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An Empirical Study on the Relationship between Investor Protection, Government Behavior, and Financial Development

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Abstract: We studied the relationship between investor protection, government behavior, and financial development using data covering six provinces (Guangdong, Jiangsu, Shandong, Zhejiang, Henan, and Sichuan) and two provincial-level cities (Beijing and Shanghai) in China for the period 2005–2014. Using panel data estimation techniques, we found that there is a positive relationship between investor protection and financial development; by contrast, highly-intense government intervention leads to more financial impediments. Moreover, government intervention in education could promote financial development through its contribution to having a higher amount of the fund supply. Our empirical findings have important implications for policy-makers in terms of reforming the capital market regulation.

Keywords: investor protection; government behavior; government intervention; sustainability; financial development; economic growth

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1. Introduction

The financial market has long been undertaking a short-term perspective [1]. This short termism has been reflected on the trading strategies used in the financial market: (1) the participants are making decisions on a short-term basis and pursue short-term profit maximization; and (2) the assets traded in the market reflect short-term interests. Such short-term-oriented development could be of no benefit, or even detrimental to, a long-term thriving of the financial market [2].

Contrarily, a long-term development of the financial market, as discussed by Emerson and Little (2005) [3], should incorporate contingent risks that could potentially have a negative impact on the value of the market under consideration. These contingent risks include environmental and social liabilities. As outlined in Carroll (1999) [4], economic growth has long been regarded as one pillar of corporate social responsibility or sustainable development, given that they are increasingly interchangeable terms. Furthermore, the sustainability of economic development is

mainly supported by investment, export and consumption. In this sense, pursuing a long-term financial market development overlaps with the tasks of sustainable development to some extent.

To achieve a long-term development of the financial market, one important prerequisite is to facilitate a long-term decision making routine among managers [5]. Long-term decision-making should usually incorporate environmental, social, and governance (ESG) factors within an organization. Therefore, facilitating long-term-oriented thinking overlaps with promoting sustainable development to some extent as well. Moreover, facilitating long-term-oriented thinking has a close relationship with educational background. Higher-educated managers are more likely to appreciate the value of the firm being an environmentally and socially responsible entity. This links long-term development of the financial market with educational investment from the government behavior.

Today, China is dedicated to becoming a nation with a complete set of rules and a fully-fledged legal system. The legalization of One Belt One road (OBOR) could largely accelerate its strategic internalization and protect investors. These rules set the criteria for social governance and administration. However, with regard to investors in the financial sector, one of the most important criteria to assess whether the rules of a nation have improved is the degree of investor protection by laws. Moreover, the Chinese government is also ready to change its function in market regulation, and the changes include decentralization and a reduction in government intervention in the financial market. The previous literature documents that governments in most developing countries play an important role in financial resource allocation [6–10]. How the government's behavior impacts the development of financial markets, however, needs to be empirically examined [11]. Moreover, it is quite difficult to identify whether the government intervention plays a positive role or not. With regard to this type of situation, one of goals of this study is to try to empirically disentangle whether local government intervention in China has an important effect on local financial development and what kinds of roles it plays, if any. Previous relevant literature mainly focuses on cross-country studies by making use of the large variation in legal and institutional backgrounds among different countries to investigate how government actions work on financial development or economic growth [12–14]. Studies examining the effect of local governments' behavior on local financial development within one country are still underdeveloped. As the second largest economy in the world, China, consisting of many relatively large local economies, provinces, among which large differences in both legal and institutional environments and the manners through which local governments step in with respect to local economies are striking, providing us a good setting to explore the mechanism through which local government intervention acts on local financial development. Considering the large disparities among provinces in China, this line of research may be particularly helpful for deeply understanding the relationship between government actions and financial development and. furthermore, to formulate policy recommendations for local governments to promote local financial development.

As far as investor protection is concerned, the law and finance literature highlights that investor protection as a contractual environment is one of the key factors that are conducive to financial development. For example, the seminal work of [15,16] suggests that countries with Common Law origin have much better investor protection which, in turn, leads to more highly-developed equity markets. Allowing for the salient disparities in economic development and institutional environment among provinces in China, one may expect that the difference in investor protection among different provinces may be an important factor affecting local financial development. Although China, as a whole, has the same country-level laws and other institutional environment, such as a highly-concentrated ownership structure, and weak legal and contractual context [6], the decentralization system in China endows a great deal of power to local governments in local economic development, which, together with local officials' political promotion incentives [17], may result in large differences in local laws, bylaws, or regulations that may have both direct and indirect effects on local investor protection. The direct effect lies in the local investor protection atmosphere, as a whole, determined by the local institutional environment, which is the same for all the firms located in the same province. On the other hand, the external investment environment

may also work through micro-level firm decisions (indirect effect). In other words, management or controlling shareholders may have more incentives to misbehave to obtain benefits at the expense of other or minority shareholders (e.g., diverting corporate resources). The reason for this is quite intuitive—a weak local investor protection setting makes such misbehavior's cost relatively low. Based on the unique characteristics aforementioned in China, as the second largest and emerging market economy, this study makes an attempt to examine whether investor protection differences among different provinces make a large difference in local financial development.

To explore what we discussed above, in this paper we examine the relationship between investor protection, government behavior, and financial development in China for the period 2005–2014. We focus on eight provinces and two provincial-level cities (Guangdong, Jiangsu, Shandong, Zhejiang, Henan, and Sichuan; Shanghai, and Beijing) due to their important weights in China's GDP. We consider two types of investor protection measures, which respectively measure the degree of investor protection based on both the micro-firm and provincial-level. By adopting panel data estimation techniques, we establish the following three important findings: First, our evidence shows that better investor protection is associated with better local financial development through both the aforementioned direct and indirect effects. This evidence implies that actions aiming to strengthen investor protection should be taken by local governments if they have aspirations to elevate local financial development, which is an important driver of local economic development. Second, the government intervention in contract and government intervention in private property negatively impact financial development. Third, the government intervention in education could promote financial development through the channel of leading to a higher amount of the fund supply. In short, this strand of analysis suggests that different government intervention in local financial development may have completely different effects on local development. In terms of local government policy, our evidence suggests that local governments should adopt indirect approaches to promote financial development instead of directly intervening in local financial markets. Our study contributes to providing a reference for the reform of the relevant laws and regulations to policy-makers in China. Policy-makers should strive to improve the efficiency of capital allocation and to develop a healthy and stable financial market for market participants.

Our study contributes to a large body of literature on law and finance. For example, La Porta et al. [16] investigate the legal rules and investor protection measures among 47 countries, they found that legal rules and investor protection do matter in fostering capital markets. Furthermore, La Porta et al. [18] document that strong investor protection is associated with high firm value among different countries. However, the literature with a view to one country to dig into the relation between investor protection and financial development, especially for a large emerging market economy, like China, with large disparities in economic development among provinces, is still in the infant stage. Chen and Du (2017) [19] explore minority shareholder protection based on a legal shock in China, but they mainly focus on the effect of the change in law on internal corporate governance mechanisms, which is different from the main issue we try to address in this study. Therefore, our study, at least to a large extent, fills the void in this line of research by introducing the differences in investor protection among provinces in China.

Our study is also a continuation and expansion of a growing body of research on government behavior and economic development. Previous literature [12–14] has attempted to unravel the channels through which government behavior acts on country-level financial or economic development, but there is still no consistent conclusion on the effects of government intervention on the development of financial markets [11]. This is the very main question our paper attempts to solve by combining local government behavior and investor protection together with the development of local financial markets. Put differently, our research not only expands this strand of study on government actions and economic development, but also fills the gap in relevant literature by focusing on the effects of local government behavior on local financial development within one country setting.

To cut a long story short, our study, on one hand, contributes to the literature on law and finance, as well as the research on government behavior and economic development. On the other hand, our study also provides constructive suggestions to local policy-makers in China so that they can make well-directed public policies aiming to promote local financial development. On top of this, our findings may also have some useful implications for other emerging market economies featured with weak legal institutions and weak investor protection.

The remainder of our paper proceeds as follows: Section 2 provides a brief literature review; Section 3 proposes our research hypotheses and Section 4 introduces our sample data, research method, and the definition of variables; Section 5 provides empirical results; and Section 6 concludes with some policy implications.

2. Literature Review

A sound financial system is one of the most important elements in supporting economic growth. Economic growth is not only related to investor protection, but also linked with government development.

A group of domestic and international scholars have studied the effect of investor protection on economic growth. For example, by comparing the rights of shareholders and investors under different legal systems and legal traditions, La Porta et al. [16] propose a foundation theory, "Law and Finance". This theory states that effective protection of private property and investor interests enhances both investor confidence and participation of investors in the financial markets, and increase the supply of funds to promote the development of the financial system, which eventually contributes to a country's economic growth. In general, there is a positive relationship between investor protection and economic development. Zhang (2005) [20] adopts investor protection theory and the "path dependence" theory of LLSV to reveal the constraints in reforming Chinese securities law. By empirically analyzing the influence of investor protection in the securities market, he make recommendations to improve the securities law environment, and identify an effective way to improve investor protection other than by law.

Although these studies do not closely analyze the relationship between the level of investor protection and the development of financial markets in China, the influence of investor protection on financial development is still revealed. Zhang et al. (2012) [21] examine the relationship between investor protection, financial development, and economic growth using panel data from 216 countries and 27 Chinese provinces spanning 1998–2010. Although the degree of investor protection is not perfect and the financial system is underdeveloped in China, a positive relationship between investor protection, financial development, and economic growth is reported. Furthermore, Wu et al. (2015) [22] use capital market data from 2000–2014 to test the effect of investor protection on equity-based financing of enterprises. Their results show that a higher level of investor protection is associated with a larger size of financing. Moreover, a higher efficiency of resource allocation in financial markets could also indicate a higher level of financial development. To sum up, there exists a positive relationship between investor protection and financial development.

LLSV (1998) also emphasize that economic growth is based on a sound financial system and a sound financial system relies on an efficient legal system. Since the implementation of the Reform and Opening-up policy China's economic growth rate has been at a high level, whereas its legal system and the efficiency of the financial system has lagged behind. Such a discrepancy is clearly inconsistent with the LLSV (1998) theory. Allen et al. (2005) [6] point out that although the formal financial system is underdeveloped, the informal financial channels (which comprises of personal relationships, reputation, and other elements) could complement the formal financial system to some extent. Informal financing channels in China could play an important role in promoting economic development as a compensation to underdeveloped legal and financial systems.

Pi (2010) [23] believes that in China, one of the best ways to measure the level of financial development and economic growth is to incorporate government behavior along with indicators of the legal system. While he also proposes that during an economic transition period, local government intervention is more likely to bring a negative impact on the financial development, and such an impact could have a "crowding-out" or even "full-substitution" effect on the function of the ruling system. Zhou et al. (2007) [24] study financial development from a perspective of government behavior. Through analyzing the provincial panel data from 1997–2003, they find that though the government intervention in the fund (financing) distribution by state-owned financial institutions can benefit economic growth, it could have a "crowding-out effect" on private resources and hinder the development of the financial market. Government behavior could exert either positive or negative effects on the development of financial market. Furthermore, the influence of government intervention exerted on financial development has stage effects [25]. For example, before 2000, government intervention could improve the efficiency of financial resource allocation and promote the development of financial markets. However, after 2000, the positive effect of government intervention becomes less significant. Therefore, the influence of government behavior exerted on financial development not only depends on the field and the manner of government behavior, but also depends on the actual situation of regional financial development [26].

In general, influence of government behavior on financial development should take the regional diversity, stage effects, and the local financial development into consideration. Zhang (2014) [27] proposes that the effects of government behavior on financial development are twofold. First, the government is able to promote local financial development through reducing investment costs and improving the capital turnover rate. Second, government intervention in financial resource allocation could bring a negative impact on financial development by destroying enterprise credit systems. If government behavior plays a direct role in the financial system, could this behavior bring a positive effect on local financial development? To what extent could the government intervention still have a positive impact on the financial development? These issues still need to be addressed.

3. Research Hypotheses

Investor protection refers to legally and effectively protecting the private property and the personal rights of investors. The improvement in investor protection (e.g., having more effective provisions or rules to protect the interests of investors and a fairer investment environment) will boost investor confidence in the market, thereby directing more resources to the financial market, thus optimizing resource allocation. With an improvement in investor protection, the efficiency of the financial market operation should therefore be further improved along with the development of the financial market. We, thus, propose our first hypothesis as follows.

Hypothesis 1: *A higher level of investor protection will lead to a higher degree of financial market development.*

In the financial sector, investors tend to make contracts to protect the rights of both sides. In case there is any dispute, investors can use this contract to protect themselves. If the government intervenes, however, the market mechanisms for investor protection are no longer effective. As a consequence, it leads to the supply of funds being suppressed, and the development of the market being suffocated. Nevertheless, contracts are regarded as one of the most important elements to protect investors. If the contract is unable to protect the investors as expected, it will lead to broken transactions, and hinder the development of the financial market. Accordingly, we propose a second hypothesis.

Hypothesis 2: *Local government intervention will hinder the development of the financial market. The more intensity of the local government intervention, the lower the degree of financial market development.*

Apart from intervention in contract enforcement, the government has other channels of intervention. For example, the local government may adopt an indirect method to intervene in the financial market, such as making more capital investments in education, technology, and so on. Local government intervention is regarded as one of the most important elements in promoting financial development. With increasing investment in education and technology, the local people have more chances to undertake higher education, which will promote financial development. Therefore, our last hypothesis is proposed as follows.

Hypothesis 3: *Local government intervention in education could promote financial development.*

4. Data, Method, and Variable Definition

4.1. Data

Our data cover six provinces (Guangdong, Jiangsu, Shandong, Zhejiang, Henan, and Sichuan) and two provincial-level cities (Beijing and Shanghai) for the period 2005–2014 based on their top GDP rankings. Our data originate from three sources: (1) The WIND database: the type of auditor's opinion, related-party transactions, the clearance rate of economic case (investor protection variables); (2) The Statistical Yearbook compiled by the Bureau of Statistics of each province which shows the degree of government intervention in contracts, the degree of government intervention in private property, the proportion of spending on education, the proportion of fiscal expenditure, and the level of foreign trade (government behavior variables and control variables); and (3) the annual financial report of each province complied by the Bank of China, including the supply of money and funding needs (variables measuring the level of financial development).

4.2. Models

We use the following regression models (Models (1)–(3)) to test Hypotheses 1–3, respectively:

$$
\begin{aligned}
Finance_{i,t} = \alpha_0 + \beta_1 AuditOpinion_{i,t} + \beta_2 ConnnectedTransaction_{i,t} \\
+ \beta_3 Cases_{i,t} + \beta_4 Expenses_{i,t} + \beta_5 Trade_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{1}
$$

$$
Finance_{i,t} = \alpha_0 + \beta_1 GIC_{i,t} + \beta_2 GIPP_{i,t} + \beta_3 Expenses_{i,t} + \beta_4 Trade_{i,t} + \varepsilon_{i,t}
\tag{2}
$$

$$
Finance_{i,t} = \alpha_0 + \beta_1 GIE_{i,t} + \beta_2 Expenses_{i,t} + \beta_3 Trade_{i,t} + \varepsilon_{i,t}
\tag{3}
$$

In the above models, the dependent variables and explanatory variables are defined in the subsequent subsection; i represents the ith province; t denotes the year; α_0 is an constant term; and ε represents an error term.

4.3. The Definition of Variables

4.3.1. Dependent Variable: The Level of Financial Development

The dependent variable *Finance* indicates the level of financial development in the region. From a market perspective, we use two measures (the fund supply and demand) as proxies for the level of financial development. Those two measures are connected with the liquidity of the financial market: a higher liquidity of the financial market could illustrate a higher efficiency of resource allocation, thereby indicating a higher level of local financial development. Given the import role credit has played in less developed countries (such as China), the loans/GDP value is often used to measure the level of financial development [28]. The fund demand in our study is, thus, constructed as *fund demand = the total loans of all local financial institutions/GDP*. Financialization progress is mainly reflected in monetization progress or the growth in money stock in developing countries [29]. Monetization progress could be represented by the ratio of local money stock (M2) to the local GDP. The fund supply is, therefore, measured as *fund supply = the total deposits of all financial institutions/GDP*.

4.3.2. Independent Variables: Investor Protection and Government Behavior

Investor Protection

We measure the level of investor protection from two aspects: internal and external. First, for the internal aspect, we adopt the audit opinion to measure the level of investor protection. The audit opinions have four types: standard and without reserved opinion; unqualified opinion with emphasis on matter paragraph; qualified opinion; and disclaimer of opinion. The opinion is assigned to four, three, two, or one points according to its adversity. Additionally, all the scores of the audit opinion are counted to calculate the average. A higher average indicates a better quality of the information being delivered to investors.

In addition, from the perspective of interest security, we use the ratio of the total amount of related-party transactions to total income to measure the degree of investor protection. The higher the ratio of the total amount of related-party transactions to total income, the higher the possibility that investors fail to share a fair proportion of income, indicating a lower level of investor protection. We, thus, use the related-party transaction to total income ratio to measure investor protection (*the related-party transaction = total amount of related-party transactions/total revenue*). We expect that there is a negative relationship between related-party transactions and financial development.

Second, for the external aspect, we use the external macro-environment of the enterprises to measure the level of investor protection. Lu (2004) and Yao (2004) [30] both adopt regional economically-related legal cases (*cases = the total economic cases in a year/the total cases in the local area*) to reflect the efficiency of local economic and legal systems. We expect that a higher clearance rate of economically-related cases implies a more efficient local economic and legal system and, thus, a higher degree of investor protection.

Government Behavior

As discussed, we focus on studying government intervention in both contractual implementation, disputes and promoting local education. Based on previous studies (e.g., Pi, 2010) [23], we measure the degree of local government intervention in contracts (GIC) by comparing the ratio of the administrative costs to the total financial expenditure of each province (*GIC = the total expenditure in administration/total expenditure of local government finances*).

In addition, Chen et al. (2002) [31] report that the degree of government intervention in private property could measure government intervention behavior. Following previous studies (such as Ge et al., 2016 [32]; Huang, Nie and Tsai, 2017 [33]; Zheng et al., 2017 [34]; Zhang et al., 2017 [35]), we use the degree of government intervention in private property (GIPP) as a second variable to measure government behavior (*GIPP = external budget revenue of local government/internal budget revenue of local government*).

Furthermore, we employ the proportion of education expenditure to measure the degree of government intervention in local education (GIE) (*GIE = local government expenditure in education/the total financial expenditures*).

4.3.3. Control Variables

The economic growth across the provinces could be vastly different. To address this issue, we include control variables, which measure social development: (1) *the proportion of fiscal expenses of the local government = the total fiscal expenses of the local government/local GDP*; and (2) *the level of trade = the total number of import and export of local government/local GDP*. Our expectation is that *expenses* and *trade* have positive relationships with economic growth and financial development.

5. Empirical Results

5.1. Descriptive Statistics and Correlation Analysis

Table 1 presents the descriptive statistics of the variables. It shows that the minimum value of the fund demand (which is a measure of the level of financial development) is 0.575, and the maximum value is 2.585. Additionally, the minimum value of the fund supply (another measure of financial development level) is 0.834 and the maximum value is 4.745. The results indicate that the levels of financial development are diverse to a large extent across different areas. Moreover, the value interval in the audit opinion suggests that in all regions the majority of listed companies receive a standard without a reserved audit opinion, and there is not much regional difference in investor protection under the audit opinion. However, there are regional differences among some other variables, such as connected transaction, the rate of case clearance, contractual intervention, property intervention, and education expenditure.

Table 1. Descriptive statistics of variables.

Variables	Number	Average	Median	Standard Deviation	Minimum Value	Maximum Value
Demand	80	1.293	1.105	0.563	0.575	2.585
Supply	80	1.971	1.640	1.101	0.834	4.745
Audit Opinion	80	3.935	3.946	0.047	3.769	3.989
Connected Transaction	80	0.100	0.086	0.067	0.013	0.268
Cases	70	0.325	0.314	0.076	0.116	0.515
GIC	80	0.123	0.121	0.040	0.038	0.198
GIPP	80	0.534	0.327	0.491	0.007	1.878
GIE	80	0.202	0.200	0.108	0.030	0.901
Expenses	80	0.155	0.130	0.059	0.080	0.335
Trade	80	0.753	0.659	0.548	0.047	1.715

Table 2 shows the correlation coefficients between pairs of the variables. The lower left triangle shows the Pearson's correlation coefficients and the upper right triangle shows the Spearman's correlation coefficients. Table 2 shows that the audit opinion has positive correlations with the fund demand and supply (both $p < 0.01$). However, connected transaction is negatively correlated with the fund demand and supply (both $p < 0.01$). It could be interpreted that improving the level of investor protection could promote financial development; it, thus, provides preliminary supportive evidence for Hypothesis 1. Second, the GIC and GIPP are negatively correlated with the fund demand and supply, which provides preliminary evidence for supporting Hypothesis 2.

Table 2. Correlation coefficients.

Variables	1	2	3	4	5	6	7	8	9	10
1. Demand	1	0.984 ***	0.429 ***	−0.660 ***	−0.151	−0.757 ***	−0.253 **	−0.344 ***	0.580 ***	0.792 ***
2. Supply	0.950 ***	1	0.413 ***	−0.652 ***	−0.232 *	−0.789 ***	−0.282 **	−0.374 ***	0.673 ***	0.748 ***
3. Audit Opinion	0.377 ***	0.293 ***	1	−0.505 ***	−0.045	−0.420 ***	0.266 **	−0.029	0.206 *	0.314 ***
4. Connected Transaction	−0.635 ***	−0.544 ***	−0.433 ***	1	0.060	0.460 ***	−0.204 *	0.049	−0.270 **	−0.585 ***
5. Cases	−0.237 **	−0.283 **	−0.064	0.182	1	0.397 ***	0.162	0.520 ***	−0.608 ***	0.074
6. GIC	−0.746 ***	−0.753 ***	−0.422 ***	0.507 ***	0.466 ***	1	0.474 ***	0.442 ***	−0.831 ***	−0.525 ***
7. GIPP	−0.273 **	−0.331 ***	0.205 *	−0.269 **	0.203 *	0.394 ***	1	0.269 **	−0.411 ***	−0.245 **
8. GIE	−0.003	0.086	−0.203 *	−0.089	0.296 ***	0.211 *	−0.028	1	−0.528 ***	−0.123
9. Expenses	0.631 ***	0.738 ***	0.245 **	−0.346 ***	−0.550 ***	−0.802 ***	−0.416 ***	−0.248 **	1	0.227 *
10. Trade	0.820 ***	0.792 ***	0.215 *	−0.559 ***	−0.125	−0.571 ***	−0.168	0.097	0.363 ***	1

Notes: Standardized beta coefficients are reported at the 1%, 5% and 10% levels of significance with ***, **, * respectively.

5.2. Regression Analysis

We employ panel data regression techniques to test our research hypotheses. Since the number of time-series observations T is larger than the number of provinces/cities *n* (in our study *n* = 8 and T = 10), we utilize generalized least squares panel data regression to estimates the coefficients. To control for potential first-order autocorrelation issue in the intra-group, heteroscedasticity in the inter-group and cross-section, we use robust standard errors. The results of our regression analysis are presented in Table 3.

Table 3. The influence of investor protection and government behavior on financial development.

	Model (1)		Model (2)		Model (3)	
	Demand	**Supply**	**Demand**	**Supply**	**Demand**	**Supply**
Intercept	−4.635 * (−1.86)	2.490 *** −3.04	0.877 *** −3.28	0.726 *** −11.52	0.232 *** −8.38	0.580 *** −4.15
Audit Opinion	1.233 * −1.93	−0.365 * (−1.74)				
Connected Transaction	−1.334 ** (−2.37)	−1.153 *** (−7.05)				
Cases	0.645 −1.57	0.309 ** −2.08				
GIC			−2.676 ** (−2.23)	−1.379 *** (−4.42)		
GIPP			0.013 −0.17	−0.231 *** (−14.32)		
GIE					0.149 −1.64	1.443 *** −11.66
Expenses	3.787 *** −5.92	8.863 *** −15.59	3.037 *** −3.46	6.692 *** −16.23	4.375 *** −16.38	10.044 *** −21.94
Trade	0.638 *** −11.09	0.481 *** −3.91	0.365 *** −3.01	0.604 *** −18.76	0.357 *** −12.22	0.242 *** −4.54
Provincial Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	70	70	80	80	80	80
R^2	0.8365	0.5432	0.6371	0.639	0.6656	0.7423
Wald-χ^2	565.65	487.11	95.92	905.15	491.38	756.41

Notes: Standardized beta coefficients are reported at the 1%, 5% and 10% levels of significance with ***, **, * respectively.

5.2.1. Investor Protection and Financial Development

As previously mentioned, we find that the efficiency of economic case clearances and audit opinion are positively correlated with the dependent variable. In contrast, connected transaction is negatively correlated with the dependent variable. If coefficient estimates β_1 and β_3 in Model (1) are positive and β_2 is negative, then the results underpin our Hypothesis 1. Table 3 demonstrates that, ceteris paribus, a 1% increase in the audit opinion score will lead to a 1.2% increase in the fund demands. In contrast, when the ratio of connected transaction to total income increases by 1%, the fund demand will decrease by 1.3%. On the other hand, when the percentage of the financially-connected transaction in total income rises by 1%, the fund supply declines by 1.15%. Additionally, when the rate of economic case clearance increases by 1%, the fund supply improves by 0.3%. However, it should be noted that the audit opinion presents a negative association with fund supply (coefficient = −0.3, which is only significant at the 10% level). This result is inconsistent with our expectation. The reason for this finding is that in different areas, the audit opinion on the listed companies is quite similar,

so a subtle change of the value could lead to the sign reversal. Overall, we find that there is a positive relationship between the level of investor protection and financial market development; therefore, our results lend support to Hypothesis 1.

In addition, our finding on the two control variables are consistent with previous studies. Expenses and trade are both statistically positively related to either fund demand or fund supply.

5.2.2. Government Behavior and Financial Development

Next, we examine the relationship between government behavior variables and financial development. The results are shown in Columns 3–4 of Table 3. Table 3 shows that the degree of government intervention in contract (GIC) is strongly negatively related with the fund demand. Further, GIC and GIPP (government intervention in private property) are also significantly negatively related to the fund supply of the financial market. However, Table 3 also shows that there is no relationship between GIPP and the fund supply (the coefficient estimate is not statistically significant).

The negative coefficients of GICC (coefficients are -2.11 and -1.37, respectively) suggest that the judgment of the influence of government behavior is consistent with the reality. In fact, a higher level of government intervention in contracts lower the efficiency of local financial development. Although the effect of GIPP exerted on financial development is smaller than the GIC, GIPP still negatively affects the fund supply in the financial market. As the coefficient of GIPP is smaller, the negative effect of GIPP is not significant when compared with the GIC. However, we argue that, as GIPP is measured by external budgets, investors are more likely to choose other channels to offset the capital loss caused by GIPP, whereby the side effects of GIPP could also be reduced. However, the GIC could directly influence the contract formulation, judgment, etc. This behavior causes unfair trade as it is difficult for investors with their own resources and strength to change this situation, so its negative effect on financial development will be more obvious. Therefore, Hypothesis 2 is supported by our empirical results and the government intervention generally has negative effects on financial development.

5.2.3. Government Intervention and Financial Development: An Educational Perspective

In terms of the relationship between government intervention in education and financial development, the last two columns of Table 3 demonstrate that government intervention in education (GIE) only affects the fund supply, but not the fund demand. The reason could be interpreted that fund demand is measured by the total loans of all local financial institutions. A higher education level, to a certain extent, could attract higher quality investors and deliver more prudent investment strategies for social development, thus enabling the increase of total loans and improving the efficiency of capital allocation. When investors are ready to make a loan, the local finance policy, the rate of loan interest, its solvency, and other factors should be taken into consideration. Under the constraints of these factors, the positive effects of GIE exerted on the fund demand might be diminished. By contrast, the positive effect of GIE on the fund supply is consistent with our expectation. Therefore, Hypothesis 3 is partially supported by our empirical results.

6. Concluding Remarks

We use panel data of eight provinces and two province-level cities (Guangdong, Jiangsu, Shandong, Zhejiang, Henan, and Sichuan; Shanghai, and Beijing) from 2005–2014 to investigate the relationship between investor protection, government behavior, and financial development. Our results suggest that there is a positive relationship between the level of investor protection and the degree of financial development. Furthermore, the government intervention in contract and government intervention in private property has a negative effect on financial development as more intense government intervention would lead to a higher degree of financial impediment. On the other hand, the government intervention in education could promote financial development as the higher the level of education promoted, the higher amount of the fund supply, thus contributing to the financial development.

Our study has the following three policy implications.

(1)   Our empirical evidence shows that investor protection mechanisms at the firm level do matter for the development of financial markets. Therefore, one way to promote financial development may be that China could dedicate to establishing sound and consummate legal and regulatory systems related to firm-level governance and, at the same time, regulation authorities may design firm-level governance-improving related policies. Furthermore, as we evidenced, information disclosure quality plays an important part in local financial development. The rationale uncovered by this line of evidence may be that when investors can access more accurate information at relatively low cost, the level of investor protection, in turn, will be raised, as well as investor confidence in the market, which promotes financial development. One policy implication is that policies intending to elevate information disclosure quality may be desirable, such as increasing the intensity of reward and punishment in information mistakes to improve the degree of information transparency and ensure the accuracy of the information, etc.

(2)   As regards the external environment of investor protection, our findings document that the efficiency of economic case clearance has a significantly positive effect on local financial development, which supports the idea that the efficiency of the local judicial systems is one of the key drivers for advancing local financial markets. On the basis of this line of reasoning, China may take action in improving the efficiency of local judicial systems, such as optimizing judicial procedures, establishing a strong and effective incentive mechanism, as well as enhancing the professional level of judicial personnel through training, etc. One may expect that, in this manner, investors' incentives in participating in local financial markets could be significantly increased, which is no doubt a catalyst of fostering and advancing local financial development and, thus, furthering local economic development.

(3)   Regarding the effects of government intervention on local financial development, we evidence that the government's direct intervention in the micro contractual environment or in private property could generate negative externalities to those firms without government support, which, in turn, spurs investors to devote their resources to the firms with government support. Obviously, by this means, credit resource misallocation is aggravated, which is detrimental to the healthy development of local financial markets. In light of the evidence discussed above, local governments should make an effort to reduce their intervention in contracts and private property, to decrease impediments to the development of the financial market, and to resort more to the market force itself. Although our results indicate that direct intervention in the firm contractual environment by the government negatively influences financial development, our empirical analysis does suggest that increasing governments' investment in education could have a positive effect on financial development. Even if we do not test whether the levels of other public services have the same effect due to data unavailability in this study, one may expect that public services similar to education, like public services in technical innovation, may have similar effects on financial development. Thus, local governments may consider making progress in input in related public services instead of directly intervening in the process of firm contracting.

These proposals, if properly implemented, should contribute to the development of a healthy financial market, enhancing the efficiency of capital allocation and improving the quality and efficiency of economic development.

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