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SURVEY OF RECENT DEVELOPMENTS

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SURVEY OF RECENT DEVELOPMENTS

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SUMMARY

Political and economic stability prevailed in Indonesia to early June 2007. President Yudhoyono made some badly needed changes to his cabinet, but left the core economic team unchanged. This inspired further confidence in the government's economic policies, yet it still fails to satisfy public expectations. The Lapindo mudflow disaster continues to weigh on the government, with no clear strategy apparent.

The economy shows stable macroeconomic fundamentals. Growth remained at around 6% p.a., driven mainly by investment and exports. The exchange rate strengthened and the stock market continued its rise. The central bank lowered the policy interest rate further, but this is likely to have little effect on growth, and brings some macroeconomic risks. Increasing or even maintaining current growth rates could be a challenge, given that export growth depends strongly on the global commodity boom, and improvements in the investment climate remain uncertain.

The parliament passed the long-awaited new investment law, which promises a more open and friendly investment regime. Doubts surround the implementation of the law, however. There are concerns that the new negative list could be overly protective and that the continued role of the Investment Coordinating Board may cause coordination problems among agencies and with sub-national governments. Boosting growth in manufacturing could be the key to higher overall growth. Structural change in the manufacturing sector over recent years has seen labour-intensive industry decline in terms of both output and exports, mainly because of rigid labour policies.

Efforts to boost private sector investment in infrastructure still show limited success. Implementation of regulatory and bureaucratic reforms is ineffective, and domestic financing remains in short supply. Public provision of infrastructure needs to increase, but suffers from shortcomings in fiscal management and a mismatch between the often cross-district nature of infrastructure projects and the now strongly district-based budgetary authority. Electricity supply exemplifies how the lack of well-designed investment strategies limits Indonesia's growth potential. Power sector investment has stagnated despite strong growth in electricity demand, and current plans for coal-based capacity expansion lack thorough planning.

An emerging long-term challenge for policy makers is climate change. Ahead of the December UN climate change conference in Bali, recent reports have highlighted Indonesia's vulnerability to climate change and its contribution to global greenhouse gas emissions, predominantly from deforestation. Slowing or halting of deforestation is unlikely to occur without large-scale international financial flows.

POLITICAL DEVELOPMENTS

President Susilo Bambang Yudhoyono (SBY), under pressure from falling approval ratings in the first few months of 2007, changed his cabinet line-up in May – the second reshuffle since his election in late 2004. The changes left the core economic team intact and as a result were generally well received in economic and business circles. The ministers replaced were seen to be either under-performing or corrupt. However, the reshuffle has not changed the fundamental impression that the SBY government is often doing too little too late, and failing to meet the expectations it has raised. The president's decision to retain cabinet ministers who are in poor health highlights this. A case in point was the Minister of Home Affairs, M. Ma'ruf, who at the time was having medical treatment in Singapore after a heart attack, and whose capacity to perform his duties was thus uncertain.

The following cabinet changes were made: the Minister of Human Rights, Hamid Awaluddin, and the State Secretary, Yusril Ihza Mahendra, were dismissed following their involvement in the transfer from Britain to Indonesia of \$10 million linked to Tommy Soeharto (the former president's son). Their respective replacements were Andi Mattalata, a Golkar Party member, and Hatta Radjasa (despite a widely held perception that he had failed as transport minister following recent fatal public transport accidents). Jusman Syafii Djamal, former president of the state-owned aircraft manufacturer, PT Dirgantara Indonesia, was appointed Minister of Transportation. Muhammad Lukman Edy, secretary general of the National Awakening Party (PKB), was appointed State Minister for the Development of Disadvantaged Regions, and Sofyan Djalil, formerly Minister of Communication and Information, replaced the State Minister for State Enterprises, Soegiarto. Djalil was replaced by Muhammad Nuh, former rector of the Surabaya Institute of Technology. Finally, attorney general Abdurrahman Saleh was replaced by Hendarman Supanji, a senior prosecutor and former head of the Anti-Corruption Team (Timtas Tipikor).

In contrast to the previous cabinet reshuffle, Vice President Kalla appeared not to have been involved in deciding these changes. This has been interpreted as a sign either of greater assertiveness by the president or of growing rivalry between Yudhoyono and Kalla. Late in 2006, tension between the two arose over the establishment of a special unit to support the president on economic reform. The intensified rivalry can also be sensed from an interview Kalla gave after the reshuffle, criticising the reform agenda set by the economic ministers and his minimal involvement in the cabinet changes (*Tempo*, 13/5/2007). The fact that Aburizal Bakrie has been retained (as Coordinating Minister for People's Welfare) shows the limits of the president's resolve, or possibly even of his power, in the face of political debts to this very wealthy minister. Many now see Bakrie, adversely affected by the continuing mudflow disaster, as a liability for the government.

Progress in dealing with the mudflow caused by the Lapindo company's gas drilling operations has been limited, reflecting badly on the government. Hot mud continues to flow near Surabaya, and there is still no clear and effective strategy in place to deal with the impact of the disaster, especially the compensation and resettlement of displaced people and businesses. Last year the government instructed Lapindo to pay Rp 3.8 trillion (about \$418 million), with Rp 2.5 trillion (\$275 million) allocated for social compensation and the rest (Rp 1.3 trillion, or \$143 million) for efforts to stop the mudflow. At the end of May, little had been spent on social compensation, and many cases of delayed or rescheduled

payment had been reported (JP, 16/5/2007; 30/5/2007). It is not clear whether the delays in payment were due to administrative and legal problems such as verification of land ownership or to Lapindo's financial constraints. In the face of the disaster's social and economic impact on the affected region, the government has finally committed to rebuilding infrastructure such as toll roads, railways and electricity lines, setting aside Rp 2.5 trillion (about \$275 million) from the state budget (JP, 12/4/2007). This amount is far below the projected cost of rebuilding, estimated at Rp 7.6 trillion (about \$835 million) according to the Minister of Public Works (JP, 6/3/2007). The gap suggests government unwillingness to bail out Lapindo, rooted partly in uncertainty about whether the company would repay the rebuilding costs. The episode raises broader questions about liability for large-scale accidents in mining and energy extraction.

Opinion polls in early 2007 showed a significant loss of public support for SBY. The poll by Lembaga Survei Indonesia in March 2007 found his public support to be 50%, down from 67% in December 2006.¹ The decline was attributed to a perception of weakening economic conditions despite respectable GDP growth in 2006. However, the president retains significant political capital and high personal esteem in the electorate. Observers consider that the 2009 election is still SBY's to lose (Ward 2007). It stands to reason that the defining issues for the election will be economics and security. The security situation has generally been good, with peace restored in Aceh, no further terrorist attacks on Western targets and various arrests made of suspected terrorists. Economic growth has picked up after adjustment to the fuel price increases. The unemployment rate in February 2007 showed another slight fall to 9.8%, from 10.3% in August 2006 and a peak of 11.2% in November 2005. The release of new poverty numbers, expected to be announced by the president in August, could carry significant political weight.

GROWTH AND MACROECONOMIC TRENDS

Economic growth

The economy continued its solid performance after adjusting to the 2005 fuel price rise. GDP grew at 6% year on year in the first quarter (Q1) of 2007 (table 1).

On the expenditure side, household consumption grew at 4.5% year on year during the first quarter, up somewhat from the preceding two quarters. Consumption growth has been below GDP growth in the last two years, suggesting a decline in the importance of household consumption in growth. The World Bank (2007a: 6) notes that the contribution of consumption to growth fell from 74% in 1999 to 63% in 2006.

Government consumption grew at 4.3% on a year-on-year basis in the March quarter. This was significantly lower than in the same period in the preceding five years. Low government spending in the first quarter is probably the main reason: it reached only 14% of total budgeted expenditure for 2007 (*Bisnis Indonesia*, 14/4/2007). If the past pattern of most expenditure occurring late in the year is repeated, the contribution of government spending to growth will remain weak at least until the third quarter of 2007.

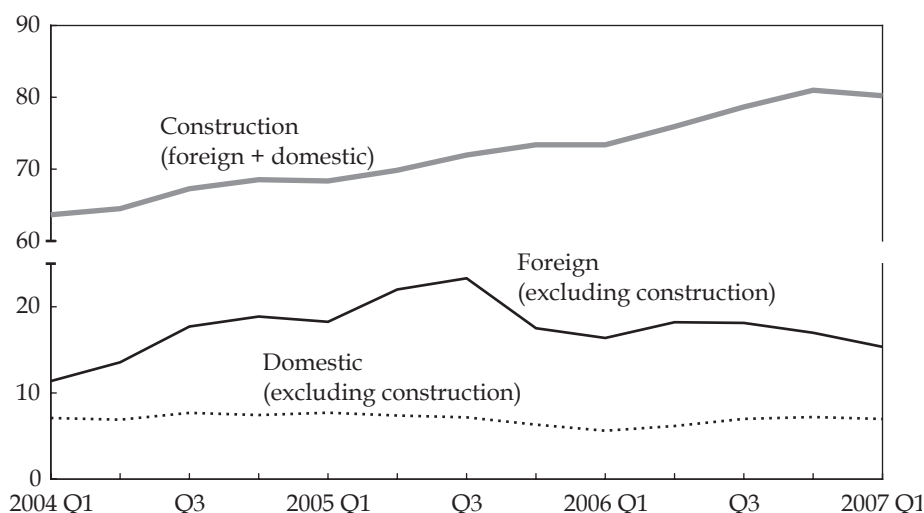
1 <<http://www.lsi.or.id/>>.

TABLE 1 *GDP Growth*
(2000 prices)

	Growth (% p.a. year on year)						Share (%)
	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-07
Gross domestic product	5.0	5.0	5.0	5.9	6.1	6.0	
By expenditure							
Consumption	6.7	3.8	5.6	2.8	3.5	4.5	64
Private	4.2	2.9	3.0	3.0	3.8	4.5	58
Government	24.9	11.5	28.8	1.7	2.2	4.3	7
Investment	2.5	1.1	1.1	1.3	8.2	7.5	22
Construction	7.1	7.4	8.7	9.3	10.4	9.3	17
Machinery & equipment	-11.0	-21.8	-29.1	-25.8	-6.2	12.3	3
Domestic	-19.6	-28.0	1.2	16.4	32.8	40.9	1
Foreign	-9.3	-20.4	-33.6	-31.7	-13.1	6.6	2
Transport equipment	-6.9	-7.5	-2.5	-7.3	15.4	-26.4	1
Other	-6.4	1.1	14.6	3.9	10.3	8.6	1
Net export of goods & services	58.2	54.7	31.0	0.1	-4.6	10.6	11
Exports of goods & services	16.8	11.6	11.3	8.2	6.1	8.9	
Less imports of goods & services	7.2	2.8	7.5	10.1	9.7	8.4	
Change in stock/statistical discrepancy							3
Total							100
By sector							
<i>Tradables</i>	3.6	3.9	3.1	4.1	3.9	3.7	51
Agriculture	5.5	6.4	1.5	2.2	1.8	-0.5	14
Mining & quarrying	3.5	2.7	4.0	1.6	0.7	5.6	9
Manufacturing	2.9	2.9	3.7	5.9	5.9	5.4	28
Manufacturing, oil & gas	-7.9	-6.3	-2.2	-3.0	7.0	1.3	3
Manufacturing, excluding oil & gas	4.1	4.0	4.3	6.9	5.8	5.8	25
<i>Non-tradables</i>	6.5	6.2	7.0	7.8	8.4	8.4	49
Electricity, gas, & water	5.5	5.1	4.5	5.8	8.1	8.2	1
Construction	7.1	7.4	8.7	9.3	10.4	9.3	6
Trade, hotels & restaurants	5.9	4.4	5.5	7.5	7.0	8.5	17
Transport & communication	10.8	11.5	13.3	13.6	15.9	11.1	7
Transport	2.6	3.9	7.3	6.7	8.6	-0.4	4
Communication	25.4	24.2	22.7	24.0	26.5	26.9	3
Financial, rental & business services	4.9	5.7	5.3	4.7	6.8	7.1	9
Other services	6.3	5.8	6.1	6.8	6.0	7.0	9
Total							100

Source: CEIC Asia Database.

FIGURE 1 *Investment*
(Rp billion, constant 2000 prices)



Source: As for table 1.

Investment growth continued to be moderate in the first quarter of 2007. Overall investment grew by 7.5% in the quarter on a year-on-year basis, continuing the improvement in performance from Q4 2006, which marked a recovery from earlier rather slow growth. Construction was again the driver of high investment growth. The apparent strong year-on-year growth in domestic investment in machinery and equipment (table 1) is somewhat misleading, simply reflecting recovery from a period of low investment in 2005–06. Similarly, foreign investment in machinery and equipment was higher in Q1 2007 than a year earlier, but still significantly below the levels achieved in 2005. Only construction shows a clear upward trend, with a seasonal weakening in the first quarter of 2007 (figure 1). Total non-construction foreign investment is well below the levels reached in 2005, and non-construction domestic investment levels overall have been broadly stable.

It remains to be seen whether investment growth can be maintained or increased, given the substantial constraints on the supply side of the economy (Lindblad and Thee 2007). Sustained rapid economic growth requires sustained investment, but the ratio of investment to GDP in Q1 2007 (22%) was still far below the pre-crisis level of about 30%. Restoring this share to pre-crisis levels will require faster investment growth over many years to come.

Export growth in value terms improved from the last quarter of 2006 (table 1), but growth was slower than that recorded in the 12 months to early 2006. As noted elsewhere (e.g. Basri and Patunru 2006), Indonesia's current export performance can in large measure be attributed to the global commodity boom. This can be seen in table 2, which shows very fast growth for commodities such as minerals, palm oil and rubber ('crude materials') in 2006. Meanwhile, imports grew a little more slowly year on year than in Q4 2006. The weaker performance

TABLE 2 *Value Growth and Share of Indonesian Merchandise Exports by Broad Product Group, 2003–06^a*

	Growth (% p.a. yoy)			Quarter-on-quarter Growth (%)				Share in 2006 (%)
	2004	2005	2006	Mar-06	Jun-06	Sep-06	Dec-06	
Food & live animals	8	18	12	-4	4	17	-9	5
Beverages & tobacco	27	50	6	0	6	-7	-8	1
Crude materials	22	43	44	-10	22	16	22	13
Mineral fuels, lubricants etc.	19	28	17	-1	5	7	-1	27
Animal & vegetable oils & fats	50	13	23	-21	22	-2	39	6
Chemical group	18	18	14	2	1	15	11	5
Manufactured goods	15	14	19	8	13	6	-6	17
Machinery & transport equipment	18	19	4	-9	5	12	-2	14
Miscellaneous manufactured articles	9	13	11	9	3	9	-9	11
Other	-19	-14	156	88	32	-35	-6	1
Total	17	20	18	-2	9	9	2	100

^a Export value is defined in millions of dollars; yoy = year on year.

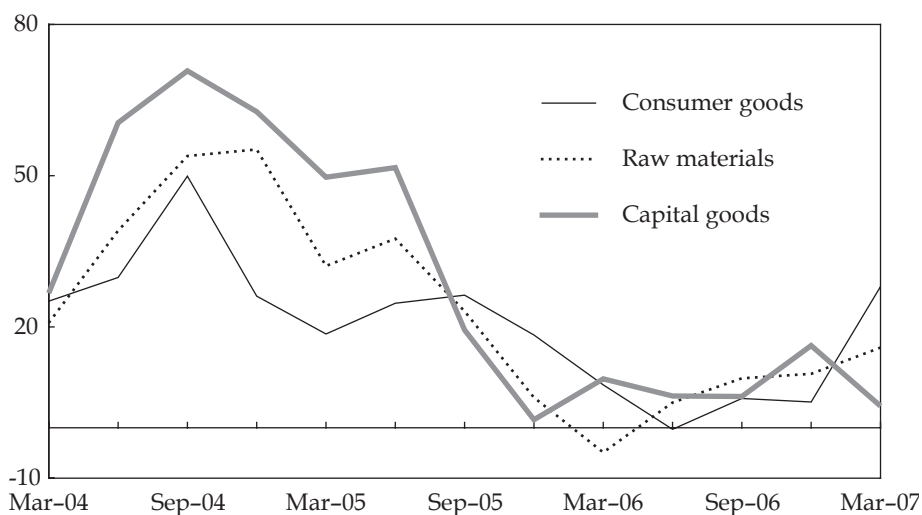
Source: As for table 1.

can be attributed to a significant fall in the year-on-year growth in capital goods imports (figure 2). However, signs of recovery are evident from an upward trend in import growth for raw materials and consumer goods.

On the production side, growth was driven mainly by the non-tradable sectors (table 1) which, on average, grew at slightly more than twice the rate of the tradable sectors (8.4% versus 3.7% year on year). This continues a fundamental shift in the economy noted by Lindblad and Thee (2007). Growth in the tradable sectors slowed a little in Q1 2007, driven by negative year-on-year growth in agriculture due mainly to seasonal fluctuations and adverse climatic conditions in late 2006. A strong increase in mining sector growth only partly compensated for this decline. Non-oil manufacturing grew at about the rate of GDP in the last three quarters, continuing a more solid performance than in the early 2000s.

Sectors that stand out within non-tradables are communications and construction. Growth in telecommunications has been high in the last few years, confirming the impact of rapid technological development in this sector as well as favourable government policy and regulation (Basri and Patunru 2006). Much of the high growth came from the mobile-phone sub-sector. Maidir and Atje (2007) showed that much of the expansion in mobile-phone business in more recent months reflected the impact of greenfield investment over the previous few years. The high growth in the construction sector can be attributed mainly to growing demand in the property market, given the very low realisation of major infrastructure projects. Meanwhile, growth in the transport sector

FIGURE 2 *Import Growth*
(% year on year)



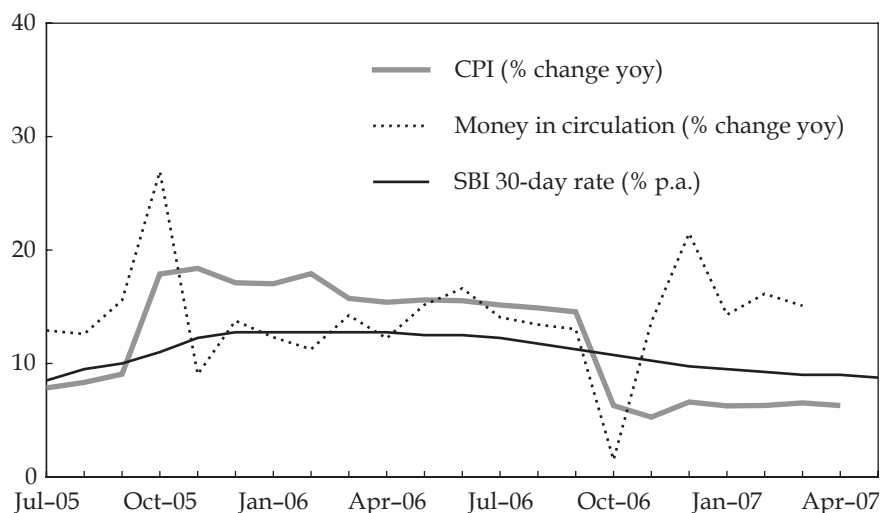
Source: As for table 1.

fell abruptly in Q1 2007 after accelerating in the last five quarters. This probably reflects tightened government supervision and regulation following recent serious transport accidents.

Growth performance in the first quarter of 2007 generally shows a continuation of trends reported in the previous survey (Lindblad and Thee 2007), with a noticeable strengthening from about mid-2006 onward. Looking ahead, two considerations are worth mentioning.

First, the tradables sector continues to dampen overall growth, though faster growth might eventuate when agricultural output is back on track, and if mining output growth can be sustained (table 1). However, the prospects for continued mining growth are linked to the global commodity boom, and cannot be taken for granted. Boosting growth in manufacturing, which still accounts for over a quarter of the economy, is the likely key to higher overall growth. But this is likely to be difficult, or at least to take considerable time, given domestic constraints such as weak infrastructure and labour market rigidities. These problems tend to affect tradable goods more than non-tradables, because the services sector tends to employ more skilled workers above the minimum wage, and is less affected by infrastructure bottlenecks.

Second, it is not clear whether current GDP growth of 6% is sustainable, so the official assumption of 6.6–7.0% GDP growth in 2008 (Ministry of Finance 2007: 9) may well be too optimistic. This is a matter of growth in investment and exports. Despite the passing of a new investment law by the parliament, improvements in the investment climate remain in doubt because of domestic infrastructure and labour cost constraints. Indonesia's declining rank in a list of host countries for Japanese direct investment (Lindblad and Thee 2007) highlights this issue. Exports meanwhile depend strongly on the global commodity boom – if it slows or halts, then exports could slow, dragging GDP lower.

FIGURE 3 *Inflation, Money in Circulation and Interest Rates^a*

^a CPI = consumer price index; yoy = year on year; SBI = Bank Indonesia Certificate.

Source: As for table 1.

Fiscal issues

Two features of the state budget are worth noting. First, the government expects the budget deficit to increase from 1.1% to about 2% of GDP to finance reconstruction projects following various natural disasters in the past year. It plans to finance the increase by issuing a further series of government bonds later this year. Second, ineffective fund disbursement seems to have persisted, continuing the pattern of previous years. Capital outlays by the central government in the first quarter of 2007 were about 2% below those in the first quarter of 2006 (*Bisnis Indonesia*, 14/4/2007).

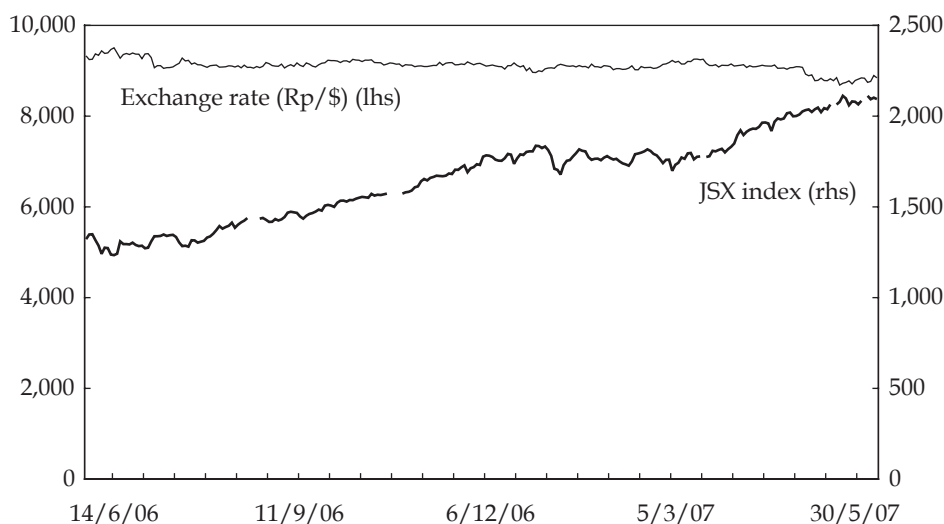
An important issue here is the government's increased spending capability as a result of the reduced fuel subsidy. Spending capability, broadly defined as discretionary expenditures that any country can undertake without impairing its solvency (World Bank 2007b: 7), increased by about 60% over the period 2001–07 for all levels of government combined. This provides substantial room for boosting public investment and could be used to improve the deteriorating infrastructure. Yet problems in executing the budget, both at central and sub-national level, have constrained utilisation of the higher spending capacity.

Financial markets and monetary policy

The overall picture of macroeconomic stability is also evident in monetary and financial market indicators, but the continued lowering of Bank Indonesia's policy interest rate gives cause for concern into the future.

Inflation remained stable, with growth in the consumer price index (CPI) at a little over 6% year on year in the months to April 2007 (figure 3). These rates are low by Indonesia's standards and are within Bank Indonesia's 2007 inflation target rate of 6% (+/- 1%). But they are high by international standards. Inflation declined from the very high levels prevailing through much of 2006 with the

FIGURE 4 Exchange Rate, Jakarta Stock Exchange (JSX) Index



Sources: Pacific Exchange Rate Service; <<http://finance.yahoo.com>>.

easing of rice prices. Lower rice prices were also the main cause for a 1.3% reduction in the food basket price from March to April 2007, leading to a fall in the CPI of 0.16% month on month. Money supply (as indicated by money in circulation) increased by 15% year on year in the first three months of 2007, a little higher than over the same period in 2006 and than the 2006 average (figure 3). Lower policy interest rates are poised to increase money supply further, and this could create some upward inflationary pressure.

Both the currency and the stock market have been buoyed by recent accelerating economic growth and macroeconomic and political stability (figure 4). The rupiah was steady against the dollar in the first few months of 2007, then appreciated somewhat in early May, causing concern in some quarters about trade competitiveness. However, the rupiah's average dollar value in May 2007 was only 3.5% higher than the average for 2006, hardly a concern for the terms of trade. Furthermore, the dollar is depreciating against many other currencies: over the same period the European, Australian, Thai, Malaysian and Philippines currencies all appreciated by 7% or more against the dollar. The stock market recorded further strong gains. The Jakarta Stock Exchange (JSX) index reached 2,100 in early June, over 50% higher than a year earlier, and the JSX continued to out-perform the other stock markets in the region. The market is also deepening, with average turnover value in the first four months of 2007 about 60% higher than the 2006 average.

The 10th anniversary of the Asian financial crisis has prompted much analysis of lessons learned and current vulnerabilities. In the context of strong stock market gains and continuing large portfolio investment flows, some observers have warned of a possible repetition of the 1997 financial crisis. There is concern that portfolio investment could quickly be withdrawn next time global financial markets get the 'jitters', putting sudden pressure on the exchange rate. Remarks by finance minister Sri Mulyani on 10 May about similarities between pre-crisis and present capital inflows received much media attention and prompted reassuring statements

by the president, the vice president, the economics coordinating minister and the governor of Bank Indonesia (*JP*, 14/5/2007). Indonesia now is in a much better position to withstand external shocks than 10 years ago, with a floating exchange rate, an inflation targeting policy and stronger macroeconomic fundamentals. Still, the risk of a sudden reversal of portfolio flows continues to worry some observers, especially given that the risk premium over US money market instruments is now quite small compared with that in many emerging economies.²

Foreign exchange reserves rose to a record \$49 billion in April 2007. This reflected continued market intervention by Bank Indonesia (BI) to counteract appreciation pressure on the rupiah (Lindblad and Thee 2007). Because interest earned on dollar reserves is lower than that paid on Bank Indonesia Certificates (SBIs), reserve holdings are costly. Reserves of this magnitude are unlikely to be needed: an agreement among ASEAN countries, China, Japan and South Korea on pooling foreign reserves to counter possible future currency runs³ is just one of the various defensive mechanisms now available to Indonesian policy makers.

The positive macroeconomic picture has prompted BI to lower the official interest rate further. The annual rate for one-month SBIs was reduced to 8.75% in May 2007, continuing a string of reductions since April 2006 (when the rate was 12.75%). BI believes that its policy can reinforce growth in the real sector through increased lending, while keeping inflation within the target range.⁴ However, further interest rate reductions could drive up inflation, and it is questionable whether they can help the economy grow faster.

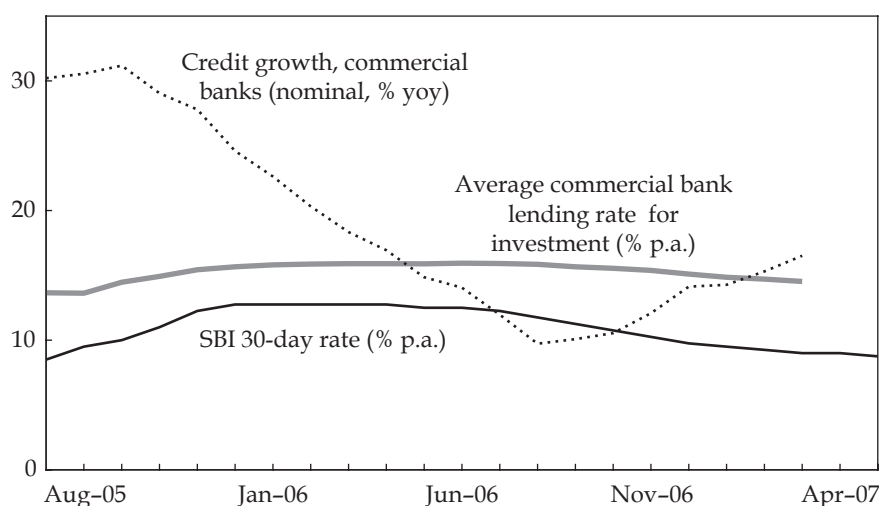
Reductions in BI's policy rate are transmitted only partially to lower bank lending rates (Basri and Patunru 2006; Lindblad and Thee 2007). In any case, borrowing is subdued because of the poor investment climate. Recent data confirm the 'stickiness' in lending rates and relatively slow lending growth. While the SBI rate dropped 375 basis points from March 2006 to March 2007 (and 400 points to May 2007), the average commercial bank lending rate for investment fell by only a little over one-third of that (figure 5). The average spread between the two rates increased from 315 points to 553 points over the course of one year. There is concern that, with increased profit margins, banks might be lending to borrowers who have a higher risk of default. Riskier lending may also be facilitated by recent changes that tend to weaken prudential regulation.⁵ Together with

2 The differential in nominal interest rates between Indonesia and the United States is now relatively narrow (350 basis points at the end of May 2007). The real interest rate in Indonesia – proxied by the rate on 30-day Bank Indonesia Certificates (SBIs) minus CPI inflation – was around 3% in the first months of 2007, after having been negative through much of 2006.

3 A deal was struck among these countries on the sidelines of the May 2007 Asian Development Bank (ADB) meeting, to expand the Chiang Mai Initiative on bilateral currency swaps into a pooling arrangement (*Associated Press*, 5/5/2007).

4 Bank Indonesia Press release 8/5/2007, No. 9/18/PSHM/Humas.

5 Bank Indonesia relaxed its lending regulations in April 2007 (No. 9/15/PSHM/Humas, 2 April 2007). Among other things, commercial banks are allowed to assess a company's capacity to repay a loan without a thoroughly audited financial analysis (*JP*, 4/4/2007). The new regulation also stipulates that commercial banks can lend to a firm operating in a 'sunset' industry, provided the company can show a prospect of strong growth.

FIGURE 5 Interest Rate, Lending Rate and Credit Growth^a

^a yoy = year on year; SBI = Bank Indonesia Certificate.

Source: As for table 1.

ongoing weaknesses in the legal system, this could produce a new generation of non-performing loans, particularly among state banks under political pressure to expand lending.

Credit growth began to recover around October 2006 after having been subdued alongside GDP growth: in the first quarter of 2007 it was around 15% year on year, still below pre-2006 growth rates and below the government's rather ambitious target of a 33% growth in credit during 2007 (*JP*, 23/5/2007). But focusing on credit provision in the quest for faster economic growth may be misguided. Impediments like weak infrastructure, rigid labour policies and uncertainties in the investment law are probably more important limitations on GDP growth.

In the view of some analysts at least, BI's current loose monetary policy is a questionable strategy for boosting economic growth, because it poses substantial risks to future economic stability for the prospect of limited gain.

INVESTMENT LAW

The parliament passed the long-awaited new investment law (Law 25/2007) in late March. Covering all sectors of the economy, it supersedes the 1967 foreign investment law and the 1968 domestic investment law, and allows 100% foreign ownership. The law simplifies regulations, gives more detail in many of its provisions, protects investment and property rights, provides fiscal incentives and retains the idea of an investment coordinating body (box 1).

Many observers welcomed the new law, noting that it promises to help boost Indonesia's disappointing investment figures and ratings. However, many expressed reservations. Enabling regulations are still needed, the most important of which perhaps concerns the new negative list for investments (i.e. the list of sectors in which there are restrictions on investment). The law stipulates that the

BOX 1 KEY FEATURES OF THE NEW INVESTMENT LAW

- A unified law: unlike previous laws, the new investment law brings together all important aspects of policy in one piece of legislation, including the two formerly separate laws governing foreign and domestic investment.
- A much longer time span for land titles: under the new law the maximum title for land cultivation, building rights and land use is extended from 35, 30 and 25 to 95, 80 and 75 years, respectively.
- Fiscal incentives: tax exemptions and reductions are offered for projects that generate significant employment, promote infrastructure and technological development and develop rural areas and pioneer industries.
- National treatment provisions: the law provides legal grounds for equality of treatment for domestic and foreign investors.
- Greater detail: the law includes more explicit criteria (e.g. for determining the negative investment list and the fiscal incentives an investor can obtain) and clearer explanation (e.g. of which taxes may be imposed at the regional level and which may not).
- Commitment to less red tape: the law stipulates the establishment of 'one-stop shop' services for investment applications, and centralises the process at the national level; this task is assigned to the Investment Coordinating Board (BKPM).

restricted sectors must be clearly specified, and this means using a clear product classification.⁶ The new negative list provides some additional certainty but at the same time poses a risk of undermining reforms achieved so far. There has been growing public pressure, mainly from nationalistic ministers and economists, for more sectors to be closed to foreign investment (*JP*, 21/4/2007). In respect of Indonesia's international trade commitments in services liberalisation, such as those under AFAS (the ASEAN Framework Agreement on Services), a more extensive negative list means a risk of Indonesia back-sliding from commitments 'above' to just 'at' the international requirements. Given that back-sliding in the international trade arena could damage Indonesia's credibility, the new list may have negative implications for future economic development. At the time of writing the negative list is still in the making and thus specific comment is not possible. However, one could expect to see some variation in the degree of openness of different sectors, bearing in mind the diverse political ideology in the Indonesian cabinet.

Successful implementation of the new investment policy will depend on the tax and labour laws, which complement the investment law. Little can be expected in the immediate future, however. The tax law is still being debated in parliament and the outlook for the high politically sensitive labour law is even gloomier: debate continues between business, government and labour unions, and the government is reluctant to revise the law, especially in light of the 2009 election.

⁶ The definition will probably be based on the Indonesian Business Classification (*JP*, 10/5/2007), which is very close to the International Standard Industrial Classification (ISIC).

Another concern is that the Investment Coordinating Board (Badan Koordinasi Penanaman Modal, BKPM) is to maintain its traditional hold on the overall direction of investment developments.⁷ This could increase the potential for coordination problems with sub-national governments and with related national-level ministries and institutions. The law stipulates that the board should include direct representation from other ministries and sub-national administrations in executing its proposed one-stop investment licensing service, but does not require the various government agencies to transfer their licensing authority to BKPM (*JP*, 2/4/2007).

The centralised investment licensing regime suggested by the arrangements in the new law could also cause difficulties. First, many district governments have started their own investment one-stop services (OSS) in recent years. Not all have been notable success stories, but some have done quite well. A central OSS run by BKPM could cut across the activities of successful OSS institutions in regional centres.⁸ Moreover, the OSS is not a new idea in Indonesia: it has been tried several times at the national level with little success. Second, centralising investment licensing could be problematic in terms of the efficient allocation of authority. Licences of some types, such as for the construction of local infrastructure, would probably be more efficiently issued by the local government rather than by BKPM in Jakarta.

On paper, the new investment law is an important economic milestone. Its practical implementation, however, remains open to question. In broad terms it can be seen as a compromise to ensure that the investment regime is not too open. The tightly negotiated negative list and the higher authority of BKPM give the authorities 'safeguards' to fall back on. Safeguards of this kind are not necessarily undesirable in themselves, but the possibility of retreat from reform is inherent in the new law.

MANUFACTURING DEVELOPMENT

Non-oil manufacturing activities in food and beverages and in some resource-intensive industries, such as paper products, chemicals and non-metallic minerals, fuelled growth in the first quarter of 2007 (table 3). This reflects strong external demand and Indonesia's marked comparative advantage in these sectors. Cement production was boosted by strong domestic construction demand (*JP*, 7/5/2007). In contrast, the performance of wood products – another resource-intensive industry – showed no recovery, simply continuing the trend of recent years. Lack of raw materials, with much timber reportedly diverted to illegal exports, still seems to be the problem. A joint research project by a UK and an Indonesian NGO recently reported another spike in illegal removal of timber from Indonesia's forests.⁹

7 An earlier draft investment law submitted by the government in 2006 had reduced the role and authority of BKPM and designated it as no more than a promoter and facilitator of investment (Manning and Roesad 2006).

8 ADB (2005: 29) describes a successful one-stop service for investment licensing in Sragen, Central Java.

9 Telapak Press Release, 28 March 2007, <<http://telapak.org>>.

TABLE 3 *Manufacturing Growth*
(2000 prices, % p.a.)

	2002-04	2005	Year-on-year Growth		
			Jun-06	Dec-06	Mar-07
Manufacturing	5.6	4.8	3.3	5.9	5.4
Manufacturing, oil & gas	-0.4	-3.3	-4.2	2.0	1.3
Manufacturing, excluding oil & gas	6.4	5.7	4.2	6.4	5.8
Food, beverages & tobacco	1.5	2.5	3.6	10.8	9.8
Textiles, leather products & footwear	4.6	1.1	1.8	0.7	0.7
Wood & wood products	-0.1	-1.0	0.4	-1.7	-1.7
Paper & printing	7.1	2.3	-2.1	6.5	12.5
Fertilisers, chemicals & rubber	8.2	8.6	3.3	5.7	7.0
Cement & non-metallic minerals	7.7	3.8	-2.4	3.5	7.0
Iron & basic steel	-4.0	-3.6	5.3	4.2	2.1
Transport equipment, machinery & apparatus	14.9	12.4	8.6	6.7	4.0
Other manufacturing	7.3	0.5	4.0	3.2	3.6

Source: As for table 1.

Other declining sectors include the traditional labour-intensive and export-oriented textiles, garments and footwear (TGF) industries, as well as iron and steel and transport and machinery. TGF performance was particularly disappointing, with manufacturers apparently unable to make the most of restrictions imposed by the US and European Union (EU) on Chinese and Vietnamese exports. Shoe exports grew by only 12.3% in 2006, compared with a target of 16% set by the Indonesian Footwear Association (Aprisindo) (*JP*, 2/3/2007). Meanwhile, direct competitors such as Thailand, India and Bangladesh increased their exports more rapidly than Indonesia. Aprisindo attributed the disappointing results to deteriorating infrastructure, which delayed movement from plants to port, and to complexities arising from labour regulation (*JP*, 2/3/2007).

This overall picture highlights some competitive weaknesses in the manufacturing sector. Much of the weakness in the labour-intensive industries appears to come from rigidities in labour regulation, such as high severance payments and minimum wages that exceed productivity (Aswicahyono, Atje and Thee 2005). Athukorala (2006) found that external factors such as the rise of China and the abolition of the Multi Fibre Arrangement have had little adverse effect on Indonesia and other ASEAN countries.

Rigidities in labour regulation seem to have significantly lowered survival chances for many labour-intensive firms. The level of severance pay becomes higher the longer workers are employed. A firm that has a large stock of permanent workers with lengthy full-time employment periods therefore has an increased risk of bankruptcy simply because of the need to set aside substantial liquid asset reserves for potentially large severance payments. This higher default risk holds back expansion plans by the firm. The closure of three footwear producers at the

TABLE 4 *Share of FDI Flows in Selected ASEAN Manufacturing Sectors, 1999–2003^a*
(%, p.a.)

ISIC Code and Description	Indonesia		Thailand		Malaysia	
	1999–2001	2002–03	1999–2001	2002–03	1999–2001	2002–03
27 Basic metals	5	1	1	4	2	16
28 Fabricated metal products	1	1	6	4	1	3
29 Machinery & equipment	1	1	7	16	2	2
31 Electrical machinery	0	0	1	2	3	2
32 Radio, TV & communication equipment	3	1	38	26	48	27
33 Medical & optical instruments	0	0	1	1	1	1
34 Motor vehicles & trailers	1	1	1	18	1	0
35 Other transport equipment	1	1	0	0	2	15
Total of selected sectors	12	6	55	71	60	66
Total of other manufacturing sectors	88	94	45	29	40	34
All manufacturing sectors	100	100	100	100	100	100

^a Data are based on annual value (in \$ millions) of foreign share in approved projects.

Source: Adapted from ASEAN Secretariat (2005).

end of 2006 (*JP*, 27/11/2006) highlights this problem. One of the producers closed because its loan application was rejected despite its positive business outlook (*JP*, 31/1/2007).¹⁰ Interviews for the present survey found that, in an attempt to get around the expansion constraint given growing export demand, garment and footwear firms often sub-contract work orders to smaller producers. While some consider this outcome acceptable, the idea that firms cannot grow seems inimical to industrialisation: a strand of literature in the theory of firm behaviour (e.g. Geroski 1998) hypothesises that, for various reasons, large firms often do better than smaller ones, particularly in the event of an economic shock.

Indonesia also lags behind neighbouring countries in benefiting from rapidly growing opportunities in globally integrated production networks. Comparing the composition of approved foreign direct investment (FDI) in Indonesia, Thailand and Malaysia, table 4 shows that the shares of FDI flowing into technology- and capital-intensive industries in Indonesian manufacturing between 1999 and 2003 were lower than those in Thailand and Malaysia, and changed little or declined over this period; for example, the share of Indonesia's manufacturing FDI that went to the motor vehicle industry remained unchanged during these years, while in Thailand it rose from 1% to 18%.¹¹

A finding by Aswicahyono, Atje and Thee (2005) suggests that, apart from the poor investment climate, the low participation of Indonesian firms in global production networks might be attributed to initial conditions of low technology

10 Narjoko and Atje (2006) note that loan rejections are frequent in the TGF sub-sector.

11 Approved investment data only approximately indicate trends in realised investment.

TABLE 5 *Share of Output and Exports in Indonesian Manufacturing, 1995–2005* (%)

Industry/Product Group ^a	1995	2000	2005
Output			
Food processing	22	20	24
Footloose labour-intensive	19	18	11
Wood & paper products	13	13	14
Heavy processing	17	20	21
Machinery and equipment	29	29	30
Total	100	100	100
Exports			
Agriculture resource-intensive	22	11	8
Mineral resource-intensive	1	2	1
Unskilled labour-intensive	54	51	48
Human capital-intensive	14	21	22
Technology-intensive	9	16	21
Total	100	100	100

^a Detailed definition of industry groups for output and exports can be found in Aswicahyono and Pangestu (2000) and Ariff and Hill (1985), respectively.

Sources: Output: Central Statistics Agency (BPS), annual manufacturing surveys of medium- and large-scale establishments in Indonesian manufacturing; exports: UN Comtrade database.

absorption. They note that Indonesian auto parts firms, for example, have always relied on supplying domestic car assemblers. Because of the domestic orientation of these assemblers, the auto parts firms have never been exposed to internationally competitive markets. In the absence of competitive pressure to improve quality, their technological capability has remained very low.

The changed business environment of recent years may have triggered another round of structural change in the manufacturing sector. The general picture is of a decline in the importance of labour-intensive industries. Table 5 shows that the share of output in the TGF industries (grouped as the 'footloose labour-intensive' category) declined from 19% in 1995 to 11% in 2005. Similarly, the share of these industries in total manufacturing exports (defined slightly differently as the 'unskilled labour-intensive' category) fell from 54% in 1995 to 48% in 2005. Nonetheless, these figures indicate that a large share of Indonesia's manufacturing exports still comes from labour-intensive industries.

The declining importance of TGF activities makes it difficult to expect a solid recovery in overall non-oil manufacturing performance, given that Indonesia's only other exports are in the natural resource-intensive industries. Unlike Thailand, which has experienced a more broadly-based increase in competitiveness, Indonesia has not been able to build industrial competitiveness outside its traditionally competitive sectors, the natural resource- and labour-intensive industries (Athukorala 2006).

INFRASTRUCTURE

A perennial theme in Indonesia's post-crisis economic environment, and an important disincentive to investment, is deteriorating infrastructure (Soesastro and Atje 2005; Lindblad and Thee 2007). To maintain GDP growth at current rates, required infrastructure spending has been estimated at around 5% of GDP (World Bank 2004)—currently around \$15 billion per annum. In fact spending has been only around 3% of GDP (\$9 billion per annum) since the financial crisis (World Bank 2007b). This persistent under-spending on infrastructure has strong parallels with the Philippines (Llanto 2007).

The government's attempts to mobilise private investment in public-private partnerships (Lindblad and Thee 2007; Manning and Roesad 2006) have yielded only limited success. The Coordinating Minister for Economic Affairs, Boediono, has predicted that the tendering process for 10 model projects proposed by the government at its second infrastructure summit in November 2006 will be finalised by the end of 2007, with work on the projects expected to commence in early 2008 (*Bisnis Indonesia*, 19/1/2007). However, the success of this plan remains in question.

There are several constraints to private involvement in infrastructure. First, the domestic banking sector seems most reluctant to commit significant funds to infrastructure projects. Local banks prefer to provide short-term rather than long-term loans, and generally have little experience in lending to infrastructure projects (KKPPI 2006). Following the second infrastructure summit in November 2006, there was only limited response from banks in support of the government's initiative. Subsequently the government 'instructed' Bank Mandiri to syndicate banks to provide a pool of funds for infrastructure projects (*Bisnis Indonesia*, 17/1/2007).

The second constraint is that implementation of supporting reforms, particularly those closely related to infrastructure development, is ineffective. The government enacted substantial regulatory reforms in the area of infrastructure provision in 2005 and 2006 (KKPPI 2006; World Bank 2007b) (box 2), and in principle the new regulatory framework improved governance, certainty and the 'rules of the game'. However, implementation of the new arrangements was not as smooth as expected; for example, implementation of new land-clearing regulations (Presidential Regulations 36/2005 and 65/2006), intended to mitigate land acquisition problems, has been put on hold pending further review (*Koran Tempo*, 19/1/2007). Likely reasons for the review include coordination problems among institutions and a fear that the regulations may be misused by powerful vested interests. It seems the government is unable to cut through entrenched interests in the bureaucracy. Other issues include the time spent in the preparation and bidding process, which can reach 18–24 months (World Bank 2007b), and the generally poor quality of supporting documentation prepared by government agencies.

A third constraint is that infrastructure projects in many fields have to operate under non-market conditions, with infrastructure services provided at regulated prices well below cost and with limited prospects of profits (McLeod 2005). There is also the risk of future changes in government policy (see discussion of electricity supply below).

The result is that there is little incentive for private firms to enter the infrastructure sector. This is evident in the decline of private infrastructure investment

**BOX 2 THE REGULATORY FRAMEWORK FOR PRIVATE SECTOR PARTICIPATION IN
INFRASTRUCTURE DEVELOPMENT**

Presidential Regulation 67/2005 sets out the framework for private sector participation (PSP) in developing infrastructure in Indonesia. It replaces Presidential Decree 7/1998.

The new regulation reforms the PSP regime in Indonesia in the following ways. First, it provides a more transparent and accountable basis for private sector involvement in infrastructure projects; for example, business licences must be allocated on a competitive basis and all information related to tendering is public. Second, the regulation emphasises partnerships that provide mutual benefits, and allows private investors to gain a 'reasonable rate of return' through tariff settings and adjustments. Third, it prescribes that a proper due diligence process must be undertaken by government agencies before any project involving private investors is put out for tender. Included in the due diligence is an assessment that the project must be in line with national or regional development and infrastructure strategic plans. Lastly, the regulation allows the government to provide some funds in the form of financial support or compensation. However, this must be given only to socially desirable priority projects and only after rigorous risk assessment. Minister of Finance Regulation 38/2006 was issued to govern the provision of financial support and compensation. It provides for almost all aspects of project risk, including political risk (e.g. government action resulting in significant financial loss); project performance risk (e.g. delay in land acquisition); and demand risk (e.g. project revenue being less than the minimum revenue guaranteed by the government).

Land acquisition has been a major issue for greater PSP in infrastructure projects in Indonesia. In an attempt to tackle this problem, the government issued Presidential Regulation 36/2005, which was further refined by Presidential Regulation 65/2006. They stipulate that compensation given by the government must be based on market valuation, and they allow land-owners to appeal the amount or type of compensation offered. The regulations define compensation as being in the form of money, substitute land or resettlement, or any other form agreed by government and land-owners.

Source: KKPPPI (2006) and Pemberton and Negraiff (2006).

and in the heavy skewing of post-crisis private investment towards the telecommunications sector, where policies are more market-oriented than for other types of infrastructure. Given the obvious limits to providing attractive conditions for private investors, focusing on private sector involvement is probably the wrong strategy for infrastructure development. Infrastructure has traditionally been the business of governments the world over, and this is even more inevitable where preconditions for private sector involvement are lacking. Thus Indonesia's government must face the fact that most infrastructure investment will probably have to be done through the public sector. Savings from fuel subsidy cuts could be used for this purpose.

That said, some serious problems remain to be overcome. At local government level, there is often a distinct lack of technical capacity to implement infrastructure projects. More fundamentally, fiscal decentralisation poses a problem for effective infrastructure provision, because of a widespread mismatch between the cross-district nature of many types of infrastructure and highly localised authority over

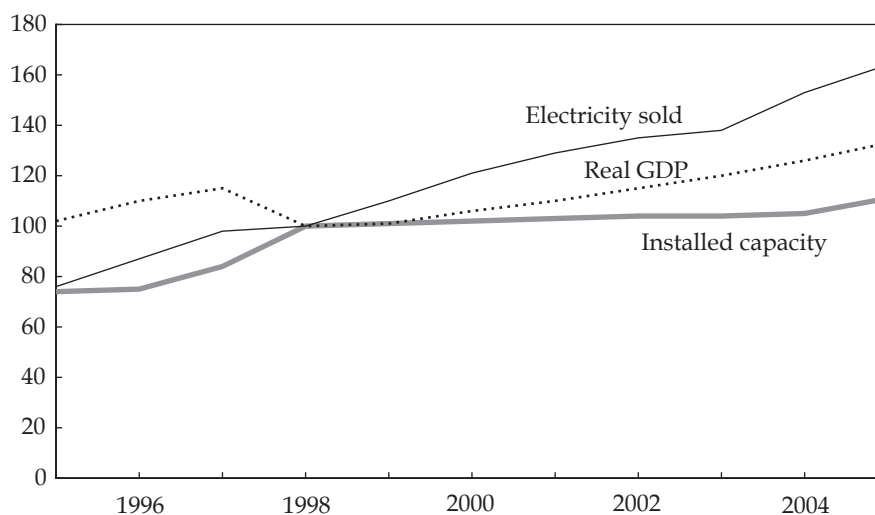
public spending. For example, ports benefit not just the district they are located in but also surrounding areas, as do water reservoirs, power lines and major roads. Consequently, local governments tend to under-spend on infrastructure, and what investment there is tends to be fragmented.

The problem of fiscal mismatch in infrastructure can be seen as a problem of the 'missing middle': infrastructure is often regional in nature (as opposed to local or national), but provincial governments account for only a small share of public expenditure—most expenditure is managed by the central and district governments. Possible remedies might include greater allocations to the provinces specifically for infrastructure provision, and incentives for cooperation between districts. Formal mechanisms for internalising inter-district externalities could include matching central government grants for infrastructure projects that have regional benefits. Running utilities such as ports as private enterprises could in theory overcome inter-regional externalities, but they would need to be allowed to charge full costs including a return on capital. In practice, prices for infrastructure services are typically suppressed by Indonesian governments.

ELECTRICITY

Emerging problems in the electricity sector illustrate broader infrastructure issues. Investment in Indonesia's electricity system has stagnated since the 1997 crisis, despite strong growth in demand. Official power sales outpaced GDP growth both before and after the crisis, increasing by over 7% per year between 1998 and 2005 (figure 6). Demand is expected to continue growing quickly, driven by household and business consumption, and possibly by industrial users, who have an incentive to substitute some of their own diesel-based electricity production for power

FIGURE 6 *Installed Generating Capacity, Electricity Sold and Real GDP*
(1998 = 100)



Sources: GDP: Central Statistics Agency (BPS); electricity: Perusahaan Listrik Negara (PLN, the state electricity company).

purchases from the state electricity company (Perusahaan Listrik Negara, PLN) under increased fuel prices.

Electricity generating capacity in the public sector expanded by a mere 1.4% per year between 1998 and 2005 (figure 6). Annual investment needs in Indonesia's power sector have been estimated at a minimum of \$2 billion, with perhaps two-thirds of that in generation (World Bank 2004). A long-term program for securing electricity supply should include market reform of the sector and a well-designed program of capacity expansion, but prospects do not look good for either.

As reserve margins shrink, outages become more frequent, disrupting manufacturing businesses, discouraging investment and inconveniencing households (*JP*, 29/5/2007). Jakarta has largely been shielded from blackouts to date but this may change as the power supply gap widens. Outages could be reduced by better management of the existing system, in particular by avoiding unscheduled power plant downtimes. Demand-side management measures to increase the efficiency of electricity use could dampen the growth in power usage. Yet even if these measures were in place, significant increases in generating capacity would be needed.

Powerful barriers to investment persist. The 2002 electricity law provided a good basis for competition, facilitating the unbundling of the sector and encouraging greater private sector involvement. But the law was annulled by the constitutional court in 2004 on the grounds of the constitution's provisions on state control of critical economic sectors. New implementing regulations for the old 1985 electricity law approved since then fall far short of providing a suitable legal framework for expansion of the power sector (IIEE 2006). PLN is still suffering financially from having had to fulfil, at inflated prices, power purchase agreements dating back to the late Soeharto era (Soesastro and Atje 2005). Electricity supply prices to residential customers are regulated, and on average are below cost. Electricity subsidies (both directly to PLN and via subsidised fuels) amounted to Rp 30 trillion (\$3.3 billion) in 2006 (World Bank 2007b). Below-cost pricing discourages energy saving by end-users, leads to inefficient power use and extra supply capacity needs, and reduces the funds available to PLN for maintenance and new investments.

Domestic financing in the electricity sector suffers from many of the infrastructure financing problems discussed above, though PLN has recently made headway in raising funds through bond issues.¹² International investors have little appetite for taking on regulatory risk in a sector so obviously subject to strong government interference. To attract investment, the government is now offering potential investors guarantees against the risk of changes to electricity price and subsidy policies and the coal supply price policy, and against possible cancellation of power projects (US Embassy, *Indonesia Energy Highlights*, January 2007). Such guarantees can make investment more attractive, but often, as became clear following the 1997–98 economic crisis, merely transfer the risks to government.

The government's current answer to the looming electricity supply crisis is a 'crash program' for expansion of base-load capacity through coal-fired power plants. The plan, on paper at least, is to install 10,000 megawatts (MW) of new

12 PLN raised \$1 billion in a 10-year bond issue in October 2006 (US Embassy, *Indonesia Energy Highlights*, October–November 2007).

coal-fired generating capacity by 2009–10 at an estimated investment cost of around \$10 billion (existing on-grid capacity is around 23,000 MW). Four-fifths of the new capacity is to be privately owned and operated, the rest owned by PLN and financed through bond issues. Despite this plan's superficial appeal, experts seriously doubt its suitability and viability, and it appears that the crash program could indeed crash. The plan was conceived as a top-down political initiative, rather than arising from comprehensive modelling and planning of power sector options and needs.¹³

The cornerstone of the program, and a key reason for criticism of it, is its exclusive reliance on coal. Coal is attractive because it is relatively abundant in Indonesia and can substitute for oil and gas, which are expensive in comparison. However, it is proving difficult to find suitable sites in Java (where the bulk of new electricity plants will be needed) that have the infrastructure required to receive large amounts of coal. In addition, concerns are emerging over the ability of mines to supply the necessary coal (US Embassy, *Indonesia Energy Highlights*, February 2007). There are also doubts about the quality of the plants, to be built by Chinese companies. Industry experts consider that relying on these Chinese technology providers could compromise reliability and serviceability, perhaps in an echo of ill-fated reliance on Russian-supported industrial investments in the 1960s (Shakow 1964). Already, difficulties in the tendering process and contract negotiations have resulted in the targeted start date for a number of plants being pushed back from 2009 to 2010 (US Embassy, *Indonesia Energy Highlights*, February 2007).

Coal may be the cheapest option for generating electricity, but concern about the government's coal power plans also comes from an environmental perspective. The plants are to use low-grade coal (the cheapest but most polluting fuel available), with higher grades to be exported. Some of the coal reserves to be mined are in protected forests. The power plants would worsen air pollution and emit much larger amounts of carbon dioxide (CO₂, the main greenhouse gas) than other power supply options. Greenhouse gas emissions are a global, long-term problem rather than a domestic problem. But it is increasingly likely that in coming decades carbon constraints will apply in most parts of the world and emissions from coal use will carry an economic cost. In that scenario, locking Indonesia's power sector into coal may prove costly in the future, given that power plants have lifetimes of half a century or more.

The main potential alternatives to coal for base-load power generation in Indonesia are geothermal and nuclear power. Indonesia has the largest potential (mainly in Java and Sumatra) for geothermal power generation of any nation, with a proven potential of 13,000 MW and a further 14,000 MW potential hypothesised.¹⁴ PLN's installed geothermal capacity stands at around 400 MW, or around

13 The crash program is reported to be the idea of Achmad Kalla, brother of Vice President Yusuf Kalla, who promoted it to the president. The idea was then studied merely by an *ad hoc* team assembled by the vice president, largely circumventing PLN (*Tempo*, 18–24/4/2006). Some of the coal mines that are to supply the fuel are controlled by Aburizal Bakrie's family (*Financial Times*, 17/4/2006).

14 Directorate General of Geology and Mineral Resources, Department of Mineral Resource Energy, quoted in Bappenas (2004: part IV.33: 52).

2% of total generating capacity. Various expansions have been commissioned or are planned, with a combined capacity of at least 1,000 MW (*JP*, 29/5/2007; US Embassy, *Indonesia Energy Highlights*, February 2006). Some geothermal fields are cost-competitive now, others are at higher points on the cost curve, and many would require long transmission lines.

Nuclear power has also been under discussion. The government has announced plans to go ahead with a tender for a nuclear power plant to be built on the north coast of Central Java, with more reactors planned in the future (McCawley 2007). Nuclear power is more expensive than coal-based power, and presents safety concerns in seismically active Indonesia, as well as security questions about nuclear fuel and waste. Indonesia's nuclear ambitions for the power sector appear to reflect significant political considerations as well as a desire to diversify energy sources.

Over time, energy sources other than coal may become attractive despite their generally higher costs, because they have lower greenhouse gas emissions and do not cause local air pollution, and because of the need to diversify the base of the electric power industry and thus improve supply security. But the cost structure of both geothermal and nuclear energy is strongly front-loaded with high investment costs, limiting their attractiveness in a situation of regulatory uncertainty and given the high rates of return required by the market. The availability of project financing has played an important role in power supply decisions in the past, and is likely to be an important factor in the future. US companies were strongly involved in geothermal expansion in the 1990s, but this changed after the financial crisis. New geothermal (but not nuclear) plants could attract co-payments for greenhouse gas reductions under the Kyoto Protocol's clean development mechanism (CDM); to date one Indonesian geothermal project (Darajat III in West Java, 110 MW) is registered under the CDM.

CLIMATE CHANGE AND DEFORESTATION

Climate change

Climate change has risen high on the international policy agenda in recent years. The Intergovernmental Panel on Climate Change recently released its fourth Assessment Report (IPCC 2007), showing strong evidence for human-induced climate change, and demonstrating the need to reduce global greenhouse gas emissions and adapt to future climatic changes that are already inevitable. Framing climate change as an economic problem, the report by Sir Nicholas Stern for the UK government on the economics of climate change (Stern 2006) helped bring it into the mainstream of policy making.

Awareness about climate change is starting to increase among Indonesian decision makers. Indonesia will host the 2007 Conference of Parties (COP) to the UN Framework Convention on Climate Change in Bali in December. This is the largest annual global event on environmental policy, with over 10,000 delegates expected to attend, including government ministers from many countries. The talks are considered an important milestone on the road to a possible post-Kyoto Protocol treaty, especially since the June 2007 resolution by the G8 nations to use the forum to work towards such an agreement. A meeting of finance ministers is planned concurrently with the UN conference to discuss options for climate

policy and international financing. The Indonesian cabinet was briefed on climate change and policy by Sir Nicholas in March 2007, and a special cabinet meeting to prepare for the Bali talks was held in early June (*JP*, 7/6/2007).

The impact of climate change on Indonesia is likely to include warming and sea-level rise, but also—and perhaps crucially—changes in rainfall patterns.¹⁵ Longer dry seasons and shorter but more intense wet seasons are expected, bringing greater risk of both flooding and droughts, as well as changes to agricultural growing patterns and possible regional risks to food security. Sea-level rise carries the risk of sea-water inundation, with damage to agricultural growing areas and urban infrastructure. Higher temperatures tend to exacerbate water- and vector-borne diseases, and have direct health effects through increased heat stress. Impacts are expected to differ strongly among regions. In some areas and sectors they could be beneficial, but overwhelmingly they are likely to be disruptive to established economic and social systems. Furthermore, they are generally likely to affect the poor more than the rich, because those with limited material resources tend to be more vulnerable and often more exposed to disruptions to their physical environment.

Adapting to climate change will be important for development. In some instances, adaptation will occur through market forces; in many others it will require dedicated policy responses. Robust infrastructure will be important, from transport networks to flood defences. Improvements will be needed in areas such as public health, emergency management, agricultural extension and urban planning. Effective adaptation is likely to require 'mainstreaming' of climate risk management approaches into most areas of public administration and policy. Specific investments will also be needed. This poses a particular dilemma because it will be difficult to devote scarce public resources to ameliorating longer-term risks when there are pressing immediate development concerns. There are no reliable cost estimates, and whether and to what extent rich countries may pay for climate change adaptation in developing countries is the subject of international negotiations, alongside arrangements to reduce greenhouse gas emissions.

To avoid dangerous climate change over the long term, global annual greenhouse gas emissions would need to peak by 2020, or at the latest 2030, then decline rapidly. But emissions have steadily risen historically, and increases are now driven predominantly by rising energy consumption in developing and industrialising countries. This spells the need to de-couple economic growth from greenhouse gas emissions—in technical terms, the elasticity of emissions to GDP needs to become zero or negative, down from around one in the case of Indonesia's energy-related emissions. Such change would require a shift away from fossil fuels in the energy system, coupled with strong efficiency improvements in energy use and possibly a move away from energy-intensive processes and products. A turnaround in emissions globally and in individual countries would be possible using existing and emerging technologies, at significant but not overwhelming economic costs (Stern 2006; IPCC 2007). Developing countries will need to be part of the solution, but cannot be expected to shoulder all or even much of the cost. In this context, it

15 See PEACE (2007) for a review of climate change effects as they relate to Indonesia, and the IPCC's (2007) report on 'impacts, adaptation and vulnerabilities' for a comprehensive review of global research.

TABLE 6 *Emissions Indicators*
(%)

	Share in Global Emissions, 2000	Average Annual Growth, 1990–2000	
	Indonesia	Indonesia	World
Energy sector carbon dioxide	1.2	5.6	1.2
All greenhouse gases	7.4	2.1	0.7

Source: World Resources Institute CAIT database.

is useful to recall that Indonesia's public expenditure across all levels of government amounted to around \$200 per person in 2004, compared with over \$14,000 across a sample of OECD countries.

Indonesia's emissions profile is dominated by CO₂ released from land-use change, particularly deforestation. When land-use change is taken into account, Indonesia may be the third largest greenhouse gas emitter, behind the United States and China, and ahead of Brazil, Russia and India.¹⁶ This ranking received significant public notice in early 2007, and the idea of reducing deforestation is gaining renewed attention. Indonesia's other greenhouse gas emissions arise mainly from the energy sector, principally from fossil fuel use.¹⁷ Indonesia's energy sector now contributes only a little over 1% to global energy sector CO₂ emissions, but this is rising rapidly: Indonesia's annual CO₂ emissions growth averaged 6% over the 1990s, compared with a world average of around 1% (table 6). This is due mainly to fast growing electricity consumption fed by oil, gas and increasingly coal (the most greenhouse-intensive fuel), and to growth in transport and industrial energy use. To reduce future emissions growth would require investment in low-emissions electricity generation technologies such as those discussed above. But there are also savings to be achieved at low or even negative economic cost, in particular through improving energy efficiency, an objective that could be promoted by further reducing fuel and electricity subsidies.

Indonesia's interest in future international climate policy is likely to take the form of a quest for resources from developed nations for dealing with the impacts of climate change, for shifting the economy away from carbon-intensive fuels, and for limiting deforestation. In the longer term, Indonesia might be expected to take on a national greenhouse gas commitment under an international treaty, while in the medium term, sector- and project-based agreements are the likely policy instruments (Jotzo 2007). To what extent emissions in developing countries

16 Based on data for the year 2000 in the World Resources Institute CAIT database, the main source of data used in PEACE (2007). It must be noted that there are very large uncertainties in estimates of emissions from tropical deforestation. If the European Union is counted as one country, Indonesia's ranking is fourth.

17 In addition, rice cultivation is an important source of methane, another greenhouse gas.

can be reduced will depend significantly on developed countries' willingness to make resource transfers, which in turn depends (among other things) on how serious the threat from future climate change is perceived to be.

Deforestation

Deforestation is thought to account for almost 20% of current total global greenhouse gas emissions, with Indonesia and Brazil the largest sources. Many now developed countries by contrast converted much of their forests at earlier times. Estimates of forest loss in Indonesia vary from 1 to 2 million hectares per year. When land is cleared, the carbon stored in trees and in biomass below ground is wholly or partly released into the atmosphere as CO₂, either by fire or by later decomposition of wood and wood products. Fires in peatlands are a major source of CO₂ emissions in parts of Indonesia (Hooijer et al. 2006), and the main source of the 'Asian haze' air pollution.

The Stern report and recent work by the World Bank (Chomitz 2007) note that tropical forests are often converted for private economic gain that is small compared to the magnitude of the global externality from the CO₂ released. If the carbon stored in tropical forests were valued at the prices paid for emissions permits in the EU and other emerging emissions markets, it could be worth several thousand dollars per hectare. Depending on the alternative land use, land conservation for carbon may outweigh the opportunity costs of forgoing alternative uses. This raises the prospect of substantially reducing global emissions through direct incentive payments from wealthy countries or trading of avoided deforestation with firms facing emissions constraints in developed countries. Talks about an international incentive mechanism for avoiding deforestation have been held under the UN framework (Forner et al. 2006). No agreement has yet been reached, though there are hopes for an agreement to take effect after 2012. Apart from the difficulties of establishing whether and by how much emissions are actually reduced, the key challenge is that either alternative would require very large financial transfers to tropical countries with remaining forest cover.

In April 2007, the Australian government in a surprise move announced a 'global initiative on forests and climate', pledging A\$200 million (about US\$160 million) over five years (about US\$32 million per year) to support projects aimed at reducing net forest loss in developing countries (Australian Greenhouse Office 2007). It seems likely that the bulk of these funds will be spent in Indonesia. Funding is to go towards enabling activities such as building capacity and technology for forest monitoring and management, strengthening enforcement, and promoting sustainable forest management and local economic diversification. It will also support pilot projects involving financial incentives to reduce destruction of forests. In May 2007, a delegation of Australian officials held consultations in Indonesia, and the Australian government is looking to develop a plan before the Bali talks in December.

Indonesian provinces that have not yet begun to exploit their natural forest resources heavily may be interested in offset-trading of avoided deforestation as an alternative to large-scale land conversion. Recent steps such as the announcement by the governor of Aceh of a logging ban and development of a long-term forest management strategy (*JP*, 9/6/2007) are encouraging. Yet the prospects for achieving significant reductions in deforestation rates through the Australian

initiative alone are slim. There is a long history of donor-funded projects in developing countries to help improve forest management in areas ranging from monitoring to law enforcement, but success in limiting deforestation has been the exception rather than the norm. Deforestation is after all rooted in the quest for economic gain, the driving force behind deforestation in earlier times in most of the now developed world. Decision makers such as provincial governors will need to see a prospect of real incentives to retain forests that outweigh the opportunity costs of forgoing other development options. Technical assistance offered by donors may be useful, but is highly unlikely to make much difference by itself. Quick wins from donor-funded initiatives cannot be expected, and the best chance to marshal the necessary funds for incentive payments on a large scale is from an international climate change agreement.

10 June 2007

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In the April 1999 issue the Indonesia Project announced the introduction of a special prize intended to encourage Indonesian scholars to publish their work in the *Bulletin of Indonesian Economic Studies*.

The H.W. Arndt Prize, named in honour of the founding Editor of *BIES*, is awarded for the best article by one or more Indonesian authors published by *BIES* in each calendar year.

The competition is open to all Indonesian citizens who are not members of the Editorial Board or International Advisory Board of *BIES*, and is adjudicated by a panel appointed by the Editor.

Winners are invited to visit the Indonesia Project for a period of four weeks, during which time they have the opportunity to further their research and to present at least one seminar in the Economics Division of the Research School of Pacific and Asian Studies (RSPAS) at the Australian National University's College of Asia and the Pacific. The prize includes a round-trip economy air fare between Jakarta and Canberra, plus a living allowance for the duration of the visit.

Articles with joint authorship by more than one Indonesian citizen are eligible for consideration, but the prize will be awarded to only one of the authors. In such cases, the authors will need to nominate one person as the potential recipient of the prize, prior to the adjudication process.

The regular 'Survey of recent developments', and articles with a non-Indonesian citizen as a joint author, are not eligible for award of the H.W. Arndt Prize. The Indonesia Project retains the right not to award the prize in any year if no entry is considered by the adjudication panel to be of sufficiently high quality.

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