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A provincial analysis of formal economic institutions and private investment in Vietnam

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ABSTRACT

Formal economic institutions are incentive-motivated mechanisms under the control of the government and are widely accepted as an important factor shaping investment behavior. However, the relative significance of aspects of formal economic institutions has remained ambiguous, especially in a developing economy like Vietnam. This paper aims to fill this gap through the investigation of the influence of formal economic institutions such as market entry, property right protection, anti-corruption mechanisms, and informal charges on private investment across provinces in Vietnam. The empirical results suggest that the deregulation of market entry is essential for private investment. By contrast, both property right protection and anti-corruption mechanisms have unexpected outcomes as their improvements are detrimental to private investment. The effect of informal charges is consistent with the prediction of the rent-seeking hypothesis.

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1. Introduction

Private investment, like consumer spending, is an integral component of economic growth. However, it has only become the focus of Vietnamese policymakers since 1990s, thanking to the introduction of the 1992 Constitution and a series of subsequent policies encouraging the development of the private sector. But, many believe that there was a gap between investment-promoting policies and their implementation across provinces in Vietnam. Indeed, institutional reforms by the government seem to have limited impacts on economic performance and cope with criticism from the public for their quality and enforcement.

Over the past decade, economic institutions have become the frontier of economic growth study. They are considered as "deep drivers" of growth due to their role in shaping the motivation of economic agents and the allocation of resources in society (Acemoglu et al., 2005). In a modern economy, institutions controlled and implemented by the government have profound influences on economic growth (Cross, 2001). Such formal economic institutions are distinct with informal economic institutions such as norms and traditions, which also affect motivation and behavior of economic agents but in a much slower manner. The formal economic institutions can be divided into two categories: one is legal content such as laws, rules, regulations and the other are mechanisms for their issuance, management, and enforcement. According to Davis and Trebilcock (2001), the latter component is more important than the former in promoting economic activities.

To this end, this paper aims to investigate the role of formal economic institutions in promoting private investment in Vietnam. The objective is to get further insight into current debates on the economic outcome of formal economic institutions in such a small developing economy. Unlike previous studies, this paper conducts a micro analysis by using data from sixty-three provinces in Vietnam. Compared to macro analysis, the micro analysis considers the potential impact of unobserved factors that are specific to local communities. By doing so, it also sheds further light on the growth effect of institutional improvements in Vietnam over the past decade as well as offers important suggestions for the formulation of future reform plans.

The paper contributes to the literature in the following important aspects. Firstly, it moves the research context to a small, developing, and quickly integrated country, Vietnam. Secondly, it examines the importance of various components of the formal economic institutions by using provincial data. The approach is critical because it allows heterogeneity in the institution-investment linkage between provinces. Finally, the paper extends the study of corruption-growth nexus by focusing on the effect of anti-corruption mechanisms rather than corruption itself. Such an emphasis responds directly to the question of whether strengthening anti-corruption program is necessary. It also sheds light on the contribution of informal charges on private investment, which could provide important inferences about the effect of rent-seeking behavior.

2. Literature review

As defined by North (1991), economic institutions comprise of two different, distinct, but mutual related components: informal and formal institutions. While informal economic institutions refer to norms and traditions, formal economic institutions involve rules and their enforcement. Although formal rules are controlled by the state and can be changed easily overnight, their effectiveness heavily depends on whether they conform to prevailing norms and cultures. In reverse, formal economic institutions play a central role to improve the effectiveness of informal constraints (Troilo, 2011).

Formal economic institutions promote private investment in many different ways. First, the incomplete contract theory proposes that asymmetric information and uncertainty leads to a high likelihood of conflict between contractual parties. As a consequence, both sides of a contract need a solid legal ground to resolve any possible disputes. Since formal economic institutions provides legal guarantees for the exchange of goods and services, they matter for private investment by reducing uncertainty and lowering transaction costs (North, 1990). Formal economic institutions, especially the protection of property rights, also promote private investment through the mechanism of motivation and creativity encouragement. As pointed out by Keefer and Knack (1997), property rights institutions are positively related with the effectiveness of technology diffusion.

Even though formal economic institutions are important for private investment, their contributions are different depending on the context of research. Azman-Saini et al. (2010), for instance, used data from 85 countries and concluded that FDI itself does not matter for economic growth unless it does not go with the security of ownership, freedom of exchange, and market regulations. Zghidi et al. (2016), however, documented that the growth-enhancing role of FDI is positively related with economic freedom, but only for a smaller sample of four North African countries. Such differences have two implications. One, the relative significance of formal economic institutions varies across countries. Two, a structure of formal economic institutions that is suitable for the long-term prosperity of a country should be designed on the basis of sound empirical evidence. However, to the best knowledge of the author, there have not to date been any studies investigating how formal economic institutions should be constructed in a specific country.

Concerning the case of Vietnam, most of previous studies emphasize on the contribution of informal economic institutions to economic performance or the moderate effect of formal economic institutions in the linkage between other economic variables. Steer and Sen (2010), for instance, argued that informal economic institutions can compensate for the weakness of formal economic institutions in Vietnam. In particular, firms rely on social ties and networks to search and select trading partners and then use reputation and long-term relationship as monitor devices to secure the cooperation. Moreover, Markussen and Tarp (2014) found that households having connection with local officials are more willing to undertake agriculture-related investments. The reason is that the connection not only

increases the security of property rights but also provides greater accessibility to credit and transfers. A recent study by Su and Bui (2017) put greater emphasis formal economic institutions and documented that large government size has negative effect on private investment, but the effect is positive in provinces with high quality of public governance. They also found that sub-components of public governance quality have diverse effects on shaping the interaction between government size and private investment.

To this end, it seems that there have been no in-depth studies about the relative significance of various aspects of formal economic institutions on private investment in Vietnam. A rigorous study on the linkage is of importance when considering the multifaceted nature of formal economic institutions (Haggard & Tiede, 2011) and the ambiguous contribution of their constituents to private investment. Although Vietnam is an ideal case study because there are remarkable reforms in the public administration over the past decades, our choice of measures of formal economic institutions is limited due to the lack of annual data at provincial level. Given this constraint, the analysis is restricted to four aspects of formal economic institutions: property right protection, control of corruption, market entry, and informal charges.

First and foremost, the protection of property rights, in principle, positively influences investment and economic growth. Since people are self-interested (Barro, 2000), they only invest if they face no risk of expropriation (Alchian & Demsetz, 1973) and have the right to use properties as collaterals (Feder, 1988) or trade them for profit (Besley, 1995). In case of insecure property rights, investors have to consider either reducing operations or moving to informal or black-market sectors (Barro, 2000). Therefore, on the theoretical side, high protection of property rights encourages private investment. But, on the empirical side, that consensus may not hold, especially for developing countries (Haggard & Tiede, 2011). In transition economies, the protection of property rights can create costs and put a damper on long-term economic activities (Bjørnskov, 2015) and, in some cases, weak enforcement of property rights may be better for investment, at least in the short run (Percy, 2010).

A justification for the controversy is that the efficiency of property right protection depends to a large extent on how a government deals with paradox between power and discretion. On the one hand, the government need to be powerful enough to enforce property right laws in practice, but on the other hand such a government may confiscate property arbitrarily (Troilo, 2011). According to Weingast (1995), the conundrum can be solved if the government show commitment to a written constitution and show credibility in operations.

Likewise, market regulations can create both positive and negative economic outcomes. On the positive, deregulation of market entry, which is mainly attributable to international integration, promotes private investment by encouraging the creation of new enterprise and improving competition in the market (Buettner, 2006). An efficient regulation of business, labor, and credit also helps reduce rent-seeking behavior and corruption as well as reduce the effect of resource curse (Iimi, 2006). On the negative, inefficient enforcement of market

regulations can create barriers for new enterprises (Klapper et al., 2006) since it offers loopholes for corruption and increases the scale of the unofficial economy (Djankov et al., 2002). Moreover, in resource-rich economies like Vietnam, governments tend to use windfall income gained from natural resources to intervene in certain markets, and in some cases, to protect certain producers and industries. The practice encourages entrepreneurs to invest in favor-seeking activities (Jalilian et al., 2007) and thus causes a decrease in both productivity and efficiency (Krueger, 1974).

Market entry is an integral part of market regulations, and it consists of pecuniary entry fees, time, and the burden of administrative procedures. In certain economies, they are too high and prevent the creation of new firms. An analysis of market entry regulations in 85 economies by Djankov et al. (2002) showed that the stricter they are, the higher the level of corruption and the greater the size of unofficial economy. As a result, growth-enhancing reforms are those reducing entry costs and liberalizing market entry (Buettner, 2006) .

With respect to corruption, most of previous research focuses on the economic impact of corruption rather than that of anti-corruption institutions. In principle, corruption is defined as the act of officials to take advantage of their power for personal gains (Banerjee et al., 2012), thereby distorting the allocation of resources and reducing the efficiency of the economy (Bardhan, 1997). For investment, corruption may have adverse effects because it increases both investment costs and operation costs as well as reduces the reliability and credibility of government regulations (Aysan et al., 2007).

Unlike the straightforward prediction of theoretical reasonings, empirical studies have shown mixed evidence about the effect of corruption on economic growth and investment. While a large body of study supports the negative effect of corruption, evidence that corruption plays a positive role still exists (see the discussion in Dang, 2016). In particular, corruption may be viewed as a lubricant to avoid onerous regulations and burdensome administrative procedures. In that case, corruption can grease the wheel rather than sand the wheel.

In case of Vietnam, there are two reasons to get further insight into the investment-accelerating effect of anti-corruption institutions. One, for the case of Vietnam, fighting corruption is of necessity because recent empirical evidence (see, for instance, Dang, 2016) demonstrated that corruption has negative effects on economic performance. Two, the efficiency of anti-corruption programs is unclear. According to Huang (2016), anti-corruption policies add limited economic value in most Asia-Pacific countries These indicate that it is of importance to study whether the implementation of anti-corruption programs is effective in Vietnam.

In short, the review suggests a crucial gap that there are a few studies investigating the economic outcome of formal economic institutions at micro level. Therefore, it is unclear what should be the shape of formal economic institutions in a specific country. The study is going to fill the void by using provincial data to investigate the effect of changes in formal economic institutions on private investment across provinces in Vietnam. Such a micro

analysis allows the institutions-investment linkage to be heteroskedastic rather than homogeneous across provinces in a nation.

3. Methodology

3.1. Modeling

Unlike previous studies that used cross-sectional data from many countries, this paper uses data from 63 provinces of Vietnam over the period 2006–2014. Because of data availability, the selected model should have the ability to control for local characteristics (geography, climate, business practices, among many others) that are unobserved but can affect private investment in provinces.

Based on the neoclassical accelerator model proposed by Jorgenson (1967, 1971), the paper uses the following model to empirically examine the relationship between formal economic institutions and private investment:

$$I_{it} = \delta I_{it-1} + \alpha + \beta X_{it} + \gamma Z_{it} + u_i + \varepsilon_{it} \quad (1)$$

Where I_{it} is the measure of private investment in provinces. The inclusion of I_{it-1} captures both the dynamic and persistent behavior of private investment. X_{it} are components shaping the formal economic institution of provinces and will be described in details in the following section. Z_{it} comprises of crucial factors in the function of private investment. Their inclusion is essential to reduce the bias of omitted variables. u_i represents unobserved local characteristics and ε_{it} is the error term.

According to the neoclassical accelerator model (Jorgenson, 1967, 1971), enterprises decide to make investment based on the objective of maximizing current and expected profit (Jongwanich & Kohpaiboon, 2008). Therefore, critical determinants of investment are expected aggregate demand, cost of capital, and initial capital stock. In the context of developing countries, the investment function can be augmented with additional economic and institutional factors, for instance, the availability of finance, public investment, output gap, economic uncertainty, real exchange rate (Jongwanich & Kohpaiboon, 2008). Given the constraint of data in Vietnam, additional drivers of investment are aggregate output, aggregate domestic finance, lending rates, and a variety of institutional indicators.

3.2. Estimator

In model (1), u_i can be correlated with formal economic institutions. For instance, cultural factors are unobserved but have significant impacts on the willingness and the ability of local officials to conduct state-issued regulations adequately and properly. To cope with this issue, we estimate model (1) by using the two-step system-GMM estimator (Arellano & Bover, 1995; Blundell & Bond, 1998). Other reasons for this choice are: (1) The likelihood of simultaneous causation between private investment and formal economic institutions, (2)

heteroskedasticity caused by changes in both institutions and the economy, and (3) small time dimension of data sample.

Since GMM estimations requires stationary data, which does not apply to private investment, gross GDP, local market size, infrastructure measures. The result of unit root is excluded for the sake of brevity. All non-stationary series is replaced by the HP cyclical components.

3.3. Data

The study uses both macro and micro data (See Table 1). Micro variables capture changes in formal economic institutions and private investment in 63 provinces in Vietnam over the period 2006–2014, whereas, macro variables reflect changes in the overall condition of the economy.

With respect to proxies for formal economic institutions, it uses the results from the provincial competitiveness index (PCI) survey conducted by the collaboration between Vietnam Chamber of Commerce and Industry and US Agency for International Development. This is considered as the most complete and reliable database on numerous aspects of business environment and institutional quality of provinces and cities in Vietnam.

Table 1

Brief description of data

Variable	Definition	Measurement	Source
right	Property right protection	The percentage of participants believe that the law can protect copyright and enforce the contract.	PCI survey (2018)
wait1	Time cost of market entry	The percentage of local enterprises wait more than 1 months to complete the process of registration.	
wait3	Time cost of market entry	The percentage of local enterprises wait more than 3 months to complete the process of registration.	
reg1	Bureaucratic measure of market entry	The number of days requires to finish the registration for operation for the first time.	
reg2	Bureaucratic measure of market entry	The number of days requires to finish the registration for operation for the second time.	
appeal	Anti-corruption	The percentage of local enterprises believes that the legal system allows them to denounce corrupt practices.	
dispute	Anti-corruption	The proportion of 100 cases are filed by non-state enterprises at Provincial Economic Court.	

ic10	Informal charges	The percentage of local enterprises answers that over 10% of their revenue is used for unofficial fees.	
solve	The prediction of informal charges	The percentage of participants agrees that paying informal charges provide expected outcomes.	
I	Private investment	The sum of the value of fixed asset and long-term investment of enterprises in provinces	Statistical Yearbook of Statistics (2016)
gdp	Aggregate demand	Gross domestic product	World Bank (2018)
dc	Availability of finance	Domestic credit	
lr	Cost of capital	Lending rate	

The paper focuses on four major aspects of formal economic institutions, including the protection of property rights and contract enforcement, market entry, anti-corruption mechanisms, and informal charges. First, unlike developed economies, Vietnam lacks formal protection of private property but it maintains a reasonable level of property protection for the private sector through various regulations and rules. The enforcement of property right and contract is measured by the percentage of local enterprises responding "yes" to the survey question "Do you believe in the ability of the law to protect copyright or enforce the contract?". Next, high or low entry costs is assessed through the percentage of enterprises responding that they have to wait more than 1 or 3 months to complete registration procedures to start operations. The entry barrier is also assessed through number of days to finish the registration for operations for the first time and for the second time. Third, anti-corruption efforts are assessed by two indicators. One is the percentage of local enterprises believing that the legal system helps them denounce the abuse of officials for personal gains. The other is the number of cases per 100 cases in local economic courts are filed by private enterprises. Finally, the severity of informal charges is represented by two indicators. One is the percentage of local enterprises paying over 10% of their revenue for unofficial fees and the other is the percentage of survey participants believes that the bribe could provide them expected outcomes.

Private investment as well as micro control variables were collected from the Statistical Yearbook of Statistics published by the General Statistics Office of Vietnam. The proxy for private investment is the sum of the value of fixed asset and long-term investment of enterprises in provinces. Control variables are the size of local market and the quality of local infrastructure, which are represented by provincial population density and freight transported by provinces or by road in provinces respectively. Macro control variables of

private investment include gross domestic product, domestic credit, and lending rate. They reflect changes in aggregate demand, the availability of finance, and cost of capital, respectively. These variables are collected from World Bank.

For stationarity, the paper uses gaps in log of private investment (lninv_hp), provincial population density (lnpmean_hp), freight transported by provinces (lncarry1_hp) or by road in provinces respectively (lncarry2_hp). These gaps are cycle component derived from HP filter of the corresponding series. Other variables are in the level form.

The descriptive statistics is presented in Table 2.

Table 2.

Summary statistics of variables over the period 2006–2014

Variable	Obs	Mean	Std. Dev.	Min	Max
inv	567	60,366.50	214,242.70	440.00	1,972,991.00
right	566	75.80	11.65	41.73	96.34
appeal	567	30.08	9.67	9.00	70.13
dispute0	566	2.58	3.63	0.00	35.64
wait1	566	19.59	9.83	0.00	53.85
wait3	565	5.40	5.74	0.00	79.37
reg1	565	12.15	5.29	0.00	58.44
reg2	565	7.24	2.47	2.00	34.90
ic10	567	9.61	5.30	0.00	34.38
solve	567	55.09	10.57	20.83	87.23
carry1	567	11,835.66	14,300.87	431.00	91,513.80
carry2	567	544.82	897.40	9.10	6136.40
pmean	567	469.01	568.76	35.00	3809.00
gdp	567	124,000,000,000	39,100,000,000	66,400,000,000	186,000,000,000
dc	567	102.09	16.27	69.18	124.66
lr	567	12.31	2.59	8.67	16.95

4. Empirical results

This section presents empirical evidence about the relative importance of property right protection, market entry, anti-corruption mechanisms, and informal charges in boosting private investment (see Table 3). As shown in Table 3, the specification name is represented

by the institutional indicator and the selected lags. For instance, right_23 means that the specification considers the effect of property right protection (right) on private investment (lninv_hp) and selected lags are 2 and 3. For compact display, the term "Institution" on the fourth row of the Table 3 represents the institutional components such as market entry wait1 and wait2, which is the first part of the specification name. GMM estimator is used to deal with the endogeneity between private investment and formal economic institutions. As observed, the Sargan and Hansen test cannot reject the null, suggesting the validity instruments. Arellano-Bond test for AR(2) provides consistent support for the independence of error term at second order.

As shown in Table , the coefficients on various aspects of formal economic institutions are highly heterogeneous, suggesting that there are differences in their relative significance in promoting private investment. Remarkably, the coefficients on both time and bureaucratic indicators of market entry regulation change significantly when there are improvements in their implementation. In particular, the coefficient on wait3 is positive and statistically insignificant, whereas, the coefficient on wait1 is positive and statistically significant. The results suggest that reducing time to complete all necessary procedures to start business from three months to one month would have significant effects on private investment.

We also found similar findings with the effect of reg1 and reg2, two measures reflecting bureaucratic aspect of market entry regulations, on private investment. Both have positive and statistically significant impacts on private investment. The finding implies that the more time provincial authorities spend with entrepreneurs in the first and second business registration, the higher the private investment. It seems that entrepreneurs encounter with the complexity of the existing regulations. Therefore, they need more time, not only to understand the written rules but also to prepare necessary documents. Moreover, local authorities could provide adequate consultation if they do not face the pressure of finishing every registration in a short time period.

The negative sign and statistical significance of the coefficient on ic10 variable indicates the adverse effect of rent-seeking effect on private investment in Vietnam. When enterprises expect others pay unofficial fees for registration, they tend to reduce investment. Although the rent-seeking behavior may have some positive economic outcomes in the short term, it comes along with adverse impacts in the long term. The negativity and statistical significance of the coefficient on solve variable supports the argument. The result suggests that private investment reduces when the bribes provide expected outcomes.

Nevertheless, the evidence that property right protection and anti-corruption mechanisms have significantly negative effects on private investment requires cautious interpretation. According to the literature, corruption can be detriment or help for private investment. Corruption may have positive distribution if it is more predictable (Campos et al., 1999), which is likely to happen for the case of Vietnam (Dang, 2016). However, our finding does not support this argument. In fact, our findings indicate that the existence and

predictive power of informal charges is detrimental to private investment. Therefore, we prefer alternative explanations. It seems that there are considerable costs associated with anti-corruption campaigns, which sometimes is much larger than economic gains and thus put a damper on economic performance (Huang, 2016). The inefficiency of anti-corruption can also be attributable to the apathy of local authorities who do not think tackling corruption as their responsibility (Dang, 2016).

Turning to control variables, their effects on private investment is heterogeneous but highly consistent with the existing literature. The coefficient on lag of private investment has positive and statistically significant, indicating the persistence of private investment within provinces. Higher domestic aggregate credit (dc) leads to an increase in private investment at the local level. This means that the greater availability of funds contributes significantly to the prosperity of provinces.

The effect of lending rates is negative and significant for most of the cases, which is consistent to the traditional conceptualization that higher cost of external finance leads to low level of economic activities. Infrastructure (measured by lncarry1_hp and lncarry2_hp) has insignificant effects on private investment. The results may be attributable to the inefficiency of public investments on infrastructures in Vietnam. On the other hand, the contribution of the local market size (measured by lnpmean_hp) on private investment is unclear, which can partly come from the passive reaction of local enterprises in operations. Other reasons are that the market size of most provinces is small, which is contrast to two biggest markets like Hanoi and Ho Chi Minh city.

Table 3

The effect of formal economic institutions on private investment

Specification	right_23	appeal_22	dispute0_22	wait1_22	wait3_22	reg1_23	reg2_22	ic10_23	solve_22
L.lninv_hp	0.291*	0.420**	0.314***	0.368***	0.378***	0.457***	0.473***	0.322**	0.371***
	(1.75)	(2.34)	(2.76)	(3.66)	(3.40)	(2.75)	(3.16)	(2.24)	(3.25)
Institution	–0.00261*	–0.0161***	–0.0462***	0.00701***	0.00924	0.0334*	0.0605*	–0.0141*	–0.0115***
	(–1.79)	(–3.32)	(–3.35)	(3.96)	(1.64)	(1.96)	(1.83)	(–1.94)	(–2.69)
lncarry1_hp	0.164	–0.174	0.120	0.0574	0.132	0.171	0.0139	0.153	0.162
	(0.83)	(–0.84)	(0.75)	(0.36)	(0.89)	(0.85)	(0.07)	(0.99)	(1.18)
lncarry2_hp	–0.150	–0.0649	0.449	0.0584	1.165*	0.212	–0.00889	–0.0204	0.448
	(–0.28)	(–0.17)	(0.57)	(0.16)	(1.80)	(0.45)	(–0.01)	(–0.04)	(0.39)
lnpmean_hp	0.0937	–0.328	1.781***	0.889**	0.749*	0.905**	0.674	0.328	0.574*
	(0.27)	(–0.79)	(3.02)	(2.53)	(1.95)	(2.12)	(1.44)	(1.08)	(1.72)
lngdp_hp	0.000378	–0.00143	0.00602***	0.00306***	0.00267**	0.00396***	0.00275**	0.000526	0.00509**
	(0.46)	(–1.15)	(2.88)	(3.25)	(2.50)	(3.22)	(2.04)	(0.65)	(2.54)
dc	0.0232***	0.0341***	–0.000338	0.0139***	0.0152***	0.0200***	0.0144**	0.0111*	0.0172***
	(3.98)	(3.95)	(–0.04)	(2.94)	(2.80)	(3.62)	(2.10)	(1.85)	(3.27)
lr	–0.129	0.231	–0.515***	–0.631***	–0.521***	–1.043***	–0.887***	–0.0639	–0.110
	(–1.03)	(1.13)	(–4.10)	(–5.29)	(–4.22)	(–3.31)	(–2.91)	(–0.39)	(–0.80)
constant	0.291*	0.420**	0.314***	0.368***	0.378***	0.457***	0.473***	0.322**	0.371***
	(1.75)	(2.34)	(2.76)	(3.66)	(3.40)	(2.75)	(3.16)	(2.24)	(3.25)

Specification	right_23	appeal_22	dispute0_22	wait1_22	wait3_22	reg1_23	reg2_22	ic10_23	solve_22
AR2	–0.0961	0.829	0.905	–0.183	–0.0588	0.277	0.189	–0.103	0.244
AR2 p-value	0.923	0.407	0.365	0.855	0.953	0.782	0.850	0.918	0.807
Sargan	14.23	0.941	3.151	0.737	4.300	9.719	7.026	13.10	2.043
Sargan p-value	0.0761	0.919	0.533	0.947	0.367	0.285	0.135	0.108	0.728
Hansen	12.82	2.097	6.547	1.255	4.653	7.792	8.445	9.395	3.682
Hansen p-value	0.118	0.718	0.162	0.869	0.325	0.454	0.0766	0.310	0.451

Notes: t-statistics is in the parentheses. *, **, *** denotes the significance of 10, 5, and 1 percent respectively. lninv_hp, lncarry1_hp, lncarry2_hp, lnpmean_hp, lngdp_hp are HP cylical component of natural logarithm of private investment, two measures of infrastructure, population density, and GDP. The specification name is represented by the institutional indicator and the selected lags. For instance, right_23 means that the specification is considering the effect of property right protection (right variable) on private investment and selected lags are 2 and 3.

5. Conclusion

This paper has examined the contribution of formal economic institutions to private investment by using provincial data from Vietnam. It should be noted that Vietnam is an ideal case for studying how changes in formal economic institutions affect private investment. The reason is that Vietnam has implemented many institutional reforms over the past decade and experienced remarkable economic growth. Unlike previous studies, the paper employed micro analysis that helps account for unobserved determinants of private investment at local level. The empirical showed that deregulation of market entry has positive effects on private investment whereas anti-corruption, property right protection, and informal charges leads to a drop in private investment.

Yet, there have remained some drawbacks in the paper, suggesting opportunities for improvement. First, there are other aspects of formal economic institutions remained unexplored and thus the shape of formal economic institutions has just drawn to a limited extent. Also, it is of essence to account for the interaction between formal and informal economic institutions when investigating the economic outcome of the enforcement of formal rules. All these suggestions are left for following studies or for other researchers■

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