



## BIROn - Birkbeck Institutional Research Online

Andriani, Luca (2015) Institutional conformity and regional credit market failures: evidence from the Italian industrial districts. Working Paper. Birkbeck College, University of London, London, UK.

Downloaded from: <https://eprints.bbk.ac.uk/id/eprint/24000/>

*Usage Guidelines:*

Please refer to usage guidelines at <https://eprints.bbk.ac.uk/policies.html> or alternatively contact [lib-eprints@bbk.ac.uk](mailto:lib-eprints@bbk.ac.uk).



**Working Papers in Management**

**Birkbeck, Department of Management**

**BWPMA 1503**

# Institutional Conformity and Regional Credit Market Failures: Evidence from the Italian Industrial Districts

---

**Luca Andriani**

*Department of Management*

*Birkbeck, University of London*

November 2015

**ISSN 2052 – 0581**

*Birkbeck University of London, Malet Street, London, WC1E 7HX*

# Institutional Conformity and Regional Credit Market Failures: Evidence from the Italian Industrial Districts

Luca Andriani

## Abstract

Institutional conformity might help explain regional credit market failures in Italy in terms of insolvency rate. A credit relation is subject to a certain degree of uncertainty about the credible commitment of the parties to fulfil the contractual obligations. We argue that conformity to informal institutions of reciprocal cooperation and trust can reduce this degree of uncertainty and, hence, contract breaches. We support our argument by conducting an empirical investigation where the regional density of industrial districts is used as indicator of institutional conformity. We find lower insolvency rate in regions with higher institutional conformity. Additionally, we find higher conformity to informal institutions in regions where the punishment system reacts quicker to non-compliant behaviours, suggesting a complementary relationship between conformity to informal institutions and lower cost of punishment. One of the advantages of this indicator consists in the possibility of addressing “Ostrom-type” policy recommendations to reduce regional credit market failures.

*Keywords:* Institutional Conformity, Industrial Districts, Insolvency, Three-Period Panel

*JEL Classification:* A13, K42, L14, R11, Z13

## 1. Introduction

The relative efficiency of the markets can be better understood by examining their contract-enforcement institutions (Greif 2005). This implies to determine which agent can credibly engage in an exchange relationship and fulfil the contract obligations (Greif 2005). The institutional perspective of analysing markets success and failures becomes even more a key factor if we consider that economic exchanges are subject to a certain degree of uncertainty. This means that the agents involved cannot know about the state of this exchange over time in the future. This can be the case of a standard debt contract based on an exchange of financial resources today, such as money, for a promise to return more financial resources tomorrow (Guiso et al 2004). A state of insolvency implies that this promise has not been fulfilled. Since an economic relationship is embedded in a social context subject to institutional norms, institutional conformity becomes crucial where the steps of the exchange are not executed simultaneously but where one party acts first and have to rely on the other party to honour the commitment and keep the promise (Elsner 2012).

The aim of this work is to analyse the relation between the level of conformity to informal institutions in the Italian regions and the credit market failures in terms of insolvency.

Due to its segmented credit market, Italy shows a regional financial disparity based on core regions with a more efficient financial market and peripheral regions with a less efficient financial market and higher rate of insolvency (Dow 1992). Under these conditions, tighter monetary policies conducted at a macro level might have different regional effects according to whether the regions are financially developed or not (Dow and Montagnoli 2007). It is argued that regional financial disparities can be affected by a different perception of uncertainty not only due to economic factors but also to different socio-cultural and informal institutional frameworks governing the local community (Dows and Rodriguez Fuentes 1997; Porteous 1995). In other words, institutions matter.

For a preliminary clarification, institutions are generally defined as a system of rules embodied through a process of habituation resulting in the adoption of a habit (Hodgson 2006; Fleetwood 2008). These rules can be formally written and state-enforced (constitutions, laws and regulations) as well as unwritten codes of conduct and regularised behaviours related to social sanctions imposed by other members of the community where the norms are internalised (Dequech 2013, Langlois 1998).

Both types of institutions might be related to the success or the failure of a debt contract. For instance, Guiso et al (2011) report that also in periods of financial crisis, strategic default in US decreases with moral norms and social attitudes suggesting that moral and social norms affect individuals in considering bankruptcy as a failure. Similarly, it has been shown that poor legal enforcement in Italy reduces financial investment and increases the risk of the creditor to deal with insolvent borrowers (Fabbri et al. 2004).

Due to the complexity nature of an economic relationship, a debt contract can be characterised by direct interdependence between the parties involved that face what Elsner (2014) calls a strategic uncertainty: one party is not able to predict the behaviour of the other party without any degree of uncertainty. Within this framework, formal and informal institutions might act as behavioural constraints helping in the identification of behavioural patterns regularly repeated and observed such that “agents can form expectations regarding future choices of behaviour by others” (Elsner 2012, p. 6). The literature has provided important evidence about the relation between formal institutions in terms of legal enforcement and insolvency (Fabbri 2010; La Porta et al. 1997 and Meador 1982). However, little attention has been devoted to the role of the informal institutions in this respect.

In light of this general framework, here we argue that in contexts subject to higher conformity to informal institutions, market failures in terms of insolvencies are more contained than in context with less institutional conformity.

We test our conceptual framework empirically by using secondary data on Italian regions from the Italian Bureaux of Statistics and from the bank of Italy for the years 2001, 2005 and 2011. The advantage in using these data is that they do not suffer of self-reported bias allowing the analysis to produce more robust results.

For institutional conformity we use the regional density of industrial districts. These are local systems characterised by the co-presence of an active human community and industrial cluster where the long term socio-economic relationships among firms are conform to trust and mechanisms of reciprocal cooperation (Sforzi 2002, Harrison 1992). This makes the industrial districts a dynamic socio-economic platform where the social ties among their members and the code of conduct they are subject to go beyond the working place (Granovetter 1985; Robertson et al. 2009).

Given the importance of the industrial districts in the Italian economy and the tremendous regional differentials in terms of informal institutions (Putnam 1993), legal quality (Fabbri et al 2004) and credit market performance (Dow et al 2012), Italy represents an appropriate context of study with this respect.

Our empirical analysis is based on a three-period panel model where the regional insolvency rate is a function of institutional conformity and other regional socio-economic characteristics. Empirical evidence indicates that regions with lower insolvency rate are subject to higher institutional conformity. These results are robust to the use of different model specifications and to the use of a dynamic three-period panel model.

The empirical framework is also extended to the speed of reaction of formal institutions to cases of insolvency by considering the legal duration to complete the first degree trial as suggested by the literature (Fabbri 2004). Our results indicate a higher conformity to informal institutions in regions where the punishment system reacts quicker to non-compliant behaviours. We argue that this recalls previous findings in Fehr and Gächter (2000) suggesting a complementary relationship between conformity to informal institutions and lower cost of punishment.

The outline of the paper is as follows: Section 2 discusses about the relation between institutional conformity and the credit market; Section 3 presents the industrial district as an illustrative example of institutional conformity; Section 4 describes our data and the empirical approach; Section 5 reports and discusses the empirical findings; Section 6 concludes

## 2. Institutional Conformity and Credit Market

### *2.1 Institutional Conformity and its Functions*

In conformity to their nature, institutions have a dual function. Firstly, they help the individual to make a decision. In fact, given their constraining characteristics, they provide the individual with some behavioural guidelines to follow during the decision process (Elsner 2012). Secondly, they help the individual to form expectations by providing information about the expected behaviour that others subject to the same system of rules are likely to adopt (Elsner 2012, Langlois 1986).

Institutional conformity, then, indicates “the adoption to the actual pattern dictated by the rule” (Dequech 2013, p. 86). If we want, this refers to the individuals’ propensities to adopt a specific code of conduct prescribed by the system of “habitualised” rules, or social habits (Hodgson 2006, Langlois 1998) in certain circumstances. Because these habits are formed through repeated actions and thoughts (Hodgson 2003 and Fleetwood 2008a), institutional

conformity requires social habits formation which can occur for several reasons. Consciously individuals might conform because of the possibility of social sanctions or to fill informational gap. Additionally individuals might conform because of what the literature calls *increasing return to adoption* and *uncertainty aversion*.

The *increasing return to adoption* refers to a situation in which the individual conforms to the rule under the expectation that many others will do the same. This is likely to happen especially when the individual's payoff is expected to increase with the number of other individuals choosing to conform to the same rule (Dequech 2013). According to Elsner (2012), this creates positive net externalities since the positive effect of the institutional conformity increases with the number of agents applying those rules in their decision making process.

The *uncertainty aversion* is related to the individual's adoption of a conventional behaviour as a sort of "defensive strategy" against uncertainty as well as to avoid the "fear of the unknown" (Dequech 2003, pp. 150-151). This approach might facilitate economic stability and, hence, the overall decision making process, especially within an interdependence context<sup>1</sup> (Elsner 2012).

However, institutional conformity is not always the result of a conscious habit formation. The rule-following approach might be adopted because of the limited cognitive capacity of the individuals, given their inability to decide consciously in any contingent situation (Elsner 2012). This makes the case-by-case choice unnecessary and inefficient and the unconscious rule-following approach a dominant one (Langlois 1998). Hence, individuals might conform to the rule regardless the specific contingency.

## 2.2 *The Economic Exchange of the Debt Contract*

Institutional conformity becomes crucial in the case of an exchange where the steps are not executed simultaneously but where one party acts first and have to rely on the other party to honour the commitment and keep the promise<sup>2</sup> (Elsner 2012). This can be the case of a debt contract understood as a mechanism aiming to facilitate exchange between two parties engaged in a relation-specific investment (Hart and Moore 1988). A standard debt contract between a borrower and a lender implies a request of funds from the former to the latter to finance an investment project (Hart and Moore 1998). The institutional mechanism of this

---

<sup>1</sup> For interdependence context Elsner (2012) refers to a situation where the behaviour of one or more individuals can influence the decision options of the others and, hence, their results.

<sup>2</sup> For a more detailed analysis about the nature of a credit contract as a promise see the seminal works of Farnsworth (1969); Goetz et al (1980) and Fried (1981).

type of sequential exchange implies two important conditions: firstly, all parties potentially engaged in the exchange will credibly commit to their contractual obligations given that they will expect to be better off than in the case of refusing the exchange; secondly one will engage in the profitable exchange relationship given that the other party can commit *ex-ante* (before the contract is officially stipulated) to satisfy his contractual obligations *ex-post* (Greif 2005). However, because of the complexity of any relationship, the contract cannot anticipate and regulate every contingency that may arise during the exchange (Hart and Moore 1988). Hence, the lack of repayment can become a possible final outcome. Beyond the pure economic reasons, contract breaches might be discouraged due to large legal sanctions as well as informal institutions in force based on norms of mutual obligations, reputation and trust (Greif 1989; Kandori, 1992; Dixit 2003). Greif (2005) argues that the sanctions based on the informal institutional set up are more effective in exchange like credit relations if occurring in contexts where the agent's reputation represents a crucial asset not only for that specific exchange but also in view of further bilateral and multilateral exchanges. In this case, the reputation becomes an information flow of past behaviours conform to certain rules of conduct. So, in absence of legal regulations for every contingency, conformity to norms of reciprocity and trust are crucial to bridge over time this "incomplete" regulation and, hence, facilitate the compliance of a contract (Elsner 2012). This conformity might be explained not only by the risk of one party of being punished, if insolvent, but also by what Dequech (2013) calls legitimacy<sup>3</sup>: the individuals act in conformity of values that are considered appropriate, right and socially accepted<sup>4</sup>.

In conclusion, here we argue that in contexts subject to higher institutional conformity, the level of non-compliance captured by the insolvency rate is lower than in context with low institutional conformity. This, of course, is analysed by keeping constant the adverse economic and financial conditions that can affect the probability of being insolvent.

---

<sup>3</sup> Notice that Greif (2005) refers to a system of informal institutions as to an "Organic" "Private-order" contract enforcement-institutions based on enforcement mechanisms relying on self-enforced institutions where the credible threat of a sanction imposed by one party on the other can deter contract breaches especially when both parties are locked into their relationship. Still this "Organic" "private-order" enforcement mechanism is characterised by behavioural norms that are endogenous and not necessarily "designed" with the purpose to regulate that specific situation (Greif, 2005 p.732).

<sup>4</sup> For instance Guiso et al (2011) indicate that even during the current financial crisis more than 80% of the individuals consider a strategic default immoral and wrong.

### 3. Institutional Conformity: The Case of the Industrial Districts

The industrial district is an illustrative example of a socio-economic context of interdependent agents engaged in social exchanges subject to institutional conformity.

Industrial districts can be defined as local systems characterised by an active co-presence of a human community and a dominant industry consisting of a set of small independent firms specialising in different phases of the same production process (Sforzi 2002). This system is characterised by long-term socio-economic relationships among local firms where the agents engaged in the social exchange conform to trust and to norms of mutual cooperation and reciprocity (Beccattini 2002, Bellandi 2002, De Propris et al. 2007). This institutional conformity is facilitated by repeated interactions between actors through continual formal and informal contracting and re-contracting, and by the high degree of social embeddedness of the economic actors<sup>5</sup> (Harrison 1992). By recalling Granovetter (1985), Robertson et al. (2009) stresses on the point that social ties within the districts are facilitated by the geographical proximity of the firms whose workers are embedded in networks outside their working place reinforcing the territorial, social and network embeddedness. This leads not only to a continuous flow of information among the agents but also to develop and maintain a deep sense of community engagement and collective identity. Under this perspective, the institutional economic literature challenges the neo-classical idea of a dominant strategy purely based on self-interest. Instead, it is argued that principles of social obligations and a sense of collective identity can be key drivers of the individuals' capabilities to serve wider benefits of public and collective goods (Christoforou, 2011). Hence, it is reasonable to think that whether rules of cooperation and reciprocity belong to the institutional frame of a collective, socially embedded individuals conform to these rules not mainly due to potential sanctions but rather to a sense of collective identity (Christoforou, 2011).

The conformity to norms of cooperation and reciprocity inside the district seems to find robust support in the mechanism of the "Custom of Reciprocal Cooperation" which regulates the social exchange within the district (Dei Ottati 1994). According to Dei Ottati (1994), this mechanism is facilitated by at least three main characteristics of the districts. Firstly, the high

---

<sup>5</sup> In the Marshallian view, inside the districts, social relationships affect so much economic exchange that "the secrets of the industry are in the air" (Markusen, 1996).

labour mobility among firms reinforces the reciprocal interdependence of agents and their social embeddedness. Secondly, the geographical proximity allows the local agents to monitor each other easier and remember other agents' past behaviours. Finally, the lower monitoring cost increases the probability of social sanctions by withdrawing the willingness to conclude future transactions with those that did not conform to the rules.

It is stressed that a functioning institutional frame supporting the cooperative behaviour helps the constitution of a more trustful environment where the social exchange occurs within a cooperative behaviour-trust linkage (Elsner 2012). In other words, agents have faith in others to adopt behaviours that will not harm them even though they have the possibility to do so.

This crucial linkage find supportive evidence in a case study conducted by Dei Ottati (2005) investigating the sub-contractors relationship and trust in the industrial district of Prato. By using the measures of "trust" proposed by Sako (1998), Dei Ottati (2005) lists three different levels of trust: *competence trust* related to the statement "The information we receive from our sub-contractors is useful to our firm"; *goodwill trust* related to the statement "Our habitual sub-contractors will help us even if not foreseen by the agreement"; *opportunism* related to the statement "Given the chance, our subcontractors might try to take unfair advantage of our business". The survey reports that more than 80% of the final firm entrepreneurs<sup>6</sup> strongly agree with the *competence* and *goodwill trust* and that only about 5% are concern of the possibility of a sub-contractor to adopt an opportunistic behaviour. Interestingly, 87% of the respondents are aware of an internalised local code of business conduct (Dei Ottati 2005) based on rules of mutual trust, cooperation and prohibition of using information specifically to the detriment of other firms. This local code refers to three main internalised rules identified by Brusco (1999 p. 21-24). The first one recognises the importance of trusting, even though cautiously, those who deserve it. The second one recognises that because of their reciprocal interdependence, individuals that regularly work together will never fully take advantage of the market power that is available to them without considering also the survival needs of the others. The third one recognises as wrong and shameful the use of information, knowledge or a network of relationship for personal gain to the detriment of the firm that has involved them in specific initiatives with good faith.

---

<sup>6</sup> Due to the importance of division of labour inside the district the survey distinguishes between final firms and phase firms. The former indicates the firms specialised in the design and marketing of the district products. The latter refers to the firms specialised in one or more phases of the production process typical of the district (Dei Ottati 2005)

## 4. Empirical Approach and Data

We use regional data in 2001, 2005 and 2011 from the Italian National Statistical Office (ISTAT) and the Bank of Italy which are the years in which data on industrial districts are available. We model, at the regional level, insolvency rate (*insol*) as a function of institutional conformity (*conformity*), interest rate on lending (*rate*), a bank market power based on the Herfindahl-Hirschman Index (*DHHI*) as suggested in Carbo' Valverde et al. (2003) and in Gagliardi (2009)<sup>7</sup>, income in natural logs (*lnincome*), deposit (*deposit*) and population density (*pop-density*).

Given the uneven cross-regional distribution of the financial activities, the interest rate level and the *DHHI* index might capture the regional differentials in availability of alternative credit resources for the borrowers (Carbo' Valverde 2003), while the income and deposit might capture the level of financial collateral and liquidity capacity of the borrowers (Guiso et al 2004). Finally, we also consider the regional demographic characteristics in terms of population density which might capture higher opportunities for social network and social embeddedness.

Our empirical approach is based on a three-period panel<sup>8</sup>. Table 1 indicates the summary statistics.

*Table 1: Summary Statistics*

Variable	Obs.	Mean	SD	Min.	Max.
<i>insol</i>	60	5.08	4.523	0.800	19.100
<i>conformity</i>	60	14.308	17.615	0.000	74.200
<i>lnincome</i>	60	10.122	0.245	9.506	10.462
<i>deposit</i>	60	0.583	0.129	0.340	0.867
<i>rate</i>	60	6.862	1.096	4.600	9.650
<i>DHHI</i>	60	23.181	7.789	12.299	44.227
<i>pop-density</i>	60	179.174	107.804	36.630	428.590

<sup>7</sup> Notice that the *DHHI* index is based on deposits and not on loan given the general higher market power of borrowers with respect to depositors (Gagliardi 2009). Additionally, due to lack of data availability, the index here considers the average value of deposits for each bank agency assuming the same amount of deposit held by each bank agency.

<sup>8</sup> Due to the slow-changing of the control variable of interest *conformity*, the small n-period panel ( $n = 3$ ) and the small sample size, we use random rather than fixed effects to reduce the probability of estimators subject to serious biases (Wooldridge 2006). Small n-period random effect models with slow-changing variables are explained more in details in Wooldridge (2006: 475) and Wilson and Butler (2007: 105).

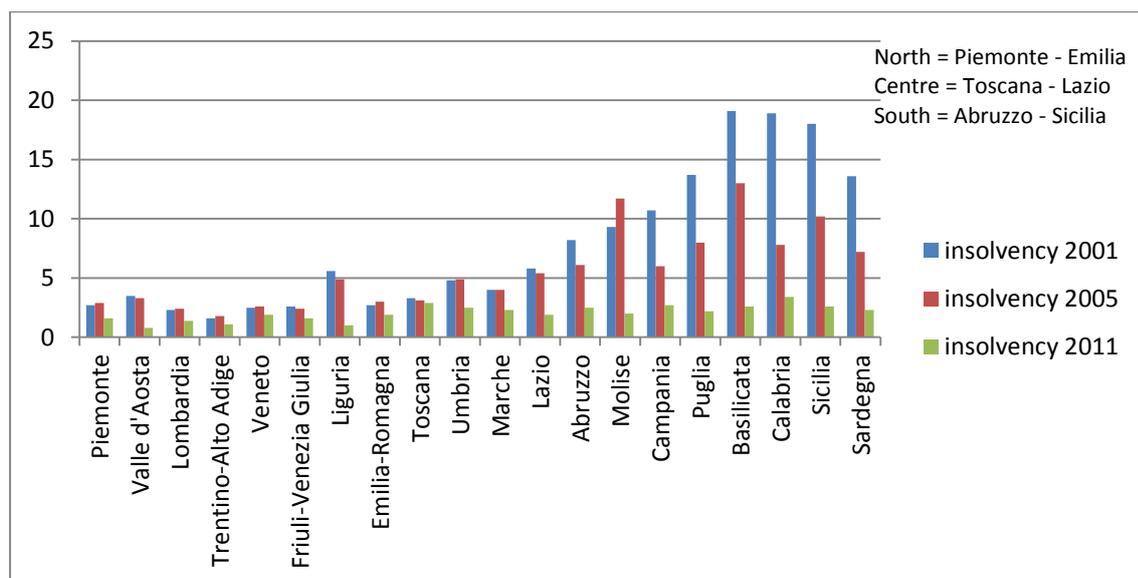
On the basis of our theoretical framework, we use the regional density of industrial districts as indicator of institutional conformity (*conformity*). This corresponds to the ratio of the number of workers in the industrial districts in the region over the total number of workers in the region. This ratio is statistically possible if we consider the model that the ISTAT adopts to record the industrial districts at the regional level. Each region is composed of territorial groupings of municipalities (*comuni*) called also local labour system (LLS) which are statically comparable and that cannot belong to two different regions. On the basis of this model, the industrial districts are LLS with two main conditions: firstly, the level of employment of small firms of the LLS in the manufacturing sector is greater than 50% of the total employment in the same activity at the LLS level; secondly, in case of only one medium sized companies in the clusters, the number of the workers in the small companies is greater than the 50% of the number of the workers in the medium sized company (such that the industrial system is not polarised). So each industrial district cannot belong to more than one region<sup>9</sup>.

The regional insolvency rate (*insol*) is collected from the regional economic report of the Bank of Italy. Interestingly, during the first decade of the century the country records a reduction of the insolvency rate especially in the southern regions where the insolvency rate tends to be higher than in the north. For instance between 2000 and 2011 the insolvency rate in Italy reduced from an average of 5.6% in 2000 to about 1.9% in 2011. This reduction is particularly evident in the southern regions of Sicilia, Puglia, Sardegna and Calabria (figure 1). Especially for Sicilia and Sardegna this reduction seems to occur simultaneously to a lower difference between the average interest rate charged at the regional level and the average interest rate charged at the country level.

---

<sup>9</sup> For a more detailed analysis of the mapping of the Italian industrial districts see Sforzi (2009).

Figure 1 Regional insolvency rates in the years 2001, 2005 and 2011



Source: author's elaboration on data from the Bank of Italy

## 5. Empirical Results

On the basis of the baseline model previously presented, we conduct our empirical analysis and table 2 reports the estimations.

The first column shows that insolvency rate decreases with more institutional conformity and a better economic condition (higher income and deposit). The estimations report that insolvency rate decreases by 0.049 with a 1 unit increase in the proportion of individuals that usually conform to norms of cooperation and reciprocity. This relationship is robust to several different model specifications as presented in the other columns.

Given the cross-regional differentials in the financial activities, in the second column the baseline model considers the regional bank market power and the regional population density. As well documented in the literature (Agostino et al. 2008, Carbo' Valverde et al. 2003, Gagliardi 2009), a more competitive credit market provides more diversified credit sources for the borrowers and less monopolistic banking power which improves the lending conditions for the borrowers. This in turn, is likely to reduce insolvency. The measure of market power we use is the average value of deposits per bank agency normalised at the

regional level<sup>10</sup>. The indicator of market power is computed on deposit rather than on loans because depositors have less market powers than borrowers (Carbo' Valverde et al. 2003, Gagliardi 2009). This means that in the way the indicator is constructed, the higher the DHHI the higher is the banking market power and the lower the credit market competition. Hence, not surprisingly the positive correlation between the DHHI and the insolvency rate seems to confirm this condition. The population density and the level of interest rate are positively related to the insolvency rate as expected even though they are not statistically significant.

Given the well-known inter-regional gap in terms of economic and institutional development between the north and the south of Italy (Banfield 1958; Putnam 1993), in the third column we also control for regional fixed effects by including a regional dummy variable identifying southern regions as suggested by Durlauf and Fafchamps (2004). This should minimise unobservable regional factors and makes our results more robust. Indeed, even under this additional specification the relationship between our control variable of interest and the dependent variable remains unaltered.

Finally, due to possible over-time persistency in the data, in the fourth column we run a dynamic three-period panel by also controlling for a lagged dependent variable (LDV) in order to take into account possible serial correlations<sup>11</sup> (Beck and Katz 1996). The results show that the time gap among the periods of our model is long enough to minimise over-time persistency since the LDV does not have any significant correlation with the dependent variable and that the relationship between insolvency rate and our variable of interest remains unaltered.

---

<sup>10</sup> Gagliardi (2009) and Carbo' Valverde et al. (2003) use data on deposits for each branch office for each bank. Due to lack of data availability we consider the average value of deposits per bank agencies assuming that each bank agency holds the same amount of deposit (Andriani, *forthcoming*).

<sup>11</sup> According to Beck and Katz (1996) the LDV might capture the extent of the dependent variable persistence especially in the case of over-time persistence in the data. A vibrant debate about the employment of this approach can be found in Wilson and Butler (2007). One of the criticisms is that the application of the LDV in linear regressions might lead to inconsistent estimators. However, it is argued that in the case of small n-period panel (like in our case) this risk of inconsistency is negligible. Instead it will have the advantage of adding time-persistent information in the model and, hence, to get closer to our original data than transformed data would do (Podesta' 2006).

Table 2: *Insolvency and institutional conformity*

	insol (1)	insol (2)	insol regions south (3)	insol LDV (4)
<i>conformity</i>	-0.049*** (0.016)	-0.038** (0.015)	-0.035** (0.014)	-0.034** (0.015)
<i>lnincome</i>	-14.089*** (2.456)	-14.405*** (2.771)	-12.766*** (3.054)	-15.068*** (2.543)
<i>deposit</i>	-11.056*** (2.408)	-19.300*** (4.142)	-18.245*** (4.986)	-17.686*** (4.447)
<i>rate</i>	-0.618 (0.464)	-0.905 (0.574)	-0.958 (0.586)	-1.016* (0.532)
<i>DHHI</i>		0.166* (0.089)	0.117 (0.110)	0.135 (0.090)
<i>pop-density</i>		-0.003 (0.004)	-0.002 (0.004)	-0.003 (0.004)
<i>south</i>			1.349 (0.882)	
<i>insol_1</i>				0.085 (0.064)
<i>Constant</i>	159.064*** (28.026)	165.665*** (32.363)	149.045*** (34.814)	172.313*** (29.629)
<i>N</i>	60	60	60	59
<i>R Sq.</i>	0.781	0.793	0.801	0.798

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.001$

Notes: Standard errors in parenthesis. We use cluster-robust covariance estimator to deal with heteroscedasticity and non-equicorrelated errors over time as in Schmidheiny (2012) and Cameron and Trivedi (2005).

### 5.1 Institutional Conformity, Legal Duration and Insolvency

It is argued that longer legal procedures in cases of insolvency might imply for the lender increasing cost of the debt contract (given the higher enforcement cost) and higher risk of unexpected changes in the value of the collateral (Jappelli et al. 2005). More specifically, “longer trials increase legal expenses and until conclusion the creditor is exposed to the risk of asset substitution by the debtor and unexpected changes in the value of the collateral. In other words, the length of judicial trials can be translated into legal costs for creditors (Fabbri 2010, p. 780). On the one hand, this might have a negative impact on the effectiveness of the judicial system and, on the other hand, increase the cost of punishment for the punisher. Under these conditions, the insolvency rate might increase and institutional conformity might become less effective. In this sense, evolutionary economics interestingly reports a more effective cooperative behaviour where punishment is effective and at a contained cost for the punisher (Fehr and Gächter 2000). This drives the attention towards the possible

complementary nature between institutional conformity to norms of reciprocity and trust and the ability of formal institutions to react to non-compliance behaviours. In contexts where the cost of punishment to non-compliance behaviours is higher because of the slower reaction of the formal institutions, institutional conformity to informal institutions might become less effective and less impactful than in contexts with lower cost of punishment and quicker reactions of the formal institutions.

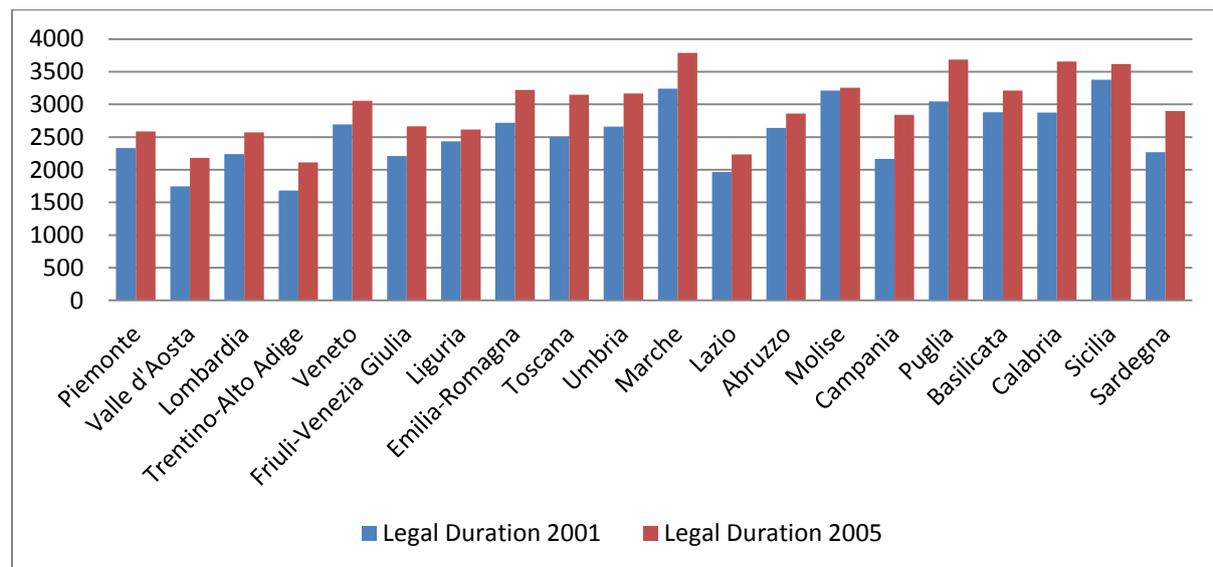
In the Italian judicial system, civil and criminal offenses are regulated separately. The cases of insolvency are regulated by the civil law in the competent court which is the one of the borrower's district<sup>12</sup>. Every region in Italy is related to specific judicial districts. However, human and financial resources of each judicial district are allocated by the central government that is also responsible of the administration of the justice. The legal idea on the basis of a case of insolvency is that the creditor has the responsibility to "prove his right" in court in order to claim the fair repayment (Jappelli et al. 2005). The civil trial then can go through three degree of judgments: lower, appeal court and a third degree trial for the "formal aspects of the summon issued in the former degrees" (Fabbri and Padula 2003: 10).

In terms of legal duration, as reported in figure 2, Italy shows an incredible cross regional differential even though the same contract law is in force in every region (Jappelli et al. 2005). This permits the analysis to avoid the overlapping between legislative and legal enforcement effect (Fabbri and Padula 2004).

---

<sup>12</sup> This improves the validity of our analysis since the competent court is geographically located in the same context of the individual insolvent. Notice that our data are only on insolvency and not on bankruptcy. While bankruptcy might imply insolvency, the reverse is not the same. For more details on the bankruptcy code and procedures in force see Manganelli (2010).

Figure 2: Legal Duration in Italy 2001 and 2005



Source: author's elaboration of data from the ISTAT

**North:** Piemonte – Emilia Romagna; **Centre:** Toscana – Lazio; **South:** Abruzzo – Sardegna

We employ our baseline model by considering the legal duration in terms of days to complete the first degree trial and we call this variable *legal*. More precisely, following Fabbri (2010) and Fabbri and Padua (2004) the variable *legal* considers the pending cases ( $P_i$ ) the incoming cases ( $S_i$ ) and the cases completed or withdrawn during the year such that:

$$legal = \frac{P_i}{S_i + E_i} * 365$$

In order to mitigate plausible endogeneity problems we lagged the variable *legal* by one year with respect to the dependent variable. Due to unavailability of data of legal duration after the year 2007, we have to limit our analysis to the two-period panel of 2001 and 2005.

Table 3 reports the estimations based on three different specifications.

Column I shows that the variable *conformity* is still statistically significant even when we include the variable *legal*. Additionally, it seems that insolvency increases with the length of legal duration.

In Columns II and III we investigate the relationship between our variable of institutional conformity and insolvency within different “reaction-time” of the legal institutional frameworks. To this purpose, from our initial variable *legal*, we construct a binary variable, *dlegal*, which assumes value 1 for the regions with an average time of trial completion less

than the country median (Column II) and value 0 otherwise (Column III). The estimations indicate a higher conformity to informal institutions in regions where the punishment system reacts quicker to non-compliant behaviours. In fact, in regions where legal enforcement requires less time the coefficient of institutional conformity is about 78% greater than in regions with an average time of trial completion higher than the country median. In line with Fehr and Gächter (2000), this might suggest a complementary relationship between the individuals' attitude of conformity to informal institutions and the lower cost of legal enforcement. In other words, the coefficient of institutional conformity seems to be higher in regions where formal institutions reacts quicker compare to regions with slower reactions<sup>13</sup>.

*Table 3 Insolvency, institutional conformity and legal duration*

	insol (1)	insol (2)	insol (3)
<i>conformity</i>	-0.137*** (0.028)	-0.098** (0.043)	-0.055*** (0.016)
<i>legal</i>	0.003*** (0.001)		
<i>lnincome</i>		-2.930 (2.152)	-13.901*** (2.501)
<i>deposit</i>		1.417 (3.698)	-5.510 (8.492)
<i>constant</i>	0.542	35.487* (20.108)	151.385*** (24.828)
<i>N.</i>	40	20	20
<i>R Sq.</i>	0.426	0.459	0.824

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.001$

Notes: Standard errors in parenthesis. Since some of the variables in table 5 resulted to be not significant in any specification, given the smaller number of observations, for parsimony we omit them from these regression specifications

<sup>13</sup> Notice that these results are validated also when we replace the variable of *legal* with the backlog of trials pending normalised by the incoming trials as suggested by Fabbri and Padula (2004).

## 6. Conclusions

It is very common to analyse credit market performance within the dominant perspective of the predetermined rational choice context where financial collateral and market uncertainty are the main driving factors of the financial contract success and failure. Without denying the importance of these factors, we stress on the point that a debt contract is embedded in a social exchange context where social and institutional norms play a crucial role. Due to this reason, institutional conformity might contribute to explain why some contexts record a lower rate of credit market failure than others.

In this paper we focus our attention on the role of informal institutions by considering the norms of reciprocity and trust regulating the social exchanges inside the industrial districts. Langlois (1998) rightly points out the mechanisms that the institutions can put in place of replacing the strategy of the case-by-case choice with a more unconscious rule-following approach. This mechanism becomes even more explicative if we think at the so called *reconstitutive downward causation* indicating that an institution well established at the aggregate level influences the individuals' choices at a micro level (Elner 2012). The governance inside the industrial districts seems to be an appropriate expression of this rule-following mechanism. This discourse is also complement to the cognitive faculty of the institutions through which the interpretation and re-codification of the information makes the individual not only receptive but also "re-active" to information affecting her decision making (Dequech 2006). This work seems to provide empirical support to this perspective showing that conformity to informal institutions is higher in contexts where formal institutions react quicker.

These conclusions might drive to two crucial speculations.

Firstly, institutional accountability matters. In contexts characterised by more reactive formal institutions, the social exchanges occurring between two parties are subject to less degree of uncertainty and might reduce credit market failures. This is because institutional accountability not only reduces punishment costs but also provides a more comfortable playground for informal institutions to regulate the contingencies of the social exchange that cannot be done only by the law.

Secondly informal institutions matter. The main problem, however, is that they are not properly functional in all contexts. Hence how can we make trust or norms of reciprocity operative? Can we set educational programs that instruct people how to boost trust and

cooperative behaviour in the society? Can we impose policy recommendations able to shape cultural changes in favour of more institutional conformity? Is institutional conformity exportable?

One of the main challenges faced by institutional economists is to advance realistic strategies to increase conformity to informal institutions in contexts where this is missing (Tamanaha 2015). Ostrom (2010), for instance, suggests policies able to develop conditions regulated by norms of learning, adaptability and trustworthiness without, at the same time, imposing a specific socio-cultural design. This perspective can fit very well in our context given that reciprocity, trust and adaptability are behavioural codes internalised by the community of the industrial districts (Langlois 1998). Policy programs for boosting socio-economic investments inside the districts might represent one possible way to put in actions some of the remedies that Ostrom suggests. Of course, we are fully conscious of the peculiarity of the Italianate type of industrial districts. However, it is worthy to mention that in the last two decades crucial progresses in the literature of industrial districts in United States (Saxenian 1996) and in Asia (Ganne et al. 2009; Appold et al. 2009) show interesting similarities in the DNA of the informal institutions regulating the social exchange inside the districts. The main elements of this DNA seem to be high sense of reciprocal cooperation and trust.

Ostrom remedies, then, might be valid not only to the Italianate type.

## References

Agostino, M. and Triveri, F. (2008) "Banking competition and SMEs bank financing evidence from the Italian provinces," *Journal of Industry, Competition and Trade*, 8(1): 33-53.

Andriani, L (2014) "Is Acting Prosocially Beneficial for the Credit Market?", *Review of Social Economy*, 72(3): 354-378

Appold, Stephen J. and Quy Thanh Nguye. "The prevalence of social embedding in Vietnamese industrial clusters" in *Asian Industrial Clusters, Global Competitiveness and New Policy Initiatives*, edited by Ganne, Bernard and Yveline Lecker, pp. 405-436. London, UK: World Scientific, 2009

- Banfield, E. (1958) *The Moral Basis of a Backward Society*, New York: Free Press
- Becattini, G (2002) Industrial Sectors and Industrial Districts: Tools for Industrial Analysis *European Planning Studies* 10(4): 483-493
- Beck, N. and Katz J. N. (1996) "Nuisance vs. Substance: Specifying and Estimating Time-Series-Cross-Section Models," *Political Analysis*, 6: 1-36
- Bellandi, M (2002) Italian Industrial Districts: An Industrial Economics Interpretation *European Planning Studies* 10(4): 426-437
- Brusco S (1999) "The rules of the game in industrial districts" in Grandori A (1999) *Inter-firm networks organisation and industrial competitiveness* London, Routledge, pp. 17-40
- Cameron, C. and Trivedi, P. K. (2005) *Microeconometrics. Methods and Applications*, Cambridge, Cambridge University Press
- Carbo' Valverde, S., Humphrey, D. B. and Rodriguez, F R (2003) "Deregulation, bank competition and regional growth," *Regional Studies*, 37(3): 227-237
- Christoforou, A (2011) Social Capital: A Manifestation of Neoclassical Prominence or a Path to a More Pluralistic Economics? , *Journal of Economic Issues*, XLV(3): 685-701.
- De Propriis, L and Wey (2007), P Governance and Competitiveness in the Birmingham Jewellery District, *Urban Studies* 44(12): 2465-2486
- Dei Ottati Gabi. ""Global competition and entrepreneurial behaviour in industrial districts: trust relations in an Italian industrial district", in *Trust and Entrepreneurship: A West-East Perspective*, edited by H.H. Hoehmann and F. Welter, pp. 255-271 Edward Elgar, Cheltenham, 2005.
- Dei Ottati, G 1994 "Trust, Interlink Transactions and Credit in the Industrial Districts" *Cambridge Journal of Economics* 18, 529-546
- Dequech, D (2003) "Conventional and Unconventional Behaviour Under Uncertainty", *Journal of Institutional Economics*, 26(1): 145-168
- Dequech, D (2013) "Economic institutions: explanations for conformity and room for deviation", *Journal of Institutional Economics*, 9(1): 81-108
- Dixit, A (2003) "On Modes of Economic Governance" *Econometrica* 71(2): 449-482
- Dow S. C. (1992) "The regional financial sector: a Scottish case study," *Regional Studies*, 26: 619-631
- Dow, S. C. and Rodríguez Fuentes, C. J. (1997) "Regional finance: a survey," *Regional Studies*, 1(9): 903-920.
- Dow, S. C., and Motagnoli, A. (2007) "The Regional Transmission of UK Monetary Policy," *Regional Studies* 41(6): 797-808

- Dow, S. C., Motagnoli, A., and Napolitano, O. (2012) "Interest Rates and Convergence Across Italian Regions," *Regional Studies*, 46(7): 893-905
- Eslner, W (2012) *Microeconomics of Interactive Economies. Evolutionary, Institutionally and Complexity Perspectives*, Edward Elgar, Cheltenham, UK
- Fabbri, D Padula, M (2003) "Legal Institutions, Credit Market and Poverty in Italy" *Mimeo*
- Fabbri, D. (2010) "Law Enforcement and Firm Financing: Theory and Evidence," *Journal of the European Economic Association* 8(4): 776-816
- Fabbri, D. and Padula, M. (2004) "Does poor legal enforcement make household credit-constrained?" *Journal of Banking & Finance* 28: 2369-2397
- Farnsworth, A (1969) "The Past of Promise: An Historical Introduction to Contract" *Columbia Law Review* 69(4): 576-607
- Fehr, E. and Gächter, S. (2000) "Cooperation and Punishment in Public Goods Experiments", *The American Economic Review*, 90(4): 980-994.
- Ferray, M. (2002) "Trust and Social Capital in the regulation of lending activities", *Journal of Socio-Economics*, 31: 673-699.
- Fleetwood, S (2008a) "Structure, Institutions, Agency, Habit and Reflexive Deliberation", *Journal of Institutional Economics*, 4(2): 183-203
- Fleetwood, S (2008b) "Institutions and Social Structures" *Journal for the Theory of Social Behaviour*, 38(3):241-265
- Fried, C (1981) *Contract as Promise. A Theory of Contractual Obligation* Cambridge, Harvard University Press
- Gagliardi, F. (2009) "Banking Market Structure, Creation and Activity of Firms: Early Evidence from Cooperatives in the Italian Case," *Annals of Public and Cooperative Economics* 80(4): 575-610
- Ganne, B Lecler, Y (2009) "Asian industrial clusters, global competitiveness and new policy initiatives" World Scientific Publishing Co Pte Ltd 2009
- Goetz, C J and Scott, R E (1980) "Enforcing Promises: An Examination of the Basis of Contract" *The Yale Law Journal* 89(7): 1261-1322
- Granovetter, M. (1985) "Economic Action and Social Structure: The Problem of Embeddedness", *American Journal of Sociology*, 91:481-510.
- Greif, A (1989) "Reputation and Coalition in Medieval Trade: Evidence on the Maghribi Traders" *Journal of Economic History* XLIX: 857-882

- Greif, A (2005) "Commitment, Coercion and Markets: The Nature and Dynamics of Institutions Supporting Exchange" in Menard, C and Shirley, M. M. (2005) *Handbook of New Institutional Economics*, Dordrecht, Springer, pp. 727-786
- Guiso, L. and Jappelli, T. (2005) "Awareness and stock market participation," *Review of Finance*, 9(4): 537-567
- Guiso, L., Sapienza, P. and Zingales, L. (2004) "The Role of Social Capital in Financial Development", *American Economic Review*, 94 (3): 526-556.
- Guiso, L., Sapienza, P. and Zingales, L. (2011) "Civic Capital as the Missing Link," *Handbook of Social Economics*, 1: 417-480
- Harrison, B (1992) "Industrial Districts: New Wine in New Bottles?" *Regional Studies* 26:5 pp. 469-483
- Hart, O. and Moore, J. (1998) "Default and Renegotiation: A Dynamic Model of Debt," *The Quarterly Journal of Economics* CXIII:1 1-41
- Hodgson, G (2003) "The Hidden Persuaders: Institutions and Individuals in Economic Theory", *Cambridge Journal of Economics*, 27: 159-175
- Hodgson, G (2006) "What Are Institutions?", *Journal of Economic Issues*, 40(1): 1-25
- Jappelli, T., Pagano, M. and Bianco, M. (2005) "Courts and Banks: Effects of Judicial Enforcement on Credit Markets," *Journal of Money, Credit and Banking* 37: 223–244.
- Kandori, M ((1992) "Social Norms and Community Enforcement" *The Review of Economic Studies* 59: 63-80
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and R. Vishny (1997) "Legal determinants of external finance", *Journal of Finance*, 52, 1131–1150
- Manganelli, P. (2010) "The Evolution of the Italian and U.S. Bankruptcy Systems: A Comparative Analysis," *Journal of Business and Technology Law* 5(2): 236-262
- Markusen, A. 1996 "Sticky places in Slippery Space: A Typology of Industrial Districts", *Economic Geography*, Vol. 72, pp. 293-313
- Meador, M. (1982) "The effect of mortgage laws on home mortgage rates," *Journal of Economics and Business* 34: 143–148
- Molm, L. D. (1994) "Dependence and Risk: Transforming the Structure of Social Exchange," *Social Psychology Quarterly*, 57(3): 163-176
- Ostrom, E (2010) "Beyond Markets and States: Polycentric Governance of Complex Economic Systems" *American Economic Review* 100(3): 641-672
- Podesta', F. (2006) "Comparing Time Series Cross-Section Model Specifications: The case of Welfare State Development," *Quality & Quantity*, 40: 539-559.

- Porteous, D. J. (1995) *The Geography of Finance: Spatial Dimensions of Intermediary Behaviour*, Avebury, Aldershot
- Putnam, R. D., Leonardi, R. and Nanetti, R. Y. (1993) *Making Democracy Work*, Princeton: Princeton University Press
- Robertson, P L Jacobson, D and Langlois, R (2009) “Innovation Processes and Industrial Districts” in *A Handbook of Industrial Districts* edited by Becattini, Giacomo Bellandi, Marco and Lisa De Propris, pp. 321-342 Cheltenham: Edward Elgar, 2009
- Sako, M (1998) “Does trust improve business performance?” in Christel Lane and Reinhard Bachmann (eds.) Trust within and between organisations Oxford University Press, Oxford pp. 88-117
- Saxenian, A 1996 *Regional Advantage Culture and Competition in Silicon Valley and Route 128* Harvard, Harvard University Press
- Schmidheiny, K. (2012) Short Guide to Microeconometrics, Mimeo
- Sforzi, F (2009) “The Empirical Evidence of Industrial Districts in Italy” in *A Handbook of Industrial Districts* edited by Becattini, Giacomo Bellandi, Marco and Lisa De Propris, pp. 321-342 Cheltenham: Edward Elgar, 2009
- Sforzi, F 2002 “The Industrial District and the “New” Italian Economic Geography” *European Planning Studies* Vol. 10 N. 4 p. 439-447
- Tamanaha, B Z (2015) The Knowledge and Policy Limits of New Institutional Economics on Development *Journal of Economic Issues* 49(1): 89-109
- Wilson, S. E. and Butler, D. M. (2007) “A Lot More to Do: the Sensitivity of Time-Series Cross-Section Analyses to Simple Alternative Specifications,” *Political Analysis*, 15: 101-123.
- Wooldridge, J. M. (2006) *Introductory Econometrics. A Modern Approach*, South-Western, Thomson