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Investment, institutions, and governance in Asia[1]

by

Emmanuel S. de Dios[2] and Geoffrey M. Ducanes[2]

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Abstract

We investigate the extent to which the investment slowdown in many Asian countries since the Asian Financial Crisis is attributable to changes in governance institutions. In the process we test the more general hypothesis that different aspects of governance will become relevant constraints to investment and growth at differing levels of countries' development. This hypothesis is validated and explains a standing paradox that finds certain governance aspects – notably voice and accountability and control of corruption – do not apparently figure as explanations in the average growth record. We show that in fact they do, though only at certain levels of development.

Investment, institutions, and governance in Asia[1]

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From one viewpoint, it appears misplaced to even pose the question of raising investment and growth in Asia. In the midst of the recent Great Recession it has, after all, been mostly countries in Asia that have manifested the greatest resilience and maintained comparatively high investment ratios. All this is relative, however, and when viewed in relation to the Asian financial crisis, investment ratios in Asia may be observed to have declined.

Table 1 shows this decline has been most pronounced in East Asia, where the average investment ratio fell from 30 percent in the five-year period immediately preceding the Asian financial crisis (1992-1996), to 24 percent in the succeeding period (2002-2006) and before the Global Recession hit. Declines were particularly marked in countries that were severely affected by the Asian financial crisis (e.g., Indonesia, Korea, Thailand, Malaysia Singapore, and the Philippines). A decline on average is also notable in Central Asia (from 25 to 21 percent of GDP). By contrast, South Asian countries as a group appear to have been less affected; in fact the average investment ratio even rose slightly between the two periods. Levels for Oceania (i.e., for countries where comparable data are available) on the other hand, have been more or less constant between the two periods.

Notwithstanding such broad generalisations, there are notable exceptions: investment ratios have continued to rise in China, Vietnam, and Mongolia, for example, despite the general decline for the sub-region, while Pakistan and Sri Lanka are exceptions in a region where investment activity has generally increased since the Asian crisis.

This paper seeks to explain whether considerations of institutions and governance can shed any additional light on this pattern. We examine global patterns, but special attention will be paid to the Asia and the countries that are the specific focus of this volume, namely China, India, Indonesia, Malaysia, Thailand, and Vietnam.

Complications and qualifications

Any attempt to draw broad generalisations regarding the post-Asian crisis investment-decline will immediately be fraught with difficulties and qualifications. Asian economies are themselves extremely heterogeneous in terms of their investment record, levels of income, and past growth performance – as well as the institutions surrounding their economic performance. Even the most basic growth theories will suggest that an economy's level of maturity, as captured, say by income per capita, will affect its rate of

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investment[3], and the wide differences in investment-outcomes have already been noted in the previous section. Such growth potentials and trajectories will also obviously differ depending on resource-endowments, size of internal markets, and so on.

Table 1. Investment ratios
(averages for 1992-1996 and 2002-2006; selected Asian countries)

Subregion and Country	1992-1996	2002-2006
East Asia	**30.1**	**24.1***
*Brunei Darussalam	31.9	14.3
Cambodia	12.0	18.4
China	34.7	39.3
*Hong Kong, China	28.8	22.2
*Indonesia	27.5	21.5
*Korea, Rep.	36.9	28.9
Lao PDR	n.a.	29.6
Macao, China	30.0	18.8
*Malaysia	40.4	22.2
Mongolia	25.5	28.5
*Philippines	22.8	16.2
*Singapore	35.6	24.3
*Thailand	40.2	25.9
Vietnam	25.3	32.2
South Asia**	**26.0**	**28.5**
Afghanistan	n.a.	21.9
Bangladesh	18.6	23.8
Bhutan	45.6	56.0
India	22.7	27.4
Maldives	31.0	33.9
Nepal	21.2	19.9
Pakistan	18.1	16.5
Sri Lanka	25.0	22.2
Central Asia	**25.1**	**20.7**
Kazakhstan	24.9	25.7
Kyrgyz Republic	16.7	16.6
Tajikistan	16.2	12.0
Turkmenistan	38.1	26.1
Uzbekistan	29.5	23.1
Oceania***	**18.4**	**18.8**
Fiji	15.1	18.4
Papua New Guinea	19.1	18.8
Solomon Islands	n.a.	9.4
Tonga	18.1	17.3
Vanuatu	21.3	20.8

*countries severely affected by the Asian financial crisis;
**excludes Afghanistan for comparability; ***excludes Solomon Islands for comparability

Beyond this, however, the nature of the investing actors themselves will differ across countries, as therefore will the factors (both narrowly economic and financial as well as institutional) that influence them. Important distinctions can be made between relatively open and closed investment regimes, as well as between those where the public sector plays a large role in financial and industrial-policy decisions. Countries with a history of central planning – such as those of China and Vietnam – are an obvious case in point. Even exogenous shocks, for example, will not be reflected in a similar manner as between

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[3] The Solow growth model, for example, represents this as an economy's distance from its steady state.

economies where a good amount of credit is allocated among state-owned enterprises and one where the private sector is largely free to make decisions.

Finally, one needs to consider the lingering effects of the Asian financial crisis and the more recent global recession itself. Three of the countries given particular treatment in this volume were heavily affected by the Asian financial crisis. It is a persuasive argument that the Asian financial crisis itself partook of many aspects of a "balance-sheet recession"[4]. This implies that (especially private) investment may not revive until corporate balance sheets have recovered from the post-recession regime of working off their debts. This in itself suggests an *a priori* reason why the investment recovery in affected countries may be delayed. Aside from purely economic factors, arising from the Asian financial crisis, political and institutional changes arising directly from or influenced by that crisis are also undeniable: Indonesia underwent an historic and sometimes violent political and social regime-shift; Thailand experimented successively (and occasionally even violently) with various electoral and military-supported political changes, while new opposition political forces waxed and waned in Malaysia. Even at a preliminary and superficial level, therefore, it can be easily argued that the explanation of investment ratios across countries is in principle "over-determined".

As for the influence of institutions themselves, an extensive literature already exists that generally associates institutional factors and measures of governance with economic performance.[5] Notwithstanding this, however, some controversy remains regarding the causality involved and empirical significance of the relationship. On the issue of causality, debate still rages as to whether good economic performance follows upon the adoption of "good" institutions, or whether such institutions are in fact the result of the former. As for significance, different empirical studies have found instances suggesting that measures of good institutions (or institutional outcomes) are not uniformly associated with improved economic performance. This may be seen even from Barro's earliest growth investigations [Barro and Sala-I-Marin 1995], which showed that measures of the rule of law and of political instability mattered for growth, while no strong relationship existed with other outcomes of ex-ante good institutions such as civil liberties, corruption, quality of the bureaucracy, expropriation risk, etc.

Here we follow North [1990] in defining institutions as "humanly-devised constraints" on human behaviour. These come in two forms: *formal* institutions refer to codified or explicit constraints on action, such as constitutions, laws, and rules and regulations promulgated in society. On the other hand, *informal* institutions take the form of norms and customs that also regulate behaviour but are not codified (making them difficult to measure directly). The conceptual relationship between "institutions" and "governance" has not always been clear (see e.g., Zhuang, de Dios, and Lagman-Martin [2010]), but here we follow Kaufmann, Kraay, and Mastruzzi [2003] and define governance as "the *traditions and institutions* by which authority in a country is exercised". In this way, therefore, we can conceive of governance as the *result* of both formal and informal institutions. Indirectly, therefore, the quality of institutions may be judged by governance outcomes.

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[4] The phrase is associated with Koo [2008], who used it to explain the Japanese recession of the 1990s. We owe to discussions with Felipe Medalla and Victor Valdepeñas many years ago the insight that this might apply to the Asian financial crisis as well. Insights along these lines were, of course, provided much earlier by Minsky [1975], whose ideas have enjoyed a revival since the onset of the most recent global recession.
[5] A recent survey is found in Zhuang, de Dios, and Lagman-Martin [2010].

This paper pursues the hypothesis that different institutions and measures of governance will matter to countries at different levels of development. We therefore take issue with the idea that all *a priori* desirable institutional aspects will matter and represent equally relevant constraints to growth. The latter idea is at least implicit in all empirical attempts to find relationships between measures of governance/institutional outcomes on the one hand and various measures of economic performance, on the other.

This issue is especially relevant for Asia, given the interest (both political and academic) surrounding the supposed exceptionalism of Asian institutions and their role in development, as well as the inherent heterogeneity of the countries involved. Many years ago, scholars like Chang [1990] (more recently also in Chang and Lin [2009]), have argued that – contrary to orthodox advice and representation[6] – deliberate protection and industrial policy by an activist state were important factors in the rapid industrial advance of Korea. In a somewhat simpler form, this discussion manifested itself in the "Asian values" debate of the 1980s (famously associated with Malaysia's Mahathir and Singapore's Lee Kuan-Yew), during which some Asian leaders defended existing authoritarian political systems and the restriction on civil liberties as necessary components for a state seeking to safeguard social stability, direct industrial priorities, or both. This view was subsequently echoed and given an analytical scaffolding by some scholars (e.g., Khan and Jomo [2000]) who proposed to understand the existence of rents (including corruption rents) as *at times* (though not always) necessary concomitants of the social stability that allows economic development to occur. It was argued, for example, that Malaysia's patently discriminatory and at times confiscatory race-based economy policy was historically necessary in order to purchase the social stability that allowed economic development to occur [Jomo 2000]. In a similar vein, Chang [1990] has long argued that the privileges allowed the *chaebol* early in Korea's economic history were needed as an enticement for their investment in what the leadership had decided were strategic industries.

More recently, these line of argument received support in a more general form and a mainstream source. In their ambitious typology of social orders, North, Wallis, and Weingast [2009] suggest that at a country's initial stages of development (i.e., in "natural" or slightly better "limited-access" orders) the need to control social violence is paramount and is typically achieved through elites reaching a *modus vivendi* among themselves to monopolise (or share) power and to extract rents. Such arrangements are fundamentally different from the ideal associated with the most developed Western countries (North, Wallis, and Weingast's "open-access orders"), where contestable political power and democracy prevail. Necessary conditions for the transition are the acceptance of the rule of law for elites, the existence of impersonal and long-lived social organizations, and control of the military.

The implications of the above framework are too rich to be fully discussed here. For this paper's purposes, it is sufficient to point out some stark *empirical* possibilities: namely, the possibility that a poor country with formal institutions appearing to guarantee democracy and civil liberties (or even having a sophisticated bureaucracy) may still perform poorly in pure economic terms if it is threatened by violence and lawlessness. In

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[6] Chang and other writers were concerned to correct the representation of the East Asian Tigers' success as a triumph of fairly liberal economic policies, as asserted, e.g., by the World Bank [1990].

this case, the absence of political stability or a breakdown in the rule of law may be more important for investment decisions (and hence for growth) than the presence of formal democracy, a related point made recently by Fukuyama [2008]. This also raises the possibility that countries with high levels of corruption may nonetheless perform satisfactorily if corruption-rents are a concomitant for the (elitist) control of social violence. Arguments of this type may also rely on some version of the Shleifer and Vishny [1993] argument that decentralised (contestable and duplicative) corruption may yield more inefficient results than the centralised kind.[7]

Indeed at lower levels of development, the shape of higher (e.g., national-level) political arrangements may matter little, since market-exchange may be more limited to local areas and in scale to begin with. Whatever formal or legal difficulties are imposed on private contracting can typically be moderated through informal arrangements, as suggested by Acemoglu and Simon [2004], the latter possibly including corruption, to the extent that such informal arrangements do not conform or even violate the letter of formal rules. In such cases, local-level institutions, including norms and lower-level accountabilities, may provide enough workable bases for contracting at smaller scales. Possible mechanisms that may mediate such transactions may include informal institutions associated with "Confucian" values, local trust, and relational contracting (*guanxi*).[8] This may partly explain why single-party systems arising from socialist mass movements (such as those in China and Vietnam) can nevertheless accommodate high investment and growth over longer periods. Even severe restrictions on civil liberties, say, as these relate to national-level politics and decisions, may continue to be compatible with a tradition for greater transactional flexibility and responsiveness with respect to local-level issues, and in this way, not hinder growth of a certain scale and sophistication. (See, e.g., Xu [1997] for a hopeful view and Thornton [2008] for a more pessimistic one on Chinese developments.)

As the scale of markets widens and anonymous exchange becomes more prevalent and necessary, however, such small-scale arrangements may prove increasingly inadequate, and one can anticipate a greater need for uniformity in the application of rules and laws over wider geographical areas and more varied transactions. At higher levels of income and development, as the "threshold conditions" described by North et al. [2009] come to be met, the larger scale and greater variety of projects bump up against the capacity and interest of state apparatuses to intervene. The growing number of and differentiation among non-state economic actors can be expected to create a greater demand for better policies and regulation and a more non-discriminatory application of rules based on objective criteria. At this point, concerns among investors (now more numerous and heterogeneous) for the quality of regulation may grow and threats to investments from capricious decisions is bound to make corruption a more pronounced concern. In the limit, the inability of the status quo to make such changes may create a demand for civil liberties and accountability at higher national levels.

In purely economic terms, another way to view the matter[9] is to imagine that at initial levels of development, a country operates well below its production-possibilities frontier. At that point, the environment will be "forgiving" of small mistakes, since movement in almost any direction is likely to represent *some* form of improvement. At higher levels of

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[7] Indeed, these authors use the Philippines' post-Marcos experience as a negative example.

[8] Zhuang, de Dios, and Lagman Martin [2010] noted that a number of high-performing Asian countries such as Vietnam and China manifested high levels of "trust" or social capital.

[9] We thank Juzhong Zhuang for this observation, which came up in earlier discussions.

resource-utilisation (e.g., at points at or close to the frontier), however, information requirements are bound to be more stringent, investment commitments larger, and the risk of mistakes greater. In such conditions, not only the correctness of decisions but also their social legitimacy is bound to represent a constraint on investment choices. At even higher levels of development, when societies seek to push the frontier of possibilities outward rather than merely approach it, innovativeness and creativity are likely to be compatible only with the freedom of inquiry and expression associated with full-blown formal democracy.[10]

Depending on its level of development, therefore, each country may face a different binding constraint, depending on level of development and historical circumstances. Governance, then, is not one thing but many; it is not a real number but a vector.

If at all, however, this discussion only qualifies the *instrumental* value of individual freedoms, civil liberties, and democracy for economic performance and does not touch upon what Sen [1999] has termed their *intrinsic* and *constructive* values. Each society, however, is left to transact among its own members exactly how far and when civil liberties and democratic institutions should be introduced in its own development path, the inherent dilemma for nondemocratic regimes being how any putative "social choice" is to be legitimised.

Tests and results

To recapitulate, this paper's advances the simple observation that different dimensions of governance may matter for countries at different levels of development. At low levels of income and with large reserves of unused resources, binding constraints may take the form of government effectiveness, the rule of law, and political stability. At early stages of development, the more immediate deterrent to growth may the fundamental insecurity of investments against the threat of violence, confiscation, and seizure by contending elites. Ultimately, however, as per-capita incomes increase and both the scale and variety of potential transactions expand, other governance factors such as the controlling corruption, permitting voice and accountability, and providing an intelligent scheme of regulation, may figure more prominently for sustaining high rates of investment.

Empirically, we build upon the results reported in an earlier paper by Quibria [2006], which failed to find a strong relationship between growth in a set of developing Asian countries and a constructed general measure of governance using the measures developed by Kaufmann, Kraay, and Mastruzzi (henceforth KKM). The KKM measures – which have since become widely used – are constructed indices of six dimensions of governance, namely: "voice and accountability", "political stability", "rule of law", "government effectiveness", "regulatory quality", and "control of corruption".[11] Subsequently, Zhuang, de Dios, and Lagman-Martin [2010] decomposed this general "governance measure" into various components and related these separately to growth performance on a global set of

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[10] This is by no means a novel idea; the discouragement of freedom of inquiry and thought was J. S. Mill's primary apprehension regarding an hypothetical collectivist society, which he thought would be inconsistent with the "diversity of tastes and talents, and variety of intellectual points of view" that are "the mainspring of mental and moral progression" (Book 2, Chapter 1, *Principles of political economy*]. Knowing what we do now regarding the continuing importance of creativity in a knowledge-based economy, we might well have added "material progression" to Mill's list.

[11] Strictly speaking, these governance indicators cannot be aggregated, as KKM themselves have cautioned.

countries and on developing Asian countries in particular. Asian countries were then classified according to whether they manifested a "surplus" or a "deficit" with respect to one or the other governance measure, depending on whether they fell above or below the value predicted b the global regression on income. They found that a loose enumeration of Asian countries' subsequent growth performance is more closely associated with earlier "governance-surpluses" (respectively, "-deficits") with respect to "government effectiveness", "regulatory quality", and "the rule of law". By contrast, dimensions such as "control of corruption", "voice and accountability", and "political stability" appear to have less predictive power.

While this earlier work represents a definite advance, it still suffers from the implicit presumption that the same relevant governance measures potentially affects all countries uniformly on average: they have, if anything, only restricted, the set of variables that might matter on average. Left unelaborated, it may also leave the impression of an unwarranted Asian exceptionalism, which argues that the institutions and conditions required for growth in Asia are inherently different from those required elsewhere.

If our hypothesis holds, however, what is really needed is an allowance for the possibility that *different* governance outcomes actually matter for countries at *different* levels of development, a fact that will be hidden by the estimation of average relationships (even those conditional upon per-capita income). We therefore build upon this previous empirical work and test the hypothesis of differentiated-governance influence by first partitioning the sample of countries based on their per-capita GDP in 1991-1995 then estimating the effect on the change in investment ratios between 1991-1995 and 2002-2006 as these relate to changes in measures of governance that are *salient* to each country's level of development.

Let then the sample of countries then be partitioned into mutually exclusive categories, say quantiles, Q_1, Q_2, …, Q_H and the various governance dimensions (e.g., voice and accountability, political stability, and so on) be indexed by G_i ($i = 1, 2, …, 6$). Each G_i is then mapped into the country-categories *for which we hypothesise it to be relevant.* This then yields the set of categories $Q(G_i) = \{Q_h, h \in \{1,2,…,H\}| G_i$ is an *a priori* binding governance-constraint$\}$. Hence for example, we may hypothesise that "voice and accountability" is a binding constraint only for countries in the second to the fourth quartile; this means $Q(G_1) = \{Q_2, Q_3, Q_4\}$. The value of governance measure i for country k is denoted as G_{ik} so that its change between the two periods is ΔG_{ik}. We then define the dummy-variable, D_{ik} such that $D_{ik} = 1$ for $k \in Q(G_i)$ and 0 otherwise. The governance regressors for the change in the investment is then for country k are then specified to be:

$$D_{ik} \Delta G_{ik} \text{ for all } i, k.$$

Denoting the change in the current investment-ratio of country k as ΔA_k, the specification for the regressions therefore take the following general form:

$$\Delta A_k = a_0 + \sum_i a_i D_{ik}\Delta G_{ik} + \sum_j b_j Z_{jk} + \varepsilon_k \qquad (1)$$

where the Z_{jk} denote controls variables that include, among others: (a) the country's previous level of GDP per capita; or alternatively (b) the change in GDP per capita in the previous period; (c) the previous level of A_j; (d) regional dummies. The use of GDP per capita as well as the change in that variable is based alternatively on the Solow model and

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a Keynesian accelerator. A negative coefficient is expected in the case of the Solow model, while a positive sign is expected if accelerator-related factors are taken into account.

The specification in (1) is to be contrasted with the notion that governance factors are equally binding so that a common relationship exists that relates changes in *any* governance-variable to *some* change in the investment ratio, which would be written as:

$$\mathrm{D}A_k = a_0 + \sum_i a_i \mathrm{D}G_{ik} + \sum_j b_j Z_{jk} + e_k \ . \tag{2}$$

A benchmark is provided by the "naïve" equation that seeks to explain the change in the rate of investment excluding all consideration of any institutional and governance variables. This is shown as Equation 1 in Table 2.1. Here, the only significant variables are the average investment previous period, the Asian-crisis dummy, and the Sub-Saharan Africa dummy, with the equation itself explaining about one-third of the variation. The only variable of interest to Asia here is then the Asian financial crisis.

The estimated Equation 2 in Table 2.1, on the other hand, includes governance variables but *without* differentiating their saliency according to countries' levels of development. This is essentially the implementation of the average relationship (2) above. The result is that only two governance variables appear to matter on average: rule of law and regulatory quality. Upon hindsight, this is a result similar to the Barro's earliest findings (reported in Barro and Sala-I-Martin [1995]) showing the rule of law but not democratic institutions to be an influence on growth and investment. This also essentially reproduces the Zhuang, de Dios, and Martin [2010] exercise showing only factors associated with rule-of-law and regulatory-quality variables mattering for growth in Asia. Given the nature of the sample involved, however, it is evident (contrary to what may be suggested by earlier work) that the phenomenon is not peculiarly Asian at all but rather a global one, thus undermining any case for Asian exceptionalism.

Our maintained hypothesis instead is that the lack of apparent influence of other governance variables effect is due to the failure to account for levels of development. Our first attempt to test the hypothesis in (1) above is shown as Equation 3 in Table 2.1, but with no restrictions imposed on the applicable governance variables; rather the full set of variables (G_1 to G_6) is regressed for each income-quartile, a procedure that is tantamount to allowing a differential impact of governance variables *within* each group, conditional upon regional dummies. The results plainly show that different governance measures do matter in different ways for investment in countries in different quartiles, bolstering this paper's main hypothesis. The governance variable that proves most relevant for the poorest quartile (Q_1) is the "rule of law". Meanwhile, "voice and accountability" and "regulatory quality" are significant and of the expected sign for the second quartile; corruption control is significant and of the expected sign for the third quartile, while regulatory quality again appears significant for the richest quartile.

In line with our maintained hypothesis that higher-order governance variables such as voice and corruption-control are less significant in the instrumental sense for poorer countries with large unused resources, we proceed to test more restricted sets of governance variables that are *a priori* regarded as more relevant to each quartile. Our favoured specifications are Equations 5 and 6, which include a dummy-variable identifying countries severely affected by the Asian financial crisis (which turns out to be

negative and highly significant), as well as changes in openness (though insignificant). Equation 5 uses initial per capita GDP (i.e., its natural logarithm) and the previous change in investment as controls and both have negative and significant coefficients, as the neoclassical theory suggests. On the other hand, Equation 6 replaces the level of GDP per capita with the change in per-capita GDP, as accelerator models of investment suggest. The coefficient of that variable is positive and significant, again consistent with theory.

Regional dummies for the Middle East and North Africa, Western Europe, North America, and Sub-Saharan Africa are also all significant with negative coefficients.[12] Initially puzzling but ultimately important in both Equations 5 and 6 is the perverse and significant coefficient of the anti-corruption variable in the first quartile, signifying that controlling corruption may have an *adverse* impact on investment for countries at that level of income. This is entirely consistent with the hypothesis, however. Given the pervasiveness and systemic nature of corruption in some of the poorest countries, significant efforts to combat corruption may unsettle vested interests that are already responsible for investment to a large degree under the existing equilibrium, so that at least initially, investment ratios may fall. Eliminating this variable from the set of regressors (e.g. Equation 4) leads to a significantly weaker performance of the equation, strongly suggesting that this effect cannot be ignored

When corruption-control alone is regressed on changes in investment ratios conditional on quartiles (not displayed) it shows a negative and significant effect only for Q_1 and the expected positive ones for Q_2-Q_4, although it is significant only for Q_3. This suggests its influence in the other quartiles may be confounded by a correlation with other variables.

The above results are robust in showing the rule of law to be the only variable that matters for countries in the poorest quartile; voice and accountability matter for the next poorest; the quality of regulation is significant for the second, third, and even the richest quartiles; while improvements in the control of corruption appear to matter in the conventional sense only for the third quartile.

In purely statistical terms, the inclusion of governance-indicators (i.e., moving from Equation 1 to Equation 6 in Table 2.1) raises the explanatory power of the equation (as represented by the adjusted-R^2 statistic) by some 25 percent.[13] As one moves from a specification that relates governance indicators to investment that disregards levels of development to one that does (i.e., from Equation 2 to Equation 5 in Table 2.1), adjusted-R^2 increases from 0.3975 to 0.4237, a further five-percent increase.

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[12] The comparator is Central and South America.
[13] Note that 0.4237/0.3373 = 1.256

Table 2.1. Change in gross investment ratio
(relative to GDP; 2002-2006 versus 1991-1995)

Variable	1	2	3	4	5	6
Constant	**20.49244**	**24.03978**	**23.78651**	**22.8767**	**21.97236**	**14.77054**
Ln of GDP per capita in 1991-1995	-.9053611	**-1.189827**	-.929884	**-.9775747**	**-.8741706**	
Change in GDP per capita in 1991-1995						.000288
Investment ratio in 1991-1995	**-.4805091**	**-.4881687**	**-.5404616**	**-.5021135**	**-.5072225**	**-.0851009**
Change in openness	.0214967	.020307		.0149557	.0144501	.0073649
Asian Crisis dummy	**-5.491743**	**-4.750761**		**-5.222663**	**-5.068646**	**-5.016919**
East Asia-Pacific dummy	-1.672479	-1.617621	-.4491171	-2.320848	-2.356231	-2.460095
East Europe-C. Asia dummy	-.0482465	-.9580861	-2.387824	-2.220965	-2.038624	-2.11433
Mid-East and N. Africa dummy	-2.702846	**-3.964106**	-5.163476	-4.456022	-4.357055	4.882911
South Asia dummy	2.129973	1.110524	.2896751	.4716163	.0286864	1.334655
Western Europe dummy	-1.304852	**-3.027254**	-4.704656	**-4.261546**	**-4.274935**	**-7.027077**
North America dummy	-.970269	-2.579541	-3.934331	-3.877361	-3.922107	-7.002583
Sub-Saharan Africa dummy	**-4.037999**	**-5.238709**	-5.821427	-5.302762	-5.219045	-3.853982
Improvement in rule of law		2.6309				
× Q1 dummy			7.33815	5.837588	6.899314	7.153036
× Q2 dummy			-.0652999			
× Q3 dummy			3.29519			
× Q4 dummy			-.9463313			
Improvement in control of corruption						
× Q1 dummy			**-3.620919**		**-3.773705**	**-4.02394**
× Q2 dummy			-1.409573			
× Q3 dummy			3.417352	3.302339	3.262329	3.408208
× Q4 dummy			-.1244986			
Improvement in voice/accountability						
× Q_1 dummy			1.071937			
× Q_2 dummy			5.698999	4.332847	4.309407	4.445405
× Q_3 dummy			-1.116899			
× Q_4 dummy			4.188836			
Improvement in regulatory quality		2.604041				
× Q_1 dummy			1.697484			
× Q_2 dummy			3.850848	3.188051	3.062253	2.597955
× Q_3 dummy			2.889007	3.2054	3.148746	2.76828
× Q_4 dummy			2.863027	3.739467	3.699804	3.070298
Improvement in political stability						
× Q_1 dummy			-.1990111			
× Q_2 dummy			-1.664573			
× Q_3 dummy			-1.09184			
× Q_4 dummy			.8453724			
Change in govt. effectiveness						
× Q_1 dummy			.8463122			
× Q_2 dummy			.8274293			
× Q_3 dummy			-1.566613			
× Q_4 dummy			.765996			
N	164	164	164	164	164	164
Adjusted R^2	0.3373	0.3975	0.3770	0.4104	0.4169	0.4237
Root mean square error	6.1131	5.8289	5.9582	5.7657	5.7342	5.7003

Note: Coefficients in boldface are significant at the ten-percent level or better.

Table 2.2. Change in gross domestic investment ratio
(relative to GDP; 2002-2006 versus 1991-1995)

Variable	5A	5B	6A	6B
Constant	23.87549	24.1362	14.55222	15.25657
Ln of GDP per capita in 1991-1995	-1.136733	-1.206602		
Change in GDP per capita in 1991-1995			.0002751	.0002891
Investment ratio in 1991-1995	-.5724277	-.5729402	.6252109	-.6224128
Change in openness	.0420954	.0418042	.0359619	.0359906
Asian Crisis dummy	-4.9731	-4.84753	-5.070281	-5.20041
Dependency ratio in 1991-1995		.0419469		-.074606
Bank credit, ratio to GDP, 1992-1996		-.0006917		-.0013684
East Asia-Pacific dummy	-1.009067	-1.029266	-.8877989	-.842667
East Europe-C. Asia dummy	-.1251076	-.3674666	-.4555196	-.094153
Mid-East and N. Africa dummy	-2.454569	-2.373515	**2.761028**	-2.868018
South Asia dummy	1.730663	1.760633	3.178371	2.958212
Western Europe dummy	**-2.782681**	-3.280329	**-4.71365**	-3.699297
North America dummy	-2.099154	-2.388362	**-4.499465**	-3.727073
Sub-Saharan Africa dummy	**-4.002732**	**-3.960766**	2.396525	-2.687162
Improvement in rule of law				
× Q1 dummy	**7.939351**	**7.123113**	**7.700631**	**7.662843**
× Q2 dummy				
× Q3 dummy				
× Q4 dummy				
Improvement in control of corruption				
× Q1 dummy	**-3.89432**	**-3.883651**	**-4.317154**	**-4.241121**
× Q2 dummy				
× Q3 dummy	**3.109323**	**3.006371**	**3.246485**	**3.442973**
× Q4 dummy				
Improvement in voice/accountability				
× Q_1 dummy				
× Q_2 dummy	**5.365525**	**5.361836**	**5.412771**	**5.328551**
× Q_3 dummy				
× Q_4 dummy				
Improvement in regulatory quality				
× Q_1 dummy				
× Q_2 dummy	**3.304738**	**3.284139**	**2.839041**	**2.88387**
× Q_3 dummy	**2.332015**	**2.377438**	**2.102299**	**2.066918**
× Q_4 dummy	3.616511	3.812148	.5731368	.3787444
N	156	156	156	156
Adjusted R^2	0.5458	0.5394	0.5487	0.5438
Root mean square error	4.8852	4.9191	4.8691	4.8957

Note: Coefficients in boldface are significant at the ten-percent level or better.

Accounting for demographic variables and the degree of sophistication of a country's financial system contributes little to the explanation. Table 2.2 shows specifications that involve past-period dependency ratios and the past-period ratio of bank credit to GDP (Equations 5A, 5B, 6A, and 6B), and neither proves significant. The incompleteness of data for these additional variables, moreover, reduces the sample size from 164 to 156 countries, which causes a loss in the significance of regulatory quality only in the richest quartile, improves the showing by the openness variable, as well as an improved fit. The direction and significance of all other governance variables are as before. In what follows, therefore, we revert to estimates involving the full sample.

Equations 5 and 6 in Table 2.1 involving the full sample correctly predict the change in investment ratios for 24 (out of 31) included developing Asian countries, with mean squared errors of 24 and 25.1 respectively.[14] By contrast, Equations 1 and 2 correctly predict 20 and 22 of these investment-ratio differences in Asia, with respective mean squared errors of 34.3 and 30.8.

Table 3. Decomposition* of contribution to explanatory power
(Governance variables in general versus
governance differentiated by countries' level of development)

Explanatory Variable	1	2	3
	Equation 2	Equation 5	Equation 6
Ln of GDP per capita in 1992-1996	0.028	0.021	
Change in GDP per capita 1996-2002			-0.004
Investment ratio in 1992-1996	0.295	0.306	0.336
Change in openness 1996-2002	0.002	0.001	0.001
Asian Crisis dummy	0.036	0.039	0.038
Regional dummies	0.034	0.032	0.036
Improvement in			
Rule of law (general)	0.017		
Regulatory quality (general)	0.040		
Rule of law: Q1		0.015	0.015
Control of corruption: Q1		0.009	0.009
Voice and accountability: Q2		0.013	0.013
Regulatory quality: Q2		0.019	0.016
Regulatory quality: Q3		0.007	0.006
Control of corruption: Q3		0.015	0.016
Regulatory quality: Q4		0.013	0.011
Sum governance variables	**0.057**	**0.089**	**0.086**
Residual	0.547	0.512	0.507
Total	1.000	1.000	1.000

*Following the method developed in Fields [2004].

More generally, the relative contribution of differentiated governance variables to explaining investment-rate changes is detailed in Table 3, which breaks down the contribution of each variable to the explanatory power of Equations 2, 5, and 6 (following Fields [2004]), with the total totalling unity, including the unexplained residual. Without accounting for development levels, governance variables contribute about 6 percent to explaining the variation of changing investment levels (Column 1). A consideration of

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[14] These mean squared errors (MSEs) are computed only for predictions for included Asian countries and are distinct from the global-sample MSEs reported in Tables 2.1 and 2.2.

development levels, however, raises the contribution to almost 9 percent, It may be said therefore that differentiating countries by development levels raises by 50 percent the capacity of governance variables to explain investment-rate changes. The table also provides a sense of the significance of changing governance. Changing governance certainly cannot claim exclusively, nor even primarily, to explain the bulk of the changes in global investment ratios. The most important variable appears to be the momentum of previous investment. Governance variables, on the other hand, account for as much as 17-18 percent[15] of the total variation explained by the best specifications and trump the contributions of changing per capita GDP, economic openness, and the Asian Crisis itself.

Relevance for Asia

Beyond statistical fit, the more important gain is the increase and differentiation in the number of significant variables and their potentially richer implications for theory and policy. To assess the relevance of these results for Asia, we classify countries according to per-capita income quartiles and then examine to what extent changes in the salient governance-variables relate to changes in investment (Table 4). The countries of specific interest in this volume happen to be neatly distributed, with India and Vietnam in the first quartile; China and Indonesia in the second, and Malaysia and Thailand in the third. By 2007, however, India and Vietnam had transited from the first to the second quartile, while China leapt from the second to the third quartile to join Malaysia and Thailand. Effectively, therefore, by the end of the period under consideration, all six Asian countries were in the second or third quartiles.

Table 4. Asia and the Pacific countries by real per capita GDP quartile (1992-1996)

Q_1	Q_2	Q_3	Q_4
Afghanistan	**China**	**China** (2007)	Australia
Bangladesh	Fiji	Marshall Islands	Brunei Darussalam
Bhutan	Micronesia, Fed. Sts.	**Malaysia**	Hong Kong, China
India	**India** (2007)	**Thailand**	Japan
Cambodia	**Indonesia**	Tonga	Korea, Rep.
Kiribati	Sri Lanka		Macao, China
Lao PDR	Maldives		New Zealand
Mongolia	Pakistan		Palau
Nepal	Philippines		Singapore
Solomon Islands	Papua New Guinea		Taipei, China
Vietnam	**Vietnam** (2007)		
	Samoa		
	Vanuatu		
Salient variables			
Rule of law	Voice and accountability	Regulatory quality	Regulatory quality
[Control of corruption]	Regulatory quality	Control of corruption	

Note: Quartiles based on all countries that have data on real per capita GDP in the Penn World Table

Among Q_1-countries during the period, Vietnam, along with Mongolia and Bangladesh, was an obvious example that conformed to the predicted average pattern, with investment rising with the rule-of-law measure. In the said countries, even the incidental slippage in the control of corruption is in line with the trend. India, on the other hand, showed a deteriorating performance in terms of the rule of law (which may itself have been

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[15] Referring to the last three rows of Table 3, that is 0.089/(1 − 0.512) and 0.086/(1 − 0.507), respectively.

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associated with laxer control of corruption), but nonetheless showed a markedly higher investment rate.

Among Q_2-countries, the results predict that improvements in voice and accountability and in regulatory quality should matter on average. In China's case, the perceived fall in regulatory quality during the period appeared not to have a negative effect, although improving voice and accountability contributed positively. Indonesia, on the other hand, showed a marked improvement in voice-and-accountability measures, obviously reflecting the regime-change to a more functional elective democracy since 1999 after three decades of Suharto's New Order. The improved investment ratio is consistent with this change, but this has occurred despite a significant deterioration in regulatory quality. As for other countries in this group, Pakistan, the Philippines, and Fiji, run true to predicted form on all counts, so that in these cases, deteriorating governance is augmented other factors to cause falling investment ratios.

The two countries of interest in Q_3, Malaysia and Thailand, both showed a deterioration in the two salient dimensions – control of corruption and regulatory quality – so that institutional and governance factors seem to contribute to an explanation of declining investment performance. The above also suggests that rapid performers such as China, Vietnam, and India, which have since crossed categories during the period may soon confront new constraints, for which they may be more or less adapted. In China's case, for example, new circumstances may compel it to confront problems of corruption more aggressively[16], while Vietnam and India are obviously differently situated in their ability to respond to possible concerns for regulatory quality and voice and accountability, where these are applicable.

The need for closer country historical studies

The above considerations based on average global relationships are significant, but it is important to emphasize that at the level of individual countries, these are suggestive at best, and it remains to be seen whether the principal factors suggested by this empirical analysis find confirmation in the experience of a specific country. While we are in no doubt that this framework is helpful guide, there should be no illusion it can substitute for in-depth and historical approaches to individual countries' conditions.[17] It should be particularly noted that (a) there is no claim that institutional factors alone are responsible for changes in a country's investment performance, although it has been shown to be a significant factor that must be considered. Our own position is that "institutions matter at some point" rather than that "institutions rule" without qualification. (b) In the same vein, however, a country may progress from or regress into one development category to another without necessarily having resolved all institutional issues of a previous stage – some of which may come back to bite it. This can be seen from significant (albeit non-Asian) examples of Middle East countries caught up in the so-called "Arab Spring". Given the fairly levels of per-capita income of such countries[18], one might have expected them to

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[16] Indeed, the authorities may already have become sensitised to this, given central measures recently announced which are designed to strengthen the government's corruption efforts.

[17] In the study one of us undertook of the Philippines, for example, while the country's categorisation suggests that voice and accountability and regulatory quality may be the relevant factors, a closer look indicates that corruption and political instability may have been the historically significant deterrents to investment [de Dios 2009].

[18] Egypt and Tunisia are in Q_3 while Libya is in Q_4.

have been pre-occupied by "higher order" governance issues such as regulatory quality and control of corruption, just like the Asian countries covered here. Recent events, however, make it evident that more fundamental "first-order" issues pertaining to democracy and accountability remained unresolved in those countries, with the process of their resolution leading to radical regime-changes that threaten political stability and the rule of law.

Keeping this in mind, it is notable that on the whole, most governance issues relevant to the Asian countries studied in this volume now pertain – subject to important qualifications discussed further below – only to the two broad issues of *regulatory quality* and *control of corruption*. This is so, since India and Vietnam have since transited into Q_2, while China has moved into Q_3. Table 5 provides the values of the World Governance Indicators for the relevant countries.

Table 5. Some governance indicators for selected countries
(2007; figures in parentheses refer to percentile rankings)

	Rule of law	Voice and accountability	Control of corruption	Regulatory quality
China	-0.45 (41.0)	-1.72 (4.8)	-0.60 (33.8)	-0.18 (49.5)
India	+0.14 (56.7)	+0.47 (60.2)	-0.37 (44.4)	-0.21 (47.1)
Indonesia	-0.64 (30.0)	-0.15 (43.3)	-0.60 (33.3)	-0.25 (44.2)
Malaysia	+0.57 (65.2)	-0.57 (32.2)	+0.35 (67.6)	+0.57 (67.5)
Thailand	-0.02 (53.3)	-0.61 (30.3)	-0.29 (48.3)	+0.16 (57.3)
Vietnam	-0.41 (43.9)	-1.60 (7.2)	-0.61 (32.4)	-0.43 (35.4)

Source: Kaufmann, Kraay and Mastruzzi accessed from:
http://info.worldbank.org/governance/wgi/index.asp

In one sense, the countries in question appear to have "passed over" or "outgrown" most of the "first-order" governance issues that typically afflict poorer or failing states, especially problems related to the maintenance of order, basic contract enforcement, and the maintenance of regime legitimacy and stability. An issue such as regulatory quality is, after all, ultimately a "higher-order" issue relating to the direction of policy rather than the capacity to formulate and implement policy itself. These include such issues as nationality restrictions, trade policies, industrial priorities and incentives, and financial regulations, which Kaufmann et al. [2008] sum these up as "sound policies and regulations that permit and promote private sector development". Likewise, that corruption issues should become prominent already presupposes that broad and formally impartial laws and rules are in place and a civil society or business community exists that expects such rules to be adhered to begin with. The saliency of the problem itself reflects the inadequacy or failure of informal institutions and modes of relational contracting to resolve transactional issues relating to business.

These issues are evident in the experiences many some individual countries. In Malaysia, for example, a major regulatory issue affecting investment has been the continuation of the preferential ethnic ownership quotas for large enterprises under the nation's long-standing *bumiputra* policy. It has been pointed out, among others by Hill [2010], that this policy has an obvious disincentive effect for non-Malays (particularly ethnic Chinese) to expand their businesses. It imposes a real penalty for entrepreneurs in so-called "Ali Baba" accommodations[19], as well as reinforces the continuation of the large role of

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[19] That is, arrangements in which Malays, in exchange for fees or directorships, front as majority shareholders for non-Malays to fulfill ethnic requirements and gain access to contracts.

government-linked companies in the economy, which have been important vehicles of patronage. While the ethnic quota pre-dates the Asian crisis, its deleterious effects on investment may have been exacerbated in the period of lower global growth. Moreover, the very uncertainty of the continuation of that policy – with the prime minister himself moving towards its reconsideration and given the ruling party's weakening political hold on power – may paradoxically contribute to the observed investment decline. The same post-crisis political weakening of the dominant UMNO party may lead to shorter horizons and paradoxically lead to demands for larger side-payments to create or maintain Ali Baba arrangements.[20]

The institutional factors affecting Thailand's recent economic performance are admittedly more complex than the scheme laid out above. A short discussion of it is still instructive, nonetheless, if only to prove the point that unresolved institutional issues may yet return to haunt a country. The average model predicts that for its level of income, Thailand should have "outgrown" questions of regime legitimacy and accountability. Yet it is evident that part of the dramatic deterioration in the Thai economy's investment performance must owe to the uncertainty[21] wrought by deep and unresolved political divisions that have persisted since 2005 and which have resulted in nullified elections, actual or threatened *coups d'etat*, violent mass demonstrations and their equally violent suppression – in short, concerns of regime legitimacy and accountability more typical of a Q_2 country. This strongly suggests, in the language of North et al. [2009], a failure among the country's elites (civilian politicians, the military, and monarchic circles) to agree on the process for a normal succession and sharing of power, but it also points to the deeper problem of social cohesion and the wide gulf between the urban middle classes and the rural population, which past economic growth has failed to bridge.

In this sense, Indonesia provides a contemporary contrast in that it continues to ride the wave of its having resolved legitimacy and accountability questions following the Asian crisis, an issue conformable to its level of development. (The decline in Indonesia's post-crisis investment rate is notably far less than that of Thailand.) It must be remembered, of course, that the current stability has been purchased at the cost of dealing with serious ethnic violence and separatist challenges in the period during and immediately after the Asian financial crisis. In the event, the successful operation of regular electoral processes and the meeting of regional demands with greater local autonomy (or, in the extreme, independence as in the case of Timor Leste) of some provinces have for now resolved questions of stability, legitimacy, and accountability and prevented these factors from interfering with the recovery of accumulation rates.

In the meantime, a growing concern with corruption has pervaded most countries considered in this study, but most notably China, Indonesia, and India. China's prime minister[22] has been quoted as saying that "corruption is the greatest threat to China". Official media has also been more forthcoming regarding the existence and scale of corruption, reporting for example on recent crackdowns on corrupt officials and almost casually mentioning a remarkable Ministry of Commerce estimate that more than US$30 billion has been illicitly taken overseas by some 4,000 corrupt officials over three decades.[23] It is difficult to judge the seriousness of such pronouncements and whether they

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[20] We thank participants of the ADB workshop for pointing this out.
[21] See also the paper by B. Nidiprabha in this collection.
[22] Wen Jiabao at the National People's Congress on 3 March 2011.
[23] See *Xinhua* (China Daily) at http://www.chinadaily.com.cn/china/2010-02/26/content_9506256.htm.

will ultimately lead to effective action; nor is corruption by any means a novel phenomenon. The government's express concern and greater official media frankness about the issue at this time, however, demonstrates its anticipation of a next-generation problem that resonates with a more sensitive civil society and a more demanding domestic and foreign business community. It is incidentally also in line with the simple sequence outlined here (i.e., China's rapid transit from Q_2 to Q_3). By portraying corruption as a serious issue that could "destabilise social stability"[24], the government there is clearly aware of the possibility that the issue might otherwise spill over into questions of regime legitimacy. The government, therefore, implicitly believes that addressing the corruption issue is a vital factor – and indeed possibly a substitute – for the other salient Q_2 variable – namely, voice and accountability, where China's low indicator placed it in the 4.8 percentile of countries in 2007 (Table 5). In particular, that the demand for pluralism, democratic processes, and civil liberties might be staved off – at least in the short-term – by a prompt response to the corruption issue and improved regulatory quality. At the very least, however, this is an untested theory, and it remains to be seen whether a substitution in historical practice is possible between mechanisms of social accountability even at higher levels of economic development – i.e., as between traditional institutions of liberal democracy, on the one hand, and the ability of a massive state bureaucracy to reform itself from within, on the other, or even whether a gradual transition from one to the other is possible. (For a pessimistic outlook, see Pei [2007].)

Not in the near term but in the future, such considerations are also likely to confront Vietnam, which shares the same features of party- and state-dominated economic decision-making as China. Vietnam actually ranks slightly worse (44th percentile) in terms of corruption than China (34th percentile, Table 5). The reason the corruption has not become more urgent in Vietnam – as follows from our framework – lies in the two countries' differing economic levels: the large number of various exploitable market opportunities and untapped resources at several levels allows sufficient returns to be earned by both large and small economic actors even in the presence of corruption. It may be anticipated, however, that – as in China – once the scale and sophistication of transactions reaches a certain level, margins will no longer be as generous as to accommodate grand corruption by officials. Especially relevant is a specific characteristic of recent Vietnamese growth, which is its high dependence on foreign saving and foreign capital[25], as contrasted with China's primary reliance on home investment. This means, among other things, that Vietnam is likely to confront a tougher and more fickle (because foreign) audience when the need to make palpable headway against corruption finally becomes urgent. In the short term, however, the lure of unused resources and a tolerable rule-of-law environment may be sufficient to sustain the rapid pace of investment in that country.

The significance of corruption in the other countries treated here is also unlikely to be as potentially dramatic as in China (or Vietnam's in the future). While media and politicians have also reflected the serious public concern over corruption in India and Indonesia, for example, this far less likely to spill over into questions of regime legitimacy for the future – although it might matter for the fate of particular governments. This is because unlike

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[24] Wen Jiabao on 25 March 2011. On this, see http://news.xinhuanet.com/english2010/china/2011-03/25/c_13798577.htm

[25] Vietnamese growth has been based on perennial current-account deficits, which have been largely offset by foreign direct investments. Total investment in Vietnam is foreign-owned by as much as 25-30 percent. (See the paper by Pham Lan Huong in this collection.)

China, India and Indonesia already have existing political processes that allow for the orderly change of ruling elites (e.g., as a rough indicator India and Indonesia were in the 60th and 40th percentiles of the voice-and-accountability index, as against China, which was in the 5th percentile, or Vietnam which is in the 7th percentile).

This country-by-country discussion largely illustrates our point: that the importance of various governance factors will manifest at different times depending on a country's level of development. Even this treatment, however, is suggestive at best, although we believe it represents a systematic improvement over other discussions of institutional factors that generally tend to be *ad hoc* and impressionistic. Further work can be undertaken to refine the relevant concept "development level" (we have only used the crudest form, which is a grouping according to per-capita income) as well as its empirical specification. More importantly, there can be no substitute for in-depth single-country studies through time in order to test the validity of results hidden behind the veil of averages.

Conclusion

We have advanced the hypothesis – straightforward but apparently novel in the formal literature – that the specific governance factors affecting a country's economic performance (here, taken to mean investment) hinge on its level of development. This idea has been tested empirically, and the results of that test have been themselves been examined against the specific situations of selected Asian countries.

On the whole, we conclude that governance and institutional factors do exert an influence on investment in Asia and that they form part of the explanation of the observed investment behaviour in the region. Governance factors such as the rule of law, the control of corruption, and the regulatory quality have been identified as being particularly relevant. Countries such as Indonesia, Malaysia, and Thailand have manifested lower investment ratios partly owing to the purely economic consequences of the Asian crisis, but also because of the changed relevance of existing institutions that that crisis has provoked. Changes in political institutions and practices have been adequate to clear the way for an eventual rebound of investment rates in some cases – but less so in others. Even countries such as China, Vietnam, and India, which have not experienced an investment slowdown during the period, however, will need to worry about taking the next appropriate steps to reform aspects of governance relevant to their histories and levels of economic and social development if they are to sustain the momentum they have hitherto enjoyed.

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