

# Ten years after the crisis: The facts about investment and growth

## Introduction

Ten years have passed since Asia's twin currency and banking crises. In many ways, an air of normality has returned. Per capita incomes in the crisis economies now surpass their precrisis peaks, social indicators are improving, and the region is again enjoying growth that is the envy of many parts of the developing world (Figure 1.4.1).

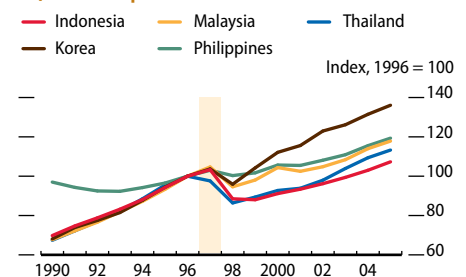
But despite welcome recovery, the effect of the crisis has not been completely erased. Growth has settled on a lower trajectory. Comparing the period 2000–2006 with 1990–1996, growth has slipped by an average of 2.5% a year in the five countries that were most directly affected (Indonesia, Korea, Malaysia, Philippines, and Thailand). The persistence of such a gap implies large permanent losses of income compared with precrisis trends. Indeed, if the impacts of the crisis on income levels are to prove transitory, a period of faster than “normal” growth would be required to compensate for the output “lost” during the crisis years.

An important question, then, is what explains the slowing of output growth: Is the deceleration simply an artifact of the precrisis boom and a shift to something more sustainable? Or is it symptomatic of deeper constraints that may be preventing output from matching its potential? This chapter of the *Asian Development Outlook 2007* looks more closely at these questions by examining the experiences of the five countries that were in the front line of the crisis.

Data on the evolution of growth in the five crisis countries are presented in the next section, *Has the crisis slowed growth?* These confirm that “trend” growth has fallen relative to precrisis “norms.” A growth accounting framework is then used to dissect growth in the third section, *Proximate causes of slower growth*. In only two of the five countries has there been a slowing in the rate of growth of employment and the impact of this on GDP growth has probably been quite small. A sharp deceleration in the rate of fixed capital formation, particularly by the private sector, is likely to have had a more pronounced impact on output growth. On a number of measures, investment rates now seem “too low.”

In the following section, *Why investment has tumbled*, possible reasons for the decline in investment are aired. Some of the factors that held investment back immediately following the crisis have receded. For example, it seems unlikely that financing constraints are important or that there is still significant underutilized capacity. Likewise, the idea that investment has been redirected from the crisis countries to competitive

1.4.1 Per capita GDP



Source: World Bank, *World Development Indicators* online database, downloaded 12 February 2007.

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export platforms in the People's Republic of China (PRC) and Viet Nam does not bear closer scrutiny.

Another idea is that “optimal” investment rates have come down. In the precrisis period, countries relied too heavily on investment for growth, and to a significant extent investment spending was wasted (see, e.g., Crafts 1999). But as a result of extensive policy and institutional reforms, saving is possibly now being allocated more efficiently, generating faster growth for a given investment rate. Although it is possible that the “optimal” investment rate is lower, this would not explain why output growth as well as investment is in a lower gear.

Perhaps the crisis has shaken beliefs about the ability of countries to sustain growth over the long term? Certainly, governments have lowered their ambitions on growth (as outlined in various planning documents) and, through rapid reserves accumulation, have revealed strong precautionary instincts. Likewise, private sector investors, rattled by losses and allergic to risks, and perhaps taking their cue from government, may have scaled back on what once would have been considered viable projects. There is also evidence to suggest that private investors have been busy fortifying their financial defenses by reallocating surpluses from “hard” investments to capital reserves and other liquid assets.

As expectations and confidence can exercise a decisive impact on behavior and outcomes, the penultimate section, *Risk, uncertainty, and investment behavior*, asks whether there is any evidence to support the idea that perceptions of uncertainty and risk have increased.

The last section presents conclusions, and suggests that the challenge of lifting investment and investor confidence lies in lighter but more effective regulation, improved governance, exposing sheltered activities to more competition, and building modern and efficient financial systems.

## Has the crisis slowed growth?

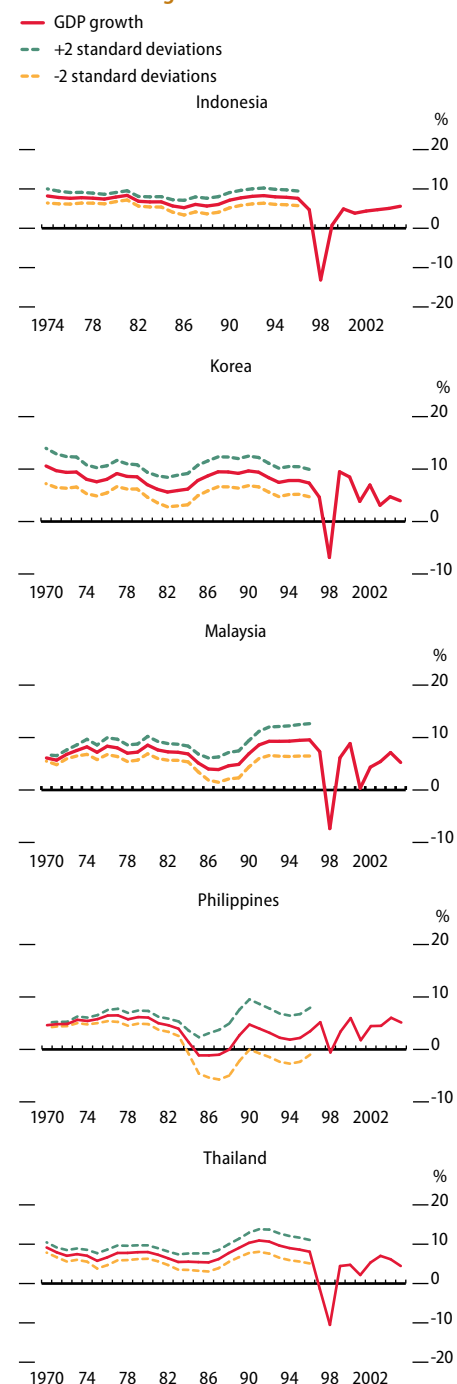
To answer this question, GDP growth rates are compared before and after that watershed. Trend growth in any precrisis year is defined as the unweighted average of annual year-on-year growth for the current and past 4 years. A 5-year average is a rather basic indicator of a trend, but is readily interpretable and transparent.

Estimated precrisis trends are shown in the panels of Figure 1.4.2. The trends are bounded by intervals that are two standard deviations wide. The intervals around trend growth provide an indication of the volatility of growth in the sample period, with wide intervals signifying greater volatility.

For the period 1997–2005, the graphs show actual growth rates, not trend rates. The reason is that it is difficult to identify a postcrisis trend that filters out the violent changes in growth that occurred during the crisis. Nevertheless, the graphs allow an informal judgment about whether the postcrisis experience “fits” with observed trends prior to the crisis.

In Indonesia, growth in each year from 2000 to 2005 is uniformly lower than estimated trends dating back to 1987. If 1986 is excluded, observed postcrisis growth rates are lower than trend estimates dating back to the early 1970s. Growth rates from 2000 to 2005 are also two or more standard deviations below the estimated trends in each year from

### 1.4.2 Precrisis trends and postcrisis realizations of growth



Note: All trends and standard deviations are calculated beginning in 1965, except Indonesia, where a 1970 base is used to eliminate the impacts of the economic dislocation that occurred in the mid-1960s.

Source: World Bank, *World Development Indicators* online database, downloaded 12 February 2007.

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1991 to 1996. These comparisons suggest that Indonesia's postcrisis growth experience does not readily fit with the precrisis pattern.

The evolution of Korea's growth rate is somewhat more complicated. Indeed, as a country whose per capita income is approaching that of rich countries in North America and Europe, and whose economic structure is maturing, Korea's potential growth rate would in any case be expected to moderate gradually. Perhaps there is some evidence of this in the data spanning the late 1980s and first part of the 1990s.

Also, unlike the other countries, Korea's growth bounced back quickly after the dislocation of the crisis, exceeding earlier norms. But since 2001, growth has drifted down. In 4 out of the 5 years from 2001 to 2005, annual growth was less than 5%. The last such episode of relatively slow growth was in the mid-1960s. On this metric, postcrisis growth does not fit the precrisis experience, but slowing most probably reflects lower potential at elevated income levels.

The data for Malaysia are similar to those for Indonesia. Even peak postcrisis growth in Malaysia is lower than estimated trends going back to 1992, and for most years it is far below trend. Much the same is true if the comparison is with the 1970s and the early 1980s. The apparent similarity with the mid-1980s is because the Malaysian economy contracted in 1985. So far, there is little evidence of postcrisis growth rates trending up.

Historically, growth in the Philippines has languished, buffeted by political and other shocks. Not only was there little evidence of "exuberance" in the Philippines prior to the crisis, the impact of the crisis on growth (if not the exchange rate) was delayed until 1998. And the resulting contraction was not in any sense unusual. The Philippine economy had shrunk in the mid-1980s and again in the early 1990s. Even in its more stable periods, per capita growth has only occasionally exceeded 3% a year. In recent times, the Philippines has, albeit with some undulations, reestablished growth rates comparable with the averages of the 1970s.

Two factors complicate an assessment of whether Thailand's postcrisis growth experience "fits" the precrisis pattern. First, trend growth was actually decelerating through the 1990s, after double-digit expansion in the late 1980s. Second, actual growth dipped in 1996, not in 1997 (or 1998) as in the other crisis countries. Thailand was first into the crisis, but not first out. If the growth acceleration of the late 1980s and the steady (though slowing) growth of the 1990s are seen as an aberration, then the postcrisis experience is similar to the 1970s, when Thailand expanded at a leisurely pace. But a reversion to 1970s' norms is probably not a relevant benchmark for gauging recovery. Judged against more contemporary experience, Thailand's postcrisis growth record has been ordinary.

The conclusions suggested by this simple descriptive approach are broadly supported by more sophisticated statistical methods. Using Bai-Perron tests, Jones and Olken (2005) identify growth decelerations for Thailand in 1995 and Indonesia in 1996, but no evidence of the subsequent accelerations that would be needed to restore precrisis trends. Berg et al. (2006), following a similar strategy, detect structural slowing in Korea in 1996 and in Thailand in 1995. In the case of Thailand, the slowdown is followed by an acceleration in 2000, but no acceleration is found for Korea. Finally, Cerra and Saxena (2005) conclude that there is evidence

of permanent output losses in the crisis countries, which have not been compensated by higher than “normal” growth rates.

Ten years on, it would seem that the crisis has had a lasting impact on output levels and, possibly, on growth rates too. But it would be hazardous to extrapolate and suggest that these shifts are permanent. Future trajectories are likely to be shaped by a variety of institutional and policy factors. Also, as Korea’s experience illustrates, there are other forces that pull growth and output levels. Indeed, had the crisis not occurred, investment and growth rates in Korea would probably have decelerated of their own volition.

## Proximate causes of slower growth

One way of dissecting growth is to identify how changes in the application of labor, human capital, physical capital, and technology have influenced its path. Changes in output growth can occur only if there has been a change in one or more of these components.

### Employment

Figure 1.4.3 shows average growth of the labor force and employment for the periods 1990–1995 and 2000–2005. In all countries but Thailand, the growth of the labor force slowed between the pre- and postcrisis periods. In the Philippines and Thailand, the growth of employment accelerated between the two periods, barely changed in Indonesia, and slowed in Korea and Malaysia.

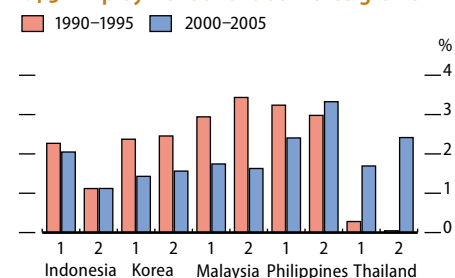
Clearly, this mixed picture cannot explain a general trend of slowing growth. Estimated labor shares in national income tend to be quite low in the crisis countries (some as low as 0.35). Taken at face value, a low labor share suggests that it would take quite large changes in employment or labor force growth to move growth rates by the observed magnitudes. Malaysia is the country where employment and labor force growth change most between the pre- and postcrisis periods: the rate of employment growth drops by 1.8 percentage points. This possibly could account for anything in the range of 0.7–0.9 percentage points of GDP growth a year, depending on the true labor share.

In the other countries, imputations would give much lower impacts, and in the Philippines and Thailand would suggest accelerating rather than slowing GDP growth. But unraveling causality is not straightforward. Labor force participation rates (and of course employment) are sensitive to economic conditions, which in turn will be influenced by growth and policies. In Malaysia, for example, where effects seem big, the gap between employment and labor force growth rates has, possibly, been influenced by policies on temporary workers and immigration.

### Human capital

Measuring the quality of labor is fraught with difficulty. Estimates of average years of education or educational attainments do not capture critical factors linked to quality (see the chapter *Education and structural change in four Asian countries*, also in Part 1). Leaving this shortcoming to one side, attempts to estimate the contribution of human capital to

1.4.3 Employment and labor force growth



1 = labor force; 2 = employment.

Sources: CEIC Data Company Ltd.; Bank of Thailand, available: [www.bot.or.th](http://www.bot.or.th); both downloaded 6 March 2007.

[Click here for figure data](#)

growth using growth accounting methods have come up with estimates that are generally quite small (Young 1995, Collins and Bosworth 1996). If these estimates are considered reliable, it would require an implausibly abrupt slowing of human capital accumulation, or even reversals, to account for the shifts in aggregate growth that have been observed in the crisis countries. Human capital's impact on the deceleration in growth is unlikely to have been big.

### Productivity growth

Technological progress is usually measured by growth in total factor productivity (TFP). TFP growth captures how much additional output can be generated for a given set of labor, human capital, and physical capital inputs. It is well known that estimates of TFP growth require a large number of assumptions and that they can be contaminated by errors in measurement of other inputs. For these reasons, TFP estimates should be considered with caution. Even for the same countries over the same time period, estimates of TFP growth often vary widely (see, e.g., Crafts 1999).

At an aggregate level, the effect of the crisis on TFP growth is likely to have been negative. There are at least two reasons for this. First, given significant fixed costs of capital investment and of hiring and firing of workers, it is likely that firms initially adjusted capacity utilization rates (see *Capacity utilization*, below) and workers' hours in response to lower demand. Second, as workers who lost their jobs moved into informal activity and back to agricultural work, this would have registered in declining aggregate productivity. Estimates of TFP growth by APO (2004) confirm that TFP growth collapsed during the crisis, but also suggest that TFP growth has since reverted to earlier trends (Figure 1.4.4). Taken at face value, these estimates imply that slower technical progress is an unlikely cause of the deceleration of growth.

### Fixed capital

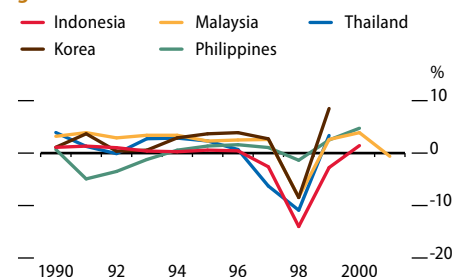
If changes in labor force growth, human capital accumulation, and TFP growth cannot easily account for the observed deceleration of output growth, it follows that capital accumulation has slowed. Slower capital accumulation requires either a lower ratio of fixed investment to output, or a decline in capital productivity, or both.

Figure 1.4.5 plots fixed investment rates. It is clear that investment rates declined steeply in the wake of the crisis. This experience fits with a much broader international pattern in which growth decelerations have been tied with declining investment ratios (Hausmann, Rodrik, and Velasco 2005; Rogers 2003; Attanasio, Picci, and Scorcu 2000). Having fallen, investment ratios have been broadly flat, showing little inclination to return to the levels seen in the precrisis period. In fact, declining capital productivity in Indonesia, Korea, Malaysia, and Thailand would require higher investment rates to deliver the same growth. Only in the Philippines might rising capital productivity have allowed investment rates to come down without pinching growth.

### Summary

In accounting for lower growth in the postcrisis period, it is possible that demographic factors and changes in employment growth play a role, but

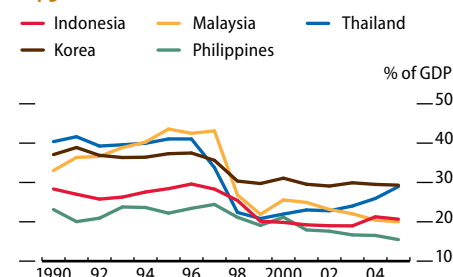
**1.4.4 Evolutions of total factor productivity growth**



Source: Asian Productivity Organization (2004).

[Click here for figure data](#)

**1.4.5 Fixed investment rates**



Source: World Bank, *World Development Indicators* online database, downloaded 12 February 2007.

[Click here for figure data](#)

a minor one and one that is differentiated by country. Changes in the rate of accumulation of human capital or in total factor productivity seem unlikely explanations. In all countries, investment rates have fallen and, except in the Philippines, impacts on growth are unlikely to have been compensated by higher capital productivity. In the next section, possible explanations for the fall in the fixed investment rate are canvassed.

## Why investment has tumbled

### Is investment too low?

Are fixed investment rates too low? If they are, what are the possible explanations for their fall? It may be that elevated investment rates prior to the crisis reflected asset price bubbles and that correction has now brought investment back to realistic levels.

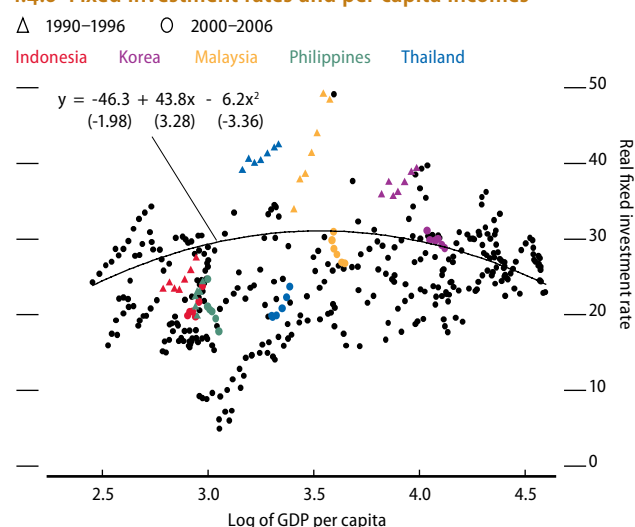
Figure 1.4.6 shows a scatter-plot of investment rates and per capita incomes pooling historical data for East and Southeast Asia. This panel suggests that investment rates follow a quadratic trend, first rising with per capita income and then tapering off. Clearly, there is substantial variation around predicted levels. Hong Kong, China stands out as an economy that grew quickly with comparatively modest investment outlays. At the other end of the scale, the PRC's investment rates are unusually high.

The figure contrasts pre- and postcrisis observations for Indonesia, Korea, Malaysia, Philippines, and Thailand. Controlling for per capita incomes, precrisis investment rates easily exceed their “predicted” levels and, with the exception of Korea, postcrisis investment rates fall below them. Chinn and Ito (2005), Eichengreen (2006), and IMF (2005) all provide evidence pointing to the conclusion that postcrisis investment rates are “too low.” But Korea may be an exception. Its per capita incomes are approaching a level at which investment rates would be expected to drift down naturally, and postcrisis investment rates are not too far from values that would be predicted on the basis of broader experience.

Perhaps the tumble in investment rates can be explained by factors unrelated to, but coincident with, the crisis? Two possibilities merit attention: a fall in the real price of capital goods, and shifts in the composition of output. It is unlikely that falling capital goods prices explain the decline in the investment ratio. Although the real price of capital goods (measured against the GDP deflator) has fallen, this effect has been small (Kramer 2006). Investment rates still drop sharply in the postcrisis period after controlling for changes in relative prices.

The impact of changes in economic structure on the investment ratio is not easy to disentangle. One way to look at the links is through changes in sector contributions to growth, and through changes in incremental capital-output ratios (ICORs). If output shares and growth are shifting toward sectors with low ICORs, this would bring the aggregate investment rate down. But this perspective implies an element

### 1.4.6 Fixed investment rates and per capita incomes



Notes: The trend line was computed using 1990–1996 and 2000–2006 data for the PRC; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; Philippines; Singapore; Taipei, China; Thailand; and Viet Nam. The colored triangles and dots identify data for the five countries most affected by the crisis for 1990–1996 and 2000–2006, respectively. The black dots represent data for the remaining years and the rest of the economies.

Sources: World Bank, *World Development Indicators* online database; Taipei, China data were from <http://eng.stat.gov.tw/public/Data/78298434471.xls> and <http://eng.stat.gov.tw/public/Data/782317224771.xls>; both downloaded on 12 February 2007.

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investment, not the other way round. Nevertheless, Figure 1.4.7 shows the sector makeup of changes in growth comparing 1990–1996 to 2000–2005.

Comparing growth in the pre- and postcrisis periods, industry and services account for most of the change. Except in Korea and Thailand, agriculture and services add more to growth, buffering the overall negative impact of the crisis. In Indonesia and Malaysia, the contribution of services to growth has overtaken that of industry. The reverse is true for Korea. Services contribution registered the largest increase in the Philippines in the postcrisis period. In Thailand, there were no shifts in the ranking of sector contributions.

It would be difficult to distill from this any general conclusions about the impact that sector shifts may have had on the investment ratio. But in a world where ICORs link changes in output to accumulation, slower growth will of itself lower the investment ratio. If industry has a higher ICOR than either agriculture or services, then growth decelerations in industry will matter most for the investment ratio. Looking at the data through this lens is certainly interesting, but still leaves the puzzle as to why growth rates have fallen overall.

### Public investment

It is also useful to establish the extent to which the decline in fixed investment rates is caused by falling public sector investment. Everhart and Sumlinski (2001) have estimated public and private components of aggregate investment ratios for a number of countries. In this dataset, public investment includes not only the capital spending of central government, but also of state and local governments, as well as capital spending of public enterprises. Figure 1.4.8 shows the percentage-point changes in public sector investment ratios for Indonesia, Korea, Malaysia, Philippines, and Thailand from 1997 to 2000 (the latest available data point). Only in Thailand was there a significant drop in public investment by 2000.

National accounts data for the pre- and postcrisis periods paint a slightly different picture. In Malaysia, public sector investment rates partially compensated for the fall in private investment, but in Thailand, public investment rates also dropped, but by far less than the fall in private investment.

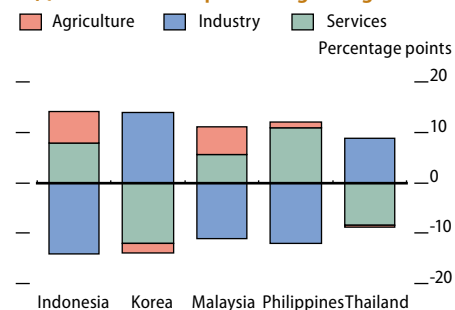
### Constraints on private investment

Mindful of the fact that public investment was not immune to the crisis, the remainder of the discussion focuses on factors that might have constrained private sector investment. Hausmann, Pritchett, and Rodrik (2005) suggest that low levels of investment are likely the result of either financing difficulties or low expected returns. If finance is a constraint, this could be because domestic finance is hobbled by low saving or poor financial intermediation, or because international capital is wary of country risks. But if the problem is low expected returns, a much broader range of candidate explanations presents itself.

### Loanable funds

While real credit contracted sharply after the crisis, there is now little evidence of credit constraints. Outside the Philippines, where savings

**1.4.7 Sector makeup of changes in growth**

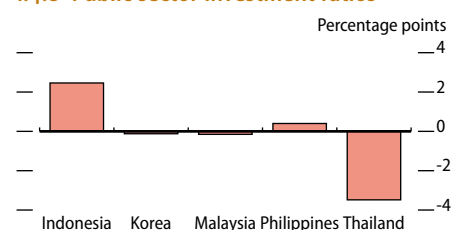


Note: Data for Malaysia and Korea are up to 2004 only.

Source: World Bank, *World Development Indicators* online database, downloaded 12 February 2007.

[Click here for figure data](#)

**1.4.8 Public sector investment ratios**



Note: Change calculated between 1997 and 2000, except for Indonesia and Korea, which is between 1997 and 1999.

Source: Everhart and Sumlinski (2001).

[Click here for figure data](#)

rates have been low for decades, domestic savings rates have remained high (Figure 1.4.9) and real interest rates are low by historical standards (Figure 1.4.10). Bank balance sheets have also strengthened greatly. Capital-adequacy ratios are up, nonperforming loan ratios are down, and banks have returned to profitability. Likewise, credit risks are lower, as corporate finances are now in better shape and property and other asset prices have recovered. International investors are again snapping up local equities. In short, there is little evidence of the generalized symptoms that would normally be present if finance was a problem.

This is not to say that there are no localized constraints on credit availability, perhaps for small businesses, or that some firms are not still handicapped by high levels of debt (see, e.g., Kramer 2006 and Lim and Kim 2005). As will be explained a little later, it is also most unlikely that investment is being held back by low levels of retained earnings.

### Expected returns

If financing is not a problem, it is possible that lower investment rates reflect a fall in expected returns. Expected returns will be influenced by a wide constellation of factors including productivity levels, the availability and cost of complementary factors, and competitive pressures. Investor beliefs and deeper institutional factors, while less tangible, are also likely to be important.

### Capacity utilization

The dip in investment rates that came on the heels of the crisis was hardly surprising. Sagging incomes and demand left firms with large amounts of underutilized capacity, which dragged equipment investment down. Construction activity collapsed as office property vacancies swelled. But nearly 10 years after the crisis, capacity utilization and property vacancy rates have more or less returned to “normal” levels (Figures 1.4.11 and 1.4.12), though Indonesia is still lagging. In the other countries, existing capacity may be sufficient to cope with temporary surges in demand but not with sustained expansion of output over several years.

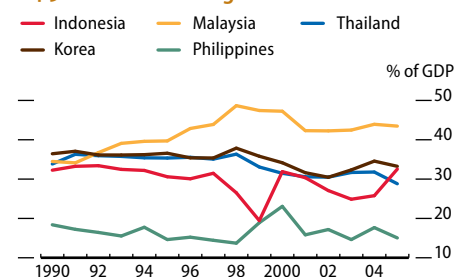
### Complementary factors

Bottlenecks in the supply of complementary factors can impede private investment. A large number of studies have pointed to the difficulties created by poor infrastructure and its impact on the costs of business (ADB, JBIC, and World Bank 2005). Infrastructure gaps have possibly widened in some of the crisis countries over the past decade and have added to business costs. But this should not be pushed too far as an explanation of why private investment spending ratios have dipped. Countries with relatively good infrastructure (Korea and Malaysia) as well as those with comparatively poor infrastructure (Indonesia and the Philippines) have seen their investment rates fall. Skill shortages might be another constraint on investment, particularly in Malaysia and Thailand.

### Investment diversion

Another popular explanation for the fall in investment rates is that the crisis countries are no longer as attractive as they once were as investment destinations. In particular, the emergence of the PRC, and to an extent

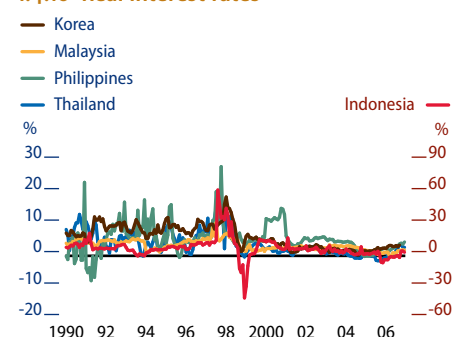
#### 1.4.9 Domestic savings rates



Source: World Bank, *World Development Indicators* online database, downloaded 12 February 2007.

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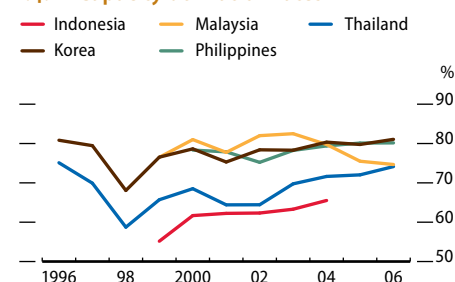
#### 1.4.10 Real interest rates



Source: International Monetary Fund, *International Financial Statistics* online database, downloaded 12 February 2007.

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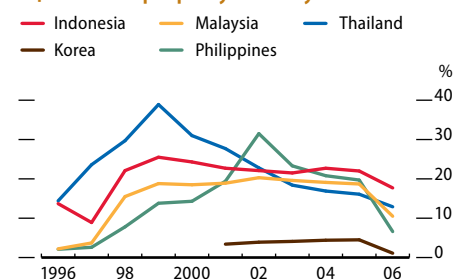
#### 1.4.11 Capacity utilization rates



Source: CEIC Data Company Ltd., downloaded 8 February 2007.

[Click here for figure data](#)

#### 1.4.12 Office property vacancy rates



Source: Jones Lang LaSalle, *Asia Pacific Property Digest*, various issues.

[Click here for figure data](#)



Viet Nam, as competitive export platforms has led to a diversion of investment flows. Figure 1.4.13 shows total foreign direct investment (FDI) flows over the period 1997–2005. Although there is some decline in the share of crisis countries through to 2003, this has been subsequently reversed. It is very likely that the PRC would have emerged as a competitive export platform even if the crisis had not occurred. The PRC cannot have a comparative advantage in everything, and even in sectors where it is an efficient producer, it seems that many investors prefer to diversify geographically rather than concentrate their FDI portfolio in the PRC (*Economist* 2007).

Eichengreen and Tong (2005) provide compelling evidence of complementarity in “vertical” FDI in East and Southeast Asia. Mutually beneficial spillovers are observed in industries that trade intensively in intermediate goods and parts (such as electronics). But for those industries (such as consumer goods and car parts) in which other countries directly compete with the PRC, there is some evidence of competition in other markets.

### Summary

Although some evidence suggests that precrisis investment rates were “too high,” postcrisis investment rates (outside Korea) now appear to be “too low.” Infrastructure bottlenecks (Indonesia and Philippines) and shortages of skilled labor (Malaysia and to a lesser degree Thailand) may have held private investment in check. But it is difficult to detect persuasive evidence of credit constraints, capacity overhang, or a blanket diversion of FDI to the PRC hampering investment.

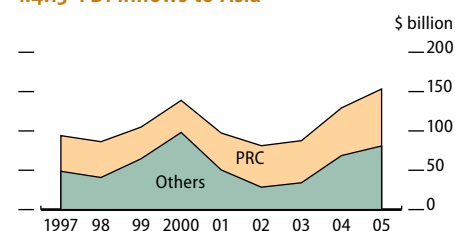
In the next section, the question is asked whether increased risks or uncertainty may have slowed growth and lowered investment rates.

## Risk, uncertainty, and investment behavior

The idea that beliefs can have a significant impact on investment spending is of course a very old one, vividly captured by Keynes’ allusion to “animal spirits.” Box 1.4.1 explains how risk and uncertainty may influence investment. An individual investor faces many potential sources of uncertainty and risk: the macroeconomic outlook; the policy and regulatory environment; and the “institutional arrangements” that protect people, secure property rights, and determine the overall quality of governance. In addition, foreign investors may be concerned about transfer risks, expropriation, and other factors.

The crisis bequeathed numerous policy and institutional changes (Rocha 2007). New governments came to power in Indonesia, Korea, Philippines (a bit later), and Thailand. Macroeconomic policies were recalibrated; currencies became more flexible and most central banks refocused their sights on inflation. Steps were taken to strengthen financial sectors, and to improve regulation and competition, including allowing greater foreign equity in sectors that had hitherto been off limits. And a raft of institutional changes followed, including new laws, the creation of new organizations intended to improve oversight and regulation, and shifts in the boundaries of decision making (e.g., decentralization). Regionalism acquired fresh impetus and initiatives

1.4.13 FDI inflows to Asia



Source: United Nations Conference on Trade and Development, *World Investment Report 2006* database, available: [http://stats.unctad.org/fdi/ReportFolders/ReportFolders.aspx?CS\\_referer=&CS\\_ChosenLang=en](http://stats.unctad.org/fdi/ReportFolders/ReportFolders.aspx?CS_referer=&CS_ChosenLang=en), downloaded 5 January 2007.

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### 1.4.1 Risk, uncertainty, and investment

A risk normally refers to a hazard that leads to loss. In economics, the term “risk” is sometimes also used to refer to chance occurrences that result in gain (so-called “upside risks”). Risks can be assigned a probability of their occurrence. Since risks are predictable, they can be managed. By contrast, uncertainty refers to states that are unpredictable or indeterminate and that may lie outside the realm of experience. It is not possible to assign a probability to something that is uncertain, or to manage uncertainty, or even to prepare for it.

While the distinction between risk and uncertainty is important, it is seldom retained in empirical research where risk and uncertainty are treated synonymously and are equated with statistical measures of volatility. Broadly, that is the approach followed here.

The economics of investment decisions in conditions of uncertainty suggests that an increase in the level of uncertainty may either increase or decrease the level of investment. An increase in economic uncertainty may raise the chances of a favorable outcome and trigger a positive investment decision. But this theoretical result is much less likely where firms cannot easily reverse investment decisions or where they face fixed costs—see e.g., Harris, Nguyen, and Scaramozzino (2006). These circumstances are typical of developing countries where financial and asset markets are less developed.

When investment decisions cannot be easily reversed,

increased uncertainty may create a benefit to waiting, as waiting should allow a clearer picture of likely outcomes. As a consequence, investments may be delayed or canceled.

The empirical evidence on the impact of uncertainty on investment suggests that the effects are usually negative (Asteriou and Price 2005; Lensink, Bo, and Sterken 1999; and Ramey and Ramey 1995). These and other studies are based on aggregate data using cross-country panels and concentrate on risks in the economic environment.

In a path-breaking study, Brunetti and Weder (1997) looked at a variety of measures of institutional uncertainty and traced impacts on investment. Looking at information for over 60 countries, they found that the rule of law, corruption, and real exchange rate volatility have significant effects on total investment spending. Alesina and Perotti (1996) had earlier found that social and political instability had a negative effect on investment.

Micro-level evidence is more difficult to come by. But in a recent study, Harris, Nguyen, and Scaramozzino (2006) examine the impact of uncertainty on the investment behavior of Thai firms over the period 1994–2002. They measure uncertainty using historical information on the volatility of firms’ own stock prices, and find that heightened uncertainty reduces investment (having controlled for other possible influences), but that this effect is modulated when investment decisions are reversible.

sprang up to fortify common, regional-level financial defenses; accelerate the development of regional capital markets; and improve economic monitoring, transparency, and information sharing.

But the crisis also taught private investors hard lessons about the consequences of discounting risks. Bankruptcies and widespread financial distress followed the crisis. Having been caught badly off guard once, investors are now possibly much more cautious than before. Indeed, new institutional arrangements may themselves have added to uncertainty. Even positive changes have adjustment costs and institutional changes are often slow. Moreover, the removal of implicit and explicit guarantees and subsidies increased competitive pressures, and weakening insider control may have increased risks for some.

In the public sector, the crisis was a sharp reminder of the importance of matching institutional progress and capabilities (particularly in the financial world) with expansion of the real sector. As a consequence, policy makers’ aspirations have now been lowered with sights set on growth rates that are more modest than those touted before the crisis. A sharp accumulation of foreign exchange reserves is another indicator of a heightened sense of caution.

Trying to measure these effects with any sense of precision and to disentangle their impacts on behavior is not possible. But information on macroeconomic forecasts, equity prices, corporate balance sheets, country

risk assessments, and measures of the quality of country governance may signal how moods have changed. Although such evidence is largely circumstantial, and perceptions can diverge from reality, these data may nevertheless suggest important changes in the background conditions that affect economic activity. While micro-survey data for risks and business conditions are also now available, they do not go back to before the crisis (Box 1.4.2).

### 1.4.2 Microbusiness data

The *Global Competitiveness Report 2006–2007* (World Economic Forum 2006), the *Doing Business* surveys (World Bank various years), and the *Investment Climate* reports (World Bank various years) provide a rich seam of information about the institutional and regulatory environments within which businesses operate.

Although the *Global Competitiveness Reports* go back to the 1990s, the information they provide is not readily comparable over long periods as samples and questions change. The *Doing Business* and *Investment Climate* reports both postdate the crisis, and so do not provide a benchmark with which to compare recent performance. The *Global Competitiveness Reports* and the *Doing Business* surveys rely on expert opinions and views, whereas the *Investment Climate* reports draw on large sample surveys of businesses.

The crisis countries fall into two broad categories when seen through the optic of these large international surveys. Korea, Malaysia, and Thailand tend to compare favorably on many indicators; Indonesia and the Philippines tend to lag.

In the *Doing Business* surveys, Korea, Malaysia, and Thailand rank in the top 30 countries in the world, with Indonesia and the Philippines trailing at ranks 135 and 126 (out of 175 countries), respectively.

In the most recent *Global Competitiveness Report*, Korea ranks 24, Malaysia 26, and Thailand 35. Indonesia ranks

number 50 and the Philippines is number 71 out of 125 countries.

While there is broad agreement in the surveys about Korea, Malaysia, and Thailand, the differences in (percentile) ranks for Indonesia and the Philippines are quite large. This may reflect differences in the objectives and scope of the surveys, with the *Doing Business* results focusing on a narrower range of quantitative indicators that are directly related to the costs of starting and operating a business. By contrast, the *Global Competitiveness Report* covers a wide array of indicators, including measures of governance, social achievements and capabilities, institutions, and the environment.

*Investment Climate* reports are available for Indonesia, Malaysia, Philippines, and Thailand (but not Korea). These were completed in 2004 and 2005. Each report is based on survey information collected from firms, which is analyzed with a view to identifying impediments to investment. Judged from an international perspective, Malaysia and Thailand offer comparatively hospitable conditions for business, showing little hint of the convulsions they experienced during the crisis.

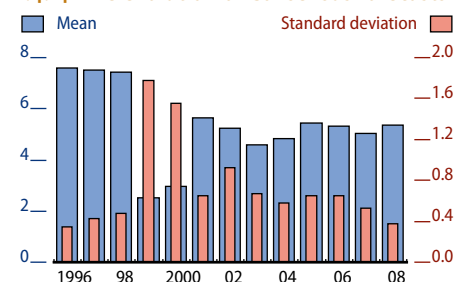
On the other hand, Indonesia and the Philippines compare unfavorably and are perceived to have weaknesses across the board. These results are certainly interesting, but as snapshots they do not allow a judgment about the underlying dynamics.

## Macroeconomic forecasts

Consensus Economics has published forecasts of selected macroeconomic indicators for Indonesia, Korea, Malaysia, and Thailand since 1995. By examining these data it may be possible to assess the degree of confidence that “experts” have in the outlook. If, for example, forecasts of growth move lower and the dispersion of these forecasts widens, this might indicate that risks to the outlook have increased.

In Figure 1.4.14, the evolution of Consensus Economics forecasts for GDP growth from January 1995 (the forecast for “1996”) through to January 2007 (the forecast for “2008”) are shown together with the standard deviation of the forecasts. The figure shows simple averages of mean forecasts and standard deviations. The impacts of the crisis are immediately apparent in the sharp drop-off in forecasts of average growth

1.4.14 The evolution of Consensus forecasts



Note: Data are 1-year ahead average forecasts for Indonesia, Korea, Malaysia, and Thailand; i.e., the forecast for 1996 was made in January 1995.

Source: Consensus Economics Inc., *Asia Pacific Consensus Forecasts*, various issues.

[Click here for figure data](#)

that occurred in January 1998. Relative to the years before the crisis, it is clear that private sector forecasters have lowered their sights, and are yet to raise them. Equally striking is the increased dissonance in the outlook that starts in January 1998 and is present through to January 2005. This could be interpreted as evidence that not only were private sector forecasters less optimistic than before the crisis, they were also much less certain.

### Equity values

Equity prices are often used as a barometer of investors' views of long-term growth and market prospects. Figure 1.4.15 presents data on real equity prices. These have been calculated both in domestic currency and in US dollar terms. In domestic currency units, real price indexes are defined as the benchmark index (measured relative to a 1990 base), divided by the consumer price index. The US dollar indexes convert the local indexes at market exchange rates, and are then divided by the US consumer price index. While the US dollar index is affected by exchange rate movements, capital flows and exchange rates are influenced by investor confidence, too.

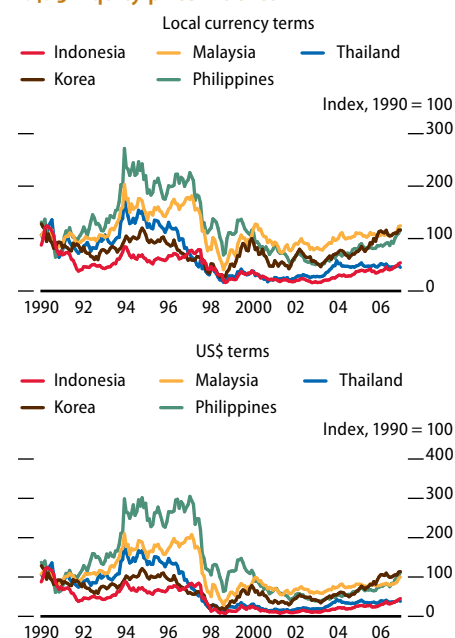
In domestic currency units, real equity prices in 2006 exceed values in 1990 only in Korea and Malaysia, while in US dollar terms, only Korea's equities have appreciated. Dollar prices in Indonesia and Thailand are less than 40% of their 1990 level and prices in Malaysia and the Philippines are about 15% lower. This might be taken as evidence that confidence in long-term growth prospects in the crisis countries has ebbed, leading to lower investment rates and slower growth (e.g., Lee and McKibbin 2006).

Equity prices have, admittedly, some limitations as a measure of investor beliefs about long-term growth prospects, and are just as likely to be influenced by short-term prospects for gains as by the long-term outlook. Certainly, surges in emerging market equity prices in 2006, which have continued through the first months of 2007, appear to reflect speculative positions taken by investors hunting for yield in highly liquid international markets. But to the extent that this has raised prices, it suggests that the present comparisons may exaggerate beliefs about long-term prospects. If, instead, comparisons are made between 1990 and 2005, all markets (including Korea) show lower prices in US dollar terms relative to a 1990 benchmark. These trends suggest that beliefs about potential growth may have been downgraded or that the risk premium may have been raised.

### Corporate balance sheets

Debt-equity ratios prior to the crisis had reached dangerously high levels and left debtor firms exposed to interest rate and market risks. A difficult process of debt resolution and workouts followed, but with the majority of the work being completed within 5 years. The data in Figure 1.4.16 capture trends in debt-equity ratios from 2002 to 2006. The ratios in this figure are expressed in ratios of the market value of debt to the market value of capitalization for all listed companies in each market. The sharp declines in debt-equity ratios over this period suggest a sustained effort within the corporate sector to protect against risks and fortify financial defenses by bringing debt exposure down. Figure 1.4.17 shows the evolution of credit (as a percentage of GDP) to the private sector over the period 1995–2005.

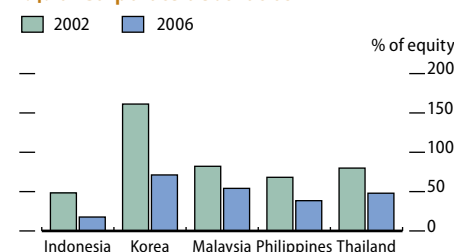
#### 1.4.15 Equity price indexes



Sources: CEIC Data Company Ltd.; International Monetary Fund, *International Financial Statistics* online database, both downloaded 12 February 2007.

[Click here for figure data](#)

#### 1.4.16 Corporate debt ratios

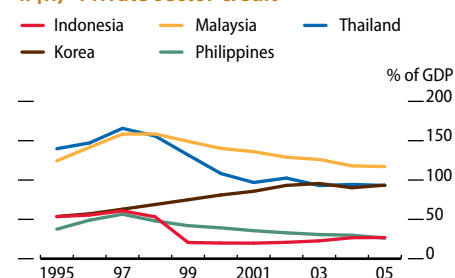


Note: In market value terms.

Source: <http://pages.stern.nyu.edu/~adamodar/>, downloaded 16 February 2007.

[Click here for figure data](#)

#### 1.4.17 Private sector credit



Sources: International Monetary Fund, *International Financial Statistics* online database; World Bank, *World Development Indicators* online database; both downloaded 2 March 2007.

[Click here for figure data](#)

## 1.4.1 Economist Intelligence Unit business environment ratings

	Indonesia		Korea		Malaysia		Philippines		Thailand	
	1995	2002	1995	2002	1995	2002	1995	2002	1995	2002
Overall business environment rating	6.4	5.5	6.6	6.7	6.5	6.8	5.9	5.8	6.5	6.7
Market opportunities rating	7.0	6.6	7.9	7.9	6.7	6.3	8.2	5.5	7.0	6.9
Macroeconomic environment rating	5.8	7.9	6.7	9.3	6.4	8.1	5.6	6.9	6.2	9.4
Labour market rating	6.2	5.6	5.7	5.7	6.5	6.2	5.7	6.9	6.0	6.6
Political environment rating	5.2	3.9	6.7	6.5	5.7	6.9	4.7	4.9	5.2	6.3
Infrastructure rating	4.3	3.9	5.9	6.2	4.8	5.1	3.6	2.8	4.6	4.4
Policy towards private enterprise rating	7.8	3.5	8.4	6.3	6.9	5.8	6.5	5.2	7.5	5.2
Tax regime rating	8.6	6.1	5.8	6.8	7.0	7.6	5.9	6.9	7.5	7.2
Financing rating	7.8	4.4	7.4	5.5	7.1	7.0	6.6	5.5	6.9	5.9
Foreign trade and exchange regime rating	6.5	7.8	6.2	6.6	7.2	8.3	6.1	7.2	7.2	8.3
Policy environment for foreign investment rating	4.3	4.9	6.6	6.1	5.7	7.2	5.5	6.1	5.6	7.2

Note: The ratings run from 1 to 10, 1 being low and 10 being high.

Source: Economist Intelligence Unit, "Market Indicators and Forecasts" online database, downloaded 9 March 2007.

Except in Korea, credit-to-GDP ratios have fallen relative to the precrisis period and would be consistent with heightened prudence. As credit to the household sector has been brisk in some countries, these data probably overstate flows of credit to the business sector.

## Economist Intelligence Unit business rating and risk indicators

There is a wide variety of data on the business environment and risks. The Economist Intelligence Unit (EIU) has been collating these data for the crisis countries over an extended period. Unfortunately, EIU does not provide measures of the reliability of these indicators, which rest largely on the judgments of in-country analysts and experts. Table 1.4.1 presents EIU business environment ratings. These ratings are centered 5-year averages, so the score for 1995 covers the period 1993–1997 and the rating for 2002, the period 2000–2004. These are used as approximations for the pre- and postcrisis periods. The more heavily shaded cells indicate where

## 1.4.2 Economist Intelligence Unit political and institutional environment ratings

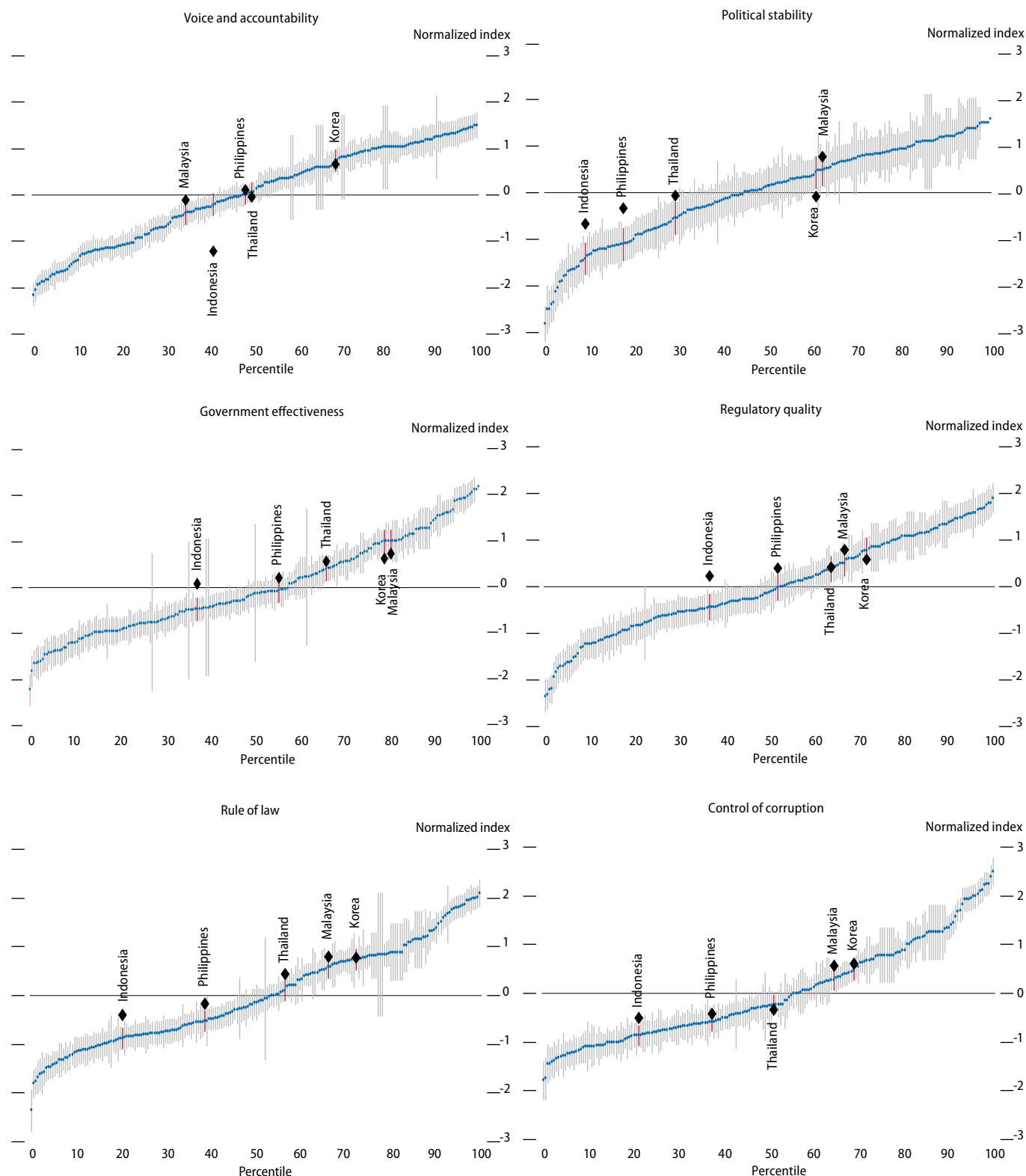
	Indonesia		Korea		Malaysia		Philippines		Thailand	
	1997	Post-crisis	1997	Post-crisis	1997	Post-crisis	1997	Post-crisis	1997	Post-crisis
<b>Overall risk score</b>	51.6	59.9	24.5	26.7	36.7	31.4	48.9	49.3	46.4	39.9
<b>Overall: Political risk</b>	61.4	79.2	27.3	41.6	38.6	49.0	43.2	66.2	43.2	53.6
Overall: Political instability risk	65.0	82.1	15.0	40.0	30.0	48.6	30.0	72.9	30.0	45.7
Overall: Political inefficacy risk	58.3	76.8	37.5	42.9	45.8	49.4	54.2	60.7	54.2	60.1
<b>Overall: Economic policy risk</b>	41.8	50.9	20.5	21.1	32.3	29.9	41.2	44.3	30.3	35.2
Overall: Monetary policy risk	47.2	62.7	22.2	31.8	41.7	29.0	41.7	46.0	47.2	43.7
Overall: Fiscal policy risk	20.0	39.3	5.0	16.4	20.0	38.6	5.0	63.6	10.0	37.1
Overall: Exchange rate policy risk	32.1	23.5	14.3	13.3	42.9	23.5	53.6	21.4	50.0	17.3
Overall: Trade policy risk	75.0	73.2	50.0	17.9	12.5	21.4	62.5	51.8	12.5	42.9
Overall: Regulatory policy risk	31.3	58.9	6.3	28.6	50.0	41.1	43.8	36.6	31.3	35.7
<b>Overall: Economic structure risk</b>	47.0	58.6	24.0	27.6	41.0	29.7	48.2	46.8	46.1	36.8
Overall: Global environment risk	43.8	63.4	25.0	43.8	50.0	59.8	43.8	64.3	43.8	56.3
Overall: Economic growth risk	10.7	62.8	14.3	32.1	17.9	40.3	42.9	49.5	25.0	49.0
Overall: Current account risk	57.1	27.6	42.9	7.6	75.0	10.7	57.1	21.4	75.0	12.3
Overall: Debt structure risk	56.3	59.8	6.3	1.8	6.3	0.0	31.3	41.1	12.5	12.5
Overall: Financial structure risk	78.6	89.8	35.7	69.4	67.9	53.6	71.4	70.4	85.7	68.4
<b>Overall: Liquidity risk</b>	60.0	53.9	27.5	18.2	35.0	18.2	65.0	42.1	70.0	36.1

Note: The ratings run from 1 to 100, 1 being low risk and 100 being high risk.

Source: Economist Intelligence Unit, "Market Indicators and Forecasts" online database, downloaded 9 March 2007.



## 1.4.18 Kaufmann, Kraay, and Mastruzzi governance ratings, 1996 and 2005



Note: The blue dotted line presents estimates for the 2005 governance ratings for each of the more than 200 countries in the worldwide sample, arranged by the percentile rank of countries from the lowest (worst) to the highest (best) rating. The thin black vertical lines represent the 90% confidence interval around the estimated 2005 ratings for each country. Black diamonds identify the corresponding ratings in 1996 for the five countries most directly affected by the crisis. These observations are (vertically) aligned with the 2005 percentile rankings for ease of comparison. A black diamond above (below) the blue dotted line indicates deterioration (improvement) in the governance rating for that country from 1996 to 2005. The 2005 confidence intervals for each of the five countries is identified by the red vertical lines.

Source: Kaufmann, Kraay, and Mastruzzi (2006).

[Click here for figure data](#)

scores deteriorate over the comparison period. The checkered pattern of ratings speaks for itself, but it is noticeable that on “policy towards private sector enterprise” and on “financing,” EIU ratings get worse in all countries. If these expert opinions or perceptions are widely shared, it would suggest that the environment for investment in the postcrisis period is now less favorable than before the crisis.

EIU also produces ratings that cover political as well as economic risks. Table 1.4.2 (above) presents these data. They, too, show a seesaw pattern, with improvements in some areas and regression in others.

## Governance indicators

Many empirical studies have found that the quality of governance has an important effect on investment and on economic growth (Aron 2000). The measurement of governance quality and performance is an inexact science though, and a wide variety of sources have been used to examine linkages to investment. The most comprehensive and reliable source of information is the so-called “KK” indicators, which were first released by Kaufmann, Kraay, and Lobatón (1999a and b).

The newly released KK survey data (Kaufmann, Kraay, and Mastruzzi [KKM] 2006) updates indicators to 2005, and revises earlier estimates to take account of new information and the inclusion of a larger number of countries in later samples. Consistent and revised data are available for 1996, 1998, 2000, and for 2002–2005.

Drawing together information from over 200 different sources, the KK indicators measure governance performance in six separate dimensions: voice and accountability; political stability; government effectiveness; regulatory quality; the rule of law; and control of corruption. The KK scores are distributed normally around a mean of zero with a standard deviation of one. This means that virtually all scores lie in a range from -2.5 to +2.5, with larger values signifying a better score. Estimates of the accuracy of the indicators are also available and these suggest that accuracy has improved.

A particularly useful feature of the KK indicators is that they allow international comparisons on a consistent basis. In Figure 1.4.18 a comparison of ratings on each indicator for each country in 1996 and 2005 is shown. The vertical lines show the 90% confidence intervals constructed using estimated standard errors from 2005. It is striking that out of 30 comparisons, governance ratings have fallen in 22 cases. For all countries, other than Korea, raw scores fall in three or more dimensions. On regulatory and corruption indicators there is a general pattern of deterioration, with only two exceptions (Thailand on corruption, Korea on regulation). Korea stands out as having improved in four of six possible categories. If ranks are compared across time, ranks fall in 28 cases. In 1996, the crisis countries were in the top half of all countries in 21 out of the 30 indicator values, but by 2005 they ranked in the top half in 17 indicators.

But are these changes in governance performance statistically significant? Of the 22 cases where governance scores get worse, 15 differences lie outside a 90% confidence interval using 2005 standard errors. In 4 of the 8 cases of improvement, ratings lie outside the 90%

confidence interval. *T*-tests of the statistical significance of differences suggest that 5 differences are significant at 90% (1 of which is an improvement). At a 75% confidence level, this number rises to 8.

A stricter measure still of the significance of differences is whether each of the paired scores lie outside each other's 90% (or 75%) confidence intervals. KKM (2005) observe that this test emulates a test for differences using a dynamic unobserved components estimator. At the 90% confidence interval, out of 30 comparisons, there are only 3 pairs that meet this criteria (including 1 improvement) and at the 75% interval this rises to 9 pairs (including 3 improvements).

KKM (2005) note that in the global sample, the proportions of changes in ratings that lie outside each other's 90% (75%) confidence interval is quite small. In the global sample, only 8.5% of changes qualify at the 90% confidence interval and 19.3% at 75% confidence interval. In the sample of crisis countries, the corresponding numbers are 10% and 30%. On balance, the KK measures suggest deterioration both absolutely and in terms of comparisons with other countries. However, it is possible that some of the observed changes may have occurred by chance.

## Conclusion

Real equity prices, EIU risk indicators, and KK governance indicators all point in the same broad direction, and suggest that firms and investors may now be more circumspect than a decade ago. Elevated precautionary behavior is also suggested by rapidly falling debt-equity ratios and slow growth of real credit to the private sector. And at least until 2004, there would also appear to have been more dissonance about the macroeconomic outlook than before.

But the crisis countries show significant differences in circumstances. The decline in Korea's investment rate and a lower growth trajectory is consistent with the maturation that occurs as income levels approach those of the richest countries in the world. Controlling for per capita income, Korea's postcrisis investment rates and growth may not be unusual.

In the case of Malaysia and Thailand, postcrisis growth and investment rates are possibly "too low." Although the evidence suggests that the overall business climate in both countries compares favorably internationally, increased uncertainty may have led investors to sit on the sidelines to wait for clearer direction. It is also possible that bottlenecks in the supply of complementary factors, particularly skilled technical and scientific workers, may have clipped growth.

The picture for Indonesia and the Philippines is somewhat different. Although performance on macroeconomic management has improved, their investment climate ratings and governance performance generally compare unfavorably in a wide international setting. There is also evidence of regression on a number of indicators, especially those related to economic regulation. It may be that earlier reforms need more time to gain traction, but the presence of deeply embedded institutional constraints, including high levels of corruption, may slow progress even then.

Looking ahead, Indonesia, Malaysia, Philippines, and Thailand all have ambitions to lift their growth rates, but not quite to the lofty heights

that were envisaged a decade ago. Indonesia's Medium-Term Development Plan aims to rack growth up to 7.6% by 2009 and anticipates a steady rise in the ratio of investment to GDP. Malaysia's Ninth Five-Year Plan sets a target of 6% growth over 2006–2010, an acceleration of 1.5% a year relative to the outcome during the Eighth Plan. In the Philippines, the National Economic Development Authority has set its sights on a GDP growth rate of 7–8% by 2009. By that time, investment in fixed capital is expected to be growing at a much faster clip of around 14–15% a year. Thailand, too, anticipates an acceleration of growth to around 6% which, it is anticipated, will be accompanied by strong investment growth.

But what needs to be done to encourage investment, and accelerate growth on a sustainable basis?

Macroeconomic policy appears to offer little maneuver for stimulating investment. Policy interest rates are now more firmly set with inflation prospects in sight in Indonesia, Philippines, and Thailand. Even in Malaysia, which has no formal adherence to “inflation targeting,” prospects for inflation are a significant concern in charting monetary policy. If the inflationary pressures were to retreat further, allowing policy rates to come down, this could stimulate investment, but real interest rates are already low by historical standards (Figure 1.4.10).

Fiscal options are also somewhat constrained. Infrastructure spending plans, particularly in Malaysia and Thailand, will have to be assessed in the context of other priorities and domestic debt levels that are still quite high. One possibility might be to deploy some portion of low-yielding foreign exchange reserves to help finance the import content of investment projects. Because a critical element in any assessment of country risk and uncertainty is the macroeconomic environment, continued adherence to prudent policies is what will help investment most.

Improvements in the investment climate are clearly needed, but priorities differ by country. The successful migration to higher-productivity industrial and services activities depends critically on having a pool of versatile workers with the right skills. In both Malaysia and Thailand businesses complain loudly of bottlenecks in the supply of workers with relevant skills. In Malaysia, the presence of a growing number of unemployed graduates alongside increasing vacancies for technical and managerial workers suggests that there is a mismatch between what is being taught at upper-secondary and tertiary levels and what firms need. Investment in quality and relevance, including high-quality business-oriented vocational training, is what is needed. Success in building a modern knowledge economy will depend critically on better educated teachers and relevant curricula. Thailand performs poorly on various infrastructure indicators.

Malaysia and Thailand also need to improve their regulatory environments. Labor market regulations, customs procedures, and ordinary bureaucratic requirements are widely cited as sources of uncertainty. In Malaysia, these burdens fall disproportionately on the largest and best performing firms, and the growth of the services sector is hobbled by lack of competition. In Thailand, tax, customs, labor, and ownership regulations are regarded as problematic by the business community. Improvement in these areas and in the quality of enforcing laws would reduce the risks and costs for business investors.

For Indonesia and the Philippines, where improvements have already taken place in the macroeconomic policy environment, the key to sustaining growth is likely to lie in improving the quality and performance of key institutions that influence investor perceptions about uncertainties, risks, and the costs of doing business. Clearly, useful advice needs refinement and has to be tailored to the country context, though in both countries (outside the financial sector) lighter regulation—but with much improved implementation—is required.

The *Investment Climate* report for Indonesia identifies “risks” as the leading concern among investors. Policy and regulatory risks are singled out. Although clarity on policy has improved, regulatory risks remain a problem. A second significant concern is the costs of doing business, which include the costs of corruption, as well as poor contract enforcement and regulation. Indonesia ranks poorly by international standards, and has seen no improvement in the past decade. Poor infrastructure also raises business costs in the country.

In the Philippines, too, governance issues are to the fore. Contract enforcement, corruption, and crime and security are of particular concern. The *Investment Climate* report suggests that added and avoidable costs in the Philippines place it at a disadvantage to the PRC. Poor infrastructure, particularly in power and transportation, add most to costs. Generally, the institutions of government are weak and this has slowed the pace of progress. Complex rules and regulations do not adequately address competition issues and continue to create fertile ground for rent seeking. In a variety of dimensions, prospects for raising investment and accelerated growth will depend on the capacity of institutions to move ahead and implement the changes that are required to reduce uncertainty and risk.

Finally in all countries, although a pickup in investment may not be sufficient for faster growth, it will help growth to accelerate if new investments raise aggregate productivity. Fundamental to this will be the ability of financial systems to direct resources to the best projects. This will not only require continuing improvements in banking regulation and supervision, but also the expansion of capital markets that price risks efficiently, improve information flows, and enhance liquidity. The opening of sectors that are still sheltered from competition (especially in services) could also help lift investment and growth. Lying at the intersection of these difficult challenges will be more effective institutions and improved governance.



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