Political Decentralization and Corruption: Exploring the Conditional Role of Parties

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Abstract

This paper investigates how national levels of corruption are influenced by the interaction of two factors: the presence of local elections and the organizational structure of national parties. Previous studies have focused primarily on the role of fiscal decentralization on corruption and have mostly ignored political context. We argue here that corruption will be lower when local governments are more accountable to and more transparent towards their constituents. This beneficial arrangement is most likely, we find, when local elections are combined with non-integrated political parties, that is, where party institutions themselves are decentralized from national control. Such an institutional arrangement maximizes local accountability by putting the decision to nominate and elect local leaders in the hands of those best in a position to evaluate their honesty – local electors. In our empirical analyses, using new data in a series of expansive models across multiple countries and years, we find support for our arguments.

Keywords: corruption; decentralization; political parties; local government

JEL Codes: D72; D73; H20; H77

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1. Introduction

Corruption, generally defined as the misuse of public resources for personal gain, has been found to hinder economic growth (Mo, 2001) and labor force participation (Cooray and Dzhumashev, 2018). More than that, controlling corruption is a key indicator of good governance and is closely tied to a country's basic political stability (Guerrero and Castaneda, 2019). Because of its importance, scholars have devoted considerable attention to identifying the key causes of corruption, pointing to such factors as development (Triesman, 2000) and economic freedom (Buehn and Schneider, 2009).

One institutional feature which has received considerable attention in the corruption literature is decentralization, by which we mean the devolution of authority from central to sub-national governments (Oates, 1972). Decentralization has become, among other things, a primary vehicle to increase government accountability through the distribution of powers to regional and (especially) local governments. One might expect that corruption should be lower when the local governments are empowered. After all, corrupt acts should be more visible at the local level, and voters can more easily filter out corrupt candidates. On the other hand, decentralization implies many more public transactions and a larger government size, which may create opportunities and incentives for corruption (Goel and Nelson, 1998; Goel and Nelson, 2010; Arvate et al., 2010).

Thus, the relationship between decentralization and corruption is not a simple one. Many scholars do find that decentralization improves government accountability and reduces corruption (Seabright, 1996; Fisman and Gatti, 2000; Arikan, 2004). Others, however, contend that corruption increases with the number of tiers of government (Triesman, 2000; Fan et al., 2009), since the opportunity for misuse of public resources becomes, in a sense, democratized.

In this paper, we endeavor to move this deadlocked debate forward by incorporating the

institutional structures through which decentralization (and indeed corruption) operate. Such an approach has not yet been applied to the question of sub-national governments and corruption, but it is very much in keeping with recent research in fiscal decentralization. In the "second generation" fiscal federalism literature, scholars have shifted their focus from normative and technical issues such as the design of the vertical fiscal system to identifying which political and institutional conditions are necessary for decentralization to improve governance.

In this spirit, we draw on recent work on the role of political decentralization on the performance of fiscally decentralized systems to analyze how political institutions, and in particular local elections and integrated versus non-integrated political parties, can mediate how decentralization impacts corruption. We build especially on the arguments of Hankla et al. (2019), who develop and test an expansion of Oates' (1972) decentralization theorem. They find that the combination of democratic decentralization and party integration is especially conducive to the efficient provision of local public goods even in the presence of large externalities. For these authors, democratic decentralization means that local government officials are chosen through local elections, while integrated party systems occur when power (such as local nomination authority) flows upward through well-structured institutions towards the national party headquarters. The basic idea is that local elections create incentives for subnational leaders to provide quality public goods, while integrated parties introduce strong incentives for them to efficiently provide even those public goods with interjurisdictional spillover effects. The result is the achievement of a "fine balance" between the benefits of local accountability and the exigencies of national coordination.

In this paper, we explore the role that these critical institutional features – local elections and party integration – play in incentivizing or deterring corruption among local officials.

Following much of the previous literature, we argue that local elections are critical to promoting the accountability necessary to penalize corrupt officials. However, we also emphasize the role of party integration in mediating the actual functioning of decentralized institutions.

How party integration – predicated as it is on greater centralized control of candidate nominations – impacts corruption will depend on the answers to two critical questions. Are voters in a small constituency in a better position than national party leaders to identify candidates who may be inclined to abuse their office or to penalize elected officials who engage in corruption? Or are the benefits that familiarity may provide trumped by the incentives of integrated national parties to punish members who sully the party name with their corrupt behavior?

On the one hand, the presence of corruption in any locality can be thought of as producing negative externalities for an entire integrated national political party through loss in voter support in other localities. Thus, it would be in the interest of the national party to be vigilant and repress any corruption among its affiliated local public officials. On the other hand, when parties are non-integrated and candidates to local public office are therefore nominated and selected by way of local mechanisms, those candidates may be subject to greater scrutiny for corruption potential than when they are nominated by the national party headquarters. These observations give us every reason to suspect that such a critical institutional feature as party integration, one which ties central and subnational governments together, will matter for the relationship between decentralization and corruption. The only question is how.

Bearing all of this in mind, we hypothesize, first, that democratically decentralized countries – those with local elections – will experience lower levels of corruption. Second, among such democratically decentralized countries, we explore whether those with integrated or

non-integrated parties will have lower level of corruption, other things equal. As we have noted, the previous literature suggests that party integration may be beneficial for public goods distribution by promoting national coordination and the provision of goods with interjurisdictional spillovers. In the domain of corruption, however, maximizing accountability may be more critical than internalizing spillovers. Non-integrated parties could make local officials even more dependent on the votes of their constituents, who can then reward and punish them for their honesty in office.

We test the impact of both our key institutions on corruption using a large cross-national time-series model that considers 135 countries over 24 years. We make use of the new dataset developed by Hankla et al. (2019) to measure party integration and decentralization, while we use *International Country Risk Guide (ICRG)* as our indicator of corruption. Our results show that democratic decentralization – the presence of local elections – is more conducive to lowering corruption than democratic centralization. Furthermore, when local elections are combined with non-integrated parties, corruption drops significantly to even lower levels. This finding is important not only for our understanding of the roots of corruption, but also as a warning that political institutions can have disparate impacts. The same institutions that may promote public good distribution may also be associated with higher levels of corruption. Scholars and policymakers will need to be more sensitive to the complex and contradictory ways in which institutions can mediate specific policy outcomes.

We structure the rest of the paper as follows: section 2 provides literature review and discusses the decentralization theorem, section 3 lays out our theory and hypotheses, section 4 discusses the data, section 5 presents our estimation strategy and results, section 6 provides additional checks, and section 7 concludes.

2. Literature Review
2.1 Decentralization and Corruption

The literature on fiscal decentralization has evolved in two primary waves. While the first-generation assumed a benevolent government (Oates, 1972), second-generation scholars recognized that government officials do not always maximize the welfare of their constituents (Weingast, 1995; Seabright, 1996; McKinnon, 1997; Tommasi and Weinschelbaum, 2007). Efforts to understand corrupt behavior within the context of decentralization emerge from this second scholarly tradition.

Corruption has attracted significant attention in the literature, with most scholars seeing it as a significant impediment to good governance. In general, corruption fosters an environment of distrust towards public officials and uncertainty in business activities, and it generates negative externalities in the allocation of resources between firms. Moreover, corruption stifles the entry of new firms, including foreign direct investment (FDI), and its negative effects disproportionally fall on small firms (Giannetti et al., 2018). Evidence also indicates that corruption hurts economic growth (Mo, 2001) and increases income inequality (Gupta et al., 2003).

While scholars are mostly united in their belief that decentralization has an impact on levels of corruption, there remains some disagreement as to the direction of the effect. For instance, Shleifer and Vishny (1993) contend that decentralization leads to a lack of coordination between bureaucrats due to the greater dispersion of government decision-making powers. This can result in local officials seeking bribes as part of rent-seeking behavior. Furthermore, they argue, local governments might have to rely on low-quality, potentially corrupt bureaucrats because the rewards for working in the central government are generally higher. Along the same lines, Triesman (2000) shows that an increase in the total size of government, which may

accompany decentralization, can lead to a higher level of corruption. Compatible with this argument is Fan et al. (2009), who find that an increase in the number of government tiers also increases the level of corruption. As the number of public officials increases, so the argument goes, there is more potential for bribery.

One of the few papers that has considered how politics might interact with decentralization and corruption is Lessmann and Markwardt (2010). They find that decentralization is beneficial in reducing corruption only when effective monitoring is in place. Using freedom of the press as a proxy of effective monitoring, they provided cross-country evidence that decentralization reduces corruption in countries with high degrees of press freedom. Another is Gerring and Thacker (2004), who argue that "unitary and parliamentary systems" are more conducive towards reducing corruption. They identify multiple causal mechanism that could influence corruption from both unitary and federalist point of view.

A prominent set of decentralization skeptics has argued that devolving power to lower tiers could lead to the elite capture of local governments, a position with clear implications for the study of corruption. These scholars contend that local governments are more susceptible to pressures from local elites who can mobilize resources for their own benefit at the expense of the rest of the community (Bardhan and Mookherjee, 2000; Lucas, 2016). Additionally, they have argued, corruption tends to thrive when politicians are engaged in clientelism, seeking to stay in office by offering material incentives to their voters. Even when there is no grassroots clientelism, special interest groups may curry favor with bribes, and politicians in return may offer them public work contracts. The penalty for corruption, unfortunately, declines over time due to receding memories and as politicians consolidate power and make it difficult to remove them from office (Bicchieri and Duffy, 1997).

Taking the opposite position, other scholars have pointed to decentralization's ability to enhance the accountability of local governments as a force against corruption (Seabright, 1996; Weingast, 1995). For example, Lockwood (2005) posits that greater local accountability can be achieved through decentralization, while Hankla (2009) and von Braun and Grote (2000) emphasize the critical role of local elections in promoting this accountability. The logic is that, in their efforts to be reelected, local officials have reason not to engage in behavior that hurts their constituents, and, moreover, local officials should be easier to catch and sanction than those at higher tiers.

Decentralization may also limit the extent of rent extraction. On this question, Arikan (2004) examines the relationship between decentralization and corruption under a tax competition framework. She finds that, as jurisdictions try to reduce capital flight by lowering taxes, corruption becomes less remunerative. Such a political competition framework likewise suggests that when multiple politicians are competing to win office, corruption is lower under decentralization than under centralization (Albornoz and Cabrale, 2013). And, more broadly, several papers have provided empirical evidence of a negative relationship between fiscal decentralization and corruption (Fisman and Gatti, 2000; Arikan, 2004; Ivanyna and Shah, 2012).

Some recent papers have focused on examining the effect of decentralization on corruption in specific countries. Generally, these studies use the number of corruption cases as their dependent variable. Alfada (2019) has studied the impact on corruption in Indonesia, finding that higher degree of expenditure decentralization yields an increase in the number of corruption cases. Similarly, Fatima et al. (2016) use water theft from irrigation basins in Pakistan as a proxy for corruption. They find that delegating the irrigation authority to locally elected leaders, in fact, increased the level of corruption. Finally, the results from Ferraz and Finan

(2011) suggest that the possibility of re-election serves as a significant incentive for corrupt politicians to lower the rent extraction. Their findings highlight the importance of re-election as an incentive to fight corruption.

2.2 Corruption and ballot choice

A final area of research relevant to our argument concerns the relationship between corruption and different electoral systems.[1] Most of the debate in this area has focused on national governments. For example, Sung (2004) and Kolstand and Wiig (2016) have shown that democracy is effective in decreasing corruption, while Drury et al. (2006) have presented evidence that elections provide an incentive for government officials to lower corruption for the sake of their political survival.[2] Additionally, Kunicova and Rose-Ackerman (2005) have made the argument that monitoring for corruption by voters is easier under the plurality rule. This is because, in a plurality system, there is less possibility of coalition governments, so political opponents have more incentives to keep other parties in check.

In his seminal work, Myerson (1993) argues that while voters prefer honest candidates, they might vote a dishonest candidate into office if they could not find a good substitute candidate. Following this argument, Persson et al. (2003) provides empirical evidence that a larger district magnitude is associated with lower corruption. Having more seats per district, they argue, lowers the *barrier to entry* and increases the representation of the voters. Thus, an increase in the number of players in the election field leads to lower rent extraction and lower corruption.[3]

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[1] An electoral system is defined as a set of rules upon which voters' preferences are aggregated and representative seats are allocated (Dzionek-Kozlowska, 2014).

[2] Though temporary upsurges in government corruption may occur during the early stages of the process of political liberalization (Sung, 2004).

[3] Verardi (2004) also achieves a similar result. His main dependent variable is the International Country Risk Guide,

More than that, how candidates are nominated in the ballot may also make a significant difference in the resulting corruption. Verardi (2004) distinguishes between the effects of different forms of nomination on corruption. He shows that a larger district magnitude is associated with lower corruption, and the closed-list nomination process is associated with higher corruption. In a plurality electoral system, voting over individual candidates gives the elected officials strong incentives to perform well while in office. However, when the nomination list is closed, and voters cannot choose their preferred candidates, a government official's chance of re-election depends on other factors that could be uncorrelated to her competence, such as party loyalty (Persson and Tabellini, 2003). This could dilute the incentives for the elected officials to perform well while in the office.

Past research has confirmed, therefore, that political institutions are likely to matter in mediating the relationship between decentralization and a variety of outcomes, especially local public goods provision. This research has also shown that political institutions – especially particular electoral systems – can also dampen, or exacerbate, levels of corruption. The link between decentralization and corruption, however, remains uncertain, with scholars finding effects in both directions. Moreover, there is little work considering how political institutions might mediate this relationship.

One important exception is Ivanyna and Shah (2012), who create a decentralization index which considers both the political and fiscal independence of low government. They use this index to predict corruption levels in nearly every country in the world and find clear evidence that decentralization reduces corruption. This is an important finding, but our paper takes the analysis a step further. We make use of a variable measuring whether local governments are

which is the same variable we use in this paper.

elected, which Ivanyna and Shah (2012) also considered, but we interact it with a new variable measuring party integration. Using an interactive approach with a new and important institutional variable, how political parties arrange the nomination of local candidates, allows us to better consider the conditions under which political decentralization might promote or impede corruption.

3. Theory

It is our hope to resolve, at least partially, the mixed findings produced by past studies examining how decentralization impacts unethical public practices. One possibility may be that the mixed findings we highlight above are due to the omission of critical institutional variables that affect how corrupt behavior plays out in centralized versus decentralized systems. When we consider the institutional context of decentralization in more detail, we may find clearer relationships.

We argue here that an incorporation of political institutions – and especially party integration – can shed light on the decentralization-corruption nexus, as it has already on the connection between decentralization and local public goods. As we have already discussed, the literature on decentralization has recently expanded to include the analysis of the political conditions necessary for the provision of public goods with spillovers. In particular, Hankla et al. (2019) provide a theoretical framework that incorporates the accountability of elected officials through democratic decentralization with the role of political parties in internalizing the externalities of public goods.

For these authors, democratic decentralization occurs when sub-national governments are popularly elected.[4] Party integration, for its part, is present when the following three conditions

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[4] Note that we focus our analysis here on local governments, but that the theoretical arguments should apply to other sub-national tiers as well.

are met: i) national parties are the primary competitors in sub-national elections, ii) they are institutionalized and have coherent decision-making structures, and iii) national party leaders have authority over the nomination of candidates for subnational office. With these definitions in mind, Hankla et al. (2019) argue that local leaders want to win the next election and so must provide their constituents with the local public goods that they desire. But local officials – when operating in the context of integrated parties – are also answerable to national party leaders, who have the power to nominate them for local office and to make or break their careers at higher tiers. Under the assumption of free and fair competition in the elections, national parties have the incentive to provide optimal levels of local public goods with spillovers because they want to win local elections in multiple jurisdictions. The dual loyalties of local elected officials mean that they will provide local public goods that meet the local preferences even when their benefits spillover outside their jurisdictions. Hankla et al. (2019) formalizes this concept with what they call the "strong" decentralization theorem, which suggests that, even in the presence of interjurisdictional spillovers, decentralization is more efficient than centralization when parties are integrated. Ponce-Rodriguez et al. (2018) empirically show that democratically decentralized countries with integrated parties provide more efficient levels of health and education services.

Our current paper parallels this discussion to investigate the impact of democratic decentralization and party integration on corruption. Democratic decentralization gives local constituents a greater role in monitoring the performance of elected officials. It incentivizes the government officials to improve their chances of getting re-elected by tending to the needs of local constituents. Therefore, democratic decentralization leads to lower corruption than a democratically centralized system, *ceteris paribus.*

The question is how party integration might interact with democratic decentralization to

impact corruption. First, it is worth pointing out that when there are no local elections (and countries are therefore democratically centralized), the issue of party integration across tiers in meaningless since there are no lower tier candidate nominations. Among democratically decentralized countries, as noted above, we define non-integrated parties as those where central party leaders do not have the authority to nominate candidates for sub-national elections. Instead, local constituents nominate a candidate for each political party. In addition, when a national party does not win a majority of seats in the local assembly, we categorize it as a non-integrated party as well. Indeed, non-integrated parties are generally regional parties that compete in specific regions and do not compete outside their regions.

On the other hand, we define integrated parties as national parties that dominate local elections, with central party leaders – concerned about improving their electoral chances in multiple jurisdictions – having the authority to nominate local candidates. For their part, candidates seeking re-election to the office must get nominated by the party leaders and get re-elected by the constituents. Thus, elected officials under an integrated party system serves both their constituents and their party leaders.

How do these different forms of party integration play into levels of corruption? From one perspective, corruption may be understood as a "public bad," which damages institutions and outcomes in the specific place where it occurs, but which may also generate (negative) spillover effects in other jurisdictions. From this perspective, we can argue that integrated parties have strong incentives to combat any localized corruption within their ranks. After all, a bad reputation for probity may negatively affect a party's electoral outcomes throughout the country That is, the electoral costs of localized corruption can be more extensive when political parties are integrated and national.

Another perspective, however, would emphasize that under party non-integration, there is a direct link between an individual candidate's re-election and performance in office. Furthermore, as non-integrated parties are limited to specific regions, they may have more at stake in terms of electoral outcomes and the local nomination process of candidates. Therefore, they have the incentive to nominate a less corrupt candidate to the office to improve their chances of re-election, especially when national parties are also competing in local elections.

With this perspective in mind, it could be that, in contrast to public goods provision (where local accountability and national coordination carry equal weight), efforts to deter corruption will lean more heavily on the strength of local accountability. It is true, as noted above, that integrated parties which operate in democratically decentralized settings have an incentive to protect their reputations by nominating honest local candidates. It is also true that local elections can promote effective local accountability even in the presence of integrated parties and strong central control. But all the same, such coordination across tiers may be less critical in combatting corruption than in providing public goods.

If what is needed to minimize corrupt incentives on the part of local leaders is strong accountability to constituents, that is produced first and foremost by elections. If these conjectures are right, non-integrated parties, whatever their negative repercussions for public goods, would tend to generate stronger local accountability than integrated parties. That may be correct for three primary reasons. First, in the absence of central nomination, local candidates in non-integrated systems must be selected locally, often through a primary election, nomination by a local party, or the collection of signatures. Such a selection process creates additional local checks on candidate suitability for office that may more than offset the additional scrutiny by national party officials in the case of integrated parties.

Second, candidates for local office in systems with non-integrated parties are more likely to be local. When parties are integrated, national party leaders may reward non-local loyalists with nomination tickets to local office. But when these central leaders lack power over candidate selection, notables with local reputations are more likely to present themselves for office. Again, this dynamic would allow voters to weed out candidates known in advance as corrupt.

Last, in non-integrated party systems, strong national parties do not play a central role in local elections. For this reason, party identification is less likely to be determinative of local voting decisions. Instead, local personalities and issues will play a larger role. Of course, less programmatic and more personalistic elections may be costly for many elements of governance quality, but they could make it more likely that voters will withhold their support from candidates with a history of corrupt behavior.

These considerations leave us with two hypotheses:

H1: Democratically decentralized countries (i.e., those with local elections) will have lower levels of corruption than democratically centralized countries, other things equal.

H2: Among democratically decentralized countries, party-integration versus non-integration will constitute another layer of corruption control, although it is a priori unclear the direction of the effect.

4. Data Description
In this section, we briefly describe the data that we use for our empirical analyses.

4.1 Corruption measures
The corruption index, coded as part of the International Country Risk Guide (ICRG) by Political Risk Services, is our main dependent variable. The data are based on surveys of country experts and measure actual and potential corruption in the form of favors and patronage to

politicians.[5] The ICRG corruption indicator is a good proxy based on two assumptions: i) corruption negatively affects foreign investment and ii) corrupt officials do not discriminate between foreign and domestic firms to extract bribes (Swaleheen, 2011).[6] In addition, the variable not only covers a longer time period than other available indexes but is also highly correlated with them.[7] The ICRG is measured on a scale of zero to six, with six indicating the least corrupt countries. For this reason, a positive coefficient sign indicates lower corruption. We use the data covering the period 1984 to 2007.

4.2 Decentralization and political institutions variables

The data for local elections and legislative-executive relations are based on Hankla et al. (2019) and cover 135 countries from 1975-2007. We code dummy variables *DDPI* for "Democratic Decentralization and Party Integration" and *DDPN* for "Democratic Decentralization and Party Non-integration." *DDPI* is coded "1" when (1) municipal elections are held, (2) municipal executives are not appointed by a higher tier, (3) at least half of parties have a permanent organization, (4) more than 75 percent of municipal council seats are held by national parties, and (5) national party leaders have the authority to nominate candidates in local elections. Our other variable, *DDPN* is coded "1" when (1) municipal elections are held, (2) municipal executives are not appointed by a higher tier, and when any one or more of the following conditions are met: (1) fewer than half of the political parties have a permanent organization, (2) national parties hold 75 percent or fewer seats in municipal councils, or (3) central party leaders do not have the authority over party nomination in local elections. The

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[5] Other notable papers that use the "International Country Risk Guide" as a corruption measures are, among others, Fisman and Gatti (2002), Gupta et al. (2003), and Lessmann and Markwardt (2010).

[6] Nevertheless, ICRG has its limitations. In some cases, more expert resources might be allocated to assess large economies and less to small economies leading to measurement error especially for smaller countries.

[7] The correlation coefficient between ICRG and World Bank's Control of Corruption is 0.67 and between ICRG and the Corruption perception index is 0.82.

reference category for this analysis is democratically centralized countries, i.e., those countries which do not hold local elections.[8] Table 1 shows the total observation number for DDPI, DDPN, and democratic centralization.

Table 1. Observation Count

	Count
DDPN = 1 (Democratically Decentralized and Party Non-integration)	1,040
DDPI = 1 (Democratic Decentralization and Party Integration)	1,327
Democratic Centralization	2,444
Total Observations	4,811

4.3 Other institutional variables

The focus of the analysis for this paper is on municipalities, defined here as the lowest tier of sub-national government. In many systems, these local governments hold significant policy and fiscal powers, and so it is reasonable to assume that corruption measured at the national level will reflect in part an aggregation of corruption at the local level.

To account for municipal level executive office holding, we include the following institutional variables from Hankla et al. (2019): *municipal directly elected executive* and *municipal plurality.* Municipal directly elected executive is coded "1" when municipal executives are directly elected and cannot be removed by the local council, and "0" when they are council elected or hybrid. Following finding in previous literature, we expect the presence of directly elected executives to have a negative impact on the corruption level, as their re-election is a function of their performance. Municipal plurality is coded "1" when the local elections are majoritarian as opposed to proportional or mixed. We expect majoritarian elections to be associated with lower corruption, *ceteris paribus,* though this could be offset by the relatively larger size of proportional electoral districts (Verardi, 2004; Kunicova and Rose-Ackerman,

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[8] Note that, while these structures are at the party level, individual countries tend to share the same sorts of partisan structures. Our coding methods allow us to aggregate reasonably to the country-year unit of analysis.

2005; Persson et al., 2003).

The variable *polity* indicates the level of democracy and the extent of political participation in a country. The *polity* score ranges from -10 (full autocracy) to +10 (full democracy) and comes from Marshall et al. (2016). Following previous literature, we expect a negative relationship between *polity* and corruption. In a democratic system, elections incentivize government officials to reduce corruption, all else equal.[9]

4.4 Social and economic control variables
Our model also includes additional control variables that are based on the relevant theoretical and empirical literature. These variables control for the potential effect of a country's economic and social characteristics on corruption. They are *population size*, *surface area*, *(logged) GDP per capita*, and *trade openness*. These variables are available from World Bank (2020). Trade openness is operationalized as the ratio of total imports and exports to a country's GDP.

Furthermore, we include a series of other variables that consider a variety of country specific factors: *press freedom* (Freedom House Index), *government consumption* (as a percent of GDP [World Bank, 2020]), *legal origin* (Treisman, 2000), *government effectiveness index* (World Bank, 2020), *sub-national free and fair election, local offices relative power,* and *party linkages* (Coppedge et al., 2017). We summarize all of these, along with our other dependent and independent variables, in Table 2.

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[9] Polity scores ranges from -10 to 10. From -10 to -6 is autocracy, -5 to +5 is anocracy, +6 to +10 is democracy.

Table 2. Summary Statistics

	Definition	Source	Obs.	Mean	S. Dev.	Min	Max
Corruption							
ICRG	Corruption index from ICRG Table 3B. It ranges	Political Risk	3,024	2.93	1.43	0.00	6.00
ICRG, DDPI=1	from 1 (High corruption) to 6 (Low corruption).	Service Group	1,048	3.14	1.40	0.00	6.00
ICRG, DDPN=1		(2019)	789	3.35	1.43	0.00	6.00
Decentralization and political party variables							
DDPI (Democratic decentralization and party integration)	Coded "1" when (1) municipal elections are held, (2) municipal executives are not appointed by a higher tier, (3) at least half of parties have a permanent organization, (4) more than 75 percent of municipal council seats are held by national parties, and (5) national party leaders have the authority to nominate candidates in local elections.	Ponce-Rodriguez et al. (2016), Coppedge et al. (2017)	4,811	0.28	0.45	0.00	1.00
DDPN (Democratic decentralization and party non-integration)	Coded "1" when (1) municipal elections are held, (2) municipal executives are not appointed by a higher tier, and when any one or more of the following conditions are met (3) fewer than half of the political parties have a permanent organization, (4) national parties hold 75percent or fewer seats in municipal councils, or (5) central party leaders do not have the authority over party nomination in local elections.	Ponce-Rodriguez et al. (2016), Coppedge et al. (2017)	4,811	0.22	0.41	0.00	1.00
Institutional variables							
MDEE (Municipal directly elected executives)	Coded "1" when municipal executives are directly elected and cannot be removed	Ponce-Rodriguez et al. (2016)	4,811	0.20	0.40	0.00	1.00
Municipal Plurality	Coded "1" when an election is based on Plurality system, "0" otherwise	Ponce-Rodriguez et al. (2016), Hankla et al. (2019)	4,811	0.18	0.39	0	1
Polity Score	Polity score, -10=pure authoritarian, 10=full democracy.	Marshall et al. (2016)	4,809	0.83	7.36	-10.00	10.00
Freedom House Index	Press freedom (1=Higher press freedom, 7=lower press freedom)	Freedom House Index	4,811	4.06	2.20	0.00	7.00
Legal origin	1-British origin; 2-French origin; 3-Socialist origin; 4-German origin; 5-Scandinavian origin	Triesman (2000)	4,607	2.02	0.92	1.00	5.00
Socio-Economic Control Variables							
Trade Openness	Degree of a country's openness to international trade: ratio of total imports and exports divided by GDP	World Bank (2020)	4,146	70.87	43.96	0.02	425.36
Logged GDP per Capita		World Bank (2020)	4,442	7.4.	1.55	4.55	11.35
Gov. Consumption	Government consumption as a percent of GDP	World Bank (2020)	4,008	15.87	7.05	0.00	135.81
V-Dem Variables							
Sub-national free and fair election	0 – No, not at all, 1 – Not really, 2 – Ambiguous, 3 – Yes, somewhat, 4 - Yes	Coppedge et al. (2017)	4,121	2.52	1.41	0.00	4.00
Local offices relative power	0 – All elected offices are subordinate to non-elected offices at the local level. 1 - Some elected offices are subordinate to non-elected offices at the local level. 2 – Elected and non-elected offices are approximately equal in power at the local level 3 – Most non-elected offices are subordinate to elected offices at the local level. 4 – All non-elected offices are subordinate to elected offices at the local level.	Coppedge et al. (2017)	4,745	2.12	1.52	0.00	4.00
Party linkages	0 – Clientelistic, 1 – Mixed Clientelistic and local collected, 2 – Local collective, 3 – Mixed local collective and policy/programmatic, 4 - Policy/programmatic	Coppedge et al. (2017)	4,745	1.99	1.29	0.00	4.00

5. Estimation Strategy and Results

As noted above, our dependent variable (ICRG) ranges from 0 to 6, and so we make use of the Tobit estimator to account for its constrained values (Brusca et al., 2018). The Tobit model allows us to estimate a linear association when there is a left- or right-censoring in the dependent variable. Standard errors are clustered at the country level.

The empirical specification is as follows:

$$y_{it}^* = \beta_0 + \beta_1 ddpi_{it-1} + \beta_2 ddpn_{it-1} + \beta_3 X_{it-1} + \delta_1 T_t + \delta_2 W_i + \epsilon_{it} \qquad (1)$$

y_{it}^* : dependent latent variable for country 'i' in year 't,' which is observed for values greater than τ

DDPI and DDPN are dummy variables for *'Democratic decentralization and party integration'* and *'Democratic decentralization and party non-integration'*

X_{it-1}: Institutional variables (municipal directly elected executive, municipal centrally appointed executive, and municipal plurality) and control variables (government consumption, trade openness, (logged) GDP per capita, population size, country area, legal origin, polity, Freedom House index, free and fair election, and party linkages)

$T_t \ and \ W_i$ are year dummies and country dummies

We have lagged the explanatory variables by one period to account for the delayed effect of election decisions and policies enacted on corruption.

As a reminder from our discussion in section 3, we argue that democratic decentralized countries – those with local elections – should have lower corruption, other things equal. We also test the proposition that, among such countries, those with non-integrated parties may also experience more honest politics.

We present the estimation results from Equation (1) in Table 3 below:

Table 3. Regression Results for Democratic Decentralization

	Tobit Model with no control variables	Tobit Model with control variables
Democratic decentralization (Lagged)	0.580*** (0.164)	0.701*** (0.218)
Control Variables	No	Yes
Year Dummies	Yes	Yes
Country Dummies	Yes	Yes
Constant	2.024*** (0.137)	4.879 (4.073)
Pseudo-R Sq.	0.3676	0.4291
Number of Observation (Countries)	3,006 (132)	2,313 (113)

Robust standard errors in parentheses   *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Column (1) in Table 3 presents the result from the basic model showing the impact of democratic decentralization on corruption. The results show that democratic decentralization has a significant positive impact on the corruption index, meaning that countries with elected local governments are more favorable to low levels of corruption. These results are in-line with previous decentralization literature that has identified a negative relationship between fiscal decentralization and corruption, but they reflect our greater focus on the political structures of decentralization.[10] The results are robust to additional control variables as shown in column 2.

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[10] See Ivanyna and Shah (2011) and Fisman and Gatti (2000).

Table 4. Regression Results

	(1) Tobit Model with no control variables	(2) Tobit Model with Inst. control variables	(3) Tobit Model with Inst. and Socio-Econ. variables	(4) Tobit Model with Inst, Socio-Econ., and V-Dem variables
Integration (DDPI-Lagged)	0.452** (0.177)	0.603*** (0.230)	0.393* (0.237)	0.369* (0.215)
Non-Integration (DDPN-Lagged)	0.772*** (0.240)	1.054*** (0.241)	1.066*** (0.258)	1.175*** (0.293)
Significant Difference	No	Yes (**)	Yes (***)	Yes (***)
Institutional Control Var.	No	Yes	Yes	Yes
Socio-Econ.Control Var.	No	No	Yes	Yes
V-Dem Variables	No	No	No	Yes
Year Dummies	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes
Constant	2.099*** (0.139)	1.094*** (0.357)	-0.603 (1.860)	-0.336 (2.097)
Pseudo-R Sq.	0.369	0.383	0.401	0.4382
Obs (Countries)	3,006 (132)	2,885 (126)	2,541 (120)	2,313 (113)

Next, Table 4 presents the main results for the Tobit model considering DDPI and DDPN. Column 1 presents the result with only year and country dummies. Both explanatory variables show a statistically significant impact on corruption, providing further support for our argument on the role of democratic decentralization. We gradually add control variables in columns 2-4. With additional control variables, the results continue to show that democratically decentralized systems that are both party integrated and non-integrated are conducive to lowering corruption vis-à-vis democratically centralized systems. Furthermore, the results show that when democratic decentralization is combined with party non-integration, there is a statistically significant positive impact on the corruption index. This result suggests that, when constituents have more control over the nomination process for local elections, their ability to select more honest candidates reduces corruption as compared to when local candidates are first nominated by their national parties.

A comparison of the two coefficients provides interesting insights regarding the effect of

party structure on corruption in a democratically decentralized system. Table 4 shows that both

DDPI and DDPN have a positive effect on the corruption index (indicating lower corruption).

Column 4, in particular, indicates that the effect of *DDPN* is more pronounced and more

significant than that of *DPPI*. The coefficient of *DDPN* is larger in magnitude than that of *DDPI*

and also it is statistically significant at one percent level while the coefficient of *DDPN* is

statistically significant at the five percent level. Moreover, the differences in the coefficients of

the two independent variables are statistically significant, providing further support to the result.

To test the robustness of these models, we also estimate them for non-authoritarian regimes

only (with polity scores greater than -5) and for democracies only (with polity scores greater than

5). There is an assumption of at least some political competition in our theory, so we expect the

results to hold, and perhaps be stronger, for this subset of cases. As the models shown in Table 5

indicate, these expectations are borne out, with our primary independent variables being

statistically significant, differing statistically from one another, and possessing generally higher

coefficients than in the baseline models.

Table 5: Excluding Autocratic Regimes

	(1) Tobit Model Excluding Authoritarian Regimes (Polity IV >-5)	(2) Tobit Model Only Including Democratic Regimes (Polity IV >5)
Integration (DDPI-Lagged),	0.345* (0.203)	0.605** (0.275)
Non-Integration (DDPI-Lagged)	1.138*** (0.271)	1.243*** (0.339)
Significant Difference	Yes	Yes
Institutional Control Variables	Yes	Yes
Socio-Econ Control Variables	Yes	Yes
V-Dem Variables	Yes	Yes
Year Dummies	Yes	Yes
Country Dummies	Yes	Yes
Constant	-0.287 (2.365)	4.723 (60.058)
Observations (Countries)	1,816 (105)	1,454 (85)

Robust standard errors in parentheses   *** $p<0.01$, ** $p<0.05$, * $p<0.1$

In summary, democratic decentralization with either kind of party structure is effective in

reducing corruption compared to democratically centralized systems. Within the decentralization

framework, however, party non-integration is more effective than party integration at reducing

corruption. In the next section, we present estimation results from alternative identification

strategies to ensure the robustness of these results.

6. Alternative Specifications
6.1 Quantile Regression

We use quantile regression as a robustness check on our main results. Conventional OLS

regression reports the conditional mean $(E(y|x))$ of the dependent variable. Unlike OLS

estimation, quantile regression does not assume an error term which is distributed normally.

Rather, it estimates the parameter at multiple points in the distribution of the dependent variable

(Billger and Goel, 2009). Thus, quantile regression examines the impact of the covariates on the

entire distribution of the dependent variable. It allows us to assess whether the relationship

between the independent variables and corruption varies over different quantiles, i.e., if the

relationship holds in highly corrupt countries and less corrupt countries (Saha and Su, 2012;

Goel and Ram, 2013; Jetter et al., 2015). We present the results in Table 6 below.

Table 6. Quantile Regression

	(1) OLS	(2) Quantile Regression 10th Quantile	(3) Quantile Regression 25th Quantile	(4) Quantile Regression 50th Quantile	(5) Quantile Regression 75th Quantile	(6) Quantile Regression 90th Quantile
Democratic Decentralization and Party Integration (DDPI)	0.439*** (0.102)	0.390** (0.123)	0.500*** (0.078)	0.500*** (0.075)	0.536*** (0.119)	0.296*** (0.087)
Democratic Decentralization and Party Non-Integration (DDPN)	1.180*** (0.125)	0.723** (0.237)	0.985 (0.677)	1.250*** (0.256)	1.157** (0.497)	0.714*** (0.209)
Significant difference	Yes	Yes	No	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes

Pseudo R-sq.	0.78	0.63	0.56	0.59	0.66	0.69
Observations	2,344	2,344	2,344	2,344	2,344	2,344

Robust standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

The OLS estimate provides a baseline of mean effects. A Bruesch-Pagan / Cook-Weisberg test for heteroskedasticity yields a large and statistically significant chi-square value indicating the presence of heteroskedasticity. Thus, we report robust standard errors. The results show that the relationship between the independent variables and corruption is more prominent at higher quantiles, i.e., low-corrupt countries. We also see that, except in 25th quantile, democratic decentralization and party non-integration (DDPN) has a greater impact (in magnitude) than democratic decentralization and party integration (DDPI), and that they are significantly different. Surprisingly, the effects decline for the 90th quantile. The 50th quantile is, by default, the median, thus we can expect it to be closer to the OLS point estimates.

6.2 Endogeneity

The process of isolating the effect of decentralization on various outcome variables may present issues with endogeneity. For instance, fiscal decentralization might have a positive impact on economic growth. Simultaneously, economically advanced countries might be more likely to adopt decentralization then less developed nations (Martinez-Vazquez et al., 2016). By the same token, corruption might affect the level of decentralization. One could argue that more corrupt countries are less likely to be politically and fiscally decentralized because decentralization would generate fewer opportunities for rent extraction by central government officials. And, at the national level, democracy is more difficult to sustain in corrupt countries (Kolstad and Wiig, 2016). Recently, Choudhury (2015) studies the potential endogeneity between decentralization and corruption using Lewbel's (2012) identification strategy. The paper finds mild evidence of political decentralization being endogenous but finds no evidence for fiscal decentralization being endogenous to corruption.

To deal with any potential endogeneity, we use the *"Geographic Fragmentation Index"*

suggested by Canavire-Bacarreza et al. (2017) as an instrumental variable for democratic

decentralization and party integration (DDPI) and democratic decentralization and party non-

integration (DDPN). The index measures the weighted probability that any two randomly chosen

individuals do not live in similar altitude zones. The index is given by: $1 - \sum_{j=1}^{J} \sum_{i=1}^{N} (w_{ij} \frac{n_i}{N})^2$,

where $\frac{n_i}{N}$ is the share of population by elevation and w_{ij} measures the distance between altitude i

and altitude j. It ranges from zero to one. Zero indicates that all of the population reside in the

same altitude zone and one suggests that each individual lives at a different altitude.[11] Geography

is purely exogenous and does not directly impact corruption. It can, however, affect corruption

via other channels such as political institutions.

We use the following 2SLS empirical specification.

The first stage is:

$$ddpi_{it} = \theta_0^1 + \theta_1^1 Z_{it} + \theta_2^1 X_{it} + \pi_1^1 T_t + \pi_2^1 W_i + \mu_{it}^1 \tag{2}$$
$$ddpn_{it} = \theta_0^2 + \theta_1^2 Z_{it} + \theta_2^2 X_{it} + \pi_1^2 T_t + \pi_2^2 W_i + \mu_{it}^2 \tag{3}$$

The second stage is:

$$y_{it} = \beta_0 + \beta_1 \widehat{ddpi}_{it} + \beta_2 \widehat{ddpn}_{it} + \beta_3 X_{it} + \delta_1 T_t + \delta_2 W_t + \epsilon_{it} \tag{4}$$

Where, y_{it} is the corruption index for country "i" in year "t"; *ddpi (democratic*

decentralization and party integration) and *ddpn (democratic decentralization and party non-*

integration) are the endogenous regressors; **Z** is the Geographic Fragmentation Index and acts as

the instrumental variable; **X** is the vector of control variables; and **T** and **W** are year and country

dummies.

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[11] Canavire-Bacarreza et al. (2017) also use the index to identify a causal relation between fiscal decentralization and economic growth.

An obvious problem with the above specification is that, since the endogenous variables are dummy variables, the underlying conditional expectation function (CEF) for the first stage equations may be nonlinear. We use a probit model in the first stage and obtain the fitted values of $\widehat{ddpi}_{it}$ and $\widehat{ddpn}_{it}$. If we substitute the fitted values, $\widehat{ddpi}_{it}$ and $\widehat{ddpn}_{it}$, directly into the second stage, we run into another problem – only OLS estimations of Equations (2) & (3) guarantee that the first stage residuals are not correlated with predicted values $\widehat{ddpi}_{it}$ and $\widehat{ddpn}_{it}$ and covariates X_{it}. This is referred to as the *forbidden regression* by Hausman (1978), and Angrist and Pishke (2009) and Wooldridge (2010) have suggested using *Garden Variety 2SLS* to resolve the problem. This approach, which we adopt, involves using the predicted values from the probit model as the instrumental variable for the endogenous dummy variables. That is, the actual first stage is going to be:

$$ddpi_{it} = \theta_0^1 + \theta_1^1 \widehat{ddpi}_{it} + \theta_2^1 X_{it} + \pi_1^1 T_t + \pi_2^1 W_i + \mu_{it}^1 \tag{5}$$
$$ddpn_{it} = \theta_0^2 + \theta_1^2 \widehat{ddpn}_{it} + \theta_2^2 X_{it} + \pi_1^2 T_t + \pi_2^2 W_i + \mu_{it}^2 \tag{6}$$

And the second stage will be:

$$y_{it} = \beta_0 + \beta_1 \widehat{\widehat{ddpi}}_{it} + \beta_2 \widehat{\widehat{ddpn}}_{it} + \beta_3 X_{it} + \delta_1 T_t + \delta_2 W_i + \epsilon_{it} \tag{7}$$

The estimation result for the IV is presented in Table 7 below.

Table 7. IV Regression Results

	(1) IV results
Democratic Decentralization and Party Integration (DDPI)	2.153*** (0.627)
Democratic Decentralization and Party Non-Integration (DDPN)	2.604*** (0.754)
Significant Difference	No
Control Variables	Yes
Year Dummies	Yes
Country Dummies	Yes
Constant	-2.272 (1.279)
Observations	2,044
R-squared	0.757

Robust standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

The results from our instrumental variable model are similar to those from the main

specification. Both party structures in a decentralized system yields a positive impact on the corruption index (a negative impact on corruption). However, while DDPN has a larger coefficient, the difference between the two variables is not statistically significant.

7. Conclusion

In this paper, we test the impact of decentralized political institutions, in particular local elections and sub-national party integration, on corruption. We argue that locally elected officials have incentives to behave honestly in office, lest they be voted out of office by their constituents. We also test whether this local accountability is augmented when national parties are non-integrated, meaning that candidate selection for local office also happens at the sub-national level, versus when local candidates are nominated by the national party structure. We use sub-national data to test our theory on a vast dataset of more than 100 countries, and all statistical results robustly show that democratically decentralized countries have less corruption. We also consistently find that, among such democratically decentralized countries, corruption will be further minimized by the presence of non-integrated parties with local candidates selected by a local mechanism.

This result suggests that the ability of local voters to choose among potential candidates allows them to select those who are more honest. It also indicates that this advantage of party non-integration trumps any benefit derived from the incentives that national party leaders possess to choose honest candidates when they are empowered to do so.

Our findings, in additional to their policy relevance, have three important implications. First, they provide further evidence that political institutions, and in particular party structures, matter for governance outcomes at the local level. Second, they indicate that "perfect" local institutions may not exist, since party structures that are best for public goods delivery and those

that reduce corruption seem to be different. Finally, they point clearly to the important role played by information in combatting corruption. While both national party officials and local voters possess incentives to minimize corruption, it is local voters who know which candidates are likely to abuse their positions. Empowering these voters, our results suggest, will reduce the risk that corruption will undermine good governance.

In the final analysis, we hope that this paper can contribute to resolving entrenched theoretical disputes and mixed empirical findings around the impact of decentralization on corruption. Our results show that scholars must consider the specific political and institutional features of decentralized systems to understand their impact on complex outcomes such as corruption.

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