characterized by high degree of diversity from geographic, economic and social point of view. It is worthful to highlight that Italy records very low women's employment rates. From 2001 to 2013 the women's employment rates balanced from 19,2% to 15,6%⁶ which is about 2.5 times lower the men's employment rates for the same period. Looking at the distribution of wealth, the Italian situation is marked by high degree of wealth concentration into limited groups of privileged people. Moreover, from the geographic point of view Italy is characterized by strong regional peculiarities and large number of small and medium sized municipalities in which the majority of the national population is settled.

In this chapter we are going to explore how gender, educational level, social status, geographic conditions and past vote behaviour interacting with the working status of the individual can affect the voting decision. In order to better understand how these characteristics can affect the turnout decision among unemployed I extend the model (1) by including, in turns, five interaction terms, one for each characteristic.

Table 10 shows the heterogeneous effect of gender on voting decision while being unemployed is a female. It is interesting to notice that the effect of being unemployed and female is positive, strongly statistically significant and size of about 0.07 which it fully contrasts and overcomes the negative effect of being unemployed.

From the geographic perspective we found that living in a small municipality is a good incentive to go to vote, moreover Table 11 highlight that living in a municipality with less than

⁶ ISTAT - Labour force survey

50000 habitants is even larger incentive to go to vote when the individual is unemployed. The coefficient of the interaction term is found to be positive and about 0.052 which almost neutralize the effect of being unemployed.

From the social perspective heterogeneous effect were investigated through the educational level and the social class. When high educated citizen is unemployed the effect of his working condition has a positive incentive to participate at electoral game, once again the unemployment effect is fully neutralized and overcome by the interaction term which leads to a positive incentive to vote, although the coefficient is found not statistically significant in our sample (Table 12). Moreover, when the social class is taken into consideration we observe change in sign too. The coefficient of being bourgeois and unemployed is positive, of large size, neutralize and overcome the unemployment effect but it is not statistically significant (Table 13).

Looking deeply how past vote behaviour influence current electoral behaviour we explored heterogeneous effect of being without work on the experience of past vote. Although none of the coefficients is found significant, we can notice that when the unemployed individual voted for the far left or center parties the effect is large and negative producing the overall effect of -0.13 for the former and of -0.11 the latter, as shown in Table 14. When the past vote was given to other parties the effect is positive but small or very small.

Since these two political areas have always been determinant in the stability or instability of the political system in the Italian Parliament producing falls and changes in Government alliances it can be speculated that an individual who is facing unemployment and voted for a party which caused political instability is more disenchanted toward politics and withdraw more easily for electoral participation.

Table 10 - Heterogeneous Effect on Voter Turnout

	OLS	OLS
dep. var.: Voter Turnout	(1)	(2)
Unemployment	-0.0331** (0.0147)	-0.0670*** (0.0197)
Unemployment=1 #		0.0721***
Female=1		(0.0279)
Year Dummies	Yes	Yes
Regional Dummies	Yes	Yes
Time-Regional Dummies	Yes	Yes
Constant	0.769*** (0.0974)	0.777*** (0.0974)
Observations	5016	5016
R^2	0.122	0.123

Note: the dependent variable is voter turnout; *female* is a dummy variable which takes 1 for gender. In column (1) the base model is presented, in column (2) the interaction term between unemployment and female is included. In both specification other controls are: class of age, level of education, level of father's education, social class, past vote behaviour and municipality dimension.

Standard errors in parentheses.

Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11 Heterogeneous Effect on Voter Turnout

	OLS	OLS
dep. var.: Voter Turnout	(1)	(2)
Unemployment	-0.0331** (0.0147)	-0.0392** (0.0156)
Unemployment=1 # Highedu=1		0.0517 (0.0434)
Year Dummies	Yes	Yes
Regional Dummies	Yes	Yes
Time-Regional Dummies	Yes	Yes
Constant	0.769*** (0.0974)	0.771*** (0.0974)
Observations	5016	5016
R^2	0.122	0.122

Note: the dependent variable is voter turnout; *highedu* is a dummy variable which takes 1 for level of education greater than bachelor degree. In column (1) the base model is presented, in column (2) the interaction term between unemployment and level of education is included. In both specification other controls are: gender, class of age, level of father's education, social class, past vote behaviour and municipality dimension.

Standard errors in parentheses.

Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12 - Heterogeneous Effect on Voter Turnout

	OLS	OLS
dep. var.: Voter Turnout	(1)	(2)
Unemployment	-0.0331** (0.0147)	-0.0376** (0.0151)
Unemployment=1 #		0.0898
Bourgeoisie =1		(0.0642)
Year Dummies	Yes	Yes
Regional Dummies	Yes	Yes
Time-Regional Dummies	Yes	Yes
Constant	0.769*** (0.0974)	0.770*** (0.0974)
Observations	5016	5016
R^2	0.122	0.122

Note: the dependent variable is voter turnout; *bourgeoisie* is a dummy variable which takes 1 for high social class. In column (1) the base model is presented, in column (2) the interaction term between unemployment and bourgeoisie is included. In both specification other controls are: gender, class of age, level of education, level of father's education, past vote behaviour and municipality dimension.

Standard errors in parentheses.

Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13 - Heterogeneous Effect on Voter Turnout

	OLS	OLS
dep. var.: Voter Turnout	(1)	(2)
Unemployment	-0.0331** (0.0147)	-0.0681*** (0.0245)
Unemployment=1 #		0.0527*
Smalltown=1		(0.0295)
Year Dummies	Yes	Yes
Regional Dummies	Yes	Yes
Time-Regional Dummies	Yes	Yes
Constant	0.769*** (0.0974)	0.773*** (0.0974)
Observations	5016	5016
R^2	0.122	0.122

Note: the dependent variable is voter turnout; *smalltown* is a dummy variable which takes 1 for municipality dimension. In column (1) the base model is presented, in column (2) the interaction term between unemployment and municipality dimension is included. In both specification other controls are: gender, class of age, level of education, level of father's education, social class and past vote behaviour.

Standard errors in parentheses.

Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 14 - Heterogeneous Effect on Voter Turnout

	OLS	OLS
dep. var.: Voter Turnout	(1)	(2)
Unemployment	-0.0331** (0.0147)	-0.0283 (0.0350)
Unemployment=1 # Pastvote=Far Right		0.0220 (0.0618)
Unemployment=1 # Pastvote=Right		0.00763 (0.0451)
Unemployment=1 # Pastvote=Center		-0.0891 (0.0913)
Unemployment=1 # Pastvote=Left		0.00348 (0.0453)
Unemployment=1 # Pastvote=Far Left		-0.102 (0.0691)
Unemployment=1 # Pastvote=Others		0.0745 (0.221)
Unemployment=1 # Pastvote=Blank Ballot		0.0190 (0.115)
Year Dummies	Yes	Yes
Regional Dummies	Yes	Yes
Time-Regional Dummies	Yes	Yes
Constant	0.769*** (0.0974)	0.766*** (0.0981)
Observations	5016	5016
R^2	0.122	0.122

Note: the dependent variable is voter turnout; *pastvote* is a variable which indicates past vote behaviour. In column (1) the base model is presented, in column (2) the interaction term between unemployment and past vote behaviour is included. In both specification other controls are: gender, class of age, level of education, level of father's education, social class and municipality dimension.

Standard errors in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

CHAPTER 5

Conclusion

The aim of this analysis was to better understand the relationship between unemployment and voter turnout. Looking into the contest of Italian general election from 2001 to 2013 our findings support the Withdraw hypothesis formulated by Rosenstone (1982). Our results are in line with the empirical economic literature focused on the individual level voting decision which finds that the unemployed is generally less likely to show up at turnout than the employed. For European countries the voting rate is predicted to be 5.5 percent lower for unemployed compared to the employed (Gallego, Unequal Political Participation in Europe, 2007).

The estimates given by the OLS regression confirm the negative effect of being unemployed on the voting behaviour, every specification of the model shows small but sizable negative effect varying from about -0.05 to -0.03. The Propensity Score Matching technique attest the estimation of the unemployment effect at -0.04.

Although we can consider the coefficient stability as a sign of limited omitted variable bias, we accounted for the possibility to face omitted variable bias. Thus, we performed the Oster test, which account for the presence of unobserved characteristics. The result of the Oster test validated the presence of a negative but small bias.

Looking deeper into the complexity of unemployment relationships along five different dimensions gender, educational level, social status, geographic conditions and past vote behaviour we found heterogeneous effect that counterbalance the negative impact of the working status, although most of the results were found not statistically significant.

In particular being unemployed and female is found not only statistically significant at 1% but to have a positive effect on voter turnout which fully overcome the unemployed standalone effect. Moreover, living in a municipality with less than 50000 habitants is found statistically significant and almost neutralize the negative effect of being unemployed on voter turnout.

In 1993 John H. Aldrich said that *“turning out to vote is the most common and important act of political participation in any democracy. Voting is also less well understood and explained*

empirically than other political acts engaged in regularly by citizens". Since then some knowledge and empirical explanation has been given by scientific research but full understanding of the phenomenon is not achieved yet. With this analysis I tried to add my little contribution to the arduous task.

Without any doubt turning out to vote is still the most common and important act of political participation in democracy therefore further research must be encouraged.

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ANNEX

List of parties - Chamber of Deputies national election

Note: Far right (FR), Right (R), Center (C), Left (L), Far Left (FL)

1996 election

Alleanza nazionale	FR
Ccd-Cdu.....	C
Forza Italia	R
Lega Nord.....	R
Lista Dini-Rinnovamento italiano	C
Lista Pannella / Sgarbi.....	C
Lista Socialista.....	L
Movimento Sociale Fiamma-Tricolore	FR
Pds - Partito democratico della sinistra.....	L
Popolari	C
Rifondazione comunista	FR
Verdi	L

2001 election

Alleanza Nazionale.....	FR
Ccd-Cdu (Biancofiore).....	C
Comunisti italiani	FL
Democratici di Sinistra	L
Democrazia europea - D'Antoni	C
Fiamma tricolore	FR
Forza Italia	R
Il Girasole (I Verdi – Sdi)	L
La Margherita -Democrazia è Libertà con Rutelli	L
Lega Nord.....	R
Lista Bonino/Radicali	C
Lista Di Pietro - Italia dei valori	L
Rifondazione Comunista.....	FR

2006 election

Rifondazione Comunista	FL
Partito dei Comunisti Italiani	FL
Verdi	L
L'Ulivo, composto da DS e Margherita	L

Rosa nel Pugno - Socialisti Democratici e Radicali	L
Italia dei Valori (Lista di Pietro)	L
UDEUR (Mastella)	C
UDC (Casini)	C
Forza Italia	R
Alleanza Nazionale	FR
Nuova DC + Psi di De Michelis	C
Lega Nord	R
Alternativa Sociale (Alessandra Mussolini)	FR
Repubblicani (La Malfa)	C
Partito dei Pensionati	C

2008 election

Sinistra Arcobaleno (Bertinotti)	FL
Partito Democratico (Veltroni)	L
Italia dei Valori (Di Pietro)	L
Popolo della Libertà (Berlusconi)	R
Lega Nord (Bossi)	R
Unione di Centro (Casini)	C
La Destra (Santanchè/Storage)	FR
Partito Socialista (Boselli)	C
Movimento Per l'Autonomia (Lombardo)...	RF