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Cultural adaptation and corporate investment decisions: evidence from inter-regional investments

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ABSTRACT

Corporate inter-regional investment is an important channel for building the domestic economic cycle. This paper explores the impact of firms' adaptation to regional culture on inter-regional investment based on the sample of newly-established inter-province subsidiaries of A-share listed firms in China from 2006 to 2017. We find that (1) Firms' low cultural adaptation to home region promote corporate inter-regional investment. (2) Firms are more likely to invest in regions with cultural environments that are more compatible with their own culture value (3) Firms have better investment performance when investing in more culturally adapted regions through better cooperating with new stakeholders and reducing management cost. (4) The impact of cultural adaptation on inter-regional investments is also affected by the state ownership and corresponding regional formal institutions. Our findings have implications for firms to make location choice during inter-regional investment and can help governments attract capital flows.

KEYWORDS

Cultural adaptation; inter-regional investment; opportunism; inter-regional development

1. Introduction

Inter-province corporate investment in China is an essential channel of building the domestic economic cycle and matters for the spatial distribution of industries (F. R. Wang & Miao, 2015). In recent years, inter-province investment in China has continued to reflect an upward trend. As shown in Figure 1, the proportion of the amount invested in inter-province subsidiaries has been increasing yearly from 2001 to 2017.¹ It reached 65% in 2017, indicating that inter-province investment has become one of the most critical corporate economic events. However, due to the existing of local protectionism and market segmentation in China, inter-regional investing is much riskier and more complicated than investing locally. Therefore, it is of great practical significance to understand the determinants of inter-province investment for both government policymakers and firms in China (Fan et al., 2017; Liu et al., 2015).

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¹The subsidiaries in this paper only include those that are held at least 50% by listed companies.

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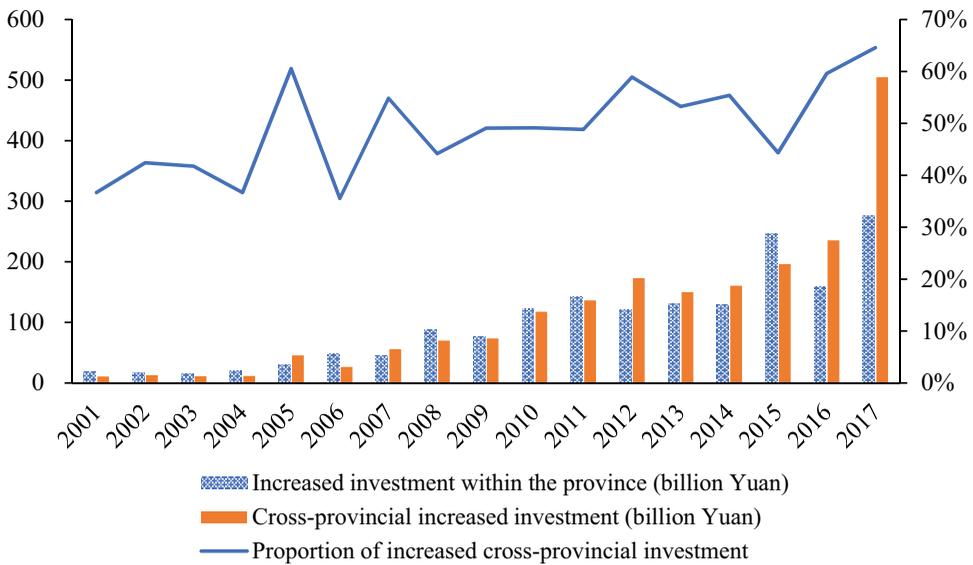


Figure 1. Increased investment of subsidiaries.

Different from local investment, existing research on the determinants of corporate inter-regional investment pays more attention to regional characteristics, such as geographical distance and market environment. In recent years, with the rise of New Institutional Economics, a large body of extant literature has explored how regional culture value affects corporate inter-regional investment. While most scholars in this field have discussed the role of cultural distance between regions on corporate inter-regional investment, no consistent conclusion has been reached (Ahammad & Glaister, 2011; Weber et al., 2012).

This paper studies how a completely different cultural force affects inter-regional investments: cultural adaptation. We argue that compared to the cultural distance between the home region (the region where firms are located) and target region (the region where the targets are located), firms' cultural adaptation to the target region has a more crucial impact on their integration into the new environment. Precisely, the cultural distance between the two regions reflects the similarity of these two cultural environments.² Firms are more familiar with the cultural environment of regions with a smaller cultural distance from their home region. However, cultural distance between the target region and home region cannot capture whether firms adapt to the cultural environments of the target region (Anderson & Gatignon, 1986).³ Rather than familiarity, firms' adaptation to regional culture are more important during inter-regional investment. To be specific, even if a firm is in a familiar cultural environment, it may still face cultural conflicts if it can not adapt to the regional culture. Moreover, this inadaptation could result in invalid communication, additional transaction costs, and reputation risk,

²The existing research usually uses the difference in cultural indicators between two countries to measure the cultural distance at the national level. The larger the difference in cultural indicators, the larger the cultural distance between countries.

³Familiarity reflects a firm's knowledge of regional culture, while adaptation reflects whether the firm is compatible with regional culture.

ultimately leading to investment failure (North, 1990; Weber et al., 1996). On the contrary, even if the firm is unfamiliar with the local cultural environment, it could cooperate smoothly with new stakeholders in the target region as long as it is compatible with local culture value. Therefore, this paper attempts to explore whether and how firms' adaptation to regional culture affects their inter-regional investments.

We measure cultural values along the dimension which has not gotten much attention in previous studies on inter-regional investment: opportunism vs. non-opportunism. Opportunism reflects the belief that people seek self-interests with guile (Wathne & Heide, 2000; Williamson, 1985). Apparently, opportunism is the basic assumption of transaction cost theory and is accompanied by adverse selection and moral hazard, thus playing an important part in firms' investment decisions. With a large firm-province paired sample in China between 2006 to 2017, we find that cultural adaptability is a critical determinant of inter-regional investments across a variety of dimensions, including whether inter-regional investments occur, where to invest, and the investment performance.

We begin with establishing the fundamental association between proxies for firms' cultural adaptation to their home province and their propensity to invest non-locally. Accordingly, we use the ratio of newly-established inter-province subsidiaries to all newly-established subsidiaries to capture firms' propensity to invest non-locally. We also construct proxy of the matching degree between corporate opportunism and the opportunism of the home province to capture firms' cultural adaptation to their home province. After controlling for other determinants of firms' propensity to invest non-locally, we find that the propensity is significantly higher when the matching degree is lower. Collectively, these results suggest that firms escape from their home province where they are not culturally adapted through inter-province investments.

We then explore whether the firms' cultural adaptation to regions affects the location choice of inter-regional investment. Arguing that higher adaptation to regional culture could increase corporate cultural identity and reduce the risk of investment failure, we predict that firms are more inclined to invest in regions where they are more culturally adapted. Our empirical results show that firms' relative level of opportunism is positively associated with the relative opportunistic cultures of regions invested, suggesting that firms with higher (lower) level of opportunism invest more in regions with stronger (weaker) opportunistic cultures.

Having documented the impact of cultural adaptation on location choice, we then propose that the investment performance is better when firms invest in more culturally adapted regions. Empirical evidence confirms our prediction. Specifically, we construct a variable *Match* to capture whether the inter-province investment is culturally adapted. *Match* equals 1 if firms with relatively higher level of opportunism invest in provinces with relatively stronger opportunistic cultures or firms with relatively low level of opportunism invest in provinces with relatively weaker opportunistic cultures, and 0 otherwise. We then use the efficiency of capital allocation, the change of *ROA* (*D_ROA*), and the change of *Tobin's Q* (*D_TQ*) to capture investment performance. We find a significant positive association between the *Match* and these proxies of investment performance.

We further explore the underlying mechanism through which cultural adaptation affects investment performance. The analyses show that cultural adaptation results in better cooperation and lower management costs, and thus leads to more significant

performance growth. Finally, the cross-sectional analysis reveals that the effect of cultural adaptation on inter-regional investments is more pronounced when the firms are non state-owned enterprises (SOEs), and when the home/target regions has poor legal environment. Moreover, our findings still hold after a series of robustness tests.

Our study may contribute to the literature in the following ways. First, we shed new light on corporate inter-regional investments from the perspective of cultural adaptation between firms and regions. To date, although inclusive, massive studies have illustrated the role of cultural distance between regions in determining inter-regional investment, however they have ignored the effect of cultural adaptation between firms and regions (Ahammad & Glaister, 2011; Weber et al., 2012). While the cultural distance between regions reflects firms' familiarity with the new cultural environment, firms' adaptation to regions determines how firms integrate with the new environment, which plays a more important role in inter-regional investing (Anderson & Gatignon, 1986). Our study fills this void by documenting that corporate inter-regional investment rests on firms' adaptation to regional culture. Thus, we help to portray a complete picture of cultural adaptation in corporate inter-regional investment for academics and practitioners.

Second, our study contributes to the literature on the association between regional culture and corporate behavior. Existing literature has primarily explored the role of regional culture value along dimensions such as trust, hierarchy, and religious culture (Ahern et al., 2015; Dudley & Zhang, 2016; Frijns et al., 2013; Y. Wang & Li, 2017). Differently, we provide empirical evidence on how regional culture affects firms' behaviors from the dimension of opportunism.

Finally, this paper provides important implications for both government policies and corporate practice. On the one hand, our findings help governments to clarify the economic significance of regional culture in attracting capital flows, establish cultural self-confidence, and actively exert the utility of regional culture for local economic development. On the other hand, the results of our paper could shed light on how firms improve investment efficiency and investment performance by enhancing cultural adaptations to target regions.

The rest of the paper proceeds as follows. [Section 2](#) reviews the literature and develops testable hypotheses. [Section 3](#) describes our sample and research design. [Section 4](#) presents the main results, and [Section 5](#) provides mechanism analysis and cross-sectional tests. We conclude in [Section 6](#).

2. Literature review and hypotheses development

2.1. Literature review

Early studies on the determinants of corporate inter-regional investments focused on the economic characteristics of the target region, such as the market size, labor cost, infrastructure, and other resource endowments. These studies find that firms tend to invest in regions with higher market size, lower labor costs, and more resource endowments to expand markets, obtain unique resources, or reduce labor costs (Baldwin & Krugman, 2004; Dunning, 1998; Higgins & Savoie, 1995; Yao et al., 2014). Based on these studies, some scholars further find that firms with similar businesses tend to invest in neighbouring regions to share similar regional resources and knowledge (Nielsen et al., 2017; Porter,

1998). Moreover, some studies find that firms prefer to invest in regions with lower information asymmetry to reduce the high inter-regional investing risk (Ragozzino, 2009; Xie et al., 2017). For example, S. Pan and Ye (2021) find that opening high-speed rail alleviates inter-regional information asymmetry, thus facilitating firms' inter-regional M&A.

In recent years, with the rise of New Institutional Economics, a large body of extant literature has explored how regional institutional factors affect corporate inter-regional investment (Du et al., 2008). Scholars have argued that firms tend to invest in regions with better institutions to reduce additional transaction costs in new regions (Aizenman & Spiegel, 2006; S. J. Wei, 2000). In terms of formal institutions, previous research has proved that the tax policies, efficiency of law enforcement, and level of investor protection of the target region could affect inter-regional investment (Boskin & Gale, 1987; Rossi & Volpin, 2014; Tang & Chen, 2010; F. R. Wang & Miao, 2015). In terms of informal institutions, most literature analyzes the impact of regional political characteristics on inter-regional investments (Busse & Hefeker, 2007; Cao & Jia, 2020; Daude & Stein, 2007; Habib & Zurawicki, 2002; H. B. Pan & Yu, 2011). For example, Habib and Zurawicki (2002) find that firms avoid regions with high levels of political corruption when investing abroad. Daude and Stein (2007) find that regional political instability inhibits regions from attracting outside investment. In addition to regional political characteristics, regional culture value has significant and more far-reaching effects on firm behavior (Griffin et al., 2017; Guiso et al., 2006; McGuire et al., 2012), especially in emerging markets where informal institutions play a more crucial role in economic activities (Luo & Tang, 2009). However, few studies explore inter-regional investments from the perspective of regional culture (Weber et al., 2012).

Specifically, these studies have discussed the role of cultural distance between regions on inter-regional investment. However, no consistent conclusion has been reached (Ahammad & Glaister, 2011; Weber et al., 2012). Some scholars argue that cultural distance inhibits inter-regional investment by increasing cultural conflicts between firms and their new environment (Ahern et al., 2015; Datta & Puia, 1995; Siegel et al., 2011); some believe that cultural distance could facilitate inter-regional investment as it provides complementary resource (Morosini et al., 1998); and others didn't find cultural distance has an effect on inter-regional investment (Ahammad & Glaister, 2011; Barkema et al., 1996). These studies focus on cultural differences between regions but ignore the cultural fitness between firms and target regions. Precisely, the cultural distance between two regions reflects the similarity of these two cultural environments. That is to say firms are more familiar with the regional culture which has a smaller cultural distance from their home region. However, firms being familiar with a regional culture doesn't mean that they could adapt well to it. Actually, they may still encounter cultural conflicts due to the mismatch between their own culture and the familiar regional culture (North, 1990; Weber et al., 1996). On the contrary, even if firms invest in an unfamiliar cultural environment, as long as their own culture is highly adaptable and compatible with the regional culture, they could be accepted and recognized by other organizations in the target region and smoothly integrate into the new environment. Therefore, in this paper, we study how a completely different cultural force affects inter-regional investments: cultural adaptation. In addition, most existing studies in this field examine cross-board investment, which cannot completely avoid the interference of tax policy and other formal institutions on

the results. To mitigate this issue, we examine corporate inter-regional investment within one country, with consistent formal institutions across different regions. Therefore, focusing on the Chinese market, this paper attempts to test the impact of the firms' adaptation to regional culture on their inter-regional investment.

We measure cultural values along the dimension which has not gotten much attention in previous studies on inter-regional investment: Opportunism vs. non-opportunism. Opportunism provides a basic assumption for many economic theories (Chen et al., 2002; Wathne & Heide, 2000), such as transaction cost and principal-agency cost, thus playing an important part in the corporate inter-regional investment. However, there is almost no empirical evidence of the effect of opportunism on inter-regional investment.

2.2. Hypotheses development

Opportunism represents beliefs and values of the unethical pursuit of self-interest, which could map into specific behaviours, such as hiding or distorting relevant information, and breaking commitments (Wathne & Heide, 2000; Williamson, 1985). Regional opportunism reflects the beliefs and customs of local people that one seeks self-interest with guile, while, corporate opportunism reflects the opportunistic-oriented values of firms, which exist in the subconscious of firm members and are concretely reflected in corporate behavioral decisions. Specifically, firms with strong opportunism (later referred to as 'opportunistic firms') often ignore the interests of their trading partners and pursue their own interests by withholding information, cheating, exploiting contract loopholes, and violating the agreements (Shou et al., 2018). In contrast, firms with weak opportunism (later referred to as 'non-opportunistic firms') would honor commitments, behave honestly, and comply with social ethics.

Non-opportunistic firms located in places with solid opportunistic cultures may have to pay more monitoring costs. For example, they need to conduct a more careful inspection of raw materials supplied by local suppliers to avoid quality problems. Additional supervision is also needed to ensure local employees perform their work with high quality. Except for the monitoring expenditure, the cost of communication also increases. For example, firms need to communicate more when signing contracts with local partners to avoid contractual traps. Also, there may be disagreements between the two parties on whether they can make profits through unethical 'shortcuts', which may even cause termination of cooperation. Conversely, non-opportunistic firms which are located in areas with a weak opportunistic culture could avoid these unnecessary monitoring and communication costs and benefit from culture recognition.

Opportunistic firms located in places with weak opportunistic cultures could incur additional transaction costs, loss of reputation, or even operational risk. Social groups generally respect ethical norms and resist opportunistic behaviors in places with weak opportunistic cultures. Opportunistic firms may sell defective goods, deliberately default on a payment due, or even directly violate the contracts. These opportunistic behaviors are not accepted by local stakeholders, media, and even government departments, resulting in a poor reputation for the firms. Therefore, opportunistic firms have to make more commitments or concessions with a damaged reputation when trading with local stakeholders, leading to additional transaction costs. More seriously, if opportunistic firms violate the law,

they would suffer more severe punishment and even boycott than non-opportunistic firms because of their poor reputation. In this case, firms may face huge operating risks. In contrast, opportunistic firms are more acceptable in places with strong opportunistic cultures, and they could benefit from opportunistic behaviors with a much lower reputation risk.

To summarize, firms' failure to adapt to local opportunism could incur additional transaction costs, reputation damage, and even high operating risk. Therefore, firms may escape from the local cultural environment through inter-regional investments (Narula, 2002; Rugman & Verbeke, 1998; Witt & Lewin, 2007). Based on these discussions, we propose our first hypothesis as follows:

Hypothesis 1: The corporate tendency of inter-regional investment is negatively associated with cultural adaptation between the firms and their home region.

Firms' adaptation to regional culture can affect the location choice of corporate inter-regional investment in the following two ways. First, higher cultural adaptation to the target region could increase firms' cultural identity, increasing the possibility of firms investing in this place (Cao et al., 2018). Organizational identity theory points out that people have a basic psychological need for a sense of belonging and self-belief identification, and this psychological need affects human behavior. Also, in economics studies, Akerlof and Kranton (2000) introduce 'identity' into utility analysis, and they find out that social emotions, such as the individuals' cultural identity have an important impact on their behavior. Firms are not only economic entities but also social organizations composed of individuals. Therefore, firms have psychological and social needs for cultural identity. Higher cultural identity could simplify firms' learning process of the new behavior customs in the target region during inter-regional investment (Dutton & Dukerich, 1991; Hogg, 2000; Shibutani, 1995). Firms with higher adaptation to new culture hence could better integrate into the new environment.

Second, higher adaptation to the culture of the target place could reduce the risk of investment failure by reducing information asymmetry. According to Faccio et al. (2016), information asymmetry between the firm and the target firm is the main factor of investment failure, especially for inter-regional investment. Higher adaptation to the target region's culture could help firms to negotiate more smoothly with the target firm, obtain more practical information and avoid bad judgment (Giannetti & Yafeh, 2012). However, lower adaptation may increase communication costs and distrust and lead to investment failures. For example, when opportunistic firms plan to invest in regions with weak opportunistic cultures, their opportunistic behaviors could reduce the target firms' trust in them and even lead to the termination of cooperation.

Collectively, higher adaptation to regional culture could increase corporate cultural identity and reduce the risk of investment failure. Therefore, firms tend to invest in regions that are culturally compatible with their own. Based on these discussions, we formulate our second hypothesis as follows:

Hypothesis 2: Firms with higher (lower) corporate opportunism tend to invest in regions with higher (lower) regional opportunism.

Firms investing in culturally adapted regions can better integrate local resources, cooperate with local stakeholders, reduce inefficient expense, and improve decision-making effectiveness, thereby enhancing capital allocation efficiency and financial performance.

Specifically, firms investing in a new region require integration and coordination with multiple stakeholders in the new environment, including the target firms, suppliers, government, and other stakeholders. Among them, corporate integration with the target firm is particularly critical. Higher cultural adaptation means less cultural conflict between firms and their target. In a more culturally adapted target region, firms' strategy and regulation are more likely to be accepted by the employees of the target firm. Thus, these firms would suffer less resistance, reduce their management costs, and improve operational efficiency and financial performance. Moreover, this efficient integration of both parties helps to improve the quality of corporate decision-making, reduce inefficient capital expenditure and increase the efficiency of capital allocation.

In addition, firms investing in more culturally adapted regions can also better maintain and develop local supply and marketing relationships. For example, opportunistic firms investing in regions with strong opportunistic cultures can integrate more smoothly into the local business environment without being resisted by other local firms due to their opportunistic behaviors. Similarly, non-opportunistic firms investing in areas with weak opportunistic cultures can more quickly build trust with local firms rather than being forced to pay additional monitoring costs. Moreover, firms investing in culturally adapted regions are also more likely to gain recognition from local government departments, financial institutions, and other stakeholders, thus saving inefficient transaction costs, reducing information asymmetry, and improving operating efficiency. These benefits further improve their capital allocation efficiency and financial performance. We state our third hypothesis as following:

Hypothesis 3: The capital allocation efficiency and financial performance increase more when firms invest in more culturally adapted regions.

3. Research design

3.1. Sample selection

We begin with all the establishments of subsidiaries of A-share firms in China during 2006 to 2017. We then conduct the following filtering steps: (1) We exclude observations with firms owning less than 50% of the subsidiaries; (2) We drop observations with firms in the financial industry; (3) We further delete observations with firms or subsidiaries located in Hong Kong, Macau, Taiwan, and Tibet; (4) We drop observations with missing data for our

main variables. Our final sample includes 19,081 firm-province-year observations with an inter-provincial paired sample across 30 provinces.⁴

We collect data on subsidiaries of listed firms from the CNRDS database and financial information from the CSMAR database. Regional culture data are obtained from the Chinese survey data of the World Values Survey (WVS).⁵ WVS is commonly used to study the effect of national culture on corporate economic activities (Ahern et al., 2015; Guiso et al., 2006; Holderness, 2017). Recently, some studies have used the Chinese part of the survey to explore economic problems in the Chinese market (Lv & Liu, 2017; Tian & Xing, 2017), which has confirmed the reliability of the survey data. In addition, other provincial-level data are mainly from the *China Statistical Yearbook* and the *Marketization Index of China's Province: NERI Report 2018* (X. L. Wang et al., 2019). To address potential influences of extreme values, we winsorize continuous variables at the top and bottom 1%. Besides, the standard errors are adjusted by firm in our main analysis (Petersen, 2009).

3.2. Measures of culture value

3.2.1. Regional opportunism (PrOPP)

We use the survey data from the WVS on the extent to which people support bus fare evasion in each province to measure the opportunistic culture of a province. Specifically, we begin with the mean value of the survey data across years for each province to measure the opportunistic culture of each province.⁶ After that, we rank provinces from lowest to highest according to their mean value of the survey data mentioned above. Then we conduct a variable *PrOPP* to measure this province's rank. To be specific, *PrOPP* equals 1 if the province has the lowest opportunistic culture and 30 if the province has the highest opportunistic culture. The higher value of *PrOPP* indicates a higher opportunistic culture.

3.2.2. Corporate opportunism (FrOPP)

Opportunistic firms are accustomed to seeking profit by hiding or distorting relevant information, breaking commitments, and other guile (Wathne & Heide, 2000; Zeng et al., 2016). The most common one of these guiles is earnings management (Holthausen, 1990). Therefore, we measure corporate opportunism using the degree of their earnings management.⁷ For each year, we rank the firms from lowest to highest according to their earnings management and then divide them into 30 groups based on the ranking. Then we conduct a variable *FrOPP* to measure this rank. Specifically, *FrOPP* equals 1 if the firms have the lowest earnings management and 30 if the firms have the highest earnings

⁴We construct 'firm-province-year' paired samples to examine the location choice and investment performance of corporate inter-province investments.

⁵The World Values Survey is currently the largest international survey on social values, covering more than 100 regions. Up to now, the survey has been conducted seven times, and the survey periods are: 1981–1984, 1990–1994, 1995–1998, 1999–2004, 2005–2009, 2010–2014 and 2017–2020. Among them, China started to be the surveyed country in 1990 when the second survey was conducted.

⁶Considering that regional culture is stable and reflects a long-term people belief of a region (North, 1990), we use the mean value of opportunistic culture throughout sample years for each province.

⁷Following Kothari et al. (2005), we use a modified-Jones model with ROA_{t-1} to estimate discretionary accruals, and then use the absolute value of discretionary accruals to measure corporate earnings management. In the robust tests, we also use corporate tax avoidance to measure corporate opportunism.

management. The higher value of *FrOPP* indicates a stronger corporate opportunistic culture.

3.3. Methodology and other variables construction

We employ Equation (1) to estimate the association between firms' adaptation to local opportunistic culture and the possibility of inter-regional investment.

$$Nonlocal = a_0 + a_1 Mismatch + \delta \sum Controls + \sum Industry + \sum Year + \sum Prov + \varepsilon \quad (1)$$

where *Nonlocal* indicates the propensity of corporate inter-regional investment. We construct the following three proxies for the propensity:

- (1) *Amount*, defined as the ratio of the amount invested in a firm's newly-established inter-province subsidiaries to that in its all newly-established subsidiaries in year *t*;
- (2) *Num*, defined as the ratio of the number of newly-established inter-province subsidiaries of a firm to that of its all newly-established subsidiaries in year *t*;
- (3) *Share*, defined as the ratio of a firm's average shareholding of its newly-established inter-province subsidiaries to that of its all newly-established subsidiaries in year *t*.

The independent variable *Mismatch* reflects a firm's adaptability to local opportunistic culture. Following previous literature (Lan & Guo, 2022; Xiao et al., 2018), *Mismatch* is defined as the absolute value of the difference between *FrOPP* and *PrOPP* (i.e. $|FrOPP - PrOPP|$).⁸ The higher value of *Mismatch* indicates a lower firm's cultural adaptation to the local province.

Consistent with the existing literature (Liu et al., 2015; Y. Wang & Li, 2017; Xiao et al., 2018), we control the following characteristics: firm size (*Size*), market to book ratio (*MB*), firm leverage (*Lev*), firm profitability (*ROA*), the shareholding ratio of the largest shareholder (*TOP1*), whether state-owned (*SOE*), and proportion of independent directors (*InDir*). We also control for several province-level characteristics of firms' home provinces: *RPGDP*, *RINDSTR*, *RGE*, *RGI*, *RCORRUPT*, *RTENURE*, *RLAW*, and *RTAX*. In addition, we control for industry (*Industry*), year (*Year*), and province (*Prov*) fixed effects. Detailed definitions of these variables appear in Table 1.

We construct gravity models (2) and (3) to test the location choice of corporate inter-regional investment. Referring to previous literature (Ahern et al., 2015), we establish firm-province pairs.⁹ Then we study the impact of firm-province culture adaptation on firms' location choice of inter-province investment. The sample of Equation (2) only contains inter-provincial firm-province pairs, and the sample of Equation (3) contains all firm-province pairs.

⁸The method of using two ranking indicators is helpful to eliminate the dimensional differences between the two indicators.

⁹Previous literature on national cultural distance paired each country with all other countries to calculate the national cultural differences between each pair of countries (Ahern et al., 2015). Similarly, we pair each firm with all provinces to calculate the matching degree between corporate and regional opportunism.

Table 1. Variable definitions.

Variable	Variable definition
Dependent Variables	
<i>Nonlocal</i>	<i>Amount</i> The ratio of the amount invested in a firm's newly-established inter-province subsidiaries to that in its all newly-established subsidiaries in year t .
	<i>Num</i> The ratio of the number of newly-established inter-province subsidiaries of a firm to that of its all newly-established subsidiaries in year t .
	<i>Share</i> The ratio of a firm's average shareholding of its newly-established inter-province subsidiaries to that of its all newly-established subsidiaries in year t .
<i>Rel_TPOPP</i>	<i>TP_OPP</i> The relative opportunism of target province, which equals to the difference between the opportunism of the target province (<i>TarOPP</i>) and the opportunism of firms' home province (<i>PrOPP</i>), i.e. $TarOPP - PrOPP$.
	<i>TP_DOPP</i> Indicator equals to 1 if the opportunism of target province is greater than the opportunism of firms' home province (i.e. $TP_OPP > 0$), and 0 otherwise.
<i>D_TPOPP</i>	Indicator equals to 1 if the opportunism of the target province is stronger than the opportunism of the home province, equals to -1 if the opportunism of the target province is weaker than the opportunism of the home province, and takes 0 if firms invest locally.
<i>CAPEX</i>	Corporate added capital expenditure in year t , equal to the change in the fixed assets value in year t divided by the firm's total fixed assets in year $t-1$.
$\Delta Perf$	<i>D_ROA_{1Y}</i> Investment performance, measured by the change in the firm's <i>ROA</i> from one year before the investment to one year after, i.e. $ROA_{t+1} - ROA_{t-1}$.
	<i>D_TQ_{1Y}</i> Investment performance, measured by the change in the firm's <i>Tobin's Q</i> from one year before the investment to one year after, i.e. $TQ_{t+1} - TQ_{t-1}$.
Independent Variables	
<i>Mismatch</i>	Cultural adaptation, calculated as the absolute value of the difference between <i>FrOPP</i> and <i>PrOPP</i> (i.e. $ FrOPP - PrOPP $).
<i>FP_OPP</i>	Corporate relative opportunism, calculated as the corporate opportunism (<i>FrOPP</i>) divided by the opportunism of home province (<i>PrOPP</i>).
<i>Match</i>	Indicator equals to 1 if firms with relatively strong opportunism ($FP_OPP > 0$) invest in provinces with relatively stronger opportunistic cultures ($TP_OPP > 0$) or firms with relatively weak opportunism ($FP_OPP < 0$) invest in provinces with relatively weaker opportunistic cultures ($TP_OPP < 0$), and 0 otherwise.
Control Variables	
<i>Size</i>	The natural logarithm of a firm's total assets at the last fiscal year end.
<i>Lev</i>	Total liabilities divided by total assets in year t .
<i>ROA</i>	Net income divided by total assets in year t .
<i>MB</i>	The ratio of market value of equity to the book value of equity.
<i>Top1</i>	The shareholding ratio of the largest shareholder in year t .
<i>SOE</i>	Indicator equals to 1 if the firm's ultimate controlling shareholder is a government agency, and 0 otherwise.
<i>InDir</i>	Number of independent directors divided by number of all board members in year t .
<i>PGDP</i>	The natural logarithm of per capita GDP in year t . <i>RPGDP</i> is the <i>PGDP</i> of firms' location province, while <i>TPGDP</i> is the <i>PGDP</i> of the potential target province.
<i>INDSTR</i>	Industrial structure, calculated as the output value of tertiary industry divided by secondary industry in year t . <i>RINDSTR</i> is the <i>INDSTR</i> of firms' location province, while <i>TINDSTR</i> is the <i>INDSTR</i> of the potential target province.
<i>GE</i>	Government efficiency, measured by the provincial GDP divided by government fiscal expenditure in year t . <i>RGE</i> is the <i>GE</i> of firms' location province, while <i>TGE</i> is the <i>GE</i> of the potential target province.
<i>GI</i>	Government intervention, measured by the provincial Government Intervention Index from X. L. Wang et al. (2019). <i>RGI</i> is the <i>GI</i> of firms' location province, while <i>TGI</i> is the <i>GI</i> of the potential target province.
<i>CORRUPT</i>	Government corruption, measured by the number of provincial corruption cases per 10,000 public officials in year t . <i>RCORRUPT</i> is <i>CORRUPT</i> of firms' location province, while <i>TCORRUPT</i> is the <i>CORRUPT</i> of potential target province.
<i>TENURE</i>	Tenure of official, proxied by the tenure of provincial Party Secretary in year t . <i>RTENURE</i> is the <i>TENURE</i> of firms' location province, while <i>TTENURE</i> is the <i>TENURE</i> of potential target province.
<i>LAW</i>	Legal environment, measured by the provincial Law Index from X. L. Wang et al. (2019). <i>RLAW</i> is the <i>Law</i> of firms' location province, while <i>TLAW</i> is the <i>Law</i> of the potential target province.
<i>TAX</i>	Tax burden, calculated as the total tax revenue of the province divided by its GDP in year t . <i>RTAX</i> is the <i>TAX</i> of firms' location province, while <i>TTAX</i> is the <i>TAX</i> of the potential target province.

$$Rel_TPOPP = \beta_0 + \beta_1 FP_OPP + \delta \sum Controls + \sum Industry + \sum Year + \sum Prov + \varepsilon \quad (2)$$

$$\begin{aligned} & mlogit(D_TPOPP = 1; D_TPOPP = 0; D_TPOPP = -1) \\ & = \gamma_0 + \gamma_1 FP_OPP + \delta \sum Controls + \sum Industry + \sum Year + \sum Prov + \varepsilon \quad (3) \end{aligned}$$

where *Rel_TPOPP* indicates the relative opportunism of the target province. We construct two proxies for this relative opportunism: (1) *TP_OPP*, defined as the difference between the opportunism of the target province (*TarOPP*) and the opportunism of the home province (*PrOPP*); (2) *TP_DOPP*, defined as an indicator which equals to 1 if *TP_OPP* is greater than 0, and 0 otherwise.

The dependent variable *D_TPOPP* in Equation (3) also indicates the relative opportunism of the target province. Specifically, *D_TPOPP* equals to 1 if the opportunism of the target province is stronger than the opportunism of the home province, equals to -1 if the opportunism of the target province is weaker than the opportunism of the home province, and takes 0 if firms invest locally.

The independent variable *FP_OPP* in Equations (2) and (3) is the relative corporate opportunism, calculated as the corporate opportunism (*FrOPP*) divided by the opportunism of the home province (*PrOPP*). The higher value of *FP_OPP* indicates a stronger corporate relative opportunism. The firm-level control variables in Equations (2) and (3) are consistent with those in Equation (1). However, the province-level control variables change from the characteristics of the home province to that of the target province.

Hypothesis 2 predicts β_1 and γ_1 to be positive, suggesting firms with relatively higher (lower) corporate opportunism are more likely to invest in provinces with relatively stronger (weaker) opportunistic culture.

According to previous studies (Faccio et al., 2016; Fang, 2007; Y. Wang & Kan, 2014), we employ Equations (4) and (5) to test Hypothesis 3.

$$\begin{aligned} CAPEX = & \theta_0 + \theta_1 \Delta VAdded + \theta_2 Match + \theta_3 Match \times \Delta VAdded + \delta \sum Controls \\ & + \sum Industry + \sum Year + \sum Prov + \varepsilon \quad (4) \end{aligned}$$

$$\Delta Pref = \varphi_0 + \varphi_1 Match + \delta \sum Controls + \sum Industry + \sum Year + \sum Prov + \varepsilon \quad (5)$$

where the dependent variable *CAPEX* is the firm's capital expenditure in year *t*, equal to the change in the value of the fixed assets in year *t* divided by the total fixed assets value in year *t-1*. Based on Faccio et al. (2016), *ΔVAdded* represents the growth opportunity to firm value and equals to $\ln \frac{ValueAdded_t}{ValueAdded_{t-1}}$ (where *Value Added* is the increase in firm value, calculated as the firm's EBITDA plus employee compensation expenses). Therefore, the coefficient θ_1 is the sensitivity of corporate investment to the value-added of the firm and reflects the efficiency of capital allocation. The independent variable *Match* measures whether the corporate culture fits or matches the opportunistic culture of the target province. Specifically, *Match* equals to 1 if firms with relatively strong opportunism ($FP_OPP > 0$) invest in provinces with relatively stronger opportunistic cultures ($TP_OPP > 0$) or firms with relatively weak opportunism ($FP_OPP < 0$) invest in provinces with relatively weaker opportunistic cultures ($TP_OPP < 0$), and 0 otherwise. Moreover, the $\Delta Perf$ in Equation (5) indicates corporate

investment performance, measured by the change in the firm's *ROA* (*Tobin's Q*) from one year before the investment to one year after, denoted as D_ROA_{1Y} and D_TQ_{1Y} , respectively. The control variables in Equations (4) and (5) are the same as in Equation (2).

Hypothesis 3 predicts θ_1 and φ_1 to be positive, suggesting firms investing in the more culturally adapted provinces have better growth in capital allocation efficiency and financial performance.

4. Main results

4.1. Descriptive statistics

Panel A of Table 2 presents the industry-level distributions of listed firms' newly invested subsidiaries. The culture, sports and entertainment industry has the greatest percentage of newly invested inter-province subsidiaries (72.56%). This percentage is the lowest in agriculture, forestry, and animal husbandry. Panel B of Table 2 reports the yearly distribution of listed firms' newly invested subsidiaries. We observe a continuously increasing percentage of newly invested inter-province subsidiaries throughout the sample period.

Panel A of Table 3 reports summary statistics for main variables of firm-year observations. In our sample, 45.8% (the mean of *Amount*) of the corporate expenditure on investing subsidiaries is spent on inter-province subsidiaries. The descriptive statistics of the control variables are consistent with previous literature (Cao et al., 2018; Xiao et al., 2018). Panel B of Table 3 provides summary statistics for main variables of firm-province-year observations. The mean of *TP_DOPP* is 0.45, indicating that 45% of firms invest in provinces with a more opportunistic cultural environment than their home province. The mean of *Match* is 0.673, indicating that 67.3% of firms invest in provinces that better match their own opportunistic culture. In addition, untabulated results of the correlation analysis show that *Mismatch* is significantly positively correlated with *Amount*, *Num*, and *Share* at the 1% level, respectively, indicating that firms make more inter-province investments when they are less attuned to the cultural environment of their home province, which tentatively confirms our hypothesis 1.

4.2. Cultural adaptation and inter-regional investment tendency

We begin with analyzing the associations between firms' tendency to invest across regions and their cultural adaptation to local provinces. We estimate Equation (1) and report regression results in Table 4. The coefficients on *Mismatch* are positive and statistically significant at the 5% level in all three columns (coeff. = 0.150, 0.134, and 0.132), indicating that firms that are less adapted to local opportunistic culture are more likely to invest across regions. These results support our hypothesis 1. Moreover, we find that firm size (*Size*) and growth (*MB*) are significantly positively related to firms' propensity to invest across regions, while the share ratio of the largest shareholder (*Top1*), the percentage of independent directors (*IndDir*), government intervention (*RGI*) and legal environment (*RLAW*) of the home province are negatively related to the propensity of corporate inter-province investment. In summary, the results in Table 4 suggest that the

Table 2. Newly invested subsidiaries distributions.

Panel A: By industry (based on CSRC 2012 Classification)			
Industry	Number of new subsidiaries	Number of new inter-province subsidiaries	Percentage of new inter-province subsidiaries
Agriculture, forestry, and animal husbandry	832	352	42.31%
Mining	1141	632	55.39%
Food, beverage, textile	4235	2546	60.12%
Wood, paper making, chemical and medicine	7637	3975	52.05%
Metal, non-metal and equipment	17467	9943	56.92%
Instrument	1043	663	63.57%
Electric power, heat, gas and water	2859	1747	61.11%
Construction	2840	1728	60.85%
Wholesale and retail	5502	2774	50.42%
Transportation, storage and postal service	1844	672	36.44%
Accommodation and catering	158	87	55.06%
Information technology and software	3630	2142	59.01%
Real estate	8028	5454	67.94%
Leasing and commercial service	1074	624	58.10%
Scientific research and technical services	276	179	64.86%
Environment and public facility	1217	856	70.34%
Culture, sports and entertainment	1784	1298	72.76%
Conglomerates	949	442	46.58%
Total	62516	36114	57.77%
Panel B: By year			
Year	Number of new subsidiaries	Number of new inter-province subsidiaries	Percentage of new inter-province subsidiaries
2006	1421	581	40.89%
2007	1571	719	45.77%
2008	1877	881	46.94%
2009	1980	955	48.23%
2010	2967	1605	54.10%
2011	3417	1950	57.07%
2012	3995	2061	51.59%
2013	4039	2190	54.22%
2014	5811	3294	56.69%
2015	8526	5177	60.72%
2016	10475	6254	59.70%
2017	16437	10447	63.56%
Total	62516	36114	57.77%

less the firms fit in with the local cultural environment, the more the firms tend to invest across provinces to escape from the unmatched regional cultural environment.

4.3. Cultural adaptation and location choice of inter-regional investment

The location choice regression results using Equations (2) and (3) are reported in Table 5. Panel A of Table 5 presents the regression results of Equation (2) using inter-province investment sample. We find a significant positive coefficient on *FP_OPP* in both columns, indicating that firms with a relatively higher level of corporate opportunism tend to establish subsidiaries in target places where the level of opportunism is relatively higher.

Table 3. Summary statistics.

Panel A: Firm-year sample						
Variable	N	Mean	Median	Std. Dev	P25	P75
<i>Amount</i>	10189	45.800	30.430	45.850	0.000	100.00
<i>Num</i>	10189	46.700	50.000	41.870	0.000	100.00
<i>Share</i>	10189	49.610	53.130	42.710	0.000	100.00
<i>Mismatch</i>	10189	9.848	9.000	7.021	4.000	15.000
<i>Size</i>	10189	22.190	22.020	1.275	21.290	22.910
<i>ROA</i>	10189	0.041	0.037	0.051	0.016	0.065
<i>Lev</i>	10189	0.469	0.477	0.208	0.308	0.624
<i>MB</i>	10189	2.005	1.488	1.829	0.809	2.498
<i>TOP1</i>	10189	0.355	0.334	0.154	0.231	0.465
<i>SOE</i>	10189	0.452	0.000	0.498	0.000	1.000
<i>InDir</i>	10189	0.370	0.333	0.052	0.333	0.400
<i>RPGDP</i>	10189	10.800	10.870	0.567	10.440	11.230
<i>RINDSTR</i>	10189	1.880	1.472	1.936	0.761	2.586
<i>RGE</i>	10189	6.152	5.935	1.841	4.714	7.725
<i>RGI</i>	10189	7.438	7.650	1.315	6.470	8.450
<i>RCORRUPT</i>	10189	21.84	21.75	7.119	18.11	26.31
<i>RTENURE</i>	10189	2.020	2.000	1.618	1.000	3.000
<i>RLAW</i>	10189	8.893	8.070	4.681	4.910	12.95
<i>RTAX</i>	10189	0.188	0.168	0.078	0.136	0.194
Panel B: Firm-province-year sample (excluding firm-province pairs where the province is firms' location)						
Variable	N	Mean	Median	Std. Dev	P25	P75
<i>TP_OPP</i>	19081	-1.496	-2.000	11.870	-10.000	7.000
<i>TP_DOPP</i>	19081	0.450	0.000	0.497	0.000	1.000
<i>FP_OPP</i>	19081	-2.831	-3.000	12.120	-12.000	5.000
<i>Match</i>	19081	0.673	1.000	0.469	0.000	1.000
<i>CAPEX</i>	19081	0.317	0.112	0.577	-0.011	0.353
<i>D_ROA_{1Y}</i>	19081	-0.009	-0.005	0.039	-0.025	0.010
<i>D_TQ_{1Y}</i>	19081	-0.235	-0.132	0.875	-0.630	0.172
<i>ΔVAdded</i>	19081	0.203	0.194	0.538	-0.071	0.458
<i>TPGDP</i>	19081	10.90	10.91	0.500	10.55	11.31
<i>TINDSTR</i>	19081	1.611	1.553	3.458	0.764	2.918
<i>TGE</i>	19081	5.412	5.086	1.636	4.118	6.739
<i>TGI</i>	19081	7.044	7.090	1.351	6.170	8.450
<i>TCORRUPT</i>	19081	21.19	21.43	6.706	16.93	26.29
<i>TTENURE</i>	19081	1.646	2.000	1.267	1.000	2.000
<i>TLAW</i>	19081	8.531	7.340	4.604	4.670	13.10
<i>TTAX</i>	19081	0.188	0.164	0.080	0.132	0.192

Panel B of Table 5 presents the results of Equation (3) using full sample. In column (3), the coefficient on *FP_OPP* is negative and statistically significant (coeff. = -0.009), indicating that firms with relatively lower opportunistic culture, tend to invest in provinces where the level of opportunistic culture is lower than that of their home province. In column (4), the coefficient on *FP_OPP* is positive and statistically significant (coeff. = 0.005), implying that firms with relatively higher opportunistic culture tend to invest in provinces where the level of opportunistic culture is higher than that of their home province. Collectively, firms tend to invest in provinces whose culture is more adaptable and compatible with their own corporate culture.

4.4. Cultural adaption and inter-regional investment performance

We employ Equations (4) and (5) to test hypothesis 3 and report the regression results in Table 6. Panel A of Table 6 provides the results of Equation (4). Column (1) reports

Table 4. Cultural adaptation and inter-regional investment tendency.

Dependent variable: <i>Nonlocal</i>	<i>Nonlocal = Amount</i> (1)	<i>Nonlocal = Num</i> (2)	<i>Nonlocal = Share</i> (3)
<i>Mismatch</i>	0.150** (2.378)	0.134** (2.108)	0.132** (2.062)
<i>Size</i>	6.200*** (9.134)	6.406*** (10.080)	8.507*** (13.656)
<i>ROA</i>	-5.590 (-0.528)	-1.840 (-0.187)	-4.339 (-0.440)
<i>Lev</i>	0.120 (0.034)	-0.859 (-0.256)	1.118 (0.335)
<i>MB</i>	1.956*** (4.868)	1.643*** (4.477)	2.065*** (5.600)
<i>Top1</i>	-16.068*** (-3.968)	-14.930*** (-3.973)	-14.819*** (-3.983)
<i>SOE</i>	-14.103*** (-9.494)	-14.332*** (-10.103)	-14.869*** (-10.572)
<i>InDir</i>	-24.224** (-2.231)	-20.573** (-2.029)	-22.390** (-2.222)
<i>RPGDP</i>	1.354 (0.230)	5.883* (1.812)	-2.247 (-0.441)
<i>RINDSTR</i>	0.010* (1.651)	-0.012*** (-3.099)	0.004 (1.045)
<i>RGE</i>	2.344* (1.719)	1.095** (2.036)	0.880 (0.811)
<i>RGI</i>	-3.051** (-2.325)	-2.561*** (-3.335)	-2.086* (-1.859)
<i>RCORRUPT</i>	-0.141 (-1.313)	-0.415*** (-4.187)	-0.153 (-1.325)
<i>RTENURE</i>	-0.322 (-1.027)	-0.228 (-0.795)	-0.147 (-0.512)
<i>RLAW</i>	-0.753** (-2.081)	-0.284 (-1.471)	-0.740** (-2.251)
<i>RTAX</i>	0.002 (-0.510)	0.004** (2.526)	-0.001 (-0.234)
<i>Constant</i>	-0.002*** (-2.679)	-0.002*** (-2.451)	-0.001 (-1.093)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Prov	Yes	Yes	Yes
N	10,189	10,189	10,189
Adj-R ²	0.099	0.127	0.138

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

a significant positive coefficient on $Match \times \Delta Vadded$ (coeff. = 0.043), consistent with the notion that capital allocation efficiency increases more when firms invest in a culturally adapted region. Economically, the capital allocation efficiency of a culturally adapted inter-regional investment increases by about 25% ($= 0.043/0.16 \times 100\%$) more than that of a non-adapted investment.

Panel B of Table 6 presents the results of Equation (5). In column (2), the coefficient on *Match* is positive and statistically significant (coeff. = 0.001) for D_ROA_{1Y} , implying that the ROA increases more from the year before to the year after the investment when firms invest in culturally adapted regions. We find similar results in column (3), where the dependent variable is D_ROA_{2Y} . Next, in column (4), the coefficient on *Match* is positive and statistically significant (coeff. = 0.037) for D_TQ_{1Y} , indicating the Tobin's Q increases more from the year before to the year after the investment when firms invest in culturally adapted regions.

Table 5. Cultural adaptation and location choice of inter-regional investment.

Variables	Panel A: Inter-province investment sample		Panel B: Full sample	
	<i>Rel_TPOPP=TP_OPP</i> (1)	<i>Rel_TPOPP=TP_DOPP</i> (2)	<i>D_TPOPP=-1</i> (3)	<i>D_TPOPP=1</i> (4)
<i>FP_OPP</i>	0.050*** (7.044)	0.015*** (5.977)	-0.009*** (-2.618)	0.005** (2.468)
<i>Size</i>	0.022 (0.335)	-0.006 (-0.194)	-0.161*** (-3.572)	0.050 (1.075)
<i>ROA</i>	-2.060 (-1.549)	-0.440 (-0.786)	0.118 (0.146)	-0.209 (-0.244)
<i>Lev</i>	-0.670 (-1.551)	-0.205 (-1.101)	0.289 (0.994)	0.434 (1.425)
<i>MB</i>	-0.047 (-1.148)	-0.030* (-1.647)	-0.013 (-0.564)	0.007 (0.282)
<i>Top1</i>	-0.224 (-0.438)	0.093 (0.474)	0.715** (2.254)	0.340 (0.965)
<i>SOE</i>	-0.445*** (-2.699)	-0.062 (-0.903)	0.391*** (3.413)	-0.086 (-0.719)
<i>InDir</i>	1.255 (1.259)	0.253 (0.627)	-0.546 (-0.815)	-0.669 (-0.966)
<i>TPGDP</i>	9.943*** (22.291)	3.833*** (16.460)	-0.344** (-2.133)	-0.239 (-1.342)
<i>TINDSTR</i>	0.002*** (5.194)	0.001*** (5.756)	0.000* (1.758)	0.001*** (3.923)
<i>TGE</i>	-2.340*** (-26.967)	-0.572*** (-15.302)	0.626*** (10.995)	-0.171*** (-2.836)
<i>TGI</i>	0.406*** (5.444)	0.348*** (7.908)	-0.504*** (-6.855)	0.194** (2.517)
<i>TCORRUPT</i>	-0.049*** (-4.891)	-0.018*** (-3.912)	-0.052*** (-6.805)	-0.065*** (-7.761)
<i>TTENURE</i>	-0.080* (-1.688)	-0.115*** (-5.331)	-0.033 (-1.124)	-0.162*** (-5.096)
<i>TLAW</i>	1.602*** (78.418)	0.499*** (39.594)	-0.283*** (-17.424)	0.197*** (10.324)
<i>TTAX</i>	-0.002*** (-23.614)	-0.000*** (-14.728)	0.000*** (6.359)	-0.000*** (-3.639)
<i>Constant</i>	-35.469*** (-4.076)	2.149 (0.636)	15.672*** (3.637)	9.311** (1.974)
Industry	Yes	Yes		Yes
Year	Yes	Yes		Yes
Prov	Yes	Yes		Yes
N	19,081	19,081		28,170
Adj-R ² /Pseudo-R ²	0.682	0.482		0.345

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

We also find similar results in column (5), where the dependent variable is D_{TQ2Y} . Overall, these results support our inference that capital allocation efficiency and financial performance increase more when firms invest in more culturally adapted regions.

Furthermore, we classify all inter-regional investments in our sample into four categories based on the relative opportunism level of the firm and target province. We then establish four dummy variables (i.e. *HL*, *HH*, *LH* and *LL*) to denote these four investment categories. Specifically, *HL* equals 1 if a relatively opportunistic firm ($FP_OPP > 0$) invests in a relatively non-opportunistic province ($TP_OPP < 0$), and 0 otherwise. *HH* equals 1 if a relatively opportunistic firm ($FP_OPP > 0$) invests in a relatively opportunistic province ($TP_OPP > 0$), and 0 otherwise. *LH* equals 1 if a relatively non-opportunistic firm ($FP_OPP < 0$) invests in a relatively opportunistic province ($TP_OPP > 0$), and 0 otherwise. *LL* equals 1

Table 6. Culturally adaption and investment performance.

Variables	Panel A: Capital allocation efficiency	Panel B: Investment performance			
	CAPEX (1)	D_ROA_{1Y} (2)	D_ROA_{2Y} (3)	D_TQ_{1Y} (4)	D_TQ_{2Y} (5)
<i>Match</i>	-0.036** (-2.513)	0.001** (1.970)	0.002** (2.084)	0.037** (2.034)	0.041** (2.336)
$\Delta VAdded$	0.167*** (5.198)				
<i>Match</i> $\times\Delta VAdded$	0.043** (1.986)				
Controls	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Prov	Yes	Yes	Yes	Yes	Yes
N	19,081	19,081	19,081	19,081	19,081
Adj-R ²	0.101	0.057	0.065	0.330	0.354

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table 7. Four cultural adaption pattern and investment performance.

Variables	Panel A: Capital allocation efficiency	Panel B: Investment performance			
	CAPEX (1)	D_ROA_{1Y} (2)	D_ROA_{2Y} (3)	D_TQ_{1Y} (4)	D_TQ_{2Y} (5)
<i>HH</i>	-0.004 (-0.054)	0.008*** (2.585)	0.007** (2.238)	-0.107** (-2.102)	-0.104 (-1.648)
<i>LL</i>	-0.121 (-1.068)	0.004* (1.819)	0.005* (1.715)	0.069** (1.968)	0.083** (2.329)
<i>LH</i>	0.068 (0.616)	0.001 (0.883)	0.001 (0.716)	-0.293*** (-4.599)	-0.285*** (-4.238)
<i>HH</i> $\times\Delta VAdded$	0.356*** (2.895)				
<i>LL</i> $\times\Delta VAdded$	0.274* (1.771)				
<i>LH</i> $\times\Delta VAdded$	0.177 (1.039)				
Controls	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Prov	Yes	Yes	Yes	Yes	Yes
N	19,081	19,081	19,081	19,081	19,081
Adj-R ²	0.101	0.065	0.083	0.318	0.336

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

if a relatively non-opportunistic firm ($FP_OPP < 0$) invests in a relatively non-opportunistic province ($TP_OPP < 0$), and 0 otherwise. We then explore the association between the four cultural adaptation forms and corporate investment performance.

In Panel A of Table 7, the coefficients on $HH \times \Delta VAdded$ and $LL \times \Delta VAdded$ are positive and statistically significant, while the coefficients on $LH \times \Delta VAdded$ are statistically insignificant. Similarly, the coefficients on HH and LL are positive and statistically significant in columns (2) and (3). These results show that the two culturally adapted inter-regional investment forms, 'HH' and 'LL', have higher performance growth than the non-adapted forms 'HL' and 'LH'. In columns (4) and (5), the coefficients on LL are both positive and statistically significant at the 5% level, indicating that opportunistic firms invest in opportunistic regions have greater firm value growth than non-opportunistic firms investing in

opportunistic regions. Moreover, the coefficients on *HH* and *LH* are both negative, and the coefficient on *LH* is larger and more significant. This result implies that firms investing in the relatively opportunistic regions have worse corporate value growth than investing in the opportunistic regions, while cultural adaption could mitigate this negative impact to some extent. Collectively, the results in Table 7 suggest that, compared to inter-regional investments with poor cultural adaptation, culturally adapted investing contribute to more favorable investment performance.

5. Mechanism and cross-sectional analysis

5.1. Underlying mechanisms

Our previous results show that cultural adaptation positively correlates with better inter-regional investment performance. To further understand of how cultural adaption positively influences inter-regional investment performance, we explore the possible underlying mechanisms through which this effect occurs. As we argued in Section 2, the influence of cultural adaption on inter-regional investment results from two main factors: better cooperation with stakeholders in the new environment and lower costs spent on target firms. Better cooperation with new stakeholders implies better revenue prospects, and lower expenses could save ineffective costs, both leading to better investment performance. We then investigate these two channels through which the cultural adaptation affects inter-regional investment performance.

Firstly, we test the effect of cultural adaptation on firms' cooperation with different stakeholders in the target province. We measure this cooperation by how much information firms disclose about their target province.¹⁰ If a firm cooperates more with stakeholders in the target region, its economic activities could be more related to the target region. Accordingly, the firm would involve more about the target region in its annual report. Specifically, we construct *TProv_Info* and *DTProv_Info* to measure this target region information disclosure. *TProv_Info* equals to the change of proportion of the target province in all provinces mentioned in the annual report. *DTProv_Info* is a dummy variable that equals 1 if *TProv_Info* > 0, and 0 otherwise. Panel A of Table 8 reports the association between cultural adaptation and firms' cooperation with stakeholders in the target province. In both columns (1) and (2), the coefficients on *Match* are significantly positive, indicating that firms disclose more information relevant to the target regions when firms invest in culturally adapted target regions. These results are consistent with the notion that firms cooperate better with stakeholders in target regions when they invest in culturally adapted regions.

We then test whether cultural adaptation is beneficial to reducing corporate costs and maintaining revenue growth. Panel B of Table 8 reports these test results. The dependent variable D_REV_{1Y} in column (1) equals to the change in the firm's sales from one year before the investment to one year after., while the dependent variable D_REV_{2Y} in column (2) equals to the change in the firm's sales from one year before the investment to two years after. Similarly, in columns (3) and (4), the dependent variables D_OC_{1Y} and D_OC_{2Y} measure the change in the firm's operating cost one and two years after the investment,

¹⁰The suggestions of the reviewer experts are greatly appreciated.

Table 8. Underlying mechanisms analysis.

Panel A: Cultural adaptation and corporate cooperation						
	<i>TProv_Info</i> (1)		<i>DTProv_Info</i> (2)			
<i>Match</i>	0.001** (2.161)		0.001* (1.813)			
Controls	Yes		Yes			
Industry	Yes		Yes			
Year	Yes		Yes			
Prov	Yes		Yes			
N	19,081		19,081			
Adj-R ² /Pseudo-R ²	0.157		0.136			

Panel B: Cultural adaptation and the changes of corporate cost and revenue						
	<i>D_REV_{1Y}</i> (1)	<i>D_REV_{2Y}</i> (2)	<i>D_OC_{1Y}</i> (3)	<i>D_OC_{2Y}</i> (4)	<i>D_GA_{1Y}</i> (5)	<i>D_GA_{2Y}</i> (6)
<i>Match</i>	0.006 (1.414)	0.002 (0.247)	-0.005** (-2.506)	-0.006** (-2.170)	-0.001** (-2.646)	-0.001** (-2.562)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Prov	Yes	Yes	Yes	Yes	Yes	Yes
N	19,081	19,081	19,081	19,081	19,081	19,081
Adj-R ²	0.096	0.089	0.081	0.091	0.081	0.089

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

respectively. The dependent variables *D_GA_{1Y}* and *D_GA_{2Y}* in columns (5) and (6) denote the changes in corporate management costs one and two years after the investment, respectively.¹¹ As we can see, the coefficients on *Match* in columns (1) and (2) are positive but insignificant, while those in columns (3) to (6) are all negative and statistically significant at the 5% level. These results suggest that firms do not have significantly higher revenue growth but have greater cost reduction when investing in culturally adapted regions.

5.2. Cross-sectional analysis: the influence of state ownership

In China, local governments both support and plunder local state-owned enterprises. On the one hand, the government provides political patronage to local SOEs so that they can obtain more resources to develop. For example, SOEs could count on surviving even after chronic losses, as banks always bail them out under the guarantee of the local government (Kornai et al., 2003; Lin & Li, 2004). On the other hand, the government often imposes its political goals on local SOEs, creating additional burdens and costs for those SOEs (H. B. Pan & Yu, 2011; Shleifer & Vishny, 1998).

SOEs' tendency of inter-regional investment could be subject to the goals of local government. On the one hand, because of the tournament mechanism, local governments have the incentive to keep SOE resources locally to obtain higher regional GDP. On the other hand, SOEs also need support from the local government. Therefore, even if SOEs cannot adapt to the local opportunistic culture, they are less inclined to invest across provinces compared to non-SOEs. Moreover, the location choice of SOEs may also be

¹¹We first divide the operating revenue, operating costs, and management costs by the total assets, respectively, and then calculate the change values of these indicators.

Table 9. The influence of state ownership.

	<i>Amount</i>		<i>TP_OPP</i>		<i>D_ROA_{1Y}</i>		<i>CAPEX</i>	
	SOE	Non-SOE	SOE	Non-SOE	SOE	Non-SOE	SOE	Non-SOE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Mismatch</i>	0.039 (0.433)	0.203** (2.263)						
<i>FP_OPP</i>			0.030* (1.832)	0.039*** (5.352)				
<i>Match</i>					-0.001 (-0.633)	0.002*** (2.761)	-0.014 (-0.686)	-0.041** (-2.141)
<i>Match</i> × <i>ΔVAdded</i>							0.009 (0.322)	0.068** (2.346)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	4,608	5,581	7,363	11,718	7,363	11,718	7,363	11,718
Adj-R ²	0.076	0.134	0.645	0.700	0.075	0.079	0.104	0.126

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

affected by the willing of the local government. Local governments are the important shareholders of SOEs and significantly influence the strategic decisions of SOEs (H. B. Pan et al., 2008; M. H. Wei & Liu, 2007), including the location choice of investment. Therefore, the impact of cultural adaptation on the location choice of SOEs is not as significant as that on non-SOEs. Finally, since many inter-regional investments of SOEs are motivated by political factors, under the guarantee of the government, SOEs could cooperate more smoothly with all kinds of stakeholders in the target province and rely less on cultural adaptation than non-SOEs.

To test this prediction, we divide the sample into SOEs and non-SOEs and test the influence of cultural adaptation on inter-regional investment in these two sub-samples, respectively. The regression results are shown in Table 9¹². In the even columns, which only contain non-SOEs, the coefficients of the core independent variables are positive and statistically significant at the 5% or 1% level. However, in the odd columns, which only contain non-SOEs, the coefficients of the core explanatory variables are statistically insignificant, except for the coefficient on *FP_OPP* in column (3), which is marginally significant at the 10% level. These results support our conjecture that the influence of cultural adaptation on corporate inter-regional investment is more significant in non-SOEs.

5.3. Cross-sectional analysis: the influence of regional formal institutions

Regional formal institutions also affect the relationship between firm-region cultural adaptation and inter-regional investment. Previous studies point out that in the regions where formal institutions are not well established, culture and other informal institutions could play a crucial role in corporate economic activities as a replacement (Luo & Tang, 2009), while in regions where formal institutions are well established, the impact of

¹²The regression results with *Num*, *Share*, *TP_DOPP*, *D_TPOPP* and *D_TQ_{1Y}* as dependent variables are consistent with those results of Table 9 and are not listed in the paper due to space limitation..

Table 10. The influence of regional formal institutions.

	<i>Amount</i>		<i>TP_OPP</i>		<i>D_ROA_{1Y}</i>		<i>CAPEX</i>	
	Good	Poor	Good	Poor	Good	Poor	Good	Poor
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Mismatch</i>	0.031 (0.359)	0.197** (2.217)						
<i>FP_OPP</i>			0.033* (1.859)	0.055*** (6.547)				
<i>Match</i>					0.000 (0.501)	0.002** (2.174)	-0.066** (-2.130)	-0.029* (-1.792)
<i>Match</i> × ΔV <i>Added</i>							0.003 (0.110)	0.096*** (4.130)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	5,092	5,097	9,527	9,554	9,527	9,554	9,527	9,554
Adj-R ²	0.109	0.122	0.579	0.833	0.061	0.064	0.108	0.119

t-statistics shown in parentheses are adjusted for clustering by firm. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

culture on corporate economic activities is relatively weak. Therefore, the effect of firm-regional cultural adaptation on inter-regional investment could be more significant in regions where the legal environment is poor.

To test this prediction, we divide our sample based on the yearly median of legal environment (X. L. Wang et al., 2019).¹³ We defined a region as good (poor) legal environment when the Law Index is higher (lower) than the median. We then test the effect of firm-regional cultural adaptation on the tendency, location choice, and investment performance of corporate inter-regional investment in these two sub-samples, respectively. Table 10 shows the results. In the even columns, where the sub-sample contains observations with the poor legal environment, the coefficients of the core explanatory variables are positive and statistically significant at the 5% or 1% level (coeff. = 0.197, 0.055, 0.002, and 0.096). On the contrary, in the odd columns, where the sub-sample only contains observations with a good legal environment, the coefficients of the core explanatory variables are statistically insignificant. These results are consistent with our prediction that the effect of firm-regional cultural adaptation on corporate inter-regional investment is more significant in regions with a poor legal environment.

5.4. Robustness checks

5.4.1. Regional economic and political factors

Since regional opportunism is closely related to regional economic and political factors, which could also affect corporate investment, our findings above could be driven by regional economic and political factors, rather than cultural adaptation. Although we have controlled regional economic and political factors in Equations (1) to (5), we conduct the following robustness tests to further rule out the effect of regional economic and political factors on our findings.

¹³Note that when testing hypothesis 1, the sample is divided into two sub-samples according to the Law Index of the home province. However, when testing hypotheses 2 and 3, the full sample is divided into two sub-samples based on the Law Index of the target provinces.

Firstly, we control the differences in the economic and political factors between home and target provinces in Equations (2) to (5) to mitigate the concern that our findings are driven by the differences in economic and political characteristics between the target and home regions. These control variables include differences in GDP per capita (D_PGDP), differences in industrial structure (D_INDSTR), differences in government efficiency (D_GE), differences in government intervention (D_GI), differences in government corruption ($D_CORRUPT$), differences in the tenure of officials (D_TENURE), differences in the legal environment (D_LAW), and difference in tax burden (D_TAX). In untabulated analyses, we find that our inferences are robust to including economic and political differences between home and target province as additional control variables in Equations (2) to (5).

Moreover, our measurement of cultural adaptation above may also capture the matching degree between corporate opportunism and regional economic and political factors. To mitigate this concern, we control for the effect of economic and political match between firms and regions on corporate investment, and examine whether cultural adaptation provide incremental information. Specifically, we add variables $Mismatch_GDP$ and $Mismatch_GI$ in Equation (1). Referring to the construction idea of $Mismatch$, $Mismatch_GDP$ equals to the absolute value of the difference between $FrOPP$ and the ranking of the gross product of the home province ($PrGDP$), indicates the matching degree between corporate opportunism and the economic development level of home province. Similarly, $Mismatch_GI$ equals to the absolute value of the difference between $FrOPP$ and the ranking of government intervention in the home province ($PrGI$), indicates the matching degree between corporate opportunism and the government intervention of home province. We also controlling FP_GDP and FP_GI in Equations (2) and (3). FP_GDP equals the difference between $FrOPP$ and the ranking of the gross product of the home province ($PrGDP$). FP_GI equals the difference between $FrOPP$ and the ranking of government intervention in the home province ($PrGI$). Finally, we controlling $Match_GDP$ and $Match_GI$ in Equations (4) and (5). $Match_GDP$ and $Match_GI$ measure whether corporate opportunism is compatible with the economic and political factors of the target region, respectively. In untabulated tests, we find that after controlling for these matching variables, the coefficient of the core explanatory variables in Equations (1) to (5) are all positive and statistically significant.

In addition, we divide our sample based on the yearly median of the GDP of target provinces, and rerun Equations (2) to (5) using these two sub-samples, respectively. The untabulated results show that the coefficients of the core explanatory variables in both sub-samples are positive and statistically significant, and there is no difference in the coefficients between the two sub-samples. These results indicate that the effect of cultural adaptation on corporate inter-regional investment exists regardless of the level of regional economic development level.

Overall, our inferences are unchanged after controlling for the effects of regional economic and political factors.

5.4.2. Alternative corporate opportunism measure

Previous research points out that tax avoidance is a typical opportunistic behavior through which firms keep the profits that should be allocated to the government (J. Wang et al., 2014). Therefore, we use corporate tax avoidance as an alternative proxy for corporate opportunism. Following Ye and Liu (2014), we measure tax avoidance as the

book-tax gap (*BTD*). The higher value of *BTD* indicates a stronger corporate opportunistic culture. With this alternative measure of corporate opportunism, we use the same method in Section 3.3 to create variables *Mismatch1*, *Rel_TPOPP1*, *FP_OPP1*, and *Match1* and rerun Equations (1) to (5). In untabulated tests, the coefficients of the core explanatory variables are positive and statistically significant. Hence, our inferences are unchanged with this alternative measure of corporate opportunism.

5.4.3. Alternative regional opportunism measure

Buying lottery tickets is an attempt to make a quick buck through a shortcut and is considered as a typical opportunistic behavior. The willingness of local people to buy lottery tickets could capture the strength of opportunism in this region. Therefore, we use the per capita welfare lottery sales (*LS*) of a province as an alternative proxy for the level of regional opportunism. The higher value of *LS* indicates a higher regional opportunistic culture. We then rank provinces according to the value of *LS* and create a variable *PrOPP2* to capture this rank. Replacing *PrOPP* with *PrOPP2*, we refer to the construction method of variables in Section 3.3 and get variables *Mismatch2*, *Rel_TPOPP2*, *FP_OPP2*, and *Match2* to replace *Mismatch*, *Rel_TPOPP*, *FP_OPP*, and *Match*, respectively. Rerun Equations (1) to (5) with these replaced variables, the untabulated analyses show that the coefficients of the core explanatory variables are positive and statistically significant. We find that our inferences are unchanged with this alternative measure of regional opportunism.

6. Conclusion

Exploiting listed firms establishing subsidiaries in China, we examine whether firms' adaptation to regional culture affects corporate inter-regional investments. We first propose that firms escape the home province where they are not culturally adapted through inter-regional investments. Empirical findings confirm our inference. The likelihood of a firm establishing an inter-province subsidiary is positively associated with the degree of mismatch between the corporate culture and the regional culture. Then we explore whether cultural adaptation between firms and regions affects the location choice and performance of corporate inter-regional investment. The results show that firms establish more subsidiaries in provinces where the regional opportunism is better matched with their own. Moreover, firms have better capital allocation efficiency and financial performance growth when investing in culturally matched provinces.

To further shed light on how cultural adaptation affects the investment performance, we conduct a mechanism analysis. We find that the culturally adapted investment increases corporate performance through promoting corporate cooperation with new stakeholders and reducing corporate costs. Finally, the cross-sectional analysis finds that the impact of cultural adaptation on inter-regional investment is closely related to state ownership and corresponding regional formal institution.

To the best of our knowledge, this is the first study that provides empirical evidence of the effects of the cultural adaptation on corporate inter-regional investment. Our findings potentially have broad implications for corporate practice and government policies. Cultural adaptation should be incorporated into the decision-making process of off-site investment location choice. If firms invest in regions with poor cultural adaptation, they should find ways to eliminate culture conflicts with target firms and other stakeholders in

target regions to improve investment efficiency. Moreover, our findings suggest that local governments need to play the important role of regional culture in attracting external capital flows, and provide an inclusive cultural environment for non-local firms.

We acknowledge that our results are subject to limitations and should be interpreted with caution. First, although this paper finds that the cultural adaptation has an important impact on corporate inter-regional investment along the cultural dimension of opportunism, the conclusion of this study may not be extended to all cultural dimensions, so the effect along other cultural dimensions needs to be tested in the future. Second, the effect of cultural integration between the firms and their target firms is an important base of our analysis, but it has not been directly tested in this paper. Therefore, future studies could further explore the potential impact of the cultural integration between the firms and their target firms on corporate inter-regional investment.

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