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The Effect of Immigrant Legalization on Crime

Legal status deeply affects immigrants' lives in several ways, as discussed at length throughout the present paper. In particular, legal status improves migrants' employment opportunities, access to social assistance, and child educational opportunities. All these benefits deriving from legal status may, in turn, influence immigrants' propensity to commit crimes.

The economic model of crime predicts that individuals decide whether or not to engage in crime by comparing the expected benefits and expected costs of criminal activities. The expected costs include the direct costs from punishment, if apprehended, as well as the "opportunity cost" of foregone alternative income opportunities. For the reasons mentioned above, legal status clearly improves these alternative opportunities, and should therefore result in a decline in the probability of committing crimes.

As we move from theory to empirics however, it is difficult to quantify the response of criminal behavior to the acquisition of legal status for two main reasons: First, immigrants without legal status do not appear in official statistics; second, even if we observe systematic differences in criminal behavior between regular and irregular immigrants, such difference cannot be immediately attributed to the (causal) effect of legal status, since regular and irregular immigrants presumably differ along other dimensions that are likely correlated with criminal behavior (e.g., age and education).

I discuss these issues in the context of Italy, where the combination of strong migration pressures, strict quotas regarding legal migration, and porous border enforcement has allowed for a large pool of irregular migrants. First, I will present some preliminary evidence about the disproportionate involvement of irregular immigrants in crime, not only compared to natives, but also to legal immigrants. Next, I will use survey data covering both regular and irregular immigrants to show that these differences in criminal behavior may reflect differences in other individual characteristics in addition to the causal effect of legal status. Finally, I will discuss the findings from two natural experiments, which will allow us to isolate the causal effect of legal status from selection on other individual characteristics.

REGULAR AND IRREGULAR IMMIGRANTS IN ITALY

According to the Italian Ministry of Interior, in 2006, irregular immigrants accounted for 80 percent of all immigrants arrested for serious crimes (Italian Ministry of Interior, 2007). This share is certainly higher than the share of irregulars among all immigrants re-

siding in Italy. Although it is hard to precisely count irregular migrants, their share in terms of the total number of foreigners in 2006 was estimated to be below 20 percent (see, e.g., ISMU 2015). Indeed, the same report by the Italian Ministry of Interior notes that legal immigrants are prosecuted at the same rate as natives, whereas irregular immigrants are prosecuted at a much higher rate.

However, one cannot immediately attribute these differences in criminal behavior to the causal effect of legal status, since regular and irregular immigrants differ along many other lines. I document such differences using data from the ISMU Survey on immigrants in Lombardy. Since 2001, the survey has interviewed between eight and nine thousand immigrants every year, including both regular and irregular migrants. The sampling of irregular immigrants exploits social networks around a number of aggregation centers, such as train stations, shops, and telephone centers (see Blangiardo, 2008, for more details on the ISMU survey).

Table 1 shows the average characteristics of the two groups of migrants when pooling together all respondents interviewed by ISMU between 2001 and 2016. Irregular immigrants are more likely to be male, single, and less educated compared to regular immigrants. All these characteristics are typically associated with a higher involvement in crime, suggesting that irregular immigrants would display higher crime rates even in the absence of any causal effect of legal status.

In order to isolate the causal effect of legal status from the confounding effect of other omitted factors, I discuss the evidence from two policy experiments. Both these experiments generated two groups of immigrants that are similar in all respects except for the fact that one group obtained legal status and the other one did not, allowing us to attribute any difference in criminal behavior between such groups to the causal effect of legal status.

NATURAL EXPERIMENT 1: THE EU ENLARGEMENT

On January 1, 2007, Romania and Bulgaria gained access to the European Union (EU). As a consequence, Romanians and Bulgarians obtained legal residence as well as access to official labor markets and social assistance in all coun-



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Table 1
Characteristics of regular and irregular immigrants, ISMU survey 2001–2016

	Regular	Irregular	Difference
Male	0.532 (0.002)	0.661 (0.004)	- 0.128 (0.005)
Age	35.488 (0.029)	31.497 (0.074)	3.991 (0.082)
Married	0.625 (0.002)	0.326 (0.004)	0.299 (0.005)
Number of children	1.282 (0.004)	0.765 (0.011)	0.517 (0.012)
College degree	0.156 (0.001)	0.114 (0.003)	0.043 (0.003)
High school degree	0.434 (0.002)	0.43 (0.005)	0.004 (0.005)
High school dropout	0.41 (0.002)	0.456 (0.005)	- 0.046 (0.005)
Employed	0.777 (0.001)	0.742 (0.004)	0.035 (0.004)
Working in the official economy	0.69 (0.002)	0.06 (0.002)	0.63 (0.004)
Working in the unofficial economy	0.087 (0.001)	0.682 (0.004)	- 0.595 (0.003)
Income, euros at constant 2010 prices	788.7 (2.3)	564.6 (4.9)	224.2 (6.3)

Notes: This table shows the average characteristics of regular and irregular immigrants in Lombardy as well as the difference between the two groups. Standard errors are reported in parentheses. The source of these data is the ISMU survey, pooling all waves conducted between 2001 and 2016.

Source: ISMU Foundation – Initiatives and Studies on Multi-ethnicity.

tries within the EU—although some countries, such as the United Kingdom, maintained some transitory restrictions. In an article with Giovanni Mastrobuoni, we compare the criminal behavior of Romanians and Bulgarians residing in Italy before and after obtaining legal status, with that of other immigrants from candidate EU member countries that did not obtain legal status (Mastrobuoni and Pinotti 2015).

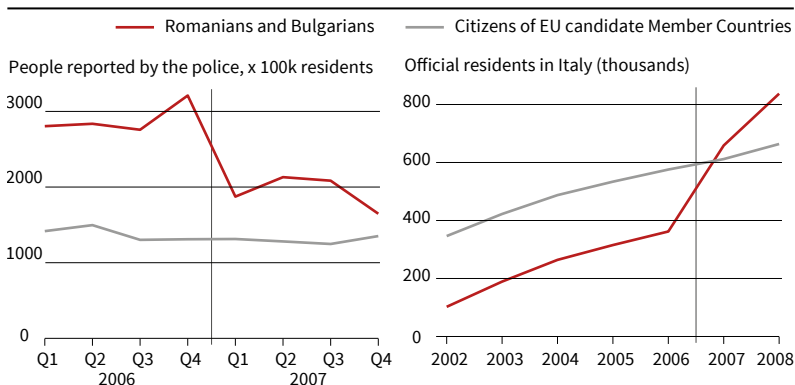
The left graph in Figure 1 shows that the crime rate of Romanians and Bulgarians, as measured by the number of individuals arrested by the police

over the total number of (official) residents, declines abruptly after the EU enlargement, whereas there is no significant change for the other group. While this evidence is consistent with the hypothesis that legal status decreases the propensity to commit crimes, the decline in the arrest rate also reflects the marked increase in the total number of residents in the denominator. The right graph in Figure 1 shows, indeed, that the number of Romanians and Bulgarians residing in Italy doubled after the enlargement. This increase in the number of (official) residents includes both inflows of new immigrants from abroad as well as the legalization of thousands of immigrants that were irregularly present in Italy before the enlargement. On the other hand, the numerator of the crime rate includes both regular and irregular immigrants throughout this period. Therefore, any decline in the crime rate for Romanians and Bulgarians would conflate the inflow of new immigrants as well as the emergence of irregular immigrants in official statistics. Since the effect on the denominator is not present for immigrants from EU candidate member countries, the evidence in Figure 1 is not conclusive on the effect of legal status on the propensity to commit crime. An additional issue when comparing the arrest rate between legalized and non-legalized immigrants is that the probability of being arrested conditional on having committed a crime may vary by legal status. For instance, police and judicial authorities may treat immigrants that are irregularly present in the country more severely.

To address both these issues, we restrict the comparison to a particular sub-population of immigrants in Italy, namely prison inmates pardoned with the Italian Collective Clemency Bill—the “Indulto.” On August 1, 2006, all inmates with less than three years of residual sentence were released from Italian prisons. This amounted to 25 thousand (male) prisoners, including 725 Romanians and Bulgarians, and 1,622 citizens of other candidate EU member countries. Five months later the former group obtained legal status in Italy, whereas the latter group did not. Therefore, we estimate the effect of legal status on the probability of being (re)arrested by comparing the recidivism of these two groups before and after the EU enlargement.

Restricting the analysis to this particular sub-population presents two main advantages for the purpose of identifying the causal effect of legal status. First, all pardoned prison inmates were in Italy before the EU enlargement, and were plausibly irregular between their release from prison and the EU enlargement, alleviating concerns that changes in the denominator of the crime rate will conflate inflows from abroad and legalization of previously irregular immigrants. Second, pardoned individuals committing a new crime within five years of the Indulto were immediately re-incarcerated, regardless of their legal status or other circumstances, in order to serve the pardoned

Figure 1
Arrest Rate and Presence of Immigrants in Italy, New EU Countries vs. EU Candidate Member Countries



Source: Italian Ministry of Interior.

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residual sentence along with a new sentence (see also Drago et al., 2009). This provision greatly attenuates concerns of differential treatment of offenders based on legal status on the part of judicial authorities.

Figure 2 compares the daily hazard rate of recidivism (i.e., the average probability of being re-arrested on any given day conditional on not having been previously re-arrested) between immigrants from new EU and candidate EU member countries, respectively, in the five months before and after the enlargement. The crime rate of Romanians and Bulgarians is identical to that of the other group in the months prior to the EU enlargement, but it decreases markedly after the enlargement. In particular, close to 6 percent of pardoned inmates were re-arrested in both groups before the enlargement; this fraction drops to 2.3 percent for Romanians and Bulgarians after the enlargement, whereas there is no significant decline for the other group. Therefore, the acquisition of legal status cuts the probability of committing crimes by more than half in our sample of former prison inmates. This effect is mainly driven by immigrants in northern Italian regions, which are characterized by better economic opportunities in the official economy compared to southern regions. This finding further corroborates the hypothesis that legal status affects immigrants' criminal behavior through an improvement in alternative income opportunities.

Of course, these results may not be immediately applicable to the rest of the immigrants across Italy. For this reason, in further research on this topic, I exploit another natural experiment affecting a wider population of immigrants in Italy.

NATURAL EXPERIMENT 2: THE CLICK DAYS

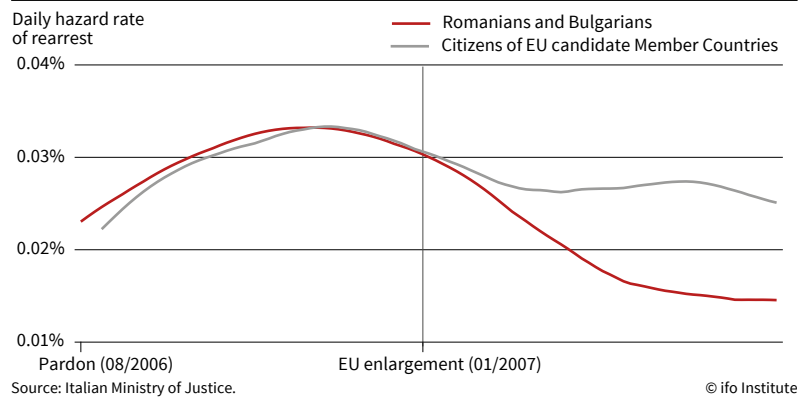
As in many other countries, immigrants' legal work in Italy is regulated by a quota system, establishing the number of work permits available each year by type of work contract, country of origin, and province of destination. At the same time, the Italian system is particular in that, starting in 2006, immigrants must apply for permits through the Internet, starting at 8:00 am, on given "Click Days" throughout the year.¹ Applications are then processed on a first-come, first-serve basis until the quota limit is reached, meaning that a few seconds of delay can determine whether or not an applicant obtains legal status.

In Pinotti (2017), I exploit this allocation mechanism as an ideal Regression Discontinuity Design to identify the effect of legal status on criminal behavior. Specifically, I compare crime rates in the year after Click Days between immigrants who applied just before and just after the permits ran out—about 110,000 applicants on a total of over 600 thousand. Importantly, the great majority of these applicants were already (irregularly) present in Italy at the time

¹ In practice, applications are sent by the perspective employers (i.e., the "sponsors") of immigrant workers.

Figure 2

Recidivism of Pardoned Prison Inmates from New EU Countries and EU Candidate Member Countries



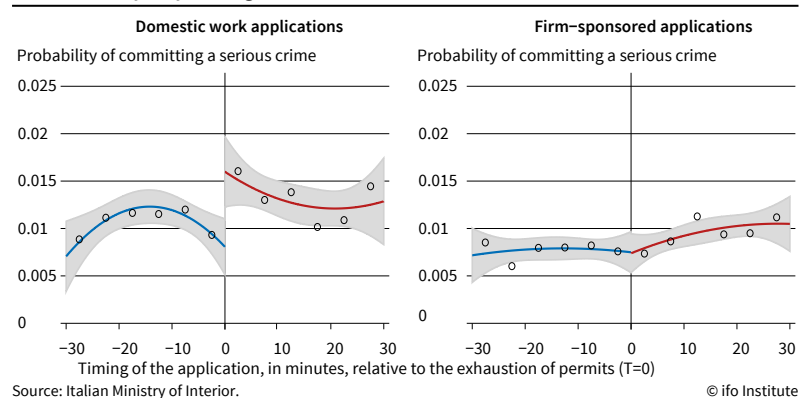
of the application, since Click Days act as de-facto regularizations.

I find that in the year after Click Days, the crime rate decreases by half for immigrants who applied just before the permit cut-off date and had the application accepted, compared to immigrants who applied just after the cutoff and, therefore, had the application rejected. In addition, I uncover an interesting heterogeneity by type of contract. In particular, applicants sponsored by individuals and families for domestic work (e.g., caregivers) exhibit both a higher crime rate and a stronger response to legal status compared to applicants sponsored by firms; see Figure 3.

Additional evidence suggests that (male) applicants for domestic work are, in many cases, unemployed individuals sponsored by friends or relatives for sham contracts aimed only at obtaining a residence permit. By contrast, firms are subject to greater scrutiny, and are thus more likely to only sponsor applicants backed by real job offers. In addition, firm-sponsored workers are often already employed in the host firm before obtaining a formal job contract. Therefore, it is not surprising that they already exhibit a lower crime before Click Day as well as a lower response to legal status acquisition as compared to domestic applicants.

Figure 3

Crime Rate of Applicants for Domestic Work vs. Firm-Sponsored Jobs, before and after Click Days, by Timing of the Application



Source: Italian Ministry of Interior.

CONCLUSION AND POLICY IMPLICATIONS

In summary, the evidence from both natural experiments confirms that the acquisition of legal status decreases the propensity to engage in crime. The relative magnitude of the effect is also remarkably similar—an over 50 percent decrease in the probability of committing crimes—in spite of obvious differences in the two populations of interest, former prison inmates and applicants for work permits, respectively. Additional evidence from both experiments highlight the fundamental role of access to formal labor markets as the main mechanism through which legal status influences immigrants' criminal behavior.

These results have far-reaching implications for designing migration policies. In most destination countries, growing concerns about the alleged effect of immigration on crime increase support for anti-immigrant parties and restrictive migration policies. To the extent that these policies complicate the path to legal work and residence for immigrants who are irregularly present in the country, they could backfire and result in a rise in immigrant crime. A similar ar-

gument applies to refugees and asylum seekers, who often face employment bans upon arrival in destination countries. Fasani et al. (2020) show that lifting these bans considerably improves access to legitimate income opportunities in destination countries, which in turn should decrease risks of involvement in crime.

REFERENCES

- Blangiardo, G. (2008), "The Centre Sampling Technique in Surveys on Foreign Migrants: The Balance of a Multi-Year Experience", United Nations Statistical Commission and EUROSTAT Working Paper 12.
- Drago, F., R. Galbiati, and P. Vertova (2009), "The Deterrent Effects of Prison: Evidence From a Natural Experiment", *Journal of Political Economy*, 117(2), 257–280.
- Fasani, F., T. Frattini, and L. Minale (2020), "Lift the Ban? Initial Employment Restrictions and Refugee Labour Market Outcomes", Working paper.
- ISMU Foundation (2015), "Stima presenze irregolari—Anni 1991–2013".
- Italian Ministry of Interior (2007), "Rapporto sulla criminalità in Italia. Analisi, Prevenzione, Contrasto".
- Mastrobuoni, G., and P. Pinotti (2015), "Legal Status and the Criminal Activity of Immigrants", *American Economic Journal: Applied Economics* 7(2): 175–206.
- Pinotti, P. (2017), "Clicking on Heaven's Door: The Effect of Immigrant Legalization on Crime", *American Economic Review*, 107(1), 138–68.