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Thesis in Behavioural Economics

Eliciting time preferences of entrepreneurs as individuals and within the firm environment: survey evidence from an Italian sample.

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Abstract: This paper is a very unique work and is trying to analyze the behaviour of Italian entrepreneurs towards economic decisions. In particular the analysis is focused on their time preferences that have always been an important topic of economic literature. Through a hypothetical experimental survey algorithm this work is showing the relation between the level of impatience in the private sphere and in the business framework, controlling for different demographic variables. Randomization effect was taking into account for both the beta-coefficients elicited. As expected the sample is showing greater level of impatience in the firm decisions than in the personal sphere.

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1 Introduction

People are not fully aware of what are their time preferences behind their economic decisions. With time preferences we refer to the preference of individuals towards immediate utility compared to delayed one (Frederick et al., 2002). The classical economic literature has always considered each individual as *"Homo Economicus"*, a type of man that maximizes his utility in a rational way. This type of individual whenever facing time preference decisions should be able to act rationally and pick the choice that will maximize the utility, no matter the waiting time. However, a substantial branch of the modern literature is supporting the hypothesis that individuals may not act rationally when it comes to time preferences and might be affected by different cognitive biases that Frederick et al. (2002) called *"DU anomalies"* one of this is the hyperbolic discounting. This anomaly is affecting the way how individuals are discounting future utilities since they have a greater perception of immediate rewards compared to future rewards. Individuals acting in this way are defined: Present biased individuals. It is important to study this type of individuals because they might tend to make the wrong choices in very different fields like: savings, health or investments. The relevance of my study is related to two main aspects. First, I am focusing on one of the most important category of economic agents in the society, the entrepreneurs. Previous studies defined entrepreneurs as: "people who formulate new ideas, recognize opportunities, and translate these into added value to society by assuming the risk of starting a business" and for this reason they are considered a major source of economic growth for many economies (Hatten, 2015; Holt, 2019). The reason why is important to study entrepreneurs in the framework of a country like Italy is because the Italian economic structure is mainly based on micro, small or medium firms. Only the small and micro enterprises (less than 25 or 10 employees) account for 67,2% of the occupational status (OECD data). The results from this research may help to understand if Italian entrepreneurs are affected or not by present bias and to what extent. Second, using my online survey I was able to analyze the time preference of a sample of entrepreneurs and elicit two present bias coefficients related both to firm decisions and individual decisions for each of the subject. This work is trying to assess the following questions: Are the entrepreneurs behaving differently in two frameworks? are the firm decisions influenced by individual characteristics or decisions?

Present Bias is one of these cognitive bias described by Frederick et al. (2002) and it affects the way how individuals discount utilities. Most of the previous literature that analyzed the behaviour of individuals (Burks et al., 2012; Meier and Sprenger, 2015; McClure et al., 2007; Angeletos et al., 2001) was not focused on studying a particular

category such the one of the entrepreneurs, analyzing time preferences of the general population. Most of the previous studies that were focusing on this particular category were considering only risk preferences and sometimes comparing the results with other individual categories like students or managers (List and Mason, 2011; Stewart and Roth, 2001; Elston et al., 2005). The only study similar to my research that I have found in the literature is the one by Andersen et al. (2014) which analyzed both risk preferences and time preferences in a field experiment involving 125 entrepreneurs. In contrast to Andersen, I am not asking whether entrepreneurs are different than other people, but whether entrepreneurs make different decisions depending on the domain of that decision. Specifically, I am exploring whether entrepreneurs are showing different time preferences when asked to make decisions for their firm compared to when the rewards are for themselves.

Baron (1998) identified that entrepreneurs may make different choices compared to non-entrepreneurs, however those differences are not coming from different personal traits but rather from the environment in which their business are. Entrepreneurs think differently towards the same type of economic decisions compared to other individuals because of the conditions in which they are used to live/work, with high uncertainty and pressures. This kind of environment obviously increases the consequences of making mistakes, and they are also the ones who have to carry the burden of those errors. The hypothesis behind previous papers investigating risk preferences was assuming a certain degree of risk propensity of entrepreneurs given the risky nature of the entrepreneurial activity. Similarly, my study on time preferences is based on the hypothesis that entrepreneurs are more impatient when they are asked to make decisions for their firms compared to when they have to decide for their personal sphere. The reason why I am expecting more impatient is mainly related to the pressure they have while running a business in Italy. Entrepreneurs are usually facing time constraints related to their job tasks. They need to respect deadlines, deal with the suppliers and employees while also look for new job commissions. The business environment in which they are working are always putting them under pressure and this may increase their impatience towards present rewards.

The paper contains two sections aimed to elicit two different level of impatience. Both of them involves hypothetical decisions on money rewards across time. One is analyzing the present bias in an individual framework using rewards for the subjects itself, the other is measuring the impatience for rewards coming from firm investments. This study is using as a measurement of time preferences a dynamic Multiple Price List(MPL) with hypothetical monetary rewards and it is mainly following the paper of Falk et al. (2016). In this paper the authors proposed a new way of measuring

individual preferences (risk, time and social preferences) with a new algorithm called Preference Survey Module (PSM). The structure of the survey is based on a dynamic game-tree that adapts according to the answers given by the subject and at the end of the experiment would lead to a different levels of impatience (see appendix 6.2 for more info). From the answers collected by the survey we know that more than half of the sample(54%) showed a very similar value of the present bias coefficient elicited in the two sections of the survey. For 45% of the sample the value elicited from the individual section was exactly the same as the one elicited in the firm section. Another 36% seemed to be more impatient in the firm framework compared to the individual decisions and 19% showed higher degree of patience for the firm framework. The analysis also includes many control variables such as age, size of the firm or years of experience that are not showing any significant effect on the level of impatience in the firm level. Thus, we can say that none of the personal characteristics investigated in the survey may influence the level of impatience in the firm level.

The paper is based on the following structure: section 2 is giving an overview of the previous literature plus a comparison with other studies, section 3 is providing a theoretical background of the present-bias topic and time preferences in general, section 4 is explaining the data gathering process and the structure and methodology of the survey, section 5 is describing and analyzing the results from the answers of the subjects with some additional tests conducted on the main regression, section 6 is analysing from a broad point view the whole study and the section 7 is concluding the paper.

2 Literature review

The section is first explaining what are the new elements that this paper brings into the literature. The second section is presenting different studies with similar focus compared to mine.

2.1 New contribution in the literature

In the contemporary economics literature there are many papers concerning studies of time preferences of individuals. Most of the studies are lab experiments conducted mainly in Europe and US. The majority of them also incentivized the subjects through an entrance fee and a probability of getting a percentage of one of the amount chosen during the experiment. Other experiments used real payments of the stakes, studying a very low number of subjects. Some papers also brought findings from field exper-

iments as Balakrishnan et al. (2017) from Kenya, Meier and Sprenger (2015) from Massachusetts or Harrison et al. (2002) from Denmark.

The most frequently methodology for eliciting time preferences in lab studies is the Multiple Price List (MPL). This elicitation method for time preferences was first introduced by Coller and Williams (1999) and then improved by Harrison et al. (2002) and Andersen et al. (2008). This methodology consists in a list of choices between different amounts of money offered at different time periods. The amount offered as delayed payment is varying (i.e. 10€ today vs X€ tomorrow). From the answers collected they were able to identify a switching point and to estimate a discount rate for the individuals. Andersen et al. used the MPL to study the long-term discount rates, δ, but this method can be used to measure both the long-term discount factor and the short-term impatience factor β, the same coefficient that was in the Laibson's model. The classic MPL method contains a lot of questions that need to be answered in order to allow the researchers to estimate the parameters. Following the critics moved by Falk et al. (2016), this can be a time demanding process for the subjects. For this reason I am using the algorithm developed by Falk et al. (2016) that consists of a dynamic MPL in which the subjects were asked to answer few questions that will change accordingly to the answers given. Previous studies concerning entrepreneurs' behaviour were focusing on their risk preferences (Andersen et al., 2014; Stewart and Roth, 2001; Jansen et al., 2017). Differently, I am trying to elicit their time preferences. Conducing a survey towards a particular category as the one of entrepreneurs may lead to a lower response rate for the experiment since they are usually time constrained and often not available to answer questions. Similar studies in western countries also reached a small sample size like Andersen et al. (2014); Forbes (2005). Whilst other studies in developing countries were able to reach larger samples (Holm et al., 2013; Yueh, 2008). My study is involving 156 entrepreneurs and is trying to elicit their time preferences both in their personal framework than in a firm-related environment.

However, as found by Thaler (1981) subjects facing discounted decisions can be affected by a *stake-effect*, namely discount rates that decrease with higher amount of money. The paper is explaining how the discount rates may also decrease with longer waiting. Based on these findings I decided to build the questions using a higher amount of money than the ones used in Falk et al. (2016) but with a shorter amount of waiting time between the rewards. My questions are using a 3 months waiting time instead of 12 months as in the Falk's paper. However, all the questions in the same section are using the same amount of money and the same waiting time. Using this structure we can exclude any stake or time effect within the same section since the subjects are facing always the same type of decision.

2.2 Other studies on time preferences

In the recent literature economists often tried to elicit time preferences through different type of experiments. A paper by Cohen et al. (2016) reviewed different studies in which different type of measurement were used and in particular they distinguished between: Financial flow or "money earlier or later"(MEL) studies and other works using time-dated consumptions/effort (McClure et al., 2007; Reuben et al., 2010; Read and van Leeuwen, 1998), namely decisions not involving amount of money. The main difference across the two type of studies was the different discount-rate applied to the two type of rewards. In the studies focusing on primary rewards we can observe how individuals are showing impatient or inconsistent behaviours. They try to plan wisely but since their behavioural biases they turn to choose impatient choices or to switch from their plans when the time of decision arrives. Among the studies focusing on primary rewards we have a study by Read and van Leeuwen (1998) in which individuals were called to make a choice for food consumption 1 week from the decision moment. The options for the subjects were two: eat chocolate in one week or eat fruit in one week. The chocolate is representing an impatient choice since the chocolate has clearly more immediate benefits while eating it but worse consequences in a long-time framework. The fruit choice is representing the patient decision since eating fruit is healthy but not as rewarding as chocolate during the consumption. The study showed that when the subjects were called to chose for the week after around 74% of the individuals chose fruit. While, when the question was repeated to determine the immediate consumption, 70% of the subjects chose the chocolate. The study conducted by McClure et al. (2007) was a lab experiment focused on thirsty individuals and how they have shown time-inconsistent behaviour towards juice and water sips offered at different time lengths. In Reuben et al. (2010) they proved how individuals had higher discount rates for primary rewards(chocolate) than those used to discount amounts of money. The study described how individuals were showing more impatience towards consumption goods than to money when the delayed time period was the same. However, they also discussed the problematic issue linked to personal tastes and hunger and explained how monetary rewards are more suitable for general measurements of time preferences. Given the difficulty of reaching entrepreneurs and the resource limitation for my thesis I decided to use monetary rewards for eliciting time preferences of my samples of entrepreneurs.

Studies of Burks et al. (2012) and Meier and Sprenger (2015) used MPL to elicit time preferences of individuals and measuring both the long-term discount factor δ and the present bias coefficient β. They both have found level of present bias in the subjects in Burks et al. (2012) the researcher were using 28 different questions divided in 4 sections comparing different time length. In this way they were able

to estimate using a maximum likelihood estimation the long-term individual discount factor δ_i. Whenever a choice was involving the time frame of "today" they used the MPL to estimate the individual present-bias factor β_i. Meier and Sprenger (2015) instead used the MPL during a field experiment in a VITA site in Roxbury. They also estimated both $\delta \, and \, \beta$ in a panel study of 2 years (2007-2008). In general studies on individuals have often detected degrees of present bias in the answers (O'Donoghue and Rabin, 1999; Millemaci and Waldmann, 2016; Andersen et al., 2006; Falk et al., 2018; Balakrishnan et al., 2017) however the literature concerning time preferences of specific categories is somehow lacking of sources Andersen et al. (2014); Jansen et al. (2017) both found degree of present bias in entrepreneurs and decision makers choices. The former compared risk and time preferences of entrepreneurs to those of the general population finding that entrepreneurs are slightly less avers to risk compared to the general population and they are also more patient towards future payoffs. The latter identified how the impatience of decision-makers may negatively affect the investment in training programs in firms.

3   Theoretical Framework

The first paper that criticized the classic Discounted Utility(DU) model was Strotz (1956). He stated that the general model for discounting has a lack of predictive capacity when it comes to real decisions of the individuals. In particular he said that people show more degree of impatience when they are called to make short-run trade-offs rather than long-run trade-offs. Individuals affected by Present Bias would tend to put over-attention on things happening in the present. This over-attention was theoretically explained by Laibson (1997), he showed how individuals discount their utilities differently when facing economic decisions involving present vs future rewards. The new discounting model that he modelized is called *Quasi-hyperbolic discounting model* and it's characterized by a greater weight on short-term rewards compared to long-term ones. Namely, individuals may be coherent when they need to decide between two future rewards but they can show a greater consideration of present rewards if compared to future ones. The equation describing the model is the following:

$$U_t = \mathbb{E}_t \left[u_t(c_t) + \beta \sum_{t=1}^{T-t} \delta^t u(c_{t+\tau}) \right] \tag{1}$$

Where β is the present-bias coefficient and influence the discounting process. The effects of beta can be seen only when the present time frame is involved in the decision. When $0 < \beta < 1$ and $0 < \delta < 1$, people appear to be more patient in the long run and

less patient for the immediate future. For decisions involving the present the discount rate between now and the next period is $(1 - \beta\delta)/\beta\delta$ and the per-period discount rate between any two future periods is $(1 - \delta)/\delta$, which is less than $(1 - \beta\delta)/\beta\delta$. The quasi-hyperbolic discounting model assumes a declining discount rate between this period and the next, but a constant discount rate thereafter. It influences the evaluation of every present rewards but it doesn't affect any future choice. The magnitude of the effect of the present-bias coefficient is higher as lower the value of beta is. Whenever $\beta = 1$ this model coincides with the classical discounted utility model.

Many paper are following this model (Burks et al., 2012; Meier and Sprenger, 2015; Benhabib et al., 2010) and so do I. All the questions of my study are based on the simple assumption that the time preferences of individuals are following this equation: $\mathbb{E}_t\left(u\left(x_t\right)\right) = \mathbb{E}_t\left[\beta\delta^\tau u\left(x_\tau\right)\right]$ with τ measuring the days of delay and x the amount of money received and we also assume that there is no ''long-term'' discounting, $\delta = 1$. A similar assumption was made in O'Donoghue and Rabin (1999) where they also explained how this do not generate loss of generality. In case we used $\delta < 1$ we would have had the same equation holding the structure of the questions. However, the amount of money offered at later date would have been higher due to the delta-effect combined with the beta-effect already applied. Assuming whatever value of δ lower than 1 means keeping it constant throughout the whole survey therefore still measuring how the subjects will react to different level of β. Another reason to set the value of delta equal to one is that using the current interest rates of national and European yearly bond to compute the discount factor we will end up using bonds with an interest yield rate around 0, therefore $\delta = 1$. However, the value of delta will not influence the aim of the study, since it is focused on the measurement of the value of β contained in the answers.

4   Data and Methodology

The section is first explaining the survey procedure. The second paragraph is describing the methodology behind the questions of the survey. Following there is a description of the dataset and lastly an overview of the study.

4.1   Experimental procedures

The core part of the research is based on a survey. Using a sample of 156 subjects, the study tried to assess a specific level of impatience for Italian entrepreneurs following a staircase methodology approach (Cornsweet, 1962). The survey was built using the

online survey software: Qualtrics and it was including both quantitative and qualitative type of questions. The sample of the study was collected sending the link for the online survey directly to random subjects found on Social Networks (Facebook, Linkedin). The sending procedure lasted for 2 months(April and May) and each of the individual received a first message in which he/she was asked to answer to the survey, in case of no response within 1 week after the first message the subject was asked again to answer the survey. In some cases the second message reached individuals that did not reply to the first try. In case of no response to the second message the person was not contacted anymore.

The study is aimed to identify the time preferences of the entrepreneurs when they are facing economic decisions towards sure amounts of money. The questions of the survey asked to choose between an immediate reward or a delayed payment. In this kind of decisions, as explained by Laibson (1997), individuals affected by present-bias would prefer the immediate payment if the delayed one is not bigger enough. Varying the amount of money offered after 3 months(delay time) it is possible to identify the value of β that corresponds to the answer given by the subject. At the end of the survey I was thus able to assign a value of β for each of the respondents in both the sections. The whole survey is divided in three main sections: (i) Individual section, (ii) firm section and (iii) demographic section. Both the individual and the firm sections are based on similar decisions that the subject must make at every step. In order to make a small break between this two sections a small list of demographic questions is put in the middle in order to collect important information used in the data analysis (check tables 9 and 10).

The order of the firm and the individual sections was randomized. A subject making the survey may be willing to show coherence between the two sections, using randomization we can be sure that the first section(no matter what it would be) will not be influenced by the other. Since entrepreneurs were hard to reach I could not conduct a pilot study using the same category of the sample used for the study. Therefore, I conducted a small pilot study(18 subjects) using general individuals, collecting feedback for the questions and improving the introductory descriptions of each section.

4.2   Methodology of the questions

The methodology of the quantitative survey questions was based on the one described by Falk et al. (2016) and the game-tree described in the appendix 8.2. This tree can be considered as a sub-game between the *"different selves"* of the subjects at different stages towards similar decisions. The degree of impatience is measured by the value of the present-bias coefficient: β, the lower it will be the more impatient the subject

is considered. The study starts from a level of $\beta = 0.78$ and ends with a value of $\beta \in [0.48, 1.08]$ (steps of 0.04). This is valid for both the sections of the survey and the reason why I decided to start with 0.78 is motivated through two main reasons. First, in order to build the game-tree behind the algorithm I defined a range of beta that was in line with the level of present bias measured in previous studies plus a small degree of possible variations that may arise from my measurements. Once defined the range I solved the game-tree going backward and using as level of beta for the previous question the average value between the possible two following questions (e.g. if the possible outcomes are 0.92 or 0.88, the level of impatience for the previous question would be 0.90). Second, the value of 0.78 is coherent with the previous literature where they have found values of beta varying between 0.7 and 0.9 (Laibson, 1997; Burks et al., 2012; Balakrishnan et al., 2017).

Following the path described above the subject of the study will end up with 1 of the 16 different levels of impatience coefficient $\beta \in [0.48, 1.08]$ (steps of 0.04) for each of the two sections of the survey(β^p , β^f). The range of beta goes from a very high level of present-bias impatience to a low level of future bias. Some studies showed how some individuals valued more future payments even if they were a lower amount of money (Millemaci and Waldmann (2016), Burks et al. (2012)).

The type of measurement that I am using identifies a value for the present-bias coefficient (e.g. a value for β) according to how the subject will answer to the questions. If the subject prefers an immediate reward to a greater delayed payment the next question will offer a higher delayed reward, vice versa if the subject would choose the delayed payment, the amount of money offered in the next question as delayed reward will be lower. In other words, the more patient answers the subject provides, the higher the value for β will be and vice versa. Despite the strong relationship with the Falk's paper and its methodology I slightly changed some of the survey features. First, I am using 6 questions in the survey algorithm instead of 5 but I decided to repeat the first question of each of the two sections 3 times, in order to be sure of the decisions of the subjects. The subject answers 3 questions with slightly different amount of money offered as immediate reward (variation of 10,000 €) and the same value for the beta-coefficient in each of the three answers($\beta = 0.78$). The direction of the following question is decided on the answers given in all the three questions, if the individual choose 2 immediate rewards out of 3 questions the following question will involve a higher delayed payment. The opposite would happen in case of a majority of preferences towards delayed payment. Another difference between this work and the paper by Falk et al. (2016) comes from my decision to divide the survey in two different framework. I am eliciting time preferences both in a normal framework(individual section) and in a

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firm environment(firm section). This division allowed me to identify two present-bias coefficients related to the same type of decision but made in two different environments. In the individual section the subjects are simply called to make a choice between two different amounts of money. The money hypothetically received immediately are fixed (40,000 €) and the money offered at later time are changing according to the answers of the subject. An example of question would be:

"Please consider the following: Would you rather receive 40,000 € today or 44,444 € in 3 months?".

The question is pretty straightforward and the individual was required to select one of the two choices.

The firm section has a slightly different fixed amount of money as immediate reward(45,000 €). In this section the individual is asked to imagine himself as the owner of the firm that need to make an investment decision. The time period is the same of the individual section(now or in 3 months). Thus, the questions of the firm section are a little bit more framed in order to give an idea of the firm environment to subjects.

"Imagine that you need to make a new investment in your firm in order to increase the productivity level. You have two options:

- *First, you can do a small investment. This investment gives you a net gain of 45,000€ immediately.*

- *Second, you can do a bigger investment. This investment gives you a net gain of 57,692€. However, this gain will be realized 3 months after your initial investment.*

When considering the options, please abstract from any cash flow constraints and assume you can freely choose what investment to make. Please indicate below whether you choose option 1 or 2."

The subjects are asked to consider only the profit gained from the investments. The operation costs are irrelevant, what matters is the money received from the investments.

The nature of the questions is hypothetical, this means that no real money are involved with the decisions. Both the section will ask to make some assumptions to the readers. They should not consider inflation or depreciation when answering. They should not consider risk in receiving the money but rather consider them as sure payments. For what concerns the questions within the firm environment they are also asked to consider the money of the investment *"bounded"* to it without possibilities of other usages.

As described in the questions above the firm section and individual section have almost the same amount of money as immediate reward (40,000€ individual section, 45,000€ firm section). The amounts are very similar but not the same. The reason for this decision is explained in Frederick et al. (2002), they described how in experiments involving repeated choices subject may show a tendency to answer always in the same way to similar questions. This behaviour is called "anchoring effect". The small variation in the amount in stake will reduce the probability of having anchoring between the two sections. Each of the section is asking 6 questions in which the subject has to answer which of the two amounts of money he/she prefers, however the first 3 questions are always the first step, thus the true amount of steps in the elicitation of the final present-bias coefficients is 4.

The main difference between the two sections is the framework behind the questions. As explained before the individual section is not framed, it consists in a simple choice between two different amount of money. While, the firm section it's framed differently. During this section the subjects are supposed to act as they would do in their own firms and the framing of the questions will help in giving this impression. With the framing of the firm environment section the individuals are provided by a small perception of firm environment that would help them in focusing on the decisions with direct consequences on their firm. However, the differences between the two questions could lead to misunderstandings. In the firm section the subjects might consider differently the costs for the investment. Even though the costs are not relevant for my study they may influence the reasoning behind the choices. To avoid this problem I decided to explain as well as possible within the question to don't consider any external factor. Even though this might be considered a long reading and might lose the focus of the subject. The questions of the individual section are direct questions asking to the subject to choose between two money rewards offered at different time periods. For this reason they might not be considered realistic by some individuals or boring, due to the repetition of the questions. One of the biggest differences with previous studies is the absence of incentives for answering the questions. This might have lead to a lower response rate since the individuals were not incentivized to answer.

The demographic section collects most of the information used in the econometric analysis like age, income or size of the firm. Most of the questions are following the GSOEP(German Socio-economic Panel) survey or the BIBB(Bundesinstitut für Berufsbildung) survey on employement. Some of them are taken by previous studies as Falk et al. (2016) or Burks et al. (2012). During the survey subjects were asked to insert their income in one of the demographic questions. However, the subjects were not forced to answer this question and only 22 of them inserted their yearly income.

For this reason I decided to drop the variable from the dataset.

4.3   Data description

The study collected 318 different IP address answering to the online survey. 120 observations were dropped since they did not complete any of the section of the survey. The remaining 198 observations had at least two out of 3 sections completed, however 38 subjects were dropped because they declared to not be an entrepreneur. 2 observations were dropped because the subjected declared to have start working as entrepreneur before 10 years old and so considered as mistakenly filled. Another two subjects were deleted because they declared to work more than 120 hours per week, namely 17.14 hours per day (Saturday and Sunday included). Finally, the study involved 156 subjects coming from almost all the regions of Italy(18 out of 20) and from foreign states. More than 60% of the entrepreneurs came from one of the 3 regions of Lazio(25%), Emilia Romagna(23%) or Lombardia(12.82%).

Table 1 provides a summary of some of the main variables. The average time for the completion of the survey was around 12 minutes but this value is biased upward due to some outliers. One respondent took 312 minutes to answer, another individual took 159 minutes, two subjects used more than one hour and another two subjects used around 30 minutes. Therefore, we can look at the median and see how half of the observation are below 6.5 minutes and 75% of the observation are under 9 minutes. Almost 60% of the sample declared to have a High School Diploma as highest education level. This information is representative for an Italian sample since the national percentage of people with a tertiary education is around 26% (OECD data). In the survey the subjects were asked to declare the number of their weekly working hours in their firms. The survey respondents work for 51 hours on average. This value is influenced by some possible outliers in the answers. Some individuals stated less than 20 hours and some others more than 70. However, the percentile values show us how 50% of the sample is between 45 and 60 hours. The size of the firm indicates the number of employee the firm has and its range was from 1 to 20000, both the minimum and the maximux are extreme values since the percentile values are showing how 50% of the firms are within 3 and 18 employees. The sample is mostly composed by males (69%) and only half of the sample have declared to have one of the parents that used to work as entrepreneur. The average age of the sample is 46 years old. If considered together with the average work experience of the sample we can see that the age for starting a new business or inherit a firm is around 30 years old.

Table 1: Descriptive statistics of the sample

	age	Years of educ	work experience	work hours	size	duration	male	heritage
mean	46.19231	14.10256	16.20513	50.85256	160.0705	11.88974	.6987179	.5320513
sd	10.7374	2.999311	10.94309	19.83279	1605.743	28.8168	.4602926	.5005787
p25	39	13	6.5	45	3	4.908333	0	0
p50	46.5	13	15	50	8	6.266667	1	1
p75	52.5	16	25	60	18	8.625	1	1
range	65	14	44	98	20000	310.3333	1	1
min	21	5	0	0	0	2.1	0	0
max	86	19	44	98	20000	312.4333	1	1
count	156	156	156	156	156	156	156	156
N	156							

The following tables describe the sample considering the demographic characteristic of gender and ownership and gender and heritage of a firm. Table 2 is showing most of the individuals in the sample (around 93%) are owning the firm. For both the genders the percentage is high but women have a slightly lower percentage of individuals owning a firm. It is highly likely that those who had one of the parents working as entrepreneur is now conducting the family business or a similar one, as table 3 reports this happened in 94% of the cases in my sample. The variable heritage thus must be interpreted as a sign for those people who kept the entrepreneurial tradition.

Table 2: Percentage of males or females owning firms

| | male-owning | | |
	Individuals	Coloumn %	Total %
Female			
Not owning	5.00	10.64	3.21
Owning the firm	42.00	89.36	26.92
Total	47.00	100.00	30.13
Male			
Not owning	4.00	3.67	2.56
Owning the firm	105.00	96.33	67.31
Total	109.00	100.00	69.87
Total			
Not owning	9.00	5.77	5.77
Owning the firm	147.00	94.23	94.23
Total	156.00	100.00	100.00

Table 3 is showing that half of the males in the sample have inherited the firm they are now running. This phenomenon it's more frequent for females, with almost 60% of the sample being daughters of entrepreneurs.

Table 3: Number of male or female heirs

| | male-heritage | | |
	Individuals	Coloumn %	Total %
Female			
New firm	20.00	42.55	12.82
Heir of a firm	27.00	57.45	17.31
Total	47.00	100.00	30.13
Male			
New firm	53.00	48.62	33.97
Heir of a firm	56.00	51.38	35.90
Total	109.00	100.00	69.87
Total			
New firm	73.00	46.79	46.79
Heir of a firm	83.00	53.21	53.21
Total	156.00	100.00	100.00

As discussed before the sample is coming from various Italian regions, the following picture contains a pie chart with the number of firms(in percentage) coming from each region. The category "Others" is composed by a group of regions with less than 5 firms representative in the sample and is created only for a better understanding of the data. Most of the firms are coming from Lombardia, Lazio and Emilia Romagna, as stated before.
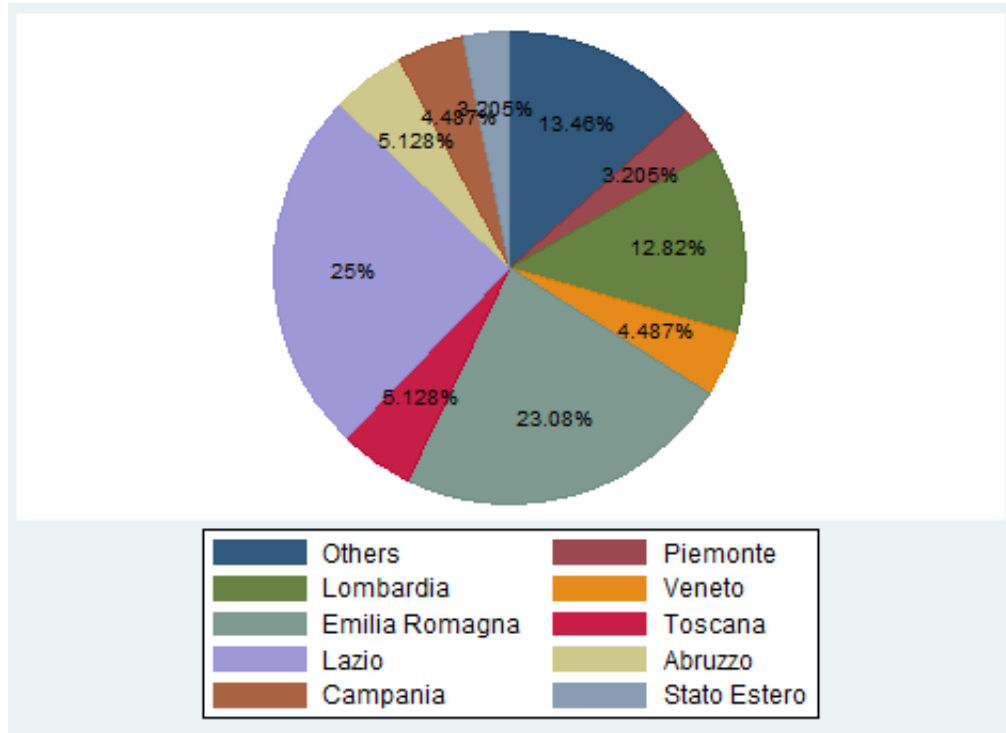

Figure 1: Region distribution of the sample in percentage

The survey was asking to the subjects to indicate the sector where the firm belonged to. A significant percentage of the sample was not fitting in the 8 options provided(30% declared other sectors). However, most of the sample was divided between building, retail and personal services sectors. The following pie chart is showing how the sample was distributed over the sectors. In this case the category others was chosen whenever an individual's business was not fitting in one of the given sectors.
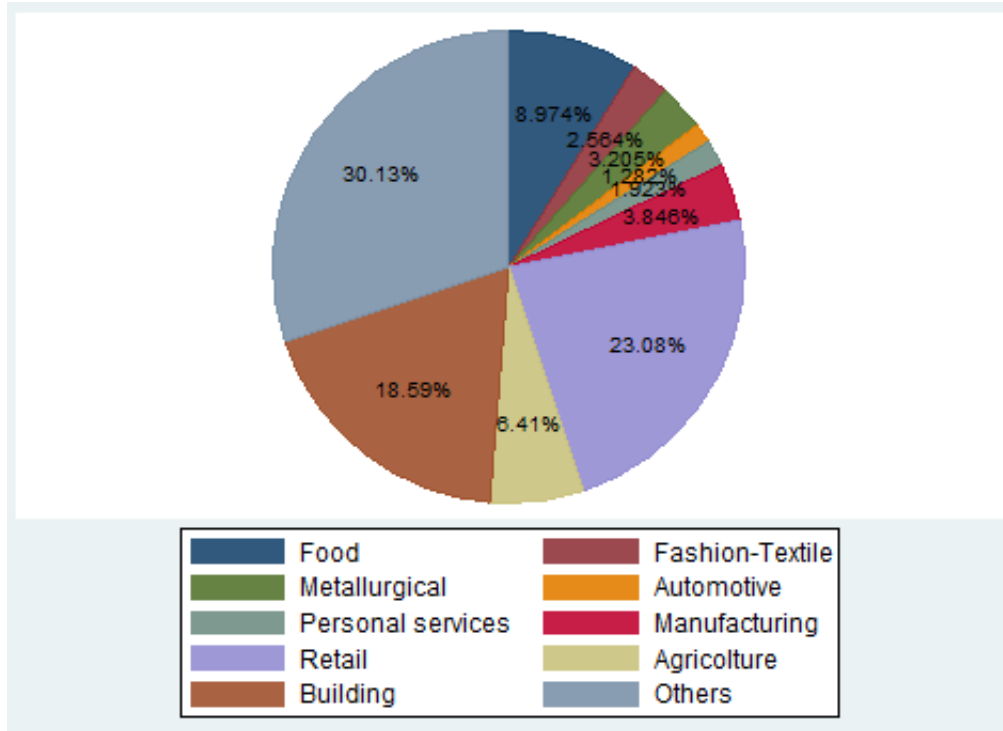
Figure 2: Sector distribution of the sample in percentage

4.4 General considerations on the survey

The whole questionnaire can be then divided in 4 different areas of interest. The preliminary questions in each of the two sections that are used in order to determine in which direction the next question will go; the whole set of questions used to determine the impatience level of the subjects (used both in the firm and individual section); The demographic information about the firm and the demographic information describing the personal characteristics of the subject that are used as control variables in the econometric section. The sample of my study are Italian entrepreneurs, therefore in order to submit the survey to the subjects I needed to translate it. The translation for the individual section is based on the paper by Falk et al. (2018) in which they already translated the survey for more than 76 countries, including Italy. The firm section and the introduction are translated by me from English to my mother tongue, Italian. The questions are exactly the same but of course there are small differences between the two versions due to language peculiarities and formalities (i.e. the Italian version use the third person towards the subjects as a formal way of asking questions to strangers).

5 Results

The following section is presenting the results obtained from the survey. First I am describing the type of data collected, second I am focusing on the effect that the randomization had on the answers and finally I am providing an econometric model trying to analyze the data.

5.1 Survey results

As discussed in the introduction section and as expected the individuals in the sample showed a higher degree of present bias in the firm section. The reasons behind this behaviour might be related to the stressful environment of a firm and a different mindset towards similar decisions inside or outside the firm. Despite the fact that more than half of the sample have the same level of impatience the table shows that there were cases when the individuals were more or less patient in the firm section. A focus should be done on the two situations were we measured a difference between the present bias coefficient elicited in the firm section and the coefficient of the individual section. If we look at the averages of the two coefficients we see that whenever an individual was more impatient in the firm section the magnitude of the impatient was very strong(0.17 difference on average). If we compare this result to the situations whether the individuals were more impatient for the individual section the difference is almost the half(0.9 difference on average).

Table 4: Comparison of the present bias coefficients elicited from the survey

	Firm impatience				
	Freq	Percent	Cum.	Average of β^p	Average of β^f
$\beta^f > \beta^p$	28	18.92	18.92	0.76	0.85
$\beta^f = \beta^p$	66	44.59	63.51	0.80	0.80
$\beta^f < \beta^p$	54	36.49	100.00	0.89	0.72
Total	148	100.00			

β^f= present bias coefficient firm section
β^p=present bias coefficient individual section

As explained in the methodology section the first step of my version of the Falk et al. (2016) algorithm was decided depending on 2 out of 3 answers to the first question. The following table is presenting the three situations in which the subjects were always choosing or the present or future rewards in both the section(Coherent), the case in which they were incoherently choosing immediate or future rewards in one of the two

sections(incoherent once) and the case in which the subject was incoherent in both the section(incoherent twice).

Table 5: Incoherence in the first answers

| | Incoherence in both sections | | |
	Freq.	Percent	Cum.
Coherent	103	66.03	66.03
Incoherent once	37	23.72	89.74
Incoherent twice	16	10.26	100.00
Total	156	100.00	

Between the subjects showing incoherence only once 27 belong to the individuals section while the remaining 10 to the firm section. However, 2/3 of the sample was coherent in the first choice.

The answers from the questions of the survey were collected in two variables that are describing the two different present bias coefficients. The two variables that indicate the level of present bias are called *betap* for the individual section coefficient(β^p) and *betaf* for the firm section coefficient(β^f). Table 6 shows how the values of the present-bias variables are quite close too each other for almost all the subjects. However, in the first quartile the difference between the firm present bias level and the individual one is quite large, individuals seems to have, in some cases, strong degree of impatience for the firm decisions and not so much for the individual section. Not all the subjects have completed the whole survey since some of the values for *betap* and *betaf* are missing. The dummy variable *impatient* has value equal to one whenever the present bias coefficient(the value of the β) elicited from the firm section was strictly lower than the one elicited from the individual section of the survey. This happened for 36% of the subjects, as showing in the previous table only 19.5% of the subjects were more impatient in the individual section. This explains how the entrepreneur were often more impatient in the firm decisions than in the individual ones. The dummy variable movement has value equal to 1 whenever the birth region of the subjects was different from the region while the business was based. Only 18% of the sample has moved out from their birth region to conduct their business. The number of survey fully completed was 148 and it is impossible to identify a response rate since it was not possible to count the number of people who have seen the survey link.

Table 6: Results from the survey

	movement	betap	betaf	impatient
mean	0.18	0.82	0.78	0.36
sd	0.38	0.17	0.18	0.48
p25	0.00	0.76	0.60	0.00
p50	0.00	0.88	0.84	0.00
p75	0.00	0.92	0.92	1.00
range	1.00	0.60	0.60	1.00
min	0.00	0.48	0.48	0.00
max	1.00	1.08	1.08	1.00
count	156.00	155.00	149.00	148.00

In the following pictures we can see the distribution of the coefficients elicited from the answers of the individuals. Both the variables have a similar distribution, very concentrated around 0.9. The figure 4 is showing how the individual section elicited slightly more values above 0.9 than the firm section in figure 3. This is a graphical representation of the lower beta-coefficients elicited from the firm section.

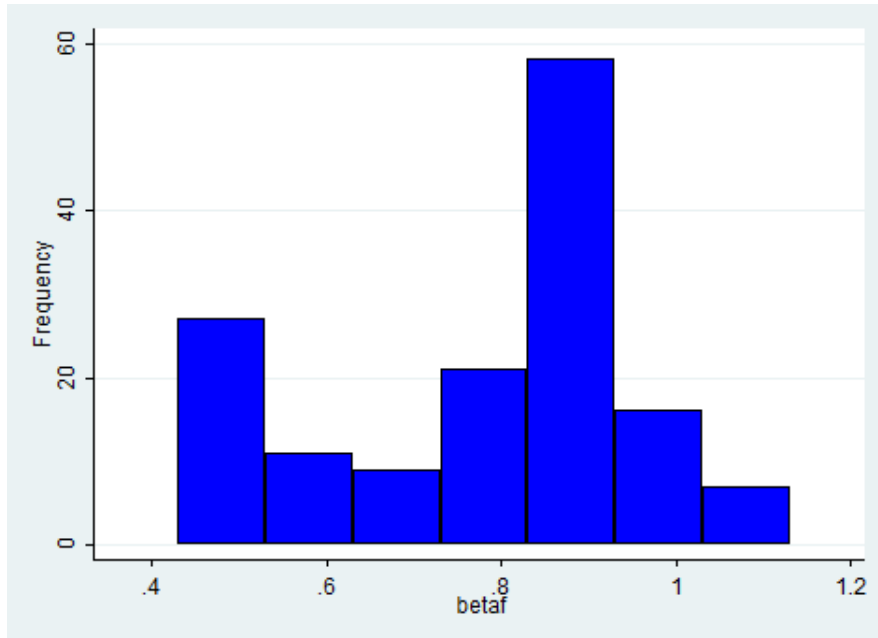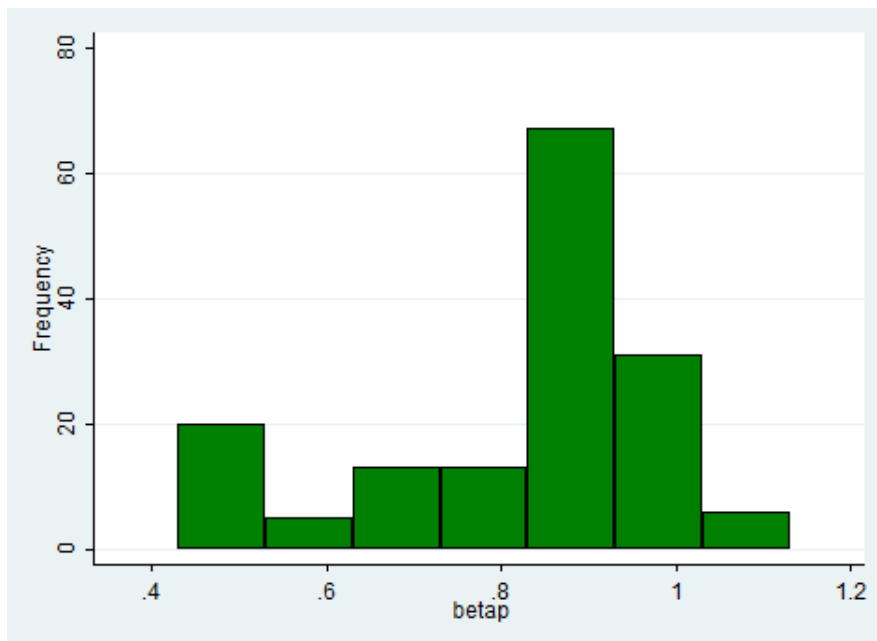Figure 3: Firm section present bias coefficient distribution

Figure 4: Individual section present bias coefficient distribution

Conducting a Kolmogorov-Smirnov test for Normality in the distributions of the two variables the p-value obtained is 0 for both the variables. As it easy to see from the graphs none of them are normally distributed. Therefore it is not possible to conduct a t-test to compare the mean of the distributions. Thus, I used a Wilcoxon matched-pairs signed-ranks test to verify whether the distributions of the two variables were the same or not. The result of the test was a p-value of 0.002 that means that we are able to reject the null hypothesis of having similar distributions between the two variables at the 1% level.

5.2   Randomization

As mentioned in the methodology section the firm and individual section order was randomized in order to avoid any influence between the sections through the subjects. The following graphs present the two main variables, *betap* and *betaf*, conditioned on the randomization. The results of the randomization showed that within the 156 individuals that completed the whole survey 71 subjects answered the individual section first and 85 answered to the firm section first. For each of the two present-bias variables I have conducted a two-sample Kolmogorov-Smirnov test to check whether the distributions of the two samples were similar or not. Even though this type of test is well-known in the literature it must be said that there are a lot of similar values(ties) within the two samples and therefore the results of the test are not strong as they usually are considered in similar studies. In order to very if the two distributions were

similar or not I also conducted a Wilcoxon rank-sum test. The null hypothesis of this test is that the two samples are from populations with the same distribution.

Figure 5: betaf distribution by randomization
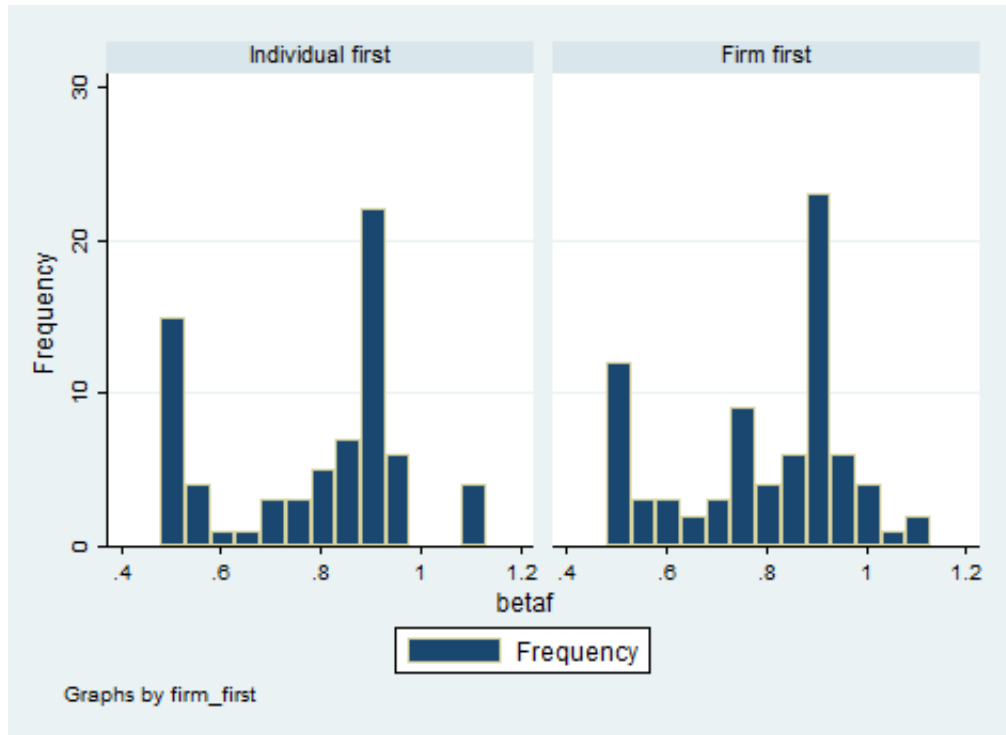
For what concerns the variable indicating the level of present bias in the firm section we had 71 observations that answered the individual section first and 78 that answered the firm section first. The null hypothesis of a two sample Kolmogorov test is that the two samples have the same distribution. The results showed how the two distribution are the same since we are not able to reject the null (D=0.0753, pvalue=0.984). Similarly, the results of the Wilcoxon rank-sum test showed that the mean of the two samples come from the same distribution (p-value=0.727)

Figure 6: betap distribution by randomization
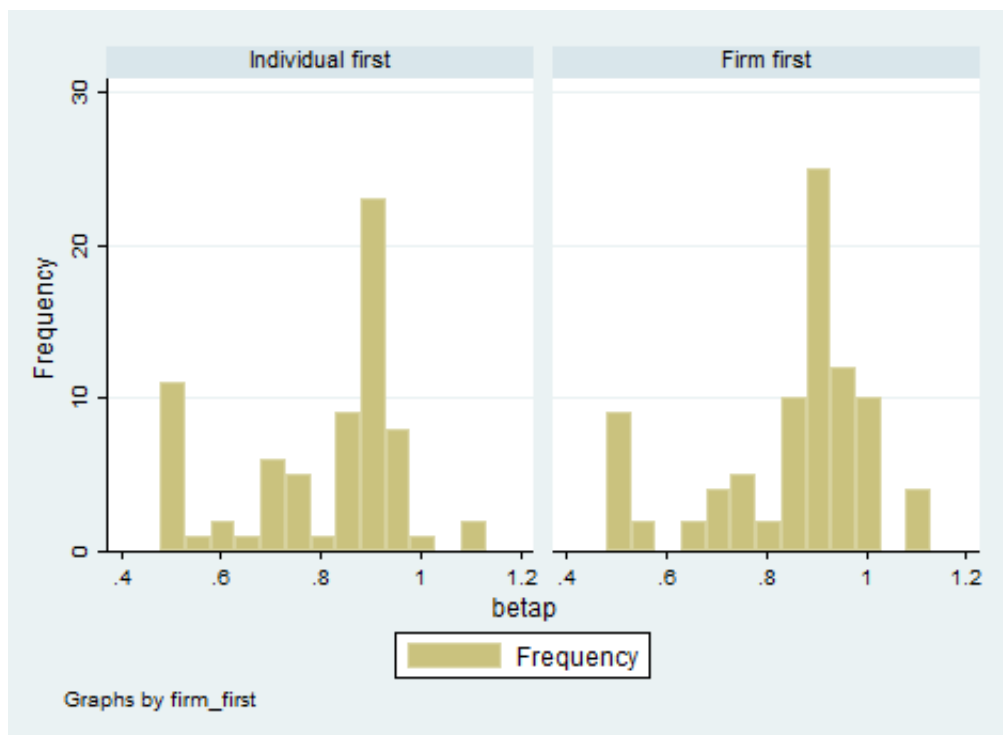
The two samples of the variable that measures the present-bias in the individual section have two different sizes. The group of people answering first the individual section consists of 70 subjects while the group that received first the firm section includes 85 individuals. The result of a two sample Kolmogorov test based on the randomization criterion shows a p-value of 0.364, this means that the distributions of the two groups are the same. However, the results for the Wilcoxon rank-sum test are controversial, the p-value is low (p-value=0.0289) and this means that we are able to reject the null hypothesis at 5% level and therefore we should consider the possibility that the two sample might come from different distributions.

The results of these tests are showing how the randomization was no influencing the distribution of the firm section present-bias variable since there were no difference in distributions. For what concern the *betap* variable we might say that the randomization had an effect on the answers.

5.3 Econometric test model

In order to test the results obtained from the survey I conducted a simple OLS analysis in order to identify the reasons behind the level of impatience of the entrepreneurs. The main covariate of my analysis is the present-bias coefficient elicited from the individual level. In my econometric model I wanted to test whether the individual level of present

bias was influencing or not the firm level of present bias. Beside the main variable I have used different control variables that I have added gradually to the main regression. The econometric model can be expressed in a general form as:

$$betaf = \alpha_0 + \alpha_1 * betap + \boldsymbol{\gamma} * \boldsymbol{controls} + \epsilon \qquad (2)$$

The controls variables included in **controls** were not analyzed all together. I first ran a simple OLS regression(table 7) first only controlling for working hours, age and size of the firm. I was expecting that the more employees an entrepreneur had the more impatient he would be in the firm decisions. On the contrary, the older the entrepreneur the less impatient he/she would be because of increasing in experience. However, none of the control variables showed a sufficient significant effect. The second column is showing the same regression but adding as control variables gender, ownership of the firm and parents' job position. I wanted to check whether the gender or the ownership condition were influencing the level of impatience in a firm. Sometimes female entrepreneur may suffer from gender discrimination along with the other usual sources of pressure in the entrepreneurial environment. Again, their coefficients are low and not statically significant. As expected adding more control variables like years of experience and education years reduced the statistical significance of most of the previous regressors. The main regressor, however, remained strongly statistical significant through all the specifications, showing a clear positive relationship between the impatience showed in the individual section and the impatience in firm decision. The model is showing a strong positive relation between the dependent variable and the main independent regressor but no effects from the control variables.

Table 7: Regression results for betaf

	Work hours, age, size	Ownership, male, parents job	experience and education
	1	2	3
betap	0.724***	0.714***	0.720***
	(0.0669)	(0.0677)	(0.0675)
workh	0.0000691	0.0000235	0.000136
	(0.000593)	(0.000597)	(0.000599)
age	0.00137	0.00128	0.000642
	(0.00104)	(0.00106)	(0.00132)
size	0.00000702	0.00000526	0.00000629
	(0.00000699)	(0.00000753)	(0.00000753)
ownership		-0.0542	-0.0572
		(0.0539)	(0.0538)
male		0.0314	0.0336
		(0.0248)	(0.0254)
heritage		-0.00800	-0.00871
		(0.0229)	(0.0243)
experr			0.00158
			(0.00144)
educy			0.00704
			(0.00435)
_cons	0.117	0.166	0.0605
	(0.0823)	(0.105)	(0.128)
N	148	148	148
R^2	0.465	0.475	0.486

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In order to verify the absence of any effect of the control variables on my dependent variable I also ran an OLS regression without the main variable *betap*. The new econometric model could be represented by:

$$betaf = \alpha_0 + \alpha_1 * \boldsymbol{controls} + \epsilon \qquad (3)$$

The results are presented in the table 8 and we can see how all the control variables are not significant. The R^2 is much lower than before due to the absence of the main regressor *betap*.

Table 8: OLS regression of control variables

	Work hours, age, size	Ownership, male, parents job	experience and education
	1	2	3
workh	0.000674	0.000541	0.000602
	(0.000792)	(0.000793)	(0.000802)
age	0.000832	0.000704	0.000274
	(0.00139)	(0.00140)	(0.00177)
size	0.0000175*	0.0000155	0.0000161
	(0.00000929)	(0.00000996)	(0.0000100)
ownership		-0.0849	-0.0863
		(0.0717)	(0.0722)
male		0.0590*	0.0600*
		(0.0329)	(0.0340)
heritage		0.0138	0.0131
		(0.0303)	(0.0325)
experr			0.000965
			(0.00193)
educy			0.00371
			(0.00567)
_cons	0.707***	0.751***	0.701***
	(0.0832)	(0.118)	(0.151)
N	149	149	149
R^2	0.026	0.057	0.061

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

6 Discussion

This study brings evidence of the presence of present-bias within Italian entrepreneurs. Moreover, it shows how entrepreneurs tend to be more impatient when the decisions are related to their firm instead of their personal sphere. Even though the econometric model could not help to explain the reason behind the impatience in the firm dimension this study highlighted an important concern for the Italian economic environment that is mainly based on small enterprises. The weakness of the results provided in the econometric model might come from the small sample size but also from the choice of the control variables. It might be the case that the controls chosen for this study were

not appropriate to explain properly the reasons behind firm impatient and therefore further researches should consider other elements that might influence the impatience of entrepreneurs. However, with the increase of the sample size some variables like age or gender were increasing their significance. Therefore further studies should try to reach a higher number of subjects in order to have a more representative sample and a better quality analysis.

A further concern might be related to the questions of the survey. In my survey I only used hypothetical questions without any incentive for the subjects. Although some studies discuss how hypothetical choices might differ from real choices (Camerer and Mobbs, 2017; Kirby, 1997). Other studies validate the use of hypothetical choices to study discounting behaviour of individuals or didn't find any significant difference (Johnson and Bickel, 2002; Kirby and Maraković, 1995). In particular, Kirby (1997) found differences between the two methods but declared that one of the reason why there is a difference between the methods might come from different stakes used in the two methods more than the feasibility of the money rewards. Real choices studies are always using low amounts due to financial limitations while hypothetical often analyze the behaviour of individuals using high stakes, with incentives sometimes. The hypothetical choices were suiting more the typology of my study, both for the possibility of using high stakes related to firm decisions and for the financial limitations of a Master thesis project. Moreover, as stated by Frederick et al. (2002) hypothetical choices allow to use long time span in the questions of the study.

Previous studies have analyzed time preferences not only towards gains but also focusing on losses (Thaler, 1981; Loewenstein, 1987). They found a *"sign effect"* that consists in two different approaches towards the two typologies of choices. Both for the individual and for the firm section I have only considered profits of the subjects I didn't analyzed effects of losses on the impatient of the subjects. However, it might be the focus of further studies to see how the entrepreneurs react to those two different type of losses and which of them they value the most.

The survey was divided in 3 sections and two of them were using to measure the present-bias coefficient of the individual. Even though the randomization seems to have helped the independent measurement of the two coefficients a safer approach would have been to use two separated samples in which each of them would have answered only one section(firm or individual) and filled the demographic information. However, this strategy would required a big pool of people that has to receive the survey in order to have two big enough samples to conduct a strong and valid study.

7   Conclusions

Similarly to other studies, this work is focused on eliciting time preferences of a specific category: entrepreneurs, but as it is to the author's knowledge up to date, it is the only one focusing on time preferences of Italian entrepreneurs. Andersen et al. (2014) was the only similar study studying time preferences of entrepreneurs based in Denmark, most of the previous papers studied student samples or general population samples. None of the others tried to elicit time preferences in two different framework as this work does for individual and firm time preferences. As expected in the hypothesis behind the paper, entrepreneurs showed a more impatient behaviour in the firm environment. However, the variables collected for this study do not significantly explain the reasons of this behaviour.

The main result of the thesis is showing that the Italian entrepreneurs, as most of the individuals nowadays are affected by present bias and they are not rational economic agents. For what concern policy implications of this results policy makers should be aware of it and help small-medium firms to correct the bias towards more patient decisions in order to improve the quality of their businesses. What differentiate Italy from most of the biggest economy in the modern world is the uniqueness of firm and the strong entrepreneurial attitude that should be preserved as added value for competitive advantages.

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8 Appendix

8.1 Variables list

Table 9: List of individual related variables

Name	Measurement	Type of variable	Brief Description
duration	Time spent on answering	continuous	It describes the amount of time(in sec) that the subject needed to fill the survey out
age	age of the subject	continuous	This variable measures the age of the subject answering
mar_stat	marital status	categorical	Describes the different type of marital status a subject may have
income	level of income	continuous	The level of income of the subject coming from the firm
entrepreneur	Being an entrepreneur	binary	It's a dummy variable with value =1 if the subject was an entrepreneur
male	gender dummy	binary	Binary variable with value =1 when the subject was a male
educy	year of education	categorical	It indicates the year of education according to the Italian schooling system
experr	years of experience	continuos	Describes how many years the subject has been working
heritage	parents' employement	binary	The variable is equal to 1 when at least one of the parents used to be an entrepreneur
betap	coefficients of individual Present Bias	continuous	Describes the value of β obtained in the individual section of the survey
betaf	Coefficients of firm-level Present Bias	continuous	Describes the value of β obtained in the firm section of the survey
impatient	impatience dummy	binary	The varables has value =1 when betaf is greater than betap

Table 10: List of firm-related variables

movement	Movement dummy	binary	The dummy has value =1 if the subject moved his business away from the birth region
sector	sector of the business	categorical	It describes the sector where the firm of the subject is working
ownership	ownership of the firm	binary	Dummy variable with value =1 when the subject is owning the firm
dec_power	decision power on the subject	binary	Dummy variable indicating whether the subject had he full decision power
board_power	decision power on the board	binary	Indicates, when =1, if the firm had a board of directors taking decision or not
workh	working hours	continuous	Measures how many hours the subject use to spend working for the firm
size	size of the firm	continuous	Indicates the number of employee in the firm, defining it the size

8.2   Decision tree
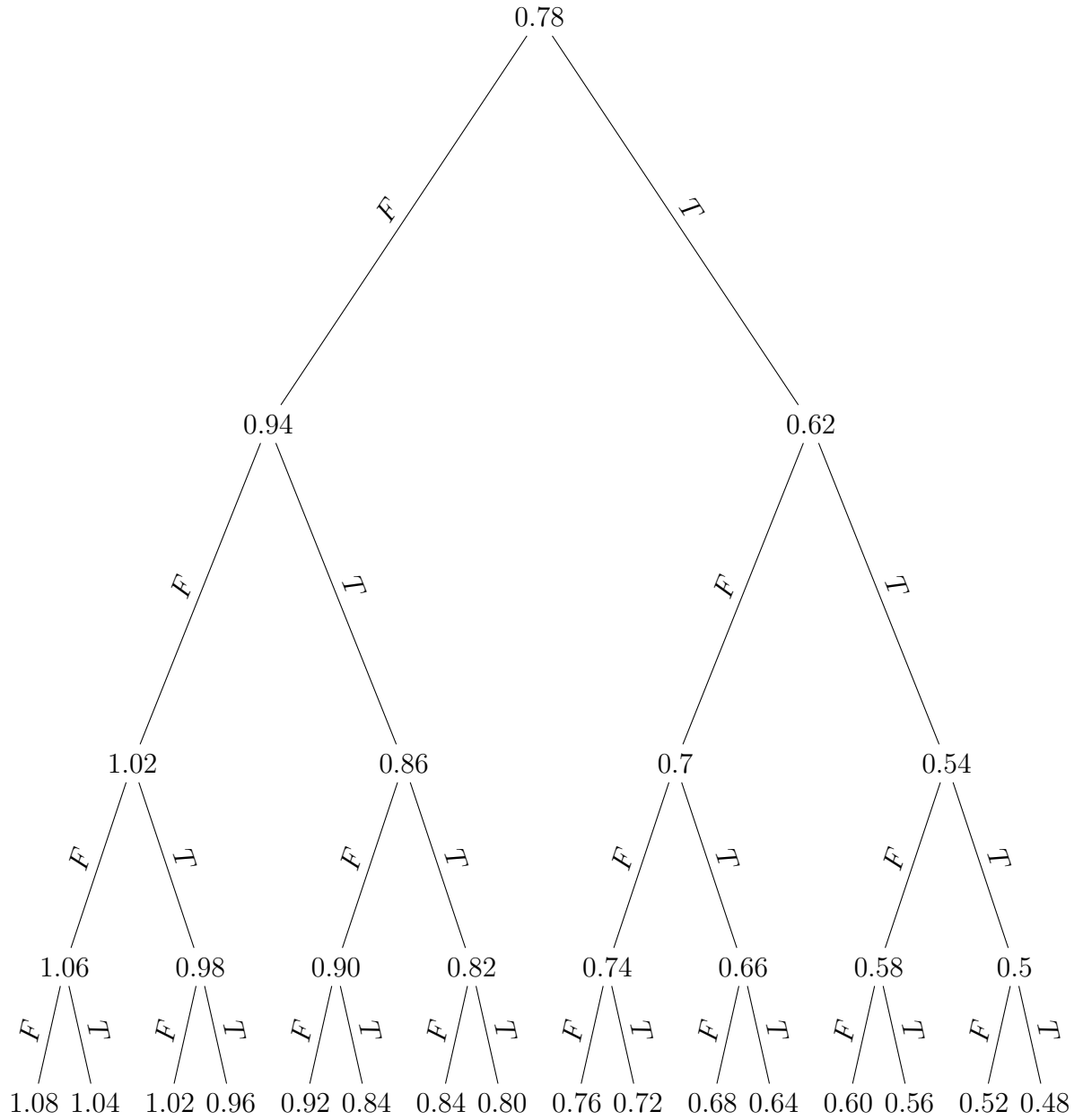
The picture is describing the changing in the beta level depending on the answers proposed. The first question is repeated three times with slightly different amount of money in order to be sure that the level of β chosen is the most appropriate. Starting from 0.78 and ending with 16 different values ranging from 0.48 to 1.08 with jumps of 0.04. The individual will get different levels depending on the type of answers he will provide. T stands for choosing the immediate reward(Today) while F is the delayed payment(Future). As explained the tree is following a positive relation between the sign of beta and the decision made at each node.

8.3 Survey sections

The following appendix paragraph is presenting the introduction disclosure at the beginning of each section of the survey and one example of the two type of questions used during the survey. Each subsection will be presented both in Italian and English since the survey was submitted in Italian but this work is presented in English.

8.3.1 Introduction to Firm section

Italian Version

La seguente sezione è dedicata a scelte ipotetiche riguardanti la sua azienda. Ognuna delle 6 decisioni che prenderà potrebbero avere dirette conseguenze sulle performance dell'azienda. Le verrà richiesto di prendere decisioni in quanto proprietario dell'azienda in possesso di tutto il potere decisionale necessario. Durante lo svolgimento del questionario la prego di ignorare l'inflazione, il deprezzamento e i costi periodici nel tempo. Consideri anche che non è possibile investire in altri modi il denaro ricevuto.

English version

The following section is concerning hypothetical choices for your firm. Each of the 6 decisions that you are going to make could have direct consequences on the firm's performances. You will be asked to make decisions as the owner of the business and you will have all the necessary decision-making power. During the survey please ignore inflation, depreciation and period costs. Consider also that you can't invest in any other way those money.

8.3.2 Introduction for the firm section

Italian version

Supponga che le venga data la possibilità di scegliere tra i seguenti: ricevere un pagamento oggi o un pagamento tra 3 mesi. Ora le presenterò 6 situazioni. Il pagamento di oggi sarà identico in ognuna di queste. Il pagamento in 3 mesi è differente in ciascuna situazione. Per ognuna delle seguenti situazioni vorrei sapere quale sceglierebbe. Per favore, presuma non ci siano né rischio nei pagamenti futuri né inflazione, ovvero che i prezzi futuri siano gli stessi di oggi.

English version

Suppose you were given the choice between receiving a payment today or a payment in 3 months. I will now present to you 6 situations. The payment today is the same in each of these situations. The payment in 3 months is different in every situation. For each of these situations, I would like to know which you would choose. Please assume no risk with future payments and no inflation, i.e. future prices are the same

as today's prices.

8.3.3 Example of a question from the firm section

Italian version

Supponga di dover fare un nuovo investimento all'interno della sua azienda per poter aumentare il livello di produttività interno. Lei ha due opzioni:

- *Primo, può decidere di fare un piccolo investimento. Questo tipo di azione le frutterà 45,000 €ricevuti immediatamente*

- *Secondo, può decidere di fare un investimento più grande. Questo investimento le frutterà 57,692 €. Tuttavia, il guadagno sarà posticipato di 3 mesi dall'investimento.*

La prego di scegliere l'opzione che preferisce di più. Si consideri libero da qualsiasi vincolo di liquidità o fiscale e libero di scegliere l'investimento che più preferisce. Scelga se preferisce l'opzione 1 o 2.

English version

Imagine that you need to make a new investment in your firm in order to increase the productivity level. You have two options:

- First, you can do a small investment. This investment gives you a net gain of 45,000€immediately.

- Second, you can do a bigger investment. This investment gives you a net gain of 57,692€. However, this gain will be realized 3 months after your initial investment.

When considering the options, please abstract from any cash flow constraints and assume you can freely choose what investment to make. Please indicate below whether you choose option 1 or 2.

8.3.4 Example of a question from the individual section

Italian version

Per favore prenda in considerazione la seguente: preferirebbe ricevere 40,000 € oggi o 51,282 € tra 3 mesi?

English version

Please consider the following: Would you rather receive 40,000 € today or 51,282 € in 3 months?.

8.3.5 Demographic section

Following we have a list of all the demographic questions asked in the survey. The questions are a reported only in English for practical reasons but they were asked in Italians.

1. What is your current job position?

2. In which sector is your firm active?
   (you can pick more than one)

3. What is your age?

4. What is your gender?

5. What is your current marital status?

6. How much did you earn last year?
   (If you received incomes from previous years, wages or vacations please exclude them. You should report only your net income, this means the one after tax deductions, payroll taxes, unemployement subsidy or any insurance)
   (you can skip the question if you don't want to show this information)

7. What is your level of education?

8. Are you the owner of the firm you are working for?

9. How many hours do you work for your firm?
   (If you cannot report an exact number of hour please make an estimate)

10. Are you the only one in charge for the decision made within the firm?

11. Does your business have any body entitled to make decisions on behalf of the firm?
    (Board of directors, Small council, family management etc..)

12. In which year did you start your entrepreneurial activity?

13. Is one (or both) of your parents entrepreneur o he/she used to be in the previous years?

14. What is the maximum number of employees your firm reach?
    (please consider also the seasonal employees)

15. What is your birth region?

16. What is the region where your firm is operating?