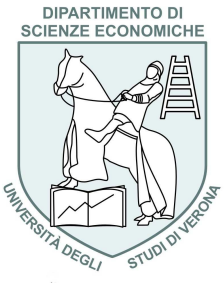

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Martina Menon, Federico Perali, Marcella Veronesi

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PREFERENCES FOR SOCIAL INCLUSION: EMPIRICAL EVIDENCE FROM JUVENILE REHABILITATION IN ITALY

Martina Menon,[*] Federico Perali,[**] and Marcella Veronesi[***]

Abstract: Social inclusion is a multidimensional phenomenon that involves social, psychological, political, and economic aspects of individuals' life. While social inclusion is a priority of the European Agenda 2020, little is known about individuals' preferences for social inclusion and their determinants. We investigate factors affecting preferences for social inclusion using a stated preference survey on juvenile rehabilitation. We show that ideological inclinations, concerns about crime, and altruistic motives play a significant role in explaining preferences for the social inclusion of juvenile offenders.

Key words: Social inclusion, juvenile crime, altruism, rehabilitation, stated preferences.

JEL classification: D61, D63, D64.

Please address correspondence to: [*] Martina Menon, Department of Economics, University of Verona, Via Cantarane 24, 37129, Verona, Italy. Phone: +39 045 802 8420, fax: +39 045 802 8529, e-mail: martina.menon@univr.it. [**] Department of Economics, University of Verona, Italy and CHILD, [***] Department of Economics, University of Verona, Italy, and Center for Development and Cooperation, ETH Zurich, Switzerland. This paper is part of the research "Causal analysis of juvenile crime and evaluation of the effects of restorative justice programs on the well-being of individuals and the society" supported by the grant "Joint Research Projects 2005" from the University of Verona and Comunità San Benedetto of the Istituto Don Calabria developed in collaboration with the Italian Ministry of Justice, Department of Juvenile Justice. All errors and omissions are our own responsibility.

1. Introduction

We investigate preferences for social inclusion and their determinants in the context of minors involved in antisocial and criminal activities. Social inclusion is a multidimensional phenomenon that involves social, psychological, political, and economic aspects of individuals' life (Atkinson *et al.* 2002, Bossert *et al.* 2007, Chakravarty and D'Ambrosio 2006, Poggi 2007). It is a priority item of the European Agenda 2020 to ensure economic, social, and territorial cohesion by guaranteeing respect for the fundamental rights of people experiencing social exclusion, so that they can live in dignity and take an active part in society (European Council 2000, World Bank 2013). In the context of juvenile crime, this social objective recognizes the importance of juvenile rehabilitation programs. These programs aim at reincluding juvenile offenders in the society so that they can enjoy again the same opportunities of being a constructive component of society as their age peers.

An effective policy for reducing the influence of circumstances outside an individual control, such as education or community and peer effects, increases equality of opportunity (Fleurbaey 2008, Roemer 1985, 1998). A rehabilitation policy for crime prevention that reduces the impact of such circumstances should improve the distribution of social opportunities across the young population (Berenji *et al.* 2014). Thus, it is crucial for policy-makers to adopt policy actions and incentives aimed at equalizing opportunities across the population so that individuals are fully responsible for their achievements as an outcome of their sole efforts. Knowledge about preferences for social inclusion informs about a society's propensity to eradicate disparities and other forms of marginalization that may arise, for example, as a consequence of anti-social behavior.

However, despite its importance, the investigation of what factors affect preferences for the social inclusion of juvenile offenders has remained largely unaddressed. In addition, the social willingness to invest in social inclusion and, in the context of the present research, in

rehabilitation programs of juvenile offenders may vary substantially among regions, across states and within the same state. With this objective in mind, we implement an *ad hoc* stated preference survey for juvenile rehabilitation. We focus on a northern and a southern region of Italy, Veneto and Sicily, because characterized by markedly different cultural norms and social capital endowments (Bigoni *et al.* 2015, Guiso *et al.* 2004, Putnam 1993).

The comparison between these two regions can be very instructive in explaining preferences for social inclusion and their underlying motives. Veneto is a wealthy region representing the northern Italian culture, while Sicily the southern culture. In recent decades, Sicily has experienced a significantly lower rate of growth in incomes and job opportunities,[1] and has a long history of criminal organizations, notoriously working with the collusion of state institutions. The lack of opportunities available to young Sicilians is a factor that can increase the risk of social exclusion forcing young people to join the "informal" criminal labour market.

We develop a theoretical model in which individual preferences for social inclusion are motivated by altruistic motives. Altruism is a sufficient but not a necessary condition for social inclusion because, for example, a self-interested individual may be socially inclusive simply because an investment in a rehabilitation program may reduce the chances to be exposed to the risk of being a victim. In our set-up, adults are concerned with the utility of their own children, defined as parental altruism, and the utility of children of other families, defined as non-parental altruism. In general, a family in poverty may be socially inclusive, in the sense of being willing to support poverty mitigation programs, because directly interested. A wealthier family may be socially inclusive to avoid the self-interested risk of falling into poverty or may be in favour of inclusive policies for altruistic reasons. Similarly, a family

[1] In 2009, the total unemployment rate in Sicily was 13.9% and the youth unemployment rate was 38.5%, while in Veneto the corresponding figures were 4.8% and 14.40%, respectively. The high youth unemployment rate in Sicily is exacerbated by a higher school dropout rate compared to Veneto. In 2009, Veneto registered a high school dropout rate of 4.9%, while in Sicily the high school dropout rate was among the highest in all Italian regions, 11.4% (ISTAT, http://www.istat.it/it/archivio/16777).

with a child who has had some troubles with the law may be directly interested in rehabilitation policies. On the other hand, families without children could support rehabilitation initiatives as well, but indirectly. In these cases, non-parental altruistic motives may play a relatively more important role.

We compare households with and without children to reveal the relative importance of parental and non-parental forms of altruism in the two Italian regions. We enrich our empirical analysis by distinguishing between factors affecting preferences for the social inclusion of juvenile offenders in terms of individual characteristics, such as education, income, ideological inclinations, and contextual variables, such as immigration and crime rates.

We find no differences in terms of social inclusion between North and South of Italy. However, we find that the factors explaining preferences for social inclusion are significantly different between the two regions. In Veneto, the propensity for social inclusion is driven by the concern about crime, while in Sicily it is mainly affected by socio-economic characteristics, such as income and education. In addition, we find that in both regions altruistic motives and the ideological inclinations of respondents appear to play a significant role in determining preferences for the social inclusion of juvenile offenders.

The paper proceeds as follows. Section 2 presents the theoretical framework. Section 3 describes the survey design and the data. Section 4 presents the empirical strategy, and Section 5 the results. Section 6 provides some final remarks.

2. Theoretical Framework

We describe preferences for the social inclusion of juvenile offenders first using a theoretical model in which household choices are conditioned by the wellbeing of children, and then, measuring the willingness to pay for juvenile rehabilitation programs.

2.1. A Model of Social Inclusion with Altruism

Socially inclusive behaviour towards juvenile offenders can be explained by underlying motives such as altruism towards household members and friends, and even towards strangers. We assume that adults display some degree of altruism towards children. Altruism is defined in a narrow "parental" sense, when the adult act of giving is to children of the same family, and in a large "non-parental" sense, when it is to children of other families.[2] Our view shares Khalil's (2004) contention that altruism is a form of charity motivated by the concern over the welfare of others. As it is realistic that "charity begins at home", because individuals' primary responsibility should be for the needs of their own family and friends, altruism should not be confused with parental care and parent-child transfers of money (Khalil 2004). In our context, the term parental altruism does not refer to direct transfers of adults to their own children, but to transfers towards an institution.

Households comprise adults *a* with or without children *c.* Adults of household *i* care, to different extents, about the utility of their children u_i^c, when present, and of household *j*'s children u_j^c. Formally, when children are present, preferences of adults U_i^a are described by the following utility function

$$U_{i\,|c>0}^{a} = u_i^a\left(q_i^a, P_i^a, c_i^*; u_i^c, u_j^c, z_i, E_i(d^a)\right), \text{ with } \frac{\partial U_{i|c>0}^a}{\partial u_i^c} > 0 \text{ and } \frac{\partial U_{i|c>0}^a}{\partial u_j^c} > 0, \quad (1)$$

where q_i^a is a vector of goods consumed by the adult, u_i^c measures parental altruism (PA), and u_j^c non-parental altruism (NPA).[3] Parents are also committed to maximizing the investment in the quality of their children c_i^* that, as a result, may reduce the chances that children will have trouble with the law. Parents who are highly committed to invest in the

[2] See for example, Agee and Crocker (1996), Araña and León (2002), Becker (1974 and 1981), Dickie and Gerking (2007), Jones-Lee (1991 and 1992), and Pollak (1988) for studies on parental and non-parental altruism.

[3] In our set-up, we assume that the closer is the relationship with the respondent, the higher the contribution to adult utility, $\frac{\partial U_{i|c>0}^a}{\partial u_i^c} > \frac{\partial U_{i|c>0}^a}{\partial u_j^c}$ (Bernheim and Stark 1988, Bergstrom 1989). We also exclude the possibility that the parameters may be equal to zero because it is reasonable to assume that adults have some degree of altruism towards children.

quality of their children may be less willing to support rehabilitation programs for their child. The utility of parents also depends on a vector of household characteristics z_i and the expected harm $E_i(d^a) = \pi_i^a d^a$ from an offense that may occur with subjective probability π_i^a. The subjective probability of being the victim of a crime π_i^a depends on the effectiveness of the rehabilitation program. Interestingly, the objective probability of being a victim is usually small, as can be seen from crime statistics presented in Appendix A, but the perceived risk may be very high.

In our case study, the adults' utility function $U_{i|c>0}^a$ also depends on the participation P_i^a in a referendum to finance rehabilitation programs for juvenile offenders. When participating in the referendum, adults can express a positive or a negative vote. Though adults will never use the rehabilitation service for themselves, they may still be willing to vote "yes" mainly to offer juvenile offenders the option of being reintegrated into the society (McConnell 1997). Thus, in our context the participation in the referendum reveals adults' preferences for the social inclusion of juvenile offenders.

Adults' optimal decision about the participation in the referendum is

$$\begin{aligned} \tilde{P}_{i|c>0}^a &= P_{i|c>0}^a\left(p_i, m_i, u_i^c, u_j^c, z_i, E_i(d^a)\right) = 1, \quad \text{if } V_{i|c>0}^a(P_i^a = 1) \geq V_{i|c>0}^a(P_i^a = 0), \\ \tilde{P}_{i|c>0}^a &= P_{i|c>0}^a\left(p_i, m_i, u_i^c, u_j^c, z_i, E_i(d^a)\right) = 0, \quad \text{otherwise}, \end{aligned} \tag{2}$$

where p_i is a vector of market prices of goods consumed by the household, m_i is the exogenous household income, $V_{i|c>0}^a(\tilde{P}_i^a = 1)$ and $V_{i|c>0}^a(\tilde{P}_i^a = 0)$ are the indirect utility functions evaluated at the equilibrium point when adults vote "yes" or "no" to the referendum, respectively. Among other exogenous variables, such as market prices, income and household socio-economic characteristics, the optimal participation choice of adults depends on their parental u_i^c and non-parental altruism u_j^c.

For households without children, the adult utility function falls to

$$U_{i\ |c=0}^a = u_i^a\left(q_i^a, P_i^a; u_j^c, z_i, E_i(d^a)\right). \tag{3}$$

Compared with equation (1) the parental altruism term u_i^c is by force excluded and the adult utility is not affected by child quality c_i^* because there are no children. In this case, the optimal participation choice in the referendum is not a function of parental altruism $\tilde{P}_{i|c=0}^a =$

$$P_{i|c=0}^a\left(p_i, m_i, u_j^c, z_i, E_i(d^a)\right). \quad (4)$$

We are also interested in aggregating individual preferences for social inclusion into collective preferences for the society as a whole. We do so resorting to two revealed (stated) preference arguments.

Postulate 1. Collective Preferences for Social Inclusions. *Collective preferences for the social inclusion of juvenile offenders are revealed by the participation rate in favour of a juvenile rehabilitation program where participation implies a "yes" vote in favour of the program.*

Interestingly, this postulate is similar to Chamlin and Cochran's (1997) definition of social altruism being the willingness of communities to assign, distinct from the beneficence of the state, scarce resources to aid and comfort their members and use contributions to local charitable institutions to operationalize social altruism. The next postulate clarifies how we implement comparisons between levels of social inclusion across societies.

Postulate 2. Comparison of Inclusive Societies. *If in a referendum two societies show comparable participation rates in favour of a juvenile rehabilitation program, then we conclude that they have similar preferences for the social inclusion of juvenile offenders.*

Participants in the referendum are then asked to reveal their willingness to pay for the introduction of rehabilitation programs of juvenile offenders.

2.2. Willingness To Pay for Juvenile Rehabilitation Programs

Traditionally, individual willingness to pay reveals preferences for a good consumed directly by the person interviewed. In our study, willingness to pay measures the economic trade-off for a public service that is neither going to be directly nor indirectly used by the respondents but eventually by their children or children of the same society the respondents belong to. A method for eliciting willingness to pay is the contingent valuation (Alberini *et al.* 2007). In general, a contingent valuation asks respondents to state what they would be willing to pay to obtain a good or service for which there is not a market given a hypothetical, but credible, transaction scenario. The contingent approach mimics behaviour in regular markets, where people usually purchase, or decline to purchase, a good at a given price. It also closely resembles people's experience with political markets and propositions on referenda. When markets do not reveal the use value of a good, we must resort to stated preferences.

Formally, adults' willingness to pay WTP_i is defined as the amount that must be taken away from the household's income m_i while keeping adults' indirect utility level $V_i^{a^1}$ constant at the comparison situation $V_i^{a^0}$ without the rehabilitation program. For households with children, $\text{WTP}_{i|c>0}$ solves the following equation

$$V_{i|c>0}^{a^1}\left(p_i, m_i - \text{WTP}_{i|c>0}, u_i^c, u_j^c, z_i, E_i(d^a)\right) = V_{i|c>0}^{a^0}\left(p_i, m_i, u_i^c, u_j^c, z_i, E_i(d^a)\right), \quad (5)$$

and for households without children $\text{WTP}_{i|c=0}$ is given by

$$V_{i|c=0}^{a^1}\left(p_i, m_i - \text{WTP}_{i|c=0}, u_j^c, z_i, E_i(d^a)\right) = V_{i|c=0}^{a^0}\left(p_i, m_i, u_j^c, z_i, E_i(d^a)\right). \quad (6)$$

Because there are no appropriate proxy markets for juvenile rehabilitation programs from which to infer individual preferences, we elicit individuals' preferences using a single-bounded dichotomous choice model for contingent valuation (Alberini *et al.* 2007). People are asked whether they would vote in favour or against the proposed public program in a

referendum if implementation costs € X to the household in the form of extra income taxes.[4] The dichotomous choice approach has been shown to be incentive-compatible: provided that respondents understand that the provision of the good depends on the majority of votes, and the respondent's own vote in itself cannot influence the provision, truth-telling is in the respondent's best interest (Harrison 2007, Hoehn and Randall 1987). In addition, to mimicking the behaviour of people in regular marketplaces or voting situations, the dichotomous choice approach is also credited with reducing the cognitive burden placed on the respondent.

As illustrated in equation (1), parents are willing to offer monetary support for rehabilitation programs because are concerned both about their children and, to a lesser extent, about the children of other households. Instead, adults without children are willing to pay mainly for a non-parental altruistic motive. In an empirical setting, it is then possible to observe that on average the willingness to pay of a household with children ($\mathrm{WTP}_{i|c>0}$) may differ significantly from the willingness to pay of a childless household ($\mathrm{WTP}_{i|c=0}$). Given the adult preference structures in equations (1) and (3), we can construct the following ordering that isolates the relative importance of the altruistic motives.

Hypothesis 1. Social Inclusion and Altruism: Intra-Society Comparison. *Consider the following comparison between the mean willingness to pay WTP of households with and without children living in the same regional society.*

Case 1. If $WTP_{c>0} > WTP_{c=0}$*, then households with children are more altruistic than childless households. If* $WTP_{c>0} < WTP_{c=0}$*, then households with children are less altruistic than childless households.*

[4] To refine information about WTP, it is also possible to ask a dichotomous choice follow-up question, approach called "double-bounded" (Hanemann *et al.* 1991). Over the last decade researchers have examined the potential of double-bounded models for undesirable response effects (Bateman *et al.* 2002, Hausman 1993, Mitchell and Carson 1989). To avoid these effects, we focus on the "single-bounded" format (Gerking *et al.* 2014, Adamowicz *et al.* 2014).

Case 2. If $WTP_{c>0} = WTP_{c=0}$*, then non-parental altruism in childless households is larger than both parental and non-parental altruism in households with children.*

To interpret these cases, let us refer to equation (1) recalling that PA stands for parental altruism and NPA for non-parental altruism. Then, Case 1 corresponds to $\mathrm{PA}_{c>0} + \mathrm{NPA}_{c>0} > (\text{or} <)\mathrm{NPA}_{c=0}$, while Case 2 corresponds to $\mathrm{PA}_{c>0} + \mathrm{NPA}_{c>0} = \mathrm{NPA}_{c=0}$. We operationalize these cases by estimating households' WTP, as described in Section 4.2, and evaluating the direction of these inequalities. The analogous hypothesis that allows us to frame the comparison of the WTP of families belonging to different societies is as follows.

Hypothesis 2. Social Inclusion and Altruism: Inter-Society Comparison. *Consider first the comparison between two societies that have similar preferences for social inclusion, as defined in Postulates 1 and 2. Then, society A is more altruistic than society B if both the means* $WTP(A)_{c=0} \geq WTP(B)_{c=0}$ *and* $WTP(A)_{c>0} \geq WTP(B)_{c>0}$*, thus implying, in a Pareto sense, that* $WTP(A) \geq WTP(B)$ *for all household types. On the other hand, if two societies have different preferences for social inclusion, then society A is more altruistic than society B if the conditional means* $\Pr(P(A) = 1)WTP(A)_{c=0} \geq \Pr(P(B) = 1)WTP(B)_{c=0}$ *and* $\Pr(P(A) = 1)WTP(A)_{c>0} \geq \Pr(P(B) = 1)WTP(B)_{c>0}$ *where the willingness to pay is conditional on the participation rate* (*P*)*.*

We test these hypotheses by estimating the reduced form equations of participation decision and WTP as described in Section 4. The reduced equation for participation is specified as a function of factors that may affect adults' preferences for the social inclusion of juvenile offenders. We control among other variables for socio-economic characteristics, such as education, marital status and household income, which can be correlated with the production of child quality. We also have information on the respondent's concern about the risk of crime as a subjective fear of injury in a criminal event, and on crime rates at the

provincial level as a proxy for the objective probability to be harmed by an offensive behaviour.

3. Survey Design and Data Description

3.1. Survey Design

Our data source is an original survey designed by the authors.[5] This survey was conducted in two Italian regions, Veneto and Sicily, in Fall 2009 using computer assisted telephone interviews (CATI).[6] The sample comprises 1,027 observations, 513 observations from the Veneto region and 514 observations from the Sicily region.[7] The data are a representative sample of households from the population of households with land-based or cellular telephone service. The survey was prepared following the guidelines by the NOAA Blue Ribbon Panel (Arrow *et al.* 1993). In each region we carried out a pre-test of about 5% of the planned sample size. We interviewed individuals between 18 and 65 years old.

The survey collected information on plausible factors that may affect respondents' preferences for juvenile offender rehabilitation programs, and hence social inclusion. A first set of questions gathers information on respondents' socio-economic characteristics, such as age, gender, education, working status, household disposable income, political and religious orientations. Another set of questions collects information on respondents' subjective perception of safety and crime. Specifically, this set contains questions about the perceived level of safety in the neighbourhood where the respondent lives, what crimes concern the respondent most, such as property crime, violent crime, murder or juvenile crime, whether the respondent adopts crime safety measures at home, and whether the respondent or a family

[5] This paper has been supported by the grant "Joint Research Projects 2005" from Comunità San Benedetto of the Istituto Don Calabria developed in collaboration with the Italian Ministry of Justice, Department of Juvenile Justice.
[6] Telephone interviews were conducted by Coesis Research, an Italian service research agency specialized in qualitative and quantitative research (http://www.coesisresearch.it).
[7] The response rates were 12.8% in Veneto and 11.5% in Sicily. These response rates are common in surveys administrated through the CATI method.

member had experienced a crime in the past. The last section of the survey includes questions assessing respondents' willingness to pay for juvenile rehabilitation programs. This section is properly designed to frame the contingent market scenario of interest. In particular, it contains the following four subjects:

(i) A contingent market set-up that describes the phenomenon of juvenile crime and explains the hypothetical rehabilitation program that will be assessed by the contingent valuation questions. This part includes official statistical figures on juvenile crime rates by crime type and region.[8] The hypothetical rehabilitation program for juvenile offenders consists in a government program aimed at reincluding the juvenile offenders into society by helping them to complete school or to find a job.

(ii) A contingent attitude question that forces respondents to think about whether they might be interested in juvenile rehabilitation programs. Respondents are asked their level of interest about a rehabilitation program on a Likert (1932) scale from 0 to 10.

(iii) A contingent valuation question that elicits respondents' preferences for social inclusion and their willingness to pay for the juvenile rehabilitation program previously described. Respondents are first asked the following referendum dichotomous choice question:

"*Would you and your family vote "yes" or "no" to a hypothetical referendum to finance educational programs for juvenile offenders by increasing local income tax? The program aims to rehabilitate juvenile offenders into society by helping them to complete their studies or to find a job, thereby reducing the risk that they commit a crime in the future."*

[8] Respondents living in Veneto were informed that in their region the total number of crimes involving juvenile offenders was 2,400, of which 66% were property crimes, 18% violent crimes, 6% drug-related crimes, and 10% other crimes. Respondents living in Sicily were informed that in their region the total number of crimes involving juvenile offenders was 4,400, of which 40% were property crimes, 24% violent crimes, 24% drug-related crimes, and 12% other crimes. These figures refer to the year 2006 and were provided by ISTAT in "Sistema Informativo Territoriale sulla Giustizia" (http://giustiziaincifre.istat.it).

Then, respondents declaring that they would vote "yes" are asked a close-ended contingent valuation question, i.e. whether they and/or the members of their family would be willing to pay a bid amount €X as annual local income tax for the rehabilitation program. This two-part model for eliciting preferences identifies respondents with zero willingness to pay. The amounts chosen for the bid are (€ 50, € 70, € 100, € 180, € 250, € 350, € 500). The amounts are determined on the basis of two pre-tests for each region using the bid design approach by Cooper (1993), and are randomly assigned to respondents.

(iv) A debriefing question that asks why they were not willing to pay for the rehabilitation program.

3.2. Data Description

Table 1 provides definitions and descriptive statistics of the key variables used in the empirical analysis for respondents living in Veneto and in Sicily regions. The last column reports the *p*-values of the tests for equality of means (or proportions in the case of binary variables) for the reported variables in Veneto and Sicily.

Respondents of the two regions are similar in terms of age (about 42), marital status, about 65% of respondents are married, and average family size. The gender distribution is comparable across the two regions by sampling design. In Veneto there is a significantly higher proportion of households with an elderly person at home, compared to Sicily. The two samples differ in terms of years of education and household income distribution. Sicilian respondents are significantly more educated than Veneto respondents. About 20% of Sicilian respondents have a university degree, compared to about 14% of Veneto respondents. We ask about families' disposable income, grouped into income quintiles.[9] Households of Veneto are significantly wealthier. The average monthly disposable income of households in Veneto is

[9] We choose the fifth (wealthiest) income quintile and university degree as the reference categories for income and education, respectively.

1,832 euro and in Sicily 1,550 euro. The headcount of poor households is 32% in Veneto versus 50% in Sicily.

Because preferences of individuals over youth justice policies, such as incarceration or probation programs, may be related to ideological inclinations, we directly ask respondents their political orientation and religion. The political orientation of our sample reflects the election results in 2008, the year before the survey was carried out. In the Veneto sample, about 25% declare left-wing orientation, about 35% right-wing orientation, and about 9% a centre orientation. In the Sicily sample, about 23% declare left-wing orientation, 29% right-wing orientation, and about 7% a centre orientation. In addition, about 32% of Veneto respondents and about 41% of Sicily respondents have no interest in political matters. While both regions are mostly catholic (90% in Veneto and 92% in Sicily) in both regions, about 66% of respondents declare that they are practicing a religion.

Veneto and Sicily respondents have similar subjective perceptions of crime. Respondents of the two regions are more concerned about rape than burglary, murder, juvenile crime, and other crimes. About 4% of Veneto respondents are not worried about crime, while this figure decreases to 3% in Sicily. Veneto respondents and their relatives have more experience as victims of crime than Sicilians, about 16% versus 14%, although not statistically different. In addition, Veneto respondents reside more in safe or quite safe neighbourhoods than Sicilians, about 92% versus 75%. Even though Veneto respondents feel that they live in safer areas, they are more likely to fit home security equipment than Sicilians.

In addition, we account for community factors that might affect respondents' preferences for social inclusion such as the ratio of violent, property, and other crimes as well as for the immigration rate at the provincial level, which has been found to affect crime perception (Nunziata 2015, Montolio and Planells-Strus 2015).[10] For instance, we might

[10] Source: ISTAT, "Noi Italia - Stranieri - Popolazione residente straniera" (http://noi-italia.istat.it/).

expect that the propensity to invest in social reintegration programs of juvenile offenders is substantial in those regions where social and economic problems are significant. For these reasons, unlike in many existing studies (Atkinson *et al.* 2005, Cohen *et al.* 2004, Ludwig and Cook 2001, Soeiro and Teixeira 2013), we control among other variables for crime and immigration rates aggregated at the provincial level. From 2001 to 2009 the immigration rate increased substantially both in Veneto and in Sicily, although foreigners remained a small percentage of the Italian population. In 2009, foreigners accounted for 7% of the whole Italian population. Over the period of interest, the proportion of foreign residents is significantly higher in Veneto than in Sicily, about 10% versus 2.5%. A detailed discussion of Italian crime rates is presented in Appendix A.

4. Estimation Strategy

We now describe the econometric strategies adopted for studying the factors affecting preferences for the social inclusion of juvenile offenders and the willingness to pay for juvenile rehabilitation programs.

4.1. Preferences for the Social Inclusion of Juvenile Offenders

We estimate a probit model in which participation P in a referendum to finance juvenile rehabilitation programs is the dependent variable. We define an indicator variable $P_{irp} = 1$ if individual i from region r (r = *Veneto*, *Sicily*) living in province p votes "yes" to a referendum that would increase local income taxes to finance juvenile offender rehabilitation programs, and $P_{irp} = 0$ otherwise. The choice problem is described by the latent variable model

$$P^*_{irp} = \beta_r \mathbf{Z_{irp}} + \gamma_r \mathbf{M_{rp}} + \varepsilon_{irp}, \quad (7)$$

where P^*_{irp} is the net benefit an individual receives from the implementation of the rehabilitation program. Individuals will vote "yes" to the referendum if the expected net

benefits of doing so are positive. The probability that the individual votes "yes" to the referendum is

$$\text{prob}[P_{irp} = 1] = \text{prob}[\beta_r \mathbf{Z_{irp}} + \gamma_r \mathbf{M_{rp}} + \varepsilon_{irp} > 0] = \Phi[\beta_r \mathbf{Z_{irp}} + \gamma_r \mathbf{M_{rp}}], \quad (8)$$

where $\Phi[\ ]$ is the standard normal cdf. The model specification of equation (8) follows the theoretical framework presented in Section 2.1. The vector $\mathbf{Z_{irp}}$ refers to a set of household socio-economic characteristics modelling the vector z_i of the adult utility function. The set of socio-economic variables comprises age, gender, marital status, education, family structure, presence of children aged 0-17, household income, political, and religious orientations. It also includes variables describing the respondents' concern about crime risk, which can be considered as proxies of the subjective probability of being harmed by criminal behaviour. These variables are the perceived level of safety in the neighbourhood where the respondent lives, whether she is worried about crime and what type of crimes concern the respondent most, whether the respondent has adopted security measures at home, and any experience as a victim.[11]

The vector $\mathbf{M_{rp}}$ refers to a set of variables aggregated at the provincial level that may affect the respondent's propensity for social inclusion. The vector includes the immigration rate and the proportions of property and violent crimes out of the total number of crimes. These variables serve as a proxy measure of the objective probability of being a victim of a crime. We also add an independent and identically normally distributed error term ε_{irp} for the two regions clustered at the provincial level.

We test for differences in the determinants of preferences for social inclusion between Sicily and Veneto by pooling the two sub-samples and estimating an amendment of equation (7) in which we add the interaction terms between a dichotomous variable d_{ir} equal to one if

[11] For the sake of brevity, the tables list the variable capturing victim experience among the variables related to concerns about crime risk.

individual i lives in Veneto and the vectors of covariates $\mathbf{Z_{irp}}$, and $\mathbf{M_{rp}}$. The estimated equation has the following functional form

$$P^*_{irp} = [\beta_S + d_{ir}(\beta_V - \beta_S)]\mathbf{Z_{irp}} + [\gamma_S + d_{ir}(\gamma_V - \gamma_S)]\mathbf{M_{rp}} + \varepsilon_{irp}, \quad (9)$$

where subscript V stands for Veneto and subscript S stands for Sicily; and the expressions in square brackets measure the difference in the coefficients of the vectors of covariates when the respondent is from Veneto as compared to Sicily.

4.2. Willingness To Pay for Juvenile Rehabilitation Programs

The amount that individuals are willing to pay for juvenile rehabilitation programs is estimated by applying the spike model (Kriström 1997). The spike approach is particularly useful when a large proportion of the sample decides not to buy the good offered in the contingent market. In such cases, standard parametric models based on the normal, logistic or Weibull distribution are likely to predict a biased willingness to pay because they assume that all individuals have a positive WTP (Kriström 1997).

The spike model consists of two stages. In the first stage, we model the probability that the respondent would be willing to participate in the program by voting "yes" to a referendum as described in the previous section. In the second stage, we estimate how much respondents are willingness to pay. In the second stage, the researcher does not observe WTP directly. At best, one can infer that the respondent's WTP amount is greater or less than the bid value, and can form broad intervals around the respondent's WTP. Formally, let WTP^* be the latent WTP, and let WTP_{irp} be individual i's response to the suggested bid value B_{irp}

$$\text{WTP}_{irp} = \begin{cases} 1 \text{ if } \text{WTP}^*_{irp} > B_{irp}, \\ 0 \text{ if } \text{WTP}^*_{irp} \leq B_{irp}, \end{cases} \quad (10)$$

where $\text{WTP}_{irp} = 1$ means that the individual's response to the stated amount B_{irp} is a "yes" and $\text{WTP}_{irp} = 0$ means that the response is a "no." Considering the two stages, the possible combinations of answers are (yes, yes), (yes, no), (no, no). Because we observe discrete

outcomes, we model the probabilities of "yes" and "no" responses with the following log-likelihood function

$$\ln L = \sum_{irp}^{K}\{P_{irp}WTP_{irp}\ln[1 - G(B_{irp})] + P_{irp}(1 - \mathrm{WTP}_{irp})\ln[G(B_{irp}) - G(0)] + (1 - P_{irp})\ln[1 - G(0)]\}, \quad (11)$$

where K is the sample size; P_{irp} is equal to one if individual i from region r living in province p votes "yes" to the referendum to finance juvenile offender rehabilitation programs, zero otherwise, as described in the previous section. $G(B_{irp})$ is the probability that individual i's WTP is not greater than the bid value B_{irp}.

We follow this two-stage framework because it allows us to account for nonparticipation in the contingent valuation market of juvenile rehabilitation programs and, therefore, to avoid potentially large biases in the estimation of the willingness to pay.

5. Empirical Results

5.1. Preferences for the Social Inclusion of Juvenile Offenders

In both regions, we find that about 40% of the respondents would vote "yes" to a hypothetical referendum promoting the increase of local income taxes to finance rehabilitation programs for juvenile offenders (Table 1). The remaining 60% of respondents would vote "no" to the referendum. Among the reasons for not paying, about 36% of the pooled sample do not want to pay additional taxes as if the program was not considered worth paying extra for (Brouwer and Martín-Ortega 2012). About 28% cannot afford to pay additional taxes, 12% are not willing to pay for juvenile rehabilitation programs, and 23% of the respondents are not willing to pay for other reasons. The reasons for not participating are in general comparable between Veneto and Sicily. Considering that both regions have a similar propensity to participate in the rehabilitation program and are also similar in terms of their explicit refusal of the program (12%), then in line with Postulates 1 and 2, we conclude that Veneto and Sicily are comparable in the propensity towards the social inclusion of juvenile offenders.

The two regions may differ substantially, though, in terms of the factors affecting the propensity for social inclusion.

Table 2 shows the marginal effects of a set of probit models on the determinants of social inclusion for an average respondent living in Veneto and in Sicily.[12] The dependent variable is a dichotomous variable equal to one if the respondent votes "yes" to the referendum for financing juvenile rehabilitation programs and to zero otherwise. We specify two models per region, differing in the set of variables used as controls. Models (1) and (2) refer to the Veneto sample, and models (3) and (4) refer to the Sicily sample. In models (1) and (3) we control for socio-economic characteristics and ideological inclinations of the respondent. In models (2) and (4) we add variables related to the respondent's concern about crime risk, which proxy the subjective probability of being victim of a crime, and variables that control for crime and immigration rates aggregated at the provincial level as indicators of the objective probability of being damaged from an offense. Results are robust to different model specifications. We first present the results for Veneto, and then for Sicily.

Veneto. Socio-economic characteristics are in general not significant factors affecting preferences for the social inclusion of juvenile offenders, with the exception of gender and family structure. The estimation of model (2) shows that female respondents are significantly less likely to vote "yes" in a referendum to finance juvenile rehabilitation programs. Family size is significantly and negatively associated with the probability to support juvenile rehabilitation programs. In addition, respondents with children are 21 percentage points more likely to vote "yes" than those without children. A remarkable result, holding for all model specifications, is that in Veneto preferences for social inclusion are not significantly associated with household income. This evidence shows that respondents would finance juvenile rehabilitation programs regardless of their level of income. In addition, the

[12] Coefficient estimates are available from the authors upon request.

ideological inclinations are jointly significant at 1% level. In particular, the political orientation seems to be a significant factor affecting preferences for social inclusion: left-wing orientated respondents are more likely to vote "yes" than right-wing oriented respondents.

Variables capturing the subjective perception of crime are generally significant. Respondents who live in quite a safe area are significantly more likely to vote "yes" to the referendum than those living in an unsafe area. In addition, the respondent's concern about crime significantly increases the probability of voting "yes" to the referendum for juvenile rehabilitation programs. For instance, the propensity for social inclusion is 31 percentage points higher if respondents are more concerned about rape than any other crime. However, having been the victim of a crime and/or having relatives that experienced a criminal assault in the past does not significantly affect the propensity for social inclusion.

The variables related to the immigration rate and crime rates while not individually significant are jointly highly significant factors affecting the propensity for social inclusion (p-value = 0.000).

Sicily. Comparison of model (4) with model (2) of Table 2 highlights remarkable regional dissimilarities in the qualitative importance of the factors driving the propensity for the social inclusion of juvenile offenders. Unlike the results for Veneto respondents, the socio-economic characteristics of Sicilian respondents are in general significant determinants. Married respondents, respondents living in large families, and respondents living in families with elderly people are all more likely to vote "yes" to the proposed referendum. However, the presence of children is not a significant factor. The effect of family income on the demand for juvenile rehabilitation programs is large and significant for all income quintiles. Even after controlling for income, respondents who have a high school diploma are 19% more likely to vote "no" to the referendum compared to respondents with a university degree.

Furthermore, as in Veneto, the ideological inclinations are significant determinants. Respondents not interested in political matters have a significant lower probability of voting "yes" compared to right-wing respondents. The probability of voting in favour of the referendum is nine percentage points higher if respondents are practicing members of a Church than if they are not. Unlike the results for Veneto, variables capturing the respondent's concern about crime risk are generally not significant drivers of preferences for social inclusion, except for homicides' concern. In addition, the macro variables jointly and significantly affect the probability of voting "yes" to the referendum (p-value = 0.000). An increase in the violent crime rate and in the rate of foreign residents significantly increases the probability of voting "yes". In particular, the rate of foreign residents has a strong and positive effect. A 10% increase in the immigration rate would increase the probability of voting "yes" in the referendum by 6 percentage points.

Comparing Veneto and Sicily. To test whether there are significant differences in the determinants of preferences for social inclusion, we pool the two samples of Veneto and Sicily and estimate equation (9) including interaction terms between the dichotomous variable Veneto and each independent variable of the model. The last column of Table 2 shows the significance level of the difference between determinants for Veneto respondents as compared to Sicily respondents. The significance levels are obtained by applying Ai and Norton (2003) and Greene (2010) procedure for treating interaction terms within nonlinear models.

The estimated results confirm the presence of strong differences in the determinants of preferences for social inclusion between the two regions. Socio-economic factors in general affect the propensity for social inclusion of Sicilians but not of respondents from Veneto. Whereas, having children positively affects the propensity for social inclusion in Veneto but not in Sicily. The effects of ideological inclinations as well as of the concern about crime risk

are not statistically different between the two regions. On the other hand, both samples are strongly affected by the objective probability of being harmed by a crime. However, when the macro variables are taken individually, only Sicilian respondents are affected by violent crime rates and immigration rates. Respondents living in areas with higher crime rates have a higher propensity to socially include juvenile offenders. In addition, a higher immigration rate significantly increases the propensity for social inclusion in Sicily but not in Veneto.

5.2. Willingness to pay for Juvenile Rehabilitation Programs

We test Hypothesis 1 and Hypothesis 2 described in Section 2.2 to investigate the relative importance of altruism as a determinant of preferences for social inclusion. Table 3 shows mean willingness to pay estimates for Veneto and Sicily. Intra-society comparisons (Hypothesis 1) show that in Veneto households with children ($WTP_{c>0}$ = € 82) have a significantly higher mean WTP than childless households ($WTP_{c=0}$ = € 47). In contrast, in Sicily mean WTP of households with children (€ 84) is not statistically different than mean WTP of households without children (€ 73). Based on Hypothesis 1, these results imply that in Veneto altruism plays a more important role in explaining preferences for social inclusion in households with children than in households without children (Case 1). In Sicily, non-parental altruism appears to be a significant underlying motive affecting preferences for the social inclusion of juvenile offenders in households without children, and it is larger than both parental and non-parental altruism in households with children (Case 2).

Inter-society comparisons (Hypothesis 2) reveal that Sicilians are significantly willing to pay more than Veneto respondents for juvenile rehabilitation programs, € 76 versus € 59, respectively. Furthermore, the mean WTP of households with children is not statistically different between the two regions (€ 82 in Veneto and € 84 in Sicily), while households without children in Veneto have a significantly lower mean WTP than Sicilian households without children (€ 47 and € 73 respectively). Based on Hypothesis 2 and because the two

regions have comparable preferences for social inclusion, these results imply that Sicilian households are more altruistic towards juvenile offenders than Veneto households.

6. Discussion and Conclusions

In a period of economic crisis and scarce public resources that may put the sustainability of juvenile justice systems at risk, it is important for policy makers to know the value of investments for social inclusion, such as rehabilitation programs for juvenile offenders, and the factors affecting their demand. This information would allow policy makers to allocate public resources across generations efficiently. However, little is known about the factors affecting individuals' preferences for the social inclusion of juvenile offenders.

Our study explores individual preferences for the social inclusion of juvenile offenders by using data from a stated preference survey on juvenile rehabilitation in Italy. We develop a theoretical model that allows us to explore underlying factors such as parental and non-parental altruism that could explain differences in preferences for social inclusion and juvenile rehabilitation programs. Our research design takes advantage of the contrasting socio-cultural and economic backgrounds of two regions in the North and South of Italy (Veneto and Sicily), under the same criminal justice system, to gauge whether there are differences in the factors affecting preferences for social inclusion.

We find that both regions are equally socially inclusive, though there are significant differences in the factors affecting preferences for the social inclusion of juvenile offenders between the two regions. We show that differences in preferences for the social inclusion of juvenile offenders do not depend only on socio-demographic characteristics but also on ideological inclinations, such as religious and political orientations, as well as on altruistic motives. In Veneto left-wing oriented individuals are more socially inclusive, while in Sicily respondents not interested in political matters and those that regularly attend Church services have higher propensity to invest in social reintegration programs of juvenile offenders.

In addition, in Sicily socio-economic characteristics are significant determinants of social inclusion, while in Veneto the individual concern about crime is an important factor positively affecting the propensity for social inclusion. The income distribution of the Veneto population, as opposed to Sicily, is not a significant factor for social inclusion. We also find that the objective probability of being the victim of a crime, as measured by the immigration rate and the number of reported crimes, exerts a significant role in affecting the propensity for the social inclusion of juvenile offenders. Respondents living in areas with higher crime rates have a higher propensity to socially include juvenile offenders. However, a higher immigration rate significantly increases the propensity for social inclusion in Sicily but not in Veneto.

Moreover, our study shows that the mean WTP of respondents living in Sicily is higher than the mean WTP of respondents living in Veneto. On average, Sicilian households are willing to pay about 30% more than Veneto respondents (€ 76 versus € 59) for juvenile rehabilitation programs. Based on our theoretical model, the difference in willingness to pay may be related to a higher altruistic component of Sicilians' preferences for social inclusion than Veneto households.

Another relevant contribution to the existing literature is the estimation of the internal rate of social returns stemming from the investment in rehabilitation programs for juvenile offenders by relating benefits and costs in the two regions of interest. Public awareness of the size of these social returns should help policymakers take informed decisions about juvenile justice policies. Based on the household's WTP estimates presented in Table 3 and the total number of households in Veneto and Sicily in 2009, the annual benefits that society derives from juvenile rehabilitation programs are about 116 million Euros in Veneto and 148 million Euros in Sicily. Comparing these estimated benefits with the total costs of the juvenile justice system, which is mainly based on rehabilitation programs, of 16 million Euros in Veneto and

of 107 million Euros in Sicily (Ciappi *et al.* 2015), where the size of the juvenile offender population is about four times as in Veneto, we obtain a benefit/cost ratio of 7.25 in Veneto and 1.4 in Sicily. These figures show that investments in rehabilitation programs are highly attractive. This difference shows that interregional differences, presumably also across European States, can be substantial. This evidence, if gathered for all European member states, should in principle guide the socially efficient allocation of resources fostering social inclusion programs in the member states.

In addition, public resources fostering a more inclusive society are often not allocated from public funds collected through the fiscal system, especially during a recession. The revealed willingness to pay may be captured, at least in part, through the solidarity channel by fostering innovative social institutions, such as community foundations, designed to pool donations into coordinated and effective social inclusion programs.

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Table 1. Descriptive Statistics

(Sample size)		Veneto (513)		Sicily (514)		Difference	
Variable	Definition	Mean	St. dev.	Mean	St. dev.	*p*-value	
Participation	= 1 if respondent votes "yes"	0.398	0.022	0.383	0.021	0.636	
Socio-economic characteristics							
Age	Age in years	42.943	13.449	41.846	13.493	0.192	
Female	= 1 if female	0.495	0.500	0.510	0.500	0.640	
Married	= 1 if married	0.653	0.476	0.644	0.479	0.761	
Family size	Family size	3.125	1.139	3.167	1.264	0.571	
Kids	= 1 if there are children aged 0-17	0.337	0.473	0.325	0.469	0.675	
Elderly	= 1 if there are adults aged > 63	0.220	0.415	0.144	0.351	0.001	***
No high school	= 1 if no high school diploma	0.474	0.500	0.358	0.480	0.000	***
High school	= 1 if with a high school diploma	0.388	0.488	0.446	0.498	0.061	
University	= 1 if with a bachelor degree	0.138	0.346	0.196	0.398	0.013	**
1st quintile	= 1 if 1st income quintile	0.175	0.381	0.228	0.420	0.037	**
2nd quintile	= 1 if 2nd income quintile	0.135	0.342	0.268	0.444	0.000	***
3rd quintile	= 1 if 3rd income quintile	0.207	0.405	0.195	0.396	0.629	
4th quintile	= 1 if 4th income quintile	0.232	0.423	0.163	0.370	0.006	***
5th quintile	= 1 if 5th income quintile	0.251	0.434	0.146	0.353	0.000	***
Ideological inclinations							
Left-wing	= 1 if left-oriented	0.246	0.431	0.228	0.420	0.498	
Centre	= 1 if centre-oriented	0.092	0.289	0.068	0.252	0.164	
Right-wing	= 1 if right-oriented	0.347	0.476	0.290	0.454	0.050	**
Not political	= 1 if no political interest	0.316	0.465	0.414	0.493	0.001	***
Religious	= 1 if practicing a religion	0.661	0.474	0.665	0.472	0.877	
Concern about crime risk							
Victim	= 1 if the victim of a crime	0.164	0.370	0.144	0.351	0.380	
Safe	= 1 if neighborhood is safe	0.392	0.489	0.430	0.496	0.214	
Quite safe	= 1 if neighborhood is quite safe	0.524	0.500	0.430	0.496	0.002	**
Unsafe	= 1 if neighborhood is unsafe	0.084	0.277	0.140	0.347	0.004	***
Home	= 1 if no home security means	0.296	0.457	0.395	0.489	0.001	***
Burglary	= 1 if concerned about burglary	0.248	0.432	0.154	0.361	0.000	***
Rape	= 1 if concerned about rape	0.302	0.460	0.340	0.474	0.188	
Homicide	= 1 if concerned about homicide	0.195	0.397	0.237	0.426	0.099	*
Juvenile	= 1 if concerned about juvenile crime	0.193	0.395	0.235	0.425	0.097	*
Other crime	= 1 if concerned about other crime	0.019	0.138	0.004	0.062	0.020	**
No concerned	= 1 if no concerned about crime	0.043	0.203	0.029	0.168	0.239	
Macro variables at the provincial level							
Property rate	Property crime rate	2,735.29	31.464	2,195.05	35.712	0.000	***
Violent rate	Violent crime rate	160.45	1.561	234.02	3.007	0.000	***
Other rate	Other crime rate	1,682.82	15.424	1,576.60	5.808	0.000	***
Immigration	Immigration rate	9.801	1.559	2.500	0.941	0.000	***

Notes: The last column reports the *p*-values of t-tests of equality of means or proportion.
***, **, * = significant at the 1, 5, and 10% level, respectively.
The macro variables are aggregated at the provincial level.
Source: ISTAT (http://giustiziaincifre.istat.it, and http://noi-italia.istat.it).

Table 2. Determinants of Social Inclusion - Marginal Effects

Dependent variable: 1 = respondent participates in the market of juvenile rehabilitation programs					
(Sample size)	Veneto (513)		Sicily (514)		Difference
	(1)	(2)	(3)	(4)	(2) vs (4)
Socio-economic characteristics					
Age	-0.001	-0.000	-0.004	-0.005	n.s.
	(0.002)	(0.002)	(0.003)	(0.003)	
Female	-0.056	-0.081**	-0.025	-0.032	n.s.
	(0.044)	(0.041)	(0.034)	(0.028)	
Married	0.020	0.004	0.164**	0.169**	n.s.
	(0.037)	(0.040)	(0.077)	(0.083)	
Family size	-0.039**	-0.035**	0.057***	0.062***	***
	(0.016)	(0.015)	(0.018)	(0.016)	
Kids	0.197***	0.211***	-0.088	-0.079	***
	(0.059)	(0.059)	(0.074)	(0.076)	
Elderly	0.030	0.038	0.106**	0.123**	n.s.
	(0.035)	(0.034)	(0.046)	(0.048)	
No high school	-0.064	-0.068	-0.140**	-0.123*	n.s.
	(0.058)	(0.076)	(0.070)	(0.071)	
High school	0.023	0.034	-0.184**	-0.188**	*
	(0.037)	(0.044)	(0.089)	(0.081)	
1st quintile	-0.036	-0.049	0.142**	0.127**	*
	(0.058)	(0.069)	(0.062)	(0.061)	
2nd quintile	-0.146*	-0.149*	0.157**	0.144**	***
	(0.078)	(0.086)	(0.065)	(0.060)	
3rd quintile	-0.060	-0.058	0.194***	0.150***	***
	(0.042)	(0.044)	(0.046)	(0.049)	
4th quintile	-0.080	-0.070	0.187***	0.177***	***
	(0.065)	(0.071)	(0.058)	(0.059)	
Ideological inclinations					
Left-wing	0.126	0.155*	0.078	0.086	n.s.
	(0.086)	(0.091)	(0.082)	(0.075)	
Centre	0.064	0.091	-0.009	-0.005	n.s.
	(0.085)	(0.084)	(0.069)	(0.071)	
Not political	0.004	0.017	-0.104*	-0.104*	n.s.
	(0.055)	(0.060)	(0.056)	(0.062)	
Religious	0.023	0.027	0.103***	0.090*	n.s.
	(0.061)	(0.065)	(0.038)	(0.047)	
Concern about crime risk					
Victim		-0.014		0.015	n.s.
		(0.050)		(0.050)	
Safe		0.074		0.032	n.s.
		(0.073)		(0.086)	
Quite safe		0.105***		0.065	n.s.
		(0.034)		(0.101)	
Home		0.002		-0.033	n.s.
		(0.030)		(0.054)	
Burglary		0.270**		0.148	n.s.
		(0.105)		(0.225)	
Rape		0.310***		0.204	n.s.
		(0.102)		(0.159)	
Homicide		0.285**		0.269**	n.s.
		(0.129)		(0.133)	
Juvenile		0.221*		0.262	n.s.
		(0.124)		(0.170)	
Other crime		0.101		0.439	n.s.
		(0.192)		(0.296)	
Macro variables at the provincial level					
Property rate		-0.000		-0.000	n.s.
		(0.000)		(0.000)	
Violent rate		-0.009		0.001*	**
		(0.006)		(0.001)	
Other rate		0.001		-0.000	n.s.
		(0.001)		(0.000)	
Immigration		0.117		0.057***	**
		(0.085)		(0.007)	
Log likelihood	-329.586	-322.631	-316.356	-309.250	

Notes: Robust standard errors clustered at the provincial level are in parenthesis. The "Difference" column shows the significance level of the difference between determinants for Veneto respondents compared to Sicily respondents obtained by pooling the two samples and by applying Ai and Norton (2003) and Greene (2010). ***,**,* = significant at the 1, 5, and 10% level, respectively; n.s. = not significant.

Table 3. Willingness to Pay Estimates (Euros)

		Households		Test statistic	
Veneto	Total	with children ($WTP_{c>0}$)	without children ($WTP_{c=0}$)	$WTP_{c>0} \neq WTP_{c=0}$	Wald test
Mean	59.096	82.398	47.501	yes	6.198
S.E.	6.045	12.419	6.499		
[95% c.i.]	[47.248 70.945]	[58.058 106.739]	[34.763 60.239]		
Sample size	513	173	340		
Sicily					
Mean	76.458	83.954	72.618	no	0.390
S.E.	8.344	15.219	9.903		
[95% c.i.]	[60.105 92.811]	[54.126 113.782]	[53.208 92.028]		
Sample size	514	167	347		
Test statistic: WTP Veneto ≠ Sicily?	yes	no	yes		
Wald test	2.839	0.006	4.496		

Appendix A. Crime Rates in Veneto and Sicily Compared to Italy

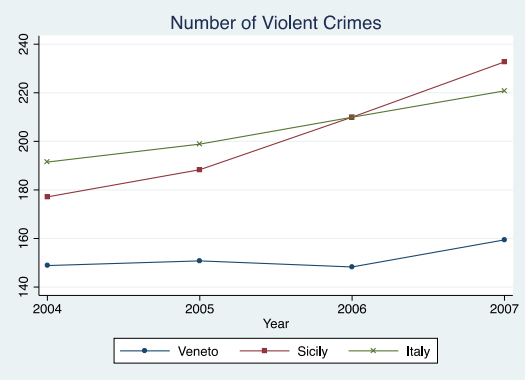
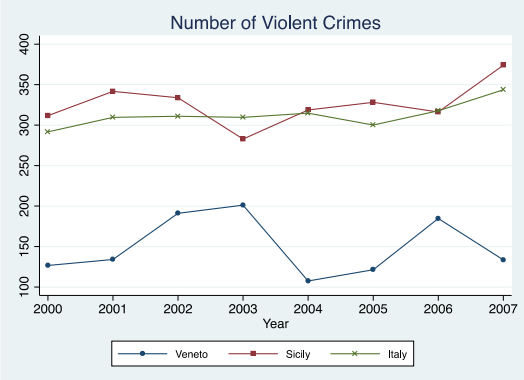
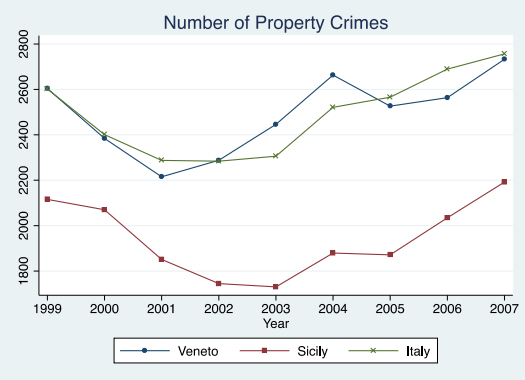
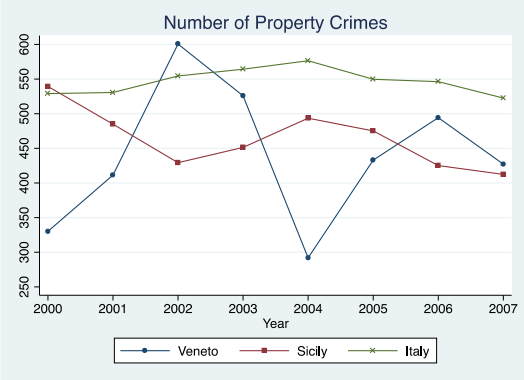
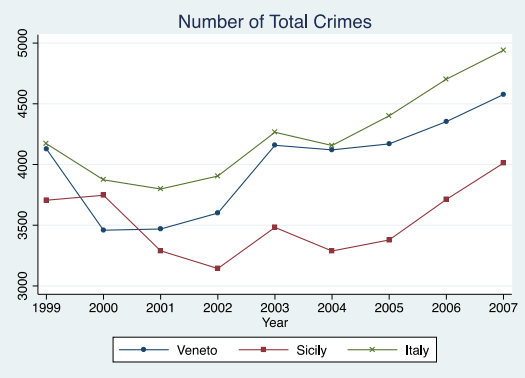
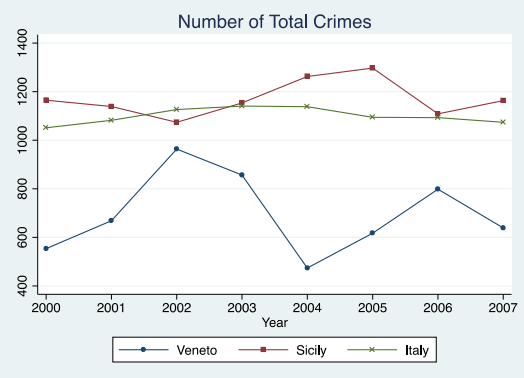
This section presents statistics at the regional and national levels on crime rates in Italy, Veneto and Sicily.[13] Figure A1 shows the number of crimes per 100,000 inhabitants by type of criminal offense reported to the police. The statistics refer to crimes involving either adults or juvenile offenders. Both are presented because in Italy about 80% of adult offenders were formerly young offenders and because adult crime affects the risk perception that young people may be either affected by, or involved in, anti-social activities.

Panel 1.A, Figure A1 shows that the adult violent crime rate increased both at the regional and national level from 2004 to 2007. In Veneto, the violent crime rate increased by about 7% from 2004 to 2007, while in Sicily by 31% compared to an increase at the national level by 15%. The number of violent crimes is constantly higher in Sicily than in Veneto. Panel 1.B of Figure A1 shows that the rate of adult property crimes increased in both regions, by 5% in Veneto and 3.6% in Sicily from 1999 to 2007. In sharp contrast, during these years, the property crime rate was constantly higher in Veneto than Sicily. In the same period, Veneto reported a higher total crimes rate than in Sicily (Figure A1, Panel 1.C), though slightly lower than the national average.

Panels 2.A-2.C, Figure A1 show the number of crimes reported to the police involving children aged 10-17 per 100,000 children. Panel 2.A shows that the number of juvenile violent crimes increased by 5.5% in Veneto from 2000 to 2007, while in Sicily the increase was 20%. With regard to the juvenile property crime rate (Figure A1, Panel 2.B), data show sizable fluctuations from year to year in Veneto, whereas the figures show a considerable decline in the property crime rate in Sicily. The property crime rate increased by about 30% in Veneto from 2000 to 2007, while it decreased by 24% in Sicily. Overall, juvenile offenses increased by 15.4% in Veneto, fluctuating considerably, over the eight years, while remained almost unchanged in Sicily (Figure A1, Panel 2.C). The number of juvenile crimes was considerably and constantly lower in Veneto as compared to Sicily.

[13] Source: ISTAT (http://giustiziaincifre.istat.it).

Figure A1. Number of Adult and Juvenile Crimes

Adult Crimes[a]	Juvenile Crimes[b]
Panel 1.A	Panel 2.A
	
Panel 1.B	Panel 2.B
	
Panel 1.C	Panel 2.C
	

Notes: [a] Number of crimes per 100,000 inhabitants in Veneto, Sicily and Italy as a whole. [b] Number of crimes reported to the police involving children 10-17 years old per 100,000 in the 10-17 age group. Source: ISTAT (http://giustiziaincifre.istat.it).