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Working Paper

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CESifo Working Paper, No. 3714

Provided in Cooperation with:
Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Thanh, Thuy Vu; Zouikri, Messaoud; Deffains, Bruno (2012) : The interrelationship between formal and informal decentralization and its impact on sub-central governance performance: The case of Vietnam, CESifo Working Paper, No. 3714, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:
https://hdl.handle.net/10419/55357

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The Interrelationship between Formal and Informal Decentralization and its Impact on Sub-Central Governance Performance: The Case of Vietnam

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CESIFO WORKING PAPER NO. 3714
CATEGORY 2: PUBLIC CHOICE
JANUARY 2012

CESifo *Working Paper No. 3714*

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Abstract

Formal and informal institutions are often viewed as complements or substitutes in empirical and theoretical works. However, no evidence of complementarities or substitutes is found in our empirical analysis of the interrelation between formal and informal decentralization across 64 provinces of Vietnam. This paper finds that the formally decentralized system of public service supply is accommodating the informal one, but informal decentralization in public order provision tends to compete with the existing ineffective formal system. This implies that the central government needs to reorganize the system of decentralizing the provision of public goods/services and public in order to make informal institutions complementary rather than rival or free-riding on formal ones.

JEL-Code: D730, H110, H730, H830, K000.

Keywords: formal decentralization, informal decentralization, sub-central governance, accommodating, and competing.

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THIS VERSION: November 2011

1. INTRODUCTION

This paper investigates empirically how different dimensions of decentralization interact to influence governance performance of sub-central governments in a unitary state. As specified in many other studies, decentralization is a multi-dimensional institutional reform. Treisman (2002a), for example, supposes that decentralization in the public sector differs in the number of tiers of government, the degree of decision-making autonomy, resources (revenue power and manpower), democracy, and constitutional participation. His study of 154 countries shows those with a higher degree of decentralization, especially those with more government layers, have poorer performance in the delivery of basic public services and worse corruption. However, he fails to check its robustness, and other dimensions of political decentralization have an inconclusive effect on the quality of government. In this paper, we distinguish formal decentralization – or the legitimate level of human resource management autonomy assigned by the central government to sub-central governments - from the informal one which is the actual level of decision-making power of the later shaped by 'village' culture and persistent for centuries beyond the control of the former[§].

The distinction between formal decentralization and informal decentralization has been discussed by several authors (Montinola, Qian and Weingast 1995, Jones-Luong 2003, Malesky 2004, Shah and Thomson 2004), and it can also be abstracted from a good number of theoretical and case studies on formal and informal institutions (North, 1990, Stigliz 2000, Taylor 1992, Dia 1996, Aghion and Tirole 1997, Voigt and Kiwit 1998, Zenger et al. 2001, Dixit 2003, Helmke and Levitsky 2004, Tsai 2002). Most of them argue that mechanisms of power creation are not the same, but endogenously determined. Formal decentralization refers to the assignment of decision rights over certain public policies from the upper tier of government to the lower one. Due to coordination failures along the tiers of government (e.g., information asymmetry, contract incompleteness, interest conflicts, or capability and resource constraints), decentralization is, by nature, partial in reality. Bureaucrats always have incentives to create or at least facilitate the establishment of a private order to complement, substitute, accommodate, or compete with malfunctioning systems of public order for the sake of their community or simply in sought of maximizing their private benefits given rights limit. This private order allows lower-tier governments to exercise higher-tier rules and regulations at their discretion and even to introduce their own rules acknowledged and respected by citizens in their community at low fixed costs (Li 2003). When the private order is rooted from culture and history, it may gain even faster and stronger consensus within the community and acts as an umbrella over a substantial degree of 'informal' local autonomy beyond their authority. The upper tier recognizes this kind of inflated behavior at lower tiers and restrains it by allocating vertically a limited number of decision rights in certain public areas where a private order enables to maximize utilities of local

[§] We focus on the legitimacy of decentralization, which is different from its functional dimensions as classified by other authors (Oates 1972, Treisman 2002a, Yilmaz and Ebel 2002, Rodden 2004) or from its structural aspects (i.e., *de jure* and *de facto* decentralization as in King and Özler 1998). In our paper, formal decentralization is defined as the degree of control power officially allocated to sub-central governments by the upper and implemented as assigned while informality implies the scope of discrete decision-making at the sub-central level which is not allowed or encouraged by the upper. Although our analysis can be extended to other types of decentralization, the high correlation among most of them restrains us from obtaining unbiased predictions of their complementary or substitute relationships in our estimations for a system of simultaneous equations.

government officials while creating incentives for them to provide high-quality public order and public goods and services cost-efficiently[**].

Political literature has identified four patterns of interaction between informal institutions and formal institutions: complementary, substitutive, accommodating, and competing (Voigt and Kiwit 1998, Helmke and Levitsky 2004[††]). The two systems are complementary when informal institutions share the common goals with effective formal institutions and create incentives to facilitate the latter's enforcement. Their relationship becomes substitutive when existing formal institutions are ineffective, and hence informal institutions are created ad hoc to achieve the goal that fails to achieve formally. In the first two cases, outcomes are similar and cooperative. Helmke and Levitsky also list two other understudied types of the relationship when informal institutions may not pursue the goal of formal institutions. In certain circumstances, the actors do not like the status quo of the latter and attempt to create an informal set of rules to solve their problems more effectively. Informal rules do not necessarily directly violate the formal ones, but find ways around the latter to pursue their own goals. If it is the case, informal institutions are called to be accommodating with formal ones. Informal institutions also can dominate weak formal institutions and may drive the actors to ignore and violate them. The two systems now become competing and dysfunctional. The later cases show non-cooperative behavior and divergent outcomes of formal and informal institutions. Which types of the interrelationship do formal decentralization and informal decentralization belong to in the above typology? And how do they influence the governance performance of government and economic growth?

There are three main mechanisms through which decentralization impacts government performance. First, decentralization affects behavior and efforts of local government officials through local democracy. Accordingly, local voters have a deterministic say for the chance of staying in office in the re-election through their perceptions of the quality of government in the first term. So, local government officials stand at the trade-off between diverting rents from tax revenue and winning the re-election (Seabright 1996, Persson and Tabellini 2000, and Hindriks and Lockwood 2005). Second, decentralization also influences government performance through interjurisdictional competition between sub-national governments. Tiebout (1956) claims that under decentralization and interjurisdictional competition, the voters can vote for the bundle of public goods and taxes they prefer, so given the low cost of mobility, they will vote out to the local government that matches their preferences. Brenan and Buchanan (1980) extend Tiebout's theory and argue that under factor mobility, governments can compete with one another to attract them, which eliminate the monopoly power over local regulations and restrain their opportunistic behavior. From a different perspective, Salmon (1987) and Besley and Smart (2007) emphasize the advantage of decentralization as a mechanism of yardstick competition; voters can make inference of their own local government performance by comparing with their neighboring jurisdictions of similar conditions. Third, under decentralization, local governments are supposedly more likely to be captured by 'elites' and can lead to more distortions of policy choice and give rise to overspending incentives. However, we argue that one of hardly-mentioned channels is to formally honor their identity of a small 'president' in the

[**] We measure the performance of local governments through the clients' satisfaction about the quality of public order provision and public service delivery.

[††] Voigt and Kiwit's typology of formal and informal institutions is based on whether they regulate the same or different types of human behavior (or functionalist perspective). Helmke and Levisky emphasize the sharing goal (cooperative or non-cooperative) of the two types of institutions and the status quo of formal institutions (efficient or inefficient). Our conceptualization is closer to Helmke and Levisky's.

community under their authority. This is really an important aspect in those countries that the 'village' culture, or the kind of common wisdom of 'King's laws are held back at the gate of the village', prevails and dominates how rules are made and implemented like in Vietnam.

How does the interplay between formal and informal institutions mean for economic growth? Both theoretical and empirical studies have been exhausted in finding the answer and it turns out to depend on their strength, local preference for each type of rules, and the extent of their goal convergence during their evolution and development (North 1990, Voigt 1993, Pejovich 1999, Keefer and Shirley 2000, de Soto 2000, Acemoglu, et al. 2001). They agree that the same rule may not have the similar impact on all economies because of heterogeneous enforcement mechanisms and preferences. For example, Knack (1995) found that property right protection institutions are determinant of economic growth. However, Keefer and Shirley (2000) and Williamson (2009) argue that formal institutions are not sufficient to maintain economic growth, but should be embedded in informal institutions. In general, empirical evidence shows cooperation (complementary or substitute relationship between institutions) is critical to economic growth, and the real impact is sensitive to their definition and measurement.

So far, empirical research on the interaction between formal decentralization and informal decentralization has been restricted, partly due to difficulties in quantifying informal aspects. The outcomes of their interrelationship are sensitive to particular dimensions of decentralization and the mechanisms they evolve. If formal decentralization is used as an instrument of the upper government to provide incentives for lower-level policy innovation, it may lead to an increase in the level of local autonomy. This happens when local government officials attach a high value to their identity as a 'president' in their locality, even more than their private rents. As the value of identity is partially linked to the official degree of autonomy, the organizational design of the formal system affects their effort distribution to alternative tasks (for example, between the provision of public order and delivery of public goods and services) given the self-assessed value of their identity.

If informal decentralization institutions are created ad hoc in order to accommodate undesired or to compete with or to substitute weak formal institutions, the outcome may be or may be not efficiency-enhancing. For example, the local 'jockeying' over forest resources in Indonesia has resulted in the loss of state control and power over this property and the unorganized exploitation of timbers under the implicit consensus of local governments (Ravenel 2004). In China, the Organic Law of Village Committees assigned village committees the responsibility to provide certain infrastructural services to their villagers, but Tsai (2002) found that those villages (among four studied cases) use local social networks such as temples to raise resources and self-finance local spending on certain public services provide more of them compared to those relying on village officials. However, this kind of informal system of providing public goods and services is not sustainable and only applicable to small-scale transaction and in small community. Informally decentralized institutions and procedures can be quickly destabilized by the introduction and change of more effective formal ones (Stigliz 2000, Dixit 2004). In this case, informal decentralization may have to adhere to formal one if it does not want to be suppressed.

Comparing the two systems, Gambetta (1993), Li (2003), and Dixit (2004) found that informal system is less successful in protecting property rights than in enforcing the contracts because it requires minimal public order. Montinola et al. (1995) argues that when the sub-central government acts as a 'small' national government, the autonomy they obtain under decentralization may make their

commitment incredible. This is due to the higher possibility of 'elite' capture at the lower layers of government (Shleifer and Vishny 1993, Bardhan and Mookherjee 2006). Therefore, the multi-tier government structure may not induce the enhancement of governance performance at the local level. Formal and informal decentralization institutions may also have divergent outcome if the former faces constraints (i.e., in financial or human resources, or technology change) while informal institutions have channels to ease these constraints, through the inflow of the FDI, for instance, or simply thanks to its fixed cost advantage. It is obvious that studies on the interplay between formal and informal decentralization also support the general view of most scholar on the interaction of formal and informal institutions: whether they are complementary, substitutive, accommodating, or competing depends on the strength of the existing formal system and the local preference for each institutional system; and their impact on governance and economic performance depends on the strength of each system against the other and the degree of their sharing goals.

Our paper has original distinctions from the others in four points. First, it is an empirical study across 64 Vietnamese provinces over the period of 2006-2008 (20 years since it embarked the '*Doi Moi'* or Renovation). Vietnam is chosen because it is typical of a country where the formally decentralized system is still immature and where the degree of formal decentralization varies across provinces due to the non-uniform decentralization scheme of the government, and where local order prevails and shapes the way government officials make and implement policies. The mechanism of establishing such a private order is through fence-breaking, or violating central laws and issuing local rules to accommodate or substitute the former. In addition, 2006 is the first year that the Provincial Competitiveness Index, measuring the governance performance of all 64 provincial governments, was launched. This is the main source of data for us to evaluate the quality of sub-central governments in our paper. The methodology of the survey was stable during this period, allowing us to obtain relatively consistent measurement. This is also the year the Central Committee of the Communist Party of Vietnam (CCCP), for the 2006-2010 terms, was elected and presented with representatives of provincial government leadership. The ratio of provincial representation in CCCP is controlled for in our study of the impact of decentralization on government quality. The 2006-2008 period allows sufficient lagged time to evaluate institutional settings in a stable manner after almost provinces were involved in gerrymandering from 1990 to 2004. This is also the period that provincial governments were given substantial discretions in making public policies (for example, regarding public spending, land management, human resource management, and law-making) and that provincial governments are very proactive and innovative in sought of ways to improve their performance and ease their hard budget constraints under the increasing pressure of local democracy and interjurisdictional competition for resources, especially private capital and high-quality laborers.

Second, our informal decentralization measure is constructed, using the result of the Vietnam Provincial Competitiveness Index (PCI) 2006-2008 survey, asking over 7000 private firms of whether provincial governments where they are domiciled are flexible, creative, and breaking the fence in the implementation of central laws. Our concept of informal decentralization is similar to that of Torgler and Schneider (2009) who found the positive effect of local autonomy on tax compliance of Swiss citizens and the narrowing size of the unofficial economy. Third, the outcomes of formal and informal decentralization are compared by estimating their impact on some indicators of government performance in public order provision (including property right protection, legal enforcement, legal predictability and corruption) and public goods and service provision (public services for the private sector and infrastructure quality). Most of them are the results of the PCI Vietnam surveys from 2006 to 2008. Finally, we contribute to the lack of empirical research on informal decentralization and on

the interaction between formal and informal decentralization in impacting the efficiency of the government under a homogenous institutional setting. We found that what matter much the variation in the government performance in cross-country studies such as legal origins or religion seem unimportant in within-country analysis and in a country of small religious population like Vietnam. We claim that the dynamic incentive structure created from the interrelationship between different dimensions of decentralization is critical to the quality of lower-level governments.

The main findings of this paper are that formal decentralization is accommodating informal decentralization in the delivery of public goods and services and is competing with formal decentralization in the provision of public order. This suggests that the formally decentralized system of supplying public goods and services give sufficient incentives to lower-layer governments to perform efficiently, but it is still lack of effectiveness in the provision of strong public order, particularly the protection of property rights, enforcement of contracts, and reduction in corruption. Therefore, the emergence of and dependence on informal decentralized system co-existing with formal system are necessary to obtain satisfaction over public goods/services and order, at least until a formally decentralized system is effective enough to compete successfully with the informal partner in the provision of public order and other goods and services. In the next stage of reform, what central government needs to consider is to improve formal procedures and reset a more appropriate degree of formal decentralization that give sufficient incentives for local governments in maintaining and enhancing the public satisfaction over their performance. We also find the negative and significant impact of the non-cooperative relationship between decentralization institutions, specifically the formal institution on economic growth. This requires reform efforts should focus on relaxing the limited autonomy of local governments in human resource management (quota[‡‡]) and allowing more discretion in their making decisions over the number, structure, and wage schemes of employees under their management. These findings are the results of employing the three-stage least squares (3SLS) model and then robustly checked with OLS model.

The following section gives a review of literature on the interaction between formal and informal system of decentralization and its effect on local government performance. Section 3 describes how formal and informal decentralization works in Vietnam. A description of data and models with discussion of results will be provided in section 4. Finally, the paper ends with conclusions.

2. FORMAL AND INFORMAL DECENTRALIZATION – THE CASE OF VIETNAM

The assessment of the relationship between formal and informal decentralization and government efficiency should be a country-specific issue, taking into account the heterogeneity of political, cultural, and economic conditions of each geographical unit of analysis. There is no “one size to fit all” institutions for all countries and hence institutions will put different constraints and incentives for government performance and imply dissimilar outcomes across regions and countries. In this section, we will study the case of how decentralization works in Vietnam, and how formal and informal decentralization interacts to impact the quality of sub-central (provincial) governments.

[‡‡] The Decree number 71/2003/ND-CP issued on 19 June 2003 by the Government on the decentralization of human resource management in the state sector allowed sub-central governments certain discretions in recruitment, dismissal, and transfer of their employees, but the annual number of employees in the state sector must be complied with the quota and norms of the central government agencies. Therefore, our measure of formal decentralization as the percentage of provincial employment in the state sector in the total central and sub-central government employment is a formal rule in its true sense.

2.1. Formal decentralization

By law, Vietnam is a politically centralized government organized into four levels. Until May 2008, the country has 64 provinces, 690 districts, and 11055 communes[§§]. Since economic reform, or the 'Doi Moi', was initiated in the 1990s, decentralization has been going on in the areas of fiscal, public administration and regulations to a greater extent. In this process, the central government has assigned a certain degree of decision-making authority to sub-central governments. The power, roles, and responsibilities of state and sub-state governments are set out in the legislation, including Law on Local Governments enacted in 1958, Law on Organization of the People's Council and the Administrative Committees at All Levels of Government in 1994, the Ordinance on Concrete Tasks in 1996, Law on the State Budget in 1998, the Revised Law on the State Budget in 2003, and Law on the Issuance of Legal Documents by the People's Council and People's Committee in 2004. In Vietnam, the key sub-central government is provinces with major responsibilities being devolved to this intermediate level rather than local units (communes/villages). Therefore, provincial governments are the focus of this paper.

Different from many other countries, decentralization is an institutional reform from the top in Vietnam. The degree of decentralization is, to a great extent, determined by the central government. The central government prescribes the powers and responsibilities of sub-central governments. Take fiscal decentralization as an example. Law on the State Budget of 1996 and the Revised Law on the State Budget of 2003 make a list of expenditure responsibilities assigned to both central government and sub-central governments. In 2002, the share of sub-central government expenditures in the total government expenditure is 48% (World Bank 2005). This figure suggests Vietnam be a relatively highly decentralized country in terms of public spending. The central government also stipulates in the Budget Law what kinds of taxes and fees (i.e., VAT on import goods, export tax, import tax, special consumption tax on import goods) are fully assigned to the central budget, what kinds (i.e., land and housing taxes, license tax, fee on land use, and others) are fully charged and collected by the sub-central governments, and what kinds (VAT except that on import goods, corporate income tax, tax on remittance, excise tax on domestic goods and services, gasoline and oil fees and personal income tax) are shared between the central budget and the local budget. The degree of revenue decentralization is distinct across provinces, subjected to the amount of transfers from the central government to SNGs, the revenue from taxes and fees made in their locality, and the sharing tax rate. In Vietnam, the sharing tax rate[***] is the same for all shared taxes, but it differs by province (Martinez-Vazquez 2005). In 2004, the sharing rate is 100% for 47 poorest provinces and other 17 provinces share a part of their revenue with the central government[†††]. The sharing rates may be subjected to change annually and non-uniform sharing rates across provinces are used for equalization purpose. This makes Vietnam different from many other countries which maintain a uniform system of sharing rates and rely on the transfer system to achieve equalization targets. The non-uniform system of sharing tax rates across provinces also leaves a room for local officials to make efforts to enhance revenue capacity of their local government.

[§§] The data is available on the website of the General Statistics Office of Vietnam at www.gso.gov.vn.

[***] The sharing tax rate is determined by a formula of the Ministry of Finance considering the difference between spending needs and revenue capacity. The former is estimated on the basis of norms and can be negotiated ex ante while the later is estimated on the basis of past revenue.

[†††] Extracted from the balance sheet of state government budget and local government budget for the year 2004 disclosed by the Ministry of Finance of Vietnam.

Since 1998, provincial governments are empowered to manage their own state officials, including recruitment, appointment, training, and firing. The percentage of government officials under provincial management in the total government staff is approximately 54% on average over the 2000-2008 period (General Statistics Office of Vietnam). This figure also shows Vietnam has decentralized relatively strongly in state human resource management, and the degree of decentralization in this area is equivalent to that in public spending. Similar to other research, decentralization in human resource management and in fiscal area is highly correlated (0.82 between the former with revenue decentralization and 0.91 with expenditure decentralization). However, state employment decentralization has insignificant correlation with transfer (0.07)[‡‡‡].

2.2. Informal decentralization

Although local government autonomy has not been acknowledged in the constitution, it is substantial in practice. Malesky (2008) has described acts of autonomy of local governments regarding their policy experimentation or innovations where regulations do not exist as 'fence-breaking' or informal decentralization[§§§] . From the perspective of the central government, all of these initiatives are illegal. A list of 34 'fence-breaking' provinces and responsible officials were named in the Decision No. 1387 on 29 December, 2005 by the Prime Minister and then punished despite the fact that many policy experimentation and innovations at the provincial level have been legalized later on and become very successful. The real number of fence-breakers may be higher due to informational constraints. Obviously, along with formal decentralization, fence-breaking is critical to the change in government performance. The high degree of actual autonomy at the sub-central levels has intensified the conflicts between the central government and sub-central governments and also created intergovernmental competition for resources, especially private and foreign invested capital, a means to build greater autonomy for the later. On the positive side, both formal decentralization and informal decentralization contribute to policy innovation and subsequently to enhancing the quality of governance in many aspects. However, at the beginning stage of decentralization, some formal procedures are not effective and strong enough and need relying on a certain private order to maintain the public order.

Since 2005, Vietnam Chamber of Commerce and Industry (VCCI) and the Vietnam Competitiveness Initiative (VNCI) project sponsored by the United States Agency for International Development (USAID) conducted a survey of businesses regarding their perceptions of the quality of local governments and business environment. In 2005, 2,020 firms in 42 provinces responded to the survey. Based on the survey results and actual economic performance of each province, the Provincial Competitiveness Index (PCI)[****] was built. Initially, PCI2005 had nine sub-indices. Since 2006, PCI surveys have attracted about 7,000 firms' responses and the PCI index is comprised of 11 sub-indices, measuring entry costs, time costs of regulatory compliance, land access and tenure security, transparency, corruption, institutional quality, competition environment, proactivity of provincial leadership, labor policy, quality of public services to the private sector, and infrastructure. The PCI also shows firms' perception of the degree of decentralization in Vietnam. Particularly, the PCI2007 shows an average of only 8.4% of surveyed firms predicts that central laws are consistently enforced at

[‡‡‡] Authors' calculation is based on the Balance Sheet of State Budget and Provincial Budget from 2000-2008 issued by the Ministry of Finance of Vietnam.

[§§§] The term 'fence-breaking' has been used to describe the violation of central government regulations by state-owned enterprises before decentralization.

[****] The full survey is available on the website www.pcivietnam.org.

the sub-central levels. Approximately 39% of private firms agree or strongly agree that local governments use their own rules and regulations to extract rents.

The wide discretion of local officials is confirmed in many empirical studies (Litvack and Rondinelli 1999, Tenev 2003). Tenev et al. asked CEOs of a sample of SOEs and private firms how they reacted with ambiguous regulations and realized that local officials have various ways to interpret them at their discretions. Litvack and Rondinelli found local governments have different views of enforcing central laws and regulations: some provinces are more flexible than others in implementing central regulatory policies and experimenting with their provincial strategies.

There are attempts to explain why local leaders have superior influence over central laws and regulations and how they build their local autonomy. The most popular reason that still prevails today is historical and cultural relics. Local governments in Vietnam evolve from traditions of community or village self-governance. 'Village culture' which prioritizes local rules over national laws and regulations has a great influence on economic activity and make the conflict between the central – local relationship intense. Although villages are not administrative units of central and local governments, rules set by the head of each village has strong power in effect and those national laws and regulations conflicting with village rules are suppressed. This is illustrated in the well-known sayings 'Phep vua thua le lang' (translated as 'The King's laws are held back by village rules').

In addition to historical and cultural determinants, government organizational structure is also a part of the issue. The highly hierarchical structure of the government also creates opportunities for sub-central leaders to exercise their de facto autonomy. First, the four-level vertical organization of the government from the central to three sub-central layers (including the provincial, district, and communal) and the fiscal autonomy of provincial governments allow a great extent of flexibility and asymmetry in implementing and enforcing central laws and regulations. Due to distance between the central and local governments, there is less likelihood that the central legal documents are implemented as directed and the outcomes of central policies are vastly subjected to the discretion of sub-central governments. Second, different from higher level administrative agencies, sub-central administrative units are organized on the subordination principle. They are governed and supervised by an elected body, the People's Council at each level. The Councils represent state power at each of sub-central levels. The People's Council elects the People's Committee as an executive organ of the Council. Some functional committees (Special Economics Committee, Finance Committee, and others) accountable to the People's Committee are established to deal with particular demand of businesses and citizens. The responsibilities and powers of these organizations are stipulated in the national legislature and sub-law documents, but ambiguous enough to give them wide latitude in governance, and even freedom in overturning each other's decisions.

Another explanation is the inconsistency, complexity and ambiguity of the legal system. Tenev (2003) argues that the wide discretion of local officials stem from the inconsistent legislation. When a new law is introduced, it just provides a general framework and leaves sub-central officials with a huge freedom to work out the details and with difficulties in enforcing a mountain of legal documents issued by ministries and upper level agencies. Nguyen (2004) classified the legal system of Vietnam into three groups. The first group includes very transparent documents (including laws, sub-laws, and regulations). The Enterprise Law of 1999 is in this category. Business registration procedures under this law are not significantly different across provinces. However, the number of legal documents in this group is inconsiderable. The second group is a set of outdated documents that fail to govern new

economic activities. For example, there are no official central government regulations governing the private sector involvement in infrastructure. This creates room for local governments to use their discretion to make their own laws in this domain. The third group covers an extensive range of ambiguous and complex documents that are difficult to implement or highly costly if implemented properly. The majority of legal documents in Vietnam belong to this category. Land regulations are an example. Businesses that face laws and regulations in the last two categories tend to rely on local officials' interpretation, which incidentally increase the power of local governments.

A recent study on informal decentralization in Vietnam by Malesky (2008) uses the content analysis approach to identify what factors among geographical locations, political connection, natural endowments, and the dominant source of economic activity in terms of ownership are main contributors to policy autonomy of local leaders. They find that no listed factors have a significant impact on the actual level of local autonomy on their own accounts, but FDI inflows into provinces do. His findings may spur suspects of the newspapers content analysis method failing to collect reliable data, for example, for those provinces being embedded in close relationships with the central government. Political sensitivity and media bias may lead to missing data[††††]. Furthermore, endogeneity can add up to the matter.

2.3. Interrelationship between formal and informal decentralization

Is formal decentralized system of public goods and order provision complementary, substitute, accommodating, or competing with the informal system? Vu (2007) showed that the principle of 'top-down' decentralization is employed in Vietnam in the manner in which those functions and responsibilities the higher-level government should not do will be assigned to lower-level governments. This principle is contrary to the bottom-up decentralization which the higher-level government will be responsible for those tasks or functions the lower layers are unable to do. Decentralization from the top aims to constrain local autonomy by increasing their accountability, yet it also makes local officials feel unnecessarily constrained in some instances. The top-down principle also places the upper governments in the position of the main accountable persons and creates opportunities for their lower partners – who implement assigned responsibilities – to throw the ball of accountability to the upper layers. Ultimately, the upper governments feel a lot of pressures of workload while facilitating the lower dependence on them. This moral hazard problem shields a mask to uncontrollable local autonomy.

Culture also explains how formal and informal decentralization differs across regions. The difference in culture between the North and the South has been discussed by Rambo (1973), Taylor (1983), and Jamieson (1993) who identify the North as being more dependent on central government and more closed than the open and relatively autonomous South. This distinction is sourced from the less rigid pattern of village organization, more market-friendly mindset and the longer Western dominance in the South than in the North.

All above arguments lead to our prediction that formal decentralized system of public order and goods provision is introduced to control the well-established informal one. By defining the specific responsibilities of local governments in law, the central government's goal is to encourage the complementarity between the formal and informal systems and the accountability of the latter for

[††††] This measure can be criticized because press is not highly free in Vietnam and information is not always accessible in the poorest regions.

designed tasks of the former in the beginning period of the reform. However, the top-down decentralization system shows a lot of shortcomings. The immature and ineffective process fails to hold lower-level governments accountable to central objectives, and even creates a lot of gaps for them to exercise their autonomy. Therefore, the increase of the formal degree of decentralization may be not decreasing with the level of local autonomy. In other words, the formal system cannot substitute its informal counterpart, but tends to accommodate it, at least in the time being. This process may be extremely long-lasting as the informal system is backed by the culture that respects 'village' rules and the presence of cultural difference between the North and the South. However, the increase in the local autonomy definitely undermines the formal system in any stages of the reform as long as a competing private order is still strong. So, the central government designs the formal system in the way that provides less decision rights to those sub-central governments that have more (or very large) actual autonomy.

This section shows the semi-uniform decentralization policy across provinces may explain the variation in the quality of sub-central governments within homogenous legal institutional settings. The comprehensive evaluation of the impact of this important reform on governance performance of local governments is necessary to identify what dimensions of the quality of governments need further attention of decentralization reform and how decentralization is designed in the next stage to improve government quality. In other words, it is essential to know whether current decentralization design is creating motivations for local officials to be accountable and effective. The above analysis also pushes forward the need to take historical and cultural matters into the designing process of decentralization.

3. EMPIRICAL ANALYSIS

3.1. Data and Measurement

The definitions and sources for all variables used in this paper are summarized in Table 1. Below is the description of how measures of decentralization, sub-central governance performance and other control variables are formulated in our paper.

3.1.1. Measuring formal and informal decentralization

When measuring the degree of formal decentralization, most works employ the number of tiers or a federal dummy as proxies for formal decentralization (Huther and Shah 1998, Fisman and Gatti 2002, Alexeev and Habodaszova 2007). However, they are not good variables in within-country analysis, especially in an authoritarian state. We use the data of the General Statistics Office of Vietnam to calculate the logarithmized proportion of total government employment under the management of provincial governments as the proxy for our formal decentralization variable (*FD-EMPLOY*). It measures the extent of provincial autonomy in recruiting, using, training, promoting, and firing their officials and has been utilized by Hughes (1991), Fisman and Gatti (2002), Treisman (2002a), and Jin, Qian, and Weingast (2005). Although these works treat state employment decentralization as a *de factor* measure, the quota imposed by the central government in our case make *FD-EMPLOY* similar to a de jure decentralization policy and fit well our concept of formal decentralization in terms of its legitimacy.

The measure of human resource decentralization faces several critics. Oates (1972) argues that it does not always reflect the actual policy autonomy of SNGs as the later also depends on the behavior and actions of local officials in practice. Malesky (2004 and 2008) emphasizes the importance of actual

autonomy as a main source of incentives for sub-central government officials in their governance. In this paper, we do not follow the newspaper-content analysis approach proposed by Malesky (2004, 2008), but use a different measure of informal decentralization, the so-called *ID*, constructed on the results of the Provincial Competitiveness Index 2006-2008 questionnaire survey with the participation of over 7000 firms across 64 provinces. It should be noted that our model is tested, using the provincial level data. *ID* is built on three PCI questions surveying firms' perception of how autonomous their provinces are in the making and implementation of public policies. Private firms (accounting for 95.66% of total active firms, excluding foreign invested firms, as of December 2008[‡‡‡‡]) generally have low political connection compared with state-owned enterprises, and hence are expected to give less biased evaluation of government quality. The question H7.3 asks firms whether the local government where they are domiciled is flexible and innovative in implementing central policies to solve local firm-related problems. Question H7.8 asks firms whether no policy initiatives are taken at the sub-central level. Question H7.5 takes the opinion of firms about whether good policies initiated by subnational governments are overridden by the central government. *ID* is calculated, aggregating three indicators above based on the methodology suggested by PCI 2006[§§§§]. Each indicator is standardized on a ten-point scale and the final index is the average value of equal weight indicators. Cronbach alpha is 0.71. Table 2 presents summary statistics for all variables, and table 3 presents the matrix of correlations. Table 3 shows human resource decentralization has a positive correlation with informal decentralization measure, but the level of significance is not very high (0.22).

3.1.2. Measuring sub-central governance performance

Provincial governance performance is evaluated on the basis of the PCI Vietnam surveys from 2006 to 2008. There are six indicators classified into two categories, measuring the quality of public goods and service provision and public order provision. As PCI indices reflect perception of private enterprises (the mass), excluding state-owned enterprises (the elite) and household businesses, about local governance performance, our findings may be biased. However, the elite only accounts for 1.6% of the total number of enterprises in 2008[*****], so the PCI index represents the voice of the mass and becomes the relatively impartial measure of the government quality. Following is the detailed description of how our governance performance variables are built.

To evaluate the quality of public goods and service delivery, we use three indices, including 'Private Sector Development Policy' index and 'Infrastructure' index of the PCI as proxies for our *PS* and *INFRA* variables, respectively. PS aggregates evaluation of firms about different services provided by provincial government agencies, including the supply of market information, export promotion and trade fairs, industrial zones, and technology-related services. INFRA is a sub-index of the *Infrastructure* index, built on both hard data of the number of industrial zones, their coverage, and the soft data about firms' perception of the quality of industrial zones. Similar to our ID variable, the

[‡‡‡‡] GSO (2009), *Statistical Yearbook of Vietnam 2009*, Statistical Publishing House, Hanoi.

[§§§§] Each indicator is rescaled, using the formula $9\times\left[\frac{\mathrm{Province}_i - Minimum}{Maximum - Minimum}\right]+1$ for those indicators that have positive interpretation and subtracting the above formula from 11 for those negative, where $Province_i$ is the indicator value of each province, *Minimum* is the smallest value of all provinces, and *Maximum* is the largest value of all provinces. Source: PCI Vietnam Report 2006, available at www.pcivietnam.org.

[*****] GSO (2009).

public goods and service supply variables are ten-point scale indices, with the higher value of them representing the better quality.

Table 1: Description of the Variables

Variable Name	Description	Source
FD_EMPLOY	The logarithm of the proportion of government employment under provincial management in the total government employment, averaging the 2006-2008 periods.	MOF[i]
ID	A measure of flexibility and innovation in making and implementing policies of SNGs (scaled from 1 to 10), using some questions in the PCI Vietnam 2006-2008.	Author's calculation
PS	A measure of the quality of public services regarding the provision of information about market, technology, export promotion and trade fairs, and industrial zones by local governments, using the *Private Sector Development Policies* index of the PCI 2006-2008.	PCI[iii]
IZ	A measure of the quality and coverage of industrial zones in the province, using the *Industrial Zone Quality and Coverage* sub-index of the *Infrastructure* index of the PCI Vietnam survey 2008 (scaled from 1 to 10).	PCI[iii]
LEGAL1	A measure of trust in provincial legal institutions, using the *Legal Institution* index of the PCI Vietnam 2006-2008 (scaled from 1 to 10).	PCI[iii]
LEGAL2	A measure of the predictability of implementing central laws by provincial governments, using the average of two sub-indices ('Predictability' and 'Accessibility') of the *Transparency* index of the PCI Vietnam survey 2006-2008 (scaled from 1 to 10).	PCI[iii]
PRO_RIGHTS	We use the *Land Access and Tenure* index of the PCI Vietnam 2006-2008 to measure the tenure security across provinces of Vietnam (scaled from 1 to 10).	PCI[iii]
CORRUPTION	We use the *Informal Charges* index in the PCI Vietnam 2006-2008 survey as the proxy for corruption. It is scaled from 1 to 10.	PCI[iii]
NORTH	The dummies with 1 = North and 0 = South.	GSO[ii]
FENCE_BREAK	The dummies with 1 representing those provinces reported in the Decision No. 1387 on 29th December 2005 by the Prime Minister to have issued local regulations regarding out-of-law investment incentive policies.	
LREV_GDP	The logarithm of the share of provincial tax revenue in the total provincial GDP in real terms in 2005.	MOF[i]
LPOP	The logarithm of the proportion of provincial population in the total national population in 2005	GSO[ii]
LAREA	The logarithm of the share of provincial area in the total national area.	GSO[ii]
TIERS	The number of tiers under provincial governments.	GSO[ii]
LHOSPITAL	The logarithm of the number of state hospitals in the province in the total number of hospitals in 2005.	GSO[ii]
CAPABILITY	The percentage of firms in PCI Vietnam surveys that agree and strongly agree that provincial officials are knowledgeable enough about central laws to solve upcoming problems for firms.	Question H7.2 PCI 2006

i) MOF: Ministry of Finance of Vietnam; ii) GSO: General Statistics Office of Vietnam; iii) PCI: www.pcivietnam.org

To assess the quality of public order provision, we follow Shleifer and Vishny (1993), Huther and Shah (1998), McMillan and Woodruff (2000), and Dixit (2004) and employ three indicators of trust in provincial legal institutions, property right security, and corruption. The first one (LEGAL1 variable) is the 'Legal Institutions'sub-index of the PCI Vietnam 2006-2008, capturing firms' perception of legal enforceability and hard data of the number of non-state sector filings to provincial economic courts over 100 firms. Our second variable LEGAL2 variable also measures the strength of legal institutions from their aspects of predictability. It is the average of two sub-indices ('Predictability' and 'Accessibility') of the *Transparency* index of the PCI Vietnam survey 2006-2008. Our third variable in this category, PRO_RIGHTS, is the 'Land Access and Tenure' sub-index in the PCI Vietnam 2006-2008, which measures the extent of securing a land title. LEGAL1, LEGAL2, and PRO_RIGHTS variables are ten-point scale indices with their higher values representing better governance performance. The final one (CORRUPTION variable) is the results of Question G9.2 of the PCI Vietnam 2006-2008 surveys, measuring the percentage of firms that strongly agree and agree that provincial government officials use local regulations to extract rents. Different from the first three variables, CORRUPTION has the opposite interpretation of its coefficients in terms of sign. The higher value of CORRUPTION represents the more seriousness of the crime, and accordingly the worse governance performance of provincial governments. In other words, we expect the signs of the coefficients of (in)formal decentralization variables in governance equations for three first variables (LEGAL1, LEGAL2, and PRO_RIGHTS) to be in contrast with those for the CORRUPTION equation, although this contradiction still imply the similar direction (good/bad) of influence of decentralization on government quality.

3.1.3. Control variables

We also control for other province-specific factors that may impact decentralization variables and provincial governance performance. Analysis in section 2 shows cultural difference between the North and the South really matters, so we use NORTH dummy to control for the impact of culture on our main variables. Another cultural consideration is the policy-making culture in Viet Nam, fence-breaking. However, not all provinces adopt it. This feature of de facto local autonomy may affect the incentives of local government officials to be autonomous and subsequently their governance performance. Therefore, we also include the dummy FENCE_BREAK with 1 representing those provinces reported in the Decision No. 1387 on 29th December 2005 by the Prime Minister to have issued local regulations regarding out-of-law investment incentive policies to diagnose the sign and significance of both formal and informal decentralization in relation to the quality of sub-national governments. Table 3 shows FENCE_BREAK has very low correlation with AUTONOMY and with other variables. It is possible that not all fence-breakers are identified and punished by the central government, especially in the setting of limited media freedom before 2005.

Market size and economic condition of each province are also controlled for. The LPOP variable (the logarithm of the proportion of provincial population in the total national population in 2005) and LAREA variable (the log of the share of provincial area out of the total national area in 2005) are included in our models to control for the market size of each province. In order to control for economic conditions of each province, we use the logarithm of the share of provincial tax revenue in the provincial real GDP in 2005 (or LREV_GDP variable). The main argument is that government officials are motivated by extrinsic incentives, not excluding their provincial revenue from taxes. Taxes will be the channel to sponsor their autonomous activities and help them depend less on transfers (Qian and Roland 1998, La Porta et al. 1999, Fisman and Gatti 2002). Another indicator that

determines the difference in decentralization and governance performance is the number of tiers of governments (TIERS variable). In most empirical studies on decentralization and governance performance, TIERS is treated as a formal measure of de jure decentralization (Treisman 2002a, 2002b; Lessmann and Markwardt 2010). We include TIERS variable to test their potential influence on our explained and explanatory variables.

We follow the current literature of political agency theory and agree that politicians and bureaucrats pursue different goals. In addition to intrinsic incentives of a 'provincial president' identity as discussed above, they are also motivated by the probability of being appointed to be the members of the Central Committee of the Vietnamese Communist Party, where the most important national laws and policies are determined. The number and structure of the Central Committee varies over a 5-year term and depends on the bargaining power of each provincial government, probably through connections with existing members of the government and the politburo. Therefore, to control for the probability that the Central Committee's membership is an important determinants of both formal and informal autonomy and an incentive for the performance of provincial government officials, we use the percentage of provincial representatives in the tenth Central Committee established in 2006 as the proxy, or POLI_CONNECT variable. The tenth Central Committee elected in 2006 had 161 official members with 64 seats being the presidents of People's Councils or the General Secretary of 63 provinces (excluding Dak Nong), and the rest being top members of the Government, the politburo, military, ministries, and other government agencies. In order to identify which provinces have stronger connection with the Central Committee, we base on information about their (most longstanding) position in a certain provincial people's council or secretariat; otherwise, we rely on their place of birth.

Table 2: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
FD_EMPLOY	64	-5.02	0.49	-5.91	-3.25
ID	64	5.15	1.42	2.51	9.39
NORTH	64	0.45	0.50	0	1
FENCE_BREAK	64	0.53	0.50	0	1
LREV_GDP	64	-1.81	0.46	-2.67	-0.78
LPOP	64	7.00	0.56	5.70	8.68
LAREA	64	6.00	0.78	4.41	7.41
TIERS	64	5.25	0.47	4	6
POLI_CONNECT	64	-4.40	0.70	-5.20	-2.90
LHOSPITAL	64	5.99	0.78	4.41	7.41
CAPABILIY	64	-4.24	0.39	-5.32	-3.13
PS	64	4.54	1.32	2.3	8.1
INFRA	64	3.44	1.69	1.00	8.07
LEGAL1	64	4.23	0.74	2.52	6.14
LEGAL2	64	4.19	0.79	2.36	6.22
PRO_RIGHTS	64	6.31	0.68	4.61	7.68
CORRUPTION	64	0.39	0.09	0.23	0.73

3.2. Methodology

As our case study in section 2 implies our prediction of an absence of complementary and substitutive relationships between formal and informal decentralization dimensions and the existence of accommodation and competition between them, the proof should be based on the simultaneous interaction between two dimensions of decentralization and their resulting impact on governance performance. A common testing method is to include an interaction term of two decentralization variables in an Ordinary Least Square (OLS) model of governance performance being the dependent variable. However, our decentralization variables are continuous and endogenously determined. The inclusion of the interaction term in the OLS model will produce biased estimations due to its significant correlation with the individual terms and its failure to account for endogeneity.

In order to prove our hypothesis, we have to test a system of equations when both formal and informal decentralization is simultaneously determined. First, we test whether the degree of formal decentralization is determined by the extent of informal decentralization. Second, we must test whether the degree of informal decentralization is determined by the extent of formal decentralization. Finally, we test the influence of both formal and informal decentralization variables on indicators of government quality. We follow the approach of Zellner and Theil (1962), Greene (2002) and Poppo and Zenger (2004), using the 3SLS model. "It can be shown that among all instrumental variable (IV) estimators that use only the sample information embodied in the system, 3SLS is asymptotically efficient" (Green 2002, p407).The use of the 3SLS model allows us to produce consistent estimates while taking correlation in the disturbance across equations into account (Stata 1999). The empirical model testing three above simultaneous equations is given by:

$$FD\_EMPLOY_i = \alpha_{F0} + \alpha_{F1}ID_i + \alpha_{F2}NORTH_i + \alpha_{F3}FENCE\_BREAK_i + \alpha_{F4}TIERS_i + \alpha_{F5}LREV\_GDP_i + \alpha_{F6}LPOP_i + \alpha_{F7}LAREA_i + \alpha_{F8}POLI\_CONNECT_i + \alpha_{F9}LHOSPITAL_i + u_{Fi} \quad (1)$$

$$ID_i = \alpha_{I0} + \alpha_{I1}\, FD\_EMPLOY_i + \alpha_{I2}NORTH_i + \alpha_{I3}FENCE\_BREAK_i + \alpha_{I4}TIERS_i + \alpha_{I5}LREV\_GDP_i + \alpha_{I6}LPOP_i + \alpha_{I7}LAREA_i + \alpha_{I8}POLI\_CONNECT_i + \alpha_{I9}CAPABILITY_i + u_{Ii} \quad (2)$$

$$GOV\_PERFORMANCE_{ij} = \delta_{0j} + \delta_{1j}\, FD\_EMPLOY_i + \delta_{2j}ID_i + \delta_{3j}NORTH_i + \delta_{4j}FENCE\_BREAK_i + \delta_{5j}TIERS_i + \delta_{6j}LREV\_GDP_i + \delta_{7j}LPOP_i + \delta_{8j}LAREA_i + \delta_{9j}POLI\_CONNECT_i + \zeta_{ij} \quad (3)$$

where FD_EMPLOY_i and ID_i, are the degrees of formal and informal decentralization in province *i*, and $GOV\_PERFORMANCE_{ij}$ represents the indicator *j* of the provincial government performance in province *i*, with *j* = {public service delivery quality; infrastructure quality; legal enforcement; property right protection; corruption} = {PS; INFRA; LEGAL1; LEGAL2; PRO_RIGHTS; CORRUPTION}. NORTHi, $FENCE\_BREAK_i$, $TIERS_i$, $LREV\_GDP_i$, $LPOP_i$, $LAREA_i$, and $POLI\_CONNECT_i$ are control variables in province *i*. u_{Di}, u_{Ii}, and ζ_{ij} are error terms in respective equations. The interaction term between FENCE_BREAK and TIERS variables (proxies for informal and formal dimensions of decentralization) will be added later on to partially check the robustness of the baseline models.

Table 3: Correlation matrix

	ID	FD_ EMPLOY	NORTH	FENCE_ BREAK	LREV _GDP	LPOP	LAREA	TIERS	POLI_ CONNECT	LHOSPITAL
FD_EMPLOY	0.2249									
NORTH	-0.3360*	0.0756								
FENCE_BREAK	0.0676	-0.0043	-0.1514							
LREV_GDP	0.2240	0.1920	-0.0683	-0.1097						
LPOP	0.1826	0.3118*	-0.0077	-0.0757	-0.0457					
LAREA	-0.3308*	-0.0155	-0.0810	0.0340	-0.1294	-0.2303				
TIERS	-0.0537	0.2360	0.0503	-0.1674	-0.0420	0.0140	0.3058*			
POLI_CONNECT	0.1366	0.4611*	0.2558*	0.0859	-0.1015	0.1577	-0.2801*	-0.1793		
LHOSPITAL	0.1578	0.7761*	0.2545*	0.0755	0.0237	0.2049	0.1001	0.2571*	0.4512*	
CAPABILITY	0.7095*	-0.2264	-0.1858	0.1496	-0.1061	0.0552	-0.1238	-0.0556	-0.0976	-0.1017

***** Indicates 95% confidence interval, N=64

The 3SLS model estimates three above equations simultaneously in three stages following the procedure of STATA (1999). The first stage is to produce the instrumented values of all endogenous variables (formal and informal decentralization) which are their predicted values generated from ordinary least squared (OLS) regressions of each endogenous variable on all other exogenous variables. In order to minimize causality problems, the timing of exogenous variables are chosen at least one year before the 2006-2008 period of endogenous variables. The second stage produces a consistent estimate of the covariance matrix of the equation disturbances. They are the residuals produced from the two-stage least square (2SLS) estimation of each structural equation. In this stage, the choice of instrument variables for each equation is critical. First, we use the logarithmized percentage of state hospitals in the province in the total national number of state hospitals (LHOSPITAL variable) as an identifying instrument in the equation predicting the degree of state employment decentralization (or formal decentralization). The distribution of public hospitals in each province is one of the determinants of the quota for state officials working in these facilities, and hence of the degree of decentralization in state employment management. Table 3 shows the high correlation between state employment decentralization with its identifying instrument (0.78) while it is insignificantly correlated with informal decentralization and other controls. For informal decentralization equations, we use the result of the PCI question H7.2 in 2006, which is the percentage of firms in PCI Vietnam surveys that agree and strongly agree that provincial officials are knowledgeable enough about central laws to solve upcoming problems for firms (our CAPABILITY variable). The link between capability of government officials and their autonomous behavior has also been proved in the studies of Malesky (2008). Table 4 shows CAPABILITY is highly correlated with informal decentralization (0.74) while having low correlations with all other variables. The validity of instruments is also carefully checked in the first stage of the regressions. The final stage runs the GLS-type estimation, including all instrumented values of endogenous variables and the covariance matrix of equation disturbance in the third equation regressing on the government performance. This regression allows obtaining the coefficients of both formal and informal decentralization variables with performance simultaneously in the same regression.

The simultaneous equation model enables to test the pattern of interaction between two endogenous variables and their impact on the third variable consistently. Based on the signs and significance of the coefficients of endogenous variables in the three equations and the typology of informal institutions mapped out by Helmke and Levitsky (2004), we can find out whether formal decentralization and informal decentralization are complementary, substitute, accommodating, or competing. Although Helmke and Levitsky's typology has also been reviewed in the introduction, we want to make it clearer about the meaning of the coefficient's signs. The tests support complementary (or substitute) relationship if both formal decentralization and informal decentralization have similar positive (or negative) impact on each other (Equation 1 and 2). The tests support accommodating (or competing) relationship if the outcomes are dissimilar. However, in order to isolate their actual relation, we need to interpret the signs and significance of the coefficients of formal and informal decentralization in equation 3. The estimation supports accommodating relationship if the coefficient of formal decentralization is positive, which suggests the effectiveness of this institution in reality. The estimation supports competing relationship if the coefficient of formal decentralization is negative, which implies the existence of the ineffective formal institution. We can test whether the accommodating (or competing) effect of formal and informal decentralization is efficiency-enhancing. If both coefficients in equation 3 are positive, we can conclude there exists the accommodating

relationship and its effect on governance performance is efficiency-enhancing. If the coefficients are different, we can conclude the direction of effect of each decentralization measure on governance performance, based on their negative or positive signs.

3.3 Results

Table 4 presents the results of our 3SLS estimation. Each equation is estimated with/without the interaction term between the dummy FENCE_BREAK (a supplementary proxy for informal decentralization) and the number of sub-central tiers of government – TIERS variable (a supplementary proxy for formal decentralization), and the results are presented in the respective columns A/B for each equation[18].

Equation 1 tests whether the increase in the level of informal decentralization is associated with the higher or lower degree of state human resource decentralization. The main coefficients of equation 1 support the substitute effect of informal dimension on its formal counterpart. Those provinces identified with the higher level of policy autonomy are the ones with lower empowerment in management of state human resources. This implies the role of formal decentralization serving as an instrument of the central government in restraining the undesirable autonomy or encouraging sub-central proactivity in the desired areas. The coefficients of control variables are also consistent with our hypothesis of the impact of cultural, political, demographic, and economic factors specific to each province on the degree of formal decentralization. The Southern provinces have significantly higher levels of formal decentralization than those in the North. Those provinces that have bigger shares of tax revenue contribution to the provincial GDP are also assigned with more power in their employment management. This is also true for more populous provinces and those with more representatives in the central committee of the Communist Party. The market size in terms of area and the number of sub-central tiers of government have insignificant influence on formal decentralization. Those provinces recorded to have broken the central fence show no relation to the formal degree of employment decentralization. As noted above, political collusion or the lack of press freedom may leave some fence-breaker out of this list. The measure of policy autonomy in our model reflects more accurately the informality of decentralization in reality than FENCE-BREAK dummy. Column B shows no significant change to the coefficients even after the interaction term between FENCE_BREAK and TIERS are controlled for, and their interaction does not affect formal decentralization. Consistent with the validity check for the instrument based on the correlation matrix and the first-stage regressions, the significance of the instrument coefficient with formal decentralization measure in equation 1 further supports that.

Equation 2 tests whether informal decentralization depends on the formal assignment of autonomy in human resource management at the provincial level. The results show those provinces assigned with the higher degree of formal decentralization have higher level of actual autonomy. This implies formal decentralization is really a determinant of the inflation of informal behavior at the sub-national government level. Similar to formal decentralization, tax revenue is a significant incentive to local autonomy, and Southern provinces do have higher level of informal decentralization than Northern ones. The degree of informality is also significantly higher in smaller provinces, which support earlier studies. However, the market size in terms of population and political connection influence

[18] As we have explained in the introduction, the reason we do not include the interaction term between our two main measures of decentralization is that the interaction term between two continuous variables are highly correlated with its single terms and lead to endogeneity bias.

insignificantly the extent of informal decentralization in our case. Those provinces listed in the Decision No. 1387 of the Prime Minister are not those with higher level of local autonomy. This may be explained by the fact that low press freedom and poor information access in the country hindered the central government from identifying many other fence-breaking cases and this distorts the estimation results. This fact is also observed for the effect of the number of sub-central tiers. Column B of equation 2 show the coefficients do not change significantly after we control for the interaction term between the fence-breaking dummy and tiers of sub-central governments. The results are further supported by the significance and validity check of the instrument.

The first two equations show the mutual impact of formal and informal decentralization on the other is significant, but divergent. The increase in the level of formal decentralization is associated with the higher actual degree of local autonomy. However, more autonomous provinces are assigned with less formal empowerment in provincial human resource management. They, therefore, do not support the complementary or substitute relationships. The typology of Helmke and Levitsky suggests that they are likely to be accommodating or competing, dependent on whether formal decentralization is effective or not. We argue that the quality of the formal procedures is not similar for all functions and tasks of local governments. We attempt to test the effect of formal and informal systems in two areas: public goods and service supply and public order provision. The estimation results are presented in equation 3 for two indicators of public goods and service quality (business promotion and technology information supply services and infrastructure) and four other indicators of public order provision (trust in legal institutions, law predictability, property right protection, and corruption). For each governance indicator of equation 3, we present the specifications in two cases – without and with the interaction term between the fence-breaking dummy and the number of sub-central tiers – in the respective column A and B.

Equations 3 show a common trend of impact within each group of indicators, but difference is observed between the two groups. Both formal and informal systems have significant and positive impact on the quality of public goods and service supply (public service quality – PS variable, and infrastructure quality – INFRA variable). This implies that the formally decentralized system has been designed in the way that gives priority to the effective provision of public goods and services. The policy autonomy of provincial governments also contributes to the betterment of public role in this area. The effectiveness of formal decentralization in the provision of public goods and services and the simultaneous existence of the divergence between formal and informal decentralization suggest their accommodating relationship in this public sector following Helmke and Levitsky's classifications of institutions. However, in case of public order provision, the positive and significant impact is only observed for informal decentralization. The group of equations, including legal enforceability (LEGAL1), law predictability (LEGAL2), property right security (PRO_RIGHTS), and corruption level (CORRUPTION), show the negative and significant effect of formal decentralization on the quality of providing public order. Its system of providing public order is not effective enough to raise public trust in its enforceability, property rights protection and its ability to reduce corruption. The ineffectiveness of formal system in public order provision and the simultaneous divergent impact of informal decentralization on formal decentralization suggest that there be a competing relationship. In other words, in the time being, the informal system functions as a competing institution to the formal one. So our 3SLS estimation supports the view that in the first 15 years since decentralization was initiated, the formally decentralized system is accommodating the informal one in the supply of public

Table 4: Interrelationship between formal and informal decentralization and their impact on local governance performance: the 3SLS model

	Determinants of Formal Decentralization *Equation 1*		Determinants of Informal Decentralization *Equation 2*		Determinants of Governance Performance *Equation 3*											
					PS		INFRA		LEGAL1		LEGAL2		PRO_RIGHTS		CORRUPTION$^{\neq}$	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
FD_EMPLOY			1.140***	1.128***	0.890***	0.926***	1.759***	1.765***	-0.997***	-0.995***	-0.866***	-0.840***	-0.515**	-0.503**	0.111***	0.109***
			(0.313)	(0.309)	(0.308)	(0.298)	(0.594)	(0.595)	(0.236)	(0.236)	(0.286)	(0.279)	(0.220)	(0.219)	(0.021)	(0.021)
ID	-0.078**	-0.077**			0.567***	0.554***	0.284*	0.282*	0.354***	0.353***	0.518***	0.508***	0.216***	0.211***	-0.042***	-0.041***
	(0.037)	(0.037)			(0.080)	(0.077)	(0.155)	(0.154)	(0.0613)	(0.061)	(0.075)	(0.072)	(0.057)	(0.057)	(0.005)	(0.005)
NORTH	-0.239***	-0.241***	-0.720***	-0.761***	-0.402**	-0.343*	-0.148	-0.137	-0.328**	-0.325**	0.472***	0.515***	-0.284**	-0.265*	0.025*	0.023*
	(0.087)	(0.088)	(0.166)	(0.168)	(0.189)	(0.186)	(0.365)	(0.372)	(0.145)	(0.147)	(0.176)	(0.174)	(0.135)	(0.137)	(0.013)	(0.013)
FENCE_BREAK	-0.039	-0.237	-0.192	-2.442	0.093	3.830**	0.284	0.955	-0.112	0.072	0.226	2.989*	0.208*	1.435	-0.017	-0.172
	(0.073)	(0.840)	(0.163)	(1.862)	(0.165)	(1.856)	(0.318)	(3.706)	(0.126)	(1.469)	(0.153)	(1.737)	(0.118)	(1.364)	(0.011)	(0.130)
TIERS	0.128	0.111	-0.060	-0.257	-0.195	0.133	-0.220	-0.161	0.378**	0.394*	-0.118	0.125	0.220	0.328*	-0.016	-0.030
	(0.085)	(0.112)	(0.204)	(0.259)	(0.209)	(0.257)	(0.402)	(0.513)	(0.159)	(0.203)	(0.194)	(0.241)	(0.149)	(0.189)	(0.014)	(0.018)
FENCE_BREAK *TIERS		0.038		0.427		-0.710**		-0.128		-0.035		-0.525		-0.233		0.030
		(0.159)		(0.352)		(0.352)		(0.702)		(0.278)		(0.329)		(0.258)		(0.025)
LPOP	0.135**	0.135**	-0.101	-0.103	0.182	0.185	0.280	0.281	0.006	0.006	0.068	0.070	-0.008	-0.007	-0.006	-0.006
	(0.066)	(0.066)	(0.162)	(0.160)	(0.165)	(0.159)	(0.318)	(0.318)	(0.126)	(0.126)	(0.153)	(0.149)	(0.118)	(0.117)	(0.011)	(0.011)
LREV_GDP	0.247***	0.245***	0.559***	0.540***	0.358*	0.396**	0.387	0.394	0.375**	0.377**	-0.048	-0.020	-0.655***	-0.642***	0.079***	0.078***
	(0.081)	(0.082)	(0.198)	(0.196)	(0.208)	(0.201)	(0.401)	(0.402)	(0.159)	(0.159)	(0.193)	(0.188)	(0.148)	(0.148)	(0.014)	(0.014)
LAREA	-0.055	-0.057	-0.386***	-0.422***	-0.257**	-0.204	-0.778***	-0.769***	0.203**	0.206**	0.585***	0.624***	-0.061	-0.044	-0.020**	-0.023**
	(0.057)	(0.059)	(0.116)	(0.118)	(0.126)	(0.125)	(0.243)	(0.250)	(0.096)	(0.099)	(0.117)	(0.117)	(0.090)	(0.092)	(0.009)	(0.009)
POLI_CONNECT	0.165***	0.164**	0.124	0.116	-0.237	-0.222	-0.574*	-0.571*	0.457***	0.457***	0.042	0.053	0.017	0.0217	0.002	0.002
	(0.064)	(0.064)	(0.170)	(0.168)	(0.176)	(0.170)	(0.338)	(0.338)	(0.134)	(0.134)	(0.163)	(0.159)	(0.125)	(0.125)	(0.012)	(0.012)
LHOSPITAL	0.910***	0.909***														
	(0.123)	(0.123)														

Table 4: Interrelationship between formal and informal decentralization and their impact on local governance performance: the 3SLS model (Cont.')

	Determinants of Formal Decentralization *Equation 1*		Determinants of Informal Decentralization *Equation 2*		Determinants of Governance Performance *Equation 3*											
					PS		INFRA		LEGAL1		LEGAL2		PRO_RIGHTS		CORRUPTION[≠]	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
CAPABILITY			0.111***	0.112***												
			(0.009)	(0.009)												
CONSTANTS	-0.760	-0.667	7.915***	9.022***	7.107***	5.377**	12.750**	12.440**	-2.945	-3.030	-6.430***	-7.710***	0.777	0.209	1.565***	1.636***
	(1.088)	(1.172)	(2.507)	(2.637)	(2.658)	(2.722)	(5.122)	(5.435)	(2.031)	(2.154)	(2.467)	(2.548)	(1.899)	(2.001)	(0.182)	(0.190)
N	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
χ^2	148.58	149.01	269.16	277.21	188.66	204.12	57.81	57.79	86.34	86.58	70.19	74.93	77.51	78.88	199.7	205.5
R^2 pseudo	0.69	0.69	0.81	0.82	0.77	0.79	0.48	0.48	0.57	0.60	0.45	0.48	0.56	0.57	0.77	0.77
P_value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
≠: The higher value of CORRUPTION implies the worse governance performance of provincial governments while the higher values of all remaining variables mean the better governance performance.

Table 5: Interrelationship between formal and informal decentralization and their impact on local governance performance: the OLS estimations

	PS		INFRA		LEGAL1		LEGAL2		PRO_RIGHTS		CORRUPTION	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FD_EMPLOY	1.028***	1.047***	1.120**	1.122**	-0.764***	-0.762***	-0.391**	-0.377**	-0.454***	-0.447***	0.113***	0.113***
	(0.186)	(0.178)	(0.468)	(0.474)	(0.212)	(0.215)	(0.175)	(0.170)	(0.143)	(0.143)	(0.015)	(0.015)
ID	0.494***	0.494***	0.345**	0.345**	0.314***	0.314***	0.425***	0.425***	0.209***	0.209***	-0.034***	-0.034***
	(0.069)	(0.069)	(0.167)	(0.169)	(0.051)	(0.052)	(0.0674)	(0.068)	(0.046)	(0.048)	(0.005)	(0.005)
NORTH	-0.477**	-0.403**	-0.107	-0.099	-0.362**	-0.357**	0.389**	0.446**	-0.289**	-0.265*	0.034***	0.031**
	(0.200)	(0.190)	(0.352)	(0.349)	(0.139)	(0.135)	(0.177)	(0.177)	(0.143)	(0.148)	(0.012)	(0.012)
FENCE_BREAK	0.097	3.871*	0.301	0.734	-0.116	0.152	0.220	3.149*	0.207	1.455	-0.018	-0.171
	(0.166)	(2.017)	(0.332)	(4.049)	(0.128)	(1.952)	(0.171)	(1.597)	(0.143)	(1.537)	(0.012)	(0.136)
TIERS	-0.217	0.115	-0.032	0.006	0.315*	0.338*	-0.243	0.015	0.202	0.312	-0.019	-0.033**
	(0.222)	(0.237)	(0.421)	(0.643)	(0.168)	(0.175)	(0.178)	(0.249)	(0.157)	(0.225)	(0.013)	(0.016)
LPOP	0.167	0.171	0.417	0.417	-0.040	-0.039	-0.0217	-0.019	-0.020	-0.019	-0.009	-0.009
	(0.153)	(0.142)	(0.356)	(0.358)	(0.141)	(0.142)	(0.141)	(0.142)	(0.130)	(0.131)	(0.013)	(0.013)
LREV_GDP	0.357	0.394*	0.553	0.557	0.325	0.327	-0.144	-0.116	-0.670***	-0.658***	0.074***	0.072***
	(0.226)	(0.215)	(0.392)	(0.393)	(0.210)	(0.216)	(0.163)	(0.157)	(0.135)	(0.140)	(0.016)	(0.016)
LAREA	-0.310**	-0.247	-0.688***	-0.681***	0.161	0.165	0.491***	0.540***	-0.070	-0.050	-0.016*	-0.019**
	(0.146)	(0.153)	(0.224)	(0.238)	(0.096)	(0.103)	(0.108)	(0.116)	(0.089)	(0.089)	(0.009)	(0.009)
POLI_CONNECT	-0.265*	-0.248*	-0.346	-0.344	0.380***	0.381***	-0.111	-0.098	-0.005	0.001	-0.001	-0.002
	(0.132)	(0.135)	(0.354)	(0.358)	(0.126)	(0.129)	(0.122)	(0.122)	(0.107)	(0.110)	(0.011)	(0.011)
FENCE_BREAK* TIERS		-0.717*		-0.082		-0.051		-0.557*		-0.237		0.029
		(0.379)		(0.780)		(0.368)		(0.295)		(0.285)		(0.025)
_CONST	8.622***	6.647***	8.021*	7.795	-1.078	-1.219	-2.522	-4.055*	1.239	0.586	1.519***	1.599***
	(2.583)	(2.240)	(4.761)	(5.659)	(2.286)	(2.160)	(1.752)	(2.123)	(1.466)	(1.595)	(0.176)	(0.174)
N	64	64	64	64	64	64	64	64	64	64	64	64
R^2	0.775	0.789	0.500	0.500	0.584	0.584	0.511	0.535	0.563	0.568	0.777	0.782
P	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Robust standard errors in parentheses with * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

services, but the two systems are competing in the provision of public order, as long as the formal system does not created more trust in their role of making public order.

The signs and significance of control coefficients in governance equations show some points in common. The South is significantly better than the North in almost indicators of government quality, except law predictability. The variation in the quality of infrastructure is not significant in both parts of the country. Those provinces that have more tax contribution to the provincial GDP tend to provide better public services and show higher public trust in provincial legal institutions for enforcing contracts. However, corruption and property right insecurity are higher in these provinces. These results are generally consistent with the findings in La Porta et al. (1999), except property rights protection. Infrastructure and law predictability are not significantly affected by tax revenue. Another influential factor is the size of the province in terms of area. Smaller provinces have better infrastructure and lower corruption. Legal institutions are, by contrast, more efficient in larger provinces. Political representation in the Central Committee of the Communist Party impacts negatively the quality of infrastructure, but positively the trust in legal institutions. These are the two governance indicators that political connection has significant effect. Other controls seem to have weak explanation for the difference in governance performance across provinces.

To check the robustness of the 3SLS model, we run the OLS estimation, including both formal and informal decentralization variables into the model. Although interaction terms are often used to test the complementarity or substitute in the performance equation, the high correlation between the interaction term and its individual variables and our hypothesized endogeneity between them make the OLS results biased. Moreover, the use of the interaction terms does not help us identify the accommodating and competing relation. Our correlation matrix in table 3 show our formal decentralization and informal decentralization variables have low correlation (0.22), so we present the OLS estimation results without the interaction terms with strong belief of their unbiased results. The results are presented in odd specifications (1, 3, 5, and 7) of table 5. However, we also run regressions with the interaction term between two other weaker proxies for formal and informal decentralization (fence-breaking dummy and sub-central tiers) in even specifications of table 5, 4, 6, and 8). Table 5 shows the signs and significance of coefficients are generally consistent with the findings of the 3SLS. We have also checked the multicollinearity problem in all of our regressions. The mean VIFs hover around 1.2, which also supports the credibility of our results. In addition to the separation of the models with and without the interaction terms, the general low correlation between exogenous variables and controls shown in table 3 and the significance of chi-square values ($p=0.0000$) and R^2 values ranging from 0.45 to 0.82 for all specifications increase the credibility of our estimations.

4. CONCLUSION

Most empirical and theoretical work on the interrelationship between formal and informal institutions focuses on the complementarity or substitute between them, for example , between the formal contract and other self-enforcing mechanisms such as relational contracts or networks. We found that accommodating and competing informal institutions co-exist in the beginning period of decentralization rather than complement or substitute, especially in those countries that informally decentralized system is rooted in history and culture. There are priorities in the design of formal governance system. In the case of Vietnam, the formal decentralization system is effective in dealing with those tasks little related to culture such as the provision of public goods and services, but finds itself reliant on a well-established informal institutions and private order to maintain the public order.

Our findings imply that reforms on improving the effectiveness of the procedure and institutions to provide public order are essential to make informal institutions complementary rather than rival or free-riding on the weak formal institutions. It should be noted that our findings are based on surveys of the perception of private firms about the governance performance and hence the results may be or may be not consistent with the perspective of state-owned enterprises or household businesses. We have also considered the implication of our hypothesis of the accommodating and competing relation between formal and informal system of decentralization for economic growth although the results of regressions are not shown in this paper. Applying the same simultaneous equation estimations of the 3SLS, it turns out that formal decentralization in state human resource management has significant but negative impact on the growth rate of real provincial GDP per capita while provincial policy autonomy has positive but insignificant influence on growth. This result might imply that the accommodation and competition between the two systems of decentralization, especially the ineffectiveness of the formal one in the area of public order provision, are not beneficial to economic growth. The findings of this paper generally support the popular view of focusing the reform on increasing the strength of the formal system in providing public order and in creating incentives for provincial governments to be complementary with the central goals. In other words, the role of central government in making the formal system of decentralization more effective and embedded into the existing informal system is essential.

This study has several limitations. First, the findings of accommodating and competing relationships between the formal and informal dimensions of decentralization in Vietnam are found in the first two decades of economic reform may not fit the similar time scale of reforms in other institutional environments (for example, that of developed and developing countries). The generalization of these results should consider institutional differences across countries. Second, the study may expand to the analysis of other forms and measures of formal and informal decentralized institutions, controlling for their endogeneity and using other econometric methods.

Acknowledgement

The authors would like to thank Stephen Voigt and other participants at the 10th Journées Louis-Andre Gerard-Varet Conference in Public Economics in Marseille, the CESifo conference 2011 on Law and Economics in Munich, and some other seminars where the paper was presented.

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