

The Determinants of Corruption in Italy: Regional Panel Data Analysis

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Abstract

According to several indexes of corruption, the Italian society is strongly affected by this negative phenomenon. This paper investigates the determinants of corruption in Italy in the period 1963-2000 by the use of statistics on crimes against the public administration at a regional level. After a review of the international literature on the economic, political and cultural likely causes of corruption, the paper examines the II post-war years and puts forward some hypotheses concerning institutional changes, social capital and political competition influences on corruption. Econometric estimates of a model of corruption show how economic variables (public expenditure, income per capita) have low explanatory value, while the most important factors affecting corruption in Italy are political and cultural (presence of voluntary organisations; absenteeism at national elections).

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1. Introduction

In a book published in 1974 on the peculiarities of the Italian political system¹ there were several essays on the mechanisms that have resulted in the stability of the Italian political system on the one hand and the inefficiency of public administration on the other. One of the most important mechanisms was the system of political patronage, in Italian called *clientelismo*, that allowed groups of citizens linked directly to politicians to reap high rewards through special laws (*leggine*) or through political appointments. Such rewards and appointments were not aimed at enhancing efficiency or recruiting professional expertise. The interaction between politicians, bureaucracy and groups of citizens directly linked to politicians was a characteristic of the Italian political system but it was only in the early 1970s that political corruption began to spread.² So in the book corruption was never considered a major problem of the Italian economy.

However, in the 1980s corruption began to be seen as a problem and a growing number of citizens became intolerant to the spread of corruption (Cazzola, 1988). The different emphasis laid on corruption in the two periods from the second world war to the 1970s and later is probably caused by the much higher spread, in the 1980s, of bribes in relations between citizens and public administration. The statistical evidence for this increase in corruption is given by two different indexes. The first is Transparency International's annual index of perceived corruption³ and the second one is the amount of corruption crime per capita detected by Italian law. The number of crimes against public administration that we consider is based on statutes n. 286 through 294 (ISTAT- Annali di statistiche giudiziarie) We exclude other statutes of crimes against the P.A. that do not involve crimes of corruption as "oltraggio al pubblico ufficiale", (279) or (295) "omissione o rifiuto di atti di ufficio".

The first index is available only from 1980: Table 1 shows the values of the index from 1980 to 2002 for some European countries. In the 1980s Italy was very corrupt compared to other industrialised countries and at least on the basis of the former index corruption increased in Italy till 1996 and subsequently decreased.

¹ Cavazza-Graubard (1974)

² There were many cases of political corruption even before the war. We recall the Banca Romana case under the Giolitti Government. In the period 1880-1976 in the Corriere della Sera newspaper only very important national cases of corruption are reported (Cazzola 1988). But it is only after 1976 that political corruption became a serious phenomenon, and it was possible to read newspaper reports about corruption in many parts of Italy.

Table 1 - Index of perceived corruption

	1980-85	1988-92	1996	2002	2003
Spain	6.82	5.06	4.31	7.10	6,9
France	8.41	7.45	6.96	6.3	6,9
Germany	8.14	8.13	8.27	7.3	7,7
Italy	4.86	4.3	3.42	5.2	5,3
Belgium	8.28	7.4	6.84	7.1	7,6
UK	8.01	8.26	8.44	8.7	8,7

Source: Transparency International

The second index is available for a longer period and its dynamic is shown in Graph 1. The graph shows, in the period 1963-2000, the number of corruption crimes, on a per capita basis, in Italy, the Centre-North and the South. There are three main aspects that graph 1 shows.

The first is that corruption crimes in Italy increased steadily between the mid 1970s and the first half of the 90s. The question which should be answered is why Italy shifted from a system of political patronage, that is a form of constituency service that uses the power of politicians over public administration to benefit specific named clientele, to a system of political corruption that involves legislators, bureaucrats and businessmen who are the actors paying bribes?

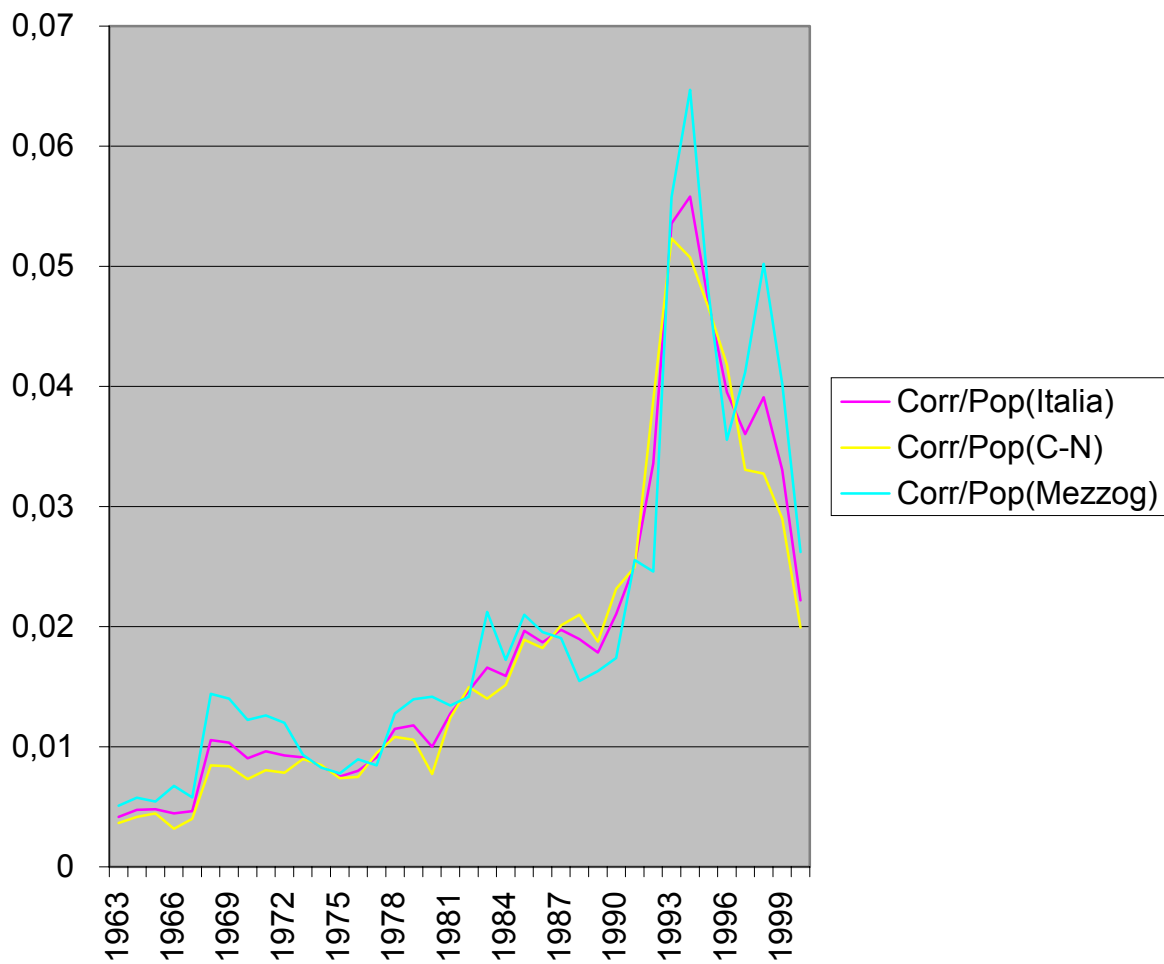
The second aspect is that corruption is higher in southern Italy than in northern Italy. So one must explain the differences in the corruption level between North and South.

The third aspect is the decrease in corruption after 1993. This decrease could be a consequence of the so-called *Mani Pulite* (Clean Hands) campaign that probably affected the expectations on the profitability of corruption, as people saw that legislators, administrators and the judiciary were intent on enforcing the integrity of public officials at all levels.

Therefore an explanation of corruption in Italy must deal with these three aspects. The purpose of our paper will be to give an answer to the questions raised by the above aspects. In the first part of the paper we will examine the possible causes of corruption and the forces that affect the dynamics of corruption. In the second part we will seek to explain the dynamics of corruption in Italy and of the differences between regions. In the third part we will test our hypothesis econometrically.

³ The index represents is constructed by a team of researchers at Gottingen University from a number of annual surveys. The index relates to the perceptions of the degree of corruption as seen by business people, risk analysts and the general public and ranges between 10 (highly honest) and 0 (highly corrupt)

Graph.1-The Dynamic of corruption crimes in Italy,Southern Italy,Northern Italy.



2. Reasons for the dynamics of corruption

One of the most interesting facts about corruption is that it varies greatly across countries and periods of time within a given country.

A first explanation is that corruption changes in relation to different stages of economic development. In the book *Asian Drama* (1968) Myrdal explains that in the traditional society giving a bribe to a person holding a public position is not clearly differentiated from the “gift tribute” and other burdens sanctioned in traditional pre-capitalist society, or the special obligations attached to a favour given at any social level. Some authors (Myrdal, 1968; Huntington, 1968) expects that in the early stages of development changes in social and economic systems allow greater incentives as there are greater opportunities for corruption. This explains the increase in corruption that is commonly assumed to have taken place in recent times with the gaining of independence and the transition from colonial status to self-government. We could expect rapid modernization of undeveloped societies to increase corruption and only when market forces are well developed and society is governed by rational calculations of costs and returns will corruption decrease. From this theory we could expect, *coeteris paribus*, an inverted U relationship between corruption and economic development. In the early stage of growth corruption increases and then after reaching a peak it will decrease with economic development (Treisman, 2000).

A different explanation is given by models with multiple equilibria, the hypothesis being that the same socio-economic structure can give rise to different levels of corruption. In such models the choice of corruption is the result of comparing the expected profitability of engaging in a corrupt transaction with that of not engaging. The expected net value of the bribe decreases and therefore corruption could decrease as the probability of getting caught and being charged increases. There are many reasons why differences in profitability change as corruption changes: a) it is more difficult to detect a corrupt transaction as corruption increases due to the fact that the capacity of public investigations and prosecution may be strained; b) internalised moral feelings of guilt by breaking the rules decrease as the numbers of rule breakers increases; c) when many others engage in corruption the loss of reputation when discovered is likely to decrease. Corruption may be positively correlated with the corruption in the past period when the level of corruption was low or not very high, and after a peak is reached there is an inverse correlation.

This explanation has been formalized in the model of Andvig and Moene (1990), where it is assumed that the expected punishments for corruption when detected decline as

more officials become corrupt because it is cheaper to be discovered by a corrupt than a non-corrupt superior. So the net value of a corrupt action increases first rapidly with the number of corrupt individuals. But as the frequency of corrupt transactions increases, corrupt income, as an erratic tax on private sectors, increases and will give rise to reduced production in that sector. There will be less to share. Although corrupt individuals may take the lion's share they have now become so numerous that reduced production may decrease their utility levels too. So the net value of corrupt transactions changes direction and decreases as the number of corrupt individuals increases. On the other hand the net value of non-corrupt transactions for all conceivable allocations of the remaining officials between the two categories declines as the number of corrupt individuals increases. The model generates two stable stationary Nash-type equilibria and highlights how the profitability of corruption is positively related to its frequency and how a transparency shift may lead to a permanent change in corruption. The theoretical model of Anvig and Moene explains how an anticorruption campaign, by increasing both the moral cost of the bribe and the probability of being discovered, could shift the phase diagram downwards. Anticorruption campaigns thus decrease corruption as an equilibrium point of lower corruption is reached.

A third explanation is that variations in corruption are the results of changes in the political system(i.e. from democracy to dictatorship and vice versa). The main challenge here is to explain how the change in the political system might affect the structure of the incentives to corruption. Golden (2000) states that widespread political corruption can emerge out of a patronage system only when some exogenous factor causes a change in the payoff affecting at least one of the following three

- (a) the extent to which businesses are willing to pay bribes as part of the cost of doing business with the public sector;
- (b) the extent to which politicians have an incentive to seek additional illegal financial resources;
- (c) the extent to which politicians enjoy a large collective incumbency advantage and do not fear exposure by a credible political rival.

Another explanation is that the variations in corruption are the results of changes in social norms. An increase in corruption could be the result of a process of weakening of the political institutions and the sense of loyalty to organized society. The spread of corruption among minor officials could stem from a deterioration of the morals of some politicians and higher officials. This theory needs to explain why there were such changes in social norms.

The above theories are not mutually exclusive but could be used together especially when one seeks to explain the dynamics of corruption in a specific country.

3. The determinants of corruption

We now turn to the question of why the incidence of corruption varies in different countries or in different regions within the same country.

The theories of determinants of corruption fall into three broad categories: economic, political, and cultural. Economic theories see the state intervention with its elaborate system of permits and licences and the allocation of resources not through the market but through administrative mechanisms as the main cause of corruption. Political theories have developed alternative approaches (median voter, kleptocracy, agency) of the interactions between voters, legislators and bureaucrats that could generate corruption. The characteristics of the electoral system, the method of choosing candidates, and the degree of competition between political parties have been seen to affect the level of corruption. The third group of theories states that some societies form beliefs and ideas that block or favour corruption. We now examine some possible causes of corruption that could have special importance in the Italian case.

Economic causes of corruption

Liberal economists think that it is the regulatory state with its system of permits and licences which favours corruption. Profits are determined more by government subsidies, taxes and regulation than by traditional management or entrepreneurial skills. The greater the presence of the state, the more the economy is characterised by rent seeking. “Corruption is common whenever big government infiltrates all facets of economic life, never mind the political and business systems” (Becker, 1994) “The only way to reduce corruption permanently is to drastically cut back government’s role in the economy” (Becker, 1997). Rent seeking could arise when companies win government contracts, get higher tariffs and quotas and receive subsidies. Companies respond to the importance of government’s role by striving to influence political decisions (Becker 1994). Corruption is one method to influence government (local or central) choices. An important aspect is that there is no one direction of causality between state intervention and corruption, as corruption could increase state intervention in that a company could bribe to obtain a subsidy or a loan on favourable terms, or to increase the level of tariff and so on.

Another hypothesis, suggested by Stigler and Becker, is that, to reduce malfeasance among government employees, officials in vulnerable positions must receive higher salaries than comparable workers in the private sectors.

The possibility of rent-seeking and opportunities for corruption are increased by the closure of the economy to foreign competition. When an economy is open to international economic competition there is less incentive for businesses to be corrupt as they can no longer afford to pay the “excessive” taxes represented by bribery. Corruption could be positively associated with natural resource endowments as the control of such resources is a source of very large rent seeking.

To conclude, the predictions of economic theory are that, *ceteris paribus*, the higher the level of state intervention in the economy the higher is corruption⁴; the greater the openness of the economy the lower is corruption, and the greater the endowment of natural resources, the higher corruption will be.

Political causes of corruption

The probability of getting caught and being charged has been seen to play a very important role in the decision of officials and politicians to accept bribes. Therefore the greater the effectiveness of the legal system the less corruption there will be. In cross-regional analysis within a country the legal system is the same and it is quite constant over time. Therefore we cannot expect large regional variations in the probability of getting caught and being charged. Therefore it is quite difficult to discern the effects on corruption of legal systems.

Another important aspect that could affect corruption is characteristic of the centralized or decentralized state. The relationship between structured states and corruption is not clear. Fiscal competition among decentralized local governments can ensure the efficient provision of congested public services. In a federal system the mobility of resources across regions raises the opportunity cost to local governments of bailing out inefficient firms using wasteful public expenditure. Therefore in a federal system competition among jurisdiction reduces the opportunity for corrupt activities. There are many arguments against this hypothesis. Decentralized political systems could be more corruptible because the potential corrupter needs to influence only a segment of the government. Other authors (Prud’homme

⁴ When a government intervenes it can do so reasonably efficiently or it could cause corruption (Mauro 1995, Treisman, 2000). There are many examples indicating that corruption and interventionism are not necessarily positively correlated.

1995, Tanzi 1995) suggested that corruption may be greater at the local level, perhaps because of the greater intimacy and frequency of interactions between private individuals and officials at more decentralized levels.

A major force preventing politicians from establishing a system of corruption is fear of losing the election and not being elected. We may thus expect a democratic system to be less corrupt than a dictatorship. However, it is also reasonable to assume that in a democratic system the higher the level of political corruption the lower is the chance of the emergence of a political party who seizes on the existence of corruption to promise to clean up government. The strength of this force will be greater if the electorate has strong feelings against corruption. But if people think that those in a position of power are likely to exploit it in their own interests, those of their family or some other social group to which they owe loyalty, the electorate will not believe that a change in the ruling party will reduce corruption. Therefore in a country where the level of “civic community” is low the strength of electoral competition to fight corruption will be weak.

The influence of politics on corruption has been investigated by Persson, Tabellini and Trebbi (2003) who concentrate on countries’ electoral systems and find a positive effect of proportional elections on corruption. They also find that larger voting districts – which would mean lower barriers to entry – are correlated with less corruption.

Cultural causes of corruption

One variable that has been explicitly considered in few econometric works on the determinants of corruption is social capital. Social capital is created from the horizontal networks and relations between individuals, groups and organizations in civil society. The notion of social capital draws on observations of Toqueville on democracy in the USA, where democracy developed and consolidated because American people largely participated in what constitute the primary social institutions such as the family, the school, the neighbourhood and church civic organizations. Social capital is embedded in primary social institutions which provide people with basic values, such as high levels of social trust, cohesion and participation.

The classical study by Almond-Verba (1963) on civic culture gave empirical evidence to the Toqueville intuition that social trust, cohesion and participation increase the quality of democracy. Inglehart (1990) found social trust highly correlated with economic development and stable democracy. Following transaction cost theory we can say that in a high trust culture transactions costs are reduced because less complete contracts are required and disputes may

be settled more easily. Indeed, trust could prevent disputes from arising in the first place. Grannoveter (1985) argues that the trust and confidence required for economic transactions originates in social relationships and the networks that surround them.

A well-developed network of organizations, associations and so on could help establish cooperative relations between individuals and firms. This is what is called *horizontal trust*. Participation in voluntary associations is therefore an index of social capital, and it is widely held that such participation has a positive effect on democracy and economic development. Ostrom argued (1990) that “small-scale institutions enable a group of individuals to build on social capital thus created to solve larger problems with larger and more complex institutional arrangements.

This view is shared by Putnam (1993) who computed the level of “civic-ness” of each of Italy’s twenty regions in 1970 and found a remarkable concordance between the performance of regional governments and the degree to which social and political life in those regions approximates the ideal of civic community. Also Coleman (1990) believes that social organization facilitates social capital formation, and allows the achievement of goals that could not be gained in its absence, or at a higher cost. Social capital is therefore an important resource for individuals greatly affecting their ability to act and their perceived quality of life. Social capital provides “trust” as “public goods”. In creating trust between members of their organizations, individuals are providing the “trust” good to other members of society that are not part of their organizations. Not only does social capital create a “public good” but as Putnam points out “most forms of social capital such as trust, are what Albert Hirschman has called “moral resources”-that is, resources whose supply increases, rather than decreases through use and which become depleted if *not* used” (Putnam, 1993 p. 169). Therefore Putnam suggested that low economic development as well as low social capital would lead a community into a “vicious cycle”, draining its social capital and transforming it into a less civic community. The opposite is also true and a community with economic development and high social capital will enter a virtuous cycle, which leads to a productive community (Putnam 1993).

All the mentioned authors share the view that if a society has established patterns of trust, cooperation and social interaction this will generally result in a more vigorous economy, more democratic and effective government and fewer social problems. This view could be split in two propositions that could be tested separately: a) associations increase horizontal trust, and hence growth (Putnam effect); b) associations increase democracy (vertical trust) as they increase favourable attitudes toward political institutions (Toqueville effect).

Both propositions have been challenged: Olson (1982) holds the opposite view about proposition (a). He believes that strong development of associations reduces growth through “rent seeking”. Inglehart (1997). states that negative effects of associationism are more easily found in a developed society than in a less modern society where the Putnam effect is more likely.

Others such as Norris (1999), Newton (1999) and Caiani (2003) have challenged proposition (b), denying that there is a strong correlation between intensity of participation in associations and trust in political institutions. Putnam found a positive correlation in his work between the index of intensity of associationism and indexes of participating in politics such as turnouts for referenda, and use of personal preference ballots. We too have found a negative correlation ($r = -0.48$) between intensity of associationism in Italian regions and the degree of absenteeism in political elections (this could be seen as an inverse of the trust in political institutions). By contrast, in research on associationism in Florence Caiani (2003) found no correlation between participation in voluntary associations and trust in political institutions.

The above discussion is quite important to understand the causes of corruption. Corruption reflects a weak sense of loyalty to organized society. We could also say that corruption reflects a lack of civic virtue.⁵ “Participation in a civic community is more public-spirited than that more oriented to shared benefits. Citizens in a civic community, though not selfless saints, regard the public domain as more than a battleground for pursuing personal interest”⁶.

Notions of social capital or civic virtues are interesting but the main problem is how to measure it. If we use a composite index, such as that used by Putnam or a recent work by Micucci-Nuzzo (2003) on the estimation of social capital in Italy we could have the problem that such indicators are positively correlated in a given time but are negatively correlated or non-correlated when we consider longer periods of time. For example in the Italian case there is a positive correlation between the index of associationism in Italian regions and the participation in electoral voting. However we have a negative correlation when we consider the period 1980-2000. Therefore it could be more correct to analyse separately the effects of different components of social capital, and in particular the index of horizontal trust, namely associationism, and vertical trust, such as degree of absenteeism.

⁵ M. Walzer says: “Interest in public issue and devotion to public cause are the key signs of civic virtues” “Civility and Civic virtue” in R. Putnam (ed), Making Democracy Work: Civic tradition in Modern Italy, p. 87. Princeton University Press, 1993

4. Empirical evidence for the causes of corruption

Some of the implications of the above theories have been tested in a cross-national study by Treisman (2000). The study analyses many variables that explain corruption. There is a cluster of very exogenous variables (mainly cultural and political)– **legal system, colonial tradition, religious affiliation, ethno-linguistic division and natural resource endowments** that explain with an R^2 equal to 0.71 most of the differences in the level of corruption between countries. When **economic development** is introduced (log GDP) the R^2 is equal to 0.90. Further investigations show that the six variables – **British heritage, Protestant tradition, log per capita GDP, federal structure, uninterrupted democracy and openness to imports** - account for more than 89% of the variation in corruption between countries. In Table 2 we show the main results of the Treisman paper. An interesting result of Treisman’s paper is that economic variables have a much lower explanation power of corruption than socio-political variables: greater state intervention in the economy was associated with higher corruption only for the 1996 regression, but was not significant in either the 1997 or 1998 data. “The policy implications of this study are somewhat discouraging. Controlling for predetermined factors that themselves influence the choice of policies, policy decisions themselves either have little significant impact on corruption or else work painfully slowly” (Treisman, 2000, pag. 441).

A possible reason why economic variables did quite poorly in the regressions is that they are weakly exogenous relative to corruption. Politicians could accept bribes in order to promote interventionism that favour particular firms. Furthermore, economic variables are affected by “non-economic structural” variables in the long run and in the short run; by contrast economic variables affect institutional variables but only in the long run. In an analysis at a regional level within a country, differences in “non-economic structural” variables still exist but are much lower than between countries. Thus economic variables could have greater weight in accounting for differences in the level of corruption between regions within a country than between countries. Hence the Italian case that allows us to distinguish the level of corruption at a regional level could be a good test to assess the importance of economic variables in determining corruption.

⁶ R. Putnam, op.cit, p.88

Table 2 - The causes of corruption

Factors	Theoretical hypothesis	Empirical findings of the Treisman paper	Type of variable
Common Law system	-	+ NS	Highly exogenous
Former British Colony or UK	-	-	Highly exogenous
Never a colony	-	- NS	Highly exogenous
Percent Protestant	-	-	Highly exogenous
Free Press and more vigorous civic association	-		Highly exogenous
Ethnically divided	+	NS	Highly exogenous
Endowments of valuable natural resources	+	+	Highly exogenous
Uninterrupted democracy 1950.1995	-	-	Highly exogenous
Political instability	?	NS	Exogenous
Federal states	?	+	Exogenous
Level of education of population	-		Exogenous
Exposure to competition from imports	-	-	Weakly *exogenous
Degree of economic development	-	-	Weakly * exogenous
Higher relative salaries in Public Office	-	- NS	Weakly *exogenous
Greater State intervention	+	+ NS	Weakly *exogenous

+Positive correlation between the degree of corruption and the intensity of the considered variable

-Negative correlation between the degree of corruption and the intensity of the considered variable

? The direction of the correlation is not theoretically clear

*We speak of a weakly exogenous variable when it is not possible to establish clearly the direction of causality between corruption and this variable.

NS- Not significant

5. The causes of corruption in Italy: a possible interpretation

We saw in the first section the importance of accounting for the increase in corruption from the 1970s. There could be many possible causes behind the spread of corruption in Italy, such as the rise of federalism in Italy, the increase in state intervention and the rise of a new ruling class without the ideals of politicians who built the Italian Republic after World War II. Recently Golden suggested that in the 1970s there was a large exogenous increase in the incentives for political corruption both from the demand and supply side. The reasons pointed out by Golden were the following:

1. The passing of a law on the funding of political parties in 1974 that prohibited public companies from donating money to political parties or electoral campaigns. By making such donations illegal, the law on public financing criminalized existing practices.
2. The change in the leadership of the Socialist Party, a very important ally of the government, that for a variety of reasons transformed Italy's political system in the 1980s into one characterized by massive political corruption.
3. The collective incumbency advantage of the DC had by the late 1970s become stronger than ever. There was a belief - perhaps most notably among Socialist politicians - that Italy had no genuine political opposition or alternative government, and that governing parties were invulnerable. As a result, facilitating services could be priced.
4. The lack of foreign competition for government contracts gave Italian firms the economic possibility and the incentives to pay the bribes expected of them.

Besides the above causes a very important one could be the rise in corruption linked to the institutional development in federalism in Italy. In the last thirty years Italy has gone through many institutional reforms from a highly centralized model to a decentralized one. The 1948 constitution considered five "special regions", three located on national borders (Val d'Aosta, Trentino-Alto Adige, Friuli-Venezia Giulia) and two islands (Sicily and Sardinia). The law to create "ordinary regions" was passed in 1968 and the first regional councils were elected in June 1970. Two years were required for central government to issue decrees transferring powers, funds and personnel to regions, so that only in 1972 were regional governments operative. In 1985 Law 382 was passed authorizing the decentralization of important new functions to the regions. Central authorities retained general powers of "direction and coordination" over regional affairs but most regional funds came from the centre in the form of general purpose and special purpose transfers.

Decentralization of functions and central allocation of resources made politicians irresponsible and reduced incentives to allocate resources efficiently. For politicians the probability of being elected was much more linked to the number of *favori* (favours) that they could offer their "clients" than to the efficiency of public expenditure and the probability of being apprehended.⁷ Further decentralisation increased the number of politicians: the new entrants had to fund their own electoral campaigns and were pushed to use resources from

⁷ In many elections the politicians suspected of bribery, as soon as they became eligible again, were re-elected.

bribery to do so. As taxes and benefits were the exclusive domain of national government local politicians were much more interested in obtaining more resources from central government than using them efficiently. The decentralization of functions from central governments to local governments (i.e. the power to issue licences, the power to hire new staff, the power to choose the projects to finance, etc.) increased the opportunities of corruption.⁸

Another reason for the increase in corruption could be linked to the growing intervention of government in the economy. In Italy state intervention was quite high and increasing until the end of the 1980s. By the end of the 1980s and in the 1990s there was a reduction in the weight of the state in the economy; but the privatisation process⁹ gave new opportunities for corruption. Therefore the lower weight of the state in the Italian Economy did not necessarily have, in the short run, a positive effect on the diffusion of corruption. On the other hand the role of the state in the economy in the past thirty years varied between regions, and therefore we could expect a positive effect of the level of state intervention on diffusion of corruption between regions.

All the above causes produced a change toward a higher level of equilibrium of corruption that resulted in the dynamics shown in Graph 1. However, the increase in corruption is only one part of the story as there are two other aspects, one related to differences in corruption between regions and the other to the decrease in corruption in the late 1990s.

In Italy many studies have shown that the distribution of civic values among Italian regions is not uniform: in this distribution the gap between North and South has been exemplified in the “amoral familism” theory: “Maximize the material, short-run advantage of the nuclear family: assume that all others will do likewise”. We have seen that Putnam (1993) who computed the level of “civic-ness” of each of Italy’s twenty regions in 1970, found a lower index in southern Italian regions and remarkable concordance between the performance of regional governments and the degree to which social and political life in those regions approximates the ideal of civic community¹⁰. He found a parallel between the various regimes that characterized Italy at the beginning of the 14th century and the distribution of civic

⁸ This view was shared by G. Amato “Affarismo e politica: quale risposta alla questione morale?; *Mondo Operaio* no. 4, April 1982; S. Cassese, *Il Mondo*, 1 December 1986.

⁹ The recent SME case where businessmen and politicians corrupted judges to obtain positive verdicts is a good example of such opportunities.

¹⁰ There are four indicators of civic sociability considered by Putnam: 1) The vibrancy of association life 2) The incidence of newspaper readership 3) The electoral turn-out in the referenda 4) The incidence of preference voting. The four indicators are highly correlated in the sense that regions with a high turnout for referenda and low use of the personal preference ballot are virtually the same regions with a high diffusion of civic association and a high incidence of newspaper readership.

norms¹¹. On the other hand one could say, following the modernization theory, that corruption in southern regions is higher since they are undergoing the process of modernization that northern regions have already experienced. Another reason for the differences in the corruption level between Italian regions could be greater state intervention in the South.

The third aspect that must be explained is the change in the corruption level in the late 1990s. The reasons for the change mainly lie in institutional change. In Italy in 1993 a strong anti-corruption campaign started called *Mani Pulite*. However, the number of trials per corruption crime had already increased steadily in the period 1989-1997. The reaction of the public at large led to the downfall of the two main governing political parties, the Christian Democrats and Socialists. In Italy, as in other European countries, the wave of opinion against corrupt practices started at the beginning of the 1990s and peaked in the second half of the decade. Corrupt practices that were tolerated as long as the danger of communism prevented any serious challenge to institutional power were no longer accepted after the fall of the Berlin Wall. But in Italy there were also economic reasons for the campaign against corruption. For the Italian economy the cost of corrupt practices had become increasingly high and was one of the causes of the very large budget deficit¹². Thus ordinary citizens and business people supported magistrates investigating cases of political corruption. By the end of 1995 Italy's anticorruption magistrates had gone on to arrest more than 1300 top business people, civil servants and politicians. The effects of the anticorruption campaign on the diffusion of bribery were not immediate but strong¹³. Italy's indexes, based on detected crime, probably recorded the change in trend with a delay of one or two years.

A second reason for the decrease of corruption is due to the institutional change of the electoral system. In 1993 Law 81 changed the system to elect the Mayor, the President of the province and the President of the region. The new system made the mayor and other presidents much more independent of political parties, and therefore more able to resist the pressure of the lobbies, than in the past. The new system weakened the extensive use of

¹¹ The southern territories once ruled by Norman kings constituted the seven least civic regions in the 1970s. The Papal States (minus the communal republics that lay in the northern section of the Pope's domain) correspond to the next three or four regions up the civic ladder in 1970. At the end of the scale the heartland of republicanism in 1300 corresponds to the more civic regions of today, followed closely by the areas still further north in which republican tradition, though real, had proved somewhat weaker.

¹² Immediately after *Mani Pulite* there was a reduction in the cost of public works for government.

¹³ In a survey done at the end of 1993 among 786 Italian young entrepreneurs 42 % declared that corruption had been greatly reduced, 40 % slightly reduced. 6% declared that the phenomenon of corruption had disappeared and 13 % declared that the intensity of corruption was the same as before. "Sviluppo, criminalità e corruzione", *Quale impresa*, no. 7 1994

political patronage, one of the most important determinants of corruption. Therefore one would expect the new reform to reduce corruption¹⁴.

The above two causes shifted the Italian system from a stable high equilibrium level of corruption to a lower stable equilibrium of corruption. The question now is whether the effects of such changes can persist or whether the relaxing of the *Mani Pulite* campaign and a decrease in the cost of being corrupt will shift Italy back to a higher level of corruption.

We have sketched a brief history of corruption in Italy and derived the hypotheses shown in Table 3. In the sections below we will seek to investigate more rigorously the determinants of corruption in the Italian case

Table 3 – Variables linked to theories of the causes of corruption in Italy

Factors	Theoretical hypothesis	Type of variable
Socio cultural theories		
Electoral Absenteeism	+	Highly exogenous
Vigorous civic associations	-	Highly exogenous
Degree of economic development	?	Weakly exogenous
Anticorruption campaign (<i>Mani Pulite</i>)	-	Exogenous
Political theories		
Electoral competition	-	Exogenous
Decentralization	+	Exogenous
Level of education of population	-	Exogenous
Economic theories		
Weight of public administration in the economy	+	Weakly *exogenous

+Positive correlation between the degree of corruption and the intensity of considered variable.

-Negative correlation between the degree of corruption and the intensity of considered variable

The direction of causality between corruption and the variable is not theoretically clear

We speak of a weakly exogenous variable when it is not possible to establish clearly the direction of causality between corruption and this variable.

NA=To our knowledge no study of Italy has used this variable

¹⁴ However, one of the effects of such a reform is to increase political stability that is considered another variable that affects corruption. The argument in favour of a positive relationship between corruption and political stability is as follows: when a new party comes to power it will have more incentive to reform the corrupt practices of its predecessor (Geddes, 1997, p. 12). Political stability provides the time for reputations to build and relationships to form across the public-private border in which both sides can have confidence. Thus while increasing the potential loss if bureaucrats are fired, political stability might actually increase the expected return to corruption¹⁴.

6. Statistics on corruption in Italy

In Table 3 we presented some variables that could be used to test the causes of corruption in Italy and the causes of cross-regional variation in corruption in Italy. We also showed the degree of exogeneity of various variables that could be used to test our hypothesis.

The dependent variable on which this study is based is the number of crimes against public administration reported to the police for each of the twenty Italian regions. The period covered in our study is 1963-2000. This variable does not represent the true number of corruption crimes, but only the crimes reported to the police. In regions where there is lower judicial efficiency it is possible that the probability of getting caught and being charged is lower. This could cause a lack of faith in the judicial system and discourage people to report corruption crimes to the police. Therefore we could expect a systematic bias, between regions, in the difference between the real number of corruption crimes and those reported and detected by police. On the other hand the lower probability to be detected could increase, *coeteris paribus*, the number of corruption crimes in regions where judicial efficiency is lower. In order to evaluate the likely influence of judicial efficiency on reliability of statistics on reported crimes we performed regressions of those statistics on an index of the length of judicial processes¹⁵ - taken from Marselli and Vannini, (1997) - which shows very distinct regional variations in Italy. The performed regression (the results are in appendix) shows a positive but not significant impact of the judicial efficiency on corruption. Therefore we could expect not large systematic differences between regions in the percentage of detected corruption crimes on the real ones.

On the other hand it could be interesting, at least for the whole of Italy, to compare the dynamics of the corruption index given by the ratio between the number of crimes against public administration per million of population (henceforth IOC) with other corruption indexes. The best known corruption index is Transparency International's annual index of perceived corruption. Transparency International and Gottingen University have published historical data from 54 countries. The data allow us to compare the 1996 score of the Corruption Perception Index (CPI) with the score in the period 1988-1992, and with the period 1980-85. On the other hand we have the annual CPI for the period 1996-2002. It is therefore possible to see the trend of the corruption index in the last twenty years. We also

¹⁵ The average length of judicial process is the ratio of the number of judicial proceedings pending in the regional courts at the beginning and the end of each year to the number of judicial proceedings started or completed in that same year times 365.

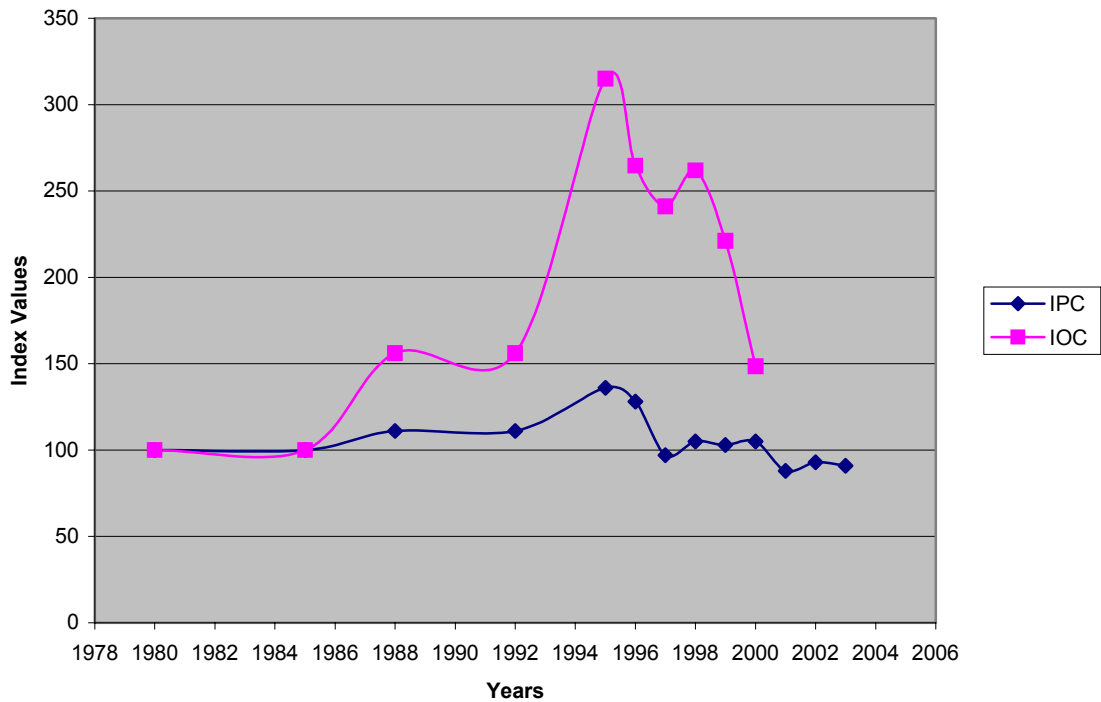
considered the 1995 value even if this year is less precise. Hence we can compare the IOC index with an index given by (10-CPI). We call this index IPC. For both indexes we have set the 1988-1992 value equal to 100. Interestingly, the dynamics of both indexes are very similar in the period 1980-2000. Both indexes show an increase in corruption till 1995, and then a decrease after this year. The high correlation coefficient (0.61) between these two indexes, that are very differently constructed, shows that both indexes are a good approximation of the corruption level in Italy.

Table 4 – Comparison between the Index of corruption in Italy in the period 1980-2002
(1980-1985 =100)

Years	IPC *(Perceived Corruption Index)	IOC (Corruption crime per capita)
1980-85	100	100.00
1988-92	111	156.20
1995	136	315.16
1996	128	264.70
1997	97	241.23
1998	105	261.84
1999	103	221.27
2000	105	148.61
2001	88	NA
2002	93	NA
2003	91	NA

*In the CPI index the higher the score the lower the level of corruption of the country. Therefore we considered the 10 - CPI which we call IPC, and we have set it equal to 100.

Graph 2-A comparison of the dynamic of two corruption indexes for Italy



7. Econometric analysis of corruption in Italian regions

In this section we present the results of the econometric study of corruption in Italy that we performed on data on crimes against public administration. These data refer to time series over the period 1963-2000 for Italy's 20 regions. The quality of this variable as an indicator of corruption was already assessed by Del Monte and Papagni (2001) who included it among regressors in econometric estimates of the rate of growth of per capita income in the same panel of Italian regions. In that article it emerged that this measure of corruption significantly and negatively affected economic growth in post-war Italy through the influence on private and public investment. Here, we set up some econometric models to account for the causes behind the phenomenon of corruption in Italy in the long run. As already seen in the previous sections, Italy ranks among the developed countries as one of the worst in terms of institutional quality and corruption. In Table 3 we have shown variables linked to theories that could explain the causes of corruption in Italy. So we will specify a model where the main explanatory factors are:

- Indexes of social capital
- Economic development;
- Government consumption;
- Public investment;
- Political competition and Institutional changes.

We have seen that in Italy (Putnam, 1993) the performance of regional government varies. This is not a uniform phenomenon but in some regions it could be ascribed to behaviour and social norms which are linked to the history of Italy. In order to capture the strength of civic virtues across the Italian regions we collect data on: the presence of VO (Voluntary Organisations) for three years 1982, 1993, 2001, and voters at national polls (1963-2001)¹⁶. We used in our estimation the ratio of VO to the population and the percentage of absenteeism at national polls. These variables can be considered exogenous with respect to the corruption index, and constitute fundamental variables in our estimations.

Economic development in Italy is known to be uneven across regions. While per capita GDP is the usual proxy variable for the level of development, it could be an endogenous variable in regressions of the corruption index. In order to capture the differences in levels of per capita income across Italian regions we include in our regressions these data in

the first year of the time series, 1963, since it may capture the historical distance among regions and it can be considered exogenous or at least pre-determined with respect to the time series of corruption.

Another important side of the corruption phenomenon is the pool of opportunities for illegal profits in public administration. We consider two distinct items: government expenditure on consumption and public expenditure on infrastructure. In order to capture the absolute dimension of opportunities for corrupt transactions in the economy we consider in both cases the ratio of public expenditure to the regional GDP. Time series for government consumption refer to the years 1963-2000, and those on public investment refer to the period 1963-1996.

We also investigate the role of political lobbying and some institutional changes on corruption.. The paper by Persson, Tabellini and Trebbi (2003) states that lobbying and corruption can be strongly affected by the efficiency of political institutions. In order to capture the main feature of political competition in Italian regions we include among regressors of corruption the Herfindahl index of concentration of shares of parties at the Senate national elections since 1963.

A dummy variable distinguishes the five regions with *special statute* from the rest. Another dummy variable distinguishes the period before and after 1972 when regional governments became active. Another dummy variable marks the recent years (1994 and later) in which courts fought hard against political corruption and a new electoral law was working.

We specify a dynamic econometric model for panel data analysis of corruption in Italian regions. This model includes an autoregressive component which should account for some dynamics of this variable not explained by regressors and for whose presence we have given an economic explanation in section 2. A single equation ADL model provides the basis for our econometric analysis:

$$Corruption_{jt} = \beta_0 + \sum_{i=1}^n \beta_i Corruption_{jt-i} + \sum_{i=0}^m \mathbf{d}_i \mathbf{x}_{jt-i} + f_j + u_{jt};$$

where $j= 1.....20$ regions, fixed effects f_j are included conditional upon the Hausman test, and \mathbf{x} is a vector of exogenous and predetermined variables. Residuals' autocorrelation is tested through the OLS estimation of an autoregressive model.

¹⁶ Italy had 12 national parliament elections in the period 1963-2001. We constructed time series for this variable repeating the data of the last election till the year which preceded the next election.

8. Econometric results

Table 5 presents the whole set of parameter estimates concerning alternative specifications of the regression equation of per capita corruption. We followed Treisman (2000) and started estimations from a simple model that includes civic virtue variables, *a priori* considered exogenous, and then we added further variables to the model. After running some regressions we chose a one-year lag for the autoregressive part of the model. Government consumption and investment enter the estimated equations with a lag of two years in order to deal with the fact that these variables could be endogenous. There is also an economic logic behind this choice. The corruption crime is detected with a time lag compared to the time it was committed.

The dynamic specification of the model was driven by the estimation of a first-order autoregression of residuals. In table 5 it can be seen that no regression equations suffer the residuals' autocorrelation. The Hausman test in most of the cases led us to use a Variance Components estimator. Otherwise we applied the Least Squares Dummy Variables estimator. All estimated equations show significant goodness of fit, and most of the regressors enter the estimates with significant parameters of the expected sign.

From the full set of estimates it can be seen that the percentage of absenteeism and the presence of voluntary organisations in Italian regions are significant determinants of corruption. According to our estimates, in regions where the majority usually participate in national elections, there is lower diffusion of illegal behaviour in public administration. This effect can be interpreted as the consequence of positive social norms through which the community relates to public administration, even if it may also be considered a sign of an efficient local political system. The strength of social norms could also account for the negative influence of VO on corruption.

Concerning economic development, estimates show per capita income in 1963 positively affecting the diffusion of corruption. While interpreting this result, it should be recalled that even if there are significant income differences among Italian regions, there are no cases of underdevelopment. Hence, usual arguments used to justify the negative influence of development on corruption do not apply to the case of Italian regions. The positive relation that we obtain from estimates could be interpreted by considering that in more affluent regions there could be more transactions between government and private business, hence more chance of corrupt transactions. In other words, the pool for corrupt transactions depends

both on the extent of government expenditure and the extent of the other side of transactions made by private business.

In agreement with Treisman (2000) we find no clear evidence for a supposed negative relation of public expenditure on corruption. This is particularly true for expenditure on public infrastructures which coefficient is not statistically significantly. We investigate the efficiency of the political system at a regional level in terms of lower corruption by the inclusion of an index of concentration of shares of political parties, combined with its squared value. Estimated parameters justify the drawing of a U-shaped relation between corruption and political concentration. This result accords with a view of political competition and lobbying where fragmentation and high concentration are both negative contexts and virtue lies in the middle. As regards the time dummy separating years before and after 1972, our estimates provide a positive significant parameter, meaning that in the first half of 70' there were institutional shocks. A test to distinguish between our hypothesis on the effects of federalism and that of Golden (2000) on the effects of the law regarding the financing of political parties could be the following: a level of corruption significantly higher in the five regions with Statuto Speciale than the other Italian regions in the years prior to 1972 could be seen an indication in favour of the federalist hypothesis. Our regression shows a negative but not significant sign of the dummy for special regions. Therefore our hypothesis of the negative effect of federalism on corruption is not proved and it is strengthened the hypothesis that the law on financing political parties is a possible cause of the increase in corruption in Italy.

Some mild evidence concerning the strength of *Mani Pulite* arises from estimates relative to a time dummy on the year 1994 in which this phenomenon began. Also in this case we have no possibility of distinguishing between the effects of *Mani Pulite* and that of the new electoral law.

Table 5A. Determinants of corruption: ratio of crimes against public administration to population (1963-2000)

	V. C.	V. C.	V. C.	V. C.
	(1)	(2)	(3)*	(4)
Corruption per capita (-1)	0.427 (12.95)	0.419 (12.48)	0.445 (11.77)	0.484 (13.30)
Absenteeism (-1)	0.145 (9.28)	0.151 (9.36)	0.166 (8.74)	
GDP per capita in 1963	0.178 (4.69)	0.117 (2.24)	0.110 (1.88)	0.003 (0.12)
Pol-concentration (-1)	-0.138 (-6.88)	-0.144 (-6.96)	-0.060 (-2.55)	
Pol-concent. (-1) squared	0.112 (5.74)	0.118 (5.86)	0.047 (2.11)	
Dummy 1972	0.003 (2.49)	0.003 (2.17)		
Dummy 1972 spec-regions				-0.002 (-1.47)
Public investment/GDP (-2)			0.002 (0.04)	
Public consumpt./GDP (-2)		-0.047 (-1.75)	-0.068 (-1.99)	
Constant	0.006 (1.07)	0.022 (2.08)	0.106 (0.84)	0.006 (2.56)
R^2	0.50	0.50	0.45	0.46
ρ	-0.002 (-0.05)	-0.001 (-0.03)	-0.038 (-0.932)	-0.041 (-0.988)
Observations	680	680	640	680
Hausman test (p-value)	6.18 (0.186)	6.95 (0.224)	4.51 (0.478)	2.44 (0.48)

Notes. Standard errors are in parentheses. ρ is the coefficient of a first order autoregressive model of residuals estimated by OLS. *Time period: 1963-1996.

Table 5B. Determinants of corruption: ratio of crimes against public administration to population (1982-2000)

	L.S.D.V.	L.S.D.V..
	(1)	(2)
Corruption per capita (-1)	0.335 (3.87)	0.354 (4.40)
Absenteeism (-1)	0.218 (3.59)	0.302 (3.11)
Pol-concentration (-1)	-0.126 (-2.34)	-0.075 (-1.27)
Pol-concent. (-1) squared	0.104 (1.87)	0.055 (0.89)
Voluntary organizations	-0.022 (-2.18)	-0.027 (-2.88)
Dummy 1994		-0.009 (-1.47)
R^2	0.37	0.50
ρ	-0.031 (-0.57)	-0.022 (-0.404)
Observations	380	380
Hausman test (p-value)	149.01 (0)	29.62 (0)

Notes. Standard errors are in parentheses. ρ is the coefficient of a first order autoregressive model of residuals estimated by OLS.

9. Conclusions

The econometric results of our analysis show the main aspects of Italian corruption: a) Italy's patronage system changed into a full scale system of corruption in the early 1970s b) the level of corruption differs between Italian regions c) the decrease in the level of corruption after 1993 could be explained by political and cultural variables and not by economic

variables. In Italy interventionism does not seem an important cause of corruption. We noted that the same results were found by Treismann (2000). In Italy corruption increased as a consequence of changes in the political and institutional system and corruption has spread even to those levels of administration, such as the judiciary, from which it was absent in the past. The spread of corruption weakened the sense of loyalty to organized society and the climate of corruption created further incentives for corruption, due to the belief that known offenders can continue their corrupt practices with little risk of punishment. The negative effect of corruption on growth (Del Monte-Papagni 2001) and the increasing cost of corruption for businessmen were some of the main reasons¹⁷ for the success of the anticorruption campaign *Mani Pulite* that led to a change in the political regime in Italy. Only some of the causes that created the spread of corruption in Italy, such as the low probability of the opposition unseating the majority, have been eliminated. There are some positive signs, as the number of voluntary organizations grows, that we have seen the level of corruption decrease, but the changes in values and norms of honesty in public life are less strong that would be necessary, and already there are signs (table 4) of a new rise in the level of corruption.

We do not seek to minimize the importance of the incentive structure that may induce even opportunists to forgo corrupt practices but we believe that institutional changes are more important than economic changes in shaping the incentive structure. Therefore we believe that to fight corruption in Italy it is very important to promote institutional change by, for example, simplifying and increasing the transparency of public administration, choosing public administrators on the basis of merit and not of political links, and approving a law that prevents corrupt politicians being reelected after initial proof of guilt. Such institutional changes are very important to create a favorable climate to fight corruption; economic incentives, alone, are extremely unlikely to be a solution to the corruption problem in Italy.

¹⁷ One of the reasons for the start-up of *Mani Pulite* was the end of the Cold War and the fall of communism in

Appendix.

Regression of corruption per capita on the average length of judicial process: IPDUR, ratio of the number of judicial proceedings pending in the regional courts at the beginning and the end of each year to the number of judicial proceedings started or completed in that same year times 365. Time period: 1970-1996. Source: ISTAT, *Annuario delle statistiche giudiziarie*, Roma, several issues.

Dependent variable: Corruption per capita	L.S.D.V.
Corruption per capita (-1)	0.474 (3.97)
Corruption per capita (-2)	0.20 (1.53)
IPDUR	0.001 (1.02)
R^2	0.40
Observations	280

Notes. Standard errors are in parentheses.

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