Abstract

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The Impact of Entrepreneurship on Community Integration: Evidence from a Quasi-Natural Experiment

Abstract

Previous research has focused on the antecedents of entrepreneurship within communities, but little is known about the consequences of entrepreneurship for the community. Focusing on within-community integration, as indicated by violation of community norms through misconduct, we propose that regional boosts of entrepreneurial activity benefit communities. Using employer–employee matched data from Portugal between 2002 and 2010 and an exogenous increase in entrepreneurship, we find support for our claims. Following the enactment of entry deregulation policies which increased entrepreneurship, the incidence of norm violation through misconduct declined within the focal community. We further find that higher participation in the labor market and improved workforce conditions of disadvantaged groups is the key mechanism responsible for this effect. Workers from such groups are more likely to find employment and experience improvement in working conditions when entrepreneurship rates increase. The beneficial effect of entrepreneurship on misconduct was further amplified in communities with greater rates of unemployment and greater income inequality, confirming our prediction that entrepreneurship can serve as a vehicle to improve the standing of low-income communities.
Introduction

How to spur entrepreneurship within regions has become a central question for scholars of agglomeration and policy makers (e.g., Haltiwanger et al., 2012; Saxenian, 1994). Multiple regional initiatives are put in place by local governments, universities, or incubators to foster the pursuit of entrepreneurship and increase the number of individuals who choose to become founders (Armanios et al. 2017; Lanahan and Feldman, 2015). Underlying such efforts is the general assumption that entrepreneurship is critical for the success of a region and that the ability to attract founders is therefore an important component of “regional advantage.”

But while the overall gains from fostering entrepreneurship within regions have been well established, we only have partial understanding of the specific mechanisms that translate a boost in entrepreneurial activity into a regional success. The preponderance of past research has focused on economic gains that accrue to regions and communities with high levels of entrepreneurship. For example, scholars have highlighted the benefits of worker mobility (e.g., Marx, 2011), knowledge spillovers (Saxenian, 1994; Bresnahan, Gambardella, and Saxenian, 2001), job creation (Blanchflower, 2000; Steinmetz and Wright, 1989; Decker et al. 2014; Wong, Ho, and Autio 2005; Haltiwanger et al., 2012), and innovation (Schumpeter, 1954; Samila and Sorenson 2010; Wong et al. 2005) – all thought to increase in regions with high levels of entrepreneurship. But, beyond the economic prosperity, the success of specific regions and communities is critically dependent on their social structure, or the levels of social integration, community trust or social exchange. Indeed, scholars have long established that the ability of communities to thrive or survive hinges, to a large extent, on community trust or social capital (Greve and Rao, 2018; Samila and Sorenson 2010). Hence, in order to understand the sources of
regional advantage due to entrepreneurship, its effects on the social structure of focal communities need to be examined more fully.

In this study, we thus alleviate the asymmetry in past research by turning our attention to the social structure of communities and examine how regional outbursts in entrepreneurial activity affect the underlying social structure within communities. More specifically, we focus on an important dimension of community structure: the level of social integration, or the extent to which members of a given community are bonded by a set of common values and norms (Katz and Kahn, 1978; Roberts and O'Reilly, 1979; Krackhardt and Porter 1990; Pescosolido and Georgianna 1989). Sociologists have long argued that deviance from norms and values that are widely accepted within communities can lead to a breakdown of such communities (e.g., Durkheim, 1949; 1950) or the fraying of social ties (Coleman, 1988). Specifically, going back to Durkheim (1959, 1960), it has been established that the level of misconduct within a community is an important indicator of a loss in community belonging and fraying social solidarity, all of which result in community disintegration. Hence, we ask: How do regional outbursts in entrepreneurial activity affect within-community misconduct?

The impact of regional boosts in entrepreneurship on community-level misconduct generates an interesting puzzle because such relationship can trigger two opposite forces, generating two different logics. On one hand, studies of inequality predict that an increase in entrepreneurial foundings will have positive effects on the propensity to engage in misconduct at the community level. Because founding and operating a new venture tends to be characterized by low median and high variance of returns (Hamilton, 2000; Åstebro et al., 2011), entrepreneurship can deepen workforce inequality which can further fracture different social circles (e.g., Halvarsson et al., 2017; Hall and Woodward, 2010; Blanchflower, Levine, and
Zimmerman, 2003). As a result, groups of disadvantaged workers might be more likely to engage in misconduct, increasing community disintegration. On the other hand, initiatives to promote entrepreneurship may lead to a negative impact on within-community misconduct.

Growing research on social entrepreneurship views entrepreneurial activity as a vehicle to address societal problems by bringing market-based solutions and philanthropy to underserved communities or low-income groups within the community (e.g., Mair and Marti 2006; Santos 2012; Short et al. 2009). As a result, groups of disadvantaged workers might be less likely to engage in misconduct, increasing community integration.

We propose that the rise in entrepreneurial activity will, on average, decrease misconduct within focal communities by helping underserved groups of individuals, who are most prone to misconduct, to overcome barriers in the labor market and to successfully reintegrate in the community. We expect two interrelated processes will underlie such effects. First, following a regional increase in entrepreneurial activity, participation amongst disadvantaged groups in the labor market will increase, as disadvantaged groups become more likely to shift from unemployment to labor market participation. Second, conditional on labor market participation, we predict that the average quality of jobs available to these disadvantaged workers will increase. This integration in the labor force will significantly diminish the motivation and willingness to engage in misconduct, thus enhancing social integration within the community.

To generate these predictions, we build on two interrelated literatures. First, a long line of research has suggested that firms are likely to offer substantial benefits to attract and retain workers when labor-market competition increases and the bargaining power of employees vis-à-vis employers is higher (e.g., Marx, 2011; Coff, 1997; Ganco et al., 2015; Flammer and Kacperczyk, 2019; Starr, Balasubramanian, and Sakakibara, 2018). Second, theories of statistical
discrimination similarly suggest that employers are less likely to rely on stereotypes on the basis of social status or demographic attributes when competition increases, making discrimination more costly for employers (Becker, 1957, 1971). In combination, these theories offer predictions about the underlying mechanism: because the outbursts of entrepreneurial activity increase labor-market competition, opportunities to participate in the labor market as well as to secure better-quality jobs will improve amongst underserved populations within the community.

As a test of our claims, we expect that an increase in entrepreneurship will additionally suppress the rates of within-community misconduct when accompanied by this labor-market re-integration. By contrast, absent such mechanisms, the inequality concerns will dominate, amplifying fractionalization and leading to higher misconduct within communities. In sum, we predict that boosts in entrepreneurial activity at the community level will facilitate social integration, by lowering misconduct, but that this positive effect will be contingent on workers’ integration into the labor market.

The impact of entrepreneurship on community-level misconduct is difficult to assess because such relationship is subject to classical endogeneity concerns. In particular, finding a positive relationship between founding rates and the levels of social integration may be spurious if the relationship is driven by unobserved regional or institutional characteristics. For example, regions with higher GDP per capita might have higher founding rates but also higher levels of exchange between different groups of individuals. By the same token, the relationship between entrepreneurship rates and the expected within-community misconduct can be subject to reverse causality. For example, a less segregated community, in which individuals engage in greater exchange, can attract entrepreneurial investments (Sorenson and Samila, 2017) or individuals willing to start new ventures. In short, though empirically challenging, leveraging a research
design that provides a clean causal estimate is central to our understanding of how entrepreneurship within a community affects integration levels across communities.

We exploit a quasi-natural experiment provided by the staggered enactment of an important institutional change in the form of entry deregulation reform (the “On the Spot Firm” program) implemented in Portugal from 2005 to 2009. The Portuguese reform increased the rate of entrepreneurship at the community level (i.e., municipality), by decreasing bureaucratic and financial burdens on those starting new ventures. There is consensus that the reform’s enactment across different municipalities was exogenous with respect to the socio-economic characteristics of the municipalities themselves (e.g., Branstetter et al. 2014, Fernandes et al. 2014). Given the exogenous timing of the reform and its staggered nature, it is possible to estimate the effects of this entrepreneurship reform using a difference-in-differences methodology—with the “treatment” group composed of municipalities that are subject to these reforms, and the “control” group composed of municipalities that are not. To estimate these effects, we leverage a set of large-scale, longitudinal, employee–employer matched data from Portugal containing the annual accounts of all limited liability firms in Portugal. The data document complete career histories and life events of the entire population of Portuguese employees, allowing us to characterize the extent of social integration.

THEORY AND HYPOTHESES

Past Research

The relationship between community-level attributes and entrepreneurship has been subject to some prior inquiry. For example, in a study of Norwegian retail cooperatives in the wake of the Spanish Flu, Greve and Rao (2018) examine how community resilience influences the founding
of cooperatives. They document that two mechanisms matter: the framing of the cause of the disaster, and the community civic capacity to form diverse non-profits. Similarly, Samila and Sorenson (2017) examine how racial integration influences entrepreneurship. They find that communities with higher levels of racial integration foster the discovery of more novel and more valuable inventions and the emergence of more ethnically-diverse entrepreneurial groups. Overall, this research documents that key community attributes – such as resilience or racial integration – are important predictors of whether the members of the community will collectively engage in and benefit from an entrepreneurial activity.

Despite its merits, however, this line of work offers little evidence regarding how regional outbursts of entrepreneurial activity – once they are achieved – can affect the underlying attributes of the community itself. Yet, this neglect is important because entrepreneurship, by engaging different circles in productive exchange, or by generating a different distribution of rewards (Girratana and Gambardella, 2000), is likely to have a profound influence on the underlying community attributes. Hence, in what follows below, we shift the focus of current research to examine more closely the consequences of community-level entrepreneurship for the underlying community attributes. Specifically, we examine how community boosts in entrepreneurship affect within-community social integration – in a sense of community shared values, shared belonging, and solidarity.

**The Impact of Entrepreneurship on Social Integration**

The impact of regional boosts in entrepreneurship on community-level integration generates a puzzle worth considering. Two logics can offer predictions regarding the impact of community-level entrepreneurship on social integration. On one hand, studies of inequality predict that an increase in entrepreneurial foundings will have negative effects on within-community
integration. Because founding and operating a new venture tends to be characterized by low median and high variance of returns (Hamilton, 2000; Åstebro et al., 2011), there is growing recognition that entrepreneurship can deepen workforce inequality (e.g., Halvarsson et al., 2017; Hall and Woodward, 2010; Blanchflower, Levine, and Zimmerman, 2003). Inequality can lead to deeper community divides and further fractionalization of a community (Piketty, 2014), because underserved members will become further segregated from the majority members of the community. An increase in income inequality can increase the feeling of relative deprivation: as individuals engage in social comparison against wealthier peers, they will experience greater frustration and rebellion against the prevalent community norms. This might lead to greater exclusion, resulting in higher deviance from community norms, and therefore higher rates of misconduct.

An alternative view however, suggests the opposite logic. Growing research on social entrepreneurship views entrepreneurial activity as a vehicle to address societal problems by bringing market-based solutions and philanthropy to underserved communities or low-income groups within the community (e.g., Mair and Marti 2006; Santos 2012; Short et al. 2009). From this perspective, whereas entrepreneurial activity can increase inequality, it also could offer an effective mechanism for resolving societal problems and improving the standing of poor or low-income communities (Dees 2008; Wilson 2008). Studies of social entrepreneurship view, for example, setting up new ventures as the case of social activism (Mair and Marti 2006; Santos 2012; Short et al. 2009) and the process in which social value is created because market-based solutions can be identified and implemented to address acute social problems (Porter and Kramer 2011). Entrepreneurship might, for example, improve the societal well-being by facilitating corporate philanthropy amongst entrepreneurs who earn positive returns to entrepreneurship. In
what follows below, we specify the key contingency to resolve the puzzle: labor force integration of disadvantaged groups.

**Disadvantaged Groups and the Risk of Misconduct**

Social disintegration is often a result of resource scarcity, poverty, and income inequality. Empirically, there is a linkage between economic conditions, poverty, deprivation and crime (Chiricos 1987; Pratt and Cullen 2005). A key factor accounting for such deprivation involves exclusion from the mainstream labor market or limited access to opportunities in the labor market. For example, Chiricos (1987) has established a robust link between unemployment and misconduct and many other studies found a positive relationship between the two (Gould, Weinberg, and Mustard 2002; Raphael and Winter-Ebmer 2001).

Labor market opportunities are unequally distributed amongst individuals in the economy. For example, accessing lucrative jobs can be particularly difficult for certain groups of individuals if they lack formal credentials, skills, or other attributes that facilitate the participation in the labor market. Such obstacles can prevent these disadvantaged groups from participating in the labor market, pushing them into unemployment or other informal sectors of the economy. Alternatively, even when disadvantaged groups participate in the labor market force, they often face less favorable work conditions, earning lower salaries, or having less advantageous contracts with employers. Overall, such systematic exclusion of disadvantaged workers from the mainstream opportunities will place these groups at a higher risk of deviating from community norms and engaging in misconduct.
The Two-Fold Effect of Entrepreneurship on Disadvantaged Groups

There is a strong reason to expect that a regional increase in entrepreneurship will decrease misconduct levels within a community by increasing the extent to which disadvantaged workers, most prone to violations, are integrated within the community. We expect this effect to operate in two ways: (a) new-venture foundings will increase labor force participation of disadvantaged groups; and (b) the rise of entrepreneurial activity will help improve the quality of jobs and opportunities in the labor market available to such workers.

The increasing number of new ventures will reduce the rates of misconduct by increasing the bargaining power of disadvantaged workers relative to employers. First, a boost in entrepreneurial activity will likely increase the labor-market competition across incumbents and startups within the region (Marx, 2011), thus forcing companies to compete for workers more fiercely. As competition in the labor market increases, firms’ bargaining power relative to workers will decline, motivating incumbents to broaden their search for new hires or to offer better conditions to extant employees. Consistent with this claim, Fackler et al. (2018) find that younger firms, which tend to suffer from liability of newness (Stinchcombe, 1965) and therefore lower bargaining power, are more likely to hire disadvantaged workers – presumably because these firms exhibit lower bargaining power vis-à-vis employees.

Moreover, entrepreneurial entry might reduce employer bias against disadvantaged workers leading again to significant improvements in opportunities and work conditions amongst minorities. Consistent with this claim, economic perspectives view discriminatory behavior as a costly consumption good of the firm’s management, and discriminating employers must therefore forego profits in order to indulge their “taste for discrimination” (Becker, 1957, 1971; Borjas and Ramey, 1995). Given the assumption that discriminating firms are willing to pay
more than the prevailing market wage to be able to exclude from the labor pool members of
disfavored groups (e.g., women or racial minorities), scholars have further concluded that the
ability to discriminate is partly a function of the market structure: firms with considerable
resources can afford to continue discriminatory practices for longer than can firms with limited
resources. Relatedly, changes in the market power due to increased competition in the product
market will drive out any potential discrimination and therefore improve the relative employment
and earnings of discriminated groups (Becker, 1957, 1971). Becker (1957), for example,
suggested that a loss of market power will undermine the ability of an employer to sustain
discrimination in the long run and that even resource-rich firms would be unlikely to continue
discriminating, when faced with more intense competitive pressures that lead to structural
changes in the labor market. Empirically, studies have found that an increase in competition due
to deregulation in the banking industry improved women’s wages by motivating banks to share
their rents more equitably between female and male workers (Black and Strahan, 2001).
Similarly, other studies showed that amongst industries that experienced an increase in trade,
gender wage gap narrowed more rapidly in concentrated industries than in competitive industries
(Black and Brainerd, 2004).

Because disadvantaged groups are often excluded from the labor market due to
discrimination or low bargaining power, changes following an increase in entrepreneurial
activity will likely facilitate access to economic opportunities amongst these groups. Importantly,
because competition will naturally intensify following the rise in entrepreneurial activity, such
changes might reduce firms’ bargaining power, or increase the cost of discrimination amongst
employers. This will increase the opportunities for traditionally disadvantaged groups, excluded
from mainstream labor-market opportunities or subject to fierce work conditions, in paid
employment. As such disadvantaged groups witness significant improvements in their (a) labor force participation; and (b) access to more attractive work conditions, their integration in the labor market and community, more broadly, will increase. As a result, we expect the rates of within-community misconduct to decline, as the level of social integration improves. This leads to our main hypothesis:

**H1: Following a boost in entrepreneurship within a community, within-community misconduct will decrease.**

**Mechanisms: Cross Sectional Heterogeneity**

As a further test of our claims, we focus on cross-sectional heterogeneity. First, our theory implies that the positive impact of entrepreneurship on community-level misconduct will be contingent on the re-integration of disadvantaged groups within the labor market – through higher participation in the labor force and better work conditions. Hence, we expect that the positive effect of entrepreneurship will increase (diminish) when the extent of such integration increases (diminishes). Put differently, when rises in entrepreneurship are not accompanied by integration mechanisms, income disparities will rise, fostering distrust and deepening community divides, as those who are most disadvantaged experience further exclusion from mainstream economic opportunities. This leads to the following prediction:

**H2: The negative impact of entrepreneurship on within-community misconduct will be amplified (dampened) when integration of disadvantaged groups within the labor force increases (decreases).**

As a further test of our claims, we assess whether gains to entrepreneurship activities are more prevalent and more acute in regions with higher susceptibility to misconduct. If, as we hypothesize, a community-level boost in entrepreneurial activity leads to greater labor-market
integration of disadvantaged groups, we should expect this negative relationship between regional entrepreneurial activity and community-level misconduct to be amplified when community fragmentation is greater. Specifically, we expect these effects to be amplified in communities with higher level of unemployment or greater income inequality \textit{ex-ante}, prior to regional boost in entrepreneurship.

\textit{H3}: The negative impact of community-level entrepreneurship on within-community misconduct will increase in communities with higher unemployment rates (\textit{ex-ante}).

\textit{H4}: The positive impact of community-level entrepreneurship on within-community misconduct will increase in communities with higher income inequality (\textit{ex-ante}).

Finally, our hypotheses imply that initiatives to increase entrepreneurship within a community will lead to significant improvements in the attractiveness of labor-market opportunities available to disadvantaged workers, who otherwise face barriers in the labor market. Specifically, if entry of entrepreneurial firms increases labor-market competition, we would expect that firms will have lower bargaining power \textit{vis-à-vis} workers in general (including disadvantaged groups) and that they will be less likely to discriminate against certain groups. Hence, we predict that an increase in entrepreneurial activity will lead to better-quality jobs – in terms of earnings and work conditions – available to disadvantaged groups.

\textit{H5}: Following a boost in entrepreneurship within a community, wages and work conditions will disproportionately improve for disadvantaged workers.

**DATA AND METHODS**

\textit{Data and Empirical Setting}

We use Quadros de Pessoal (QP) database, a rich linked employer-employee dataset maintained by the Portuguese Ministry of Employment since the late 1980s. QP files are based on a mandatory yearly survey covering all firms in the Portuguese private sector and employing at
least one wage earner in the reference month (March until 1993, and October since 1994). All firms, as well as each of its establishments and workers, are identified by a unique identification number, so they can be matched and tracked over time. Available information at the firm-level include their year of foundation, location, industry classification, number of employees, number of establishments, sales volume, and ownership structure. At the individual-level, QP files report information about their age, schooling, gender, qualifications, wages, occupation, date of hire, number of hours worked, and type of contract. We supplement these data with municipality-level information on crime, population density, and unemployment from the National Statistics Office (INE).

Portugal provides an interesting empirical setting to test our theory for several reasons. First, income inequality and social exclusion figures in Portugal were documented to be among the highest in European Union for decades (e.g., Santana, 2002). Second, its legacy of a low skilled labor force has been remarkable over the years, given the high share of school dropouts and the persistently low education attainment of the adult population (OECD, 2017). Third, despite exhibiting lower crime rates than countries like the U.S., crime is still common and shows a positive trend over the years under different forms (e.g., from non-violent street crime to homicides, gang activities, drug-related crimes, and crimes against the government).\(^1\)

Furthermore, income inequality and social exclusion of disadvantaged groups, such as ethnic minorities, are often associated with crime incidence in Portugal (e.g., Gomes, 2013; Seabra and Santos, 2005). Finally, Portugal offers an ideal empirical context to test our theory owing to the so-called “On the Spot Firm” (Empresa na Hora) program introduced in 2005, which remarkably reduced the time and costs of establishing a new venture. Besides effectively decreasing entry

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\(^1\) For illustration of this upward trend, INE reports a country-average of 33.7 crimes per 1000 inhabitants in 1998, and 40.9‰ in 2008, with great variation across regions and over time.
barriers, the reform was enacted in different moments in time (between 2005 and 2009) across
different municipalities (see Branstetter et al., 2014 for details on the timing and geographical
distribution of the reform, and evidence on the impact on firm entry). We exploit this timing and
geographical variation in the program adoption as exogenous variation in entrepreneurship.

We focus on the period 2002-2010 to test our theoretical hypotheses. First, data at the
individual-level for 2001 are not available. Starting our analysis in 2002 avoids this gap in the
data and still allows observing the outcomes of interest before the introduction of the reform. We
stop in 2010 due to the introduction of a concurrent procedure to register a firm online in 2009
(Empresa Online). Even though this procedure was only accessible to some individuals initially
(lawyers, solicitors, and individuals with the – non-yet mandatory – citizen card with electronic
certification), we do not analyze any outcomes beyond 2010 due to the lack of exogenous
variation in entry deregulation between municipalities. Finally, a list of industries which were
non-eligible by the “On the Spot Firm” reform were also excluded from our analyses (see the
Technical Appendix in Branstetter et al. (2014) for a complete list of non-eligible industries).

**Variables and Empirical Methods**

**Dependent Variables**

*Community Misconduct.* We proxy for social integration at the community level with
misconduct. Misconduct is operationalized as crime incidence at the community level. We
collect external yearly data for the total number of crimes per municipality through the National
Statistics Office and match them with QP files. Our measure includes property and the personal
or violent crime rates of a community (e.g., criminal homicide, forcible rape, robbery, and
aggravated assault).

*Labor Market Integration.* Extant literature systematically shows that young, less
educated men are the most likely to be involved in crime (Freeman, 1996; Gould et al., 2002).
We thus focus on young low-skilled men, defined as males up to 25 years old who failed to complete high school (i.e., secondary) education.

To proxy for the labor-market integration of this particular risk group, we consider: (a) their participation in the labor force, and (b) the wage gap between them and other, non-disadvantaged, groups. We focus on (a) because greater group participation in the labor market indicates that opportunities for a traditionally disadvantaged group have become more easily available or more ample (De Jong and Madamba, 2001). Respectively, we focus on (b) because a reduction in wage gaps will indicate that traditional barriers to advancement amongst certain minority groups may no longer be present (Reimers, 1983). Finally, for young unskilled men already employed, we look at the trajectories of their wages and employment contracts as entrepreneurship increases in their local community.

**Independent Variables**

*Community Entrepreneurship.* Our key independent variable pertains to the entry deregulation reform, as an exogenous shock for the founding rate at the community level. The above-mentioned “On the Spot Firm” program was enacted in a staggered way, with 13 municipalities being targeted by the reform in 2005, 23 additional municipalities in 2006, 28 more in 2007, 34 new municipalities in 2008, and 46 extra in 2009. Our main independent variable is therefore a “treatment dummy” equal to “1” if the given municipality has enacted the entry deregulation “On the Spot Firm” program by year $t$, and “0” otherwise.

**Control Variables**

Finally, we include a number of control variables. Although we consider the “On the Spot” reform to arise exogenously with respect to our outcome (i.e., social integration), we nevertheless include a number of controls for the municipality-level characteristics. First, we
include a control for population density, measured as the number of inhabitants per squared kilometer, externally obtained from INE. Moreover, we control for employment distribution across industries (namely primary, manufacturing, energy and construction, and services sectors). We also include a control for gender composition of the regional labor force, by computing the share of male employees in given municipality in a given year. We further control for employment distribution across firms of different sizes and ages (the share of the labor force in firms up to five years old or up to 49 employees). We account for regional human capital by computing the share of employees with university education and with medium-high or top qualifications. Our models further control for the nature of the employment contracts, by including the share of employees with full-time jobs, as well as for the average wage level and wage inequality at the community-level (measured by the yearly standard deviation of wages in the municipality). Finally, we control for the total annual sales in the municipality. These variables hopefully capture most of the differences in economic development, industrial structure, and skill composition across communities.

**METHODOLOGY**

Empirically, it is difficult to estimate how entrepreneurship rates affect the extent of social integration because such estimates are subject to classical endogeneity problems. Regional-level characteristics might lead to a spurious correlation between entrepreneurship, on one side, and the extent of social integration, on the other side. For instance, it might be that some regions tend to be more economically developed: as such, social integration might be greater in such municipalities, and so will the level of entrepreneurial activity. Therefore, to rule out these and other potential confounders, it is necessary to leverage a research design that provides exogenous
shifts in entrepreneurial rates; such exogenous shifts would allow us to estimate the causal effect of entrepreneurship on social integration.

We identify exogenous changes in regulation by focusing on deregulation reform enacted in Portugal between 2005 and 2009. Beginning with 2005, the Portuguese government enacted an entry deregulation program – “On the Spot Firm” (Empresa na Hora) – which was enacted at different moments in time across different Portuguese regions (“concelhos,” or municipalities), determining a decrease in entry barriers in such regions. The objective of the program was to alleviate the bureaucratic burden when registering a new firm, which implied significant pecuniary and non-pecuniary (time) costs. Before 2005 starting a new business in Portugal took 54 to 78 days. An entrepreneur needed to visit several offices and fill out more than 20 forms and documents, with an estimated cost of about 2000 euros (more than 13 per cent of the Portuguese annual GDP per capita). As a result, Portugal ranked relatively low (133 out of 155 countries) in the Doing Business Ranking of the World Bank (World Bank, 2006).

To address these issues, the government enacted the “On the Spot Firm” program to bring all the agencies supervising the creation of new firms into a single office, so that entrepreneurs would no longer need to visit several public offices to get all the documents required. As a result, the company identification card, corporate taxpayer number and social security number were all issued on the same day. To make the process even more efficient, the initiative also created a pre-approved list of company names to eliminate bottlenecks. Studies show that, following the “On the Spot Firm” program, Portugal became one of the easiest countries in which to start a new business, with an estimated time cost of less than one hour – which is well below the OECD average of 14 days – and of only 300 euros (Branstetter et al., 2013; Fernandes et al., 2015).
To examine the impact of the “On the Spot Firm” reform on community misconduct and labor market integration, we use a difference-in-differences approach. Overall, our methodology can be described with a simple example. Suppose we want to measure the effect of Lisbon’s 2005 enactment of the reform on community misconduct. We would compute the difference in crime incidence post 2005 versus pre 2005 for Lisbon (a “treated municipality”). Yet, other events may have happened around 2005, potentially influencing changes in crime – for example, an economy-wide boom that translates into lower crime. To account for such contemporaneous effects, we use as a control group any municipality that has not launched the program and compute the corresponding difference in the respective outcomes post 2005 versus pre 2005. Computing the difference between these two differences provides an estimate of the effect of Lisbon’s 2005 enactment of the “On the Spot Firm” reform on crime, controlling for contemporaneous changes in such a gap that are due to changes in broad economic conditions. The difference between this example and our regression specification is that the latter accounts for the fact that the implementation of the “On the Spot Firm” reform is staggered over time across municipalities. It follows that the composition of both the treatment and the control groups changes over time, as more communities are progressively “treated.” Following previous studies (Branstetter et al., 2014; Fernandes et al., 2017), the timing and geographical variation of this reform might be seen as a quasi-natural experiment, allowing the use of this difference-in-differences approach.

Our methodology follows the application by Bertrand and Mullainathan (2003) of the difference-in-differences methodology in the presence of staggered treatments at the regional (in our case municipality) level. Formally, the impact of the reform on the municipality-level outcome of interest can be broadly modeled as follows:
where $Y_{my}$ refers to municipality-level crime incidence; $Z_{my}$ is the key independent variable of interest, an indicator variable taking the value of “1” at the opening year of the one-stop shop and all subsequent years, “0” otherwise; $\alpha_m$ and $\delta_y$ are municipality and year fixed effects, respectively; and $X_{my}$ refers to a vector of additional control variables. Errors are always clustered at the municipality-level. Descriptive statistics for each of these control variables are provided in the Appendix Table A1. A correlation matrix is reported in Appendix A2.$^2$

**Results**

**Main Results**

We start by testing the impact of the deregulation reform on community misconduct. Table 1 reports incidence rate ratios (IRR) from the estimation of a count data model for the number of crimes in the municipality over time, where coefficients below (above) one imply a decline (increase) in the regional incidence rate of crime. The statistically significant coefficient of 0.9585 for the “On the Spot Reform” dummy variable suggests that the log of the ratio of expected count of misconduct at the municipality-level decreased by a factor of 0.959 after the deregulation reform. In other words, municipality-level crime incidence has decreased about 4% in the aftermath of the reform. We therefore find empirical support for our Hypothesis 1. Regarding the control variables considered, we find regions with greater concentration of employment in manufacturing industries, young firms, and skilled occupations to exhibit lower crime incidence.

***Table 1 about here***

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$^2$ Further estimations of the impact of the reform on individual-level outcomes (e.g., wages or type of contract) will follow the same differences-in-differences logic, besides controlling for relevant time-varying individual and firm characteristics, and person fixed effects.
To further examine the mechanisms underlying the negative effect of entrepreneurship on crime incidence within communities, we probe the disadvantaged workers’ integration in the labor market, following the deregulation reform and consider two outcomes: their representation in the labor force and change in wage disparities. We examine these outcomes for young unskilled men given that these groups face greater obstacles in the labor market and might therefore be more likely to engage in misconduct (Freeman, 1996; Gould et al., 2002; Gomes, 2013; Santana, 2002; Seabra and Santos, 2005).

Table 2 reports the results for the cross-heterogenous effects, focusing on the labor-market integration. We hypothesized that the effects of community entrepreneurship on social integration (i.e., community misconduct) will be amplified (dampened) when a larger (smaller) share of disadvantaged workers are integrated into the labor market force. In Model 1, the coefficient on the treatment effects confirms that, on average, community misconduct has decreased by about 4% in the municipalities affected by the reform/entry deregulation. Model 2 adds an interaction term between the deregulation reform and the presence of disadvantaged groups in the labor market. As can be seen, those municipalities that increased the number of disadvantaged individuals in the labor force after the reform were the ones exhibiting a more pronounced reduction in community misconduct. In those models, the coefficient for the “one stop shop reform” becomes positive and significant, suggesting that those municipalities affected by the reform that did not manage integrate these disadvantaged individuals into the labor market have actually observed a higher incidence of misconduct. In Model 3-4, we consider municipality-level wage differentials between young unskilled men and other male employees in the labor market. Although the enactment of the reform lowers the risk of misconduct (Model 3), this effect is mainly driven by municipalities in which wage disparities decreased. By contrast,
municipalities in which the disparity widened experienced a greater increase in misconduct rates, as indicated by the positive coefficient on the reform enactment. Hence, we find strong support for H2.

*** Table 2 about here ***

We next delve deeper into the mechanisms proposed to account for the negative effect of entrepreneurial foundings on misconduct. We have posited that the improvement of labor market integration of those often excluded from the mainstream labor market might be a key driver of misconduct reduction. To test the validity of this mechanism, we have repeated the estimation of our baseline model for crime incidence in subsamples of regions with different levels of labor market integration and/or obstacles for relatively disadvantaged individuals.

First, we split our sample based on the unemployment rates prior the reform. Table 3 reports the estimated effect of the reform in regions where unemployment was below or above the median rate at the beginning of our period. We only find a significant impact of entrepreneurial foundings on crime reduction in municipalities that exhibited higher unemployment rates (and thus lower labor market integration) before the reform. Indeed, we observe an amplified effect of the deregulation in these regions, which amounts to a reduction of about 8% in crime incidence rate.

Second, we have repeated the same analysis for municipalities with higher and lower income inequality in the beginning of our period (2002) in Table 4. We find a 5-6% reduction in crime incidence in municipalities with high wage inequality before the reform, but no significant relationship between entry deregulation and crime in regions of lower income inequality. We thus corroborate our Hypotheses 3 and 4. Overall, we confirm that regional outbursts in

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3 Unemployment rates at the municipality-level are only disclosed by INE every ten years, when detailed Census data of the entire population are collected. We use the 2001 Census data, which include unemployment rates per municipality, to split our sample into counties with high and low unemployment in the beginning of the period.
entrepreneurial activity were mostly effective in reducing misconduct in communities that were initially more socially fragmented.

*** Table 3 and 4 about here ***

Next, we analyze the effects of the reform on work conditions. We restrict the analysis to male individuals who, before the reform (between 2002 and 2004), were classified as relatively disadvantaged and more prone to crime (Freeman, 1996; Gould et al., 2002): young (up to 25 years old) unskilled men, who did not complete secondary education (high school). We follow their trajectories over time, and in Table 5 we report the estimated effect of the policy on their monthly wages, and the probability to get a permanent work contract (versus a temporary, fixed-term, contract), using individual fixed effects models. Consistent with our predictions, our results indicate that these individuals experienced significant improvement in wages and work contracts after the enactment of the entrepreneurship reform. Thus, the deregulation reform seems to have improved the integration of disadvantaged groups via better positioning in paid employment. Hence, we find support for Hypothesis 5.

*** Table 5 about here ***

Validity of the Identification Strategy

To be valid, our identification strategy needs to satisfy two requirements—the inclusion and exclusion restrictions. First, the treatments (i.e., the enactment of the deregulation laws) need to trigger relevant changes in founding rates. Second, the treatments need to be exogenous with respect to crime rates or labor market participation. In the following, we discuss both requirements.
Inclusion Restriction

Previous studies using the same deregulation reform (e.g., Branstetter et al., 2014; Fernandes et al., 2017) have demonstrated that, as intended, the “On the Spot Firm” reform led to a substantial increase in the number of new entrants. While, before the enactment of the reform, “treated” and “control” municipalities displayed similar entry patterns – which confirms that this regulatory change might be considered an exogenous treatment, afterwards treated municipalities experienced an increase in the number of new firms compared with municipalities in the control group. Such an increase occurs immediately after the change and tends to increase over time. The positive effect of the entry deregulation on entry is also evident when estimating municipality-level regressions (results available upon request), which suggests that our treatment is relevant. In short, the treatment led to a substantial decrease of entry barriers, usually faced by potential entrepreneurs.

Exclusion Restriction

Our identification strategy relies on the assumption that the rise in entrepreneurship, due to deregulation reform, is exogenous with respect to social integration outcomes. In the following, we discuss potential identification concerns and describe how our difference-in-differences specification helps address them.

First, our identification strategy relies on the assumption that the reform was not rolled out in a way that correlates with unobserved pre-existing trends in the dependent variables of interest. If the program was purposely introduced, for example, in municipalities that were initially experiencing lower crime or a better integration of disadvantaged groups (not accounted by municipality and year fixed effects), our inferences could be misleading.
We conducted several analyses to assess the exogeneity of the deregulation reform and, thereby, the credibility of our identification strategy. First, to examine whether the administrative decisions to target particular municipalities and time periods are not correlated with existing trends in crime, we extend our baseline specification (Table 1) and introduce a set of indicator variables for the years prior and after the introduction of the reform. The coefficients (available upon request) for the lagged periods are not statistically significant (both individually and jointly), which suggests that, on average, in the years preceding entry deregulation, there was no unusual trend in crime incidence. On the other hand, in the years following the reform, we generally observe coefficients lower than one, which imply a reduction in crime incidence at the municipality-level, as previously theorized and empirically confirmed.

Second, to confirm that the introduction of the reform was not dependent on crime trends or the relative presence of disadvantaged groups, we estimate a simple linear probability model where the dependent variable is equal to “1” in the year the reform was introduced (“0” otherwise), and the independent variables are the lagged values of crime and shares of young unskilled men. Table 6 reports the results and confirm that none of these variables was correlated with the introduction of the program at the municipality-level.

Finally, we assess whether the order in which the municipalities adopted the deregulation reform is correlated with prior trends in crime or labor market exclusion of disadvantaged groups. In particular, we test whether growth trends in these variables prior to the policy change differ between “early” and “late” adopters (i.e., municipalities that adopted the reform in 2005-2007 or later). Table 7 reports pre-reform average annual growth (over 2002-2004) in the abovementioned outcomes for municipalities adopting the reform earlier and later, as well as the differences between the two and the p-value for the null hypothesis that the means are equal for
both groups of municipalities. We do not find any statistically significant differences for any of
the variables, confirming that the timing of policy implementation is not correlated with pre-
reform trends in those variables. Overall, these robustness checks suggest that the “On the Spot
Firm” program can be indeed considered a valid quasi-natural experiment.

*** Tables 6 and 7 about here ***

Supplemental Analyses

We perform a number of supplemental analyses to further validate the mechanisms we
hypothesized.

Firm-Level Analyses. In Table 8, we verify that the improvement in labor market
integration of young unskilled men is also visible at the firm level. We estimate two models at
the firm level, including firm fixed effects to account for unobserved heterogeneity at the
organizational level, to estimate the impact of the reform on a) the share of young unskilled men
in the firm’s workforce, and b) the within-firm wage inequality between young unskilled men
and other male employees in the organization. As can be seen, consistent with our prediction, we
find that the representation of young unskilled men – who face greater barriers in the labor
market and are more often involved in crime (Freeman, 1996; Gould et al., 2002) – increases in
incumbent firms following the deregulation reform. Column 1 reveals that, on average, the share
of young unskilled men in a firm’s labor force increases by 0.4 percentage points following the
deregulation reform. This corresponds to an increase of about 8% in the average representation
of these individuals at the firm-level.\textsuperscript{4} Similarly, in Column 2, we find support for the notion that
wage differentials between these disadvantaged individuals and the remaining male employees in
the firm decline following the reform – by almost 1 percentage point, which corresponds to a

\textsuperscript{4} For the period analyzed, about 5.1\% of firm-level employees were classified as young unskilled men, according to
our definition.
reduction of 3.6% in the average wage differential. Overall, these results reinforce our confidence that our results are not an artefact of the level of analysis.

*** Table 8 about here ***

Mobility to Other Firms. We further examine more deeply the mechanisms behind the improved integration of young unskilled men in the labor market. First, we investigate whether the upgrade in their wages and work contracts in the aftermath of the reform was mostly driven by their mobility to other firms. We have thus repeated the estimation for wages and permanent contracts (as in Table 5) using firm-worker-match fixed effects instead. Table 9 summarizes the key results of interest and shows that the positive effect of the reform on their wages is still significant, though smaller in magnitude. Therefore, the upgrade in wages is not necessarily driven by their mobility, since individuals staying in incumbent firms after the shock are still slightly better paid after the reform (which is aligned with the reduced wage gaps identified above). However, the positive effect of the policy on permanent contracts vanishes when we introduce worker-firm match fixed effects, which indicates that these individuals got better contracts after the shock by moving to other firms.

Finally, Table 10 provides some descriptive statistics regarding the destination firms for individuals classified as “young unskilled men” in the beginning of our period and who got new jobs after the reform. These figures suggest that when these individuals moved, they have more often moved to incumbent firms than to startups created after the policy introduction.

Overall, these post hoc analyses indicate that the mechanism underlying the positive effect of the reform on labor market integration of disadvantaged groups – particularly young unskilled men – is the increase in competition for labor as a result of entry deregulation.

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5 On average, firms employing both groups of individuals seem to pay 19.6% higher wages to non-disadvantaged, relative to disadvantaged, male employees. Yet, these are conservative estimates, since wage gap estimations have to be restricted to firms employing individuals from both groups.
Following the enactment of the reform, incumbent firms have faced increased pressures to compete with new entrants, which might have led them to tap into unexplored pools of labor, namely disadvantaged individuals often excluded from the labor market.

*** Tables 9 and 10 about here ***

DISCUSSION
Entrepreneurship, or the act of launching and operating an entrepreneurial venture, has become an increasingly prevalent feature of the modern economy (e.g., Baumol, 1968; 1996), and an important vehicle of wealth creation and social mobility for individuals (Schumpeter, 1934; Haltiwanger et al., 2012; Blanchflower, 2000; Steinmetz and Wright, 1989). Whereas much literature examined antecedents of entrepreneurial activity (e.g., Greve and Rao, 2018), especially at the community level, we know much less about its consequences for the society.

The objective of this study is therefore to examine how key community attributes, such as the level of social integration between community members – in the sense of deviating from community norms through misconduct – can be altered by boosts in entrepreneurial activity.

Our point of departure is the claim that the impact of regional boosts in entrepreneurship on community-level integration generates a puzzle that is worth exploring. On one hand, studies of inequality predict that an increase in entrepreneurial foundings will have negative effects on within-community integration. Because founding and operating a new venture tends to be characterized by low median and high variance of returns (Hamilton, 2000; Åstebro et al., 2011), there is growing recognition that entrepreneurship can deepen workforce inequality which can further fracture different social circles (e.g., Halvarsson et al., 2017; Hall and Woodward, 2010; Blanchflower, Levine, and Zimmerman, 2003). On the other hand, the same changes might lead to positive impact on within-community integration. Growing research on social entrepreneurship views entrepreneurial activity as a vehicle to address societal problems by
bringing market-based solutions and philanthropy to underserved communities or low-income groups within the community (e.g., Mair and Marti 2006; Santos 2012; Short et al. 2009).

Our findings indicate that regional boosts in entrepreneurship fosters social integration at the community level. Specifically, focusing on community-level misconduct, we find that the rates of misconduct decrease following sharp increases in entrepreneurship levels. Moreover, we find that the key mechanism behind this effect is labor force integration amongst disadvantaged groups. Specifically, we find evidence that boosts in entrepreneurial activity lead to greater share of disadvantaged groups being integrated into the labor market – namely via better integration into paid employment. In a similar vein, we find that wage gap between these disadvantaged groups and other workers in paid employment decreases and that these undeserved groups experience improvements in work conditions, following boosts in entrepreneurial entry rates. In sum our findings are consistent with the theories of discrimination, which suggest that greater market competition will likely mitigate discrimination, thus improving opportunities for disadvantaged workers.

Methodologically, we exploit a quasi-natural experiment provided by the staggered enactment of an important institutional change in the form of entry deregulation reform (the “On the Spot Firm” program) implemented in Portugal from 2005 to 2009. The Portuguese reform reduced increase the rate of entrepreneurship at the community level (i.e., municipality), by decreasing bureaucratic and financial burdens on those starting new ventures.

Our research offers a number of contributions to the extant work in the field of organizational theory and entrepreneurship. First, our study offers direct contributions to the long line of inquiry on entrepreneurship. Whereas scholars have examined conditions that foster entry into entrepreneurship, much less attention has been devoted to the consequences of
entrepreneurial activity. We contribute to this literature by specifying one beneficial consequence of entrepreneurial activity at the community-level – greater social integration as indicated by lower rates of misconduct.

Second, our study contributes to ample research on discrimination and labor market outcomes, more broadly. Scholars have long documented that unequal access to opportunities and resources is a persistent feature of labor markets, with ample evidence suggesting stark differences in employment along different individual attributes (e.g., Moss and Tilly 2001, Neckerman and Kirschenman 1991, Neckerman and Kirschenman 1991). A critical line of inquiry in this literature is to understand organizational mechanisms that might be conducive to alleviating workforce disparities (Castilla, 2011; Petersen and Saporta, 2004). We contribute to this debate, by highlighting how a rise in entrepreneurship levels can serve as a vehicle to reduce disadvantage of underprivileged workers.

Third, the present study extends the existing research on community integration, by documenting the overlooked mechanism responsible for greater cohesion and adherence to shared community norms – entrepreneurship. In this respect, our study is the first to theorize and document empirically that communities might benefit from entrepreneurship by reducing the aggregate level of misconduct.

Finally, our findings have important implications for policymakers. The main implication is that policy interventions aimed at reducing community misconduct might focus on promoting entrepreneurship. Relatedly, policies to foster entrepreneurship should ensure that disadvantaged workers are integrated into the labor force when entrepreneurship is promoted. More broadly, our findings suggest that policies encouraging entrepreneurship might paradoxically undermine communities if mechanisms to integrate disadvantaged workers are not present.
References


**TABLES**

**Table 1.** Impact of the reform on the total number of crimes in the municipality, Portugal, 2002-2010  
(Conditional FE Poisson regression)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Coefficient (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“On the Spot Firm” reform</td>
<td>0.9585** (0.0168)</td>
</tr>
<tr>
<td>Population density</td>
<td>0.9999 (0.0001)</td>
</tr>
<tr>
<td>Employment in manufacturing industries (%)</td>
<td>0.5117** (0.1477)</td>
</tr>
<tr>
<td>Employment in energy &amp; construction (%)</td>
<td>0.8307 (0.1118)</td>
</tr>
<tr>
<td>Employment in services (%)</td>
<td>0.6712 (0.2005)</td>
</tr>
<tr>
<td>Male employees (%)</td>
<td>1.3958 (0.5748)</td>
</tr>
<tr>
<td>Top &amp; high qualifications (%)</td>
<td>0.3181** (0.1423)</td>
</tr>
<tr>
<td>University education (%)</td>
<td>1.0767 (0.2432)</td>
</tr>
<tr>
<td>Employment in young firms (%)</td>
<td>0.6809*** (0.0928)</td>
</tr>
<tr>
<td>Employment in micro and small firms (%)</td>
<td>0.9640 (0.1503)</td>
</tr>
<tr>
<td>Full-time employees (%)</td>
<td>0.8000 (0.1545)</td>
</tr>
<tr>
<td>Average hourly wage (log)</td>
<td>1.1226 (0.3266)</td>
</tr>
<tr>
<td>Hourly wage dispersion (log)</td>
<td>1.0197 (0.2502)</td>
</tr>
<tr>
<td>Total sales in the municipality (million Euros, log)</td>
<td>1.0066 (0.0133)</td>
</tr>
<tr>
<td>Year FE</td>
<td>YES</td>
</tr>
<tr>
<td>Municipality FE</td>
<td>YES</td>
</tr>
<tr>
<td>Observations</td>
<td>2,745</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Coefficients are Incidence Rate Ratios. Values in parentheses are standard errors clustered at the municipality-level.
Table 2. Cross-heterogeneous effects of the reform on crime at the municipality-level

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One stop shop reform</td>
<td>-0.0409**</td>
<td>0.0711***</td>
<td>-0.0411**</td>
<td>0.3104*</td>
</tr>
<tr>
<td></td>
<td>(0.0174)</td>
<td>(0.0529)</td>
<td>(0.0174)</td>
<td>(0.1655)</td>
</tr>
<tr>
<td>Young unskilled men (log nr)</td>
<td>0.0990*</td>
<td>0.1109**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0536)</td>
<td>(0.0526)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One stop shop reform*Young unskilled men (log nr)</td>
<td></td>
<td></td>
<td>-0.0325***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0075)</td>
<td></td>
</tr>
<tr>
<td>Wage disparity (non-disadv/disadv)</td>
<td></td>
<td></td>
<td></td>
<td>0.2659**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.1109)</td>
</tr>
<tr>
<td>One stop shop reform*Wage disparity (non-disadv/disadv)</td>
<td></td>
<td></td>
<td>-0.2944**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.1398)</td>
</tr>
<tr>
<td>Year &amp; Municipality FE</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Controls (as in Table 1)</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Observations</td>
<td>2,745</td>
<td>2,745</td>
<td>2,745</td>
<td>2,745</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Values in parentheses are standard errors clustered at the municipality-level. Wage disparity is the ratio between the average monthly wage of men labelled as non-disadvantaged in the municipality and the average monthly wage of disadvantaged individuals in the same municipality – i.e., men up to 25 years old with less than secondary education. Alternative measures based on hourly wages do not qualitatively change the results.
Table 3. Effect of the reform in municipalities with high and low unemployment rates before the shock (year: 2001) (Conditional Fixed Effects Poisson regressions at the municipality-level)

<table>
<thead>
<tr>
<th></th>
<th>Municipalities with unemployment rates below the median</th>
<th>Municipalities with unemployment rates above the median</th>
</tr>
</thead>
<tbody>
<tr>
<td>“On the Spot Firm” reform</td>
<td>1.0248</td>
<td>0.9210***</td>
</tr>
<tr>
<td></td>
<td>(0.0234)</td>
<td>(0.0182)</td>
</tr>
<tr>
<td>Observations</td>
<td>1,413</td>
<td>1,332</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Coefficients are Incidence Rate Ratios. Values in parentheses are standard errors clustered at the municipality-level. All controls as in Table 1.

Table 4. Effect of the reform in municipalities with high and low wage inequality before the shock (year: 2002) (Conditional Fixed Effects Poisson regressions at the municipality-level)

<table>
<thead>
<tr>
<th></th>
<th>Municipalities with 90(^{th})/10(^{th}) percentile wage ratio below the median</th>
<th>Municipalities with 90(^{th})/10(^{th}) percentile wage ratio above the median</th>
</tr>
</thead>
<tbody>
<tr>
<td>“On the Spot Firm” reform</td>
<td>0.9975</td>
<td>0.9441***</td>
</tr>
<tr>
<td></td>
<td>(0.0289)</td>
<td>(0.0165)</td>
</tr>
<tr>
<td>Observations</td>
<td>1,377</td>
<td>1,368</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Coefficients are Incidence Rate Ratios. Values in parentheses are standard errors clustered at the municipality-level. All controls as in Table 1. Results are consistent when using the standard deviation of wages as an alternative measure of wage inequality.

Table 5. Impact of the reform on individual-level outcomes: estimations restricted to young and unskilled men employed before the reform

<table>
<thead>
<tr>
<th></th>
<th>Wages</th>
<th>Permanent Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>“On the Spot Firm” reform</td>
<td>0.0064***</td>
<td>0.0119***</td>
</tr>
<tr>
<td></td>
<td>(0.0016)</td>
<td>(0.0034)</td>
</tr>
<tr>
<td>Controls</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Individual, Municipality, Year, and 2d-Industry FEs</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Observations</td>
<td>1,690,837</td>
<td>1,921,311</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Linear Fixed Effects models. Values in parentheses are standard errors clustered at the municipality-level. Controls include individual’s age, schooling, firm age, firm size, and firm productivity. Models for monthly wages also control for the number of hours worked in the reference firm and year.

Table 6. Determinants of reform introduction

<table>
<thead>
<tr>
<th></th>
<th>Introduction of the reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of crimes (log) (t-1)</td>
<td>0.0143</td>
</tr>
<tr>
<td></td>
<td>(0.0126)</td>
</tr>
<tr>
<td>Share of young unskilled male employees (t-1)</td>
<td>-0.1667</td>
</tr>
<tr>
<td></td>
<td>(0.2486)</td>
</tr>
<tr>
<td>Municipality FE</td>
<td>YES</td>
</tr>
<tr>
<td>Year FE</td>
<td>YES</td>
</tr>
<tr>
<td>Number of observations</td>
<td>3,016</td>
</tr>
</tbody>
</table>

Clustered standard errors at the municipality-level in parentheses.
Table 7. Pre-reform trends of social integration outcome variables: municipality-level

<table>
<thead>
<tr>
<th></th>
<th>Late adopters</th>
<th>Early adopters</th>
<th>Difference</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of crimes</td>
<td>0.0412 (0.0337)</td>
<td>0.0470 (0.0152)</td>
<td>0.0058 (0.0576)</td>
<td>0.5269</td>
</tr>
<tr>
<td>Share of young unskilled male employees</td>
<td>-0.0672 (0.0081)</td>
<td>-0.0719 (0.0064)</td>
<td>-0.0047 (0.0142)</td>
<td>0.7454</td>
</tr>
</tbody>
</table>

The table reports average pre-reform growth trends (between 2002 and 2004) of number of crimes and share of unskilled young male employees in the labor force at the municipality-level. Early (late) adopters are municipalities that adopted the reform between 2005 and 2007 (2008 and 2009). Those that do not adopt the reform over our sample period are not considered in this table. The results are robust to changing the cut-off definition of early adopters to municipalities that adopted the reform between 2005 and 2006. Observations are by municipality-level. Standard errors are reported in parentheses. The p-value is for the test of the null hypothesis of equality between the means (proportions) for early and late adopters of the reform.

Table 8. Integration of disadvantaged groups in the labor market (firm-level)

<table>
<thead>
<tr>
<th>“On the Spot Firm” reform</th>
<th>Share of young unskilled male employees</th>
<th>Wage gap (Ratio: wages of young unskilled men/wages of other men in the firm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.0042*** (0.0012)</td>
<td>-0.0070*** (0.0022)</td>
</tr>
<tr>
<td>Firm-level controls</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Year, 2d-Industry, Firm, and Municipality FE</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Observations</td>
<td>1,957,469</td>
<td>253,920</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Linear Fixed Effects models. Values in parentheses are standard errors clustered at the municipality-level. Firm-level controls include firm age, size, and productivity (logged ratio between firm sales and employment).

Table 9. Impact of the reform on young and unskilled male employees’ outcomes: person-firm fixed effects

<table>
<thead>
<tr>
<th>“On the Spot Firm” reform</th>
<th>Wages</th>
<th>Permanent Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.0040** (0.0020)</td>
<td>0.0110 (0.0067)</td>
</tr>
<tr>
<td>Person-by-firm FE</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Observations</td>
<td>1,690,837</td>
<td>1,921,311</td>
</tr>
</tbody>
</table>

* p < 0.10; ** p < 0.05; *** p < 0.01. Linear Fixed Effects models. Values in parentheses are standard errors clustered at the municipality-level. All controls as in Table 5.

Table 10. New jobs taken by disadvantaged individuals after the reform

A. Share of disadvantaged individuals* between 2002-2004 and who initiated new jobs after the reform

(Total: 101,470 individuals)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In incumbent firms</td>
<td>0.599</td>
</tr>
<tr>
<td>In new entrants</td>
<td>0.257</td>
</tr>
</tbody>
</table>

B. Share of disadvantaged individuals* entering the dataset after the reform and initiating new jobs

(Total: 23,798 individuals)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>In incumbent firms</td>
<td>0.848</td>
</tr>
<tr>
<td>In new entrants</td>
<td>0.323</td>
</tr>
</tbody>
</table>

*young (up to 25 years old) and unskilled (i.e., who did not complete high school education) men
### Appendix Table A1. Descriptive statistics of municipality-level control variables, Portugal, 2002-2010

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population density (inhabitants/km²)</td>
<td>305.3</td>
<td>837.0</td>
<td>5.100</td>
<td>7586.7</td>
</tr>
<tr>
<td>Employment in manufacturing industries (%)</td>
<td>0.271</td>
<td>0.167</td>
<td>0.000</td>
<td>0.824</td>
</tr>
<tr>
<td>Employment in energy &amp; construction (%)</td>
<td>0.235</td>
<td>0.122</td>
<td>0.017</td>
<td>1.000</td>
</tr>
<tr>
<td>Employment in services (%)</td>
<td>0.442</td>
<td>0.140</td>
<td>0.000</td>
<td>0.884</td>
</tr>
<tr>
<td>Male employees (%)</td>
<td>0.589</td>
<td>0.054</td>
<td>0.417</td>
<td>0.922</td>
</tr>
<tr>
<td>Top &amp; high qualifications (%)</td>
<td>0.204</td>
<td>0.047</td>
<td>0.072</td>
<td>0.458</td>
</tr>
<tr>
<td>University education (%)</td>
<td>0.120</td>
<td>0.069</td>
<td>0.011</td>
<td>0.502</td>
</tr>
<tr>
<td>Employment in young firms (%)</td>
<td>0.275</td>
<td>0.100</td>
<td>0.000</td>
<td>0.719</td>
</tr>
<tr>
<td>Employment in micro and small firms (%)</td>
<td>0.768</td>
<td>0.151</td>
<td>0.172</td>
<td>1.000</td>
</tr>
<tr>
<td>Full-time employees (%)</td>
<td>0.713</td>
<td>0.067</td>
<td>0.430</td>
<td>0.939</td>
</tr>
<tr>
<td>Average hourly wage (log)</td>
<td>1.293</td>
<td>0.204</td>
<td>0.744</td>
<td>2.453</td>
</tr>
<tr>
<td>Hourly wage dispersion (std dev. of logged wages)</td>
<td>0.429</td>
<td>0.061</td>
<td>0.262</td>
<td>0.709</td>
</tr>
<tr>
<td>Total sales in the municipality (million Euros, log)</td>
<td>5.085</td>
<td>1.671</td>
<td>-1.390</td>
<td>10.554</td>
</tr>
</tbody>
</table>

**Observations (municipality-year): 2,762**

### Appendix Table A2. Correlation matrix (control variables at the municipality-level, 2002-2010)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Pop. den. (inhabitants/km²)</td>
<td>1.00</td>
<td></td>
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<tr>
<td>2 Emp. in manuf. ind. (%)</td>
<td>0.05</td>
<td>1.00</td>
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</tr>
<tr>
<td>3 Emp. in energy &amp; constr. (%)</td>
<td>-0.17</td>
<td>-0.51</td>
<td>1.00</td>
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</tr>
<tr>
<td>4 Emp. in services (%)</td>
<td>0.16</td>
<td>-0.66</td>
<td>-0.13</td>
<td>1.00</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5 Male emps (%)</td>
<td>0.24</td>
<td>-0.11</td>
<td>-0.23</td>
<td>0.47</td>
<td>1.00</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6 Top &amp; high qual. (%)</td>
<td>-0.08</td>
<td>-0.08</td>
<td>0.43</td>
<td>-0.32</td>
<td>-0.10</td>
<td>1.00</td>
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</tr>
<tr>
<td>7 Educ. (%)</td>
<td>0.17</td>
<td>-0.02</td>
<td>-0.27</td>
<td>0.24</td>
<td>0.34</td>
<td>0.04</td>
<td>1.00</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>8 Emp. in young firms (%)</td>
<td>-0.09</td>
<td>-0.23</td>
<td>0.37</td>
<td>-0.10</td>
<td>-0.25</td>
<td>0.24</td>
<td>0.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Emp. in micro &amp; small firms (%)</td>
<td>-0.18</td>
<td>-0.57</td>
<td>0.36</td>
<td>0.27</td>
<td>-0.16</td>
<td>0.05</td>
<td>-0.16</td>
<td>0.42</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Full time emps (%)</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.31</td>
<td>0.23</td>
<td>0.25</td>
<td>-0.14</td>
<td>0.16</td>
<td>-0.40</td>
<td>-0.15</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Aver. hourly wage (log)</td>
<td>0.15</td>
<td>-0.09</td>
<td>-0.08</td>
<td>0.29</td>
<td>0.51</td>
<td>-0.10</td>
<td>-0.14</td>
<td>-0.57</td>
<td>-0.34</td>
<td>0.24</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Hourly wage disp. (std dev. of log)</td>
<td>0.18</td>
<td>-0.08</td>
<td>-0.08</td>
<td>0.23</td>
<td>0.44</td>
<td>0.13</td>
<td>0.33</td>
<td>-0.14</td>
<td>-0.31</td>
<td>0.03</td>
<td>0.48</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>13 Total sales in the municipality (log)</td>
<td>0.34</td>
<td>0.34</td>
<td>-0.42</td>
<td>0.11</td>
<td>0.44</td>
<td>-0.08</td>
<td>0.27</td>
<td>-0.34</td>
<td>-0.59</td>
<td>0.09</td>
<td>0.45</td>
<td>0.40</td>
<td>1.00</td>
</tr>
</tbody>
</table>