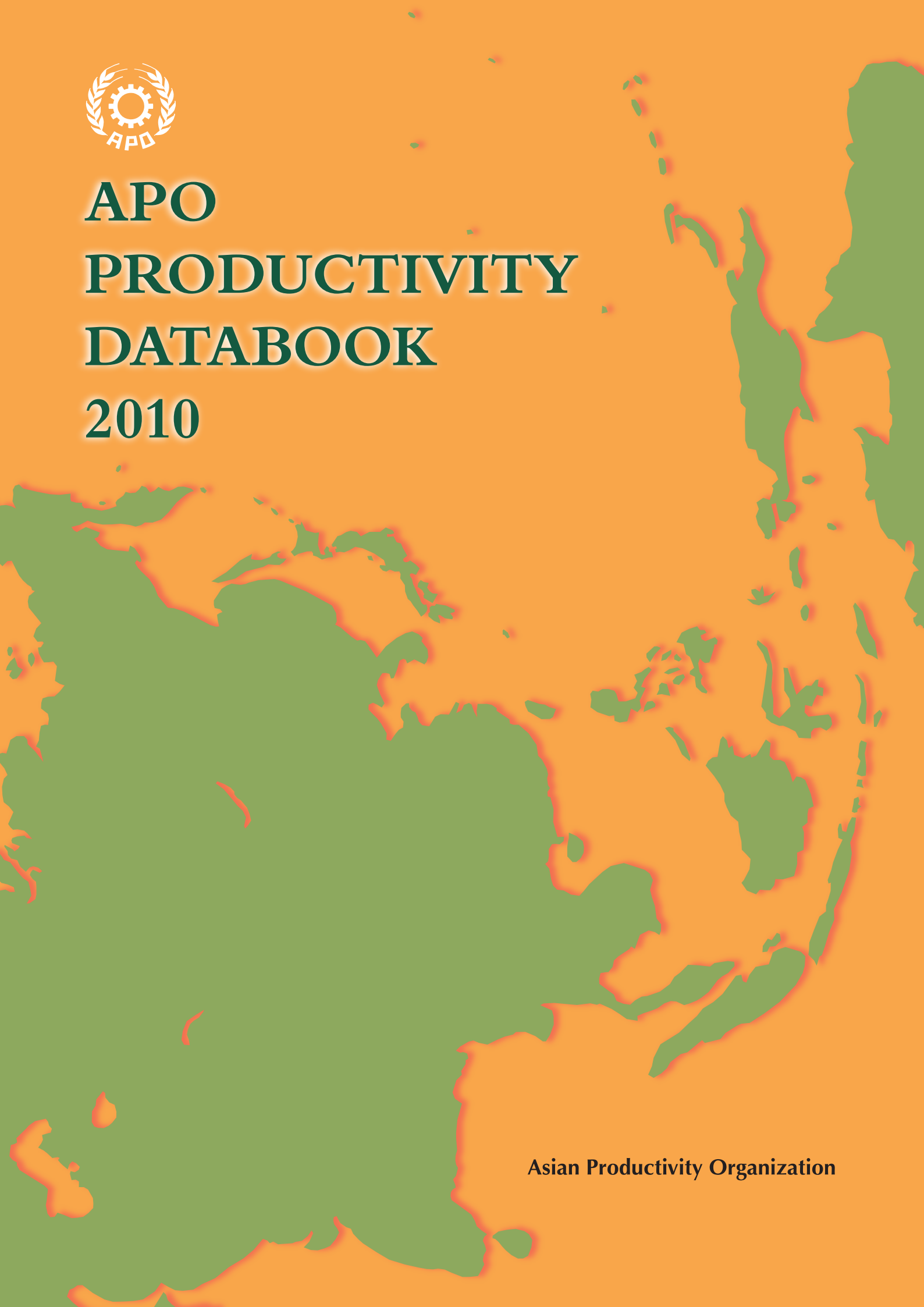
APO PRODUCTIVITY DATABOOK 2010



Asian Productivity Organization

APO PRODUCTIVITY DATABOOK 2010

Asian Productivity Organization

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ABBREVIATIONS

ADB	Asian Development Bank
AEP	age-efficiency profile
ALP	average labor productivity
AMA	Analysis of Main Aggregate (UNSD database)
APO	Asian Productivity Organization
APO20	20 member economies of Asian Productivity Organization: Bangladesh, Cambodia, the Republic of China, Fiji, Hong Kong, India, Indonesia, Islamic Republic of Iran, Japan, the Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand and Vietnam
AQGM	Asian quarterly growth map
ASEAN	Association of Southeast Asian Nations
Asia23	APO20 plus the People's Republic of China, Brunei and Myanmar
CPI	consumer price index
EU15	15 member economies of European Union prior to enlargement
FISIM	financial intermediation services indirectly measured
GDP	gross domestic product
GFCF	gross fixed capital formation
GFS	Government Finance Statistics
GNI	gross national income
ICP	International Comparisons Program
IMF	International Monetary Fund
ISIC	International Standard Industry Classification
IT	information technology
KEO	Keio Economic Observatory, Keio University
Lao PDR	Lao People's Democratic Republic
LCU	local currency unit
NDP	net domestic product
NPISHs	non-profit institutions serving households
NPO	national productivity organization
NWS	national wealth survey
PPI	producer price index
PPP	purchasing power parity
QNA	quarterly national accounts
ROC	Republic of China
SEEA	System of Integrated Environmental and Economic Accounting
SNA	System of National Accounts
TFP	total factor productivity
UNSD	United Nations Statistics Division

Foreword

Since its establishment in 1961, the Asian Productivity Organization (APO) has strongly pursued a central mission of advancing productivity growth and economic development in the Asia and Pacific region. Productivity growth has been one of the main engines for improved economic performance in Asia in the post-war period. As we have witnessed, the region has made tremendous economic progress over the past several decades. Recognizing this achievement as it relates to the APO's goal of greater regional prosperity, it is my pleasure to mention also that the APO will celebrate its 50th anniversary next year.

Building on five decades of cooperation with our member countries, the APO has implemented a variety of practices with a view to improving the welfare of the region's peoples through productivity tools. The APO has organized more than 500 training programs for a wide variety of production management tools in this time for the benefit of our members. Moreover, in recent decades, as environmental degradation has become a more pressing global issue, the APO has extended efforts to promote green productivity in the pursuit of sustainable development.

Amongst our many endeavors over the course of the APO's history, efforts to improve productivity measurement for the better understanding of sources of economic growth have been an important focus of the APO's Research and Planning activities. The continued demand from many APO member countries for a project that enabled productivity measurement led us to re-engineer the *APO Productivity Databook* series from 2007. As such, the project team strived hard to develop a harmonized methodology, allowing a comparative productivity analysis across countries to be realized and published in the first edition of the *Databook* in 2008.

This third edition of the *APO Productivity Databook* series is the tangible fruit of our continuous joint research efforts with the Keio Economic Observatory (KEO), Keio University. This edition includes analyses of the productivity performance of our APO member countries from 1970 to 2007, as well as that of reference economies, with a wider coverage of TFP analysis, including Fiji, Thailand, Indonesia and the Philippines, compared to the last edition. The *Databook* further explores real income analysis as an attempt to measure welfare beyond GDP indicators, as well as the industry origin of productivity performance.

While having a great pleasure in releasing this edition, my profound gratitude goes to the research team at the KEO, namely Prof. Koji Nomura, Ms. Eunice Lau, Dr. Hideyuki Mizobuchi, Ms. Kyoko Ishikawa, Ms. Shinyoung Oh, Ms. Soyoen Myung and Ms. Keiko Inoue. I also wish to thank all the national experts for providing and updating their respective national data and metadata.

I hope that readers will enjoy referencing this publication and find practical use of it in their own purposes.

Shigeo Takenaka

Secretary-General
Asian Productivity Organization
Tokyo, March 2010

1. Introduction

The Asian Productivity Organization (APO) is a regional intergovernmental organization, established in May 1961 as part of a productivity initiative to drive greater economic development in the Asia and Pacific region. The current APO membership comprises Bangladesh, Cambodia, the Republic of China (hereafter the ROC), Fiji, Hong Kong, India, Indonesia, Islamic Republic of Iran (hereafter Iran), Japan, the Republic of Korea (hereafter Korea), Lao People's Democratic Republic (hereafter Lao PDR), Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand and Vietnam. It works through a network of national productivity organizations (NPOs) that are designated as official liaison bodies to implement APO projects and propel national productivity movements in their own countries. Serving as a think-tank and regional adviser for its 20 member economies, the APO, through its secretariat based in Tokyo, conducts research and surveys to identify common needs for developing appropriate action plans that support its members' efforts in economic development via productivity enhancement. Another key function of the APO, among others, is to disseminate information and knowledge on productivity tools and methodologies across the region through seminars, conferences, workshops and study meetings.

1.1 APO Productivity Databook 2010

This is the third publication in the *APO Productivity Databook* series, based on the APO Productivity Database project that was established in September 2007. The results and analysis presented in this volume are constructed under the joint research effort of the APO and the Keio Economic Observatory (KEO), Keio University.

In this report, results presented in last year's edition have been rerun with more harmonized data and definitions, made possible by the research progress of the APO Productivity Database. The APO questionnaire was revamped to meet the data requirements of the APO Productivity Database better, with an expanded list of economic indicators and estimates. In the questionnaire, national experts were requested to submit the whole time series. Consequently, the time series are not only updated with new data for 2007, but latest revisions to the back series are also included. Metadata of respective countries' national accounts were also collected in a survey appended to the APO questionnaire to build a knowledge base of cross-country data comparability. Where there are discrepancies between the two editions, explanations are given.

Baseline indicators are calculated for 23 Asian economies, representing the 20 APO member economies (referred to as the APO20) and three non-member countries in Asia, which are the People's Republic of China (hereafter China), Brunei and Myanmar, and two reference economies, the US and the EU.[1] Brunei and Myanmar are included in the APO Productivity Database for the first time to complete the ASEAN group. Furthermore, final demand analysis and real income comparisons are conducted for 17 APO member economies, China and the two reference economies, whereas total factor productivity (TFP) estimates are constructed for seven APO member economies (the ROC, Fiji, Indonesia, Japan, Korea, the Philippines and Thailand)[2] and for China and the US as reference economies. While maintaining the inclusion of all APO member economies in our analysis of the basic indicators, analysis of labor productivity is deepened for countries where the data demand can be supported.

This project is directed and coordinated by Mukesh D. Bhattarai and Yasuko Asano of the APO Research and Planning Department, and managed by Koji Nomura of KEO at Keio University. The questionnaire was designed by a research team of the APO Productivity Database project and sent to the national experts (listed in Section 1.2). The submitted data were examined and processed by the research team at KEO, led by Koji Nomura, who in conjunction with Eunice Lau, Hideyuki Mizobuchi,

1 In this publication, an asterisk (*) is marked for non-APO member countries.

2 The APO Secretariat dispatched a total factor productivity (TFP) mission to Fiji to examine the national data with the TFP committee organized by the Training and Productivity Authority of Fiji in March 2009. Moreover, another TFP mission was organized in August 2009 to examine the national data at the Badan Pusat Statistik (BPS-Statistics Indonesia).

Kyoko Ishikawa, Shinyoung Oh, Soyoen Myung and Keiko Inoue prepared the text, tables and figures presented in this report.

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2. Overview

The world economy has taken a battering in the past year from the adverse impact rippling out of the global financial crisis. At its worst, world output was falling by over 2 per cent year-on-year in the second quarter of 2009. This compares with an average of 4 per cent growth a year since 2005 (*The Economist*, "World GDP", 17 December 2009). One year on, output has proven its resilience and has weathered the storm much better than many expected. After the deep retrenchment, world output has stopped shrinking. Many countries have returned to positive growth; property markets in the US and UK are showing signs of stabilizing; and the stock markets of the largest developing countries have recouped most or all of the losses they suffered during 2008 (*The Economist*, "Emerging Markets and Recession, Counting Their Blessings", 30 December 2009). This quick return to calm can easily make us forget how close to catastrophe we were in this crisis, if not for the prompt response of governments with their rescue and fiscal packages at a historically unprecedented scale.

Despite these positive signs, the world economy today is worryingly fragile; self-sustaining recovery is far from secure. Stripping out the temporary effect of firms' restocking reminds us of the uncomfortable truth that much of the rebound in global demand depends on governments' fiscal stimulus across the world, from the officially induced investment surge in China to stimulus-bolstered spending in the US. Ballooning public debt is clearly unsustainable in many countries. It is of paramount importance that governments demonstrate their commitment to credible action plans to restore public finance in the medium term before punitive borrowing costs are imposed by the markets. This means that public spending will have to be rolled back and higher taxes imposed at some point. Admittedly, how and when to implement fiscal cuts without crushing fragile growth in a nervous economy are an extremely difficult balancing act. While having succeeded in averting the worst, public largesse has also created new sources of volatility. Low interest rates and loose monetary policy provide the prerequisites for the build-up of asset bubbles with all their potential risks to the economy.

After a phase of short-term crisis management, our focus is now shifting to thinking through the longer-term issues of how better to manage the macroeconomic imbalances and create a sounder banking and near-bank system for the future. The lessons to be learnt from this crisis are many and profound. Although a great depression has been averted, the global financial storm has left its trail of destruction, and has perhaps ushered in a new world order to replace the normality we were once used to before the crisis. Many of the rich economies have been thrown off course on their growth paths. Instead, they emerge from the crisis much weakened and more heavily laden with public debts, higher unemployment in society, unprecedentedly high fiscal deficits and most probably higher capital costs. There is no certainty that they will return to their previous growth paths.

In contrast, emerging economies have weathered the storm with surprising political and social stability. The fiscal response of many emerging economies has enhanced their credibility and earned them a rare reputation for fiscal prudence. The debt-to-GDP ratio of the largest 20 emerging economies is only half that of the richest 20 nations. By 2014 it will only be one-third, as the rich nations' debt level rises further. The strong and swift rebound in the Asian economies in the latter half of 2009 was also remarkable. In the fourth quarter of 2008, real GDP was falling by 15 per cent in some of the most dynamic economies, including Singapore and Korea, compared with 5–10 per cent in the rich economies. But in the second quarter of 2009 Asian emerging economies were growing at an annualized rate of over 10 per cent, when the rich economies were still struggling to return to positive growth. The recession has shown that economic power has been shifting away from the West faster than originally thought, especially now that China has replaced the US as the main market for the goods of the smaller Asian exporters.

Whether the divergence between these two groups of economies will widen depends on, among other things, how this crisis and the necessary policy responses affect their productivity growth. A recession can cause long-term damage to an economy's growth prospects if it harms its ability to enhance its productivity performance. Before the crisis, Asian economies had already been enjoying much faster total factor productivity (TFP) growth than the rich

economies. According to our findings as presented in this report, China's TFP growth was 2.9 per cent on average a year between 1970 and 2007, compared with 0.9 per cent in the US. In the more recent period of 1990–2007, China's TFP growth accelerated to 4.0 per cent on average a year. This compares with around 1 per cent in the US, Britain, Japan, Germany and France, which were also outperformed by India and other Asian emerging economies, albeit to a lesser extent than China (*The Economist*, "Secret Sauce", 12 November 2009). These results clearly show that Asian economic growth is not only propelled by intensive capital accumulation but also driven by rapid TFP growth. This is especially true in China, where TFP growth accounted for one-third of its economic growth on average in the period 1970–2007, and in recent years when there has been a resurgence in TFP growth and in turn its significance in Korea, the Philippines, Indonesia and Thailand (see Section 6.3.)

In the coming years, as we dissect the still-unfolding impact of the global financial crisis, productivity analysis will help cast valuable insight into how the long-term growth potential of an economy has been affected. As it stands at the moment, the prospect for the West looks less promising than for the East, as far as future capability for productivity growth is concerned. In focusing on the long-term analysis, the *APO Productivity Databook* not only looks into a country's productivity performance but also its economic composition and sources of growth in order to provide readers with more comprehensive descriptions and comparisons of a country's economic structure and characteristics. The three sections – the demand-side analysis, the real income growth analysis and TFP estimates – that were introduced in *Databook 2009* have been continued in this edition. Furthermore, we have been able to expand the number of countries covered in our TFP analysis from four to eight Asian countries.

International comparisons of economic performance are never a precise science, but are fraught with measurement and data comparability issues. Despite our best efforts in aligning the data, some data uncertainty remains. As we operate in a reality of incomplete information, some adjustments made are necessarily conjectural, while others are based on assumptions. In addressing this shortcoming, conclusions drawn are cross-referenced against other similar studies. However, the magnitude of economic indicators and differences could be subject to a higher degree of data uncertainty.

Bearing in mind these caveats, the main findings from our analysis are as follows.

Economic scale and growth

- Our data show the outcome of the dramatic development effort made by the four Asian Tigers (namely Singapore, Hong Kong, the ROC and Korea), which, together with Japan, are seen consistently to top the Asian countries on level indicators, such as per capita GDP and labor productivity. (Figures 5, 6 and 24 and Table 8.)

- After adjusting for the differences in purchasing power, the combined GDP of APO20 economies had reached a similar level to that of the US and the EU15 by 2006. If Brunei, China and Myanmar are included, the total Asian economy overtook the US economy in size in 1990 and was 52 per cent larger than the US and 59 per cent larger than the EU15 in 2007. (Figure 1.)

- Between 2000 and 2007 economic growth in the Asian economy based on GDP was 3.5 per cent higher than the US economy on average per year (2.4 per cent), 63 per cent of which was accounted for by China, followed by India, contributing 20 per cent to the region's relative expansion. Japan was the only country in Asia that grew more slowly than the US during this period, and was hence a drag on the region's relative growth against the US. (Figure 2.)

- China and India have been driving the regional economy over the past decade, with the former accounting for just under 50 per cent of the region's growth and the latter for 17 per cent. There were faster-growing economies in Asia, but their sizes were too small to make a significant impact on regional growth. (Figure 3.)

Catching up in per capita GDP

- In terms of per capita GDP, Brunei, an oil-rich country, has always enjoyed a high per capita GDP, which was more than three times that of the US in 1980. Singapore has not only caught up with the US, but has even overtaken it since 2004 and surpassed it by 10.1 per cent in 2007. This is followed by Hong Kong and Japan, with a per capita GDP equivalent to 93 per cent and 74 per cent of the US level respectively. In contrast, the APO20 as a group has not caught up much with the US, with a per capita GDP

equivalent to around 13 per cent of the US level. (Figure 5.)

- This huge gap in per capita GDP is predominantly explained by Asian countries' relative labor productivity performance. Except for the four Asian Tigers, Brunei, Japan and Iran, all the other Asian countries have a labor productivity gap of more than 60 per cent against the US. Most countries also have employment rates that fall short of the US level, substantially in some cases, further reinforcing their productivity performance. In 2007 Brunei was the only country which had higher labor productivity than the US;[3] while labor productivity in Singapore and Hong Kong was 3.1 per cent and 7.9 per cent short of the US level respectively. Four APO economies and China had higher employment rates than the US. (Figure 6.)

- Similarly, labor productivity growth also explained most of the per capita GDP growth in the past decade in most countries, except for Brunei and Iran, where employment played a bigger role. However, this should not lead us to underestimate the role played by the employment rate, as it accounted for over 20 per cent of per capita GDP growth in seven of the APO member economies between 2000 and 2007. (Figures 7 and 8.)

The demand-side story

- Comparing the final demand shares of GDP shows that the Asian regional economy and the three reference economies are very different in their economic structures. Household consumption share is comparable between the APO20 and EU15 economies in the upper 50 per cent range. China and the US represent polar economies where household consumption share in 2007 was the lowest at 35.4 per cent and the highest at nearly 69.4 per cent respectively. (Figure 9 and Table 6.)

- The lower share of household consumption in the EU15 has been compensated by a larger share of government consumption, which accounts for around 20 per cent of its nominal GDP. This compares with 13–14 per cent in Asia and 14–16 per cent in the US. (Figure 11 and Table 6.)

- Asia on average invests a lot more than the US or EU15 and has been sustaining an investment share in the region of the upper 20 to 30 per cent of GDP, compared to 19.9 per cent for the US and EU15. The share of investment in China is phenomenal, at 42.3 per cent in 2007, and has overtaken household consumption as the biggest final demand component of GDP since 2004. (Figure 12 and Table 6.)

- Net exports are gaining weight in the Asia23, rising from 0.4 per cent of GDP in 1995 to 4.4 per cent in 2007. China explained most of the strengthening between 2000 and 2007. In contrast, the deficit between exports and imports in the US has quadrupled to 5.3 per cent of GDP in the past decade. A deficit in net exports tends to be associated with high household consumption, and countries with the highest household consumption share are also those with low income. These countries may struggle to defer consumption in order to invest. (Figures 10 and 13 and Table 6.)

- The main engine of growth for most countries during the period 1995–2000 was household consumption. The Asian financial crisis seemed to hit investment growth the most. For some countries, however, net exports were the real driving force, accounting for around 60 per cent of economic growth in Korea and Hong Kong, for example. (Figures 14 and 15.)

- On the back of the Asian financial crisis, the fastest-growing economies in Asia during 2000–2007 were propelled by investment growth (for example, in China, Vietnam and India). Net exports accounted for half to three-quarters of economic growth in Singapore, Hong Kong and the ROC. The contribution of net exports to economic growth in China also doubled between 1995–2000 and 2000–2007. Overall, net exports have been a significant driver in Asia and subject to wider swings when compared to the US and EU15. (Figures 14, 15 and 16.)

- According to countries' annual data, the Asian financial crisis marked an exceptional time for

3 Note that Brunei's economy is highly skewed towards the oil and energy-related industries.

many Asian economies, causing investment to nosedive in 1998 and consumption to fall, albeit to a lesser extent. Net export growth, on the other hand, was exceptionally strong in some of these countries, which are likely to have benefited from the rapid devaluation of the Asian currencies at the time of crisis. Similarly, the impact of the dot-com crash is also visible from the data, most notably in the ROC. (Figure 16.)

Real income and terms of trade

- Real GDP systematically underestimates (overestimates) growth in real income when terms of trade improve (deteriorate). In the current global financial storm, volatile exchange rates are observed. To the extent that import and export prices are partially determined by exchange rate movements, the distinction between real GDP and real income may well become more significant in this turbulent period. (Figure 18 and Table 7.)

- This is backed up by our findings for the periods when Asian economies were faced by major economic shocks: the two oil price hikes of 1973–1974 and 1978–1979, and the Asian financial crisis of the late 1990s. (Figures 19 and 20.)

- Real income growth can be fully attributed to real GDP growth and trading gain. Trading gain is found to have a larger impact over shorter periods than over long periods of time. Even so, its contribution to real income growth can still be significant for some countries, with the average annual real GDP growth underestimating that of real income by 7 per cent and 15 per cent in Malaysia and Indonesia, for example, over the period 1970–2007. Over shorter periods of time, the difference between real GDP growth and real income growth could be as much as ±40 per cent in some countries, which is caused by trading gain. (Figure 18 and Table 7.)

Whole-economy productivity performance

- We observe that the Asian countries that are catching up fast with the US in per capita GDP were also rapidly closing the labor productivity gap with the US, and had both the highest and a rising labor utilization rate over the past three decades. For countries where there was no catch-up or that saw a decline in relative per capita GDP, it was their productivity performance that distinguished them. (Figure 25.)

- In terms of labor productivity (measured as GDP per worker), Brunei is the only country that achieved labor productivity significantly higher than the US – by 47 per cent. Hong Kong and Singapore effectively closed the gap with the US in 2007. Japan and the ROC have a gap of around 20 per cent against the US. Productivity levels of the majority of the Asian countries, however, are less than 20 per cent that of the US, pulling down the average performance of the group to 13.4 per cent for the Asia23. Included in this long tail were China and India, with productivity levels of 9.5 per cent and 5.0 per cent of the US level, respectively. (Figure 24.)

- Estimates of TFP growth for eight Asian countries are presented in comparisons with the US. Taking the whole period of estimation, 1970–2007, Japan, Korea and Indonesia achieved productivity growth of 0.8–0.9 per cent on average per year, which was on a par with the US. The productivity growth in the ROC and Thailand nearly doubled that of the US at 1.7 per cent. China is a high performer, achieving an average annual productivity growth of 2.9 per cent, whereas productivity performance in the Philippines and Fiji actually deteriorated over the same period by 0.4 per cent on average per year. (Figure 26 and Table 12.)

- Economic growth can be decomposed into sources from factor inputs (labor and capital) and TFP. The sources of economic growth are considerably different across countries. The main engine in Japan was an expansion in capital input, contributing about 76 per cent of the economic growth during the period 1970–2007. TFP contribution was 25 per cent. The split of 70 per cent and 13 per cent for Korea is similar to that of Japan. TFP growth accounted for 34 per cent of China's economic growth, the highest contribution among all countries compared, while capital accumulation contributed 55 per cent. (Figure 27 and Table 12.)

- Although, over a long period of time, capital accumulation has played a much more significant role in Asian countries than in the US, the relative contribution shares are not constant over time. There were periods when TFP growth increased its weight in driving growth, particularly

in recent years. There was a resurgence in TFP growth during the period 2000–2007 in Japan, Korea, the Philippines and Thailand after the Asian financial crisis, raising its contribution to economic growth to a significant level (78 per cent for Japan, 46 per cent in Korea, 38 per cent for the Philippines and 53 per cent for Thailand). For the ROC, Fiji and China, the golden period for TFP growth and contribution was between 1985 and 1995. (Figure 27 and Table 12.)

- In our estimation we find evidence of a capital allocation shift towards IT capital in the ROC, Japan and Korea, although the timing was slightly different. By doing this, Asian countries are poising themselves to benefit from the advancements in information and communication technology. (Figure 28.)

- Within the growth accounting framework, labor productivity growth can be attributed to capital deepening and TFP growth. Over the long term (i.e. 1970–2007), labor productivity growth is predominantly explained by capital deepening in Japan (75 per cent) and Korea (82 per cent). In the ROC, capital deepening explains 66 per cent and TFP 34 per cent of labor productivity growth. In China, however, the split is roughly half and half. (Figure 29 and Table 13.)

- Over shorter periods, it is possible to see that the role played by TFP has weakened in the ROC whereas it has strengthened in Japan, accounting for 28 per cent and 60 per cent of their labor productivity growth respectively during the period 2000–2007. (Figure 29 and Table 13.)

Industry performance

- Evidence suggests that a country's industry structure transforms with its economic development. Countries with the highest per capita GDP tend to have the largest service sector, whereas the lowest per capita GDP group has the largest agricultural sector. In between are economies in transition, with a rapidly shrinking agricultural sector and a relatively prominent manufacturing sector. (Figures 30 and 32.)

- Breaking down economic growth into industry origin, we observe the above-the-norm dominance of the manufacturing sector in some of the fastest-growing economies. For example, manufacturing in China accounted for 47–49 per cent of economic growth between 1995 and 2007. In Korea and Thailand its contribution is also above 40 per cent. In contrast, the story behind India's recent growth has been about services, accounting for 61 per cent of economic growth for the period 2000–2007, compared with 16 per cent from manufacturing. This affirms the divergence of growth patterns in China and India. (Figures 35, 36 and 37.)

- Labor productivity accelerated in 2000–2007 to an average of 3.0 per cent per year for the APO20 and 5.4 per cent if Brunei, China and Myanmar are included, from 1.6 per cent and 3.6 per cent respectively over the period 1995–2000. The contribution from agriculture was around −3 per cent during the latter period, while manufacturing and services made contributions of 31 per cent and 62 per cent respectively to labor productivity growth. (Figure 44 and Table 11.)

- Preliminary evidence suggests that the service sector's contribution to economy-wide labor productivity is largely driven by subsectors like wholesale and retail trade, communications, finance and business activities, which are potentially IT-using in recent years (accounting for 67.3 per cent of the service sector's contribution in China and 83.4 per cent in India). (Figures 42, 43 and 44.)

- In line with other countries' experiences, aggregate labor productivity in Asia has been predominantly driven by the intra-sectoral effect – that is, productivity improvement within the industry sector. Even so, the inter-sectoral effect, which reflects changes in the allocation of production, can contribute up to 10.5 per cent to labor productivity growth in Pakistan and 5.2 per cent in Bangladesh, or can drag labor productivity growth down by as much as 8.7 per cent in Iran. (Figure 45.)

Asia is a diverse regional economy within which countries have embarked on their own journeys of economic development at different times and different paces. As shown by our analysis, nearly all countries are making concerted efforts to move away from agriculture and to accumulate capital in order to improve their growth potentials and to catch up with the West. Their efforts are yielding results beyond just impressive growth rates. Our evidence confirms that countries' capital accumulation is accompanied by strong productivity improvements.

Furthermore, in the recent period of turbulence, the region as a whole has demonstrated unexpected resilience and strengths in the way it has been riding the global financial storm. China in particular has been rising in the world economic rankings, having overtaken Germany as the largest exporter in 2009 and being on course to overtake Japan as the second-largest economy in 2010. Rather than stumbling, the region may well be able to work the current uncertain world economic situation in its favor and further consolidate its development achievements.

3. Economic Growth of the Asian Countries and Region

Underlying international-level comparisons of GDP and other related performance indicators is a set of conversion rates between the individual national currencies and a common currency unit (customarily the US dollar). In this context, purchasing power parities (PPPs) are the preferred currency converters. By taking into account the international price differentials, PPPs rectify the traded sector bias, which is embodied in market exchange rates, and in turn the relative size of economies can be more adequately measured (see Box 1 for details). It is therefore important to note that any international GDP comparisons are sensitive not only to revisions in national accounts, but also to revisions in multilateral PPPs. Results presented in this edition are based on the PPP estimates of the 2005 International Comparisons Program (ICP) benchmarking round.

3.1 Economic Scale and Growth

Table 1 ranks Asian countries by their GDP at current market prices,[4] using market exchange rates[5] as the currency converters, in the years 1980, 2000, 2006 and 2007. There are some revisions to the data when compared with *Databook 2009*, and they are largely results of national GDP revisions.[6] Japan topped the table, followed by China, in all four years of comparison. In 2007 Japan's economy was about one-third the size of that of the US and the EU15.[7] China's GDP was 78.3 per cent[8] that of Japan or 25.0 per cent of the US. India followed, with a size very similar to that of Korea, equivalent to around one-quarter of Japan's GDP. Except for the smallest economies, all economies have grown in size relative to Japan, eroding its lead. APO member economies, excluding Japan, as a group achieved 103.1 per cent of Japan's GDP in 2007, up from 88.5 per cent in 2006. When China, Brunei and Myanmar are included, the size of Asia23[9] minus Japan was 182.1 per cent of Japan's GDP in 2007, compared with 152.2 per cent in 2006. According to the GDP level comparisons using market exchange rates, the size of the Asian economy (Asia23) was 90.2 per cent that of the US in 2007, up from 84.3 per cent in 2006 and 74.2 per cent in 1980. The corresponding figures for the APO20 and ASEAN[10] were 64.9 per cent and 9.4 per cent in 2007 respectively, up from 63.0 per cent and 8.3 per cent in 2006 respectively. In 2007, therefore, the Asia23 has managed to pull ahead much faster than the APO20 or ASEAN against the US economy. China's breakneck GDP growth and the depreciation of the US dollar in 2007 helped explain this difference in relative performance among the various Asian country groups.

The rankings, however, change dramatically when international price differences are properly accounted for. Developing countries tend to have relatively lower wages and in turn lower domestic

4 The APO Productivity Database includes adjustments made to harmonize GDP coverage better across countries. The decision to exclude FISIM (financial intermediation services indirectly measured) and investment of valuables and to include software investment is detailed in Box 2. The methods employed and the magnitudes of adjustments made are provided in Box 3.

5 The market exchange rates used in this *Databook* are the adjusted rates, which are called the AMA (Analysis of Main Aggregate) rates in the UN Statistics Division's National Accounts Main Aggregate Database. In contrast, last year's edition was based on IMF rates that were mostly the annual average of market or official exchange rates. The AMA rates coincide with the IMF rates except for some periods in countries with official fixed exchange rates and high inflation, when there could be a serious disparity between real GDP growth and growth converted to US dollars based on IMF rates. In such cases, the AMA adjusts the IMF-based rates by multiplying the growth rate of GDP deflator relative to the US.

6 Reflecting the annual revision as well as the benchmark revisions in some countries, GDP at current market prices is revised upward by 7.2 per cent in Korea, 6.2 per cent in Malaysia, 2.0 per cent in Nepal and 1.9 per cent in Singapore, when compared to the *Databook 2009*.

7 The EU15 countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK. The data for the EU15 are based on OECD.Stat.

8 In this *Databook*, Chinese data are taken or estimated based on some different data sources, such as *China Statistical Yearbook*, *Data of Gross Domestic Product of China 1952–2004* and *Benchmark Input-Output Tables 1987*, *1992*, *1997* and *2002*. Further detailed information on data sources can be found in the Appendix.

9 The Asia23 consists of the APO20 plus three non-member countries in Asia: China, Brunei and Myanmar.

10 ASEAN consists of Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam. Although the *Databook 2009* defined ASEAN8 excluding Brunei and Myanmar, this edition includes all the ASEAN counties.

Table 1: Cross-country Comparisons of GDP Using Market Exchange Rate, 1980, 2000, 2006 and 2007
—GDP at current market prices, using market exchanges rate

1980			2000			2006			2007		
Japan	1,077,059	(100.0)	Japan	4,705,981	(100.0)	Japan	4,401,976	(100.0)	Japan	4,419,288	(100.0)
China*	306,520	(28.5)	China*	1,192,836	(25.3)	China*	2,779,871	(63.2)	China*	3,460,288	(78.3)
India	182,978	(17.0)	Korea	523,697	(11.1)	Korea	931,027	(21.2)	India	1,123,231	(25.4)
Iran	91,101	(8.5)	India	458,908	(9.8)	India	895,836	(20.4)	Korea	1,026,369	(23.2)
Indonesia	79,505	(7.4)	ROC	310,842	(6.6)	Indonesia	367,151	(8.3)	Indonesia	436,040	(9.9)
Korea	65,360	(6.1)	Hong Kong	169,121	(3.6)	ROC	352,896	(8.0)	ROC	370,619	(8.4)
ROC	41,279	(3.8)	Indonesia	165,816	(3.5)	Iran	229,963	(5.2)	Iran	294,645	(6.7)
Philippines	32,563	(3.0)	Thailand	123,345	(2.6)	Thailand	208,510	(4.7)	Thailand	247,973	(5.6)
Thailand	32,401	(3.0)	Iran	103,576	(2.2)	Hong Kong	189,932	(4.3)	Hong Kong	207,069	(4.7)
Hong Kong	28,818	(2.7)	Malaysia	94,113	(2.0)	Malaysia	157,386	(3.6)	Malaysia	187,105	(4.2)
Pakistan	28,787	(2.7)	Singapore	92,717	(2.0)	Singapore	139,177	(3.2)	Singapore	166,950	(3.8)
Malaysia	25,454	(2.4)	Philippines	75,932	(1.6)	Pakistan	127,132	(2.9)	Philippines	146,715	(3.3)
Bangladesh	17,694	(1.6)	Pakistan	71,571	(1.5)	Philippines	119,583	(2.7)	Pakistan	143,574	(3.2)
Singapore	11,730	(1.1)	Bangladesh	45,782	(1.0)	Vietnam	61,208	(1.4)	Vietnam	71,521	(1.6)
Myanmar*	5,911	(0.5)	Vietnam	31,276	(0.7)	Bangladesh	60,920	(1.4)	Bangladesh	69,346	(1.6)
Brunei*	4,930	(0.5)	Sri Lanka	17,070	(0.4)	Sri Lanka	28,556	(0.6)	Sri Lanka	32,685	(0.7)
Sri Lanka	4,343	(0.4)	Myanmar*	7,300	(0.2)	Myanmar*	13,805	(0.3)	Myanmar*	18,606	(0.4)
Nepal	2,561	(0.2)	Nepal	6,217	(0.1)	Brunei*	11,733	(0.3)	Brunei*	12,564	(0.3)
Fiji	1,203	(0.1)	Brunei*	6,118	(0.1)	Nepal	10,025	(0.2)	Nepal	12,344	(0.3)
Cambodia	741	(0.1)	Cambodia	3,681	(0.1)	Cambodia	7,310	(0.2)	Cambodia	8,683	(0.2)
Mongolia	449	(0.0)	Lao PDR	1,739	(0.0)	Lao PDR	3,502	(0.1)	Lao PDR	4,114	(0.1)
			Fiji	1,687	(0.0)	Mongolia	3,193	(0.1)	Mongolia	3,935	(0.1)
			Mongolia	1,090	(0.0)	Fiji	3,176	(0.1)	Fiji	3,278	(0.1)
(regrouped)			(regrouped)			(regrouped)			(regrouped)		
Asia23	2,041,388	(189.5)	Asia23	8,210,414	(174.5)	Asia23	11,103,867	(252.2)	Asia23	12,466,940	(282.1)
APO20	1,724,027	(160.1)	APO20	7,004,160	(148.8)	APO20	8,298,458	(188.5)	APO20	8,975,482	(203.1)
ASEAN	193,235	(17.9)	ASEAN	602,036	(12.8)	ASEAN	1,089,364	(24.7)	ASEAN	1,300,271	(29.4)
(reference)			(reference)			(reference)			(reference)		
US	2,750,300	(255.4)	US	9,765,700	(207.5)	US	13,172,700	(299.2)	US	13,827,400	(312.9)
EU15	3,207,799	(297.8)	EU15	9,529,645	(202.5)	EU15	12,437,991	(282.6)	EU15	13,144,161	(297.4)

Unit: Millions of US dollars at current market prices, using market exchange rate, percentage in parentheses.
Note: See Box 3 for the adjustments made to harmonize GDP coverage across countries. The countries with "*" represent the non-member countries in Asia.

prices for non-traded goods and services. Hence a unit of local currency has greater purchasing power in the local economy than reflected in its market exchange rate, which is influenced mainly by traded goods and services. Consequently, using market exchange rates for cross-country GDP comparisons tends to underestimate the relative size of developing economies.

Table 2 corrects this bias and presents the rankings of PPP-based GDP[11] at current market prices for Asian countries in 1980, 2000, 2006 and 2007. Based on GDP, the relative size of China's economy in 2007 almost doubled to 167.5 per cent that of Japan, compared with 78.3 per cent when the market exchange rate is used as described in Table 1. Similarly, its size increased from 25.0 per cent to

11 Hereafter, PPP-based GDP is called simply GDP, since the exchange-rate-based GDP is used only in Table 1. Caution should be exercised when comparing economies by their GDP and other related indicators. To allow for errors in the calculation of GDP and other variables, as well as in the estimation of PPPs, small differences in cross-country comparisons should not be considered as significant. It is generally accepted that differences in GDP of less than 5 per cent lie within the margin of error of PPP estimation. Rather than ranking economies, it is preferable to group economies by broad size categories (see World Bank, 2008).

Table 2: Cross-country Comparisons of GDP Using PPP, 1980, 2000, 2006 and 2007
—GDP at constant market prices, using the 2005 PPPs

1980			2000			2006			2007		
Japan	2,061,888	(100.0)	Japan	3,660,311	(100.0)	China*	6,108,046	(100.0)	China*	6,834,904	(100.0)
India	591,859	(28.7)	China*	3,463,665	(94.6)	Japan	3,986,904	(65.3)	Japan	4,081,205	(59.7)
China*	528,740	(25.6)	India	1,713,369	(46.8)	India	2,636,081	(43.2)	India	2,875,189	(42.1)
Iran	248,654	(12.1)	Korea	864,227	(23.6)	Korea	1,128,798	(18.5)	Korea	1,186,395	(17.4)
Korea	207,569	(10.1)	Indonesia	562,623	(15.4)	Indonesia	748,969	(12.3)	Indonesia	796,577	(11.7)
Indonesia	202,240	(9.8)	Iran	491,382	(13.4)	Iran	696,373	(11.4)	Iran	740,498	(10.8)
Philippines	125,946	(6.1)	ROC	488,232	(13.3)	ROC	598,110	(9.8)	ROC	632,399	(9.3)
ROC	121,492	(5.9)	Thailand	349,193	(9.5)	Thailand	471,907	(7.7)	Thailand	495,415	(7.2)
Thailand	105,741	(5.1)	Pakistan	267,853	(7.3)	Pakistan	363,058	(5.9)	Pakistan	383,881	(5.6)
Pakistan	99,643	(4.8)	Malaysia	239,774	(6.6)	Malaysia	320,545	(5.2)	Malaysia	340,452	(5.0)
Hong Kong	70,570	(3.4)	Philippines	203,373	(5.6)	Philippines	268,469	(4.4)	Philippines	288,061	(4.2)
Malaysia	67,363	(3.3)	Hong Kong	198,518	(5.4)	Hong Kong	260,145	(4.3)	Hong Kong	276,743	(4.0)
Bangladesh	54,807	(2.7)	Singapore	150,891	(4.1)	Singapore	202,238	(3.3)	Singapore	217,944	(3.2)
Singapore	35,525	(1.7)	Bangladesh	126,436	(3.5)	Vietnam	193,662	(3.2)	Vietnam	210,103	(3.1)
Sri Lanka	22,724	(1.1)	Vietnam	124,404	(3.4)	Bangladesh	176,421	(2.9)	Bangladesh	188,003	(2.8)
Brunei*	15,208	(0.7)	Sri Lanka	57,596	(1.6)	Sri Lanka	75,812	(1.2)	Sri Lanka	81,042	(1.2)
Myanmar*	11,867	(0.6)	Myanmar*	26,903	(0.7)	Myanmar*	55,784	(0.9)	Myanmar*	57,748	(0.8)
Nepal	9,821	(0.5)	Nepal	24,812	(0.7)	Nepal	29,892	(0.5)	Nepal	31,492	(0.5)
Mongolia	2,644	(0.1)	Brunei*	16,052	(0.4)	Cambodia	22,425	(0.4)	Cambodia	24,723	(0.4)
Fiji	1,964	(0.1)	Cambodia	12,927	(0.4)	Brunei*	18,789	(0.3)	Brunei*	18,915	(0.3)
Cambodia	0	(0.0)	Lao PDR	7,559	(0.2)	Lao PDR	11,142	(0.2)	Lao PDR	11,980	(0.2)
Lao PDR	0	(0.0)	Mongolia	4,872	(0.1)	Mongolia	7,245	(0.1)	Mongolia	7,986	(0.1)
Vietnam	0	(0.0)	Fiji	3,116	(0.1)	Fiji	3,633	(0.1)	Fiji	3,395	(0.0)
(regrouped)			(regrouped)			(regrouped)			(regrouped)		
Asia23	4,586,265	(222.4)	Asia23	13,058,086	(356.7)	Asia23	18,384,446	(301.0)	Asia23	19,785,050	(289.5)
APO20	4,030,450	(195.5)	APO20	9,551,466	(260.9)	APO20	12,201,826	(199.8)	APO20	12,873,483	(188.3)
ASEAN	563,889	(27.3)	ASEAN	1,693,698	(46.3)	ASEAN	2,313,929	(37.9)	ASEAN	2,461,918	(36.0)
(reference)			(reference)			(reference)			(reference)		
US	5,760,688	(279.4)	US	11,018,314	(301.0)	US	12,756,351	(208.8)	US	13,017,270	(190.5)
EU15	6,797,451	(329.7)	EU15	10,813,263	(295.4)	EU15	12,110,413	(198.3)	EU15	12,446,442	(182.1)

Unit: Millions of US dollars at constant market prices, using the 2005 PPPs, percentage in parentheses.
Note: See Box 3 for the adjustments made to harmonize GDP coverage across countries. The countries with "*" represent the non-member countries in Asia.

52.5 per cent relative to the US economy in 2007. On this measure, China's economy has overtaken Japan since 2001 to become the biggest in Asia. This represents remarkable growth, considering that the Chinese economy was only 25.6 per cent that of Japan in 1980. The relative size of the Indian economy is also more accurately reflected as 70.4 per cent, instead of 28.7 per cent, when compared with Japan in 2007, and equivalent to 2.4 times the size of the Korean economy.

Table 2 shows the growing dominance of the Chinese economy as it pulls ahead and reduces the sizes of other economies relative to its own. For example, between 2000 and 2007 Japan shrank from 105.7 per cent to 59.7 per cent, the US from 318.1 per cent to 190.5 per cent and the EU15 from 295.5 per cent to 182.1 per cent relative to China. Even India, a fast-growing economy, could not match China, with its relative size reduced from 49.5 per cent to 42.1 per cent that of China.

The combined size of the Asia23 economies is now 52.0 per cent larger than the US economy and 59.0 per cent larger than that of the EU15. Even excluding the three non-APO members, the APO20 as a group is similar in size to the US economy and EU15, equivalent to 98.9 per cent of the former and 103.4 per cent of the latter in 2007. On this basis, Asia is a regional economy to be reckoned with.

Box 1: Purchasing Power Parities and the International Comparisons Program

The level comparisons of GDP-related indicators in this report (except for Table 1) are constructed based on purchasing power parities (PPPs) as the currency converters. Multilateral PPPs are statistical estimates expressed in a base currency, customarily the US dollar. They show the equivalent cost of a comparable basket of goods and services, worth $1 in the US, in the national currencies of the respective countries. As the relative price comparisons cover both traded and non-traded items, PPPs address the "traded-sector bias" embodied in the market exchange rates, which tend to under-represent the size of a developing economy and, in turn, the perceived welfare of its residents in cross-country comparisons. Market exchange rates are also subject to short-term, and at times substantial, fluctuations from speculative capital movements and government intervention. As such, cross-country comparisons based on market exchange rates could appear arbitrary, depending on which period of market exchange rates is used. Furthermore, in some countries market exchange rates are fixed or managed by policy. The relative size of these economies based on the market exchange rates will be partially determined by a policy parameter, rather than the underlying economic fundamentals. For these reasons, PPPs are preferred in international comparisons of GDP and its components, which are expressed in terms of physical levels of output, free of price and exchange rate distortions. However, this does not mean that PPPs should be used for all international comparisons. In measuring international trade, capital flows and the values of foreign debts, for example, it is appropriate to use market exchange rates.

The data source for global PPP estimates is the International Comparisons Program (ICP), a worldwide statistical initiative led and coordinated by the World Bank with five ICP regional offices and in close partnership with Eurostat-OECD. From the initial round of 10 countries in 1970, the coverage has been expanded to 146 countries in the latest round, spanning from 2003 to 2008, to produce the 2005 benchmarks, accounting for 95 per cent of the world's population and 98 per cent of the world's nominal GDP. The latest benchmark results are extrapolated backward and forward using relative GDP deflators to create time series, on which results in this report are based.

PPP-based cross-country comparisons are sensitive to PPP benchmark revisions, which can be traced back to various sources. Changes in economic structures, which are not reflected in extrapolation, are updated with each benchmarking round. The product list is different in successive rounds. Methodological improvements also lead to inconsistent results when compared with the previous round. In addition, PPPs are results derived from a multilateral estimating process, and the bilateral relationships are affected by indirect parities with all other economies in the region. With nearly 30 additional countries in the latest benchmarking round, it was not surprising that the combined impact of these factors on the previous PPP estimates was substantial. We therefore saw major revisions to our cross-country comparisons between *Databook 2008* and *Databook 2009* as we updated to 2005 PPP benchmarks. However, results in this report are consistent with *Databook 2009*. See ADB (2007) and World Bank (2008) for more background information on PPP revisions and the ICP 2005 benchmark.

Given its coverage, ICP is one of the most comprehensive and complex international statistical undertakings today, involving harmonization of methodologies, concepts and definitions for price data collection, data validation and estimation. Each participating country is required to provide national average prices for over 1,000 closely specified items, grouped under 155 categories or basic headings. Tremendous coordination efforts, with intensive consultations at every level, have gone into ensuring that the basket of items is comparable and representative, and that the compiled data are of comparable quality.

A program of such scale requires an effective governance structure. The ICP is owned and managed by a consortium of national, regional and international organizations, under the general auspices of the ICP Executive Board, which is accountable to the United Nations Statistical Commission. The Executive Board consists of primary stakeholders, and provides leadership, determines strategic priorities and approves annual work programs and budgets. Under the Executive Board is the global office in the World Bank, which manages the day-to-day coordination of the program, with five regional organizations providing oversight of the countries in their regions. The regions are Africa (51 countries), Asia and the Pacific (23 countries), Western Asia (11 countries), the Commonwealth of Independent States (11 countries) and Latin America (10 countries). The global results include the five ICP regions plus the 43 Eurostat-OECD countries, which have their own comparisons program conducted by Eurostat and the OECD independently from the global ICP management structure.

For the Asia and Pacific region, the Asian Development Bank (ADB) is the regional office that conducts the day-to-day management of ICP Asia-Pacific through its ICP Regional Coordinating Unit (RCU). The Regional Advisory Board is responsible for setting regional goals, priorities and objectives, taking into consideration the statistical needs of regional agencies and countries. ICP Asia-Pacific constructs PPP estimates for 22 countries plus Hong Kong with the Hong Kong dollar as the base currency unit. It should be noted that Japan and Korea are not included in ICP Asia-Pacific; since they are also OECD member countries, they participated in the latest round of the ICP through the Eurostat-OECD PPP program (OECD, 2006). For further information see the ADB website (http://www.adb.org/statistics/icp/icp.asp).

Box 2: Metadata Survey on National Accounts in Asia

Understanding data comparability is essential for the construction of an international database, and requires significant effort and expert knowledge. Between April and July 2008 and between May and October 2009, surveys on the national accounts and other statistical data required for international comparisons of productivity were conducted among the APO member countries for this project. The aim of these surveys was to gather the metadata of the input data series required to populate the APO Productivity Database. Through the survey responses, the project team has benefited from the knowledge of national experts in the participating countries. The metadata survey will be updated annually under the APO Productivity Database project. For detailed survey responses, see Nomura, Lau and Mizobuchi (2008).

Broadly speaking, cross-country data inconsistency can arise from variations in one or more of the three aspects of a statistic: definitions, coverage and methodology. The international definitions and guidelines work to standardize countries' measurement efforts, but country data can deviate from the international best practice and vary in terms of omissions and coverage achieved. Last but not least, countries can also vary in their estimation methodology and assumptions, which may account for part of the differences we observe in the data and interfere with comparisons of countries' underlying economic performance.

Most of the economic performance indicators in this report are GDP-related. The surveys therefore put a lot of emphasis on finding out countries' GDP compilation practices. For GDP, we take the System of National Accounts 1993 (1993 SNA) as the standard, and note how countries' practices deviate from it. Since there are differences between the 1993 SNA and its predecessor (1968 SNA) in some concepts and coverage, it matters to know in which year in the data series definitions and classification started to switch over, so as to identify breaks in the time series. As Figures B2.1 and B2.2 suggest, countries differ in their year of implementation, the extent of compliance and backward estimates available.

According to our survey response, most APO countries are currently 1993 SNA-compliant, although for some countries the switchover was only a recent affair. The starting year of the official 1993 SNA-compliant time series therefore varies a great deal across countries, reflecting the difference in the availability of backward estimates. The earliest year of consistent time series available for all 1993 SNA-compliant countries in the APO Productivity Database is 2000. Countries may have adopted the 1993 SNA as the framework for their national accounts, but the extent of compliance in terms of coverage may still vary. Our survey findings highlight two areas which require alignments to improve comparability: the treatment of FISIM (financial intermediation services indirectly measured) and the capitalization of software.

FISIM is an indirect measure of the value of financial intermediation services provided, but for which financial institutions do not charge explicitly (United Nations, 1993: para. 6.124). It represents a significant part of the income of the financial sector. The 1993 SNA recommends that FISIM should be allocated to users (to individual industries and final

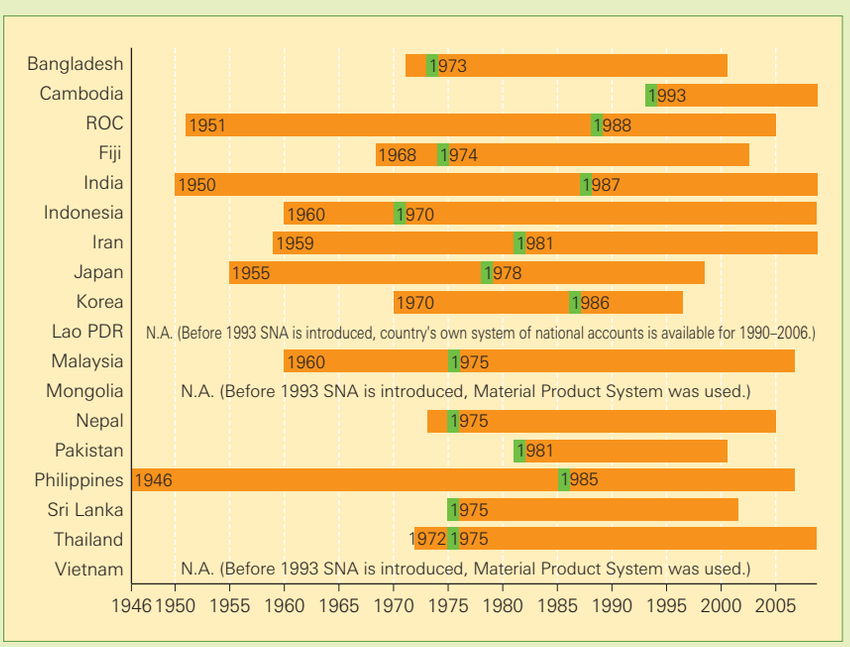

Figure B2.1: Implementation of 1968 SNA

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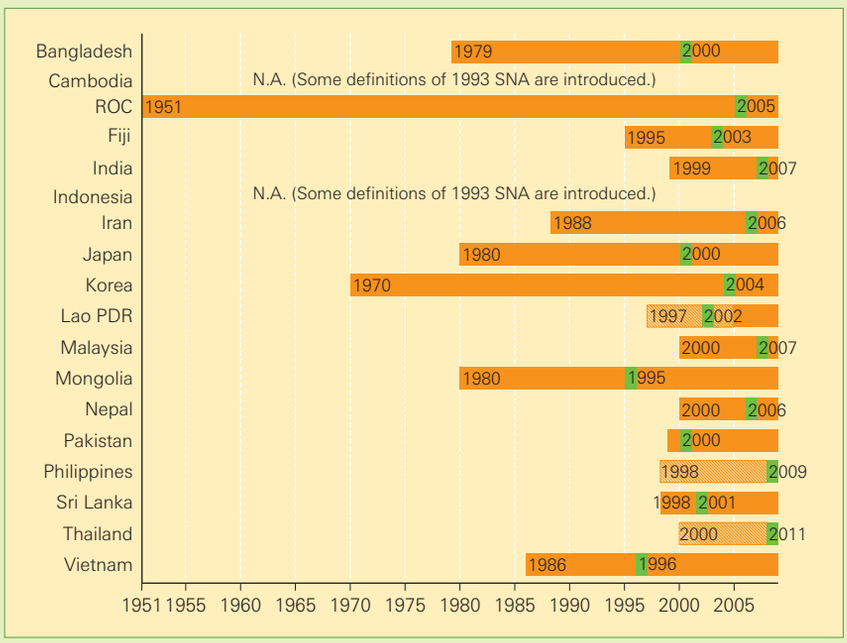

Figure B2.2: Implementation of 1993 SNA

Note: Shaded regions indicate the plan for implementations. Malaysia's data during 1960–1968 are a mixture of 1953 SNA and 1968 SNA.

demands). This is in contrast to the 1968 SNA, where the imputed banking services were allocated exclusively to the business sector. The common practice was to create a notional industry which buys the entire service as an intermediate expense and generates an equivalent negative value added. As such, the imputed banking services have no impact on GDP. Therefore the 1993 SNA recommendation, if fully implemented, will impact on industry GDP and the overall GDP for the total economy (by the part of FISIM allocated to final demands). Among the 20 APO member economies, seven countries have incorporated FISIM in their GDP. However, only three countries out of these allocate FISIM to final demands. Due to the lack of information to adjust the data properly, our current decision is to harmonize the data by excluding FISIM from GDP for all countries in the APO Productivity Database.

The 1993 SNA also recommends the capitalization of intangible assets, which changes not only the size of GDP but also the size of capital input. One intangible asset is computer software, which includes pre-packaged software, custom software and own-account software. Due to its relevance to today's economy, there has been a major international effort recently to standardize its inclusion and estimation methods (see Nadim, 2003; Lequiller et al., 2003). Among the APO member countries, only three have capitalized all three types of software. Another seven countries exclude own-account software in their software capitalization, and in one country only custom software is capitalized. For the APO Productivity Database, an adjustment has been tentatively conducted to harmonize data to include software. Please see Box 3 for details of the adjustment.

Box 3: Adjustment in GDP

The coverage of GDP is harmonized by adjusting the treatment of three factors: FISIM, software and valuables. In addition to these three adjustments, an extra adjustment is necessary for the harmonization of the price concept of GDP. Procedures for all these adjustments are explained below.

FISIM

Among the 20 APO member countries, only the ROC, India and Korea allocate FISIM to final demands in their national accounts, as does the US as a reference country in this report. Our current decision is to harmonize the data by excluding FISIM from GDP for all countries in the APO Productivity Database. For the ROC and Korea (see Cho, 2000; Ahn, 2008), although FISIM or the imputed banking service charge is available, information on the proportion which has been allocated to the final demands is not available. We tentatively impute this proportion using an average of the ratios of Japanese trial estimates (by the Economic Social Research Institute, Cabinet Office of Japan) calculated over the period 1995–2007. This average comes up as 40 per cent. The proportions by which our adjustments for FISIM reduce GDP of these four countries in 2007 are 3.7 per cent of GDP (the ROC), 1.9 per cent (India), 2.2 per cent (Korea) and 1.6 per cent (the US).

Software

The treatment of software also varies across countries. Among the countries studied, software investment is available only for the ROC, Japan, Korea and China. To harmonize data, a country's GDP is adjusted to include software investment (through its software industry) by using the ratio between software investment and GDP (hereafter software ratio) and the tangible GFCF to GDP ratio (hereafter GFCF ratio). Data from the OECD Productivity Database (Schreyer, Bignon and Dupont, 2003) and APO Productivity Database suggest an inverse relationship between these two ratios (Figure B3). Countries with a low GFCF ratio tend to be those with high per capita GDP, and the observed data suggest that information technology tends to play a more important role in these countries than in the less developed countries. Furthermore, it is observed from the OECD and APO software data that the software investment ratio has been gradually increasing over the past 25 years.

We apply this inverse relationship between these two ratios observed from the OECD countries to estimate the software investment to GDP ratio in 2006 for those APO member countries which do not capitalize software investment. The estimated ratios for individual countries in 2006 are gradually tapered off as we move back in time. However, there is an exception. Countries at the very early stage of economic growth are found to have a GFCF ratio as low as countries with high per capita GDP, but for a different reason. The low GFCF ratio is explained by the fact that these countries have not experienced economic development yet, and in turn this does not imply an important role for software investment. In this report, we regard Cambodia, Lao PDR and Nepal as countries at the very early stage of economic development, and assign Vietnam's software investment ratio, which is the lowest of all APO member countries, to these countries.

Another problem arises from partial software capitalization.

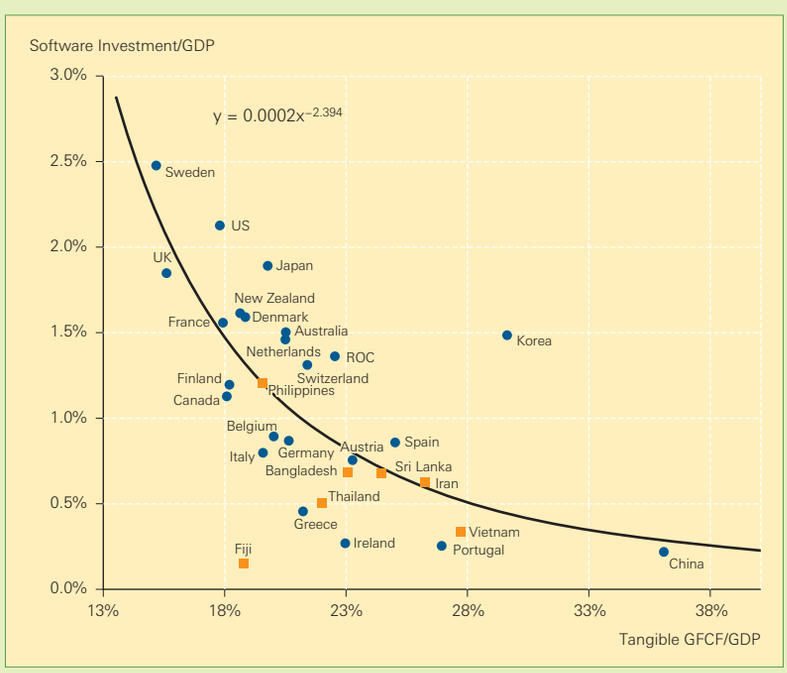

Figure B3: Software Investment Ratio and GFCF Ratio to GDP, 2005

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There are three types of software: custom software, prepackaged software and own-account software. Countries may have capitalized one or two types of software, but software investment data are often not available separately. We attempt to adjust for the varied level of capitalization across countries by adding the type of software which was not capitalized to countries' GDP. In the case of Japan's own-account software and ownership transfer cost, we used estimates (by Koji Nomura based on the US methodology by the Bureau of Economic Analysis) and added these to the GDP of Japan's software industry and GFCF.

Valuables

Valuables are defined as "goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over time" (United Nations, 1993: para. 10.7). They are held under the expectation that their prices will not deteriorate and will rise in the long run. Valuables consist of precious stones and metals such as diamonds; art works such as paintings and sculptures; and other valuables such as jewelry made from stones and metals. In some countries, net acquisitions of valuables are recorded as a part of capital formation. Our current decision is to harmonize the data by excluding net acquisition of valuables from GDP for all countries in the APO Productivity Database. According to our calculation, the figures were 1.1 per cent of GDP for India and 0.05 per cent for the EU15 in 2007.

GDP at basic prices

GDP can be valued using different price concepts: market prices, factor cost and basic prices. If the price concept is not standardized across countries, it will interfere with the international comparisons. All the countries that we cover in this *Databook* officially report GDP at market prices, but this is not true for GDP at factor cost and GDP at basic prices. Thus international comparisons in Section 3 (on economic scale and growth) and Section 4 (on final demand) are based on GDP at market prices. However, by valuing output and input at the prices that producers actually pay and receive, GDP at basic prices is a more appropriate measure of countries' output than GDP at market prices for international comparisons of total factor productivity and industry performance, as it is a measure from the producers' perspective. Hence, Sections 6.2 and 6.3 on whole-economy productivity performance are based on GDP at basic prices.

These three concepts of GDP differ in the treatment of indirect tax and subsidies. The difference between GDP at basic prices and GDP at market prices is "taxes on products" minus "subsidies on products." "Taxes on products" are the indirect taxes payable on goods and services mainly when they are produced, sold and imported, and "subsidies on products" are subsidies payable on goods and services mainly when they are produced, sold and imported. Since GDP at basic prices is available for only a few countries, such as Iran and Korea, we need to construct GDP at basic prices for all other countries. To obtain GDP at basic prices, we subtract "taxes on products" from and add "subsidies on products" to GDP at market prices, which is available for all the countries studied. The main data sources for estimating "taxes on products" and "subsidies on products" are tax data in national accounts and the IMF's Government Finance Statistics (GFS).

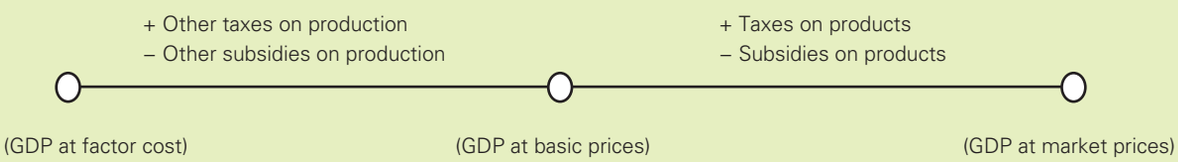

Figure 1 traces the time path of the changes in the economic size of the EU15, APO20, Asia23 and ASEAN relative to the US (= 100) since 1970. Over the past three decades the APO20 has been expanding in its relative size, from a low base of just under 58.8 per cent of the US economy in 1970 to roughly the same size (98.9 per cent) in 2007. Progress was put back by the impact of the Asian financial crisis in 1997–1998, as can be clearly seen in the chart. It took the APO20 as a group nearly a decade to recover the lost ground and return to its peak before the dip in the late 1990s in terms of its size relative to the US. By 2007 it had caught up with the US. While the APO20 has been expanding, the EU15 has been experiencing a relative decline in economic size over the same period, from 118.3 per cent of the US economy in 1970 to 95.6 per cent in 2007. The difference in fortunes for the two regions is made more pronounced when China, together with Brunei and Myanmar, is included in the Asian group. In Figure 1 we can clearly see the impact of China, with its recent impressive growth performance, which accounts for most of the acceleration in the Asian group's overtaking process from around 1990 to 2007. The size of this region's economy was 52.0 per cent bigger than the US economy in 2007.

Between 2000 and 2007 the Asian economy was growing at 5.9 per cent per year on average, compared with 2.4 per cent in the US economy. China

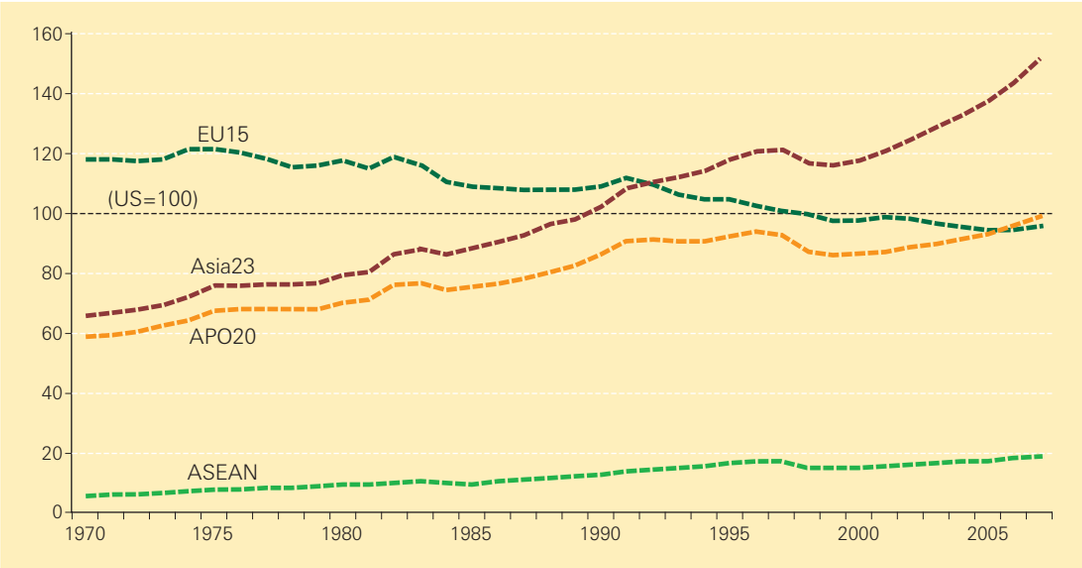

Figure 1: GDP Relative to the US, 1970–2007
—Indices of GDP at constant market prices, using the 2005 PPPs (US=100)

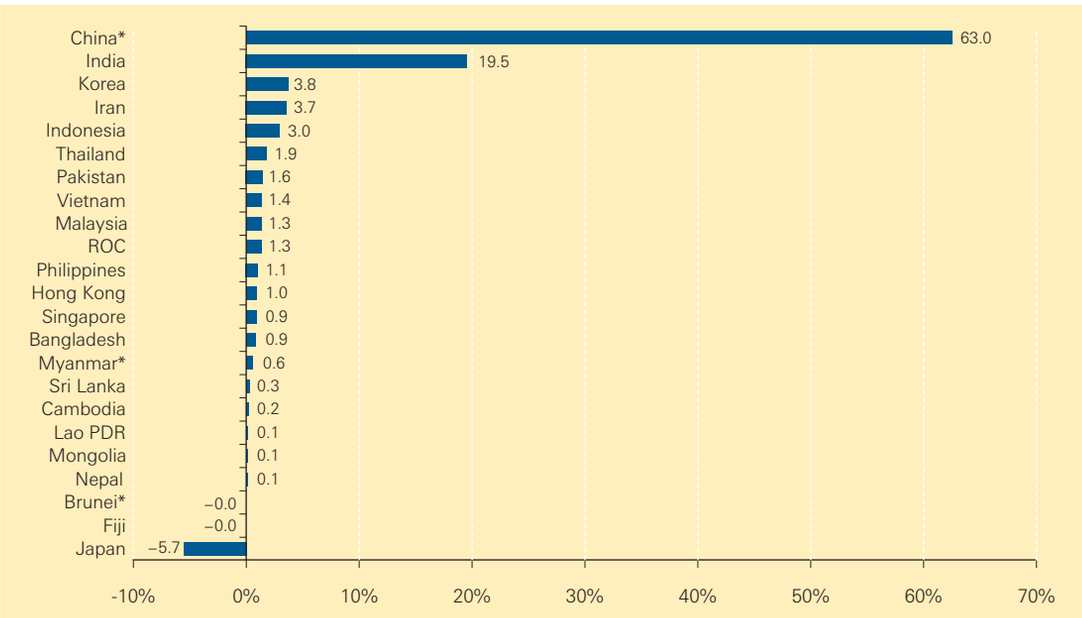

Figure 2: Country Origins of Regional Economic Growth Relative to the US, 2000–2007

accounted for 63.0 per cent of this growth in the Asian economy, as shown in Figure 2.[12] This was followed by India, contributing 19.5 per cent to the region's relative expansion. Those countries which had been hardest hit by the Asian financial crisis in 1997–1998 recovered from the recession and showed positive contributions to the regional relative economic growth. During 2000–2007, Japan was the only economy in the Asia-Pacific region to grow more slowly than the US. Although growth picked up in Japan from 1.3 per cent on average a year between 2000 and 2005 to 2.1 per cent between 2005 and 2007, its growth still fell behind the 2.4 per cent on average a year in the US for both periods. Combining with the weight of its economy in the region, Japan's slower growth is reflected as a sizeable drag of 5.7 per cent on the regional relative growth in the period 2000–2007. Fiji was the other economy

12 The regional economic growth relative to the US is the sum of the contributions by countries in the region as in: $\Sigma_x(1/2)(s_x^t+s_x^{t-1})\ln(GDP_x^t/GDP_x^{t-1})-\ln(GDP_{US}^t/GDP_{US}^{t-1})$ where s_x^t is a nominal share of GDP in country x with respect to the regional GDP in period t.

Table 3: Cross-country Comparisons of GDP Growth, 1990–1995, 1995–2000, 2000–2005 and 2005–2007
—Average annual growth rate of GDP at constant market prices

1990–1995		1995–2000		2000–2005		2005–2007	
China*	11.6	China*	8.3	Myanmar*	12.2	China*	11.1
Malaysia	9.1	Myanmar*	8.2	China*	9.5	Cambodia	10.0
Singapore	8.5	Cambodia	7.1	Cambodia	9.2	Mongolia	9.0
Thailand	8.3	Vietnam	6.7	Vietnam	7.4	India	8.9
Vietnam	7.9	Singapore	6.1	India	7.2	Vietnam	8.0
Indonesia	7.6	Lao PDR	6.0	Mongolia	6.6	Myanmar*	7.8
Korea	7.5	India	5.7	Lao PDR	6.5	Singapore	7.8
ROC	6.9	ROC	5.6	Iran	5.8	Lao PDR	7.6
Cambodia	6.7	Bangladesh	5.1	Bangladesh	5.6	Sri Lanka	7.1
Lao PDR	6.2	Sri Lanka	5.0	Thailand	5.1	Iran	6.6
Myanmar*	5.7	Iran	4.9	Pakistan	5.0	Hong Kong	6.5
Sri Lanka	5.3	Nepal	4.8	Malaysia	4.9	Bangladesh	6.4
Hong Kong	5.1	Malaysia	4.7	Indonesia	4.8	Philippines	6.2
Nepal	4.9	Korea	4.3	Philippines	4.8	Malaysia	5.9
India	4.8	Philippines	4.0	Korea	4.6	Pakistan	5.8
Pakistan	4.5	Mongolia	3.6	Singapore	4.6	Indonesia	5.8
Bangladesh	4.3	Pakistan	3.2	Hong Kong	4.5	ROC	5.2
Brunei*	3.0	Hong Kong	2.6	Sri Lanka	4.5	Korea	5.0
Fiji	2.6	Fiji	2.1	ROC	3.4	Thailand	5.0
Iran	2.5	Brunei*	1.5	Nepal	3.1	Nepal	4.3
Philippines	2.3	Japan	1.0	Fiji	2.6	Brunei*	2.6
Japan	1.4	Indonesia	0.8	Brunei*	2.6	Japan	2.1
Mongolia	–1.8	Thailand	0.5	Japan	1.4	Fiji	–1.7
(regrouped)		(regrouped)		(regrouped)		(regrouped)	
Asia23	5.3	Asia23	4.2	Asia23	5.7	Asia23	7.2
APO20	3.8	APO20	2.9	APO20	4.1	APO20	5.3
ASEAN	7.2	ASEAN	2.6	ASEAN	5.2	ASEAN	6.1
(reference)		(reference)		(reference)		(reference)	
US	2.5	US	4.2	US	2.4	US	2.4
EU15	1.6	EU15	2.8	EU15	1.9	EU15	2.8

Unit: Percentage.
Note: See Box 3 for the adjustments made to harmonize GDP coverage across countries. The countries with "*" represent the non-member countries in Asia.

which made a (marginally) negative contribution to the regional relative growth, reflecting the fact that its output shrank by 1.7 per cent between 2005 and 2007, while the US economy was growing at 2.4 per cent.

Table 3 presents cross-country comparisons of economic growth in Asia in four recent periods: 1990–1995, 1995–2000, 2000–2005 and 2005–2007. During the latter half of the 1990s growth slowed across the Asian countries. The region's growth was 4.2 per cent per year on average in the period 1995–2000, compared with 5.3 per cent in the previous period, reflecting the impact of the Asian financial crisis in 1997–1998. ASEAN countries were hard hit, with average annual growth slowing from 7.2 per cent in 1990–1995 to 2.6 per cent in 1995–2000. In contrast, growth in the US and EU15 accelerated over the same period from 2.5 per cent to 4.2 per cent and from 1.6 per cent to 2.8 per cent respectively. In the 2000s growth in Asia recovered, achieving 7.2 per cent a year on average in 2005–2007. Growth in ASEAN countries also accelerated to 6.1 per cent a year on average, although it was still lower than their pre-crisis average growth rate of 7.2 per cent.

Within the Asian region the performance was again dominated by China, which achieved spectacular growth of 11.6 per cent, 8.3 per cent, 9.2 per cent and 11.1 per cent on average per annum in the periods 1990–1995, 1995–2000, 2000–2005 and

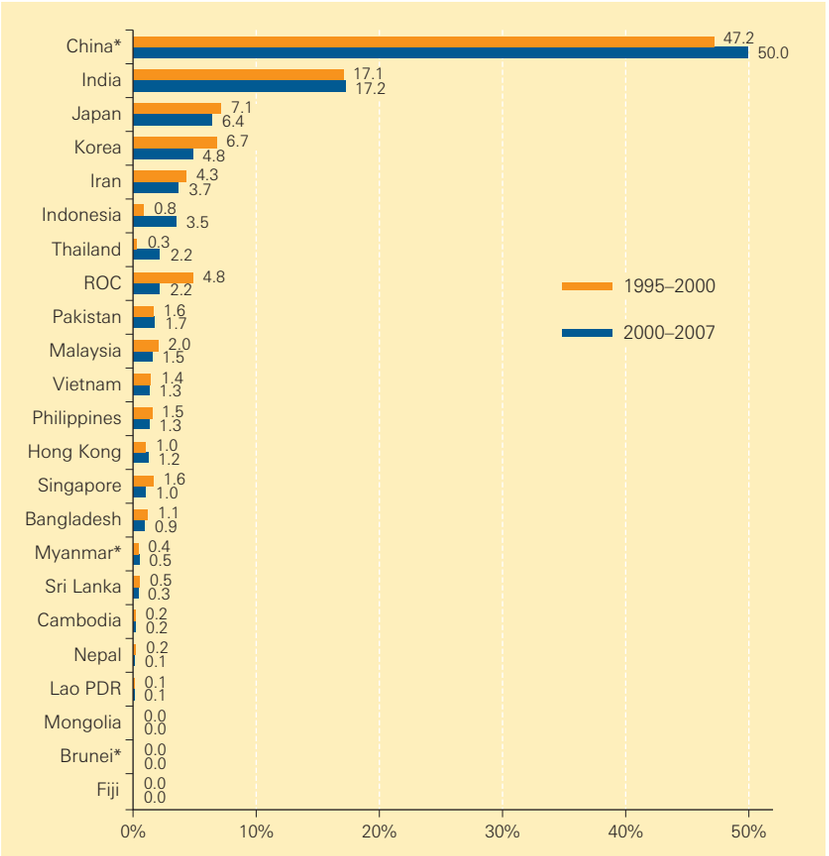

Figure 3: Country Contributions to Asian Economic Growth, 1995–2000 and 2000–2007

2005–2007 respectively. This, combined with its size, meant it contributed just under 50 per cent of the region's growth in the past decade, as shown in Figure 3.[13]

India's contribution accounted for 17.2 per cent of the region's growth in the latter two periods. China and India have clearly been driving the regional economy over the past decade. Although there were faster-growing economies than India, such as Cambodia, Myanmar and Vietnam, they were too small in size to make a significant impact on the region's economic growth.[14] In contrast, Japan's performance was lackluster when compared to the region's vibrant growth, but due to its size Japan's contribution was 6.4 per cent, compared with 4.8 per cent by Korea (see Figure 3).

3.2 Catching Up in Per Capita GDP

Asia is a populous region. China and India alone account for more than one-third of the world's population. Performance comparisons based on whole-economy GDP do not take into account the population size and can in turn exaggerate the well-being of countries with large populations. Per capita GDP, which adjusts for differences in the population size, is more commonly used for international comparisons of performance. Even so, it is not without its shortcomings as a welfare measure. To have a balanced interpretation of the statistics, it is important to keep its limitations in mind (see Box 4).

Figure 4 shows how countries compare on the per capita GDP measure. Our latest results show the outcome of the dramatic development effort made

13 The regional economic growth is the sum of the contributions by countries in the region as in: $\Sigma_x(1/2)(s_x^t+s_x^{t-1})\ln(GDP_x^t / GDP_x^{t-1})$ where s_x^t is a nominal share of GDP in country x with respect to the regional GDP in period t.

14 Readers should be cautioned about the reliability and quality of Myanmar's official statistics, which have been questioned (see a report on Myanmar in ADB, 2009). Nonetheless, official statistics from Myanmar are presented in this report, as there is no comprehensive and transparent alternative data source.

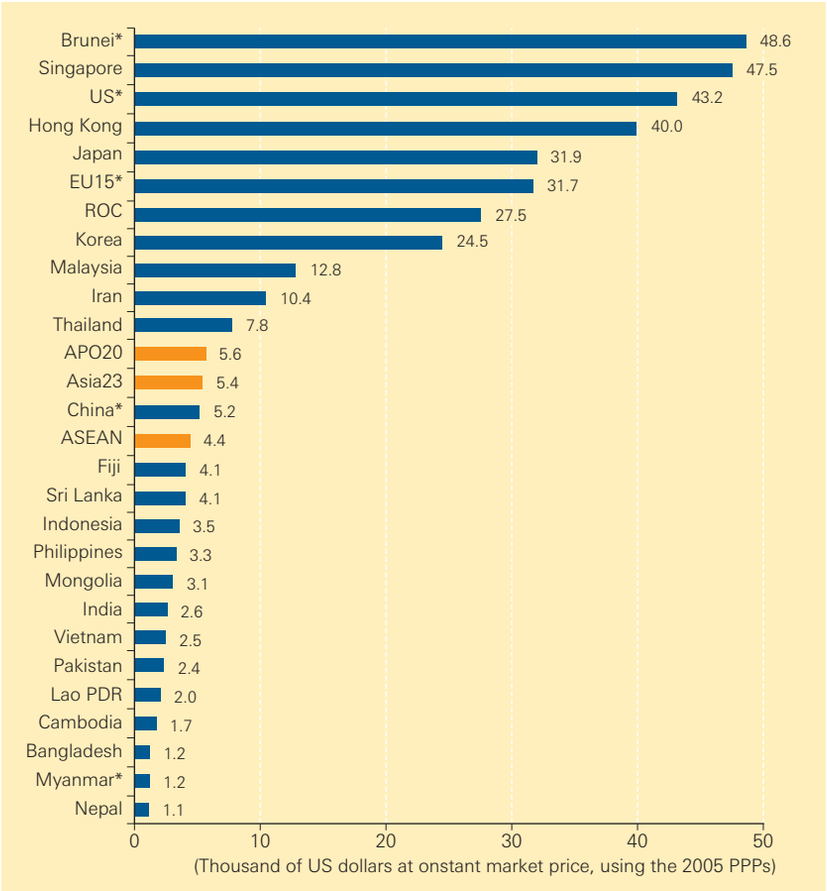

Figure 4: Per Capita GDP, 2007
—GDP at constant market prices per person, using the 2005 PPPs

by the four Asian Tigers (i.e. Singapore, Hong Kong, the ROC and Korea). With the exception of Brunei and Japan, they occupy the top rankings among the Asian countries. In 2007 two countries in Asia achieved a per capita GDP level higher than that of the US, but the paths they took could not be more different. Brunei, an oil-rich country, has always enjoyed a high per capita GDP, which was more than three times that of the US in 1980. In 2007 Brunei maintained the highest per capita GDP in Asia, but other countries had caught up and its per capita GDP level was only 12.6 per cent above the US level. Singapore was practically on a par with Brunei and had a per capita GDP level 10.1 per cent above that of the US. This represented a remarkable achievement considering that Singapore's per capita GDP was only 58.0 per cent that of the US in 1980. Within two-and-a-half decades, Singapore had overtaken the US per capita GDP level by 2004.[15] Hong Kong follows close behind, at 92.6 per cent of the US level. Japan's per capita GDP level, at 74.0 per cent of the US level or around two-thirds of the group leader, Singapore, is similar to that of the EU15. The ROC and Korea trail at 63.8 per cent and 56.7 per cent of the US level respectively.

The relative performance of China and India, the two most populous countries in the world, is pulled down on this measure due to their population size, with their per capita GDP at 12.0 per cent and 5.9 per cent that of the US in 2007. Even so, this should not tarnish their remarkable progress made over the past decade or so, especially China, whose per capita GDP was only 2.1 per cent that of the US in 1980. The per capita GDP level of the Asia23 is 12.5 per

15 Singapore's population comprises not only Singapore citizens but also non-citizens who have been granted permanent residence in Singapore as well as non-permanent residents such as employment pass holders, work permit holders and student pass holders. It is known that many workers and students commute to Singapore from outside the country every day. According to the most recent census, in 2000 the share of Singapore citizens with respect to total population was 74 per cent, the share of permanent residents who are not Singapore citizens was 7 per cent and the share of non-permanent residents was 19 per cent.

Table 4: Cross-country Comparisons of Per Capita GDP, 1980, 2000, 2006 and 2007
—GDP at constant market prices per person, using the 2005 PPPs

1980			2000			2006			2007		
Brunei*	78,787	(100.0)	Brunei*	48,137	(100.0)	Brunei*	49,193	(100.0)	Brunei*	48,593	(100.0)
Japan	17,656	(22.4)	Singapore	37,461	(77.8)	Singapore	45,949	(93.4)	Singapore	47,497	(97.7)
Singapore	14,716	(18.7)	Hong Kong	29,785	(61.9)	Hong Kong	37,938	(77.1)	Hong Kong	39,958	(82.2)
Hong Kong	13,938	(17.7)	Japan	28,851	(59.9)	Japan	31,207	(63.4)	Japan	31,942	(65.7)
ROC	6,800	(8.6)	ROC	21,917	(45.5)	ROC	26,145	(53.1)	ROC	27,545	(56.7)
Iran	6,356	(8.1)	Korea	18,385	(38.2)	Korea	23,372	(47.5)	Korea	24,484	(50.4)
Korea	5,445	(6.9)	Malaysia	10,302	(21.4)	Malaysia	12,275	(25.0)	Malaysia	12,823	(26.4)
Malaysia	4,894	(6.2)	Iran	7,685	(16.0)	Iran	9,934	(20.2)	Iran	10,426	(21.5)
Fiji	3,099	(3.9)	Thailand	5,756	(12.0)	Thailand	7,438	(15.1)	Thailand	7,761	(16.0)
Philippines	2,619	(3.3)	Fiji	3,900	(8.1)	China*	4,659	(9.5)	China*	5,185	(10.7)
Thailand	2,259	(2.9)	Sri Lanka	3,078	(6.4)	Fiji	4,378	(8.9)	Fiji	4,069	(8.4)
Mongolia	1,590	(2.0)	China*	2,743	(5.7)	Sri Lanka	3,812	(7.7)	Sri Lanka	4,050	(8.3)
Sri Lanka	1,521	(1.9)	Indonesia	2,728	(5.7)	Indonesia	3,358	(6.8)	Indonesia	3,530	(7.3)
Indonesia	1,364	(1.7)	Philippines	2,668	(5.5)	Philippines	3,112	(6.3)	Philippines	3,277	(6.7)
Pakistan	1,204	(1.5)	Mongolia	2,032	(4.2)	Mongolia	2,803	(5.7)	Mongolia	3,062	(6.3)
India	861	(1.1)	Pakistan	1,940	(4.0)	India	2,375	(4.8)	India	2,556	(5.3)
Nepal	648	(0.8)	India	1,687	(3.5)	Vietnam	2,302	(4.7)	Vietnam	2,467	(5.1)
Bangladesh	617	(0.8)	Vietnam	1,602	(3.3)	Pakistan	2,283	(4.6)	Pakistan	2,363	(4.9)
China*	539	(0.7)	Lao PDR	1,447	(3.0)	Lao PDR	1,935	(3.9)	Lao PDR	2,044	(4.2)
Myanmar*	356	(0.5)	Nepal	1,016	(2.1)	Cambodia	1,580	(3.2)	Cambodia	1,711	(3.5)
			Cambodia	1,012	(2.1)	Myanmar*	1,153	(2.3)	Bangladesh	1,186	(2.4)
			Bangladesh	907	(1.9)	Bangladesh	1,131	(2.3)	Myanmar*	1,184	(2.4)
			Myanmar*	586	(1.2)	Nepal	1,081	(2.2)	Nepal	1,120	(2.3)
(regrouped)			(regrouped)			(regrouped)			(regrouped)		
Asia23	1,875	(2.4)	Asia23	3,862	(8.0)	Asia23	5,080	(10.3)	Asia23	5,412	(11.1)
APO20	2,816	(3.6)	APO20	4,608	(9.6)	APO20	5,401	(11.0)	APO20	5,625	(11.6)
ASEAN	1,582	(2.0)	ASEAN	3,306	(6.9)	ASEAN	4,161	(8.5)	ASEAN	4,372	(9.0)
(reference)			(reference)			(reference)			(reference)		
US	25,352	(32.2)	US	39,045	(81.1)	US	42,698	(86.8)	US	43,158	(88.8)
EU15	19,038	(24.2)	EU15	28,610	(59.4)	EU15	30,992	(63.0)	EU15	31,678	(65.2)

Unit: US dollar at constant market prices, using the 2005 PPPs, percentage in parentheses.
Note: See Box 3 for the adjustments made to harmonize GDP coverage across countries. The countries with "*" represent the non-member countries in Asia.

cent that of the US. Excluding China, Brunei and Myanmar slightly improves the reading to 13.0 per cent for the APO20. Thus the income gaps between the US and the majority of the Asian countries are still sizeable, indicating that there is still a lot of room to catch up.

Table 4 shows the cross-country comparisons by per capita GDP in 1980, 2000, 2006 and 2007. The new data for 2007 bring little change to countries' relative positions when compared with 2006, except that all countries continue to edge a little forward in closing the gap with Japan and the US. Brunei has maintained the highest per capita GDP among all the countries compared, but its lead has been gradually eroded over the years between 1980 and 2007. The relative size of Brunei's per capita GDP decreased from 3.1 times to 1.1 times the size of the US figure and from 4.5 times to 1.5 times Japan's during the same period.[16]

Japan's per capita GDP used to top the Asian countries, Brunei aside, until it was overtaken by Singapore in 1993. Singapore has also achieved what

16 Brunei is an economy highly dependent on oil and gas, with the mining energy sector accounting for 75 and 56 per cent of current-price GDP in 1975 and 2007, respectively (see Chapter 7).

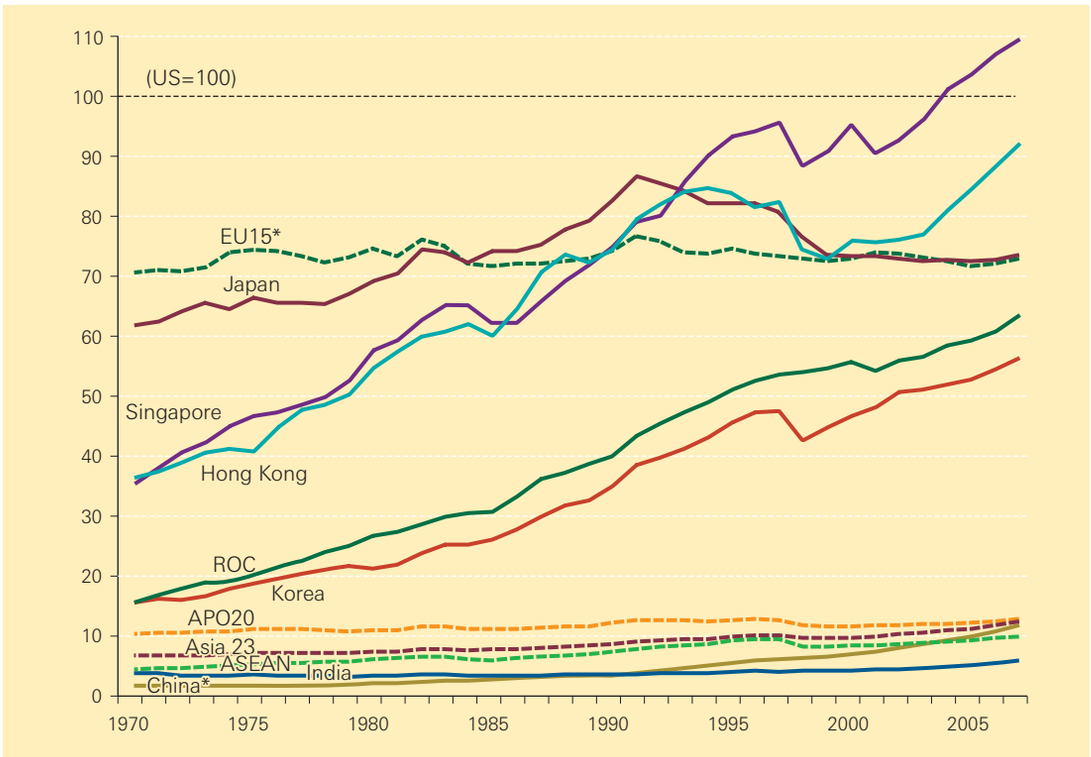

Figure 5: Per Capita GDP Relative to the US, 1970–2007
—Indices of per capita GDP at constant market prices, using the 2005 PPPs (US=100)

Japan has not managed, i.e. overtaking the US on the per capita GDP measure in 2004. The snapshot comparisons in Table 4 suggest that Japan's per capita GDP relative to the US has been fairly stable over the past quarter of a century, hovering around 74 per cent. Yet this masks the fact that Japan continued its catching-up process with the US up to 1991, reaching a per capita GDP level equivalent to 87.2 per cent of the US level before starting declining to the current level, as shown in Figure 5.

The rise of the Asian Tigers is evident in Table 4. Based on their per capita GDP levels in 1980, the Tigers fall into two natural groups: Singapore and Hong Kong, with per capita GDP at 58.0 per cent and 55.0 per cent that of the US respectively, and the ROC and Korea at 26.8 per cent and 21.5 per cent respectively. By 2007 the income levels had leapt to 110.1 per cent, 92.6 per cent, 63.8 per cent and 56.7 per cent that of the US for Singapore, Hong Kong, the ROC and Korea respectively, as a result of their remarkable development efforts. China is another country which has made commendable effort, raising its per capita GDP from 2.1 per cent to 12.0 per cent that of the US between 1980 and 2007. In comparison, India's progress is much slower, with an income level rising from 3.4 per cent to 5.9 per cent over the same period.

As noted in Box 4, a rise in the per capita GDP data does not always directly translate into an improvement in the welfare of the people concerned. In fact, as an average measure, per capita GDP can bear little relevance to individuals' personal experience if, for example, the distribution of economic gain is highly skewed or economic advancement has been achieved at high environmental and health costs which are not accounted for in the statistics. There are a lot more attributes to individuals' welfare than captured in one simple measure called per capita GDP. Supplementary statistics are therefore necessary in order to build a fuller picture of progress made in individual well-being.

Figure 5 plots Asian countries' per capita GDP relative to the US for the period 1970–2007. It shows that the APO20 as a group has achieved little in terms of catching up with the US, with its relative per capita GDP edging up only marginally from 10.5 per cent to 13.0 per cent of the US level in the past three-and-a-half decades. Including China, Brunei and Myanmar has the effect of pulling the average per capita GDP down, but the Asia23 as a group made a bigger leap from 6.8 per cent to 12.5 per cent over the same period. Yet the group performance conceals the interesting dynamics of individual countries in the region. Japan started its catching

Box 4: Limitations of Per Capita GDP as a Welfare Measure

GDP is an aggregate measure of production within the boundary of an economy, and is not intended to be a welfare indicator. Key factors that have significant bearing on individuals' well-being are omitted. Even though GDP per capita has corrected for the size of population, it still suffers from serious limitations as it inherits the inadequacies of GDP as a welfare measure.

Net domestic product

GDP is a gross concept, and hence does not take into account depreciation of capital goods. The larger the amount a society needs to set aside to renew its capital stock, the less is made available for consumption; in turn, other things being equal, the lower will be individuals' current level of well-being. Net domestic product (NDP) is therefore more informative than GDP in judging the well-being of a society. However, due to the difficulty in estimating depreciation, GDP remains more readily available and in turn more widely used than NDP, particularly in international comparisons.

Gross national income

Income generated domestically may be remitted abroad, and profits accrued to foreign-owned firms do not enhance the spending power of the nationals. Similarly, local residents may also receive income and dividends from abroad. After adjusting GDP for these international transfers, the resulting income measure is gross national income (GNI). With globalization and the shift from manufacturing to services, the differences between GDP and GNI have increased.

Real income

Real income is GDP adjusted for the effects of changes in terms of trade, which is the relative price of a country's exports to imports. If export prices are rising relative to imports, a country is better off because it has access to more imports without the need of increased exports, and vice versa. Currently, an increasing number of researchers are analyzing the sources of real income growth in several countries, such as Australia, Canada and Japan. They found that the terms-of-trade effect was relatively small in these countries over a long period of time, but its impact could be more significant over a shorter period when there were large fluctuations in a country's terms of trade, for example those induced by the oil shocks. Chapter 5 overviews the trend of real income across Asian countries.

"Green" GDP

Standard GDP does not take into account degradation of the environment and depletion of natural resources, the importance of which has been rising with people's awareness. To address this shortcoming, proposals have been made for a concept of "green" GDP which corrects for the degradation of natural resources. A more comprehensive response, in which national accountants have played an active part, is an ambitious statistical framework, known as the System of Integrated Environmental and Economic Accounting (SEEA). Despite the progress already made, no single measure or set of indicators has yet been established as the international standard to date.

Actual individual consumption

Individual well-being is determined more by the consumption level than the income level. In many countries, households obtain goods and services not only through market purchases but also as transfers in kind or at greatly reduced prices from the government. Actual individual consumption is defined in the official national accounts as the total value of household final consumption expenditure, expenditures by non-profit institutions serving households (such as non-governmental organizations and charities) and government expenditure on individual consumption goods and services (such as education and health). This definition helps minimize the effect of differences in institutional arrangements on the volume comparisons of individual well-being. The World Bank (2008), for example, estimates that actual individual consumption constitutes 69 per cent of GDP on average across countries. However, consumer shares are found to be lower and investment shares higher in Asia and Pacific countries and Western Asian regions.

Income distribution

Underlying GDP per capita is an assumption of an equal distribution of income. When income distribution is highly skewed or is rising, an average measure like GDP per capita is losing its relevance to the population that it seeks to represent. One way of measuring this skew is to compare the average with median income – the income such that half of the population is above that income, half below. Increasing differences between the two income measures imply a rise in inequality, and the "typical" income level as measured by the average income is losing its representativeness for the population. Instead, more attention should be directed to understanding the characteristics and income level of different demographic groups. Groups can be differentiated by their income level, regions, ethnicity, occupation or age, to name just a few. By tracking the rate of income change in each group, we can trace if inequality has worsened over time.

There is no doubt that the gap between our welfare concerns today and what are being captured in the GDP-related measures has widened. The international professional community has been making a concerted effort to find the best feasible ways to address the issues raised (see Stiglitz, Sen and Fitoussi, 2008). While we wait for better measures to be established, we have to rely on the existing statistics to shed light on our current situation, however imperfect they are. To ensure a balanced interpretation, however, it is worth keeping their limitations in mind.

Box 5: Populations of Asian Countries

According to the United Nations (2009), the world's population is estimated to reach 6.9 billion in 2010, of which Asian countries account for 60.3 per cent. The region is by far the most populous in the world. China and India account for 19.6 per cent and 17.6 per cent of the world's population respectively.

Figure B5.1 shows that the world's population has been rising steadily, from 2.5 billion in 1950 to 6.9 billion in 2010, and is projected to increase to 9.2 billion by 2050 (based on the medium scenario). The growth rate of the world's population peaked in the 1970s at around 2 per cent a year on average. Since then, the growth rate has been slowing to today's 1.2 per cent a year. Assumed in the medium scenario is that total fertility in all countries is going to converge to 1.85 per woman, albeit at different times, thus the growth rate of the world's population is projected to decelerate to 0.34 per cent a year by 2050. Even so, the world's population will still increase by one-third in the next 40 years.

Figure B5.1 also shows that the population of the more developed regions will more or less stabilize during the projection period, while all the increase in the world's population will be in the less developed regions. Consequently, in the next 40 years we will see the more developed regions' share of the world's population gradually decline from 17.9 per cent to 13.9 per cent, compared with 32.1 per cent in 1950. In contrast, the least developed countries are the only group which is gaining population share in the world, rising from today's 12.4 per cent to 18.4 per cent in 2050, up from 7.9 per cent in 1950. These overall trends, however, mask the population explosion in some of the least developed countries. Between 1950 and 2050, populations in Pakistan, Yemen and Uganda, for example, are projected to increase seven times, 11 times and 16 times respectively. This compares with 2.6 times, 4.3 times and 3.7 times for China, India and Asia as a whole. Even if the assumed significant declines in fertility are attained, populations in Pakistan, Yemen and Uganda are still expected to double or more in the next 40 years, while populations in China, India and Asia are expected to increase by 4 per cent, 33 per cent and 25 per cent respectively. Turner (2009) highlights the challenge of the continued rapid population growth to economic and social progress in many countries in Africa and the Middle East, and its major and adverse impact on the global environment.

Figure B5.2 shows countries' demographic make-up in 2007: i.e. the population proportions of the under-15 and over-65 age groups, which together make up the dependent population. Ranking the countries by the share of old-age population filters the rich economies to the top end; these economies also have a relatively low share of the young age group compared to less developed countries. This suggests that demographic transition tends to go hand in hand with economic progress, although the direction of causation is not certain.

This demographic transition entails a fall in fertility to the replacement level, providing an economy with a one-off opportunity to reap the "demographic dividend" for an economic take-off. The demographic dividend arises from a bulging working population, who face a smaller burden to support the young. The improved ratio of productive workers to child dependents and the increase in available resources for investment open up a special window for faster economic growth and human development. It has been suggested that the demographic dividend accounted for a third of East Asian growth in 1965–1990 (Bloom, Canning and Malaney, 2000).

Although it is not yet evident in the population growth, it is observed that Africa is undergoing a demographic transition with falling fertility. The demographic dividend is up for grabs. Far from being automatic, the experience of East Asia suggests that this dividend needs to be earned. This one-off opportunity will pass in a couple of generations, and it will be regrettable if it is missed.

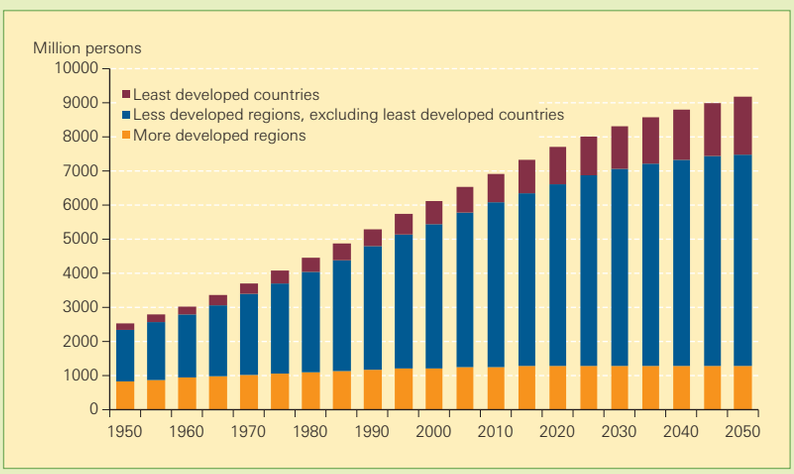

Figure B5.1: Distribution of the World's Population in Different Regions, 1950–2050

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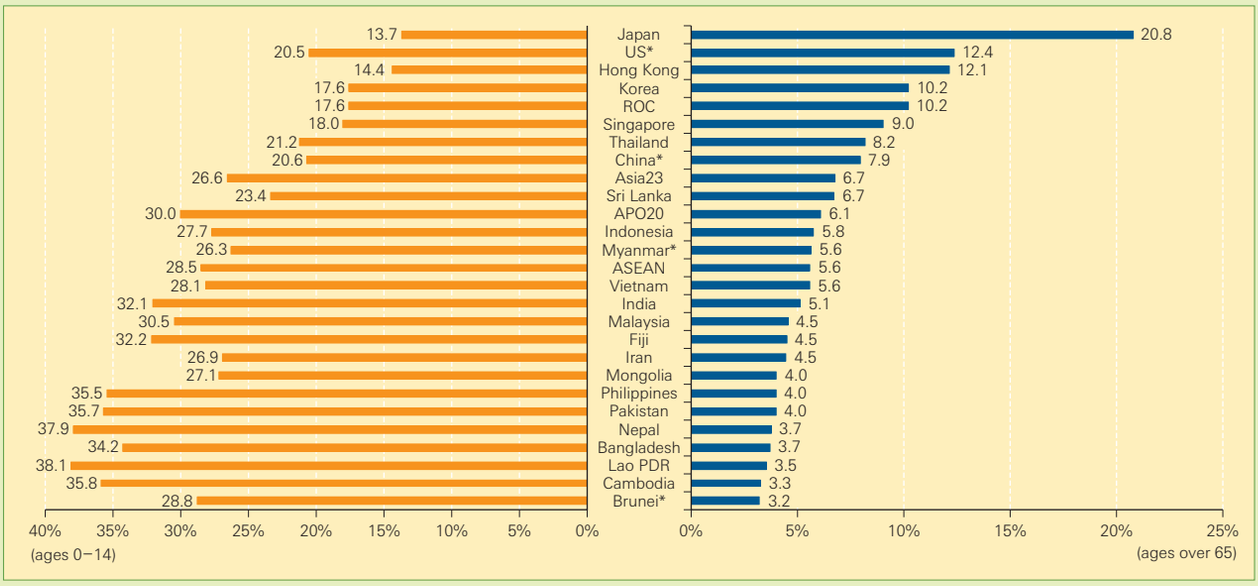

Figure B5.2: Population Proportion of the Dependent Population, 2007

up much earlier than other countries in Asia. By 1970 Japan's per capita GDP was 62.2 per cent that of the US. It was closing the gap with the US up to 1991, but the gap widened again when the impact of the long recession of the 1990s started to manifest itself.[17]

A similar process was seen taking place among the four Asian Tigers, which have managed impressive growth for the past four decades and have been aggressively closing the per capita GDP gap with the US. In 1970 Hong Kong and Singapore had similar per capita GDP, at around 36 per cent that of the US. By 2007 Singapore had surpassed the US and Hong Kong was at 92.6 per cent of the US level, bypassing Japan on the way. During this time their progress was only seriously frustrated once, by the Asian financial crisis of 1997–1998; for Hong Kong there was also the added uncertainty leading to its handover to China from British rule in 1997. Thereafter, they bounced back strongly. Per capita GDP has also been rising in the ROC and Korea, from around 16 per cent in 1970 to 63.8 per cent and 56.7 per cent relative to the US in 2007 respectively. The remarkable performance of the Asian Tigers has set them apart from other developing economies that were comparable in the 1960s. Because of its potential policy significance, the "Asian miracle" has generated vigorous research to establish the underlying factors in this sustained economic success.

Catching up to the per capita GDP level of the advanced economies is a long-term process that could take several decades to accomplish. Empirical evidence has suggested that there may be a negative correlation between per capita GDP level and the speed of catching up, although not without exceptions. With the possibility of adopting successful practices and technologies from the more advanced economies, less advanced economies are poised to experience faster growth in per capita GDP, enabling them to catch up in average income level. However, as their income levels come closer to those of the more advanced countries, their economic growth rates are expected to decline over time.[18]

17 Jorgenson and Nomura (2007) found that the levels of Japan's per capita GDP and TFP in 1960 were only 25.5 per cent and 52.4 per cent those of the US, respectively. They also indicate that the manufacturing sector was the main contributor to the catching-up process of the Japanese economy in the 1960s, and that the US-Japan TFP gap for the manufacturing sector had almost disappeared by 1990.

18 The OECD (2008) observes that GDP per capita has broadly converged in the OECD countries since the 1970s. But more advanced economies that started with high income levels in the 1970s have had lower rates of catch-up, or even stagnated or recently diverged *vis-à-vis* the US. Between 1973 and 2006 Ireland and Korea managed the highest rates of catch-up in per capita GDP, with 2.3 per cent and 3.8 per cent per year respectively.

Table 5: Country Groups Based on the Initial Economic Level and the Pace of Catching Up with the US
—Level and average annual growth rate of GDP at constant market prices, using the 2005 PPPs

GDP Level to the US	Annual Rate of Catchup to the US			
	(C1) 3% <	(C2) 1% < – < 3%	(C3) 0% < – < 1%	(C4) < 0%
(L1) 60% <			Japan, EU15*	Brunei*
(L2) 20% < – < 60%	Singapore	Hong Kong		Iran
(L3) 5% < – < 20%	Korea, ROC	Malaysia, Sri Lanka, Thailand	Mongolia, Pakistan	Fiji, Philippines
(L4) < 5%	Cambodia, Vietnam, China*	India, Indonesia, Lao PDR, Myanmar*	Bangladesh	Nepal

Note: The annual catch-up rates are estimated based on the data during 1970–2007. The starting years for some countries are different due to data availability: Bangladesh (1973–), Brunei (1974–), Cambodia (1987–), Lao PDR (1984–), Nepal (1974–) and Vietnam (1986–). The countries with "*" represent the non-member countries in Asia.

Table 5 summarizes the relationship between the initial economic level and the speed of catching up in Asian countries. Economic level is measured by a country's real per capita GDP relative to the US at the start of the series, i.e. 1970, or from whichever year the data first became available for the individual country under concern. Countries are grouped according to their per capita GDP level: Group-L1 with per capita GDP at or above 60 per cent of the US; Group-L2, from 20 per cent to under 60 per cent; Group-L3, from under 5 per cent to under 20 per cent; and Group-L4, below 5 per cent. Likewise, countries are also grouped according to the speed of their catch-up with the US: Group-C1, at 3 per cent per annum or above; Group-C2, from 1 per cent to under 3 per cent; Group-C3, from 0 per cent to under 1 per cent; and Group-C4, under 0 per cent. The speed of their catch-up with the US is defined as the difference in the average annual growth rate of per capita real GDP between each country and the US. Table 5 shows that many Asian countries succeeded in closing the gap in per capita real GDP against the US over the last almost four decades.

From Table 5 we can also see that the initial economic level does not fully explain the catch-up process. Of the 23 Asian countries, five achieved very fast catch-up, i.e. over 3 per cent a year on average between the respective starting years of their data series and 2007. However, their per capita GDP level ranged from 1.7 per cent (China) to 35.6 per cent (Singapore) of the US level in 1970. Five countries, Brunei, Fiji, Iran, Nepal and the Philippines, experienced deterioration in their relative income level against the US. Their per capita GDP level varies from Group-L1 to Group-L4. Japan was the only Asian country with a high income level in 1970, except Brunei. But, like the EU15, Japan has failed to achieve further catch-up with the US since then.

To understand the diverse performance in the Asian group further, per capita GDP can be broken into two components, namely labor productivity (defined as real GDP per worker in this report) and the corresponding labor utilization rate (i.e. number of workers to population ratio, or the employment rate in this report). Figure 6 shows the percentage point difference in per capita GDP decomposed into the contributions by the labor productivity gap and the employment rate gap with respect to the US in 2007.[19] Most of the Asian countries display a huge per capita GDP gap with the US, which is predominantly explained by their relative labor productivity performance. Except for the four Asian Tigers, Brunei, Japan and Iran, all the other Asian countries have a labor productivity gap of more than 60 per cent against the US. Brunei aside,[20] Singapore and Hong Kong have the smallest labor productivity gaps of 3.1 per cent and 7.9 per cent with the US respectively.

19 The gap of country x's per capita GDP with respect to the US is decomposed into the sum of the gap of labor productivity and employment rate with respect to the US, as in:

$$\underbrace{\ln(GDP_x^t/POP_x^{t-1})-\ln(GDP_{US}^t/POP_{US}^{t-1})}_{\text{Gap of per capita GDP}}=\underbrace{\ln(GDP_x^t/EMP_x^{t-1})-\ln(GDP_{US}^t/EMP_{US}^{t-1})}_{\text{Gap of labor productivity}}$$
$$+\underbrace{\ln(EMP_x^t/POP_x^{t-1})-\ln(EMP_{US}^t/POP_{US}^{t-1})}_{\text{Gap of employment rate}}$$

where POP_x^t is population of country x in period t and EMP_x^t is the number of employment of country x in period t.

20 Brunei is the only country which has higher labor productivity than that of the US, but, as noted above, Brunei's economy is exceptionally skewed towards oil and gas, whose activities could produce value added using much less labor input.

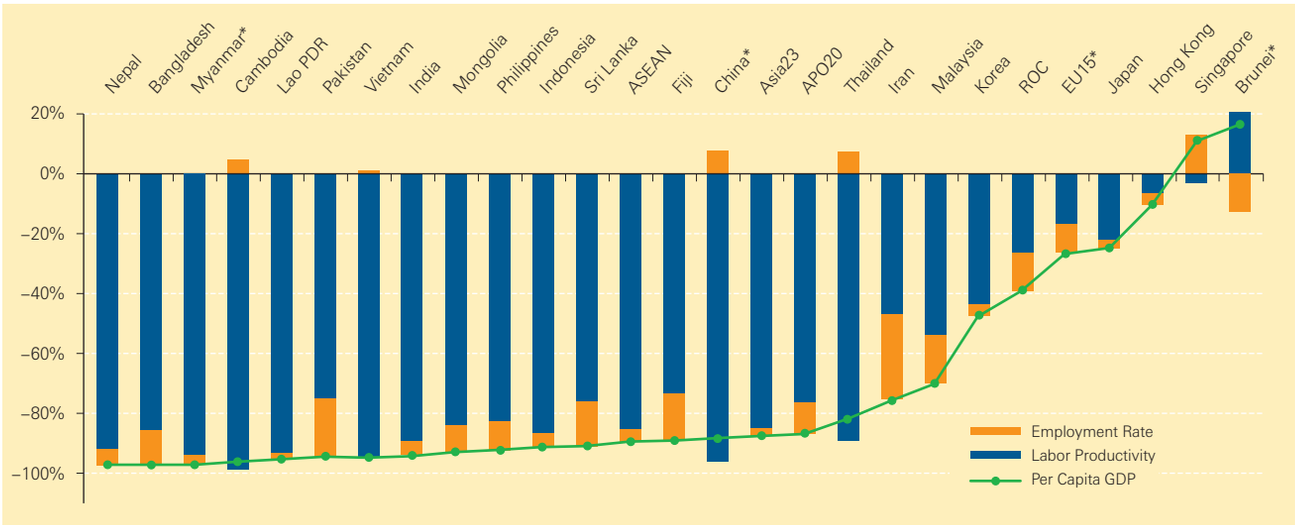

Figure 6: Labor Productivity and Employment Rate Gap with Respect to the US, 2007
—Decomposition: Gap of GDP at constant market prices per person, using the 2005 PPPs

In contrast, the labor productivity gap of the other two Asian Tigers is still sizeable against the US, at 26.9 per cent and 40.1 per cent for the ROC and Korea respectively.

Most countries also have an employment rate short of the US level, substantially in the case of Iran, Pakistan, Bangladesh, Fiji, Sri Lanka and Malaysia, further reinforcing their poor productivity performance. Notwithstanding, a handful of countries – Singapore, China, Thailand, Japan, Hong Kong, Cambodia and marginally Korea, Lao PDR and Vietnam – had higher employment rates than the US, counteracting the negative impact of their productivity performances. In particular, the positive gap in employment rate plays a significant role in nudging Singapore ahead of the US in per capita GDP. In Chapter 6 we take a closer look at the time profiles of these two variables relative to the US.

Figures 7 and 8 focus on explaining a country's per capita GDP growth by its components: namely labor productivity and the change in the employment rate for the periods 1995–2000 and 2000–2007, respectively.[21] For most countries in Asia the majority of per capita GDP growth can be explained by labor productivity, but this should not lead us to underestimate the role played by changes in the employment rate. On average, Asian countries' per capita GDP grew by 2.7 per cent a year between 1995 and 2000, and accelerated to 4.0 per cent a year between 2000 and 2007. The earlier period captured the dampening effect of the Asian financial crisis of the late 1990s. Emerging from the crisis, both labor productivity growth and employment growth strengthened. For most countries, labor productivity explains a larger share of per capita GDP growth than employment, but for Nepal and Brunei the change in employment rate dominated over labor productivity growth in explaining the per capita GDP gap in the period between 2000 and 2007. The employment rate contribution relative to labor productivity was also highly significant in Iran (100.6 per cent), Cambodia (73.5 per cent), Pakistan (70.6 per cent), Mongolia (58.7 per cent), the EU15 (52.9 per cent), Bangladesh (49.0 per cent) and Thailand (46.4 per cent).

China's improvement was the most impressive, achieving per capita GDP growth of 7.3 per cent and 9.1 per cent a year on average in the two periods respectively. Over 95 per cent of that growth was consistently explained by improvement in labor productivity. In growth terms, Myanmar achieved similar performance to China, with a per capita GDP growth of 6.9 per cent and 10.0 per cent a year on average in the two periods respectively. However, this growth was from a very low base; even in 2007, Myanmar's per capita GDP was only 22.8 per cent that of China (see Table 4). Like China, Myanmar's per capita GDP growth was predominantly explained

21 Country x's per capita GDP is decomposed into the product of its labor productivity and employment rate, as in:

$$\underbrace{\ln(GDP_x^t/POP_x^t)}_{\text{Per capita GDP}}=\underbrace{\ln(GDP_x^t/EMP_x^t)}_{\text{Labor productivity}}+\underbrace{\ln(EMP_x^t/POP_x^t)}_{\text{Employment rate}}$$

where POP_x^t is population of country x in period t and EMP_x^t is the number of employment of country x in period t.

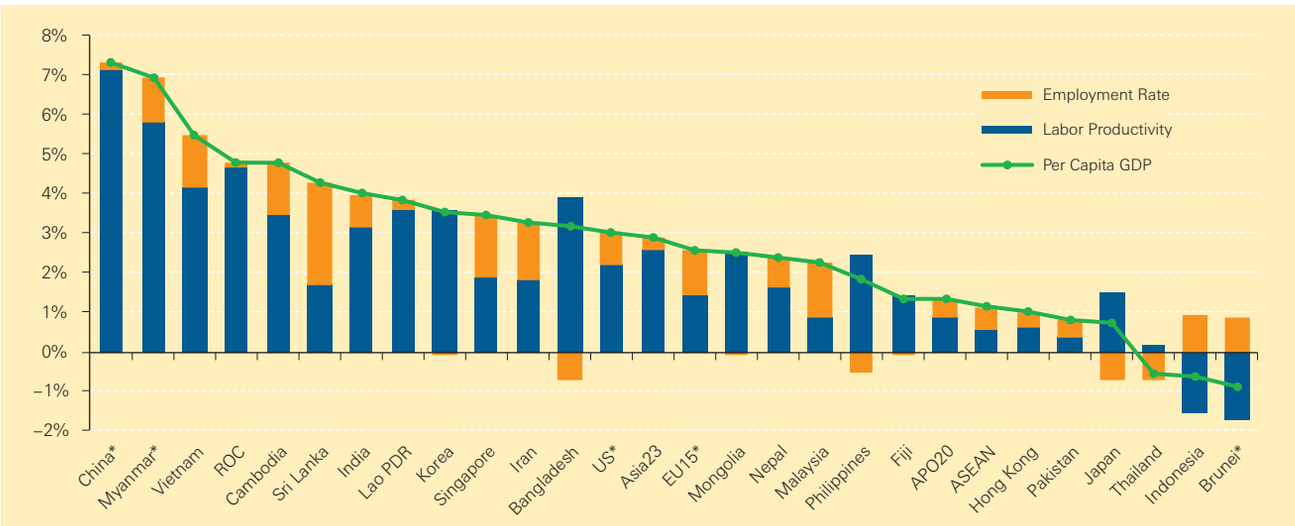

Figure 7: Sources of Per Capita GDP Growth, 1995–2000
—Decomposition: Average annual growth rate of GDP at constant market prices per person, using the 2005 PPPs

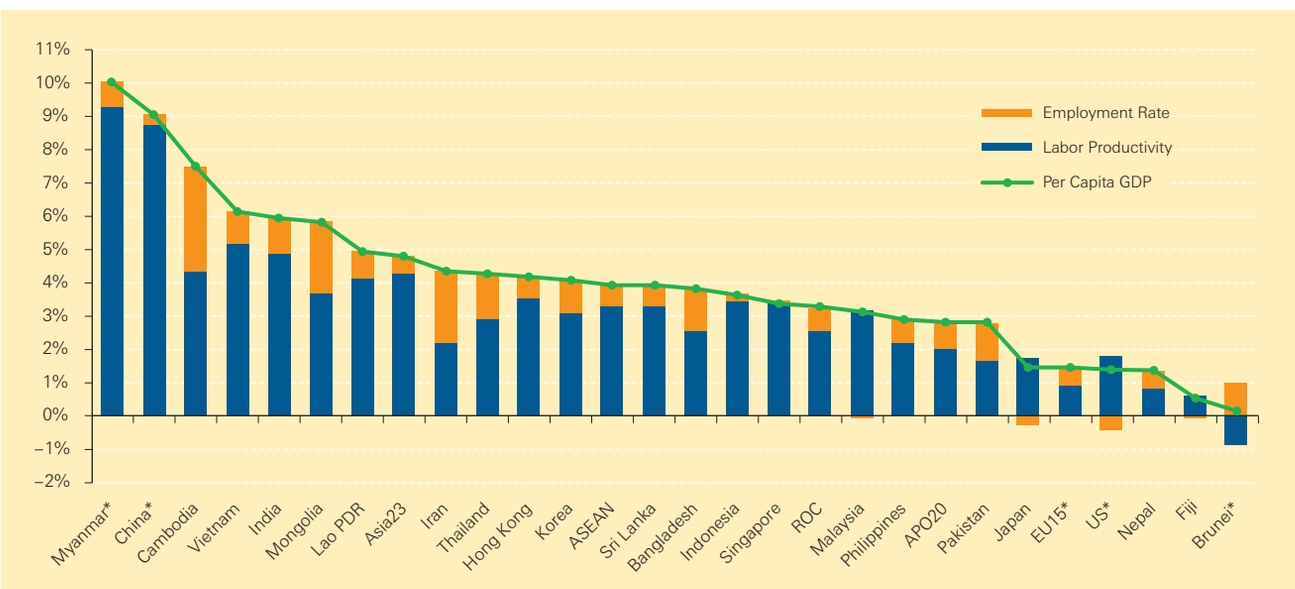

Figure 8: Sources of Per Capita GDP Growth, 2000–2007
—Decomposition: Average annual growth rate of GDP at constant market prices per person, using the 2005 PPPs

by labor productivity, with its contribution increasing from 83.4 per cent in the period 1995–2000 to 92.4 per cent in the period 2000–2007. Brunei was the only country which experienced negative growth in labor productivity in both periods. Its rising employment rate was insufficient in compensating for the poor labor productivity growth performance. Its per capita GDP growth in both periods had been dismal, allowing other fast-growing Asian countries to catch up. Japan had a worsening employment rate in both periods. With an aging population (see Box 5), this pattern may well persist. To sustain per capita GDP growth, labor productivity growth will have to accelerate in order to counteract the negative effect of its employment rate.

4. Final Expenditure on GDP

GDP can be decomposed according to expenditure on final demand and income to factor inputs or production (i.e. into industry or products). These decompositions are valuable in understanding the structure of an economy, and in turn how it will react to a given economic shock. As the global economy is heavily battered in the current storm originating from the global financial crisis, a structural analysis of the Asian economies can help us assess their ability to weather the storm. Box 7 looks slightly ahead of our analysis of annual data and provides an overview of how the Asian economies have been affected by the current economic downturn based on their quarterly GDP figures. In this chapter we look at countries' economic composition from the expenditure side, while their industry structure is presented and analyzed in Chapter 7.

4.1 Composition of Final Demand

The Asian regional economy and the two reference economies, the US and the EU, are very different in their economic structures. With the different emphasis and vulnerabilities, their behavior and reaction to economic shocks can be expected to be quite diverse. Table 6 presents comparisons of final demand shares of nominal GDP. GDP is decomposed into four categories of final demand: household consumption (including consumption of non-profit institutions serving households: NPISHs), government consumption, investment (or, in national accounts terminology, gross fixed capital formation (GFCF) plus changes in inventories) and net exports (i.e. exports minus imports).

With the exception of Brunei and China, household consumption is by far the biggest component of GDP in an economy.[22] Over the past decade household consumption share in APO countries has not expanded noticeably despite the rise in income, hovering around 56–58 per cent. The inclusion of Brunei, China and Myanmar pulls down the group average, and the share for the Asia23 contracted from 55.1 per cent to 50.3 per cent between 2000 and 2007. China saw a huge drop in household consumption as a share of GDP, from 46.4 per cent in 2000 to 35.4 per cent in 2007. India, another fast-emerging economy, has held its household consumption share stable at around 60 per cent in the past decade (see Figure 11). In contrast, share of household consumption has been rising consistently in the US, from 66.9 per cent of GDP in 1995 to 68.2 per cent in 2000 and 69.4 per cent in 2007.

Table 6: Comparisons of Final Demand Shares in GDP, 1995, 2000 and 2007
—Share of final demands with respect to GDP at current market prices

	Household Consumption			Government Consumption			Investment			Net Exports		
	1995	2000	2007	1995	2000	2007	1995	2000	2007	1995	2000	2007
Asia23	54.5	55.0	49.3	12.8	14.1	13.1	32.4	28.3	33.2	0.4	2.5	4.4
China	44.9	46.4	35.4	13.3	15.9	13.3	40.3	35.3	42.3	1.6	2.4	8.9
APO20	57.1	58.0	56.6	12.6	13.5	13.0	30.3	26.0	28.4	0.0	2.5	2.1
ASEAN	57.2	57.2	58.1	9.0	9.3	9.6	36.0	24.0	24.8	–2.3	9.5	7.5
US	66.9	68.2	69.4	15.6	14.5	15.9	18.9	21.3	19.9	–1.3	–4.0	–5.3
EU15	58.3	58.8	57.4	20.3	19.8	20.4	20.0	21.2	21.5	1.4	0.3	0.7

Unit: Percentage.
Note: Final demand shares in country groups are computed by using the PPPs for GDP. Household consumption includes consumption of NPISHs. Investment includes GFCF plus changes in inventories.

22 Based on our metadata survey on national accounts in Asian countries, Japan is an exceptional country which estimates GDP from the expenditure side. In other countries, GDP is estimated from the production side (value added in industries), and some countries record statistical discrepancy as the difference in the estimates between production-based GDP and sum of final expenditures. In this *Databook*, statistical discrepancy is attributed to household consumption when data are recorded. For some countries it is significant: e.g. it accounts for 11 per cent of GDP in 2005 in the Philippines.

Box 6: Asian Quarterly Growth Map

Timely analysis of the current economic situation is beyond the scope of this *Databook*, which presents results based on annual data, and the latest year covered is 2007. In the meantime, if one would like to catch a glimpse of, say, the impact of the global financial storm on the Asian economies, one has to rely on countries' quarterly national accounts (QNA). Although they are timelier, QNA are often less precise, and are subject to frequent revisions as more reliable data become available in their normal estimation cycle. With this trade-off between timeliness and data quality in mind, the APO sees the complementary benefits of collating and presenting countries' QNA alongside its database of annual data. As a result, the APO and Keio Economic Observatory, Keio University have developed a quarterly growth map that provides an instinctive understanding of recent economic growth covering Asian countries. It is named the Asian Quarterly Growth Map (AQGM) and readers can find it at the APO website (http://www.apo-tokyo.org/AQGM.html).

The AQGM visualizes the seasonally adjusted rates of quarterly economic growth at constant prices. It is worth noting that there are three constant-price measures of quarterly growth. The first is the quarterly output compared with the same quarter in the previous year, which is also called the year-on-year quarterly growth. The second is quarterly output on the previous quarter, or the quarter-on-quarter growth rate. The third is annualized quarter-on-quarter growth rates, which is also often used in economic analysis of the current economic situation. The first two measures are presented in the AQGM (with year-on-year growth displayed as a default).

The current version includes 14 Asian countries which publish QNA: China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Mongolia, the Philippines, the ROC, Singapore, Sri Lanka, Thailand and Vietnam. For the purpose of international comparisons, the current version includes 35 non-Asian countries, based on the data available from OECD.Stat and independent publications by the respective statistical offices in those countries. The AQGM will be updated at least once a month, to reflect revisions and cover newly available data.

Figure B6: Views of Quarterly Economic Growth in Asian Countries by the AQGM

The share of household consumption in the EU15, which is in the upper 50 per cent range, has stayed slightly higher than the Asian average and has been relatively stable over the past decade (Table 6). Given the relatively low propensity of Asian households to consume, fiscal stimulus will have a role to play in generating enough domestic demand to bolster local economies as well as the world economy in a time of retrenchment (see Box 7).

The lower share of household consumption in the EU15 has been offset by a larger share of government consumption, which accounts for around 20 per cent of its nominal GDP. This compares with 13–14 per cent in Asia and 14–16 per cent in the US. The APO20 on average invests a lot more than the US or EU15, and has been sustaining an investment share in the region of the upper 20s to 30 per cent of GDP. The inclusion of Brunei, China and Myanmar had the effect of pulling up the Asian average from 28.3 per cent to 33.2 per cent in 2007. This compares with a relatively stable share of around 20 per cent in the US and EU15. The share of investment in China is phenomenal, at 42.3 per cent in 2007, and has overtaken household consumption as the biggest final demand component of GDP since 2004.

Net exports are gaining weight in the Asian economy, rising from 0.4 per cent of GDP in 1995 to 4.4 per cent in 2007. China explained most of the strengthening between 2000 and 2007, with a net export share of 8.9 per cent in 2007, up from 2.4 per cent in 2000. In contrast, the deficit between exports and imports has more than quadrupled in the US, from 1.3 per cent of GDP in 1995 to 5.3 per

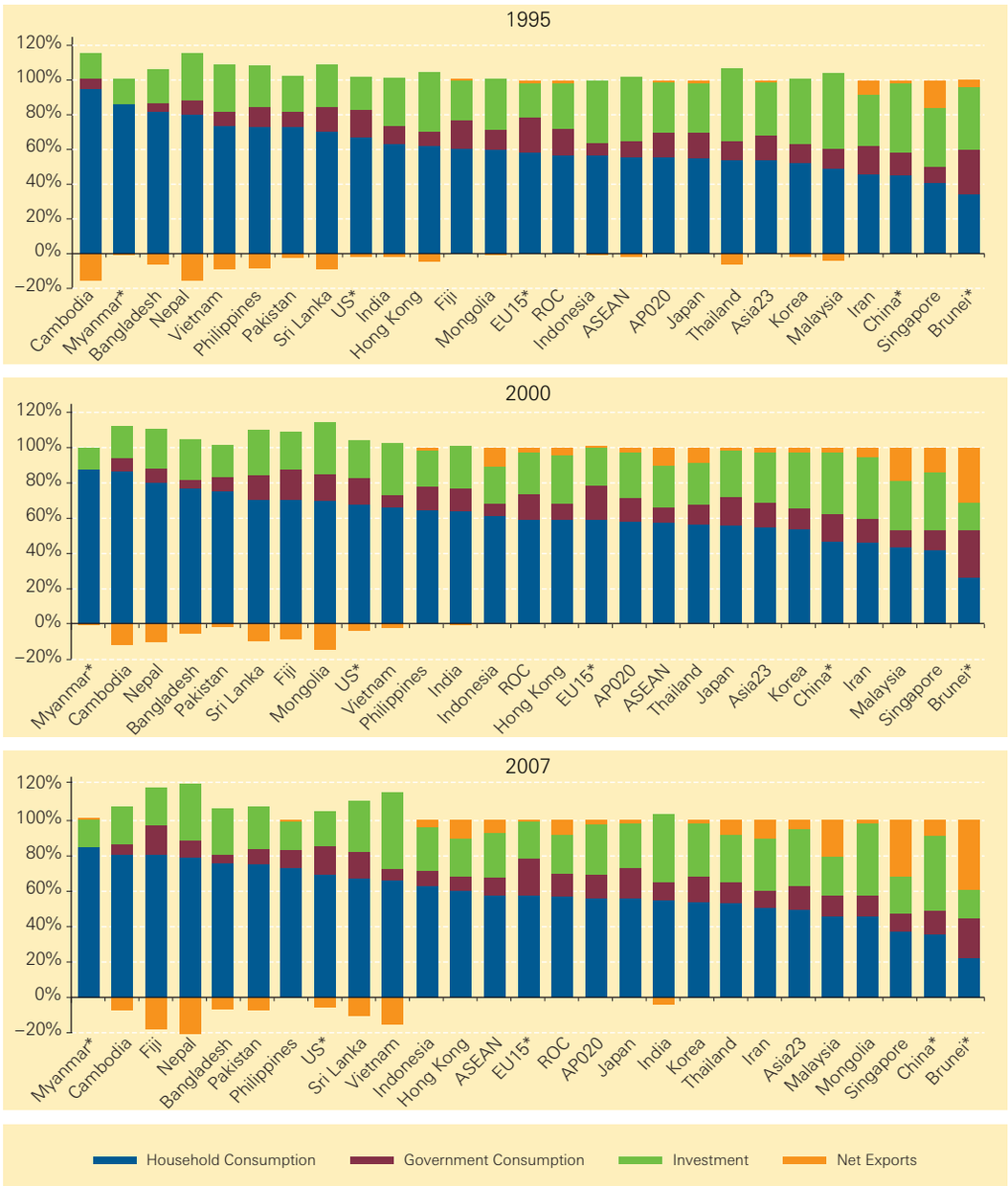

Figure 9: Final Demand Shares in GDP, 1995, 2000 and 2007
—Share of final demands with respect to GDP at current market prices

Note: Household consumption includes consumption of NPISHs. For Myanmar, however, household consumption includes government consumption due to data limitations. Investment includes GFCF plus changes in inventories. The countries with "*" represent the reference countries.

cent in 2007. In the EU15 net exports have been a positive component, but have shrunk from 1.4 per cent in 1995 to 0.7 per cent in 2007.

Figure 9 shows the cross-country comparisons of final demand shares in current-price GDP in 1995, 2000 and 2007. The charts are ranked by the share of household consumption, the range of which is trending downwards among this group of countries. At one end, Brunei has household consumption accounting for the smallest GDP share among the countries, and the share has shrunk from 34.8 per cent in 1995 to 22.0 per cent in 2007. Singapore had the second smallest household consumption share, but since 2001 China has replaced Singapore in that position, with a share of 35.4 per cent in 2007. At the other end, Cambodia and Nepal have the highest household consumption share. A deficit in net exports tends to be associated with high household consumption. Refraining from consumption is required to support high investment levels. Countries with low income, however, may struggle to defer consumption in order to invest. In 2007 only

Bangladesh, Cambodia, Lao PDR, Myanmar[23] and Nepal[24] remained in the bottom income group among the countries studied in this report (see Table 14). It is not a coincidence that these are also the countries which have the highest household consumption share in Asia. Net exports carry a particularly large weight in a handful of economies: in 2007 it was 31.7 per cent in Singapore, 20.2 per cent in Malaysia and 10.8 per cent in Hong Kong, reflecting their entrepôt function in Asia. This explains why the total values of exports and imports are exceptionally high relative to the size of GDP in these economies (Figure 10).

Figure 11 shows the long-term trends of household consumption share of GDP for selected Asian countries. The Asian Tigers have been the high performers, and come top in most of the level indicators presented in Chapter 3. As seen in Figure 11.1, Singapore and Korea showed the most rapid relative retrenchment in household consumption as a share of GDP in their development process, falling from 69.7 per cent of GDP to 37.9 per cent and from 74.5 per cent to 53.4 per cent between 1970 and 2007 respectively. Comparatively, this trend of retrenchment was mild in Hong Kong, with household consumption falling from 64.8 per cent of GDP to 60.2 per cent over the past four decades. The household consumption share did fall to nearly 55 per cent in the late 1980s, but it was subsequently reversed before stabilizing in recent years. The ROC is the only exception, where the reversal of the downward trend since the mid-1980s was so strong that the household consumption share was higher in 2007 than in 1970 (i.e. 57.3 per cent compared with 55.2 per cent).

Figure 11.2 plots the trends of household consumption in the three largest Asian economies by size. The downward long-term trend in India and China is unmistakable. When GDP is growing faster than consumption, the share of the latter in GDP will diminish. With recent rapid growth in these economies, people's spending habits might not have caught up with the recent success. The falling share of household consumption may partly reflect the falling labor income share of GDP and/or an uneven distribution of economic gain between the rich and the poor in these countries. Furthermore, the fact that China has a dependant population (under-15s and over-65s) of 28.6 per cent, compared with 37.2 per cent in India (Box 5), may help explain why India has to sustain a much higher share of household consumption than China despite its falling trend over time. In contrast, the household consumption share in Japan has been rising slowly since 1970, from just under 48.8 per cent to 55.8 per cent in 2007. With a rapidly aging population (Box 5), this rising trend can be expected to continue in Japan.

Relative to the US, however, Asians spend a lot less in proportion (Figure 11.3). Household consumption in the US accounted for nearly 70 per cent of its GDP in 2007, rising from a level of 62 per cent in 1970. The share of household consumption in the EU15 is more comparable to the APO20 average level, fluctuating within a tight range between 57 per cent and 60 per cent of GDP over the past four decades.[25] The Asia23 followed the trend of the APO20 closely until the 1990s, when they began to diverge. Since 2001 the share of household consumption in the Asia23 has dropped rapidly from 55.6 per cent to 50.3 per cent in 2007. This largely reflected the movement in China.

Figure 12 looks at the long-term trend of investment share in GDP across countries. Figure 12.1 plots the trends for the Asian Tigers, which have experienced rapid catch-up with the US in per capita GDP since the 1960s. In the 1970s their investment share of GDP ranged from 20 per cent to 40 per cent. Singapore had the highest investment share of 35–45 per cent of GDP in the 1970s, which approached 50 per cent by the mid-1980s. After that it dropped rapidly, to stabilize around 35 per cent between the late 1980s and the late 1990s. Around the time of the Asian financial crisis investment share plummeted in Singapore, and only recovered recently to hover around 20 per cent, similar to the level of the US and EU15 (Figure 12.3). The ROC also demonstrated clear investment phases. The 1970s and the first half of the 1980s marked the country's intensive investment effort, with its share fluctuating in the 30–35 per cent range and peaking at 40 per cent in the mid-1970s. From the 1990s to the present, its investment share has tended to

23 Note that household consumption for Myanmar includes government consumption due to data limitations.

24 Lao PDR is also in the bottom income group; it is, however, omitted from Figure 9 because of the lack of final demand data.

25 It is worth noting that the GDP share of government consumption in the EU15 was 7.3 per cent higher than the average of the Asia23 in 2007 (Table 6). In fact, when it comes to welfare measurement, actual individual consumption, as opposed to household consumption, is preferred because the former takes into account expenditures by NPISHs and government expenditure on individual consumption goods and services (such as education and health) in addition to household consumption. (For more details see Box 4.)

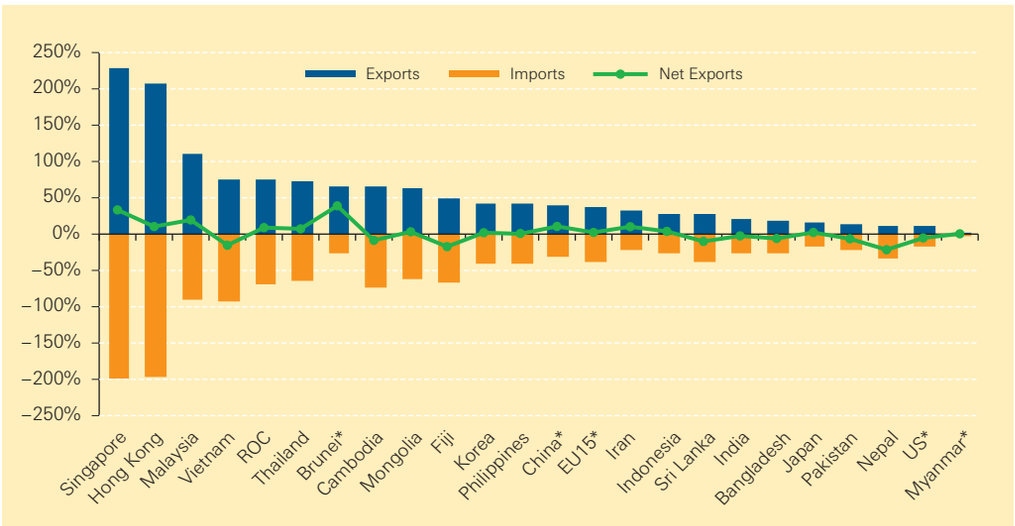

Figure 10: Export and Import Shares in GDP, 2007
—Share of exports and imports with respect to GDP at current market prices

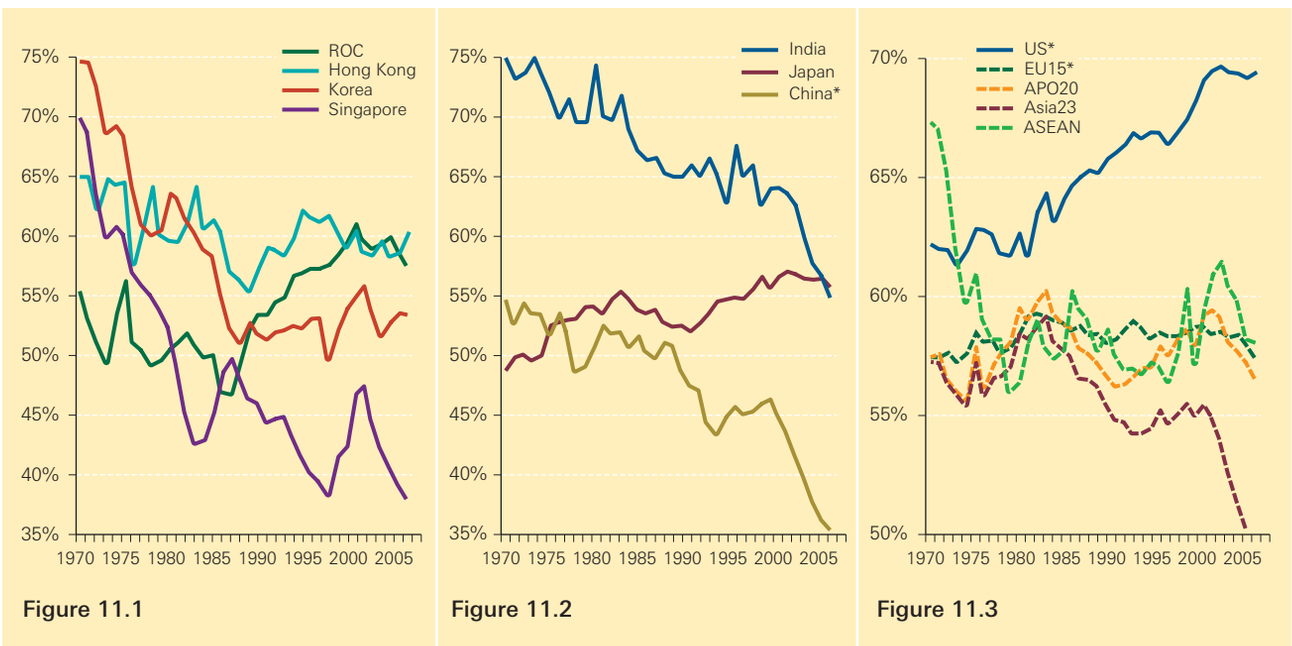

Figure 11: Long-term Trend of Household Consumption Share in GDP, 1970–2007
—Share of household consumption with respect to GDP at current market prices

oscillate in the region of 20–25 per cent of GDP. In contrast, Korean investment intensified as a share of GDP in the 1990s rather than in the earlier periods, reaching 40 per cent. Hong Kong had two spikes, one around the 1980s and the other in the mid-1990s, reaching 35 per cent of GDP. More recently, however, investment shares generally have softened compared to their historical peaks, with Hong Kong, Singapore and the ROC converging at just above 20 per cent and Korea stabilizing at around 30 per cent.

Figure 12.2 plots the trends for the three largest Asian countries. It is clear that investment share is trending upward in both China and India, but at different levels. Investment share increased from 33.8 per cent in 1970 to 42.3 per cent in 2007 in China, and from 15.8 per cent to 38.4 per cent in India. The rise in India's investment share in GDP has been particularly strong since 2002. In contrast, investment share in Japan has been falling, from 39.3 per cent in 1970 to 24.8 per cent in 2007. In recent years the downward trend appears to have been halted.

Figure 12.3 shows the Asian group averages

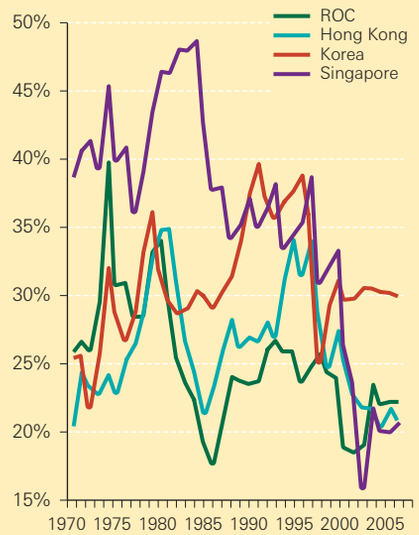

Figure 12.1

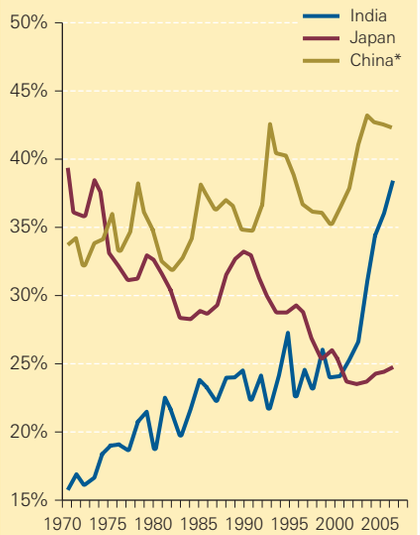

Figure 12.2

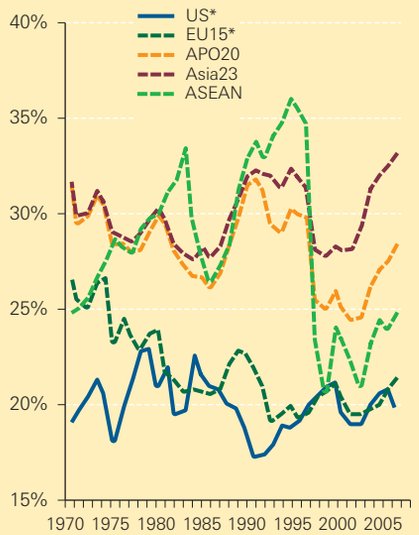

Figure 12.3

Figure 12: Long-term Trend of Investment Share in GDP, 1970–2007
—Share of investment with respect to GDP at current market prices

against the US and EU15. The chart confirms that Asian countries on average invest more, with their average investment share of GDP staying above the US and EU15 throughout the whole period. The averages for the APO20 and Asia23 moved closely to each other until the 2000s, when strong investment in China drives a wedge between the two group averages. Over the long run, a couple of cycles in investment can be spotted. Investment made up 31.9 per cent of GDP for the APO20 at the start of the period in 1970, but by 1986 it fell to 27.4 per cent. Within four years investment bounced back to its 1970s' level from this trough, only to experience a subsequent decade of downward trend as a share of GDP, with a particularly sharp impact from the Asian financial crisis of the late 1990s. With the buffer provided by China, the average for the Asia23 fell less than that of the APO20 in the late 1990s. Investment reached its lowest level in 2002–2003, at 26.7 per cent for the Asia23 in 2002 and 24.1 per cent for the APO20 in 2003. Since then investment has started to pick up again in Asia, with the Asia23 bouncing back much more strongly than the APO20, reaching 31.2 per cent of GDP in 2007 compared with the APO20's 27.0 per cent.

In the EU15 investment was 26.7 per cent of GDP at the start of the period, compared with 19.1 per cent for the US. Investment share in the EU15 had been on a downward trend, save a brief period in the late 1980s when it edged up. It fell to about 20 per cent of GDP in the late 1990s, converging with the US level. Since then investment share has been hovering around that level, in synch with the US. Throughout the period investment share in the US has been steady, teetering around 20 per cent of GDP.

Figure 13 plots the long-term trend of net export share in GDP from 1970 to 2007. Net exports used to be a drag on the Asian Tigers' GDP. In the early 1970s all the Tigers had huge negative net exports, except Hong Kong. But they rapidly improved their position, and in recent years net exports are making a positive contribution to GDP in all Asian Tigers. The share of net exports in Singapore is particularly large, at 31.7 per cent in 2007, compared with 1.5 per cent, 7.8 per cent and 10.8 per cent for Korea, the ROC and Hong Kong respectively. In contrast, net export shares for the three largest Asian economies fluctuate within a much smaller range over the years (Figure 13.2). All three countries started off from a position of balanced trade in 1970. Thereafter they branched out on three different paths. The balanced position turned into a mild trade deficit in India at the start of the 1980s, and has been stable ever since. In 2007 the share of net exports in GDP was −3.6 per cent in India. Japan has been running a small trade surplus, which peaked in the mid-1980s. In 2007 the share of net exports was 1.7 per cent in Japan. For China, after teetering around the balanced position for much of the period, a trade

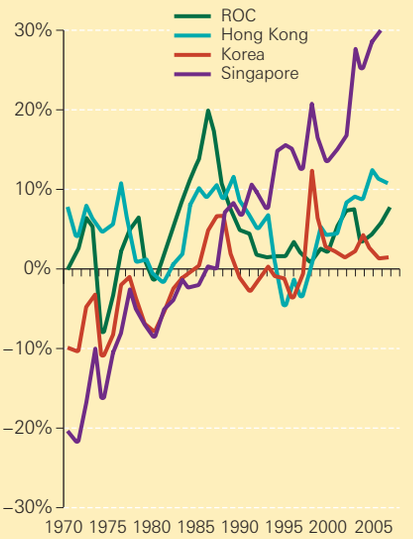

Figure 13.1

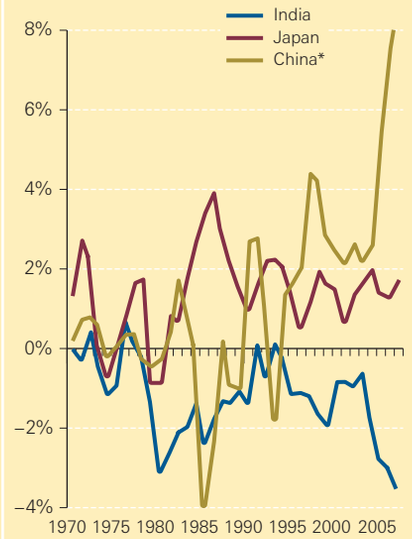

Figure 13.2

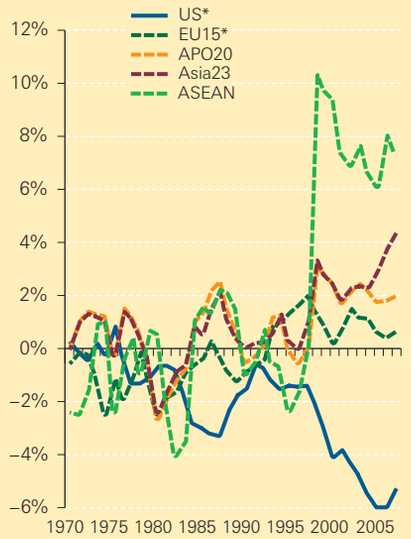

Figure 13.3

Figure 13: Long-term Trend of Net Export Share in GDP, 1970–2007
—Share of net exports with respect to GDP at current market prices

surplus has been established since the mid-1990s. The rise in its share in GDP has been particularly strong since 2004, reaching 8 per cent in 2007. Depending on how imports react, this trend may halt or even reverse in 2008–2009 as demand dries up from the rich economies; exports from China have fallen in recent months in the midst of the current storm in the global economy.

Figure 13.3 compares the average net export shares for the APO20 and Asia23 with the US and EU15. Both the US and EU15 faced a trade deficit at the beginning of the period. While the EU15 managed to revert and has been in surplus since the early 1990s, the US position has significantly deteriorated since 1990, after a tremendous effort in restoring its trade balance in the late 1980s. In 2007 the size of the US trade deficit stood at 5.3 per cent of its GDP. In contrast, the APO20 and Asia23 have been in surplus continuously since the early 1980s. In 2007 the average net export share for the APO20 was 2.5 per cent of GDP. The inclusion of Brunei, China and Myanmar swings this up to 4.3 per cent.

4.2 Growth Decomposition by Expenditure Category

Figures 14 and 15[26] show the decomposition of the average annual economic growth by final demand for the periods 1995–2000 and 2000–2007 respectively.[27] During the earlier period Asia was suffering from the Asian financial crisis, which appeared to hit investment particularly hard in Thailand and Indonesia. Investment fell by 14.1 per cent and 9.6 per cent on average in these countries respectively, cancelling out growth in other components of final demand and resulting in no overall economic growth. During this period, for most countries in Asia the engine of growth was household consumption. However, net exports were the real driving force in some economies, accounting for around 60 per cent of economic growth in Korea and Hong Kong, and 86.5 per cent in Malaysia, to counterbalance the fall in investment expenditure. They also made a significant contribution in Japan and the Philippines, accounting for 24.2 per cent and 24.4 per cent of the

26 Lao PDR and Fiji are excluded from Figures 14 and 15, while Mongolia and Nepal are only excluded from Figure 14.

27 The Törnqvist quantity index is adopted for calculating the growth of real GDP. Using this index, we can decompose the growth of real GDP into the products of contributions by final demands, $\underbrace{\ln(GDP^t/GDP^{t-1})}_{\text{Real GDP growth}}=\sum_i \underbrace{(1/2)(s_i^t+s_i^{t-1})\ln(Q_i^t/Q_i^{t-1})}_{\text{Contribution of final demand } i}$ where Q_i^t is quantity of final demand i in period t and s_i^t is expenditure share of final demand i in period t. Thus the real GDP growth may diverge from the official estimates or those presented in Table 3.

Box 7: How Has Asia Been Faring with the Global Financial Storm?

At the time of writing *Databook 2009*, the full impact of the global financial crisis was only beginning to unfold. The jury was still out regarding the decoupling theory, which referred to the observation that economic activity in emerging economies had diverged from that of the developed world. While it was clear that Asian emerging economies could not be fully immune from the global financial storm, with their sharp downturn towards the end of 2008, there were reasons to believe that they might be bouncing back faster than the developed world. One year on, the Asian economies on the whole do seem to have weathered the storm better than their richer counterparts. The speed and strength of their rebound in the second quarter of 2009, if sustained, do indeed point to their decoupling from the fortunes of the West.

Asian economies started to slow towards the end of 2008. Among the 14 Asian countries covered by the AQGM (Asian Quarterly Growth Map described in Box 6), eight experienced negative growth by 2009Q1. In Japan and the ROC growth had been negative since 2008Q3, contracting by 4.1 per cent and 0.8 per cent respectively in that quarter compared with the same quarter a year previously. Four more economies, namely Hong Kong, Korea, Singapore and Thailand, joined them in 2008Q4, with year-on-year quarterly growth of −2.6 per cent, −3.4 per cent, −4.2 per cent and −4.2 per cent respectively. The ROC's contraction also deepened in 2008Q4 to 7.1 per cent. By 2009Q1 Mongolia and Malaysia were also adversely affected, while negative growth in other economies continued to intensify. In 2009Q2 only Mongolia managed to halt the contraction, but falling output in most economies had softened. This reflected the fact that most economies bounced back strongly on a quarter-on-quarter basis in 2009Q2. Quarter-on-quarter growth in 2009Q2 was 5.0 per cent in Singapore, 4.8 per cent in the ROC, 1.7 per cent in the Philippines, 2.2 per cent in Thailand and 3.5 per cent in Hong Kong. Japan managed only a sluggish 0.7 per cent in comparison. These Asian economies sustained positive quarterly growth into 2009Q3.

For the big, fast-growing economies, the impact of the global downturn was manifested in slowing their growth rather than a contraction. For example, the year-on-year quarterly growth slowed from 10.4 per cent in 2008Q2 to 6.1 per cent in 2009Q1 in China, before bouncing back to 7.1 per cent in 2009Q2 and 7.7 per cent in 2009Q3. India followed the same pattern, with year-on-year quarterly growth slowing from 7.8 per cent in 2008Q1 to 5.8 per cent in 2009Q2 before bouncing back to 6.1 per cent in 2009Q2 and 7.9 per cent in 2009Q3.

The strong rebound of Asia's emerging economies in 2009Q2, growing at an average annualized rate of over 10 per cent, was in sharp contrast with the US, where GDP fell by 1 per cent. A few big economies also managed modest growth, e.g. France and Germany grew at an annualized rate of 1 per cent and Japan at 3.4 per cent. On a year-on-year basis, US output contracted by 3.8 per cent in 2009Q2 compared with 3.3 per cent in 2009Q1. In the UK the figures were 5.5 per cent and 5.0 per cent. In France and Germany economic contraction slowed in 2009Q2 to 2.9 per cent and 5.8 per cent, compared with 3.5 per cent and 6.7 per cent respectively in 2009Q1. On a quarter-on-quarter basis, output contraction was halted in France and Germany in 2009Q2 and sustained into 2009Q3. The US achieved positive quarterly growth of 0.7 per cent in 2009Q3 after four consecutive quarters of falling output, while the UK's output has been falling since 2008Q2. It is estimated that for 2009 as a whole, emerging Asia could grow by at least 5 per cent while the G7 economies contract by 3.5 per cent, a gulf of nearly 9 per cent (*The Economist*, "An Astonishing Rebound", 13 August 2009).

The initial wave of the global financial crisis, centered in the US and Europe, quickly gathered pace and eroded national wealth at a colossal scale, threatening systemic bank failures. From the start of 2008 to the spring of 2009, it is estimated that the crisis knocked $30 trillion off the value of global shares and $11 trillion of the value of homes. At their worst, these losses amounted to about 75 per cent of world GDP (*The Economist*, "The Long Climb", 3 October 2009). Governments responded to the crisis with unprecedented rescue packages, coordinated interest rate cuts, quantitative easing and extending government bank guarantees to bolster the financial sector. With the ensuing credit crunch and the need for households and businesses to repair their balance sheets, the impact soon rippled out to the real economy. As the demand from the developed economies retrenched, the contagion spread to the export-reliant emerging economies. The sudden fall in private cross-border capital flows also hit the emerging economies. This prompted all big economies and many emerging economies to respond with equally unprecedented fiscal stimulus packages to pick up the slack in their economies.

Compared with the havoc and a near financial meltdown a year ago, the worst may now be over. The world economy has stopped shrinking and the slump in manufacturing appears to be easing. The property markets in the UK and US seem to have stabilized, and confidence is returning. Although there is calm, the prospect of a speedy recovery to the normality before the crisis remains far-fetched. The pick-up in industrial production in the second quarter of 2009 partly reflected a temporary boost from firms rebuilding inventories rather than an increase in demand. The huge debt overhang in the private sector in the US and UK is likely to depress demand for a while longer. Meanwhile, the rebound in emerging Asia is being powered by the unfreezing of global trade finance, the turnaround in stocks and the hefty fiscal stimulus. Asia had the biggest fiscal stimulus of any region in the world. While China's 4 trillion yuan ($585 billion) stimulus package, announced in November 2008, grabbed the headlines, smaller economies like Korea, the ROC, Singapore, Malaysia and Thailand all had fiscal boosts of at least 4 per cent of GDP in the 2009 fiscal year. As the private sectors are not burdened with huge debt and there

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are bound to be worthwhile infrastructure projects in emerging economies, fiscal expansionary measures are expected to work more effectively in Asia than in the West and are poised to yield productivity growth for future prosperity. In China the reverse of tight credit controls intended to curb inflation in 2008, together with the fiscal easing, accounted for 75 per cent of its growth in the first quarter of 2009 (*The Economist*, "A Fine Balance", 3 October 2009). Furthermore, growth in China is still predominantly propelled by investment rather than consumption, with the former accounting for 87 per cent of growth in the first half of 2009 (*The Economist*, "The Hamster-Wheel", 3 October 2009). While China should aim to consume more, other economies like Malaysia, Indonesia, the ROC, Thailand and the Philippines should invest more.

The Western economies are likely to emerge from this crisis much weakened. Recessions rooted in balance-sheet repairs tend to drag on longer. Meanwhile, the unemployed are alienated and may never return to work again. The governments will be burdened by large deficits and heavy debt for years to come. Capital is likely to be more costly, adversely affecting investment. Investment of a more speculative nature is most likely to be the first in line to be axed, to the detriment of an economy's long-term innovative capability. This is how a recession can cause lasting damage to an economy's future growth prospects. If, admittedly a big if, the East can sustain demand as fiscal stimulus retreats, and somehow avoid the potential dangers of asset bubbles, this crisis could well strengthen the foundations of the decoupling theory.

average economic growth per annum respectively. The US, EU15 and Sri Lanka were the only economies where net exports dragged down growth.

The impact of investment expenditure on economic growth was negative in six out of the 21 economies, as presented in Figure 14 (i.e. Brunei, Hong Kong, Indonesia, Japan, Malaysia and the Philippines), and marginal in Korea. But in other countries it made a significant contribution, accounting for 20–50 per cent of economic growth. During the period 1995–2000 China experienced the fastest economic growth among the countries studied, averaging 7.9 per cent per year, of which 46.1 per cent was contributed by household consumption, 17.3 per cent by government consumption, 28.0 per cent by investment and 8.7 per cent by net exports. This compares with an average annual growth of 4.1 per cent in the US and 2.9 per cent in the EU15. The contribution from household consumption was 73.1 per cent and 59.9 per cent in the US and EU15 respectively. During this period investment growth also played a significant role, accounting for 39.3 per cent and 33.0 per cent of growth in the US and EU15 respectively.

On the back of the Asian financial crisis, investment growth surged strongly: its impact on real GDP growth became more significant in Asia in the first half of the 2000s, and appeared to be a major driving force in the Asian economies (Figure 15). Countries which experienced the fastest economic growth were also countries where the contribution from investment growth was the largest in terms of percentage points: it was 5.4 per cent in China, 2.2 per cent, 2.6 per cent and 4.7 per cent in Myanmar, Cambodia and Vietnam respectively and 4.1 per cent in India. For Singapore, Hong Kong and the ROC the strength of net exports was the economic story, accounting for half to three-quarters of their economic growth on average per year between 2000 and 2007. The role played by net exports in China has also strengthened, with their contribution to economic growth doubling between 1995–2000 and 2000–2007. The reverse was true in India, where net exports swung from making a positive contribution of 2.8 per cent in the earlier period to being a drag on economic growth with a negative contribution of −10.7 per cent in the period 2000–2007. In some of these economies the contribution of household consumption to economic growth was really squeezed: for example, from 46.1 per cent in 1995–2000 to 25.5 per cent in 2000–2007 in China, from 42.5 per cent to 27.9 per cent in Singapore and from 60.1 per cent to 34.3 per cent in the ROC. Also, in the latter period net exports made negative contributions in more countries, such as Vietnam, Nepal, Brunei and Iran.

In the first half of the 2000s economic growth slowed in both the US and the EU15: from 4.1 per cent on average per year in 1995–2000 to 2.4 per cent in 2000–2007, and from 2.9 per cent to 2.0 per cent, respectively. In terms of contributions, household consumption increased from 73.1 per cent to 84.3 per cent and government spending from 6.2 per cent to 13.6 per cent in the US over the two periods. This suggests that household consumption did not retrench as the economy slowed, while the government increased spending to bolster the economy. Investment in the US took a plunge, however, from a contribution share of 39.3 per cent to 12.1 per cent over the two periods. Its net exports improved from

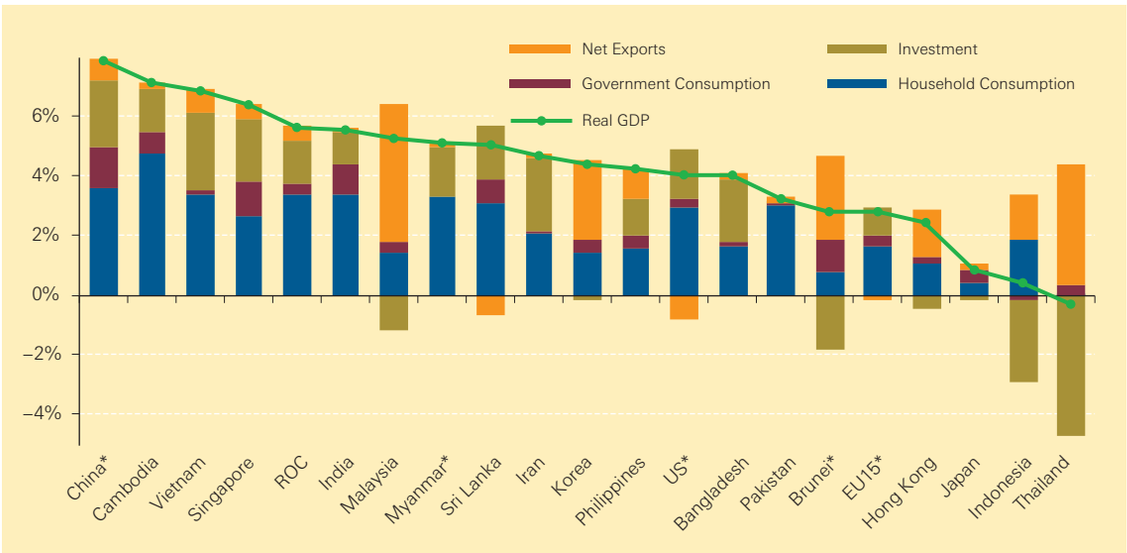

Figure 14: Final Demand Contributions to Economic Growth, 1995–2000
—Decomposition: Average annual growth rate of GDP at constant market prices

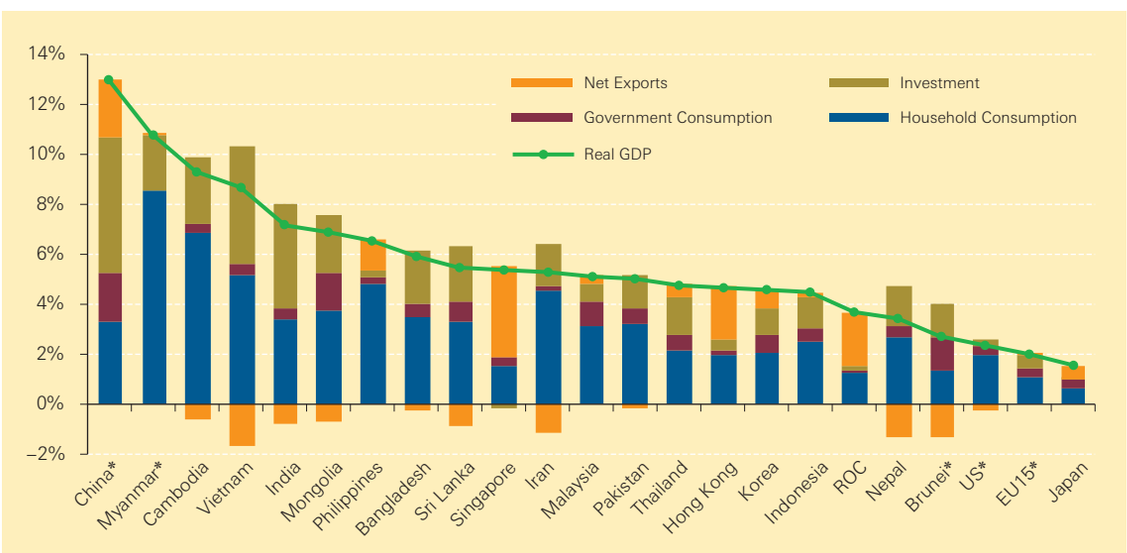

Figure 15: Final Demand Contributions to Economic Growth, 2000–2007
—Decomposition: Average annual growth rate of GDP at constant market prices

−18.5 per cent to −10.0 per cent. The EU15 had a similar pattern, where the contribution of government spending nearly doubled over the two periods from 11.6 per cent to 20.0 per cent, squeezing out the contribution of investment by one-third, while household consumption remained more or less stable. Its net exports also improved from −4.6 per cent to 0.8 per cent.

Figure 16 shows how the contribution of economic growth by final demand varies across countries and over time for the period 1970–2007. Economic restructuring is a gradual process and could take a long time to establish. Some shifting in the relative weight of the key drivers of growth may be emerging in some countries, and is discernible in our data covering almost four decades. Furthermore, the Asian financial crisis of 1997–1998 marked an exceptional time for many Asian economies. Its impact can clearly be seen in Indonesia, Korea, Malaysia, Singapore and Thailand, where investment took a nosedive in 1998; consumption also fell, albeit to a lesser extent. By contrast, net export growth was exceptionally strong, and was likely to have benefited from the rapid devaluation of the Asian currencies at the time of crisis.[28]

Household consumption has been one key driver of economic growth in the Asian countries, but its importance varies across countries and across time.

In the ROC and Hong Kong, for example, it bore a much larger weight at the beginning of the period, but in recent years the percentage contributed by household consumption has been much lower. Investment has, on the one hand, been a consistent and significant driver of economic growth in many Asian economies (notably in the four Asian Tigers, and more recently in China, India, Vietnam and Thailand); on the other hand, it has also contributed to the volatility of economies.

Net exports have been a significant driver in Asia, and subject to wider swings when compared to the US and EU15. In the ROC they were a key engine of growth in the 1970s. In the latter half of the 1980s and the 1990s growth was mainly about household consumption and investment. Since the turn of the millennium, however, net exports have regained their importance as a driver of economic growth. Similarly, in the 2000s growth in Hong Kong has been mainly led by net exports, as has growth in Singapore barring 2004. The story in Korea has been about household consumption and investment; the role of net exports has not been firmly established. In contrast, net exports have emerged to play a more significant role in Japan's modest growth in the past five years.

For China, investment is clearly a key driver in the economy, and since the early 1990s it has often been the main contributor to economic growth. In recent years net exports have also emerged as being capable of making a positive contribution to growth. In contrast, the prominence of investment in India is less stark than in China, and net exports are still a drag on its growth effort.

For the US, household consumption as the key component of economic growth has never been challenged. Investment was strong and consistent for a decade in the 1990s, but contracted after the burst of the dot-com bubble at the turn of the millennium before recovering in recent years. Government fiscal stimulation can be clearly seen around this time. Since the early 1990s net exports have played a negligible role in US economic growth, if not being a drag on the economy. Like the US, economic growth in the EU15 is largely determined by its household consumption and investment. Net exports have not been making a significant contribution to growth in recent years. Growth of government consumption has been steady throughout the period, but efforts at restraint during the 1990s can clearly be seen before growth picked up again in the 2000s.

28 It appears that some Asian countries, for example the ROC, Hong Kong, Japan and Malaysia, also suffered adversely in 2001 following the burst of the dot-com bubble.

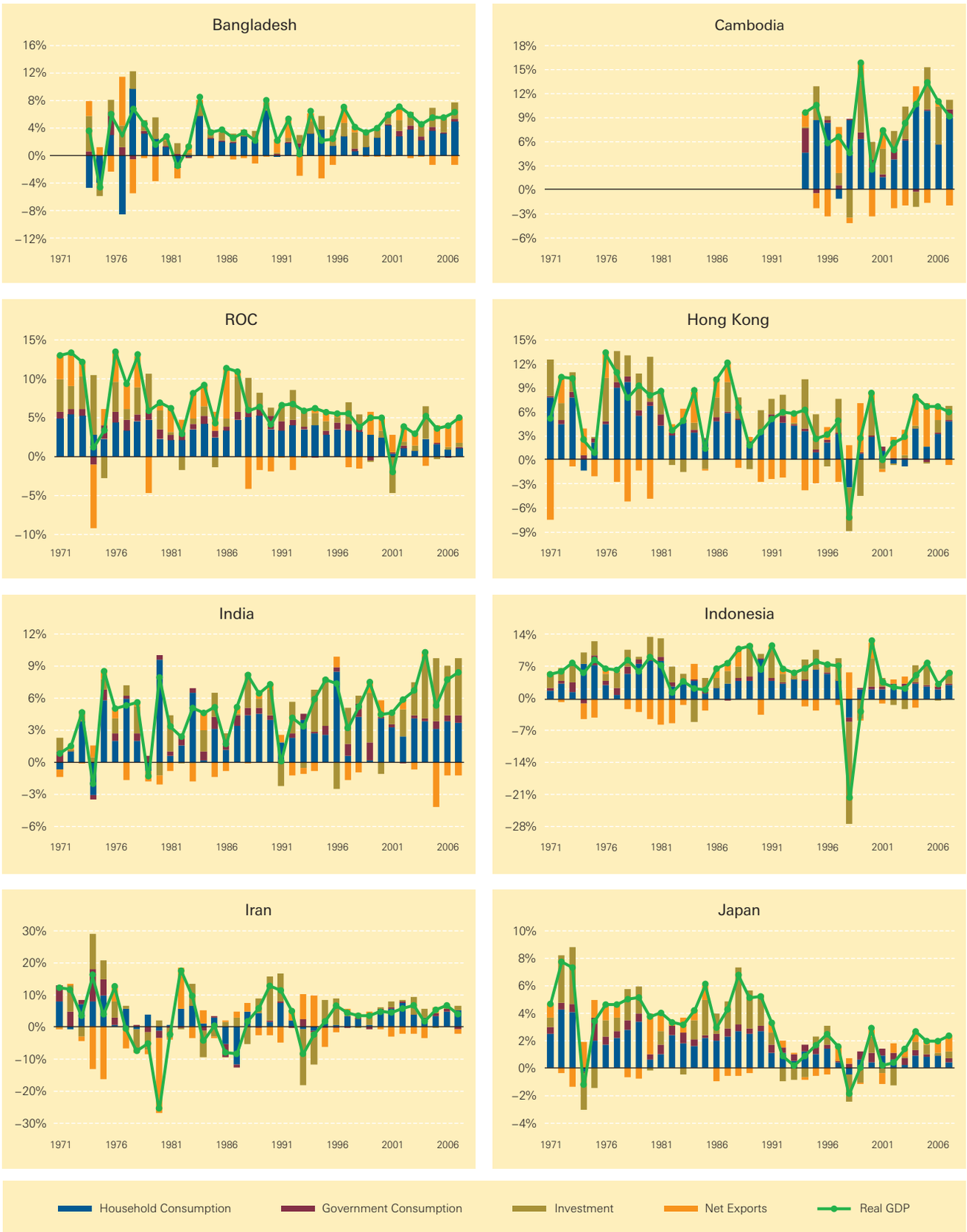

Figure 16(1): Final Demand Decomposition of Real GDP, 1970–2007

Unit: Percentage.

Note: See footnote 27 for the definitions. Myanmar's "household consumption" includes government consumption due to data limitations. Compared with *Databook 2009*, the coverage period becomes longer for some countries: for Bangladesh, the coverage of this edition is 1973–2007 (1981–2006 in *Databook 2009*), for Malaysia, 1970–2007 (1987–2006 in *Databook 2009*), and for Mongolia, 2000–2007 (not available for *Databook 2009*). The countries with "*" represent the reference countries.

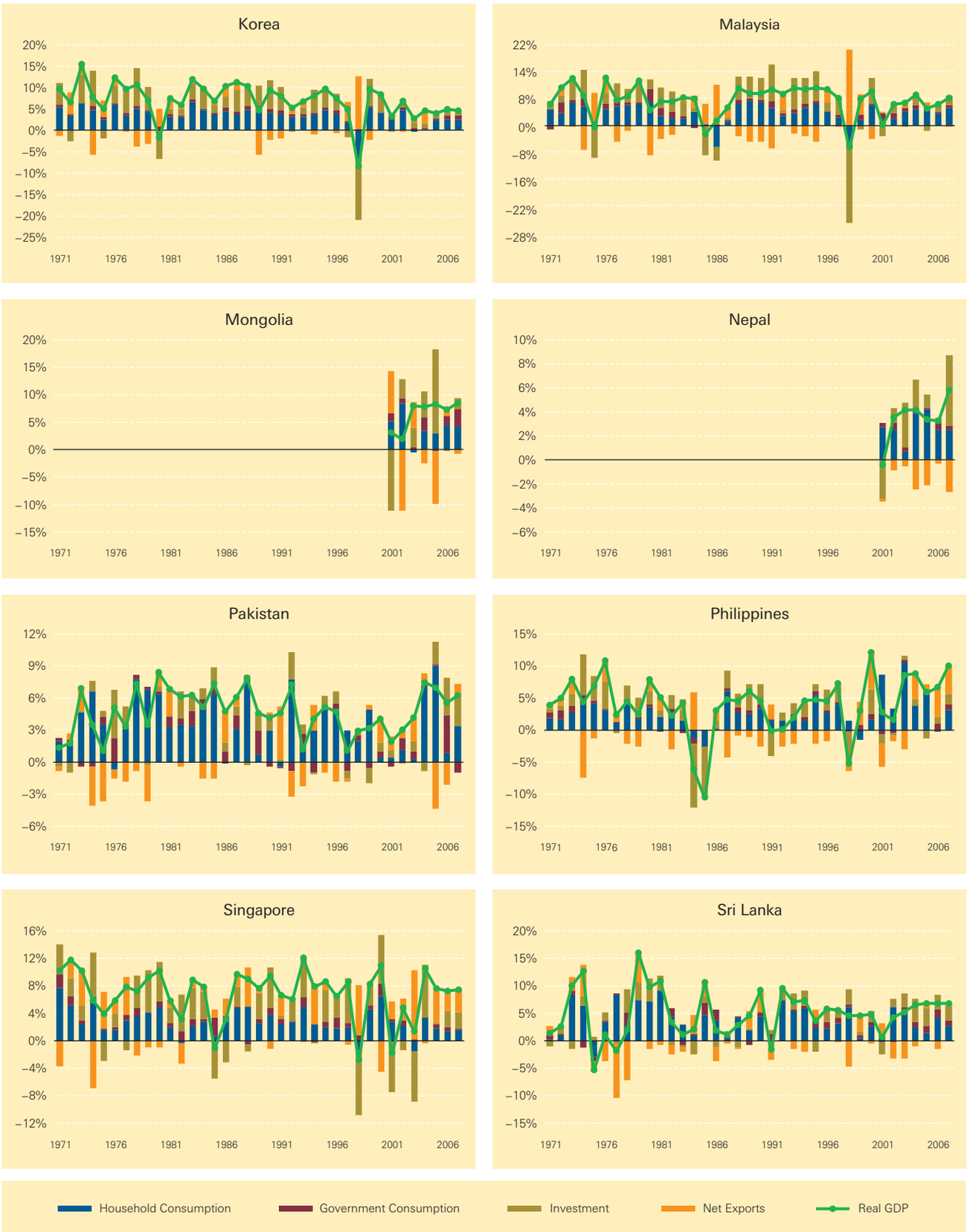

Figure 16(2): Final Demand Decomposition of Real GDP, 1970–2007

Unit: Percentage.

Note: See footnote 27 for the definitions. Myanmar's "household consumption" includes government consumption due to data limitations. Compared with *Databook 2009*, the coverage period becomes longer for some countries: for Bangladesh, the coverage of this edition is 1973–2007 (1981–2006 in *Databook 2009*), for Malaysia, 1970–2007 (1987–2006 in *Databook 2009*), and for Mongolia, 2000–2007 (not available for *Databook 2009*). The countries with "*" represent the reference countries.

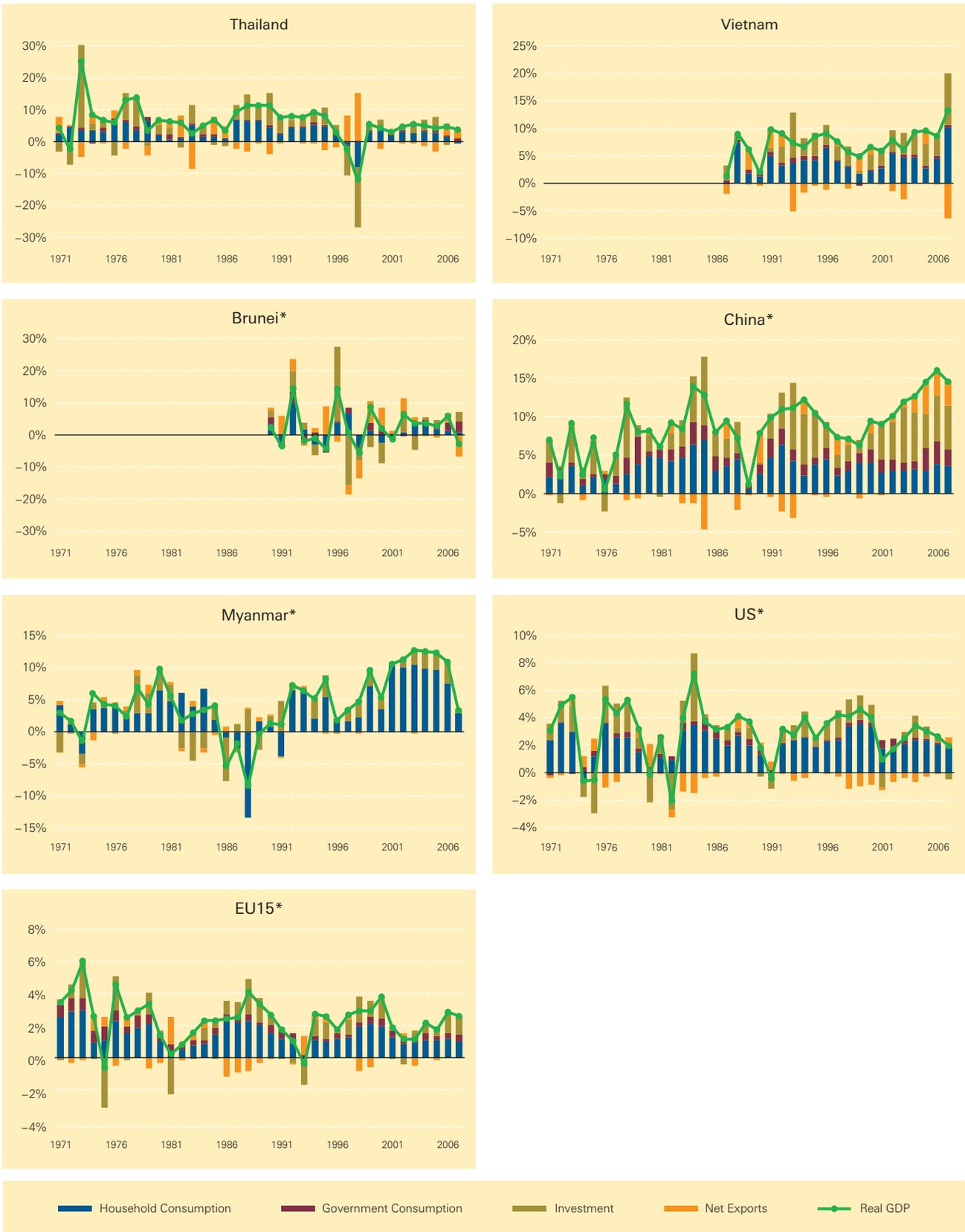

Figure 16(3): Final Demand Decomposition of Real GDP, 1970–2007

Unit: Percentage.

Note: See footnote 27 for the definitions. Myanmar's "household consumption" includes government consumption due to data limitations. Compared with *Databook 2009*, the coverage period becomes longer for some countries: for Bangladesh, the coverage of this edition is 1973–2007 (1981–2006 in *Databook 2009*), for Malaysia, 1970–2007 (1987–2006 in *Databook 2009*), and for Mongolia, 2000–2007 (not available for *Databook 2009*). The countries with "*" represent the reference countries.

5. Real Income and Terms of Trade

The standard GDP concept does not adequately measure welfare, as discussed in Box 4. Among the shortcomings is its neglect of the terms-of-trade effect. Diewert and Morrison (1986) and Kohli (2004) point out that an improvement in the terms of trade (i.e. the relative prices of a country's exports to imports) unambiguously raises real income and in turn welfare. In many ways a favorable change in the terms of trade is synonymous with technological progress, as it makes it possible to get more for less. That is, for a given trade-balance position, the country can either import more for what it exports, or export less for what it imports.

By focusing on production *per se*, the real GDP concept does not capture this beneficial effect of the improvement in the terms of trade. Kohli (ibid.) explains this point: "if real GDP is measured by a Laspeyres quantity index, as it is still the case in most countries, an improvement in the terms of trade will actually lead to a fall in real GDP." In contrast, real income focuses on an economy's consumption possibilities, and in turn captures the impact of a change in the relative price of exports to imports. Real income growth attributed to changes in the terms of trade can be significant when there are large fluctuations in import and export prices and the economy under concern is highly exposed to international trade, like a lot of the Asian economies (see Figure 10). For example, real income growth for Brunei, an oil-exporting country, nearly doubled that of real GDP growth in recent years, while there has been no significant difference between real income growth and real GDP growth in Myanmar, which is a relatively closed economy (Figure 17). In the turbulent period of the recent global financial storm, volatile exchange rates have been observed. To the extent that import and export prices are partially determined by exchange rate movements, the distinction between real GDP and real income may well become more significant for this period.

The distinction between real income and real GDP lies in the differences between the corresponding deflators. Real GDP is calculated from a GDP deflator aggregating prices of household consumption, government consumption, investment, exports and imports,[29] while real income is calculated from the prices of domestic expenditure, consisting of household consumption, government consumption and investment. Therefore real income can be considered as how much domestic expenditure can be purchased with the current income flow.[30] As such, real income captures the purchasing power of the income flow. Applying the method proposed by Diewert and Morrison (1986), the annual growth rate of *real income* can be fully attributed to two components: *annual growth rate of real GDP*, and real income growth attributed to changes in prices of exports and imports.[31] The second component is called the *trading gain* by some authors (Kohli, 2006). This term is adopted in this report.

Figure 17 shows this decomposition of real income for the Asian countries, along with the US and EU15,[32] from 1971 or from whichever year a country's time series starts.[33] Trading gain can be positive or negative, depending on the direction of change in the terms of trade. Its impact is modest for many countries, adding less than ±1 percentage point to annual real GDP growth for most of the time. However, historically, trading gain has been significant in Iran and Brunei, both oil-rich countries, with annual real income growth being 1.9 percentage points and 2.3 percentage points higher than their

29 The weight for import price changes is negative. Thus if import prices decrease, this tends to raise the GDP deflator.

30 This definition of real income is the same as in Kohli (2004, 2006). An alternative definition is nominal GDP deflated by the price of household consumption; this is adopted by Diewert, Mizobuchi and Nomura (2005) and Diewert and Lawrence (2006).

31 Real income growth can be decomposed into two components as follows:

$$\underbrace{\ln(GDP^t/GDP^{t-1})-\ln(P_D^t/P_D^{t-1})}_{\text{Real income growth}}=\underbrace{\ln(GDP^t/GDP^{t-1})-(1/2)\Sigma_i(s_i^t+s_i^{t-1})\ln(P_i^t/P_i^{t-1})}_{\text{Real GDP growth}}+$$

$$\underbrace{(1/2)(s_X^t+s_X^{t-1})\{\ln(P_X^t/P_X^{t-1})-\ln(P_D^t/P_D^{t-1})\}-(1/2)(s_M^t+s_M^{t-1})\{\ln(P_M^t/P_M^{t-1})-\ln(P_D^t/P_D^{t-1})\}}_{\text{Real income growth attributed to changes in the terms of trade (=trading gain)}}$$

where P_i^t is price of final demand i in period t and s_i^t is expenditure share of final demand i in period t. D is domestic expenditure, X is export and M is import.

32 There are several studies on the decomposition of real income growth for other countries: Kohli (2004) for 26 OECD countries during 1980–1996, Kohli (2006) for Canada during 1981–2005 and Diewert and Lawrence (2006) for Australia during 1960–2004.

33 Compared with *Databook 2009*, our estimates cover a longer period for some countries: for Bangladesh, the coverage of this edition is 1973–2007 (compared with 1981–2006 in *Databook 2009*), for Malaysia, 1970–2007 (1987–2006), and for Mongolia, 2000–2007 (previously not available).

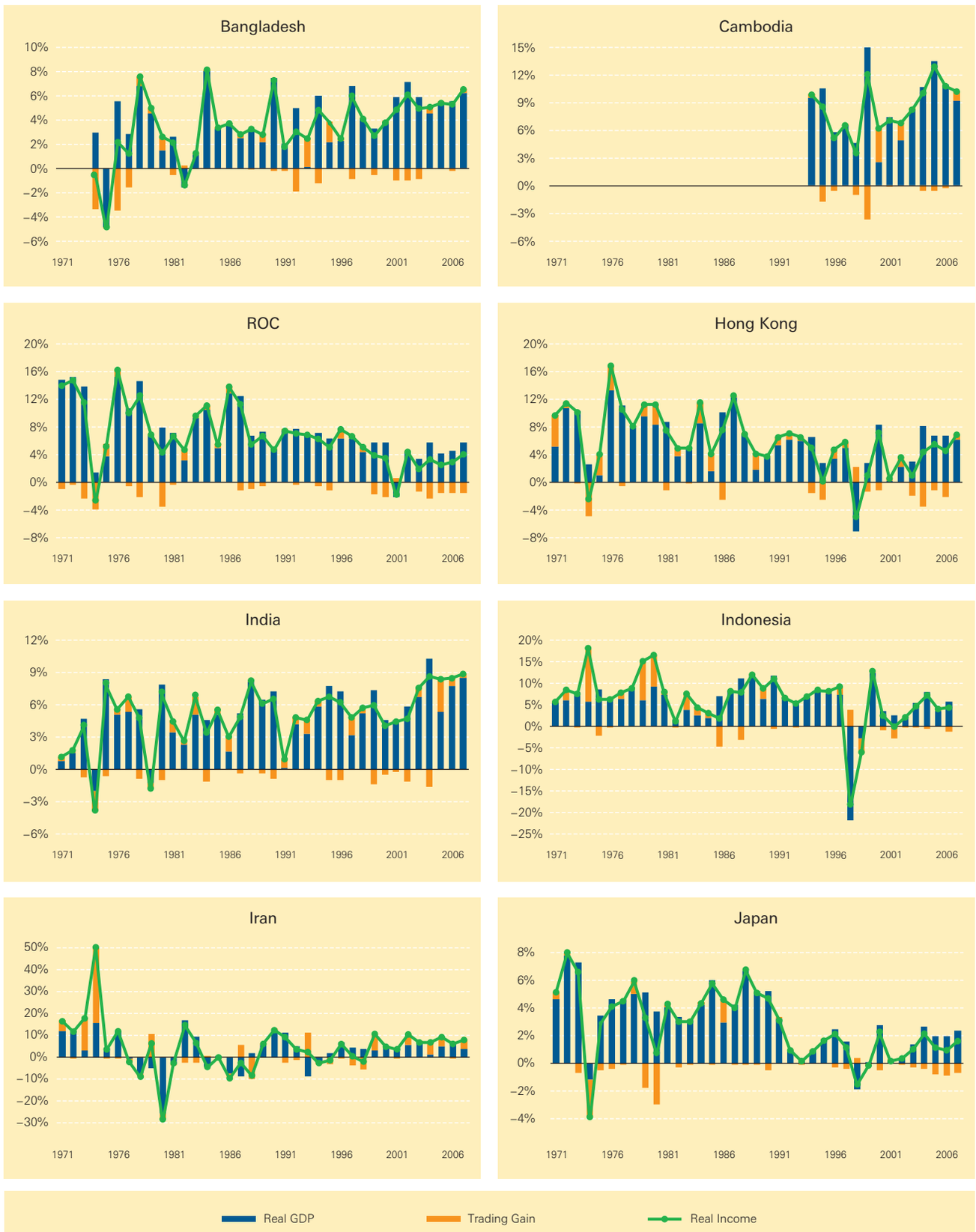

Figure 17(1): Sources of Real Income Growth, 1970–2007

Unit: Percentage.
Note: The countries with "*" represent the reference countries.

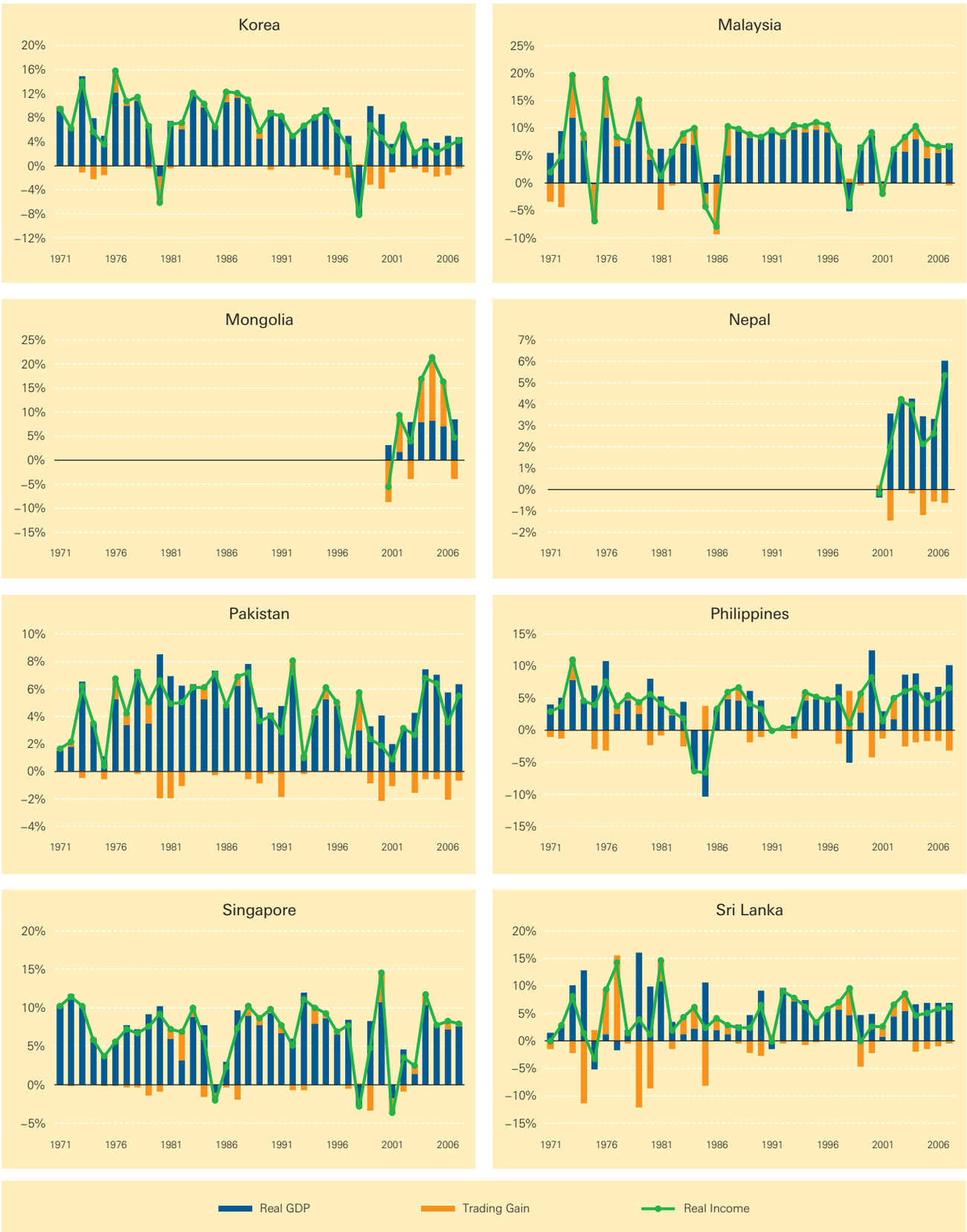

Figure 17(2): Sources of Real Income Growth, 1970–2007

Unit: Percentage.
Note: The countries with "*" represent the reference countries.

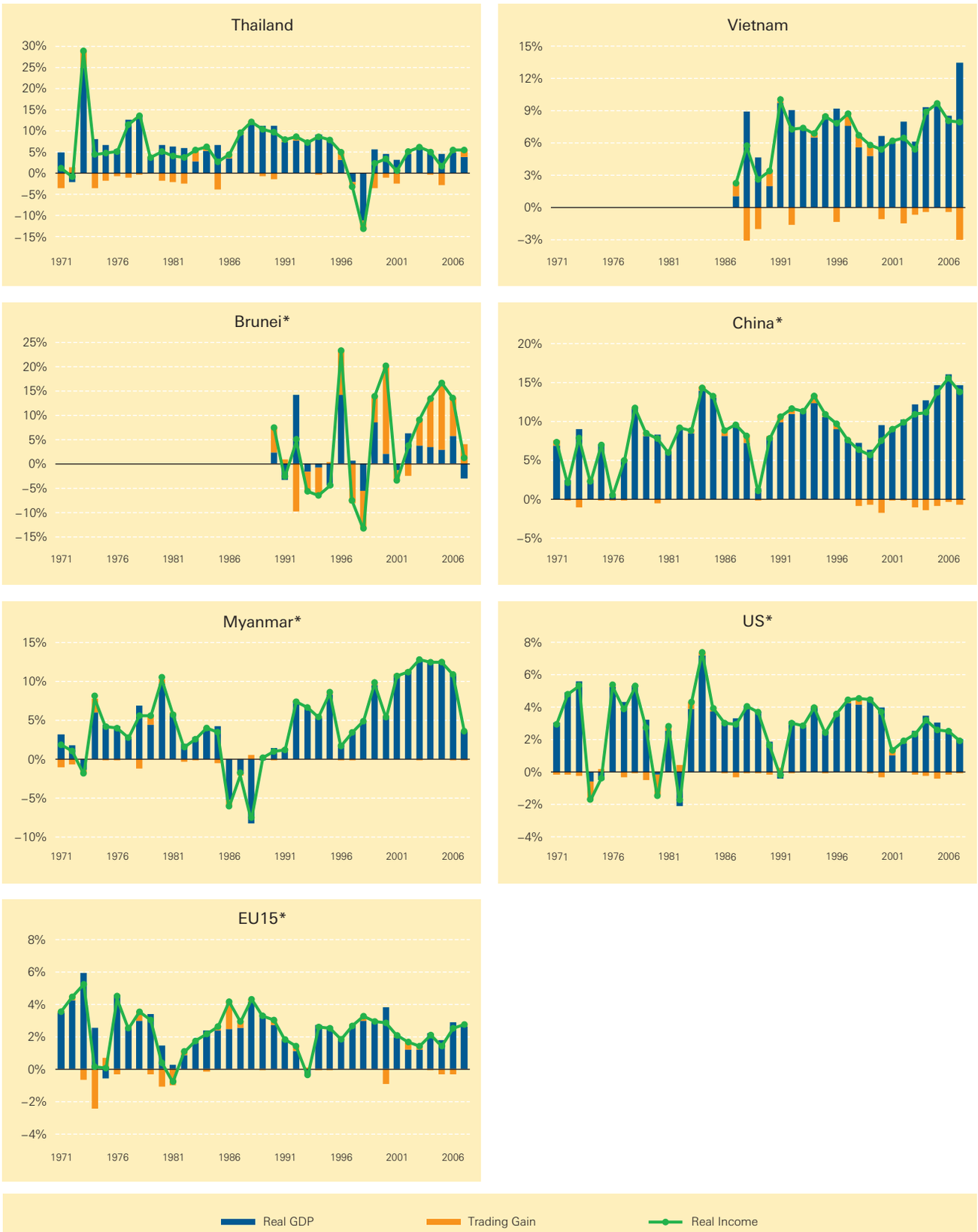

Figure 17(3): Sources of Real Income Growth, 1970–2007

Unit: Percentage.
Note: The countries with "*" represent the reference countries.

Table 7: Cross-country Comparisons of Growth Rates of Real Income, Real GDP and Terms of Trade, 1970–2007, 1995–2000, 2000–2005 and 2005–2007
—Average annual growth rate of real income, real GDP and trading gain

1970–2007				1995–2000				2000–2005				2005–2007			
	Real Income	Real GDP	Trading Gain		Real Income	Real GDP	Trading Gain		Real Income	Real GDP	Trading Gain		Real Income	Real GDP	Trading Gain
Mongolia	9.64	6.47	3.17	China*	7.56	7.98	–0.42	Myanmar*	12.04	12.04	0.00	China*	14.91	15.41	–0.50
China*	9.01	9.01	0.00	Brunei*	7.36	4.04	3.33	China*	11.14	11.86	–0.72	Mongolia	10.60	7.94	2.66
Cambodia	8.50	8.60	–0.10	Vietnam	7.05	6.84	0.21	Mongolia	9.26	5.88	3.38	Cambodia	10.53	10.13	0.39
Singapore	7.16	6.95	0.20	Cambodia	6.74	7.04	–0.30	Cambodia	9.11	8.97	0.14	India	8.74	8.16	0.58
Malaysia	6.97	6.52	0.45	Singapore	6.41	6.27	0.14	Brunei*	8.09	3.04	5.04	Singapore	8.31	7.42	0.89
Vietnam	6.84	7.34	–0.50	Malaysia	5.70	5.29	0.40	Iran	7.88	5.00	2.88	Vietnam	8.14	11.09	–2.95
ROC	6.79	7.39	–0.60	ROC	5.43	5.69	–0.26	Vietnam	7.47	7.86	–0.39	Iran	7.81	5.73	2.08
Korea	6.79	7.20	–0.41	India	5.43	5.60	–0.18	India	6.84	6.62	0.21	Brunei*	7.41	1.34	6.07
Indonesia	6.37	5.53	0.84	Myanmar*	5.08	5.03	0.04	Malaysia	6.05	4.81	1.24	Myanmar*	7.19	7.21	–0.02
Thailand	6.10	6.56	–0.46	Sri Lanka	5.07	5.15	–0.08	Sri Lanka	5.52	4.81	0.71	Malaysia	6.57	6.22	0.35
Hong Kong	6.08	5.79	0.29	Philippines	5.02	4.40	0.62	Bangladesh	5.37	5.84	–0.47	Sri Lanka	6.06	6.91	–0.85
Iran	5.10	3.15	1.95	Iran	4.27	4.75	–0.48	Philippines	4.76	5.59	–0.84	Bangladesh	6.04	5.94	0.10
India	5.08	5.01	0.07	Bangladesh	3.89	4.09	–0.20	Singapore	4.55	4.51	0.03	Philippines	5.94	8.42	–2.48
Sri Lanka	4.82	5.06	–0.25	Pakistan	3.25	3.26	–0.01	Thailand	4.07	4.85	–0.79	Thailand	5.87	4.57	1.30
Brunei*	4.72	2.46	2.27	Hong Kong	2.75	2.44	0.31	Pakistan	3.99	4.79	–0.80	Hong Kong	5.78	6.47	–0.70
Myanmar*	4.70	4.71	–0.01	Korea	2.59	4.62	–2.03	Korea	3.56	4.43	–0.86	Pakistan	4.61	6.03	–1.42
Pakistan	4.54	4.79	–0.24	Indonesia	1.17	0.53	0.63	Indonesia	3.33	4.33	–1.00	Indonesia	4.37	4.62	–0.25
Philippines	3.93	4.17	–0.25	Japan	0.75	0.98	–0.23	Hong Kong	3.00	4.04	–1.04	Nepal	4.06	4.68	–0.62
Bangladesh	3.59	3.81	–0.22	Thailand	–1.02	0.03	–1.06	Nepal	2.48	3.03	–0.55	Korea	3.99	4.91	–0.92
Nepal	2.93	3.50	–0.57					ROC	2.06	3.05	–0.99	ROC	3.51	5.12	–1.61
Japan	2.76	3.06	–0.30					Japan	1.01	1.31	–0.31	Japan	1.33	2.14	–0.81
(reference)				(reference)				(reference)				(reference)			
US	2.96	3.03	–0.07	US	4.24	4.16	0.08	US	2.34	2.38	–0.04	US	2.27	2.35	–0.09
EU15	2.42	2.44	–0.02	EU15	2.78	2.88	–0.10	EU15	1.79	1.70	0.08	EU15	2.71	2.78	–0.08

Unit: Percentage.
Note: See footnote 31 for the definition of real GDP growth, real income growth and trading gain. The starting years for some countries are different due to data availability during 1970–2007: Bangladesh (1973–), Brunei (1989–), Cambodia (1993–), Mongolia (2000–), Nepal (2000–) and Vietnam (1986–). The countries with "*" represent the non-member countries in Asia.

respective annual real GDP growth on average. Trading gains are also significant in Mongolia, pushing real income growth above real GDP growth by 3.2 percentage points. However, the data series available for Mongolia is short, starting only from 2000. In 1974, as a consequence of the first oil price shock, the improvement in the terms of trade raised the real income of Iran by 35.5 per cent – the biggest impact for the entire period across this country group. Sri Lanka, Malaysia and Indonesia also experienced volatile variations in trading gains in the 1970s.

Table 7 lists annual average growth rates of real income, real GDP and trading gain for the periods 1970–2007, 1995–2000, 2000–2005 and 2005–2007. The general observation is that trading-gain effect is small on average over a long period of time, but could be bigger over a shorter period.[34] Over the long period of 1970–2007, although the impact of trading gain is less than ±1 per cent except for Brunei, Iran and Mongolia,[35] its contribution to real income growth can still be significant for some countries. For example, average annual real GDP growth underestimated real income growth by 7 per cent and 15 per cent in Malaysia and Indonesia respectively. In Iran real income growth was 62 per cent higher than its real GDP growth. Conversely, the negative impact from trading gain pulled down real income growth in Nepal, which was only 84 per

34 Negative and positive effects in shorter periods cancel each other out. In the end, the accumulated effect often becomes negligible.

35 A part of the reason why Mongolia's trading gain is relatively large comes from its shorter coverage period of 2000–2007.

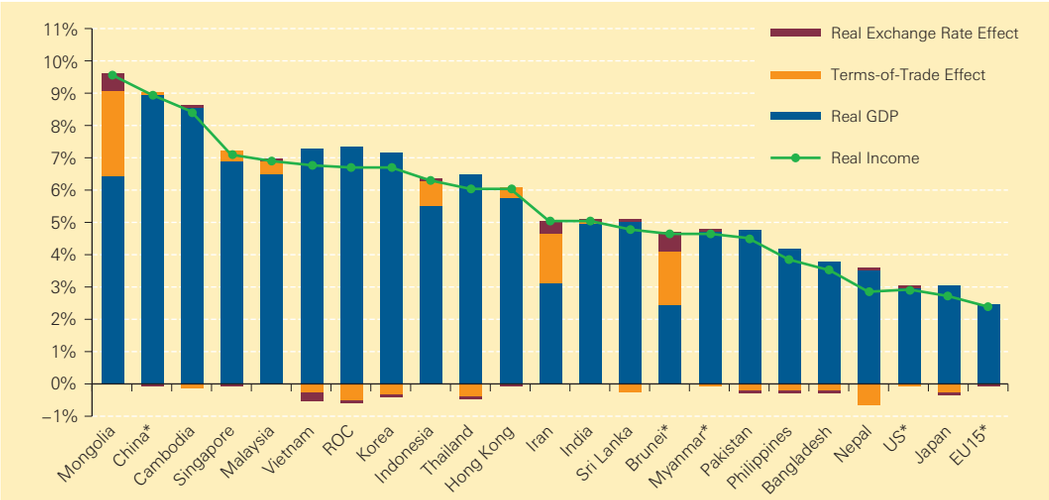

Figure 18: Decomposition of Real Income Growth, 1970–2007

cent of its real GDP growth.[36]

The impact of trading gain can have a larger impact over shorter periods. The time period 1995–2000 includes the impact of the Asian financial crisis. For Thailand, the relative trading gain effect more than outweighed the small positive average real GDP growth per year (of 0.03 per cent), giving rise to a marginal fall in real income of −1.02 per cent. In Korea negative trading gain also shaved 44 per cent off real GDP growth of 4.62 per cent, giving a real income growth of 2.59 per cent. In the beginning of the 2000s the Asian economy recovered from the financial crisis. It achieved positive growth of real GDP as well as real income in 2000–2005. For most countries, the impact of trading gain was relatively small in this period; exceptions were Brunei, Iran, Malaysia and Mongolia. For these countries, trading gain contributed to real income growth by more than 1 percentage point. Over the more recent period of 2005–2007, Asia's economic growth even accelerated. In that period, trading gain in Brunei, Iran and Mongolia also made a significant positive contribution to real income growth. In some countries, however, trading gain effect was unfavorable, resulting in real income growing slower than real GDP – for example by 45.9 per cent in the ROC, 23.0 per cent in Korea, 61.2 per cent in Japan, 30.7 per cent in Pakistan, 41.7 per cent in the Philippines and 36.2 per cent in Vietnam.

Further decomposition of trading gain into *the terms-of-trade effect* and *the real exchange rate effect* is conducted by Kohli (2006).[37] The terms-of-trade effect is the part of real income growth attributed to the change in the relative price between exports and imports, whereas the real exchange rate effect refers to the part of real income growth attributed to changes in the relative prices of traded goods and domestically consumed goods. By applying this result, real income growth can be decomposed into real GDP growth, terms-of-trade effect and real exchange rate effect. Figure 18 applies this decomposition to the Asian countries for the period 1970–2007, and shows that the real exchange rate effect is generally much smaller than the terms-of-trade effect. The sign of the two effects is the same for those countries where the impact of trading gain is not negligible. Nepal and Sri Lanka are the exceptions.

Figures 19 and 20 show the decomposition of average annual real income growth, covering two periods of major economic shocks faced by the Asian economies: during 1973–1978, which includes the two oil price hikes in 1974 and 1978, and 1996–1998 to capture the impact of the Asian financial crisis. High oil prices improved the terms of trade for

36 According to Kohli's (2004) study on real income of 26 OECD countries during 1980–1996, trading gain on average over the entire period varies across countries, from the smallest effect of −0.8 per cent (−30.9 per cent of real income growth) per year in Norway to the largest of 0.63 per cent (29.4 per cent of real income growth) per year in Switzerland.

37 Trading gain can be decomposed into two components as follows:

$$\underbrace{(1/2)(s_X^t+s_X^{t-1})\{\ln(P_X^t/P_X^{t-1})-\ln(P_D^t/P_D^{t-1})\}-(1/2)(s_M^t+s_M^{t-1})\{\ln(P_M^t/P_M^{t-1})-\ln(P_D^t/P_D^{t-1})\}}_{\text{Real income growth attributed to changes in the terms of trade (=trading gain)}}=$$

$$\underbrace{(1/4)(s_X^t+s_X^{t-1}+s_M^t+s_M^{t-1})\{\ln(P_X^t/P_X^{t-1})-\ln(P_M^t/P_M^{t-1})\}}_{\text{Terms-of-trade effect}}+$$

$$\underbrace{(1/2)(s_X^t+s_X^{t-1}-s_M^t-s_M^{t-1})\{(1/2)\ln(P_X^t/P_X^{t-1})+(1/2)\ln(P_M^t/P_M^{t-1})-\ln(P_D^t/P_D^{t-1})\}}_{\text{Real exchange rate effect}}.$$

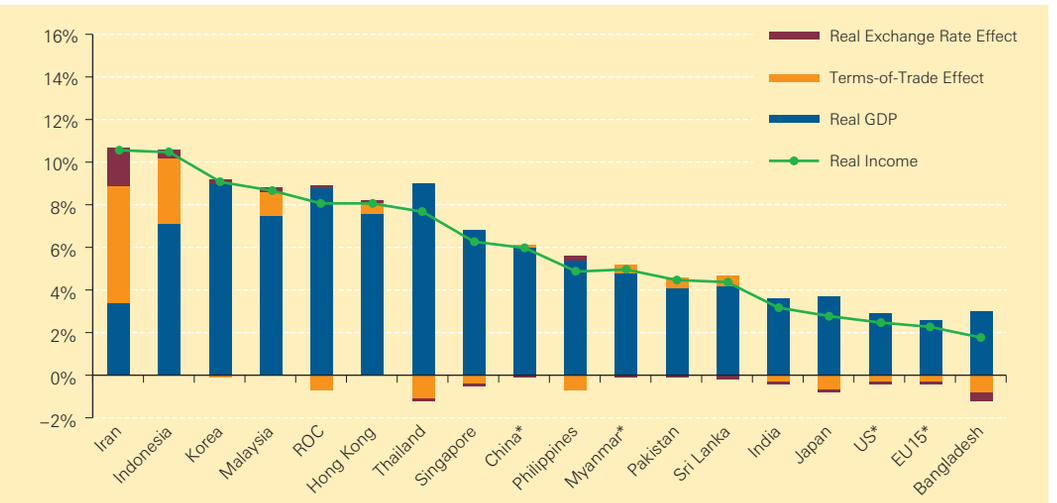

Figure 19: Decomposition of Real Income Growth, 1973–1979

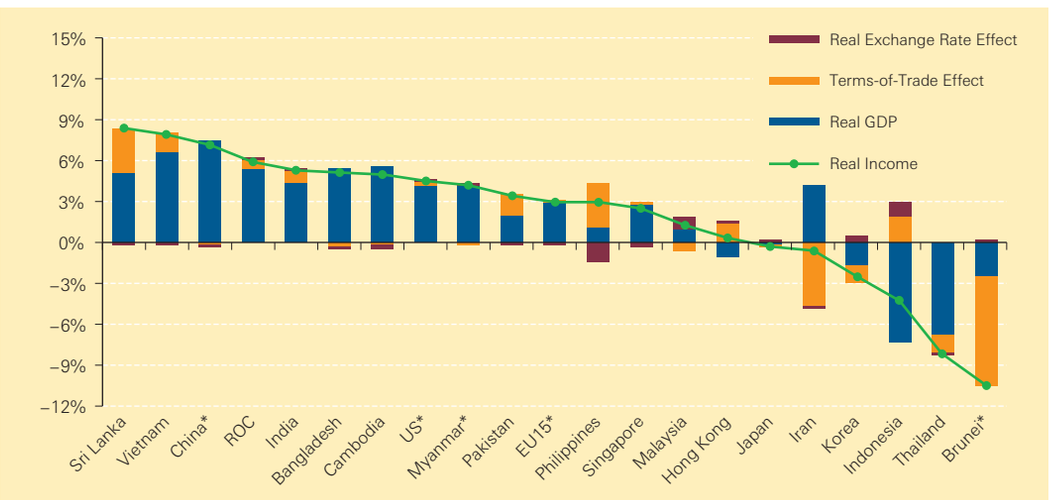

Figure 20: Decomposition of Real Income Growth, 1996–1998

oil-exporting countries, such as Iran and Indonesia, and worsened the terms of trade for oil-importing countries (Figure 19). Both the terms-of-trade effect and real exchange rate effect were particularly pronounced in Iran and Brunei. During the Asian financial crisis the terms-of-trade effect was still the predominant factor in deciding the difference between real income growth and real GDP growth. In Brunei the terms-of-trade effect further reinforced the negative real GDP growth of −2.5 per cent, reducing its real income growth by a further 7.9 percentage points. In Iran it was big enough to counterbalance the positive real GDP growth of 4.1 per cent, resulting in a slight fall in real income. In the Philippines the strong favorable terms-of-trade effect was moderated by the negative real exchange rate effect, with the resulting real income growth more than doubling the real GDP growth (Figure 20).[38]

38 Kohli (2006) calculated trading gain, the terms-of-trade effect and real exchange rate effect of Canada during 1982–2005. Average annual trading gain over the entire period is very low, at 0.1 per cent. This is small by the standard of Asian economies. However, trading gain became significant, especially for the three years of 2002–2005. Over these years the average trading gain is 1.6 per cent per year. This effect is decomposed into a terms-of-trade effect of 1.4 per cent and real exchange rate effect of −0.1 per cent.

Box 8: Terms of Trade and Productivity as Sources of Real Income Growth

In Chapter 5, the growth of real income defined by per capita GDP is attributed to two growth components: real GDP and trading gain. Nomura, Mizobuchi and Myung (2010) use per capita gross national income (GNI), which is defined as GDP plus net income transfer from abroad, as a measure of real income, and decompose the growth of per capita GNI into five sources: labor productivity growth, improvement in terms of trade, employment rate effect, output price effect and net income transfer from abroad.

Table B8 presents the estimates of the average annual growth rate in per capita real income (i.e. GNI) and its sources for the 19 Asian countries and the US and EU15 as reference economies for the period 1970–2007. In the long-run estimates covering the past three-and-a-half decades, the main engine to enhance per capita real income growth is an improvement in labor productivity for most Asian countries. China records the highest growth rate of real income among these countries. The improvement in labor productivity contributes 94.6 per cent of the 7.6 per cent annual growth of per capita real income in China. In the ROC and Korea labor productivity growth contributes 98.2 per cent and 92.7 per cent of the 5.3 per cent and 5.2 per cent annual growth of per capita real income. The contribution of labor productivity to real income growth is over 80 per cent in 10 out of the 19 Asian countries, and over 60 per cent in all countries except two. Net income transfer plays a relatively large role for Bangladesh and the Philippines, explaining around 16 per cent of the 1.7 per cent and 1.2 per cent per capita real income growth in the Philippines and Bangladesh respectively.

Figure B8 focuses on the changes in labor productivity on the *x*-axis and terms-of-trade effect on the *y*-axis as the two major engines to enhance real income growth during 1970–2007. The size of the bubbles reflects the size of per capita real income increase during this period. In contrast to the large role of labor productivity in enhancing real income growth, the impact of the change in terms of trade is modest or negative in most Asian countries. The terms of trade deteriorate on average during this period in 10 of 19

Table B8: Sources of Real Income by Country, 1970–2007

	Per Capita Real Income						Per Capita Real GDP	Population
		Labor Productivity	Terms of Trade	Output Price Effect	Employment Rate	Net Primary Income from Abroad		
East Asia								
China*	7.61	7.19	0.00	0.02	0.53	–0.14	7.72	1.29
ROC	5.29	5.20	–0.60	–0.38	1.00	0.08	6.19	1.20
Hong Kong	4.68	3.66	0.29	0.01	0.63	0.10	4.28	1.51
Japan	1.95	2.61	–0.30	–0.36	–0.09	0.09	2.52	0.55
Korea	5.17	4.79	–0.41	–0.47	1.28	–0.03	6.07	1.13
South East Asia								
Brunei*	2.33	–0.87	2.27	0.06	0.87	n.a.	0.00	2.46
Cambodia	6.36	4.37	–0.10	–0.02	2.11	0.00	6.48	2.12
Indonesia	4.83	3.06	0.84	0.29	0.71	–0.06	3.77	1.76
Malaysia	4.49	3.41	0.45	–0.05	0.69	–0.02	4.10	2.42
Myanmar*	3.14	3.23	0.01	–0.50	0.40	0.00	3.63	1.49
Philippines	1.66	1.24	–0.25	–0.17	0.57	0.28	1.80	2.37
Singapore	5.04	3.34	0.20	0.25	1.46	–0.23	4.81	2.14
Thailand	4.20	4.43	–0.46	–0.35	0.67	–0.09	5.10	1.46
Vietnam	6.50	5.68	–0.45	0.14	0.91	0.22	6.59	1.48
South Asia								
Bangladesh	1.25	1.42	–0.22	–0.36	0.20	0.20	1.62	2.19
India	3.32	2.39	0.07	0.18	0.68	0.00	3.06	1.95
Pakistan	2.15	2.12	–0.24	0.22	0.00	0.05	2.12	2.67
Sri Lanka	3.76	3.25	–0.25	0.26	0.51	0.00	3.76	1.31
West Asia								
Iran	2.23	–0.31	1.51	0.50	0.48	0.03	0.18	2.42
Reference								
US	1.80	1.47	–0.07	–0.14	0.52	0.03	1.98	1.04
EU15	1.96	1.76	–0.02	–0.08	0.30	0.00	2.06	0.38

Unit: Percentage.
Note: The average annual growth rate of per capita real income is estimated based on the data during 1970–2007. The starting years for some countries are different due to data availability: Bangladesh (1973–), Brunei (1989–), Cambodia (1993–), Iran (1973–), Myanmar (1977–) and Vietnam (1990–). The countries with "*" represent the non-member countries in Asia.

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Asian countries and lead the negative contributions, ranging from −0.1 per cent per year in Cambodia to −0.6 per cent in the ROC during 1970–2007. Many Asian countries have achieved growth in per capita real income regardless of deterioration or modest improvement in terms of trade.

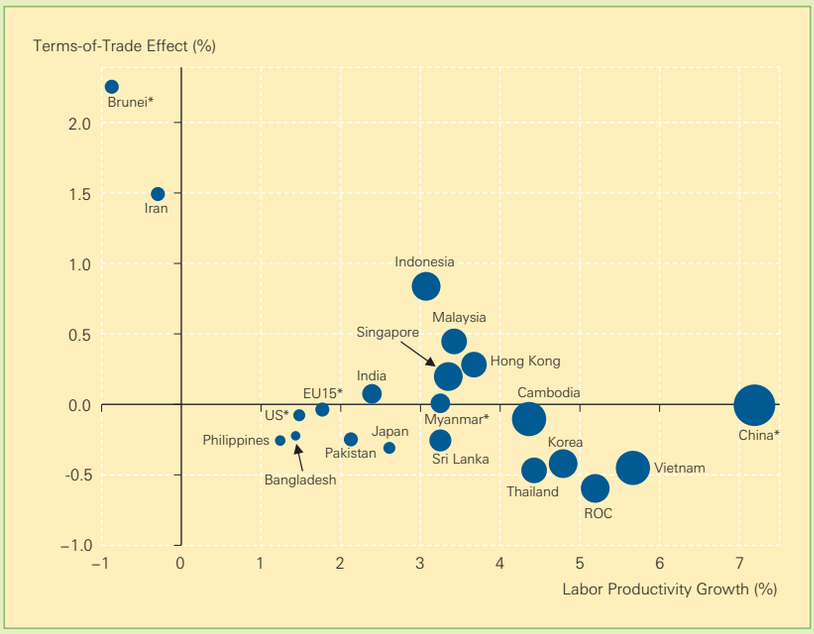

Figure B8: Labor Productivity and Terms-of-Trade Effect, 1970–2007

6. Productivity Performance

Labor utilization and labor productivity together determine per capita GDP.[39] Other things being equal, increasing employment and improving labor productivity could present a policy trade-off in the short term, i.e. they cannot be achieved simultaneously. If the policy target is to increase employment, productivity may suffer in the short term as marginal and less-productive workers are recruited, bringing down the average productivity performance. The huge labor productivity gap between Asia and the US we observe in this chapter should therefore be considered in the context of the generally high employment rate in Asia.

6.1 Labor Utilization

Figure 21 shows cross-country comparisons of employment rates. Three countries – China, Singapore and Cambodia – lead the Asian group with employment rates of 0.58, which was 13.9 per cent and 26.1 per cent higher than the US and EU15 respectively in 2007. Two other economies also had employment rates above the US rate of 0.51 – Thailand (0.57) and marginally Vietnam.

Figure 22 charts Asian countries' employment rates relative to that of the US under the same groupings used in Table 5 in Section 3.2.[40] It is clear that Group-C1 countries (Figure 22.1), which have the fastest catch-up speed in per capita GDP against the US, have also had high and rising relative employment rates among the Asian countries in the past four decades. Although the trend of a rising employment rate was not observed for China, its rate has always stayed above the group of countries that have the highest employment rate in the region.[41] Group-C2 countries (Figure 22.2) have the second-highest relative employment rate as a group. Countries in this group have high employment rates, although the clear trend of a rising employment rate in the long run was rarely observed. Most of the countries have employment rates that are more than 80 per cent of the US level. Thailand has an employment rate higher than the US level; Sri Lanka started a little less than 60 per cent in 1990, but has been catching up with other countries in this group over the past 17 years.

Countries in Group-C3 have widespread relative employment rates, ranging from 60 per cent to just over 100 per cent of US rates in 2007 (Figure 22.3). Japan and the EU15 are different from the other economies in this group, in that they are in the

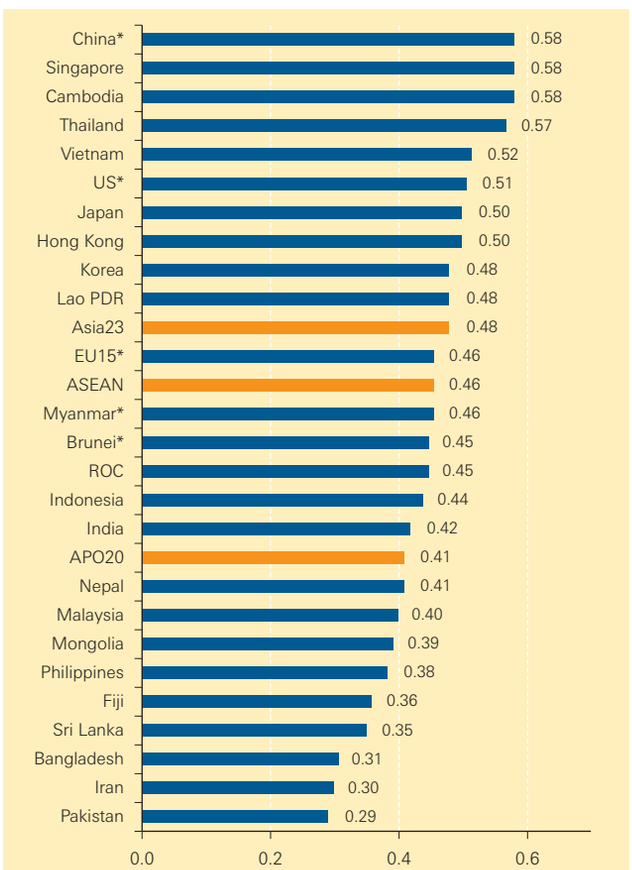

Figure 21: Employment Rates, 2007

39 Due to data constraints, labor utilization is measured as the number of workers relative to the population (termed the employment rate in this report), to ensure consistency with the definition of labor productivity (i.e. GDP per worker) that is measured in all APO member countries, although it is frequently defined as hours worked per capita (OECD, 2008). In Section 6.2 we provide labor productivity measures based on hours worked for 14 countries. Also, in computation of TFP in Section 6.3, hours-worked data are used for the eight Asian countries covered.

40 Relative employment rate is measured as countries' employment rate divided by the US employment rate in Figure 22.

41 China's employment rate has been the highest in Asian countries since 1982.

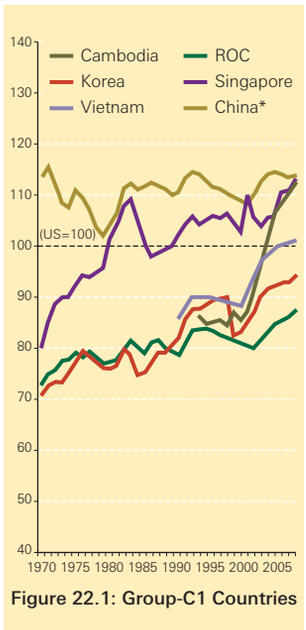

Figure 22.1: Group-C1 Countries

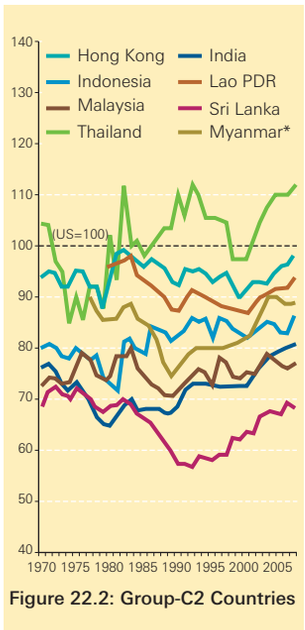

Figure 22.2: Group-C2 Countries

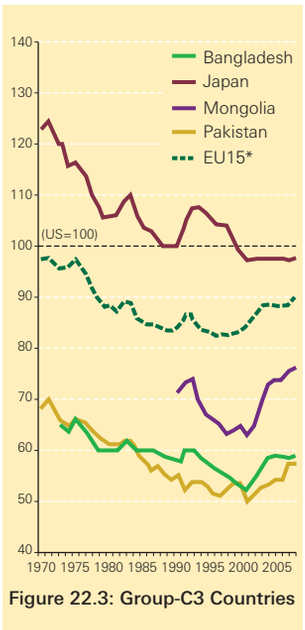

Figure 22.3: Group-C3 Countries

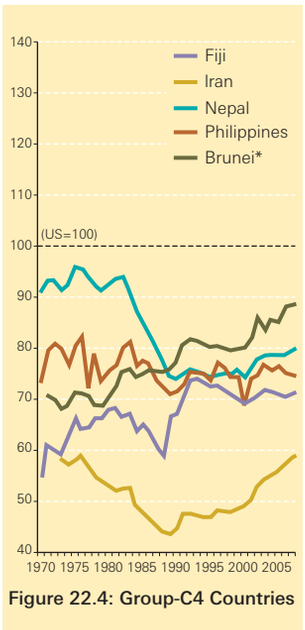

Figure 22.4: Group-C4 Countries

Figure 22: Employment Rates Relative to the US, 1970–2007
—Indices of employment rate (US=100)

high-income group and their employment rates have been relatively high. Japan's employment rate sees a clear declining trend over the past four decades, but it has stabilized in recent years at a similar level to that in the US. The employment rate of the EU15 had been below that of the US since the mid-1980s, but since 2000 it has improved and is gradually closing the gap with the US. The employment rates of Bangladesh, Pakistan and Mongolia were trending downwards initially, starting from a much lower level than the US. But, similar to the EU15, employment has strengthened in these three countries since 2000, reaching around 60 per cent of the US level for Bangladesh and Pakistan in 2007. The corresponding figure for Mongolia was 76.6 per cent.

All countries in Group-C4 had employment rates below that of the US, ranging from 80 per cent to just under 100 per cent. Iran is the exception with the lowest employment rate in the pack, which reached a trough of just under 45 per cent of the US level in the late 1980s and is only gradually returning to its 1970s' level of just below 60 per cent. Figure 22.4 confirms that most of this negative catch-up rate in per capita GDP is explained by labor productivity performance and not employment rates, which were similar to the countries in Group-C2. For Fiji, Nepal and the Philippines, employment rates contributed 13.9 per cent, 6.4 per cent and 10.2 per cent to their per capita GDP gap against the US, respectively (Figure 6). In contrast, the employment rate explained 29.7 per cent of Iran's per capita GDP gap with the US in 2007. Brunei is the only country whose per capita GDP is higher than the US. Its employment rate, which is lower than the US level, indicates that its labor productivity is large enough to compensate for the negative gap in employment rate against the US.

6.2 Labor Productivity

Labor productivity can be measured in a number of ways. The preferred measure is GDP per actual hour worked, which adjusts for different work patterns across countries and across time.[42] However, total actual hours worked cannot be constructed for all of the countries studied. To include all countries, therefore, the standard labor productivity measure used in this report is in terms of GDP per worker, which tends to favor countries with longer working hours in the comparisons, other things being equal. To the extent that the high-performing Asian countries tend to work longer hours than the US on

42 GDP is valued at basic prices in Sections 6.2 and 6.3, as opposed to GDP at market prices used in the previous chapters. GDP at basic prices is defined as GDP at market prices minus net indirect taxes on products. Since it reflects prices actually paid and received by the producer, it is more relevant to the productivity comparisons. Although most Asian countries do not provide the official estimates for GDP at basic prices in their national accounts, they are calculated based on available tax data. See Box 3 for the methods employed for our calculations.

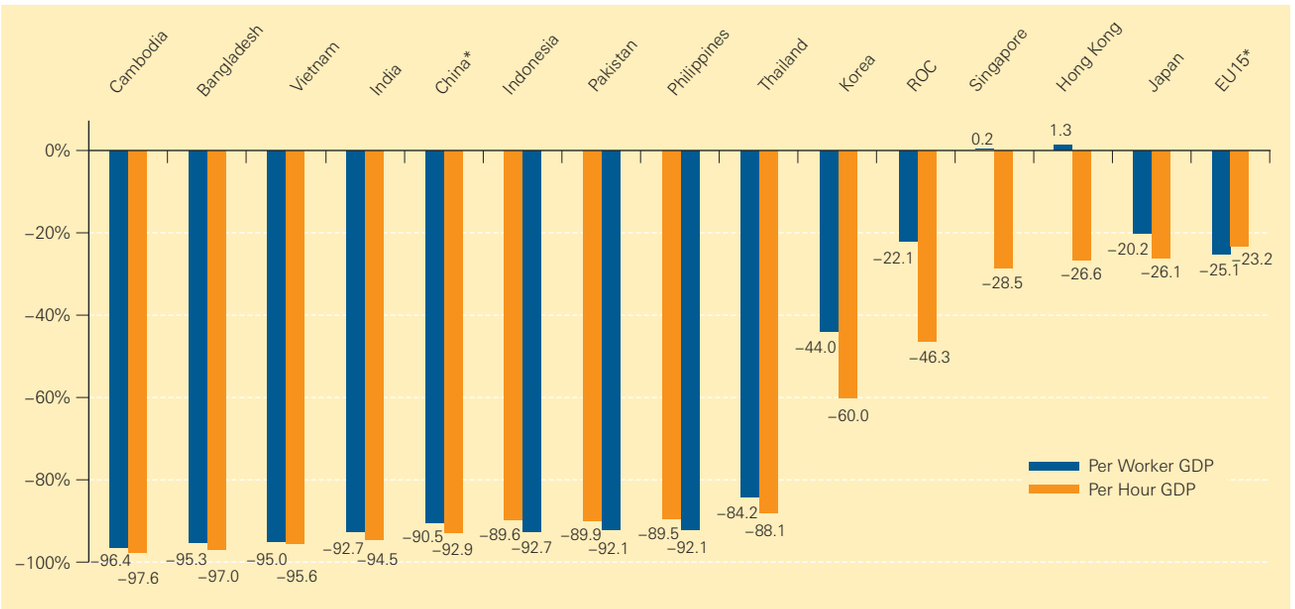

Figure 23: Labor Productivity Gap by Per-worker and Per-hour GDP with Respect to the US, 2007
—GDP at constant basic prices per worker and hour, using the 2005 PPPs

average, their labor productivity gaps presented in this report are probably conservative estimates.

Figure 23 shows how the productivity gap against the US varies depending on which measure of labor productivity is used. Total hours worked are constructed for 15 countries and the US, although the quality of the estimates may vary across countries.[43] In Figure 23 there is little difference in the productivity gap between the two measures of labor productivity for 10 out of the 15 countries presented, whereas they make a bigger difference for countries with high performance. The labor productivity gap against the US is wider on the GDP-per-hour measure by more than 16 per cent for the ROC, Hong Kong, Korea and Singapore, suggesting that they work much longer hours than the US.

Table 8 presents cross-country comparisons of labor productivity levels, measured as GDP per hour worked, in 1995, 2000, 2006 and 2007. The levels of labor productivity for the top five countries are significantly higher than those of other countries. For almost two decades the top five countries did not lose their relative positions, although within this top group Singapore, the ROC and Korea were closing up on the region's leaders, Japan and Hong Kong. There are countries where the difference relative to the Asian leaders becomes slightly wider: Indonesia, Pakistan and Thailand. The relative performances of India and Vietnam have improved by 2–3 per cent of the leaders' level. This reflects their high growth rate in labor productivity (Table 9). China sustained the highest growth since 1990 and India's growth rate has been the second highest in the 2000s. US labor productivity is well above the top Asian country. There is always a gap of more than 30 per cent in labor productivity between the US and the Asian leader. On the other hand, the EU15 seems to be losing its position relative to Asian countries.

Figure 24 shows the cross-country comparisons of labor productivity in 2007, measured as GDP per worker in order to cover all APO member countries. These figures are discussed, with the US level serving as the benchmark (= 100). Brunei, an economy which is heavily dependent on the oil and energy sector, is the only country that achieved labor productivity significantly higher than the US – by 47 per cent. Singapore and Hong Kong are just above the US. Japan and the ROC took fourth and fifth places among the Asian group, with productivity levels which were 20.2 and 22.1 per cent below that of the US. Korea followed, with a gap of 44.0 per cent. Iran and Malaysia achieved productivity levels of 47.6 per cent and 42.7 per cent of the US level respectively. Thereafter the Asian group displayed a long tail of countries with labor productivity levels of less than 20 per cent that of the US, pulling down the average performance of the group

43 The labor productivity gap for country *x* is country *x*'*s* labor productivity divided by the US labor productivity in Figure 23. See Box 9 for an explanation of the estimation procedure of total hours worked.

Table 8: Cross-country Comparisons of Labor Productivity Levels, 1995, 2000, 2006 and 2007
—GDP at constant basic prices per hour, using the 2005 PPPs

1995			2000			2006			2007		
Japan	27.4	(100.0)	Japan	30.4	(100.0)	Japan	34.3	(100.0)	Japan	35.0	(100.0)
Hong Kong	26.8	(97.6)	Hong Kong	27.1	(89.1)	Hong Kong	33.7	(98.0)	Hong Kong	34.7	(99.2)
Singapore	24.4	(88.9)	Singapore	26.7	(88.0)	Singapore	33.5	(97.5)	Singapore	33.8	(96.7)
ROC	16.1	(58.8)	ROC	20.8	(68.5)	ROC	24.4	(71.2)	ROC	25.4	(72.7)
Korea	11.6	(42.3)	Korea	14.0	(46.3)	Korea	17.9	(52.2)	Korea	18.9	(54.1)
Thailand	4.6	(16.6)	Thailand	4.6	(15.1)	Thailand	5.4	(15.8)	Thailand	5.6	(16.1)
Pakistan	3.1	(11.4)	Pakistan	3.2	(10.7)	Philippines	3.6	(10.5)	Philippines	3.8	(10.8)
Indonesia	3.0	(10.9)	Philippines	3.2	(10.5)	Pakistan	3.6	(10.4)	Pakistan	3.7	(10.6)
Philippines	2.8	(10.3)	Indonesia	2.8	(9.1)	Indonesia	3.5	(10.1)	Indonesia	3.5	(9.9)
India	1.6	(6.0)	India	1.8	(6.1)	China*	3.0	(8.8)	China*	3.4	(9.6)
China*	1.3	(4.7)	China*	1.8	(6.0)	India	2.4	(7.1)	India	2.6	(7.5)
Vietnam	1.2	(4.4)	Vietnam	1.4	(4.7)	Vietnam	1.9	(5.7)	Vietnam	2.1	(5.9)
Bangladesh	1.1	(4.2)	Bangladesh	1.4	(4.7)	Bangladesh	1.4	(4.0)	Bangladesh	1.4	(4.1)
Cambodia	0.8	(2.8)	Cambodia	0.8	(2.8)	Cambodia	1.1	(3.1)	Cambodia	1.1	(3.2)
(reference)			(reference)			(reference)			(reference)		
US	36.6	(133.5)	US	40.9	(134.8)	US	46.7	(136.2)	US	47.3	(135.3)
EU15	30.6	(111.7)	EU15	33.4	(109.9)	EU15	35.9	(104.5)	EU15	36.3	(103.9)

Unit: US dollars at constant basic prices, using the 2005 PPPs, percentage in parentheses.
Note: The countries with "*" represent the non-member countries in Asia.

Table 9: Cross-country Comparisons of Labor Productivity Growth, 1990–1995, 1995–2000, 2000–2005 and 2005–2007
—Average annual growth rate of GDP at constant basic prices per hour, using the 2005 PPPs

1990–1995		1995–2000		2000–2005		2005–2007	
China*	10.6	China*	7.1	China*	8.1	China*	10.3
Thailand	8.3	ROC	5.1	Vietnam	5.1	India	6.7
Indonesia	5.9	Bangladesh	4.2	India	4.3	Vietnam	5.4
Cambodia	5.5	Korea	3.8	Cambodia	4.0	Cambodia	5.2
Korea	5.3	Vietnam	3.3	Korea	4.0	Philippines	4.9
Singapore	5.2	Philippines	2.4	Singapore	3.7	Korea	4.8
ROC	5.2	India	2.2	Indonesia	3.7	Hong Kong	4.6
Hong Kong	4.6	Japan	2.0	Hong Kong	3.1	Thailand	3.6
Vietnam	4.3	Singapore	1.8	ROC	2.7	ROC	3.4
India	3.0	Cambodia	1.7	Thailand	2.6	Singapore	2.6
Pakistan	3.0	Pakistan	0.7	Pakistan	2.2	Indonesia	2.1
Bangladesh	2.5	Hong Kong	0.2	Japan	2.2	Bangladesh	1.9
Japan	2.1	Thailand	0.1	Philippines	1.3	Japan	1.5
Philippines	0.2	Indonesia	–1.6	Bangladesh	–0.4	Pakistan	1.1
(reference)		(reference)		(reference)		(reference)	
US	1.5	US	2.2	US	2.5	US	1.1
		EU15	1.7	EU15	1.2	EU15	1.2

Unit: Percentage.
Note: The annual average growth rates for Cambodia and Vietnam during 1990–1995 are their annual average growth over 1993–1995 because of the lack of hours-worked data. The countries with "*" represent the non-member countries in Asia.

to 16.7 per cent for the APO20, 13.4 per cent for the Asia23 and 11.7 per cent for ASEAN. Included in the long tail were China and India, with productivity levels that were 9.5 per cent and 5.0 per cent of the US level, respectively.

Table 10 presents cross-country comparisons of labor productivity levels in 1995, 2000, 2006 and 2007. In the past decade Asia as a group achieved little change in its labor productivity relative to that of the US, hovering around 11–13 per cent for the Asia23 and 16–18 per cent for the APO20. Brunei's labor productivity has been always the highest in Asia, and above the US level. Its lead over the US has been narrowing, however, from 116.4 per cent in 1995 to 47.2 per cent in 2007. Japan's labor productivity was the second highest in this region until 1991, when both Singapore and Hong Kong caught up and overtook it thereafter. In 1995 Singapore sustained a productivity gap of 8.5 per cent with the US, but by 2007 the gap was reduced to −0.2 per cent. The productivity level of Hong Kong and Singapore has been similar in the past decade.

Comparing the new data for 2007 with 2006 shows that productivity was little changed between the two years, stressing the structural nature of productivity performance, which requires medium- to long-term effort to make statistically significant improvements. In the past decade the top nine countries did not lose their relative positions, although the Asian leaders have been closing up on the region's leader, Brunei, and Japan. China and India, the two giant and fast-emerging economies in Asia, started off with similar labor productivity in 1995; but, one decade later, China is showing signs of pulling ahead of India. China's relative performance moved up from 2.1 per cent to 6.4 per cent of the leader's level between 1995 and 2007, while India managed to move up from 2.6 per cent to 4.9 per cent over the same period. Not only has China been sustaining rapid productivity growth in Asia in the past decade, but its growth accelerated to an average of 10.3 per cent a year in 2005–2007 from 7.1 per cent a year in 1995–2000 and 8.1 per cent a year in 2000–2005 (Table 11). This compares with India's 6.7 per cent, 3.1 per cent and 4.1 per cent, and Singapore's 2.6 per cent, 1.9 per cent and 3.7 per cent, over the same periods. As a group, the Asia23 achieved the highest labor productivity growth in recent years, reaching 5.4 per cent on average a year in 2005–2007, up from 3.6 per cent in 2000–2005. In contrast, average annual productivity growth in the US slowed from 2.1 per cent between 2000 and 2005 to 1.1 per cent between 2005 and 2007, i.e. back to the growth rate of the early 1990s.

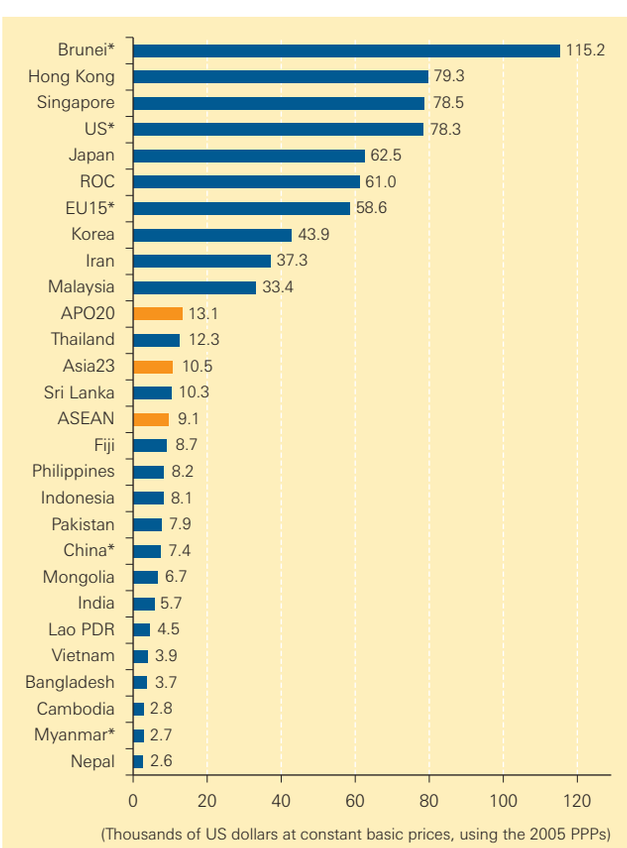

Figure 24: Labor Productivity Level, 2007
—GDP at constant basic prices per worker, using the 2005 PPPs

Among the remaining countries, Indonesia's relative position worsened immediately after the Asian financial crisis; the performance of Nepal and Pakistan has also deteriorated during the periods compared. Looking at the productivity growth rates suggests that Indonesia bounced back strongly after the crisis, from an average of −1.5 per cent a year between 1995 and 2000 to 3.8 per cent between 2000 and 2005, whereas Nepal shifted from a mediocre average annual productivity growth of 1.6 per cent to 0.5 per cent between the two periods.

Figure 25 shows labor productivity level relative to the US (= 100) for the Asian countries. The same grouping as in Section 3.2, based on the speed of catch-up with the US in per capita GDP, is used here. Broadly speaking, countries that are catching up fast with the US in per capita GDP (Group-C1) are also fast catching up in labor productivity (Figure 25.1). Similarly, countries with deteriorating relative per capita GDP (Group-C4) are also found to be deteriorating against the US in labor productivity (Figure 25.4).

In Figure 25.1 we see two subgroups in Group-C1 countries. The first is made up of the ROC, Korea and Singapore, which started at relatively high

Table 10: Cross-country Comparisons of Labor Productivity Levels, 1995, 2000, 2006 and 2007
—GDP at constant basic prices per worker, using the 2005 PPPs

1995			2000			2006			2007		
Brunei*	133,422	(100.0)	Brunei*	122,301	(100.0)	Brunei*	116,717	(100.0)	Brunei*	115,234	(100.0)
Hong Kong	59,895	(44.9)	Singapore	61,927	(50.6)	Singapore	77,601	(66.5)	Hong Kong	79,290	(68.8)
Singapore	56,450	(42.3)	Hong Kong	61,782	(50.5)	Hong Kong	76,357	(65.4)	Singapore	78,461	(68.1)
Japan	51,387	(38.5)	Japan	55,308	(45.2)	Japan	61,236	(52.5)	Japan	62,451	(54.2)
ROC	40,401	(30.3)	ROC	51,074	(41.8)	ROC	58,726	(50.3)	ROC	60,990	(52.9)
Iran	31,032	(23.3)	Korea	35,399	(28.9)	Korea	42,237	(36.2)	Korea	43,858	(38.1)
Korea	29,559	(22.2)	Iran	31,984	(26.2)	Iran	36,257	(31.1)	Iran	37,301	(32.4)
Malaysia	25,570	(19.2)	Malaysia	26,698	(21.8)	Malaysia	32,241	(27.6)	Malaysia	33,396	(29.0)
Thailand	10,002	(7.5)	Thailand	10,067	(8.2)	Thailand	11,949	(10.2)	Thailand	12,350	(10.7)
Fiji	7,692	(5.8)	Fiji	8,279	(6.8)	Sri Lanka	9,590	(8.2)	Sri Lanka	10,344	(9.0)
Sri Lanka	7,540	(5.7)	Sri Lanka	8,201	(6.7)	Fiji	9,441	(8.1)	Fiji	8,675	(7.5)
Pakistan	6,948	(5.2)	Pakistan	7,076	(5.8)	Indonesia	7,997	(6.9)	Philippines	8,206	(7.1)
Indonesia	6,893	(5.2)	Philippines	7,020	(5.7)	Philippines	7,759	(6.6)	Indonesia	8,125	(7.1)
Philippines	6,216	(4.7)	Indonesia	6,383	(5.2)	Pakistan	7,626	(6.5)	Pakistan	7,943	(6.9)
Mongolia	4,537	(3.4)	Mongolia	5,145	(4.2)	China*	6,675	(5.7)	China*	7,413	(6.4)
India	3,449	(2.6)	India	4,037	(3.3)	Mongolia	6,129	(5.3)	Mongolia	6,663	(5.8)
Lao PDR	2,810	(2.1)	China*	4,012	(3.3)	India	5,295	(4.5)	India	5,680	(4.9)
China*	2,808	(2.1)	Lao PDR	3,363	(2.7)	Lao PDR	4,322	(3.7)	Lao PDR	4,498	(3.9)
Bangladesh	2,512	(1.9)	Bangladesh	3,053	(2.5)	Vietnam	3,668	(3.1)	Vietnam	3,904	(3.4)
Nepal	2,240	(1.7)	Vietnam	2,715	(2.2)	Bangladesh	3,507	(3.0)	Bangladesh	3,656	(3.2)
Vietnam	2,207	(1.7)	Nepal	2,431	(2.0)	Cambodia	2,636	(2.3)	Cambodia	2,801	(2.4)
Cambodia	1,741	(1.3)	Cambodia	2,069	(1.7)	Myanmar*	2,625	(2.2)	Myanmar*	2,695	(2.3)
Myanmar*	1,054	(0.8)	Myanmar*	1,408	(1.2)	Nepal	2,516	(2.2)	Nepal	2,581	(2.2)
(regrouped)			(regrouped)			(regrouped)			(regrouped)		
Asia23	6,971	(5.2)	Asia23	7,849	(6.4)	Asia23	9,877	(8.5)	Asia23	10,458	(9.1)
APO20	10,986	(8.2)	APO20	11,414	(9.3)	APO20	12,672	(10.9)	APO20	13,105	(11.4)
ASEAN	7,082	(5.3)	ASEAN	7,260	(5.9)	ASEAN	8,850	(7.6)	ASEAN	9,149	(7.9)
(reference)			(reference)			(reference)			(reference)		
US	61,660	(46.2)	US	68,807	(56.3)	US	77,356	(66.3)	US	78,295	(67.9)
EU15	51,567	(38.6)	EU15	54,920	(44.9)	EU15	57,935	(49.6)	EU15	58,627	(50.9)

Unit: US dollars at constant basic prices, using the 2005 PPPs, percentage in parentheses.
Note: The countries with "*" represent the non-member countries in Asia.

levels and made most progress in closing the productivity gap with the US. Singapore has closed the productivity gap with the US from over 50 per cent in 1970 to almost zero in 2004. Although the ROC and Korea still have a sizeable gap of 20 per cent and 40 per cent, respectively, against the US, they started with a much bigger gap than Singapore – over 80 per cent in 1970. The second group is made up of China, Cambodia and Vietnam, all of which had productivity levels below 3 per cent of that of the US even in around 1990. All these countries show signs of a strong and promising start in their catch-up process in the past decade. The growth of their productivity did not deteriorate during the Asian financial crisis.

Figure 25.2 shows the performance of Group-C2 countries, which managed an annual catch-up rate of 1 per cent to under 3 per cent in per capita GDP against that of the US. Hong Kong and Malaysia had the highest and second-highest relative income as well as labor productivity in this group. During the period 1970–2007, Hong Kong's relative labor productivity improved from 41.7 per cent to 101.3 per cent against that of the US and Malaysia's improved from 20.8 per cent to 42.6 per cent. Like Thailand and Indonesia, the catch-up efforts of Hong Kong and Malaysia were frustrated by the Asian financial crisis of the late 1990s, but their relative productivity levels have already surpassed their previous peaks in 2005 for Hong Kong and in 2006 for Malaysia. The

Table 11: Cross-country Comparisons of Labor Productivity Growth, 1990–1995, 1995–2000, 2000–2005 and 2005–2007
—Average annual growth rate of GDP at constant basic prices per worker, using the 2005 PPPs

1990–1995		1995–2000		2000–2005		2005–2007	
China*	10.6	China*	7.1	Myanmar*	10.2	China*	10.3
Thailand	8.3	Myanmar*	5.8	China*	8.1	Myanmar*	6.9
Indonesia	6.5	ROC	4.7	Vietnam	4.8	India	6.7
Malaysia	6.4	Vietnam	4.1	India	4.1	Cambodia	6.3
Vietnam	5.6	Bangladesh	3.9	Lao PDR	4.0	Mongolia	6.2
Singapore	5.2	Korea	3.6	Indonesia	3.8	Vietnam	6.1
ROC	5.1	Lao PDR	3.6	Singapore	3.7	Sri Lanka	5.2
Korea	5.1	Cambodia	3.5	Cambodia	3.5	Philippines	5.0
Cambodia	4.2	India	3.1	Hong Kong	3.3	Lao PDR	4.7
Sri Lanka	4.1	Mongolia	2.5	Malaysia	3.1	Hong Kong	4.3
Hong Kong	3.7	Philippines	2.4	Korea	2.8	Bangladesh	4.2
Myanmar*	3.5	Singapore	1.9	Mongolia	2.7	Korea	3.8
Pakistan	3.5	Sri Lanka	1.7	Thailand	2.6	Thailand	3.6
Lao PDR	3.4	Nepal	1.6	Sri Lanka	2.6	Malaysia	3.5
Bangladesh	2.9	Fiji	1.5	ROC	2.2	ROC	3.4
Nepal	2.4	Japan	1.5	Fiji	2.0	Iran	2.7
India	2.1	Malaysia	0.9	Iran	2.0	Indonesia	2.7
Iran	1.9	Hong Kong	0.6	Pakistan	1.9	Singapore	2.6
Japan	0.6	Iran	0.6	Bangladesh	1.9	Japan	1.7
Fiji	0.3	Pakistan	0.4	Japan	1.7	Nepal	1.7
Brunei*	−0.3	Thailand	0.1	Philippines	1.1	Pakistan	0.9
Philippines	−0.4	Indonesia	−1.5	Nepal	0.5	Brunei*	−1.7
Mongolia	−1.3	Brunei*	−1.7	Brunei*	−0.5	Fiji	−2.8
(regrouped)		(regrouped)		(regrouped)		(regrouped)	
Asia23	3.6	Asia23	2.4	Asia23	3.6	Asia23	5.4
APO20	1.7	APO20	0.8	APO20	1.6	APO20	3.0
ASEAN	5.4	ASEAN	0.5	ASEAN	3.1	ASEAN	3.9
(reference)		(reference)		(reference)		(reference)	
US	1.5	US	2.2	US	2.1	US	1.1
EU15	1.8	EU15	1.3	EU15	0.8	EU15	1.2

Unit: Percentage.
Note: The annual average growth rate for Cambodia during 1990–1995 is its annual average growth over 1993–1995 because of the lack of final demand data. The countries with "*" represent the non-member countries in Asia.

relative productivity performance of the remaining six countries in this group has been increasing over a long period of time. While the earlier progress made by Thailand and Indonesia appears to have been stalled by the Asian financial crisis of 1997–1998, these countries are slowly recovering the lost ground.

Countries which have managed little catch-up with the US in per capita GDP (Group-C3) are also those with rather stagnant labor productivity. Japan is the only high-income country in this group, while the rest are all low-income countries with per capita GDP less than 10 per cent of that of the US. Japan showed strong catch-up in the earlier period, with relative labor productivity peaking at 87.6 per cent of that of the US in 1991, and since 2000 the subsequent decline has been halted at a productivity gap of around 20 per cent. Similarly the EU15, a reference economy with high income, has also seen its productivity gap widening against the US since the early 1990s. The low-income countries have managed little catch-up. The labor productivity level is below 11 per cent that of the US in Pakistan, Bangladesh and Mongolia (Figure 25.3).

Figure 25.4 shows that countries with declining per capita GDP against that of the US (Group-C4), namely Iran, Fiji, Nepal and the Philippines, also have declining relative labor productivity. Among

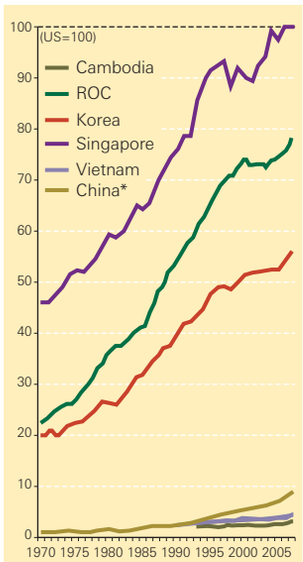

Figure 25.1: Group-C1 Countries

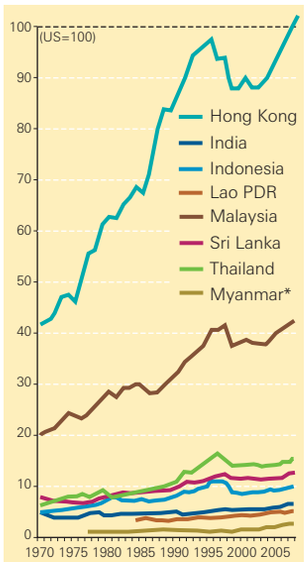

Figure 25.2: Group-C2 Countries

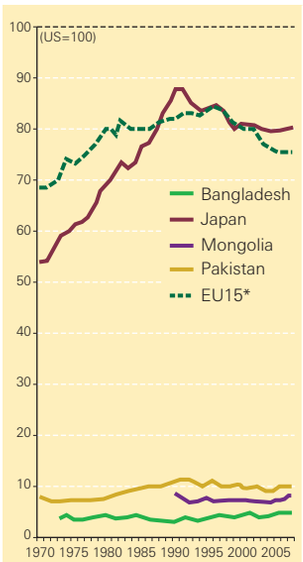

Figure 25.3: Group-C3 Countries

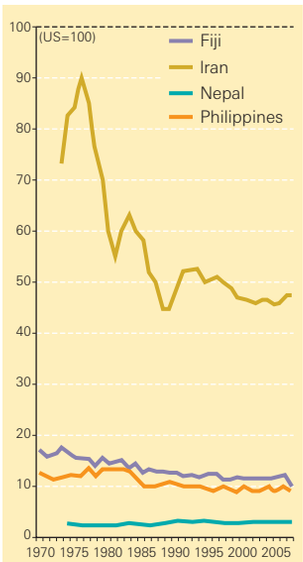

Figure 25.4: Group-C4 Countries

Figure 25: Labor Productivity Level Relative to the US, 1970–2007
—Indices of GDP at constant basic prices per worker, using the 2005 PPPs (US=100)

the countries of this group, Brunei[44] and Iran experienced a drastic decline. Brunei's relative labor productivity declined from its former peak of 452.7 per cent that of the US in 1974 to 147.2 per cent in 2007. Iran's relative labor productivity declined from its former peak of 73.2 per cent in 1973 to 47.6 per cent in 2007. Fiji's decline was from a peak of 17.5 per cent in 1970 to 11.1 per cent in 2007, and the corresponding figures for the Philippines were 13.0 per cent in 1970 to 10.5 per cent in 2007. Nepal has made a small improvement in its relative labor productivity performance of less than 0.4 per cent against that of the US during this period.

44 Brunei's labor productivity is excluded from Figure 25.4, since it is much higher than those of other countries in this group.

Box 9: Measuring Hours Worked

Hours worked are defined in this *Databook* as the economy-wide hours worked by employees and the self-employed. Japan and the US national accounts publish estimates of the annual hours worked per employee. For both countries, the economy-wide hours worked were estimated in this *Databook* by simply assuming annual per-worker hours worked are the same for employees and the self-employed.

Other Asian countries do not publish the hours worked in their national accounts. For Korea, the *Report on Monthly Labor Survey* publishes monthly hours worked per employee. The economy-wide annual hours worked in Korea are calculated from average monthly hours worked per worker and the number of workers. Monthly hours worked per worker are assumed to be the same for employees and the self-employed.

For other countries, economy-wide annual hours worked are calculated from average weekly hours worked as well as the number of workers. It is necessary to know the number of weeks worked per annum in order to calculate annual hours worked from weekly hours worked. Benchmark average annual hours worked from Craft (1999) and Maddison (1995) are used for our calculation. We utilize Craft's estimates only for Hong Kong and Singapore, which are not covered in Maddison (ibid.).

In simple terms, the procedure of constructing economy-wide annual hours worked consists of three steps for all the countries other than Japan, Korea and the US. First, we obtain average weekly hours worked and the number of workers from official statistics, such as the labor force survey. Secondly, from annual hours worked per worker in benchmark years available in Maddison (ibid.) and Craft (ibid.), we obtain the number of weeks worked in benchmark years. Thirdly, numbers of weeks worked are interpolated over non-benchmark years under the assumption of a constant growth rate. Multiplying the average hours worked by the number of workers gives economy-wide average weekly hours worked. Multiplying economy-wide average weekly hours worked by the number of weeks worked gives economy-wide annual hours worked.

Figure B9 presents a cross-country comparison of average annual hours worked per worker for 2000–2007, relative to the level of the US. It indicates that workers in the Asian countries tend to work much longer hours than those in the US and Europe. In many countries in our sample, the difference in annual hours worked per person relative to the US is more than 30 per cent of the US level. Prolonged working hours are observed in Asian countries regardless of their stage of development, spanning low-income countries such as Bangladesh and Cambodia to high-income countries such as the ROC and Singapore. Exceptions are Japan and Vietnam. Workers in both countries are likely to work much shorter hours than those in other Asian countries. However, compared with the US and EU15, hours worked by workers in Japan and Vietnam are still about 10 per cent longer.

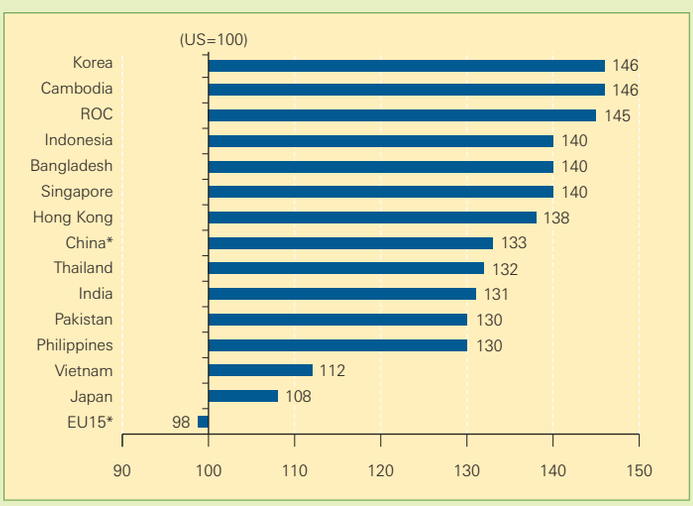

Figure B9: Average Annual Hours Worked Per Worker Relative to the US, 2000–2007

6.3 Total Factor Productivity

Labor productivity in Section 6.2 is only a one-factor or partial-factor productivity measure and does not provide a full perspective of production efficiency. An observation of low labor productivity could suggest production inefficiency, but it could also be a mere reflection of different capital intensities in the chosen production method under the relative labor-capital price faced by the economy concerned. By observing relative movements in labor productivity alone, it is not easy to distinguish which is the case. In populous Asian economies, which are relatively abundant in low-skilled labor, production lines may be deliberately organized in a way that utilizes this abundant, and hence relatively cheap, resource. It follows that the chosen production method is most likely to be (low-skilled) labor intensive with little capital, manifested in low labor productivity. This is why economists analyze total factor productivity (TFP), which is GDP per unit of combined inputs, to get a more complete picture of countries' production efficiency.[45]

The estimated results of the APO Productivity Database on capital services and TFP estimates were first reported in *Databook 2009*. The number of Asian countries covered has been expanded from the original four to eight in this edition. They are the ROC, Indonesia, Fiji, Japan, Korea, the Philippines, Thailand and China, for which the long-time investment data by type of asset are available or estimated. Their economic growth is decomposed into its sources from factor inputs and TFP based on the methodology developed by Jorgenson and Griliches (1967).[46] This report defines output as GDP at basic prices, and factor inputs as labor, IT capital and non-IT capital.[47] Labor input is measured by total hours worked (except for Fiji), without adjustments for changes in labor quality.[48]

Capital input is a key factor for measuring productivity, and is defined by capital services – the flow of services from productive capital stock.[49] The 1993 SNA recommends constructing the national balance-sheet account for current official national accounts, but this is still not a common practice in the national accounts of many Asian countries.[50] Even if estimates of net capital stocks are available for the whole economy, the assumptions and methodology can differ considerably among countries. As a result, harmonized estimates for productive capital stocks and capital services have been developed in the APO Productivity Database. In our methodology changes in the quality of capital are incorporated into the measurement of capital services in two ways: change in the composition is captured by explicitly differentiating assets into 10 types, and using an appropriate and harmonized deflator for IT capital to reflect the rapid quality change embodied in IT-related assets (see Box 10).

Cross-country comparisons of TFP growth for the eight Asian countries and the US are shown in Figure 26 for the periods 1970–2007, 1970–1990 and 1990–2007. Taking the whole period of estimation, Japan, Korea and Indonesia achieved productivity growth of 0.8–0.9 per cent on average per year, which was on a par with the US. The productivity growth in the ROC and Thailand nearly doubled that of the US, at 1.7 per cent. China is a high performer, achieving an average annual productivity growth of 2.9 per cent, whereas productivity performance in the Philippines and Fiji actually deteriorated over the same period by 0.4 per cent on average per year.[51]

Breaking down the long period into the shorter periods shows the fluctuations in countries' productivity

45 Different types of inputs and outputs are aggregated by using index numbers, and TFP is calculated as the output quantity index divided by the input quantity index. In this chapter, the Törnqvist index is used for aggregating labor and 10 types of capital inputs.

46 In measuring TFP, income generated from domestic production should be separated into labor compensation and returns to capital. The national accounts readily provide the estimates of labor compensation for employees as a component of value added; labor compensation for the self-employed is not separately estimated but is combined with returns to capital in *mixed income*. As a crude approximation in this *Databook*, we assume that the hourly wages for self-employed and family workers are 30 per cent of the hourly wage for employees, using the evidence in the studies for Japan by Kuroda et al. (1997), in order to measure total labor compensation. Note that this simplification is applied to all countries except China, where labor remuneration in the national accounts includes labor income for the self-employed (Holtz, 2006).

47 IT capital is defined as a composite asset of IT hardware (computers and copying machines), communications equipment and computer software.

48 The failure to take into account improvements in labor quality leads to TFP overestimation. The measurement of labor quality covering Asian countries is the next challenge for the APO Productivity Database.

49 The second edition of the *OECD Capital Manual* (OECD, 2009) provides a comprehensive framework for constructing prices and quantities of capital services.

50 Only half the APO member countries estimate balance-sheet accounts for the national economy (Nomura, Lau and Mizobuchi, 2008).

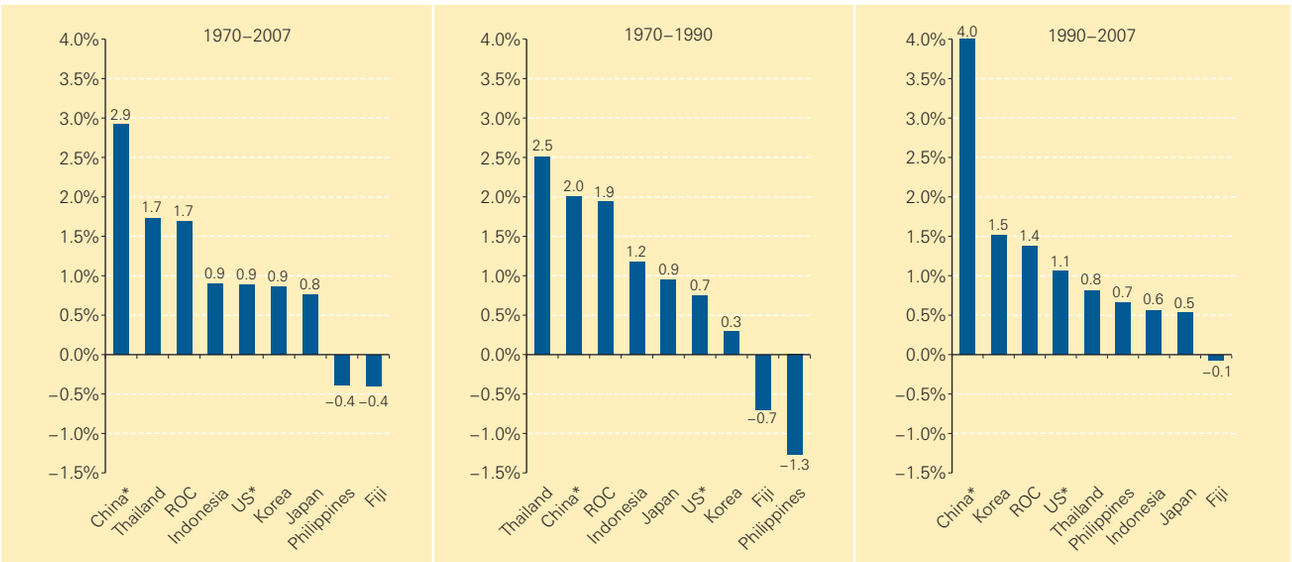

Figure 26: TFP Growth, 1970–2007

growth over time and the differences in movements across countries. For example, China's productivity growth accelerated from 2.0 per cent on average a year in the period 1970–1990 to 4.0 per cent between 1990 and 2007. Similarly, Korea's productivity growth improved from 0.3 per cent on average a year in the earlier period to 1.5 per cent since 1990. For other countries, productivity growth slowed, for example from 2.5 per cent to 0.8 per cent in Thailand and from 0.9 per cent to 0.6 per cent in Japan over the two periods.

Figure 27 and Table 12 present the sources of economic growth in the eight Asian countries during 1970–2007. During the whole period of estimation, Japan, Korea, Indonesia and the US achieved similar average annual TFP growth rates of 0.8–0.9 per cent, but its contribution to economic growth in each country varied. In Japan TFP growth explained 25 per cent of economic growth, while its main engine was an expansion of capital input, contributing about 76 per cent (10 per cent by IT capital and 66 per cent by non-IT capital) of the economic growth. In Korea TFP played a smaller role in economic growth, accounting for 13 per cent in the long run, whereas growth of capital services contributed 70 per cent (5 per cent by IT capital and 65 per cent by non-IT capital). Among all the countries compared, the contribution by TFP was the highest in China, at 34 per cent on average, whereas capital growth accounted for 55 per cent of economic growth, of which only 3 percentage points were from IT capital. In fact, the contribution of IT capital ranges from 3 per cent to 10 per cent among the Asian countries, compared with 15 per cent in the US.

According to our findings, TFP growth in the ROC is superior to Korea's experience over the whole period of estimation. The average annual TFP growth and TFP's contribution to economic growth in the ROC were 1.7 per cent (compared to 0.9 per cent in Korea) and 24 per cent (compared to 13 per cent) respectively during 1970–2007. While this is representative for most of the period, our findings suggest that the situation has been reversed in the more recent years. Between 2000 and 2007 TFP growth in Korea was 2.1 per cent a year on average, contributing 46 per cent to economic growth, compared with 0.8 per cent and 22 per cent respectively in the ROC. Our findings of discrepant TFP contributions in these two countries in the earlier periods are consistent with the estimates in some preceding studies. Young (1995) shows that TFP contributions to the non-agriculture economy's growth were 16.5 per cent in Korea and 27.7 per cent in the ROC during 1966–1990. The findings in Timmer and van Ark (2000) were 6.3 per cent in Korea and 12.8 per cent in the ROC for the period 1963–1996, based on their own estimates of capital services.

China's productivity performance has been outstanding in this period. The average TFP growth was 2.9 per cent per year during 1970–2007. This

51 Negative TFP growth for both countries is also observed in other studies. Baier, Dwyer and Tamura (2006) estimate the average annual growth rate of TFP of Fiji was −0.75 per cent during 1960–2000. Cororaton (2002) also shows that the average annual TFP growth of the Philippines was −1.09 per cent during 1970–2000.

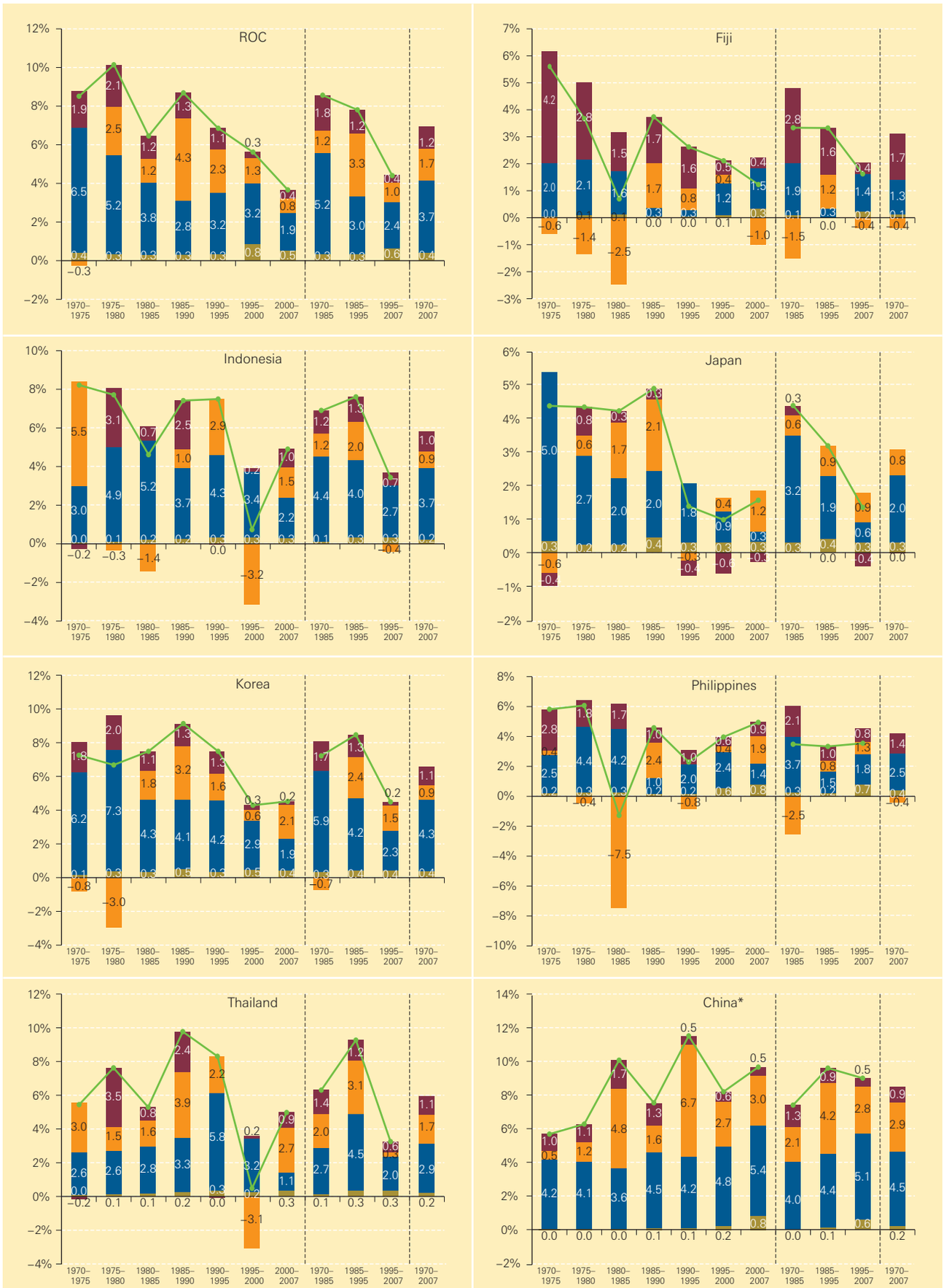

Figure 27: Sources of Economic Growth, 1970–2007

Table 12: Output Growth and Contributions of Labor, Capital and TFP, 1970–2007

		Output	Labor	Capital		TFP
				IT	Non-IT	
ROC	1970–1985	8.42	1.77 (21.0)	0.32 (3.8)	5.17 (61.4)	1.17 (13.8)
	1985–1995	7.82	1.22 (15.6)	0.32 (4.1)	3.01 (38.5)	3.26 (41.8)
	1995–2000	5.65	0.32 (5.7)	0.83 (14.7)	3.18 (56.3)	1.32 (23.3)
	2000–2007	3.70	0.43 (11.7)	0.52 (14.1)	1.93 (52.1)	0.81 (22.0)
	1970–2007	6.99	1.17 (16.8)	0.43 (6.1)	3.70 (53.0)	1.69 (24.1)
Fiji	1970–1985	3.34	2.82 (84.4)	0.09 (2.8)	1.91 (57.0)	–1.48 (–44.2)
	1985–1995	3.21	1.64 (51.0)	0.02 (0.6)	0.31 (9.7)	1.24 (38.8)
	1995–2000	2.14	0.51 (23.9)	0.09 (4.3)	1.17 (54.7)	0.36 (17.0)
	2000–2007	1.25	0.39 (31.3)	0.35 (27.8)	1.51 (120.4)	–1.00 (–79.5)
	1970–2007	2.75	1.73 (62.9)	0.12 (4.4)	1.30 (47.3)	–0.40 (–14.6)
Indonesia	1970–1985	6.91	1.19 (17.3)	0.12 (1.7)	4.36 (63.2)	1.24 (17.9)
	1985–1995	7.53	1.26 (16.7)	0.29 (3.8)	3.99 (53.1)	1.99 (26.4)
	1995–2000	0.75	0.17 (22.6)	0.34 (44.6)	3.42 (454.1)	–3.18 (–421.3)
	2000–2007	4.97	1.00 (20.0)	0.29 (5.7)	2.15 (43.3)	1.54 (30.9)
	1970–2007	5.88	1.04 (17.6)	0.22 (3.8)	3.72 (63.3)	0.90 (15.3)
Japan	1970–1985	4.31	0.28 (6.5)	0.26 (6.0)	3.22 (74.7)	0.55 (12.8)
	1985–1995	3.13	–0.05 (–1.5)	0.36 (11.6)	1.88 (60.0)	0.94 (29.9)
	1995–2000	0.99	–0.63 (–63.8)	0.29 (28.9)	0.93 (94.5)	0.40 (40.4)
	2000–2007	1.56	–0.28 (–17.8)	0.32 (20.8)	0.30 (19.1)	1.21 (77.9)
	1970–2007	3.02	–0.04 (–1.2)	0.30 (10.0)	2.00 (66.0)	0.76 (25.1)
Korea	1970–1985	7.15	1.65 (23.1)	0.26 (3.6)	5.92 (82.8)	–0.68 (–9.5)
	1985–1995	8.35	1.33 (15.9)	0.42 (5.0)	4.17 (49.9)	2.43 (29.1)
	1995–2000	4.32	0.27 (6.3)	0.47 (10.8)	2.94 (68.0)	0.64 (14.9)
	2000–2007	4.52	0.15 (3.3)	0.42 (9.2)	1.88 (41.5)	2.08 (45.9)
	1970–2007	6.60	1.09 (16.6)	0.36 (5.5)	4.28 (64.9)	0.86 (13.1)
Philippines	1970–1985	3.56	2.10 (59.1)	0.25 (7.1)	3.72 (104.4)	–2.51 (–70.7)
	1985–1995	3.43	0.96 (28.1)	0.17 (5.0)	1.49 (43.4)	0.81 (23.5)
	1995–2000	3.99	0.61 (15.4)	0.55 (13.9)	2.40 (60.1)	0.42 (10.6)
	2000–2007	4.98	0.93 (18.6)	0.80 (16.1)	1.37 (27.5)	1.88 (37.7)
	1970–2007	3.85	1.37 (35.6)	0.38 (9.8)	2.49 (64.7)	–0.39 (–10.1)
Thailand	1970–1985	6.14	1.38 (22.4)	0.08 (1.3)	2.65 (43.2)	2.03 (33.1)
	1985–1995	9.06	1.19 (13.2)	0.26 (2.9)	4.54 (50.1)	3.07 (33.9)
	1995–2000	0.47	0.16 (34.2)	0.23 (48.5)	3.19 (684.9)	–3.11 (–667.7)
	2000–2007	5.00	0.95 (18.9)	0.30 (6.0)	1.10 (22.0)	2.65 (53.1)
	1970–2007	5.95	1.08 (18.2)	0.19 (3.2)	2.94 (49.4)	1.74 (29.2)
China*	1970–1985	7.41	1.27 (17.2)	0.04 (0.5)	3.96 (53.4)	2.14 (28.9)
	1985–1995	9.57	0.91 (9.6)	0.10 (1.1)	4.37 (45.7)	4.18 (43.7)
	1995–2000	8.28	0.62 (7.5)	0.22 (2.7)	4.78 (57.7)	2.66 (32.2)
	2000–2007	9.71	0.50 (5.1)	0.85 (8.7)	5.40 (55.7)	2.96 (30.5)
	1970–2007	8.55	0.94 (11.0)	0.23 (2.7)	4.45 (52.1)	2.92 (34.1)
US*	1970–1985	3.11	1.05 (33.6)	0.31 (10.0)	0.99 (31.9)	0.76 (24.5)
	1985–1995	2.85	0.93 (32.6)	0.50 (17.4)	0.62 (21.8)	0.80 (28.2)
	1995–2000	4.18	1.23 (29.5)	0.80 (19.1)	0.74 (17.6)	1.41 (33.8)
	2000–2007	2.38	0.19 (7.8)	0.53 (22.4)	0.74 (31.2)	0.92 (38.6)
	1970–2007	3.05	0.88 (28.8)	0.47 (15.4)	0.81 (26.6)	0.89 (29.2)

Unit: Percentage, contribution share in parentheses.
Note: The countries with "*" represent the reference countries.

compares to the long-run estimates of 3.8 per cent during 1978–2005 in Holz (2006) and also 3.8 per cent during 1978–2004 in Bosworth and Collins (2008). The Chinese experience of long-term TFP growth of about 3 per cent is not unprecedented in Asia. According to Jorgenson and Nomura (2005), Japan also achieved an annual TFP growth of 3.1 per cent during 1960–1973, even after improvements in labor quality were taken into account in the estimation of labor growth (and, as such, eliminating overestimation in TFP).[52] The ROC and Thailand also achieved TFP growth of 3.3 per cent and 3.1 per cent respectively during the period 1985–1995.[53]

There has been a longstanding debate on what drives growth in Asia. Looking into the shorter time periods, the evolution of the decomposition of economic growth over time can be traced (Figure 27) and may offer some insights into the debate between accumulation and assimilation. According to our findings, it is true that, historically, capital accumulation has played a much more significant role in the Asian countries than in the US. But the relative contribution shares are not constant over time; there were periods when TFP growth increased its weight in driving growth. In particular, there has been a resurgence in TFP growth in recent years (2000–2007) in Korea, Indonesia, the Philippines and Thailand after the Asian financial crisis, raising its contribution to economic growth to a significant level. Other studies also found a resurgence in the contribution of TFP for Indonesia and Thailand.[54]

In the ROC the main growth engine was capital growth (accounting for 65 per cent of economic growth) followed by labor growth (21 per cent) in 1970–1985. During 1985–1995 the contribution of TFP growth strengthened to 42 per cent of economic growth, up from 14 per cent in the previous period. In the most recent decade, however, capital has been the main engine of growth once again: the contribution from IT capital more than tripled when compared with the previous periods. In Japan capital was the main engine of growth until 2000. In the first half of the 2000s there has been a surge in TFP growth, reaching 1.2 per cent on average a year in 2000–2007, up from 0.4 per cent in 1995–2000. TFP growth alone accounted for 78 per cent of economic growth in the latter period. In contrast, the contribution from labor input has been declining since 1990.

In Korea capital accumulation was key to its economic growth during the period 1970–1985, accounting for 86 per cent of economic growth, while TFP growth made a negative contribution.[55] However, Korea experienced two periods of strong TFP growth thereafter, at 2.4 per cent on average a year in 1985–1995 and 2.1 per cent in 2000–2007. The respective contribution shares were 51 per cent for capital and 46 per cent for TFP in the latter period. Also note that the contribution from IT capital has doubled in the past decade.

In China TFP growth has been strong throughout the period of our estimation. The fastest TFP growth of 4.2 per cent was achieved during the period 1985–1995, accounting for 44 per cent of economic growth. In the past decade the effort in capital accumulation has strengthened. TFP growth has slowed to 2.7–3.0 per cent compared to the previous decade, with its contribution share dropping to 31–32 per cent. The role played by IT capital has also been strengthened over the years, albeit from a very low base.

The size and the growth of IT capital have been of great interest in recent productivity research, which attempts to establish the driving force behind the recent episode of productivity resurgence in the developed economies, starting with the US in the 1990s. Unlike technological advancements in the past, which were largely confined to manufacturing, IT is a technology that can permeate the economy and bring about significant production gains in, for

52 In the same period of 1960–1973 the average annual contribution rate of labor quality improvement to growth is measured as 0.54 per cent in Jorgenson and Nomura (2005). As a measure of TFP contribution that is comparable with the estimates in this *Databook*, their estimate can be recognized as 3.6 per cent per year during the same period.

53 These findings are by around 1 per cent larger than some preceding studies. Timmer and van Ark (2000) show that the average annual TFP growth of the ROC was 2 per cent during 1985–1996. Warr (2006) shows that the average annual TFP growth of Thailand was 2 per cent during 1987–1996.

54 Van der Eng (2008a) provides estimates of capital stock for Indonesia and Van der Eng (2009) shows that the annual average TFP growth increased from −4.4 per cent during 1995–2000 to 1.7 per cent during 2000–2007 in Indonesia. For Thailand, Bosworth (2005) shows that the annual average TFP growth increased from −4.6 per cent during 1996–1999 to 2.1 per cent during 1999–2004. Warr (2006) also finds that the TFP growth increased from −9.0 per cent during 1997–1998 to 1.5 per cent during 1999–2002 for Thailand.

55 According to Young (1995), the Korean TFP growth in the same periods shows positive contributions: the average annual growth rates were 1.9 per cent, 0.2 per cent and 2.4 per cent for 1970–1975, 1975–1980 and 1980–1985 respectively. On the other hand, Timmer and van Ark (2000) measured the negative TFP growth as −0.35 per cent during 1973–1985. Our estimates are similar to the latter estimates.

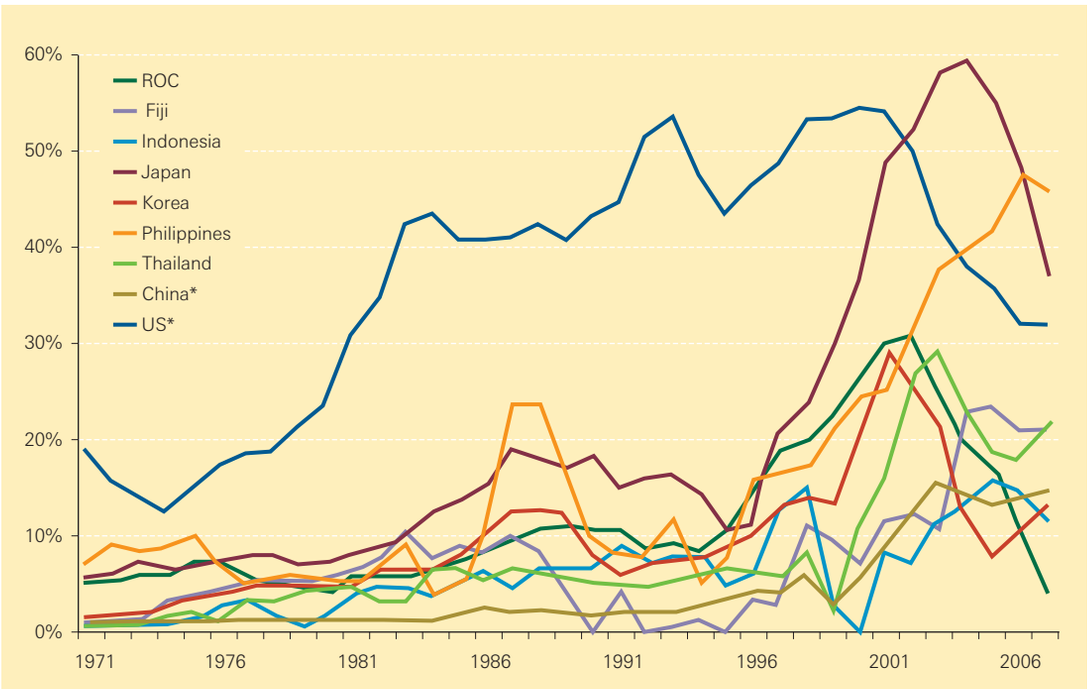

Figure 28: IT Capital Contribution to Capital Input Growth, 1970–2007

example, wholesale and retail, banking and finance, and transportation and telecommunications, i.e. service sectors which traditionally struggled with slow productivity growth. Given the weight of the service sector in the economy (see Figure 31 for the Asian countries), its potential and implications for economic development and productivity gains could therefore be immense. A frequent question asked by policymakers and researchers has been how best to emulate the US in capitalizing on the productivity potential brought forth by this IT revolution. As with other non-IT capital, it involves the processes of accumulation and assimilation.

Figure 28 presents countries' efforts in accumulating IT capital since 1970 in terms of the contribution of IT capital to total capital input at the whole-economy level. It is clear from Figure 28 that the US started investing heavily in IT capital much earlier than any Asian economy, and that such intensive investment activities precipitated the dot-com bubble. Correction in the US after the burst of the dot-com bubble in 2000 is clearly visible from the chart. The contribution of IT capital fell back to the early 1980s' level by the mid-2000s, before leveling off. As indicated in Jorgenson and Nomura (2005), Japan also experienced a rapid shift in its capital allocation. In the 1980s IT capital contributed 31.9 per cent of the growth of total capital inputs in the US, as measured in Jorgenson, Ho and Stiroh (2005), but only 13.5 per cent in Japan.[56] Since 1995 the Japanese economy had been rapidly shifting its capital allocation from non-IT capital to IT capital, achieving in five years what the US had achieved over 20 years. In 2002 the contribution of IT capital in Japan rose to 52.5 per cent, which is more than the 49.5 per cent in the US. The Philippines is another country where a rapid shift in capital allocation has occurred.

A similar allocation shift to IT capital is also found in other Asian economies (the ROC, Korea, Thailand and Fiji), which saw the contribution of their IT capital to total capital input rising from 10 per cent or below to around 30 per cent at their peaks, although the timing is somewhat later than Japan due to the impacts of the Asian financial crisis. After the dot-com crash the contribution of IT capital went back to the level before 1995 in the US, the ROC and Korea. China is a latecomer as far as investing in IT capital is concerned. The surge in the contribution of IT capital took place around 2000

56 Based on our own estimates presented, IT capital contributes 38.5 per cent in the US and 18.5 per cent in Japan to the growth of total capital input. Although the estimates in the 1980s in this report are somewhat higher than the industry-level estimates in Jorgenson, Ho and Stiroh (2005) and Jorgenson and Nomura (2005), the trends of both the US and Japan shown in Figure 28 are very similar to Figure 3 in Jorgenson and Nomura (ibid.).

and its contribution remains steady even after the dot-com crash. Investment in IT capital is a necessary step to adopting and benefiting from the advancements in information and communication technology.

Although TFP measures more accurately how efficiently an economy utilizes its factor inputs, labor productivity and its drivers are of interest not least because of its close link to GDP per capita. Within the same growth accounting framework, average labor productivity (ALP) growth at the aggregate level can be decomposed into effects of capital deepening (capital input per hour worked), which reflects the capital-labor substitution, and TFP. In other words, these factors are key in fostering labor productivity. The decomposition of labor productivity growth is presented in Figure 29. Over the long term (i.e. 1970–2007), labor productivity growth is predominantly explained by capital deepening in Japan (75 per cent) and Korea (82 per cent). In the ROC capital deepening explains 66 per cent and TFP 34 per cent of labor productivity growth. In China, however, the split between the two sources is roughly half-half. Over shorter periods of time it is possible to see that the role played by TFP has weakened in the ROC, with a contribution of 28 per cent in 2000–2007 dropping from its height of 56 per cent in 1985–1995. In contrast, TFP growth has strengthened in Japan, accounting for 60 per cent of labor productivity growth in 2000–2007, up from 20 per cent in 1995–2000 and 29 per cent in 1985–1995. Korea also saw a lift of TFP growth in recent years, and its contribution to labor productivity growth (at 49 per cent) moved back to a similar share as before the Asian financial crisis. In China we see the shrinking role of TFP growth as the role of capital accumulation rises in explaining labor productivity growth. Even so, in recent years TFP growth still explains around one-third of labor productivity growth.

The aforementioned shift in capital allocation experienced in most countries compared is manifested in the rising contribution of IT capital deepening to labor productivity growth. For example, the role played by IT capital deepening in the ROC rose from 4.0 per cent in the period 1970–1995 to around 15 per cent in the more recent years of 1995–2007. Similarly, in Korea it rose from 4.8 per cent in the earlier period of 1970–1995 to 10.9 per cent in 1995–2000 before declining to 9.1 per cent in 2000–2007. The contribution by IT deepening in Japan doubled between 1970–1985 and 1985–1995 from 6.3 per cent to 11.7 per cent, before rising further to 18.4 per cent in 1995–2000, which has so far been sustained. This rise in the role of IT capital deepening took place earlier in Japan than in other Asian countries, mirroring its investment effort in Figure 28. For China, the contribution of IT capital deepening has more than tripled in the past decade, from 2.8 per cent in 1995–2000 to 9.2 per cent in 2000–2007. In the US IT capital deepening has been explaining around a quarter of its labor productivity growth since 1985.

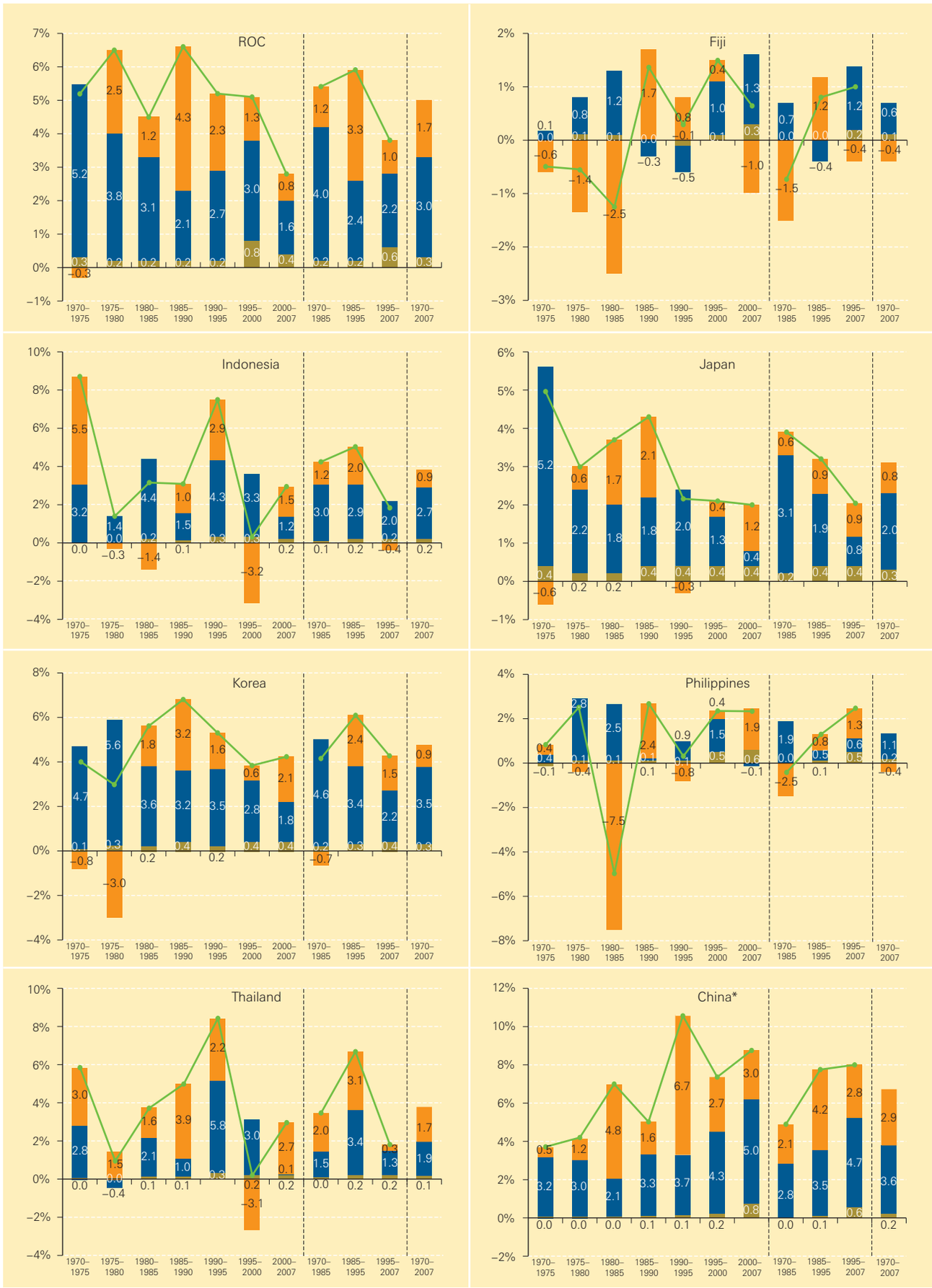

Figure 29: Decomposition of Labor Productivity Growth, 1970–2007

Table 13: Role of TFP and Capital Deepening in Labor Productivity Growth, 1970–2007

		Labor Productivity	Capital Deepening				TFP	
			IT		Non-IT			
ROC	1970–1985	5.40	0.22	(4.0)	4.02	(74.4)	1.17	(21.6)
	1985–1995	5.85	0.23	(4.0)	2.36	(40.3)	3.26	(55.8)
	1995–2000	5.09	0.78	(15.3)	2.99	(58.8)	1.32	(25.8)
	2000–2007	2.87	0.43	(14.8)	1.63	(56.8)	0.81	(28.4)
	1970–2007	5.00	0.34	(6.7)	2.98	(59.6)	1.69	(33.7)
Fiji	1970–1985	–0.74	0.04	(–6.0)	0.69	(–93.8)	–1.48	(199.8)
	1985–1995	0.82	–0.04	(–5.4)	–0.38	(–46.7)	1.24	(152.1)
	1995–2000	1.47	0.08	(5.1)	1.03	(70.1)	0.36	(24.8)
	2000–2007	0.67	0.32	(47.7)	1.34	(201.4)	–1.00	(–149.1)
	1970–2007	0.25	0.08	(31.0)	0.57	(232.2)	–0.40	(–163.3)
Indonesia	1970–1985	4.34	0.09	(2.1)	3.01	(69.4)	1.24	(28.5)
	1985–1995	5.12	0.22	(4.3)	2.91	(56.9)	1.99	(38.8)
	1995–2000	0.42	0.32	(75.8)	3.28	(781.9)	–3.18	(–757.7)
	2000–2007	2.89	0.19	(6.6)	1.16	(40.2)	1.54	(53.2)
	1970–2007	3.75	0.18	(4.7)	2.67	(71.3)	0.90	(24.0)
Japan	1970–1985	3.86	0.24	(6.3)	3.07	(79.4)	0.55	(14.3)
	1985–1995	3.22	0.38	(11.7)	1.90	(59.2)	0.94	(29.1)
	1995–2000	2.04	0.37	(18.4)	1.27	(62.1)	0.40	(19.5)
	2000–2007	2.02	0.37	(18.4)	0.44	(21.7)	1.21	(59.9)
	1970–2007	3.09	0.32	(10.4)	2.01	(65.1)	0.76	(24.6)
Korea	1970–1985	4.16	0.20	(4.8)	4.64	(111.6)	–0.68	(–16.3)
	1985–1995	6.11	0.29	(4.8)	3.38	(55.4)	2.43	(39.8)
	1995–2000	3.82	0.41	(10.9)	2.76	(72.3)	0.64	(16.8)
	2000–2007	4.26	0.39	(9.1)	1.80	(42.2)	2.08	(48.7)
	1970–2007	4.66	0.29	(6.2)	3.51	(75.3)	0.86	(18.5)
Philippines	1970–1985	–0.58	0.03	(–4.4)	1.91	(–331.4)	–2.51	(435.8)
	1985–1995	1.41	0.07	(4.8)	0.53	(37.9)	0.81	(57.3)
	1995–2000	2.39	0.48	(19.9)	1.49	(62.4)	0.42	(17.7)
	2000–2007	2.37	0.58	(24.3)	–0.09	(–3.7)	1.88	(79.3)
	1970–2007	0.92	0.20	(22.0)	1.10	(120.4)	–0.39	(–42.4)
Thailand	1970–1985	3.57	0.04	(1.2)	1.50	(42.0)	2.03	(56.9)
	1985–1995	6.65	0.20	(3.0)	3.38	(50.9)	3.07	(46.1)
	1995–2000	0.13	0.21	(161.8)	3.03	(2316.8)	–3.11	(–2378.6)
	2000–2007	2.92	0.19	(6.6)	0.07	(2.4)	2.65	(90.9)
	1970–2007	3.82	0.14	(3.6)	1.94	(51.0)	1.74	(45.5)
China*	1970–1985	4.94	0.03	(0.6)	2.77	(56.1)	2.14	(43.3)
	1985–1995	7.78	0.09	(1.1)	3.52	(45.2)	4.18	(53.7)
	1995–2000	7.13	0.20	(2.8)	4.27	(59.9)	2.66	(37.3)
	2000–2007	8.77	0.81	(9.2)	5.00	(57.1)	2.96	(33.8)
	1970–2007	6.73	0.21	(3.2)	3.60	(53.5)	2.92	(43.3)
US*	1970–1985	1.51	0.22	(14.5)	0.53	(35.1)	0.76	(50.4)
	1985–1995	1.41	0.35	(25.0)	0.25	(17.9)	0.80	(57.1)
	1995–2000	2.24	0.55	(24.7)	0.27	(12.3)	1.41	(63.1)
	2000–2007	2.07	0.49	(23.7)	0.66	(32.0)	0.92	(44.4)
	1970–2007	1.69	0.35	(20.8)	0.45	(26.4)	0.89	(52.8)

Unit: Percentage, contribution share in parentheses.
Note: The countries with "*" represent the reference countries.

Box 10: Measuring Capital Stock and Services for Eight Asian Countries

The 2008 SNA and the *OECD Capital Manual* (OECD, 2009) recommend estimating capital services in the system of national accounts. At present few national statistical offices publish their own estimates. Even if the results estimated by researchers are available, users must be careful about a difference in methodologies and assumptions used to estimate capital services and a large diversity in the treatment of quality adjustment in price statistics among countries. In the APO Productivity Database, the harmonized methodology is applied in measuring capital stock and services. In this *Databook* the capital services and TFP are estimated for eight Asian countries, namely the ROC, Fiji, Indonesia, Japan, Korea, the Philippines, Thailand and China, and for the US as a reference country.

To estimate capital stock, long-term constant-price investment data are required. The current-price GFCF are available since 1901 for the US, 1951 for the ROC, 1952 for China, 1953 for Korea, 1955 for Japan and 1970 for Fiji, Indonesia, the Philippines and Thailand, mainly based on the official national accounts. Our current framework on measuring capital stock requires the investment data for 10 types of assets (shown in Table B10). For countries in which the detailed investment data are not available in their national accounts, the 10 types of investment data are estimated based on the benchmark input-output tables and data on domestic production and export/import of fixed assets.

For cross-country comparisons, it has been noted that there is great diversity in the treatment of quality adjustment in price statistics among countries. It is well known that prices of constant-quality IT capital have been falling rapidly. Cross-country comparisons will be significantly biased if some countries adjust their deflators for quality change while others do not. Price harmonization is sometimes used in an attempt to control for methodological differences in the compilation of price indexes, under the assumption that individual countries' price data fail to capture quality improvements. Assuming that the relative price of IT to non-IT capital in the countries compared is set equal to the IT to non-IT prices relative in the reference country, the harmonized price is formulated as:

$$\Delta \ln \hat{p}^X_{IT} = \Delta \ln p^X_{nIT} + (\Delta \ln p^{ref}_{IT} - \Delta \ln p^{ref}_{nIT}),$$

where the superscript X denotes the country included in the comparisons, p_{IT} is the price of IT capital and p_{nIT} is the price of non-IT capital. The price of IT capital in country X, $\hat{p}^X_{IT}$, is computed by the observed prices p^{ref}_{IT} and p^{ref}_{nIT} in the reference country and p^X_{nIT} in X. Schreyer (2002) and Schreyer, Bignon and Dupont (2003) applied price harmonization to OECD capital services, with the US as a reference country, since the possible error due to using a harmonized price index would be smaller than the bias arising from comparing capital services based on national deflators.

In this *Databook* the price harmonization is applied to adjust the quality improvement for IT hardware and communications equipment in the ROC, Fiji, Indonesia, Japan, Korea, the Philippines, Thailand and China, with Japan's prices as a reference country. A similar procedure was applied in cases where the prices for some assets are not available, to estimate missing data based on the relative price of these assets to total GFCF.

In measuring capital services, this *Databook* basically follows the framework of the OECD Productivity Database (see Schreyer, Bignon and Dupont, ibid.). The OECD assumes the truncated normal distribution as profiles for asset discarding (retirement), and the hyperbolic distribution as profiles for asset decaying. The age-efficiency profile (AEP) is defined as a combined distribution of discard and decay of assets. The AEP in each asset is based on the two parameters in hyperbolic function: T (average service life) and β ($-\infty<\beta\leq 1$). The hyperbolic function becomes one-hoss shay (no decay until T) when $\beta = 1$ and linear when $\beta = 0$. We set these two parameters as shown in Table B10.

To estimate the capital services for the whole economy, the user costs of capital by type of asset should be estimated for aggregating different types of capital. The user cost of capital of a new asset (with type of asset denoted as k of the period t), $u^k_{t,0}$ is defined as $q^k_{t-1,0}\{r_t+(1+\zeta^k_t)\delta^k_{p,t,0}-\zeta^k_t\}$, where r_t, $\delta^k_{p,t,0}$ and $q^k_{t,0}$ are the expected nominal rate of return, cross-section depreciation rate and asset price, respectively. The asset-specific inflation rate ζ^k_t is defined as $(q^k_{t,0}/q^k_{t-1,0}-1)$. The OECD assumes the country-specific *ex ante* real rate of return r^* that is constant for the whole period, and defines the nominal rate of return as $r_t=(1+r^*)(1+\rho_t)-1$, where ρ_t represents the expected overall inflation rate, defined by a five-year centered moving average of the rate of change of the consumer price index.

One of the main difficulties in applying the *ex ante* approach for measuring user cost of capital is obtaining proper estimates for real rates of return, which can considerably differ among countries and over time. On the other hand, the *ex post* approach originated by Jorgenson and Griliches (1967) enables us to estimate it based on observed data. Assuming constant returns to scale and competitive markets,

Table B10: Parameters in Hyperbolic Function

	T	β
1. IT hardware	7	0.50
2. communications equipment	15	0.50
3. transportation equipment	15	0.50
4. other machinery and equipment	15	0.50
5. residential buildings	30	0.75
6. non-residential buildings	30	0.75
7. other construction	40	0.75
8. cultivated assets	10	0.50
9. computer software	3	0.50
10. other intangible assets	7	0.50

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capital compensation can be derived from the summation of the capital service cost V_t^k for each asset, which is defined as the product of the user cost of capital and the productive capital stock, i.e. $V_t=\Sigma_k V_t^k=\Sigma_k u_{t,0}^k S_t^k$. Based on this identity and the n-equations of user cost of capital, the n+1 variables of $u_{t,0}^k$ and r_t are simultaneously determined, using the observed capital compensation V_t as the total sum of V_t^k that is not observable in each asset. Note that the depreciation rate $\delta_{\rho,t,0}^k$ is not independent of the estimated r_t.

The estimated results of *ex post* real rate of return based on $r_t^*=(1+r_t)/(1+\rho_t)-1$ for nine countries are shown in Figure B10. The real rate of return ranges from 6 per cent (Japan) to 17 per cent (the ROC) in 2007. Using these *ex post* estimates, the aggregate capital services are measured in this report. The difference caused by the *ex ante* and *ex post* approaches may provide a modest difference in the growth measure of capital services, regardless of the substantial differences in the rates of return and capital compensations (Nomura, 2004).

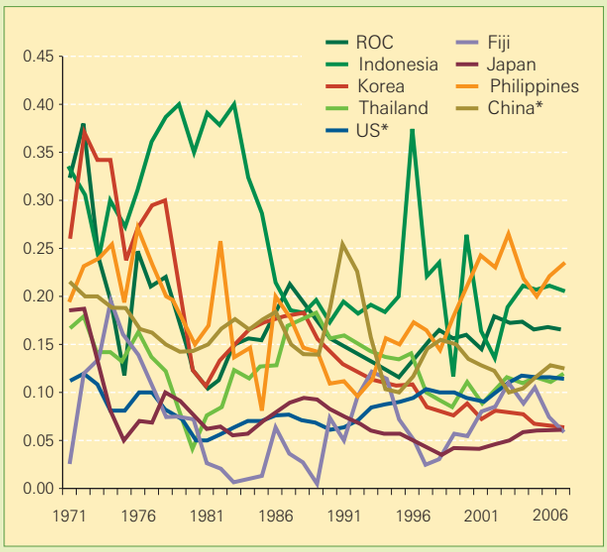

Figure B10: Ex Post Real Rate of Return in Asia, 1970–2007

Box 11: APO Support Scheme: National Wealth Survey in Mongolia

One of the aims of the APO productivity measurement projects is to pursue research activities that help member countries improve their systems of national accounts. The quality of international comparisons builds on the quality of national data, which has two broad aspects: improving the standard and the best practice of measurements, and covering data gaps. In helping address the latter, the APO has embarked on the first support scheme to conduct a nationwide statistical survey in Mongolia, namely the National Wealth Survey (NWS).

Productivity has long been recognized as the key source of improvements in living standards. For measuring productivity, capital stock accounts should be constructed, but this remains one of the challenging tasks for many developing countries. Currently capital stock statistics are not constructed within the Mongolian System of National Accounts. The NWS intends to provide direct observations (as opposed to the perpetual inventory method) of the non-financial capital stock to be recorded in the balance-sheet account within the Mongolian national accounts. In Asia, Japan has a long history of a direct survey on the gross capital stock, since the early twentieth century, by the Bank of Japan and Economic Planning Agency (the predecessor of the Economic Social Research Institute, Cabinet Office of Japan). Korea and the ROC are the only other countries in Asia which have implemented an NWS to date.

The first APO-supported NWS proposal was presented to the National Statistical Office of Mongolia (NSO Mongolia) in September 2008, under the supervision of Professor Koji Nomura, Keio University. The NWS questionnaires consist of seven parts: capital expenditure of owned fixed assets; work in progress; cultivated assets; inventories and valuables; land; subsoil assets; and disposals of assets. The Mongolian National Statistical Board subsequently approved the survey implementation by a collaboration scheme agreed with NSO Mongolia in January 2009. In doing so, the process for constructing the official capital stock statistics for Mongolia based on the survey results was formally initiated.

The questionnaires were tested by a sample pilot survey in March 2009, while NSO Mongolia started training enumerators to conduct the actual survey. In May 2009 the questionnaires were sent out to the target survey objects of 8,335 enterprises in 22 *aimags* (provinces) and Ulaanbaatar City (although the survey subjects number 36,046, covering all enterprises with more than 10 employees). As of the beginning of 2010, the response rate reached was surprisingly high at 92.3 per cent. At the time of writing this report, the NWS in Mongolia is currently in the phase of data re-examination, involving double-checking asset codes and data cleaning.

Based on the collected responses on disposals of assets in the NWS, the average service lives and depreciation rates by asset type are estimated for newly produced assets and second-hand assets respectively. These parameters are indispensable to the final estimation of the net capital stock, with a view to constructing national balance-sheet accounts and estimating capital services, which in turn enable total factor productivity estimation for Mongolia. The current framework for estimating capital stock in the APO Productivity Database imposes the same profile on assets' efficiency by aging on both developing and developed countries in each type of asset, due to the very poor empirical evidence on asset lives in developing countries. The results based on the NWS in Mongolia are expected to replace this simplified assumption on the age-efficiency profiles of assets with the observed parameters, and in turn to improve the measurement of capital stock and productivity for developing countries.

7. Industry Performance

This chapter provides the industry origins of economic growth and labor productivity growth in Asian countries. Industry structure is a key indicator of an economy's stage of development. At one end of the spectrum are predominantly agricultural and rural-based economies, whereas at the other end the agricultural sector is negligible and the service sector is the dominant economic base. In the middle is a stage where manufacturing is the main driver of the economy. By analyzing the industry structure of Asian economies, we can clearly trace the path of economic development and identify country groupings based on similar characteristics.[57]

7.1 Industry Structure and Economic Development

Table 5 in Section 3.2 introduces a country grouping according to stages of development (as measured by per capita GDP relative to the US). Table 14 regroups countries based on the same set of criteria as in Table 5, but applied to countries' 2007 income levels. The difference in countries' relative per capita GDP between the two tables reflects the impact of their catch-up efforts since 1970 or the beginning year of the data series in this report for the country concerned.

During this period we saw countries with fast catch-up moving up in income group as they narrow the gap with the US. Among Group-C1 countries, Singapore moves from Group-L2, and the ROC from Group-L3, to Group-L1 to join Japan; Korea moves from Group-L3 to Group-L2; and Vietnam and China move from Group-L4 to Group-L3. Cambodia is the only country which fails to move up in income group despite its fast pace of catch-up. The reason behind Cambodia's failure to move up in income group is its short time series, which starts in 1993. Therefore, despite its average catch-up speed of 3.1 per cent per annum, it has had less time to catch up than other countries with series starting from 1970. Between 1993 and 2007 Cambodia's relative income moved up from 2.1 per cent to 4.0 per cent of the US level.

All Group-C2 countries, except Lao PDR and Myanmar, have managed to move up one level in income grouping: Hong Kong from Group-L2 to Group-L1, Malaysia from Group-L3 to Group-L2 and India and Indonesia from Group-L4 to Group-L3. This, however, masks the noticeable progress Thailand has made during this period, with its relative income rising from 7.2 per cent to 18.0 per cent of that of the US (within the income range of Group-L3). Lao PDR's relative income has also improved from 3.3 per cent to 4.7 per cent, even though its time series starts more than a decade later than most countries, in 1984. There are no significant movements of countries in Group-C3 and Group-C4.

Figure 30.1 shows the industry composition of the Asian economies in 2007, and ranks countries by the share of their agricultural sector in total value added.[58] Industries are classified into nine groups.[59] Figure 30.1 indicates a broad negative correlation between the share of the agricultural sector and the relative per capita GDP against the US. It is observed that the eight poorest countries top the ranking by the size of agricultural sector (i.e. Group-L4 countries plus Mongolia, Pakistan and Vietnam, the latter

57 Constructing the industry origins of labor productivity growth requires confronting a large volume of data from different data sources. Issues of data inconsistency arising from fragmentation of national statistical frameworks can present enormous hurdles to researchers in this area. In this report, we manage to bring reader a more sophisticated analysis with further industrial breakdown than achieved in the last edition. All the industry data are based on official national accounts. Where back data are not available, series are spliced together using different benchmarks and growth rates. Data inconsistencies in terms of concepts, coverage and data sources have not been treated. Levels of breakdown are deliberately chosen to minimize the potential impact of these data inconsistencies. In this sense, APO industry data should be treated as work-in-progress and it is difficult to advise on data uncertainty. We will further develop and examine these data issues in the near future. Readers should bear these caveats in mind in interrupting the results.

58 Unlike in the previous chapters, GDP is not necessarily valued at basic prices in this chapter. See Box 3.

59 The nine industries are 1–agriculture, 2–mining, 3–manufacturing, 4–electricity, gas and water supply, 5–construction, 6–wholesale and retail trade, hotels and restaurants, 7–transport, storage and communications, 8–finance, real estate and business activities, 9–community, social and personal services. The last four industries (6–9) are categorized as "service sector" in this *Databook*. Note that the construction sector in China includes mining and electricity, gas and water supply due to data constraints. The mining sector does not exist in Hong Kong.

Table 14: Country Groups Based on the Current Economic Level and the Pace of Catching Up with the US

GDP Level to the US	Annual Rate of Catch Up to the US			
	(C1) 3% <	(C2) 1% < – < 3%	(C3) 0% < – < 1%	(C4) < 0%
(L1) 60% <	ROC, Singapore	Hong Kong	Japan, EU15*	Brunei*
(L2) 20% < – < 60%	Korea	Malaysia		Iran
(L3) 5% < – < 20%	Vietnam, China*	India, Indonesia Sri Lanka, Thailand	Mongolia, Pakistan	Fiji, Philippines
(L4) < 5%	Cambodia	Lao PDR, Myanmar*	Bangladesh	Nepal

Note: The annual catch-up rates are estimated based on the data during 1970–2007. The starting years for some countries are different due to data availability: Bangladesh (1973–), Brunei (1974–), Cambodia (1987–), Lao PDR (1984–), Nepal (1974–) and Vietnam (1986–). The countries with "*" represent the reference countries

two of which have marginally moved up to Group-L3 with a relative income of 5.5 per cent and 5.7 per cent that of the US respectively). They are followed by Group-L3 and then Group-L2. Group-L1 economies, in line with the US as the reference country, have the smallest agricultural sectors among the Asian countries.

Figure 30.2 shows the sub-industry composition of the manufacturing sector for selected countries. The manufacturing sector consists of nine sub-industries for the selected 16 Asian countries.[60] Countries in Figure 30.2 are ranked in the same order as in Figure 30.1. Roughly speaking, the share of light manufacturing (such as food products) is likely to fall and that of heavy manufacturing (such as machinery) is likely to rise as the relative size of per capita GDP grows. The Philippines, Sri Lanka and Hong Kong have a larger share of the food products, beverages and tobacco products sector. Bangladesh's dependency on the textiles, wearing apparel and leather products sector is clearly shown in the figure. It occupies 44.1 per cent of manufacturing industry and 7.8 per cent of total value added of the whole country.

Figure 31 shows the industry shares of value added and employment by four country groups and the US.[61] The first thing to note is that the service sector accounts for the largest share of the economy in all country groups, independent of their economic development. Secondly, each stage of economic development is associated with a distinctive industry structure. Group-L4, the poorest countries, have the largest agricultural industry, whereas the richest countries (Group-L1) have the largest service sector. In between are economies in transition, with rapidly shrinking agriculture and relatively more prominent manufacturing.[62] Comparisons of the value-added and employment shares also reveal some interesting facts. The agricultural sector is the only industry sector that consistently has a disproportionately higher employment share than justified by its share in value added across all country groups. This suggests that agriculture is still highly labor intensive and/or there may be a high level of underemployment in the sector in Asia, both of which imply that the labor productivity level is low compared to other industry sectors.[63] Thus countries with a big agricultural sector are often those with low per capita

60 Manufacturing consists of nine sub-industries: 3.1–food products, beverages and tobacco products, 3.2–textiles, wearing apparel and leather products, 3.3–wood and wood products, 3.4–paper, paper products, printing and publishing, 3.5–coke, refined petroleum products, chemicals, rubber and plastic products, 3.6–other non-metallic mineral products, 3.7–basic metals, 3.8–machinery and equipment, 3.9–other manufacturing. See the Appendix for the concordance between the industry classification used in this *Databook* and the ISIC (International Standard Industry Classification), Revision 3.

61 The group averages as industry share of value added are based on a country's industry GDP, using market exchange rates for the whole economy without consideration of the differences in relative prices of industry GDP among countries.

62 If Figure 30 is ranked by the size of service sector, Hong Kong will top the table at 92.3 per cent, followed by the US (78.2 per cent) and other Group-L1 countries, namely the ROC (68.7 per cent), Japan (69.4 per cent) and Singapore (71.0 per cent). Fiji is an exception, with a large service sector share (66.1 per cent) relative to its per capita GDP level.

63 Gollin, Parente and Rogerson (2004) and Caselli (2005) demonstrated the negative correlation between employment share of agriculture and GDP per worker. They showed that the agricultural sector was relatively large in poor countries and that agricultural labor productivity was lower than that in other sectors.

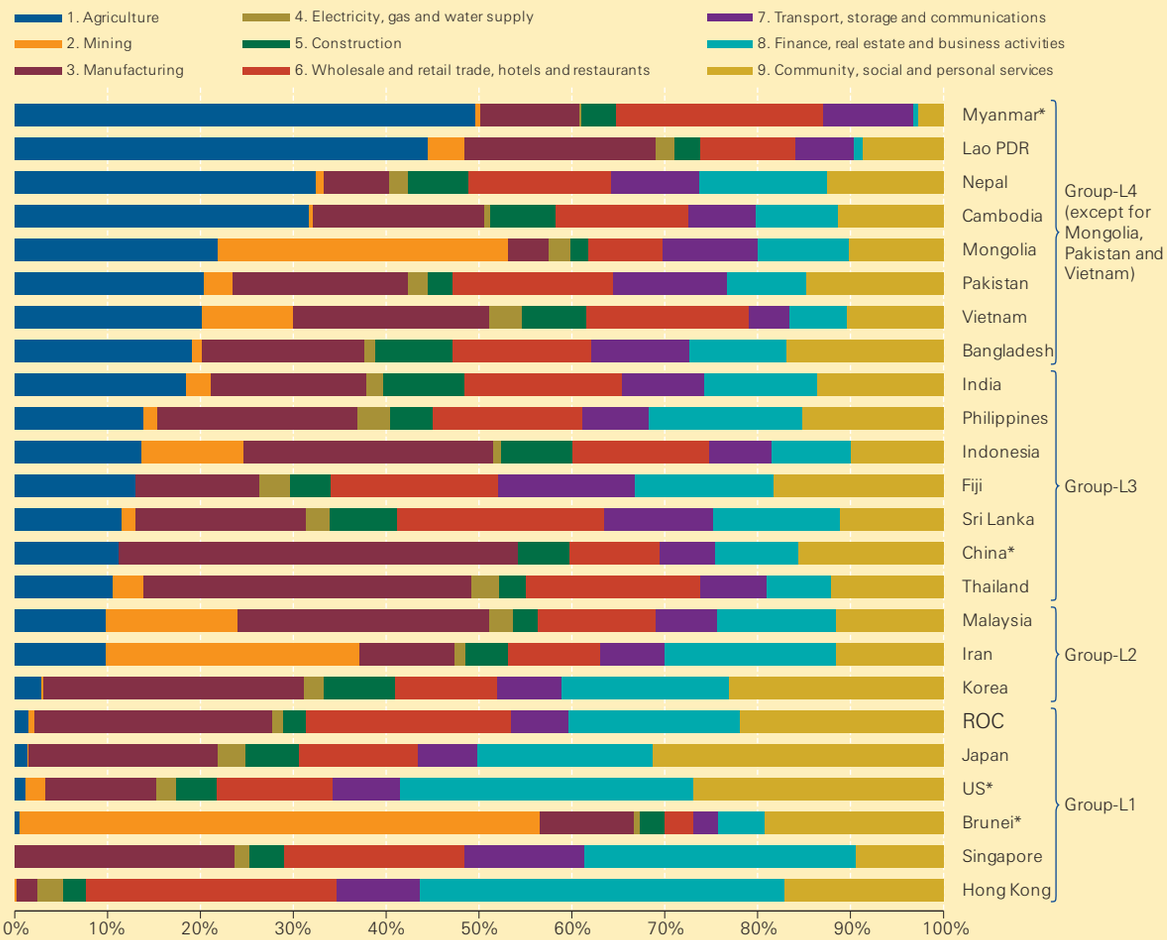

Figure 30.1: First-digit Industry Classification

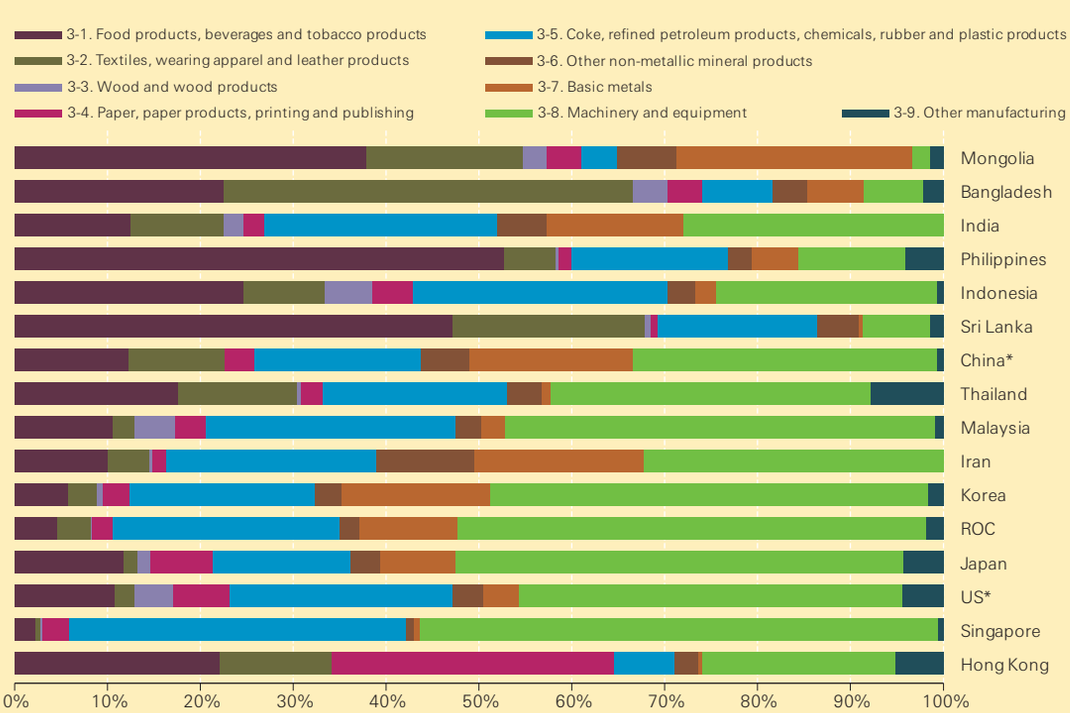

Figure 30.2: Sub-industries in Manufacturing

Figure 30: Industry Shares of Value Added, 2007

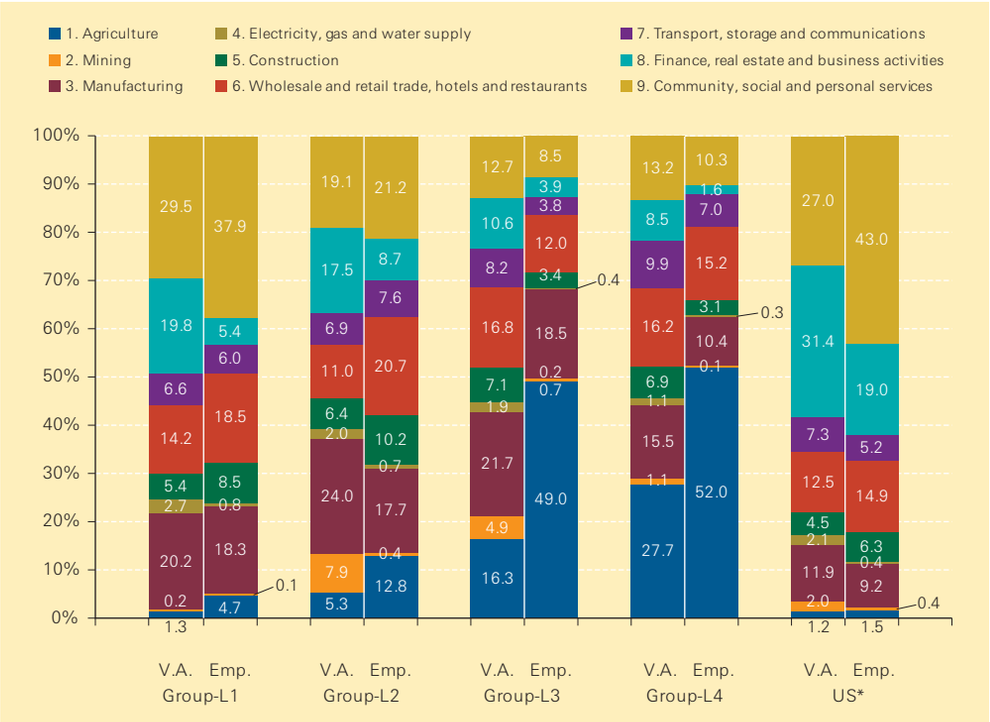

Figure 31: Industry Share of Value Added and Employment by Country Group, 2007

GDP. The US is an exception, where its agricultural value-added share and employment share are similar, suggesting that labor productivity in this sector is higher than experienced by other countries. The reverse is true for the sector of finance, real estate and business activities, which often generates a bigger value-added share than suggested by its employment share. Manufacturing is similar in this respect, albeit to a lesser extent.

Thirdly, Asian countries differ from the US industry structure in the relative importance of manufacturing, even in Group-L1 countries, where manufacturing accounts for 20.2 per cent of the economies' value added, compared with 11.9 per cent in the US. The US economy is highly skewed towards the service sector, accounting for 78.2 per cent of the total value added, compared with an average of 70.2 per cent in the Group-L1 countries. Especially, its share of finance, real estate and business activities at 31.4 per cent is much larger than the share of Group-L1 countries, at 19.8 per cent. This suggests that Asian economies could experience further deindustrialization and a shift in prominence towards services as they continue to mature. The relative prominence of manufacturing in the Asian regional economy as a whole is reflected in the fact that income groups are not filtered out by the size of a country's manufacturing sector.[64]

Figure 32 shows how the share of the agricultural industry in total value added shrank over time in the Asian economies. This could reflect the actual decline in agricultural output and/or the relatively rapid expansion in other sectors. Despite the wide spread, the downward trend is unmistakable, even for Group-L4 countries. With the exception of Iran, the share of the agricultural sector displays a long-term declining trend in all countries, albeit at different paces. Looking at the available data, the share of agriculture in most Asian countries clustered around the 30–50 per cent band in the 1970s, trending down to the 10–20 per cent band by 2007. Vietnam and Mongolia are two countries where the agricultural sector experienced similar relative decline but within a much shorter time span (from the late 1980s and the mid-1990s respectively). The relative decline of the agricultural sector was most rapid in Korea, from 28.2 per cent of total value added in 1970 to 3.0 per cent in 2007. In many countries

64 If Figure 30 ranks the size of the manufacturing sector, China (a Group-L3 country) leads with a share of 43.0 per cent. It is followed by Thailand, also a Group-L3 country, at 35.3 per cent, and Korea and Malaysia (Group-L2 countries) at 28.0 per cent and 27.2 per cent respectively. Indonesia (a Group-L3 country) at 26.9 per cent, and the ROC and Singapore (Group-L1 countries) at 25.7 per cent and 23.6 per cent also have manufacturing sectors similar in size to Thailand and these Group-L2 countries.

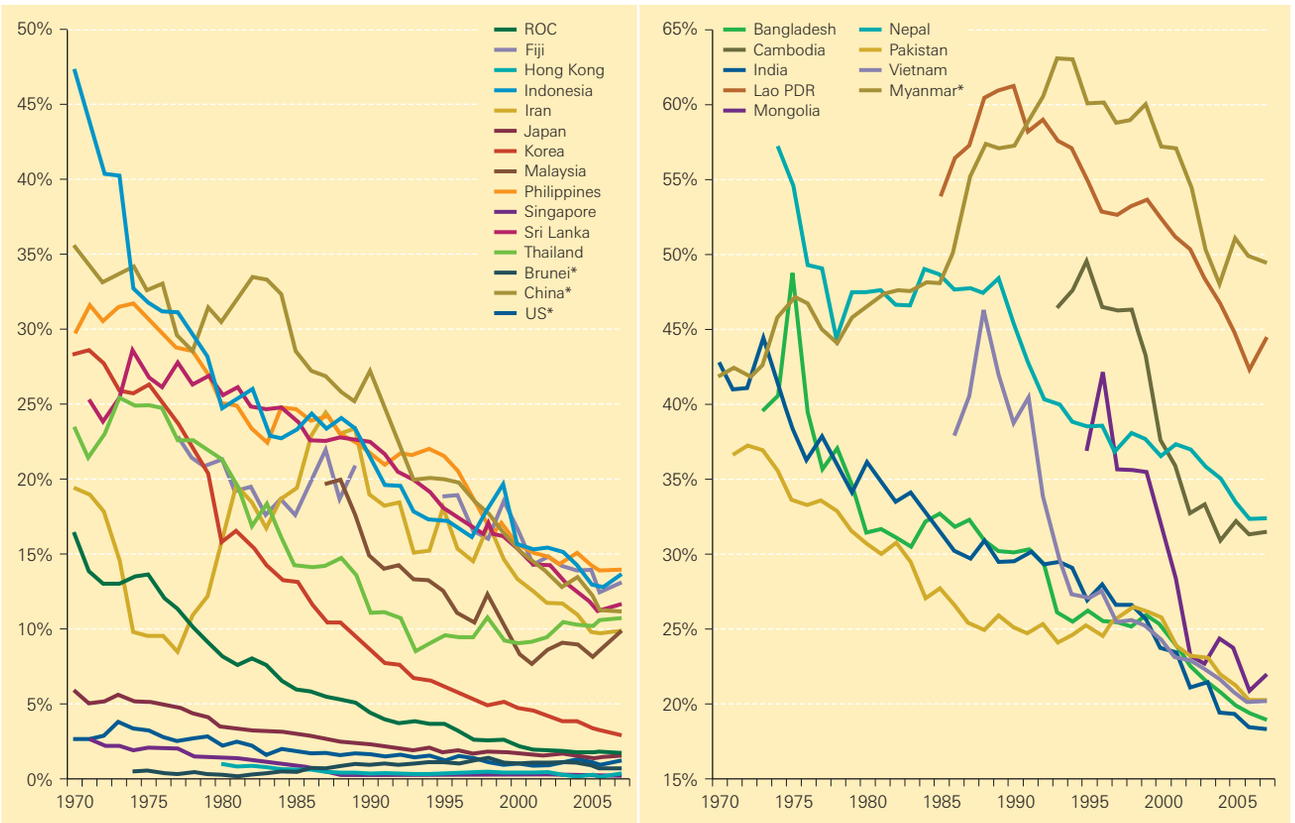

Figure 32: Long-term Trends of Value Added Share in the Agriculture Sector, 1970–2007

the share of the agricultural sector was more than halved between 1970 and 2007: for example, from 47.1 per cent to 13.6 per cent in Indonesia, from 42.8 per cent to 18.4 per cent in India and from 39.6 per cent in 1973 to 19.0 per cent in Bangladesh. In China the share of the agricultural sector also significantly declined, from 35.4 per cent in 1970 to 11.3 per cent in 2007.

Despite the relative decline of agriculture's share in total value added, employment in the sector for Asia as a whole still accounted for 42.2 per cent of total employment in 2007. Figure 33 shows countries' industry shares in total employment and ranks countries by the size of employment in the agricultural sector. The five countries[65] which top Figure 30 also top Figure 33, with the exception of India and Bangladesh.

The trend of employment share over time (Figure 34) suggests that the relative decline in the share of agriculture in total value added has been accompanied by a downward trend in its share in total employment. This downward trend is unmistakable in most countries plotted in Figure 34. However, the decline in share does not always reflect an actual fall in employment for the agricultural sector. Rather, it could reflect total employment rising faster than employment in agriculture. Among the Asian countries in Figure 34, only the ROC, Japan and Korea have been experiencing a consistent fall in actual employment in the agricultural sector, whereas in Bangladesh, Iran, Cambodia and Nepal actual employment has been rising. Other countries such as Fiji, Thailand, Indonesia and Malaysia alternate between positive and negative employment growth. Vietnam and China, however, have seen actual employment in agriculture falling since the turn of this millennium.

As shown in Figure 34, the decline in agricultural employment share has been rapid in some countries.[66] Between 1970 and 2007 the employment share in agriculture shrank from 50.4 per cent to 7.4 per cent in Korea and from 19.8 per cent to 5.0 per cent in Japan. Employment in agriculture

65 Data for Lao PDR and Myanmar are unavailable for Figure 33.

66 Nepal's employment by industry is constructed by interpolating benchmark data taken from its labor force survey as well as its population census. In Figure 33 its share of agriculture has increased since 1999. It reflects the employment share of agriculture of 66 per cent from the population census in 2001 and its share of 74 per cent from the labor force survey in 2008.

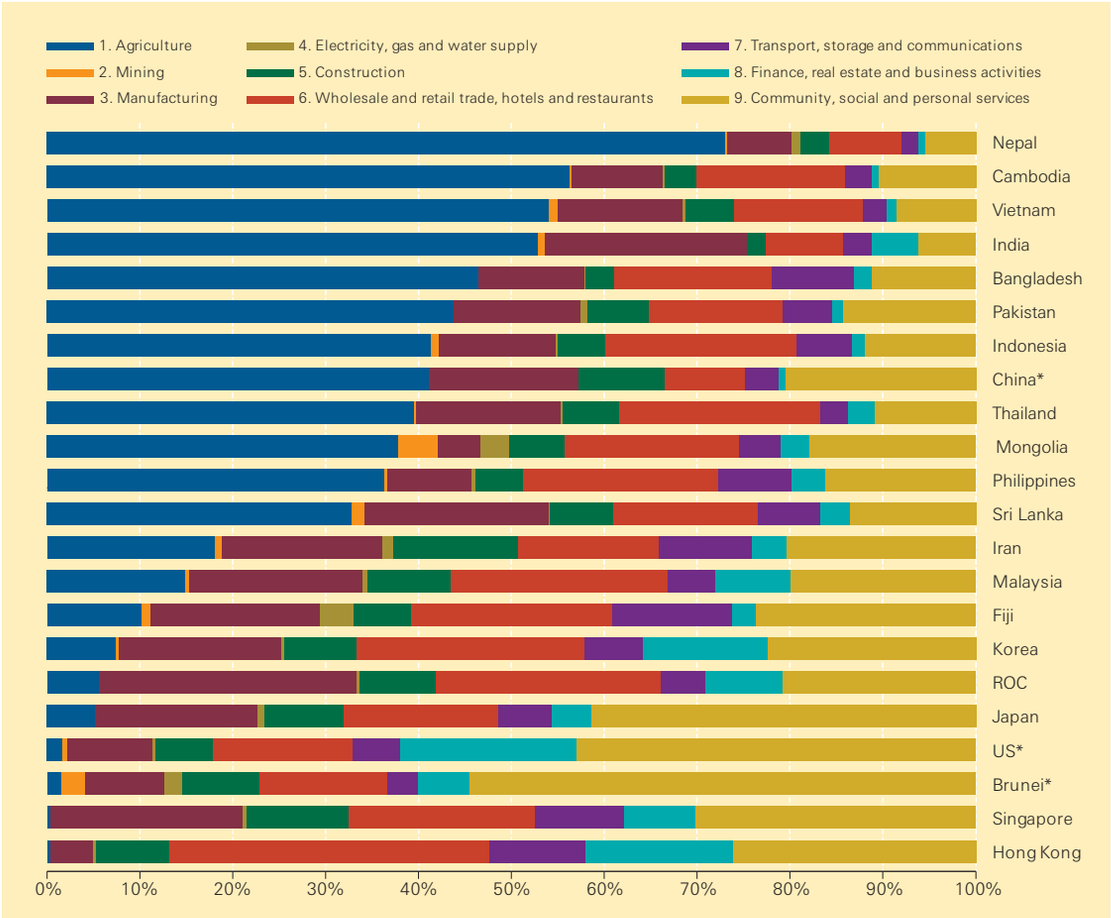

Figure 33: Industry Shares of Employment, 2007

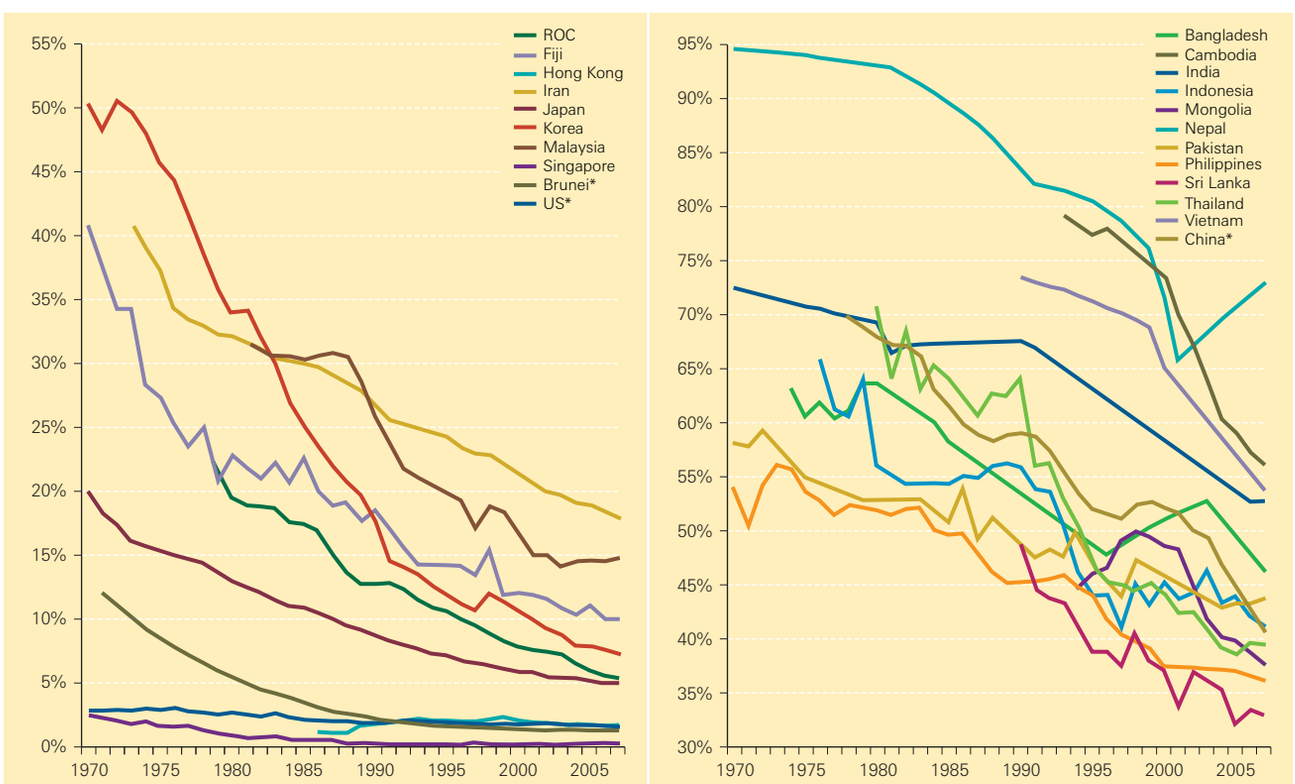

Figure 34: Long-term Trends of Employment Share in the Agricultural Sector, 1970–2007

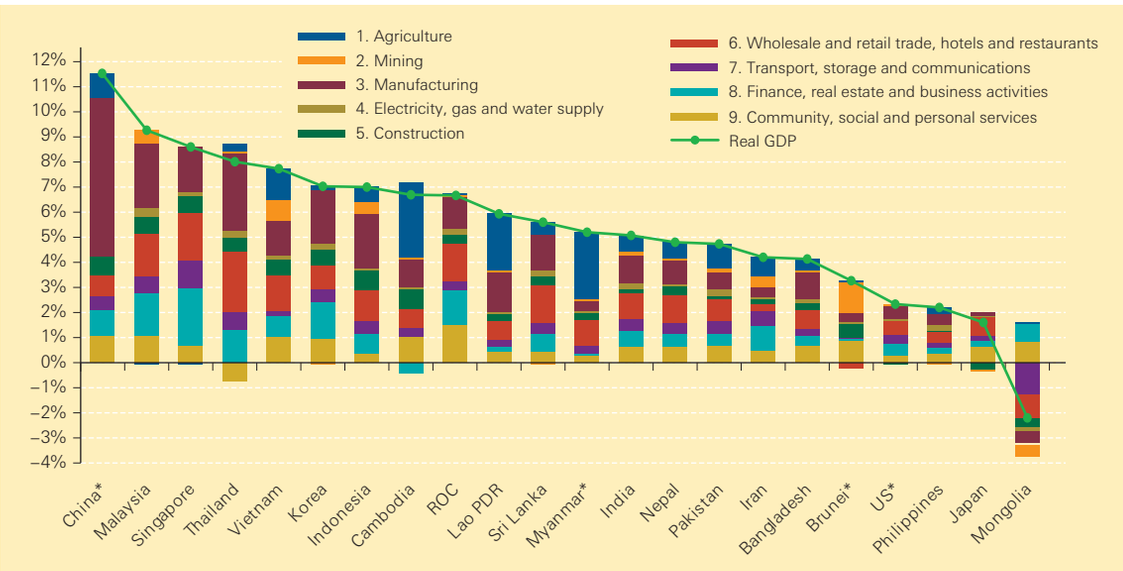

Figure 35: Industry Origins of Economic Growth, 1990–1995
—Industry decomposition: Average annual growth rate of GDP at constant prices

also fell rapidly in the ROC, from 24.9 per cent in 1978 to 5.3 per cent in 2007. In all of these countries, the decline reflects an actual fall in employment in the agricultural sector. In China the share has declined from 69.7 per cent in 1978 to 41.0 per cent in 2007.

7.2 Industry Origins of Economic Growth

In Section 3.1 we see that, as a region, growth in the Asia23 accelerated between 2005 and 2007, averaging 7.2 per cent per annum, up from 5.7 per cent between 2000 and 2005. In contrast, economic growth in the US slowed very marginally over the same period, from an average of 2.44 per cent per annum between 2000 and 2005 to 2.36 per cent between 2005 and 2007. Japan and Fiji were the economies with slower growth than the US between 2005 and 2007. China and India have been the two main drivers among the Asian economies, accounting for 50.0 per cent and 17.2 per cent of the region's growth, respectively. But looking at the industry composition, the origins of economic growth in China and India are quite different. For the period 1978–2004, Bosworth and Collins (2008) found that China's economic growth was fueled by industry sector expansion,[67] whereas for India economic growth was led by service industry expansion. Our findings support their conclusion.

Figures 35,[68] 36 and 37 present the industry origins of average economic growth per annum in Asian countries for the periods 1990–1995, 1995–2000 and 2000–2007, respectively.[69] China was the fastest-growing economy in the region for the periods 1990–1995 and 1995–2000. Even though its growth decelerated from 11.5 per cent to 8.1 per cent between these two periods, its relative position was not challenged, as growth was generally slower due to the Asian financial crisis. Growth in China accelerated to 9.8 per cent on average a year between 2000 and 2007. Official statistics depict Myanmar as achieving a growth rate of 11.3 per cent in this period. However, researchers have suggested that this is not consistent with other variables closely correlated with GDP, such as energy use. Non-official estimates put GDP growth at less than half of the official estimates.[70] Manufacturing has been the main driver in China, making a stable contribution to economic growth of around 50 per cent in all these periods. The service sector, on the other hand, accounted for around 40 per cent of economic

67 The industry sector in Bosworth and Collins (2008) is equivalent to the industry groups 2–5 in this report.

68 Fiji and Hong Kong are excluded from Figure 35.

69 The Törnqvist quantity index is adopted for calculating the growth of real GDP. Using this index, we can decompose the growth of real GDP into the products of contributions by industries,

$$\underbrace{\ln(GDP^{t}/GDP^{t-1})}_{\text{Real GDP growth}}=\Sigma_{i}\underbrace{(1/2)(s_j^{t}+s_j^{t-1})\ln(Q_j^{t}/Q_j^{t-1})}_{\text{Contribution of an industry } j}$$

where Q_j^t is real GDP of an industry j in period t and s_j^t is the nominal GDP share of an industry j in period t.

70 See ADB (2009) and Economist Intelligence Unit (2010).

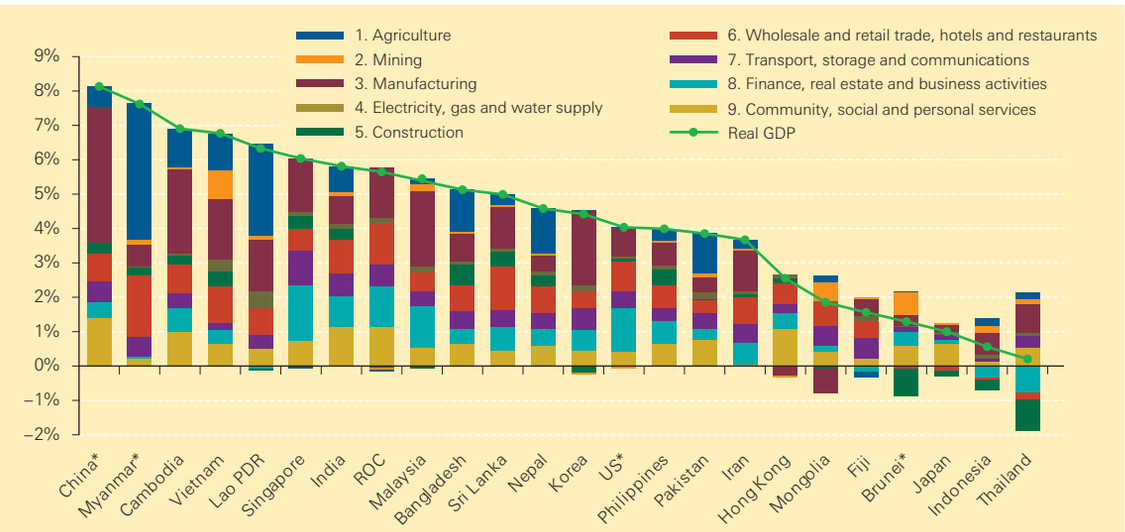

Figure 36: Industry Origins of Economic Growth, 1995–2000
—Industry decomposition: Average annual growth rate of GDP at constant prices

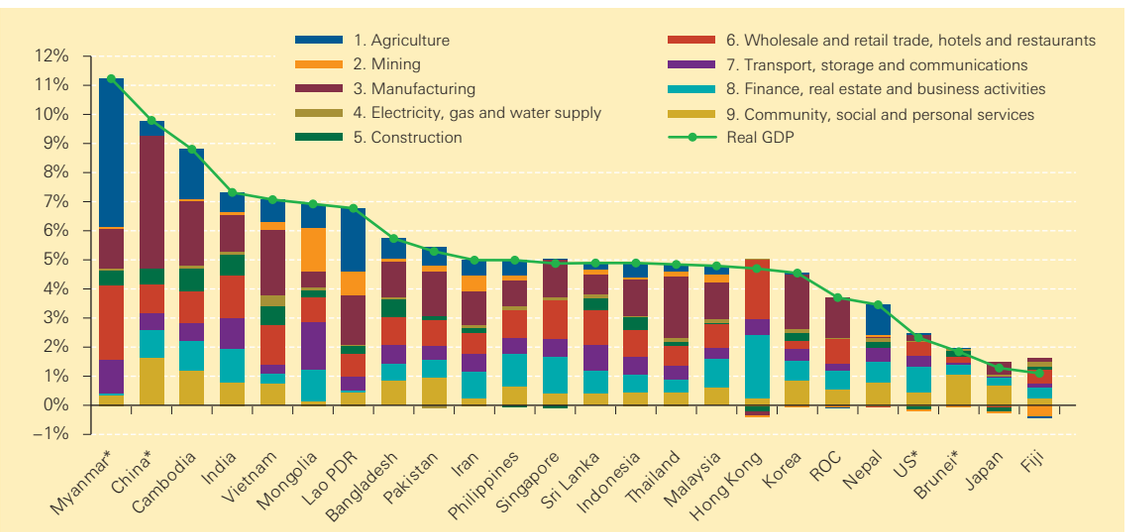

Figure 37: Industry Origins of Economic Growth, 2000–2007
—Industry decomposition: Average annual growth rate of GDP at constant prices

growth for the two periods 1995–2000 and 2000–2007. Korea and Thailand are the two other countries where manufacturing accounted for more than 40 per cent of economic growth in recent years. Such dominance of manufacturing is above the norm, even though the contribution of this industry in most other Asian countries was also significant, accounting for a quarter or more of economic growth between 2000 and 2007.

The services sector plays an equally, if not more, important role in Asian economic growth. Services made the biggest contribution to economic growth in all Asian countries except China and Lao PDR. In Thailand manufacturing and services made roughly equal contributions. In contrast to the industry composition of China's growth, the story behind India's recent growth has been about services, accounting for 60.5 per cent of economic growth for the period 2000–2007, compared with 16.3 per cent from manufacturing. Within the service sector, contribution is quite evenly spread among the subsectors. Modern information and communication technology has allowed India to take an unusual path in its economic development, bypassing a stage when manufacturing steers growth.

Economic growth in the Asian Tigers was also dominated by the service sector, accounting for 61.7 per cent of growth in the ROC for the period 2000–2007, 73.8 per cent in Singapore and 106.4 per cent in Hong Kong (to counterbalance the negative

growth of 3.2 per cent in manufacturing). For these three economies, two industries (wholesale and retail trade, hotels and restaurants; finance, real estate and business activities) in the service sector play equally important roles. The finance, real estate and business activities sector is particularly prominent in Hong Kong. Korea has a different decomposition from the other Asian Tigers, with manufacturing contributing 41.2 per cent of economic growth and 49.3 per cent coming from services.

The split of contributions in Japan between manufacturing and services was 35.8 per cent and 74.9 per cent respectively for the period 2000–2007. This compares with the 10.4 per cent and 93.6 per cent split in the US. Japan's growth rate was one of the slowest in the region. The bulk of growth came from the service subsector of community, social and personal services. Japan is the only country where the contribution of wholesale and retail trade, hotels and restaurants was negative. In contrast, community, social and personal services has been enjoying steady growth, which has been a significant driver behind Japan's economic growth in recent years.

For some Asian countries, agriculture is still the biggest sector. The four countries where the agricultural sector has the largest share in total value added are Myanmar, Lao PDR, Nepal and Cambodia (Figure 30). For the period 2000–2007, agriculture in Nepal, Lao PDR and Cambodia had the highest contribution to economic growth among all Asian countries, accounting for 30.8 per cent, 31.9 per cent and 19.6 per cent of growth, respectively.[71]

Comparing the industry origins of economic growth between the periods 1995–2000 and 2000–2007 is complicated by the impact of the Asian financial crisis of 1997–1998 on some of these countries. Indonesia and Thailand are considered to have been hit the hardest by the crisis. Both countries experienced little growth on average per annum between 1995 and 2000, with the service sector acting as a drag on the economy. The relative contributions by industry to economic growth have been stable in Asia between the periods 1995–2000 and 2000–2007 as a whole.

Table 15 presents cross-country comparisons of output growth by industry between 2000 and 2007. Growth in the fast-growing economies (such as Myanmar, China, Cambodia and India) is quite evenly spread across different sectors, while Mongolia's fast growth was more concentrated in certain sectors, such as construction and transport, storage and communications. Some of the most spectacular growth was achieved by very small economies, such as Myanmar, Vietnam and Cambodia, dwarfing growth in more established (richer) economies. Agricultural output is still expanding in most Asian economies, suggesting that the shrinkage in its value-added share (Figure 32) over the recent period is more a result of the rapid growth in other sectors than any actual contraction of the sector.

Figure 38 present the sub-industry origins of average annual growth of manufacturing GDP for the selected Asian countries for the periods 1995–2000 and 2000–2007, respectively.[72] Machinery and equipment made the largest contributions to manufacturing in most of the countries compared. Food products, beverages and tobacco products is the largest contributor in the Philippines for both periods and in Indonesia for the period 1995–2000. In Bangladesh, manufacturing growth has been dominated by the subsector of textiles, wearing apparel and leather products.

Figure 39 contrasts industry contributions to economic growth for the periods 1995–2000 and 2000–2007, as well as between the US and the Asian average.[73] The first striking feature is the dominance of manufacturing in the Asian countries. Between 1995 and 2000 its contribution to economic growth in the Asia23 was double that in the US, i.e. 44.4 per cent compared with 20.2 per cent. Although its significance has fallen in recent years, it still accounted for 34.1 per cent of economic growth in the Asia23 between 2000 and 2007, compared with 10.4 per cent in the US. In the US it was the finance, real estate and business activities sector that made the biggest contribution in both periods, accounting for 32.0 per cent of economic growth in 1995–2000, rising to 38.8 per cent in 2000–2007. In contrast, the

71 In Myanmar, agriculture accounts for 44 per cent of GDP. In recent years its government has continued its modest steps to liberalize the sector and marketing controls have been made less onerous. As a result, farm production has increased. According to the official statistics, the quality of which has been questionable, the sector accounted for over 45 per cent of GDP growth in 2000–2007.

72 The Törnqvist quantity index is adopted for calculating the growth of real GDP of manufacturing. Using this index, we can decompose the growth of real GDP of manufacturing into the products of contributions by sub-industries of manufacturing,

$$\underbrace{\ln(GDP^{t}/GDP^{t-1})}_{\text{Real GDP growth of manufacturing}} = \Sigma_j \underbrace{(1/2)(s_j^t+s_j^{t-1})\ln(Q_j^t/Q_j^{t-1})}_{\text{Contribution of a sub-industry } j}$$

where Q_j^t is real GDP of a sub-industry j in period t and s_j^t is the nominal GDP share of a sub-industry j in period t.

73 Asian averages are calculated by taking the weighted average of industry contributions with PPP for GDP of each country.

Table 15: Output Growth by Industry, 2000–2007

—Average annual growth rate of industry GDP at constant prices

1. Agriculture		2. Mining		3. Manufacturing		4. Electricity, gas and water supply		5. Construction	
Myanmar*	9.6	Lao PDR	34.4	Myanmar*	16.1	Cambodia	13.7	Myanmar*	19.0
Iran	5.0	Cambodia	16.6	Cambodia	12.8	Vietnam	10.8	Mongolia	14.1
Cambodia	5.0	Sri Lanka	12.4	Mongolia	12.0	Myanmar*	9.3	Cambodia	12.8
Lao PDR	4.5	Myanmar*	11.2	Vietnam	11.3	Nepal	8.0	India	10.5
China*	4.0	Philippines	11.2	China*	10.9	Iran	7.5	Lao PDR	10.4
Philippines	3.8	Bangladesh	7.6	Iran	9.5	Bangladesh	7.0	Vietnam	10.4
Vietnam	3.7	Mongolia	7.1	Lao PDR	9.5	Sri Lanka	7.0	China*	10.1
Indonesia	3.2	Pakistan	7.0	Pakistan	9.1	Indonesia	6.8	Bangladesh	7.9
Mongolia	3.2	Thailand	5.6	Bangladesh	7.5	Korea	5.7	Brunei*	6.7
India	3.2	India	5.4	India	7.4	Thailand	5.4	Indonesia	6.6
Malaysia	3.2	Nepal	4.3	Korea	6.6	Malaysia	5.0	Pakistan	6.2
Nepal	3.1	Vietnam	2.5	Thailand	6.2	India	4.8	Sri Lanka	5.7
Bangladesh	3.1	Iran	2.4	ROC	5.5	Singapore	4.5	Iran	5.4
Pakistan	3.0	Malaysia	1.9	Singapore	5.4	Mongolia	3.9	Thailand	3.8
Brunei*	2.7	Indonesia	0.3	Indonesia	4.8	Philippines	3.9	Nepal	3.4
Thailand	2.6	Brunei*	–0.1	Malaysia	4.6	Fiji	3.8	Korea	3.4
Sri Lanka	1.6	Korea	–0.3	Philippines	4.1	Brunei*	2.7	Fiji	2.8
Singapore	1.4	Hong Kong	–1.7	Sri Lanka	3.6	ROC	2.6	Malaysia	1.3
Korea	1.3	Japan	–3.8	Japan	2.2	Hong Kong	2.0	ROC	–0.5
Japan	–0.5	ROC	–6.0	Fiji	1.4	Japan	0.9	Philippines	–0.6
ROC	–0.9	Fiji	–69.6	Brunei*	0.6	Lao PDR	0.0	Singapore	–1.7
Fiji	–0.9			Nepal	0.6	Pakistan	–3.1	Japan	–2.4
Hong Kong	–2.0			Hong Kong	–3.8			Hong Kong	–5.4
(reference)		(reference)		(reference)		(reference)		(reference)	
US	3.1	US	–1.2	US	1.8	US	1.1	US	–2.9

6. Wholesale and retail trade, hotels and restaurants		7. Transport, storage and communications		8. Finance, real estate and business activities		9. Community, social and personal services	
Myanmar*	10.7	Mongolia	15.7	Myanmar*	18.8	Myanmar*	12.1
China*	9.6	Myanmar*	15.2	Cambodia	12.5	Cambodia	11.6
India	8.9	India	13.4	China*	10.8	China*	11.2
Mongolia	8.4	Indonesia	11.3	India	9.5	Nepal	7.5
Lao PDR	8.0	China*	9.7	Pakistan	8.7	Vietnam	6.8
Hong Kong	7.9	Sri Lanka	8.2	Mongolia	8.6	Pakistan	6.2
Vietnam	7.8	Philippines	8.2	Philippines	7.6	Lao PDR	5.6
Cambodia	7.5	Cambodia	8.0	Malaysia	7.5	India	5.5
Singapore	7.4	Vietnam	8.0	Brunei*	7.0	Malaysia	5.3
Bangladesh	6.6	Iran	7.9	Indonesia	6.8	Bangladesh	5.2
Malaysia	6.1	Lao PDR	7.9	Thailand	6.5	Indonesia	4.8
Iran	6.1	Bangladesh	7.1	Sri Lanka	6.3	Brunei*	4.8
Philippines	6.0	Malaysia	6.1	Hong Kong	6.2	Philippines	4.1
Indonesia	5.9	Korea	5.9	Vietnam	5.7	Singapore	4.0
Brunei*	5.8	Hong Kong	5.8	Iran	5.5	Korea	4.0
Pakistan	5.1	Nepal	5.8	Nepal	5.4	Thailand	3.9
Sri Lanka	5.1	Thailand	5.7	Bangladesh	5.1	Sri Lanka	3.7
ROC	3.9	Singapore	4.5	Singapore	4.6	ROC	2.6
Thailand	3.5	ROC	4.1	Lao PDR	4.1	Japan	2.4
Fiji	2.9	Pakistan	3.7	Korea	4.0	Iran	2.0
Korea	2.4	Brunei*	3.2	ROC	3.4	Mongolia	1.7
Nepal	0.0	Japan	1.3	Fiji	2.3	Fiji	1.5
Japan	–0.3	Fiji	1.0	Japan	1.2	Hong Kong	1.3
(reference)		(reference)		(reference)		(reference)	
US	3.7	US	4.5	US	2.9	US	1.7

Unit: Percentage.
Note: The countries with "*" represent the non-member countries in Asia.

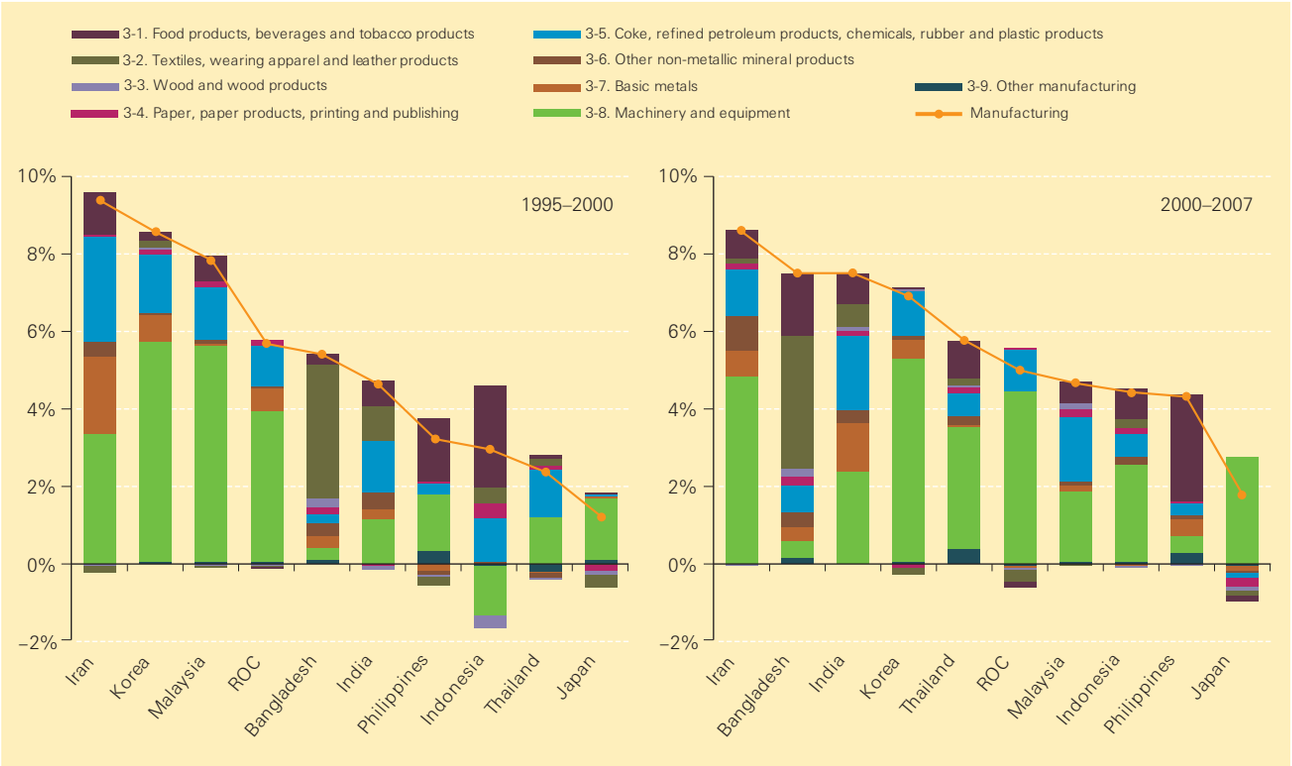

Figure 38: Industry Origins of Output Growth in Manufacturing, 1995–2000 and 2000–2007
—Sub-industry decomposition: Average annual growth rate of GDP at constant prices of manufacturing

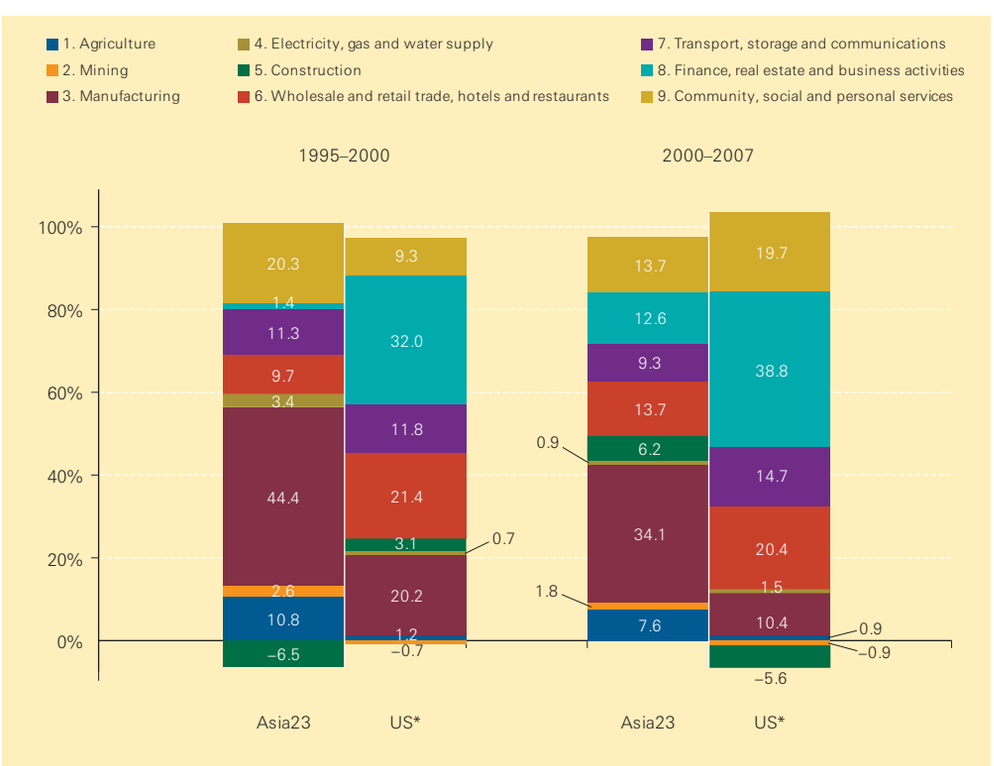

Figure 39: Industry Origins of Regional Economic Growth, 1995–2000 and 2000–2007

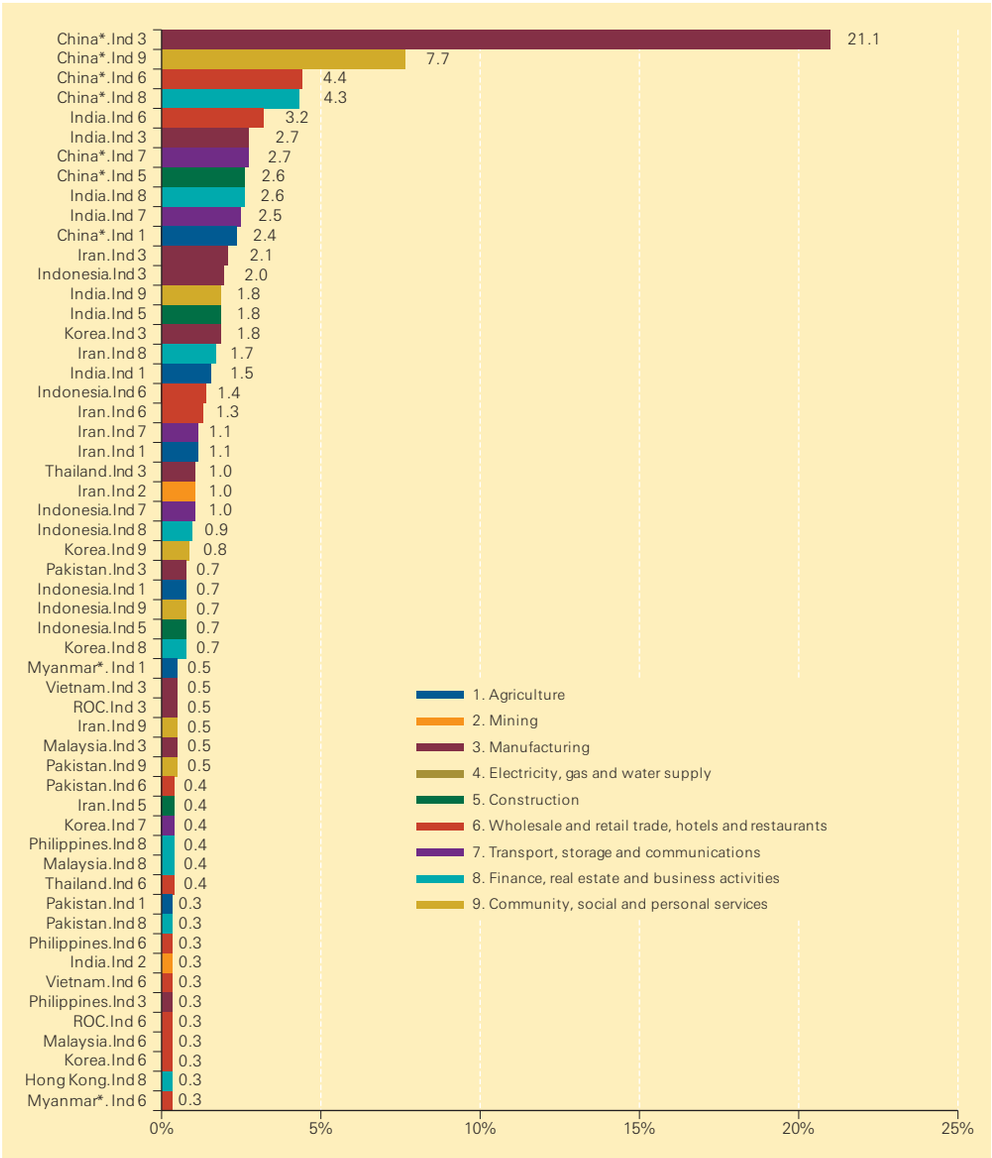

Figure 40: Industry Origins of Asian Economic Growth, 2000–2007
—Contribution to regional growth of GDP at constant prices, using the 2005 PPPs

sector really suffered from the Asian financial crisis in the earlier period, while its contribution returned to a more representative 12.6 per cent in 2000–2007.

The agricultural sector is much more significant in the Asia23 than in the US, with a contribution of 10.8 per cent compared with a relatively negligible 1.2 per cent between 1995 and 2000. In recent years, however, the relative significance of the agricultural sector in the Asia23 fell to 7.6 per cent between 2000 and 2007. Construction really suffered in the Asia23 during the Asian financial crisis, and pulled down economic growth by 6.5 per cent in the period 1995–2000, while the sector was contributing 3.1 per cent to the US economic growth. The reverse was true in the later period, when construction accounted for 6.2 per cent of economic growth in the Asia23, compared with −5.6 per cent in the US. Somewhat surprising was the high contribution of the community, social and personal services sector. In 1995–2000 it accounted one-fifth of economic growth in the Asia23 compared with 9.3 per cent in the US. But in 2000–2007 its contribution was reduced to 13.7 per cent in the Asia23, whereas its significance to economic growth rose to one-fifth in the US. The contribution made by wholesale and retail trade, hotels and restaurants was similar in both the Asia23 and the US, at 11.3 per cent and 11.8 per cent respectively in 1995–2000. But in 2000–2007 its contributions diverged: 9.3 per cent in the Asia23 and 14.7 per cent in the US.

Figure 40 presents industry contributions to

regional economic growth in the Asia23 during 2000–2007, i.e. decomposing Figure 2 in Section 3.1 into countries' industry.[74] The top four industries contributing to the regional growth are Chinese. China accounted for 63.0 per cent of Asian economic growth (Figure 2), one-third of which originated from the expansion of its manufacturing sector (Figure 40). In other words, China's manufacturing sector alone accounted for 21.1 per cent of the region's economic growth. This is followed by China's community, social and personal services (7.7 per cent), wholesale and retail trade, hotels and restaurants (4.4 per cent) and finance, real estate and business activities (4.3 per cent). Combining the entries presented in Figure 40, manufacturing accounted for 33.2 per cent of Asia's regional growth while service industries accounted for 44.1 per cent.

Figure 41 shows the industry origins of economic growth by countries for the period 1970–2007. For the ROC, manufacturing was a clear driving force behind economic growth up to the mid-1980s. As manufacturing struggled, economic growth also became more modest. In more recent years, manufacturing has regained significance in its contribution to economic growth, but compared to its heydays back in the 1970s and 1980s the impact in terms of percentage points is much reduced. With the limited data we have, Hong Kong is a clear service-industry-driven economy in recent years. Looking at the industry profile over time, it is interesting to note that unlike other Asian economies, manufacturing has never driven economic growth in India. Over the years, agriculture has become less important in driving economic growth while service industries gain significance. This is in sharp contrast with, for example, Korea, Japan, Thailand and especially China, where the role of manufacturing in economic growth has never waned. In Singapore, finance, real estate and business activities and wholesale and retail trade, hotels and restaurants are important driving industries alongside the manufacturing sector.

74 The average growth rate of the Asian economy for 2000−2007 is set at 100 per cent. Asian economic growth is calculated as the sum of the contributions over countries and industries,

$$\Sigma_x (1/2)(s_x^t + s_x^{t-1}) \Sigma_j \underbrace{(1/2)(s_{x,j}^t + s_{x,j}^{t-1}) \ln (Q_{x,j}^t / Q_{x,j}^{t-1})}_{\text{Contribution of an industry } j \text{ in a country } x}$$

where $Q_{x,j}^t$ is real GDP of an industry j in a country x in period t, $s_{x,j}^t$ is GDP share of an industry j in a country x with respect to GDP of a country i in period t and s_x^t is GDP share of a country x with respect to the regional GDP in period t. All the industries whose contribution is more than 0.25 per cent are shown in Figure 40.

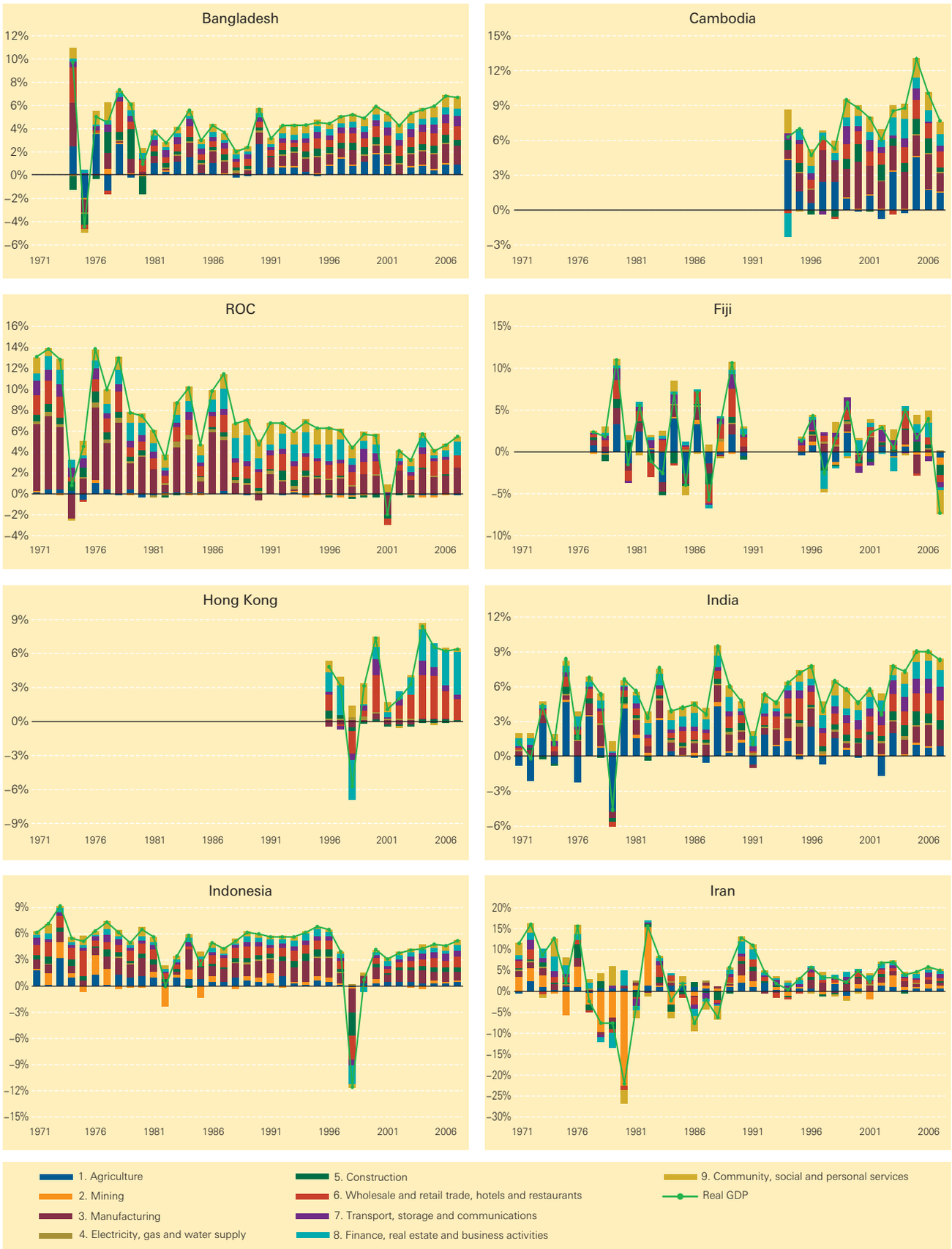

Figure 41(1): Industry Origins of Economic Growth, 1970–2007
—Industry decomposition: Average annual growth rate of GDP at constant prices

Figure 41(2): Industry Origins of Economic Growth, 1970–2007
—Industry decomposition: Average annual growth rate of GDP at constant prices

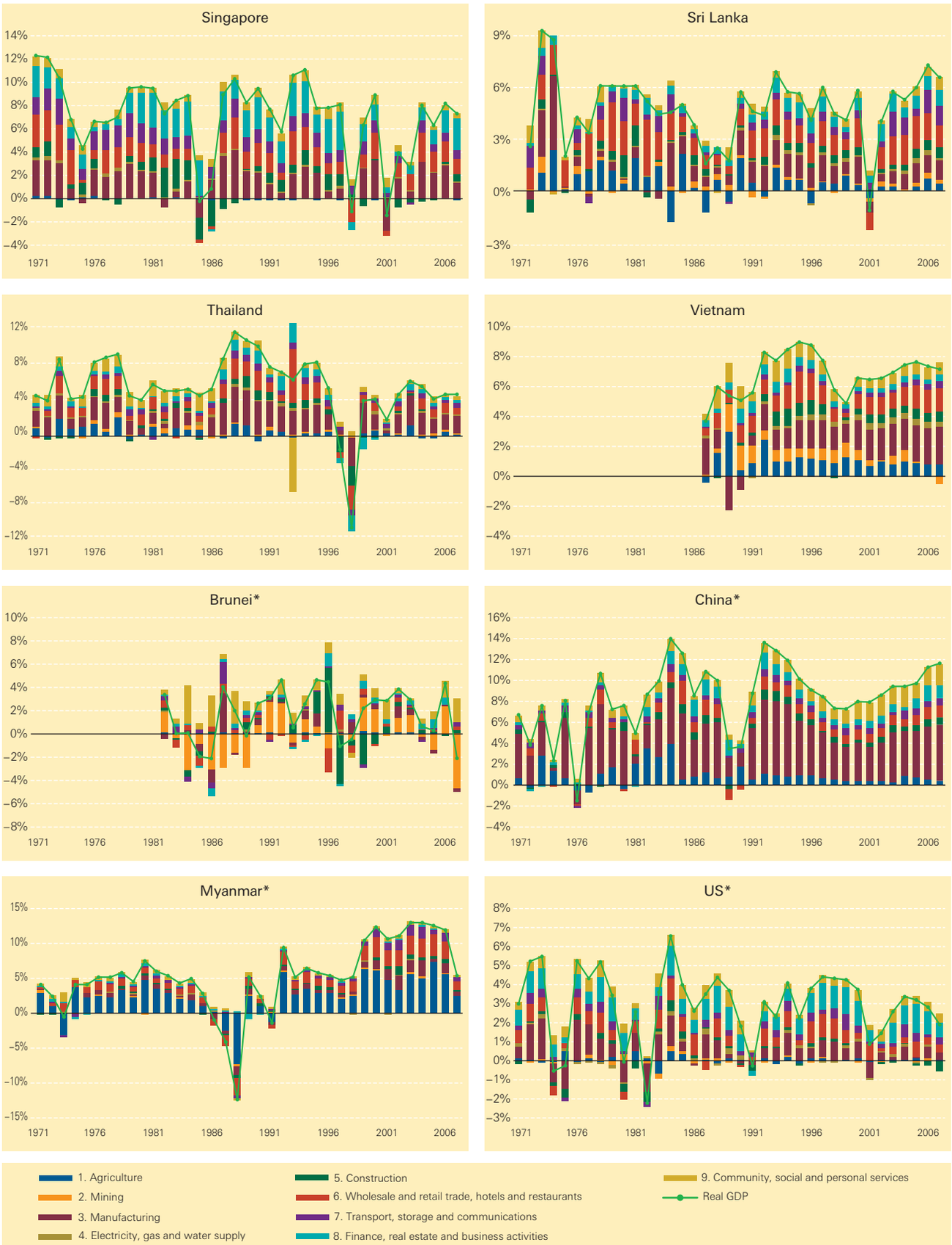

Figure 41(3): Industry Origins of Economic Growth, 1970–2007
—Industry decomposition: Average annual growth rate of GDP at constant prices

7.3 Labor Productivity Growth by Industry

Section 6.2 discusses labor productivity performance in level terms, and identifies a large gap between Asia as a whole and the US. In 2007 Brunei, Hong Kong and Singapore were the countries that had a labor productivity level comparable to that of the US. Besides Singapore, the best performers in Asia achieved productivity levels that were at least 40 per cent of the US; yet Asia collectively was dragged down by a long tail of countries with labor productivity of less than 20 per cent of the US level, pulling down the average performance to 16.7 per cent of that of the US for the APO20 and 13.4 per cent for the Asia23. In growth terms, however, Asia's performance far exceeded that of the US, allowing the countries to close the level gap with the US gradually over time. Between 2000 and 2005 labor productivity growth in the APO20 was 1.6 per cent per annum on average, compared to 2.1 per cent in the US. Including China, the Asian average became 3.6 per cent. For the period 2005–2007 labor productivity growth accelerated to 3.0 per cent on average per annum for the APO20, or 5.4 per cent if China is included. Meanwhile, labor productivity growth decelerated to 1.1 per cent on average per annum in the US.

Table 16 presents cross-country comparisons in labor productivity growth by industry[75] for the period 2000–2007. The average labor productivity growth across countries was 2.5 per cent in agriculture, −1.6 per cent in mining, 3.5 per cent in manufacturing, 1.8 per cent in electricity, gas and water supply, −0.2 per cent in construction, 1.8 per cent in wholesale and retail trade, hotels and restaurants, 3.8 per cent in transport, storage and communications, −0.2 per cent in finance, real estate and business activities and 2.1 per cent in community, social and personal services. These findings highlight the fact that service industries are no longer a drag on the economy's productivity performance but are as capable as manufacturing in achieving productivity growth. Compared with the US, Asian growth averages are much higher in every industry except for two: agriculture and wholesale and retail trade, hotels and restaurants. Note that although Bangladesh, Hong Kong, India, Mongolia, Nepal and Sri Lanka topped the ranking in some industries, only China is close to the region's leader in every industry. The growth rate of mining in Bangladesh and electricity, gas and water supply in Sri Lanka is around 20 per cent. They show the most significant performance among all industries. However, their contributions to countries' economic performance are small because of their relatively small size with respect to the total economy.

Figures 42, 43 and 44 show the industry origins of the average labor productivity growth per annum in the periods 1990–1995, 1995–2000 and 2000–2007 respectively. Not all Asian countries are included, because employment by industry sector is not available for some countries. Of the countries presented, China experienced the fastest growth in labor productivity for all the periods. Not only that, in the past decade productivity growth accelerated between the two periods of 1995–2000 and 2000–2007, from 6.9 per cent to 8.8 per cent, compared with decelerated growth between the two periods in the US, from 2.1 per cent to 1.8 per cent.

Among all the industry sectors, electricity, gas and water supply has made the least positive contribution to labor productivity growth in Asia, at around 4 per cent for the period 2000–2007. The contribution from agriculture was around −3 per cent over the same period, whereas manufacturing and services made contributions of 31 per cent and 62 per cent respectively to labor productivity growth. The manufacturing sector has been traditionally the driving force behind productivity growth. This is certainly the case in most Asian countries. The manufacturing sector is particularly important in Korea, accounting for 72.3 per cent of the average annual labor productivity growth between 1995 and 2000 and 64.1 per cent between 2000 and 2007. For China, the figures were 62.9 per cent and 44.3 per cent, respectively. In Thailand, Malaysia and Japan manufacturing accounted for 62.1 per cent, 54.3 per cent and 50.6 per cent of respective average annual labor productivity growth between 2000 and 2007.

Traditionally, it has been difficult for the service sector to realize productivity growth, but modern

75 Labor productivity in Table 16 is defined simply as per-worker GDP at constant prices by industry (v_j). The industry decomposition of labor productivity growth for the whole economy (v) in Figures 42, 43 and 44 is based on the equation $v=\Sigma_j \overline{w}_j v_j^*$ where the weight is the two-period average of value-added shares. In this decomposition, the number of workers as a denominator of the labor productivity (v_j^*) is adjusted, weighting the reciprocal of the ratio of the real per-worker GDP by industry to its industry average. Thus the industry contribution ($\overline{w}_j v_j^*$) is emphasized more in industries in which the per-worker GDP is higher than the industry average, in comparison with the impact ($\overline{w}_j v_j$) of using the non-adjusted measure of labor productivity.

Table 16: Cross-country Comparisons of Labor Productivity Growth by Industry, 2000–2007

—Average annual growth rate of industry labor productivity

1. Agriculture		2. Mining		3. Manufacturing		4. Electricity, gas and water supply		5. Construction	
China*	6.4	Bangladesh	20.1	Mongolia	13.8	Sri Lanka	18.2	India	8.0
Hong Kong	6.2	Sri Lanka	9.7	Korea	7.2	Bangladesh	16.6	China*	5.2
Korea	5.1	Cambodia	9.1	Iran	6.5	Thailand	6.8	Brunei*	4.2
Vietnam	4.1	Hong Kong	8.3	China*	6.4	Singapore	4.2	Bangladesh	3.8
Cambodia	3.9	Philippines	7.7	Malaysia	6.0	Fiji	3.8	Sri Lanka	1.8
Iran	3.8	Pakistan	6.6	ROC	4.5	ROC	3.3	Pakistan	1.7
Mongolia	3.5	ROC	2.6	Vietnam	3.9	Hong Kong	3.2	Nepal	1.7
ROC	3.4	India	2.3	Indonesia	3.9	Iran	2.9	Korea	1.1
Malaysia	3.1	Japan	2.1	Japan	3.8	India	2.3	Indonesia	0.8
Indonesia	3.0	Thailand	0.6	Cambodia	3.6	Malaysia	2.0	Mongolia	0.7
India	2.2	Iran	–0.5	Thailand	3.5	Japan	1.9	Singapore	0.1
Thailand	2.1	Korea	–1.1	Singapore	3.5	Korea	1.5	Japan	0.0
Japan	1.9	Brunei*	–2.4	Fiji	3.2	Philippines	1.1	Vietnam	–0.7
Sri Lanka	1.8	Malaysia	–3.2	Philippines	2.8	Brunei*	–0.2	ROC	–0.8
Philippines	1.6	Vietnam	–3.8	Pakistan	2.8	Nepal	–0.7	Iran	–1.3
Bangladesh	1.4	Mongolia	–5.2	Bangladesh	1.9	Vietnam	–1.6	Thailand	–1.3
Fiji	1.4	Nepal	–7.1	Hong Kong	1.1	Mongolia	–4.1	Malaysia	–1.4
Nepal	0.3	Indonesia	–11.0	India	0.5	Indonesia	–6.0	Philippines	–3.4
Pakistan	0.2	Fiji	–64.9	Sri Lanka	–0.1	Pakistan	–7.8	Hong Kong	–4.2
Brunei*	0.2			Nepal	–1.2	Cambodia	–10.8	Cambodia	–6.7
Singapore	–2.8			Brunei*	–3.7			Fiji	–13.2
(reference)		(reference)		(reference)		(reference)		(reference)	
US	4.3	US	–4.8	US	4.9	US	2.4	US	–4.4

6. Wholesale and retail trade, hotels and restaurants		7. Transport, storage and communications		8. Finance, real estate and business activities		9. Community, social and personal services	
Hong Kong	6.5	Mongolia	12.0	China*	7.4	Nepal	9.4
India	6.4	India	10.8	India	7.0	China*	7.8
China*	6.2	Vietnam	7.5	Brunei*	3.8	Sri Lanka	6.2
Singapore	5.6	Indonesia	7.4	Hong Kong	3.4	Malaysia	4.5
Indonesia	4.4	China*	6.7	Pakistan	2.3	Philippines	4.5
Vietnam	3.7	Hong Kong	5.3	Japan	2.0	Bangladesh	4.2
Brunei*	2.8	Philippines	4.6	Thailand	1.5	Pakistan	3.5
Korea	2.5	Thailand	4.4	ROC	1.2	India	3.0
Bangladesh	2.5	ROC	3.5	Cambodia	0.4	Fiji	1.6
ROC	2.1	Korea	3.4	Indonesia	0.2	Indonesia	1.6
Iran	1.9	Singapore	3.2	Singapore	0.2	Brunei*	1.5
Malaysia	1.4	Malaysia	3.0	Malaysia	–0.7	Singapore	1.0
Pakistan	1.4	Sri Lanka	2.3	Nepal	–1.0	Japan	0.6
Sri Lanka	1.0	Fiji	2.3	Sri Lanka	–1.0	Thailand	0.6
Japan	0.5	Nepal	1.9	Philippines	–1.3	ROC	0.1
Thailand	0.2	Japan	1.8	Korea	–1.8	Iran	–0.2
Philippines	–0.3	Pakistan	0.7	Iran	–1.9	Vietnam	–0.3
Fiji	–0.6	Brunei*	0.7	Mongolia	–3.1	Korea	–0.5
Mongolia	–1.5	Iran	0.4	Fiji	–4.2	Mongolia	–0.7
Nepal	–3.3	Bangladesh	–1.3	Bangladesh	–8.4	Hong Kong	–1.4
Cambodia	–4.7	Cambodia	–2.0	Vietnam	–10.3	Cambodia	–2.1
(reference)		(reference)		(reference)		(reference)	
US	3.4	US	5.3	US	2.2	US	0.2

Unit: Percentage.
Note: The countries with "*" represent the non-member countries in Asia.

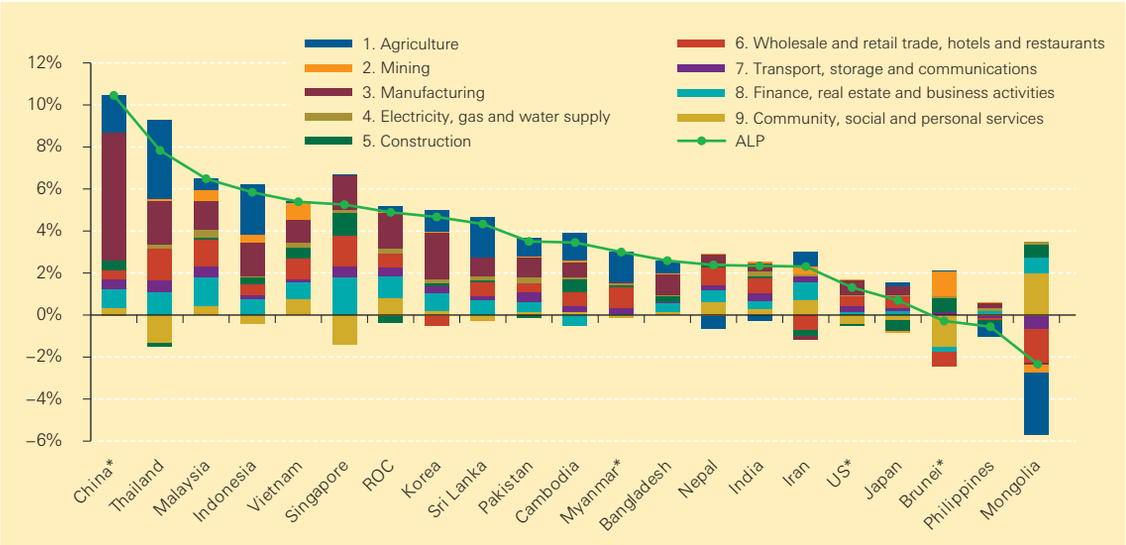

Figure 42: Industry Origins of Labor Productivity Growth, 1990–1995
—Industry decomposition: Average annual growth rate of GDP at constant prices

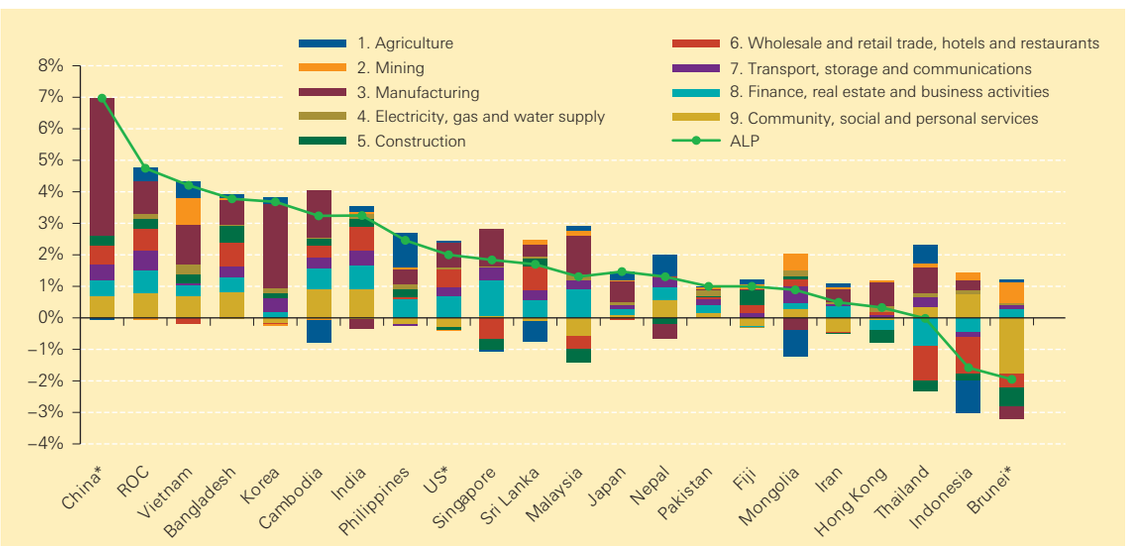

Figure 43: Industry Origins of Labor Productivity Growth, 1995–2000
—Industry decomposition: Average annual growth rate of GDP at constant prices

advancements in information and communication technology have changed that. A lot of IT-intensive users are in the service sector, which is capable of capturing the productivity benefits arising from IT utilization. Recently we have observed the growing importance of services in explaining productivity growth in the Western economies. In Asia the contribution from services is matching that of manufacturing. Among the four industries in the services sector, three are potentially IT-using industries: wholesale and retail trade, hotels and restaurants; transport, storage and communications; and finance, real estate and business activities. Wholesale and retail trade, hotels and restaurants made the largest contribution of 1.2 percentage points in India, while transport, storage and communications made the largest contribution of 1.5 percentage points in Mongolia and finance, real estate and business activities made the largest contribution of 1.8 percentage points in Hong Kong. It was particularly prominent that in India all these three industries significantly contributed to the improvement of the economy-wide labor productivity for the period 2002−2007, while the contribution of manufacturing was negative for the periods 1995−2000 and 2000−2007. In Hong Kong nearly all the productivity growth was explained by the services sector. In the other Asian Tigers, services accounted for 63.7

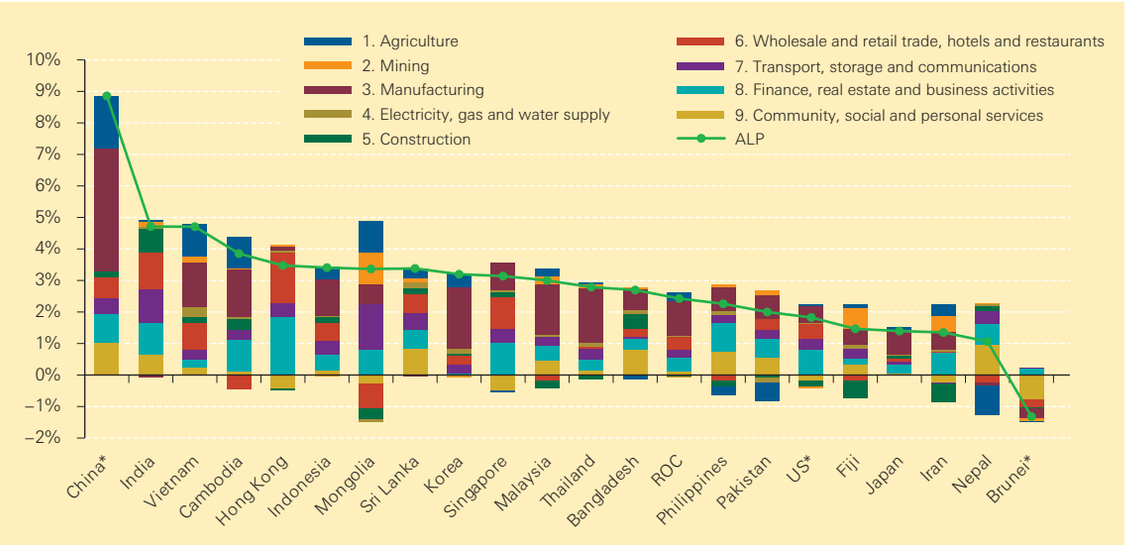

Figure 44: Industry Origins of Labor Productivity Growth, 2000–2007
—Industry decomposition: Average annual growth rate of GDP at constant prices

per cent of labor productivity growth in Singapore and 45.8 per cent in the ROC between 2000 and 2007. Korea was the only Tiger where services made a relatively small contribution, at 17.0 per cent. The contribution of services was also highly significant in Bangladesh and the Philippines over the same period.

Among the countries presented, China experienced the fastest growth in service sector labor productivity, at 7.0 per cent on average per annum, of which 67.3 per cent was explained by the three potential IT-using subsectors. India came second with a service sector labor productivity growth of 4.8 per cent, of which 83.4 per cent was explained by the three potential IT-using subsectors. With the exception of China, the Philippines and Malaysia, community, social and personal services played the least role in accounting for service sector labor productivity growth in all countries. In Vietnam, Cambodia, Hong Kong and Korea it even had a negative contribution. In the Philippines, Cambodia, Nepal and Mongolia, wholesale and retail trade, hotels and restaurants was a huge drag on service sector labor productivity growth, whereas it made significant contributions of 1.6 percentage points, 1.2 percentage points and 0.6 percentage points to labor productivity growth in Hong Kong, India and Indonesia respectively. Finance, real estate and business activities was also significant in a number of countries, such as Hong Kong, China, India, the Philippines and Cambodia.

An improvement in aggregate labor productivity is a combination of two effects. It could reflect productivity gains within the industry sector (the intra-sectoral effect), and/or the extent of resource allocation taking place in the economy from low-productivity industries to high-productivity industries (the inter-sectoral effect). As the highly productive industries gain weight in the economy, they tilt the performance of the whole economy towards higher labor productivity. It is expected that aggregate labor productivity growth is predominantly explained by the improved performance within each industry sector (the intra-sectoral effect), but a small result could still arise from the inter-sectoral effect, which is positive when high-performance industry is growing bigger in the economy. Figure 45 shows the decomposition of the intra- and inter-sectoral effects for the Asian countries,[76] where, as expected, the intra-sectoral effect dominates the overall labor productivity growth. Even so, the inter-sectoral effect has a significant impact on overall

76 Here, labor productivity growth is decomposed into the inter-sectoral effect (first part) and the intra-sectoral effect (second part, evaluated using the industry structure at the initial period) based on the equation, $v=\Sigma_j(1/2)(w_j^{2007}-w_j^{2000})v_j^*+\Sigma_j w_j^{2000}v_j^*$ for the period 2000–2007, where labor productivity by industry v_j^* is defined in footnote 75. If there is an increase of value-added share in industry with higher productivity growth from 2000 to 2007, the inter-sectoral effect would be positive. In the case of no change in value-added allocation among industries or no difference in labor productivity growth among industries, this measure is zero.

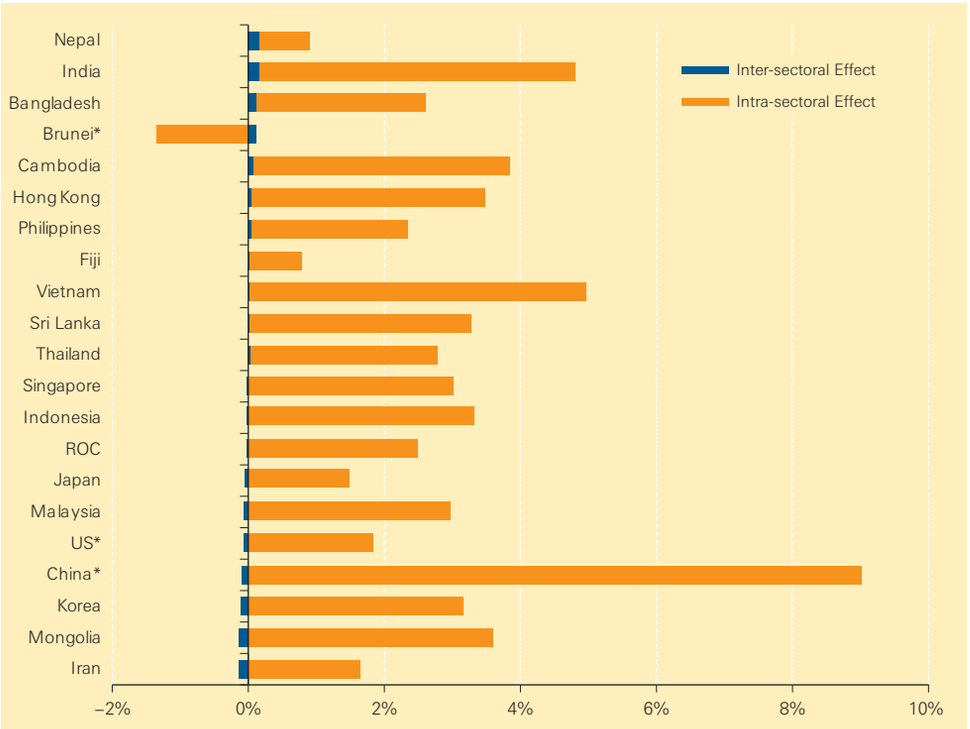

Figure 45: Intra- and Inter-sectoral Effects in Labor Productivity Growth, 2000–2007

labor productivity growth in several countries. It can contribute up to 10.5 per cent to labor productivity growth, as in Pakistan, and 5.2 per cent in Bangladesh, or can drag labor productivity growth down by up to 8.7 per cent, as in Iran.

Box 12: Productivity Measures Based on Value Added and Gross Output

Labor productivity is defined as real value added per worker in Chapters 6 and 7; it can also be defined as real gross output per worker. Both measures are widely used for productivity analysis. Deducting the purchases of intermediate inputs from gross output, one can obtain value added. Thus, a gross-output-based measure is likely to overvalue the performance of the countries and industries that have high ratios of intermediate inputs with respect to gross outputs. Value-added-based labor productivity has the advantage that the changes in the economy-wide labor productivity can be attributed to the contributions to the changes in industry labor productivities. Since our interest is in the industry origins of the productivity performance of an entire country or the region, value-addedbased labor productivity is adopted in this edition.

Figure B12 presents comparisons of gross-output-based and value-added-based measures across nine industries and five countries. Taking the average over 20–30 years, the average annual growth rates of these two measures are similar in many industries. The relatively large disparities between the two measures are observed in four industries in the services sector: wholesale and retail trade, hotels and restaurants; transport, storage and communications; finance, real estate and business activities; and community, social and personal services. Thailand is an exceptional country in which the difference between the two measures is significantly wider than in other countries in every industry.

Figure B12: Labor Productivities Based on Value Added and Gross Output, 1970–2007

Note: The starting years for some countries are different due to data constraints: Bangladesh (1980–), the ROC (1981–), Japan (1970–), Korea (1970–) and Thailand (1970–).

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APPENDIX

Data 1

GDP at Constant Prices

Unit: Billion US Dollars (using the 2005 PPPs)

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	47.6	1.23	29.8	440.4	90.6	182.9	1,334.2	103.3	n.a.	30.4
1971	n.a.	n.a.	53.7	1.31	31.9	447.6	97.2	205.1	1,393.1	111.8	n.a.	33.5
1972	n.a.	n.a.	60.8	1.41	35.3	445.1	107.5	238.1	1,510.7	116.8	n.a.	36.7
1973	42.5	n.a.	68.5	1.59	39.6	459.9	121.0	243.1	1,631.6	130.8	n.a.	40.9
1974	46.5	n.a.	69.5	1.63	40.5	465.5	129.0	277.7	1,611.2	140.2	n.a.	44.4
1975	44.6	n.a.	73.1	1.63	40.7	508.0	137.0	289.9	1,661.2	148.5	n.a.	44.7
1976	47.2	n.a.	83.2	1.68	47.3	516.2	147.6	348.5	1,728.3	164.1	n.a.	49.9
1977	48.4	n.a.	91.8	1.75	52.9	553.7	161.7	337.7	1,804.6	180.5	n.a.	53.8
1978	51.9	n.a.	104.3	1.78	57.3	585.4	174.0	318.0	1,900.0	197.2	n.a.	57.3
1979	54.4	n.a.	113.0	2.00	64.0	554.5	185.2	296.1	2,004.6	210.6	n.a.	62.7
1980	54.8	n.a.	121.5	1.96	70.6	591.9	202.2	248.7	2,061.9	207.6	n.a.	67.4
1981	56.7	n.a.	129.2	2.08	77.2	627.3	216.9	239.5	2,148.1	220.4	n.a.	72.0
1982	58.0	n.a.	133.7	2.06	79.5	649.1	219.2	279.0	2,221.5	236.5	n.a.	76.4
1983	60.4	n.a.	145.3	1.98	84.2	696.6	228.4	306.9	2,291.1	261.8	n.a.	81.1
1984	63.5	n.a.	160.5	2.14	92.5	723.2	245.7	294.8	2,394.0	282.9	3.09	87.4
1985	65.6	n.a.	168.4	2.03	93.2	760.9	255.3	295.0	2,546.9	302.1	3.33	86.4
1986	68.4	n.a.	188.0	2.20	103.5	797.4	273.7	278.1	2,621.8	333.9	3.49	87.4
1987	71.0	5.5	212.1	2.06	117.4	828.9	291.7	268.8	2,732.3	370.9	3.45	92.1
1988	72.5	6.4	228.4	2.10	127.3	908.8	312.1	268.3	2,928.1	410.2	3.39	101.3
1989	74.4	6.4	247.0	2.37	130.1	962.7	340.5	288.3	3,085.4	437.9	3.84	110.5
1990	78.9	6.5	260.5	2.45	135.2	1,013.3	371.2	340.5	3,252.4	478.0	4.10	120.5
1991	81.5	7.0	280.0	2.39	142.9	1,021.5	404.5	380.0	3,360.8	522.9	4.27	132.0
1992	85.6	7.5	301.4	2.54	151.6	1,079.9	433.8	402.6	3,389.1	553.7	4.57	143.7
1993	89.6	7.8	322.0	2.60	160.7	1,121.9	465.3	376.2	3,395.3	587.7	4.84	158.0
1994	93.3	8.5	345.5	2.73	170.4	1,198.0	500.5	372.7	3,422.9	638.1	5.23	172.5
1995	97.9	9.1	368.1	2.80	174.3	1,288.2	541.8	385.0	3,484.6	696.5	5.60	189.5
1996	102.5	9.6	392.0	2.94	181.6	1,386.9	584.4	412.9	3,574.6	745.4	5.99	208.5
1997	108.0	10.1	417.0	2.87	190.8	1,441.5	612.2	432.8	3,630.9	780.2	6.40	223.8
1998	113.7	10.6	435.9	2.91	179.3	1,533.1	531.6	449.8	3,561.5	726.9	6.66	207.4
1999	119.3	11.9	461.0	3.17	183.9	1,641.5	536.0	467.3	3,558.2	796.2	7.14	220.2
2000	126.4	12.9	488.2	3.12	198.5	1,713.4	562.6	491.4	3,660.3	864.2	7.56	239.8
2001	133.2	14.0	477.2	3.18	199.5	1,805.0	583.4	518.1	3,666.9	894.9	8.00	241.1
2002	139.1	14.9	498.1	3.28	203.2	1,872.0	609.9	555.3	3,681.0	957.5	8.47	254.1
2003	146.6	16.2	514.9	3.31	209.3	2,026.1	639.1	599.1	3,733.2	983.7	8.96	268.9
2004	155.9	17.9	547.3	3.49	227.0	2,196.9	671.3	616.9	3,834.4	1,031.6	9.58	287.3
2005	165.3	20.2	570.5	3.51	243.1	2,404.6	709.8	649.0	3,909.6	1,072.8	10.28	302.7
2006	176.4	22.4	598.1	3.63	260.1	2,636.1	749.0	696.4	3,986.9	1,128.8	11.14	320.5
2007	188.0	24.7	632.4	3.40	276.7	2,875.2	796.6	740.5	4,081.2	1,186.4	11.98	340.5

Note: GDP is evaluated at market prices. Data for some countries include our estimates, which extend the recent data series based on 1993 SNA by the past data series based on 1968 SNA (see Box 2). GDP does not include FISIM and purchased valuables for data comparability (FISIM includes our estimates for some countries, see Box 3).

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
1.46	n.a.	62.5	69.4	15.2	15.0	54.9	n.a.	n.a.	289.3	7.9	4,212.9	4,983.0	1970
1.54	n.a.	63.4	72.8	17.0	15.0	57.6	n.a.	n.a.	309.5	8.2	4,354.8	5,151.1	1971
1.61	n.a.	64.4	76.3	19.3	15.5	60.0	n.a.	n.a.	321.3	8.4	4,586.2	5,389.5	1972
1.78	n.a.	68.6	82.9	21.4	16.1	65.9	n.a.	n.a.	346.7	8.2	4,852.1	5,729.3	1973
1.89	8.1	72.2	87.3	22.7	16.7	68.8	n.a.	9.3	354.6	8.6	4,819.7	5,865.1	1974
2.02	8.4	74.6	93.0	23.6	17.3	72.1	n.a.	9.4	385.5	8.9	4,795.9	5,829.8	1975
2.12	8.7	78.0	100.5	25.3	18.1	78.9	n.a.	11.3	379.3	9.4	5,062.2	6,098.1	1976
2.17	9.1	81.0	106.7	27.3	18.9	86.7	n.a.	12.5	408.1	9.9	5,295.6	6,268.0	1977
2.35	9.3	87.5	112.6	29.6	20.3	95.8	n.a.	13.3	455.8	10.5	5,587.7	6,461.1	1978
2.56	9.1	91.7	119.6	32.4	21.5	100.9	n.a.	16.4	490.3	11.0	5,768.6	6,696.9	1979
2.64	9.8	99.6	125.9	35.5	22.7	105.7	n.a.	15.2	528.7	11.9	5,760.7	6,797.5	1980
2.87	10.2	106.5	130.3	39.0	24.0	112.0	n.a.	12.2	556.5	12.6	5,916.5	6,809.7	1981
3.10	10.2	113.5	135.1	41.8	25.2	118.0	n.a.	12.7	606.9	13.3	5,796.6	6,874.3	1982
3.28	10.9	121.2	137.6	45.3	26.4	124.6	n.a.	12.8	672.7	13.9	6,026.4	6,992.0	1983
3.48	11.5	127.4	127.6	49.1	27.8	131.8	n.a.	12.9	774.8	14.6	6,472.3	7,166.1	1984
3.68	12.0	137.1	118.3	48.4	29.2	137.9	n.a.	12.7	879.2	15.0	6,720.6	7,347.1	1985
4.02	12.3	144.6	122.4	49.4	30.4	145.6	49.5	12.4	956.9	14.8	6,935.5	7,554.5	1986
4.17	13.2	154.0	127.7	54.3	30.9	159.5	51.4	12.6	1,067.8	14.2	7,166.2	7,768.3	1987
4.38	13.8	165.7	136.4	60.5	31.8	180.7	54.4	12.8	1,188.2	12.6	7,473.4	8,099.8	1988
4.56	14.4	173.9	144.9	66.6	32.4	202.7	57.0	12.7	1,236.5	13.1	7,760.1	8,398.3	1989
4.45	15.3	181.7	148.8	72.7	34.5	225.4	59.9	12.8	1,284.0	13.5	7,905.1	8,648.8	1990
4.20	16.0	190.9	147.7	77.4	36.1	244.7	63.4	13.2	1,401.8	13.4	7,871.7	8,817.7	1991
3.97	16.6	205.6	147.4	82.4	37.7	264.6	68.9	13.8	1,601.5	14.7	8,126.7	8,920.2	1992
3.80	17.9	209.3	152.3	92.0	40.3	286.5	74.5	13.8	1,825.1	15.5	8,363.1	8,891.0	1993
3.91	18.6	217.1	159.1	102.7	42.6	312.3	81.1	14.3	2,063.8	16.7	8,710.3	9,140.9	1994
4.08	19.5	228.0	166.7	111.0	45.0	341.2	88.8	14.9	2,289.3	17.9	8,938.6	9,380.1	1995
4.19	20.6	239.1	176.5	119.7	46.7	361.4	97.1	15.4	2,518.4	19.0	9,270.9	9,547.5	1996
4.37	21.2	241.5	185.8	129.7	49.7	356.5	105.1	15.1	2,752.6	20.1	9,680.8	9,808.0	1997
4.58	22.1	247.8	185.0	127.9	52.1	319.1	111.2	15.0	2,968.2	21.3	10,097.6	10,098.9	1998
4.81	23.5	256.9	191.5	137.1	54.3	333.3	116.5	15.6	3,194.3	23.6	10,578.1	10,408.9	1999
4.87	24.8	267.9	203.4	150.9	57.6	349.2	124.4	16.1	3,463.7	26.9	11,018.3	10,813.3	2000
5.02	24.8	273.3	206.9	147.3	56.8	356.8	133.0	16.5	3,751.2	30.0	11,132.2	11,030.1	2001
5.25	25.8	282.1	216.3	153.4	59.2	375.9	142.4	17.1	4,091.8	33.6	11,331.7	11,160.6	2002
5.62	27.0	295.9	227.3	159.1	62.8	402.8	152.9	17.7	4,502.1	38.2	11,628.7	11,295.0	2003
6.22	26.9	317.6	242.1	173.9	66.2	428.5	164.9	17.8	4,956.1	43.5	12,040.3	11,555.9	2004
6.67	28.9	341.9	254.3	186.6	70.4	448.3	178.9	18.0	5,473.2	49.4	12,416.4	11,766.2	2005
7.24	29.9	363.1	268.5	202.2	75.8	471.9	193.7	18.8	6,108.0	55.8	12,756.4	12,110.4	2006
7.99	31.5	383.9	288.1	217.9	81.0	495.4	210.1	18.9	6,834.9	57.7	13,017.3	12,446.4	2007

Data 2

Growth Rate of GDP at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	12.0	5.8	6.9	1.6	7.1	11.4	4.3	7.9	n.a.	9.6
1972	n.a.	n.a.	12.4	7.6	10.0	–0.6	10.1	14.9	8.1	4.3	n.a.	9.0
1973	n.a.	n.a.	12.0	12.0	11.6	3.3	11.9	2.1	7.7	11.3	n.a.	11.1
1974	9.2	n.a.	1.5	2.6	2.3	1.2	6.4	13.3	–1.3	6.9	n.a.	8.0
1975	–4.2	n.a.	5.0	0.2	0.4	8.7	6.0	4.3	3.1	5.8	n.a.	0.8
1976	5.5	n.a.	12.9	2.6	15.0	1.6	7.4	18.4	4.0	10.0	n.a.	10.9
1977	2.7	n.a.	9.8	4.4	11.2	7.0	9.2	–3.2	4.3	9.5	n.a.	7.5
1978	6.8	n.a.	12.8	1.8	8.1	5.6	7.3	–6.0	5.2	8.9	n.a.	6.4
1979	4.7	n.a.	8.1	11.4	11.0	–5.4	6.2	–7.1	5.4	6.6	n.a.	8.9
1980	0.8	n.a.	7.2	–1.7	9.8	6.5	8.8	–17.5	2.8	–1.4	n.a.	7.2
1981	3.3	n.a.	6.1	5.8	9.0	5.8	7.0	–3.7	4.1	6.0	n.a.	6.7
1982	2.4	n.a.	3.4	–1.1	2.9	3.4	1.0	15.3	3.4	7.1	n.a.	5.8
1983	4.0	n.a.	8.4	–4.0	5.8	7.1	4.1	9.5	3.1	10.2	n.a.	6.0
1984	5.1	n.a.	10.0	8.1	9.4	3.7	7.3	–4.0	4.4	7.7	n.a.	7.5
1985	3.2	n.a.	4.8	–5.2	0.7	5.1	3.8	0.0	6.2	6.6	7.4	–1.1
1986	4.2	n.a.	11.0	7.8	10.5	4.7	6.9	–5.9	2.9	10.0	4.7	1.2
1987	3.7	n.a.	12.1	–6.7	12.6	3.9	6.4	–3.4	4.1	10.5	–1.1	5.2
1988	2.2	15.0	7.4	2.1	8.1	9.2	6.8	–0.2	6.9	10.1	–1.8	9.5
1989	2.6	–0.3	7.8	12.0	2.2	5.8	8.7	7.2	5.2	6.5	12.6	8.7
1990	5.8	1.2	5.3	3.6	3.8	5.1	8.6	16.6	5.3	8.8	6.5	8.6
1991	3.3	7.3	7.2	–2.7	5.5	0.8	8.6	11.0	3.3	9.0	3.9	9.1
1992	4.9	6.8	7.4	6.0	5.9	5.6	7.0	5.8	0.8	5.7	6.8	8.5
1993	4.5	4.3	6.6	2.6	5.9	3.8	7.0	–6.8	0.2	6.0	5.7	9.4
1994	4.0	8.7	7.1	5.0	5.8	6.6	7.3	–0.9	0.8	8.2	7.8	8.8
1995	4.8	6.3	6.3	2.5	2.3	7.3	7.9	3.3	1.8	8.8	6.9	9.4
1996	4.6	5.3	6.3	4.7	4.1	7.4	7.6	7.0	2.6	6.8	6.6	9.6
1997	5.3	5.5	6.2	–2.2	4.9	3.9	4.7	4.7	1.6	4.6	6.7	7.1
1998	5.1	4.9	4.4	1.3	–6.2	6.2	–14.1	3.9	–1.9	–7.1	3.9	–7.6
1999	4.8	11.3	5.6	8.4	2.5	6.8	0.8	3.8	–0.1	9.1	7.0	6.0
2000	5.8	8.4	5.7	–1.6	7.7	4.3	4.8	5.0	2.8	8.2	5.7	8.5
2001	5.2	7.9	–2.3	1.9	0.5	5.2	3.6	5.3	0.2	3.5	5.6	0.5
2002	4.4	6.4	4.3	3.2	1.8	3.6	4.4	6.9	0.4	6.8	5.8	5.3
2003	5.2	8.2	3.3	0.9	3.0	7.9	4.7	7.6	1.4	2.7	5.6	5.7
2004	6.1	9.9	6.1	5.3	8.1	8.1	4.9	2.9	2.7	4.8	6.7	6.6
2005	5.9	12.5	4.2	0.6	6.8	9.0	5.6	5.1	1.9	3.9	7.0	5.2
2006	6.5	10.3	4.7	3.4	6.8	9.2	5.4	7.0	2.0	5.1	8.0	5.7
2007	6.4	9.8	5.6	–6.8	6.2	8.7	6.2	6.1	2.3	5.0	7.3	6.0

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
5.4	n.a.	1.5	4.8	11.3	0.5	4.8	n.a.	n.a.	6.8	4.1	3.3	3.3	1971
4.2	n.a.	1.5	4.7	12.6	3.1	4.0	n.a.	n.a.	3.7	2.5	5.2	4.5	1972
10.4	n.a.	6.4	8.3	10.6	3.5	9.4	n.a.	n.a.	7.6	–2.3	5.6	6.1	1973
5.7	n.a.	5.2	5.1	5.9	3.9	4.3	n.a.	n.a.	2.3	3.8	–0.7	2.3	1974
6.8	4.3	3.2	6.4	4.0	3.3	4.7	n.a.	0.4	8.3	4.0	–0.5	–0.6	1975
5.0	3.0	4.5	7.7	6.8	4.8	9.0	n.a.	18.4	–1.6	5.4	5.4	4.5	1976
1.9	4.3	3.7	6.0	7.5	4.1	9.4	n.a.	10.4	7.3	5.1	4.5	2.7	1977
8.3	2.3	7.7	5.4	8.2	7.1	9.9	n.a.	6.6	11.0	6.0	5.4	3.0	1978
8.4	–2.3	4.7	6.1	9.0	5.9	5.2	n.a.	20.4	7.3	4.6	3.2	3.6	1979
3.4	7.9	8.3	5.1	9.3	5.5	4.7	n.a.	–7.2	7.5	7.6	–0.1	1.5	1980
8.0	3.8	6.7	3.4	9.3	5.4	5.7	n.a.	–22.0	5.1	6.1	2.7	0.2	1981
8.0	0.4	6.3	3.6	6.9	5.1	5.2	n.a.	4.0	8.7	5.3	–2.0	0.9	1982
5.6	5.9	6.6	1.9	8.2	4.7	5.4	n.a.	0.6	10.3	4.3	3.9	1.7	1983
5.7	6.0	5.0	–7.6	8.0	4.9	5.6	n.a.	0.7	14.1	4.8	7.1	2.5	1984
5.5	4.5	7.3	–7.5	–1.5	4.9	4.5	n.a.	–1.4	12.6	2.8	3.8	2.5	1985
9.0	1.7	5.4	3.4	2.1	4.2	5.4	n.a.	–2.5	8.5	–1.1	3.1	2.8	1986
3.5	7.4	6.3	4.3	9.4	1.6	9.1	3.6	2.0	11.0	–4.1	3.3	2.8	1987
5.0	4.2	7.4	6.6	10.9	2.7	12.5	5.8	1.2	10.7	–12.0	4.2	4.2	1988
4.1	4.5	4.8	6.0	9.5	2.0	11.5	4.6	–0.9	4.0	3.6	3.8	3.6	1989
–2.5	6.2	4.4	2.7	8.8	6.1	10.6	5.0	1.0	3.8	2.8	1.9	2.9	1990
–5.8	4.0	4.9	–0.7	6.3	4.7	8.2	5.7	3.2	8.8	–0.6	–0.4	1.9	1991
–5.6	3.8	7.4	–0.2	6.1	4.3	7.8	8.3	4.7	13.3	9.2	3.2	1.2	1992
–4.4	7.9	1.8	3.3	11.1	6.7	7.9	7.8	0.1	13.1	5.9	2.9	–0.3	1993
2.9	3.4	3.7	4.4	10.9	5.5	8.6	8.5	2.9	12.3	7.2	4.1	2.8	1994
4.1	5.2	4.9	4.7	7.8	5.4	8.9	9.1	4.2	10.4	6.7	2.6	2.6	1995
2.8	5.1	4.7	5.7	7.5	3.7	5.8	8.9	3.4	9.5	6.3	3.7	1.8	1996
4.2	2.9	1.0	5.1	8.0	6.3	–1.4	7.9	–1.8	8.9	5.6	4.3	2.7	1997
4.7	4.4	2.5	–0.5	–1.4	4.7	–11.1	5.6	–0.4	7.5	5.7	4.2	2.9	1998
4.8	5.9	3.6	3.5	7.0	4.2	4.4	4.7	3.4	7.3	10.4	4.6	3.0	1999
1.3	5.5	4.2	6.0	9.6	5.9	4.6	6.6	3.1	8.1	12.9	4.1	3.8	2000
2.9	0.1	2.0	1.7	–2.4	–1.3	2.1	6.7	2.7	8.0	10.8	1.0	2.0	2001
4.6	3.9	3.2	4.4	4.0	4.0	5.2	6.9	3.9	8.7	11.4	1.8	1.2	2002
6.8	4.6	4.8	5.0	3.7	5.9	6.9	7.1	3.0	9.6	13.0	2.6	1.2	2003
10.1	–0.7	7.1	6.3	8.9	5.3	6.2	7.5	0.8	9.6	12.8	3.5	2.3	2004
7.0	7.4	7.4	4.9	7.1	6.1	4.5	8.1	0.9	9.9	12.8	3.1	1.8	2005
8.2	3.3	6.0	5.4	8.0	7.4	5.1	7.9	4.5	11.0	12.1	2.7	2.9	2006
9.7	5.2	5.6	7.0	7.5	6.7	4.9	8.1	0.7	11.2	3.5	2.0	2.7	2007

Data 3

Growth Rate of Per Capita GDP at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	9.9	3.7	4.8	–0.7	4.7	8.2	3.0	5.8	n.a.	7.1
1972	n.a.	n.a.	10.5	5.5	8.1	–2.8	7.7	11.8	6.7	2.3	n.a.	6.5
1973	n.a.	n.a.	10.3	9.9	8.8	1.0	9.4	–0.9	6.9	9.3	n.a.	8.6
1974	6.7	n.a.	–0.3	0.6	0.1	–1.0	4.0	10.3	–3.2	5.0	n.a.	5.6
1975	–6.6	n.a.	3.1	–1.8	–2.5	6.5	3.6	1.1	1.5	3.9	n.a.	–1.5
1976	3.2	n.a.	10.7	0.8	13.8	–0.7	5.0	15.2	3.2	8.4	n.a.	8.6
1977	0.3	n.a.	8.0	2.6	9.7	4.7	6.8	–6.3	3.4	8.0	n.a.	5.2
1978	4.5	n.a.	10.9	0.0	6.2	3.3	5.1	–9.2	4.2	7.4	n.a.	4.2
1979	2.3	n.a.	6.1	9.4	5.5	–7.7	4.1	–10.5	4.5	5.0	n.a.	6.6
1980	–1.6	n.a.	5.4	–3.8	7.2	4.3	6.7	–20.9	2.0	–3.0	n.a.	4.8
1981	0.9	n.a.	4.3	3.4	6.6	3.6	5.0	–7.3	3.4	4.4	n.a.	4.3
1982	–0.1	n.a.	1.7	–3.7	1.4	1.2	–0.9	11.7	2.7	5.5	n.a.	3.3
1983	1.5	n.a.	6.9	–6.6	4.2	4.9	2.2	5.9	2.4	8.7	n.a.	3.4
1984	2.6	n.a.	8.5	5.9	8.5	1.6	5.4	–7.8	3.8	6.5	n.a.	4.8
1985	0.7	n.a.	3.5	–6.8	–0.4	3.0	2.0	–3.9	5.6	5.6	4.6	–3.9
1986	1.8	n.a.	10.0	6.9	9.2	2.5	5.1	–9.5	2.3	9.1	1.8	–1.7
1987	1.3	n.a.	11.0	–7.0	11.4	1.8	4.6	–6.6	3.6	9.5	–4.0	2.3
1988	–0.2	11.5	6.2	2.0	7.4	7.1	5.0	–3.1	6.5	9.1	–4.9	6.5
1989	0.3	–3.7	6.8	11.8	1.2	3.7	6.9	4.6	4.8	5.6	9.6	5.8
1990	3.5	–2.3	4.1	3.1	3.5	3.1	6.8	14.5	4.9	7.6	3.5	5.8
1991	1.0	3.8	6.2	–3.6	4.7	–1.2	6.9	9.4	3.0	8.1	0.9	6.4
1992	2.7	3.4	6.4	4.8	5.1	3.7	5.4	4.2	0.6	4.8	3.9	5.9
1993	2.3	1.0	5.7	1.2	4.1	2.0	5.4	–8.4	–0.1	5.1	2.8	6.9
1994	1.9	5.6	6.2	3.6	3.6	4.8	5.8	–2.5	0.5	7.3	5.1	6.3
1995	2.7	3.4	5.5	1.3	0.3	5.5	6.5	1.6	1.4	7.3	4.3	6.9
1996	2.5	2.6	5.5	3.7	–0.3	5.6	6.2	5.4	2.3	5.8	4.2	7.0
1997	3.3	3.1	5.2	–2.9	4.1	2.1	3.3	3.2	1.3	3.6	4.4	4.5
1998	3.2	2.6	3.6	0.6	–7.1	4.4	–15.5	2.1	–2.2	–7.8	1.8	–10.1
1999	2.9	9.1	4.9	7.7	1.6	5.1	–0.5	2.1	–0.3	8.4	5.0	3.6
2000	3.9	6.4	4.9	–2.3	6.8	2.6	3.5	3.4	2.7	7.4	3.8	6.2
2001	3.3	6.0	–2.9	1.2	–0.2	3.6	2.3	3.7	0.0	2.7	3.9	–1.6
2002	2.5	4.6	3.8	2.5	1.5	2.1	3.1	5.4	0.2	6.2	4.2	3.3
2003	3.3	6.5	3.0	0.3	2.6	6.4	3.3	6.0	1.2	2.2	4.1	3.7
2004	4.3	8.2	5.7	4.7	7.8	6.7	3.6	1.4	2.6	4.4	5.2	4.8
2005	4.1	10.8	3.8	0.0	6.5	7.7	4.2	3.6	1.9	3.7	5.4	3.4
2006	4.8	8.6	4.3	2.8	6.1	7.8	4.3	5.6	2.0	4.8	6.3	3.9
2007	4.7	8.0	5.2	–7.3	5.2	7.3	5.0	4.8	2.3	4.6	5.5	4.4

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
2.3	n.a.	–1.6	2.0	9.5	–1.6	2.2	n.a.	n.a.	4.0	1.6	2.0	2.6	1971
1.3	n.a.	–1.7	1.9	10.8	1.0	1.4	n.a.	n.a.	1.3	0.0	4.1	3.9	1972
7.6	n.a.	3.2	5.5	8.7	1.5	6.9	n.a.	n.a.	5.3	–4.8	4.7	5.6	1973
3.0	n.a.	2.0	2.4	4.2	1.9	1.9	n.a.	n.a.	0.2	1.3	–1.6	1.9	1974
4.1	2.1	0.0	3.6	2.5	1.4	2.4	n.a.	–3.7	6.6	1.6	–1.5	–1.0	1975
2.3	0.8	1.4	5.0	5.5	2.9	6.7	n.a.	14.5	–3.2	3.1	4.5	4.2	1976
–0.8	2.1	0.6	3.2	6.1	2.2	7.3	n.a.	6.5	6.0	2.9	3.5	2.4	1977
5.5	0.1	4.6	2.7	6.9	5.3	7.9	n.a.	2.9	9.7	3.9	4.3	2.7	1978
5.5	–4.6	1.7	3.4	7.7	4.2	3.2	n.a.	16.9	6.0	2.5	2.1	3.2	1979
0.5	5.7	5.4	2.5	8.0	3.9	2.8	n.a.	–10.5	6.3	5.5	–1.1	1.1	1980
5.0	1.5	3.9	0.9	4.5	3.9	3.9	n.a.	–25.1	3.8	4.0	1.7	–0.1	1981
5.1	–1.9	3.6	1.1	2.5	3.7	3.5	n.a.	1.0	7.2	3.2	–3.0	0.8	1982
2.8	3.6	3.9	–0.5	6.9	3.3	3.8	n.a.	–2.2	8.9	2.3	3.0	1.6	1983
3.1	3.7	2.3	–10.0	6.1	3.6	4.0	n.a.	–2.1	12.8	2.9	6.3	2.3	1984
3.1	2.2	4.6	–9.9	–1.6	3.6	3.1	n.a.	–4.2	11.3	0.9	2.9	2.3	1985
6.7	–0.6	2.7	1.0	2.2	2.8	4.0	n.a.	–5.4	7.0	–2.9	2.2	2.6	1986
1.4	5.1	3.6	1.8	7.9	0.3	7.7	1.1	–0.8	9.4	–5.9	2.4	2.6	1987
3.1	1.9	4.7	4.2	8.3	1.4	11.2	3.4	–1.6	9.1	–13.8	3.3	3.9	1988
2.3	2.2	2.3	3.7	6.6	0.7	10.2	2.2	–3.7	2.4	2.0	2.8	3.2	1989
–4.3	3.8	1.8	0.3	4.9	4.8	9.4	2.8	–1.8	2.3	1.2	0.7	2.5	1990
–7.5	1.6	2.4	–3.1	3.5	3.5	7.0	3.5	0.4	7.4	–2.2	–1.8	1.5	1991
–7.2	1.3	4.9	–2.5	3.1	3.1	6.6	6.3	1.9	12.1	7.8	1.8	0.7	1992
–5.9	5.4	–0.8	1.0	8.6	5.6	6.8	5.8	–2.6	11.9	4.5	1.5	–0.7	1993
1.5	0.9	1.2	2.1	7.8	4.5	7.5	6.6	0.2	11.2	5.8	2.8	2.5	1994
2.7	2.7	2.4	2.5	4.8	4.4	7.7	7.3	1.5	9.3	5.4	1.4	2.3	1995
1.5	2.7	2.3	3.6	3.4	2.9	4.6	7.2	0.8	8.5	4.9	2.5	1.5	1996
3.1	0.5	–1.4	3.0	4.7	5.5	–2.5	6.3	–4.3	7.9	4.3	3.1	2.4	1997
3.6	2.0	0.1	–2.6	–4.8	4.0	–12.2	4.2	–2.8	6.6	4.4	3.0	2.7	1998
3.9	3.6	1.2	1.4	6.2	3.6	3.3	3.4	1.0	6.4	9.2	3.5	2.7	1999
0.5	3.2	1.8	3.9	7.9	5.3	3.7	6.4	0.7	7.4	11.8	3.0	3.4	2000
1.9	–2.1	–0.4	–0.4	–5.1	–1.8	1.3	5.3	0.4	7.2	9.8	0.0	1.5	2001
3.5	1.8	0.8	2.3	3.1	2.9	4.4	5.5	1.5	8.0	10.5	0.8	0.6	2002
5.5	2.5	2.3	2.9	5.2	4.6	6.2	5.6	0.7	8.9	12.1	1.7	0.6	2003
8.7	–2.7	4.7	4.2	7.6	4.3	5.5	6.2	–1.5	9.0	12.0	2.5	1.7	2004
5.5	5.4	5.0	2.9	4.7	5.1	3.8	6.8	–1.3	9.3	12.0	2.2	1.2	2005
7.0	1.3	4.0	3.4	4.9	6.3	4.4	6.7	2.3	10.4	11.2	1.7	2.3	2006
8.8	3.5	3.4	5.2	3.3	6.0	4.3	6.9	–1.2	10.7	2.6	1.1	2.2	2007

Data 4

Growth Rate of Household Consumption at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	10.4	n.a.	12.2	−1.0	2.7	15.5	5.0	7.2	n.a.	6.9
1972	n.a.	n.a.	11.8	n.a.	7.3	1.3	5.1	−1.4	8.4	4.7	n.a.	5.0
1973	n.a.	n.a.	11.7	n.a.	12.5	5.1	2.1	16.5	8.2	9.1	n.a.	9.6
1974	−4.9	n.a.	6.1	n.a.	−2.2	−4.3	13.2	21.8	−0.7	7.2	n.a.	8.6
1975	−4.3	n.a.	4.8	n.a.	3.6	8.0	12.8	26.5	3.9	3.7	n.a.	−1.2
1976	3.1	n.a.	9.2	n.a.	7.3	2.7	5.5	1.0	3.1	9.0	n.a.	7.2
1977	−9.7	n.a.	7.2	n.a.	15.6	8.3	1.5	14.5	4.0	5.4	n.a.	9.1
1978	11.2	n.a.	10.3	n.a.	15.9	2.9	9.8	−2.1	5.2	8.2	n.a.	9.4
1979	3.4	n.a.	10.7	n.a.	9.0	−1.3	14.5	7.8	6.3	7.4	n.a.	10.5
1980	2.6	n.a.	5.3	n.a.	11.5	13.3	16.5	−2.7	1.0	−0.2	n.a.	11.6
1981	1.4	n.a.	4.7	n.a.	7.4	0.8	16.0	0.9	1.7	5.2	n.a.	4.7
1982	−2.0	n.a.	4.7	n.a.	5.2	2.2	4.9	9.3	4.5	5.1	n.a.	3.3
1983	−0.4	n.a.	7.9	n.a.	7.4	9.2	6.8	10.3	3.2	11.2	n.a.	3.2
1984	6.5	n.a.	9.5	n.a.	5.6	0.2	7.0	1.8	2.9	7.9	n.a.	6.4
1985	2.8	n.a.	5.6	n.a.	4.2	4.5	2.1	4.1	4.0	6.5	n.a.	0.4
1986	2.2	n.a.	7.6	n.a.	8.1	1.6	4.0	−8.1	3.7	8.0	n.a.	−10.4
1987	2.1	n.a.	11.3	n.a.	10.1	5.1	5.9	−17.7	4.3	7.2	n.a.	2.2
1988	3.2	n.a.	12.1	n.a.	8.9	6.7	7.2	7.1	5.0	9.4	n.a.	11.0
1989	2.3	n.a.	11.5	n.a.	3.7	6.9	7.5	5.7	4.7	9.0	n.a.	12.3
1990	7.7	n.a.	7.4	n.a.	6.1	6.1	16.1	2.4	5.1	7.6	n.a.	11.0
1991	−0.2	n.a.	7.0	n.a.	8.9	2.7	7.4	13.3	2.2	7.6	n.a.	8.6
1992	2.0	n.a.	8.6	n.a.	8.0	3.5	6.0	3.7	2.1	6.0	n.a.	4.6
1993	1.5	n.a.	7.4	n.a.	7.5	5.9	8.0	−1.7	1.0	5.8	n.a.	6.2
1994	3.8	4.8	8.2	n.a.	6.2	4.0	7.2	−3.4	2.3	7.1	n.a.	9.0
1995	4.5	9.3	5.5	n.a.	1.7	4.0	11.5	1.7	1.9	9.2	n.a.	11.0
1996	1.6	8.6	6.8	n.a.	3.6	12.9	9.6	1.6	2.4	7.1	n.a.	6.8
1997	3.4	−1.2	6.5	n.a.	5.3	0.8	7.0	7.2	0.7	3.5	n.a.	4.3
1998	0.6	9.4	6.1	n.a.	−5.7	6.4	−7.1	4.3	−0.9	−14.6	n.a.	−10.1
1999	1.5	6.7	5.4	n.a.	1.2	0.2	3.0	1.3	1.0	10.5	n.a.	3.0
2000	3.2	2.6	4.6	n.a.	4.9	6.6	3.3	8.5	0.7	7.5	n.a.	12.1
2001	5.5	1.8	0.7	n.a.	1.8	5.1	3.4	11.6	1.6	4.9	n.a.	3.0
2002	3.6	4.5	2.0	n.a.	−0.9	3.9	3.8	15.3	1.1	8.4	n.a.	3.8
2003	4.8	7.5	1.1	n.a.	−1.3	6.4	3.8	7.3	0.4	−0.6	n.a.	7.8
2004	2.8	12.9	4.5	n.a.	6.7	6.1	4.8	5.0	1.6	0.5	n.a.	9.4
2005	4.8	12.0	3.0	n.a.	2.9	5.3	3.9	7.2	1.3	4.6	n.a.	8.7
2006	4.1	6.9	1.6	n.a.	5.7	6.8	3.1	9.6	1.5	4.8	n.a.	6.6
2007	6.6	11.3	2.1	n.a.	8.2	6.5	4.9	10.2	0.7	4.9	n.a.	9.9

Note: Household consumption includes consumption of NPISHs. For Myanmar, it also includes government consumption due to data limitation.

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
n.a.	n.a.	2.5	2.7	11.3	0.4	3.6	n.a.	n.a.	4.0	4.5	3.7	4.4	1971
n.a.	n.a.	2.0	2.4	7.7	1.1	7.1	n.a.	n.a.	5.3	1.4	6.0	5.1	1972
n.a.	n.a.	6.1	4.0	3.9	10.9	5.6	n.a.	n.a.	6.9	–3.7	4.8	5.2	1973
n.a.	n.a.	8.4	6.2	10.4	7.9	5.7	n.a.	n.a.	2.0	3.8	–1.0	1.6	1974
n.a.	n.a.	4.3	6.1	2.4	–3.8	4.9	n.a.	n.a.	3.9	4.2	1.9	1.9	1975
n.a.	n.a.	–0.9	4.8	2.5	4.4	9.0	n.a.	n.a.	3.6	4.6	5.6	4.0	1976
n.a.	n.a.	4.0	1.9	5.1	11.1	9.5	n.a.	n.a.	2.7	3.1	4.1	2.6	1977
n.a.	n.a.	9.9	6.8	6.6	3.8	5.9	n.a.	n.a.	5.4	3.4	4.1	3.2	1978
n.a.	n.a.	8.4	2.5	7.5	10.0	10.3	n.a.	n.a.	8.0	3.4	2.4	3.7	1979
n.a.	n.a.	7.8	5.4	9.3	9.2	3.0	n.a.	n.a.	9.9	7.9	–0.2	1.8	1980
n.a.	n.a.	4.1	3.0	3.9	11.8	0.9	n.a.	n.a.	9.3	6.0	1.7	0.4	1981
n.a.	n.a.	4.4	4.1	–0.8	5.6	2.1	n.a.	n.a.	8.1	7.4	1.4	0.8	1982
n.a.	n.a.	4.2	2.2	4.9	3.8	8.4	n.a.	n.a.	9.3	4.6	4.9	1.3	1983
n.a.	n.a.	6.2	–1.8	6.3	1.3	2.3	n.a.	n.a.	12.7	7.7	5.4	1.5	1984
n.a.	n.a.	8.0	–3.6	1.4	6.2	2.6	n.a.	n.a.	14.0	2.1	4.9	2.4	1985
n.a.	n.a.	0.0	0.1	7.3	4.8	2.2	n.a.	n.a.	6.1	–1.0	3.9	3.9	1986
n.a.	n.a.	4.2	8.6	9.8	0.5	12.0	–0.3	n.a.	7.4	–2.9	3.0	3.8	1987
n.a.	n.a.	10.4	3.9	10.0	5.5	11.6	8.3	n.a.	9.1	–14.8	4.2	4.0	1988
n.a.	n.a.	1.0	3.5	5.4	2.7	11.5	1.9	n.a.	1.3	1.8	3.0	3.5	1989
n.a.	n.a.	4.1	4.7	8.2	6.0	8.1	1.5	10.9	5.2	0.9	2.0	2.7	1990
n.a.	n.a.	–0.7	2.1	5.3	–0.1	4.0	5.9	–8.5	9.6	–4.6	–0.1	2.0	1991
n.a.	n.a.	11.2	2.0	6.1	9.9	8.1	3.9	30.3	13.7	7.7	3.2	1.8	1992
n.a.	n.a.	1.4	2.7	11.2	7.2	8.4	4.9	4.0	9.3	7.2	3.6	–0.2	1993
n.a.	n.a.	4.1	2.0	5.2	8.2	9.7	5.5	–8.3	5.6	2.4	3.8	2.0	1994
n.a.	n.a.	6.8	7.6	4.4	3.4	8.8	5.8	–11.8	8.6	6.2	2.8	1.8	1995
n.a.	n.a.	6.7	3.8	4.1	3.3	3.6	8.6	10.4	10.1	2.2	3.4	2.1	1996
n.a.	n.a.	4.0	5.4	4.8	4.8	–2.0	5.3	17.9	5.4	1.8	3.5	2.2	1997
n.a.	n.a.	2.7	1.9	–3.6	9.1	–15.5	4.3	–8.8	6.7	2.5	5.1	3.3	1998
n.a.	n.a.	6.6	–2.2	11.3	0.8	6.2	2.6	3.4	8.8	8.3	5.3	3.6	1999
n.a.	n.a.	0.5	2.5	15.8	4.0	8.0	3.3	–9.0	9.0	4.2	5.0	3.4	2000
7.2	3.4	0.5	12.8	6.0	1.8	3.5	4.3	–4.3	6.2	11.8	2.6	2.1	2001
11.2	3.0	1.4	4.9	4.6	8.8	6.0	8.4	2.4	7.0	11.4	2.6	1.5	2002
–0.9	0.9	0.4	14.4	–3.7	7.8	4.7	7.3	14.4	7.0	11.8	3.0	1.6	2003
5.5	4.9	9.7	4.9	7.8	3.4	5.7	7.3	12.6	7.8	11.4	3.3	1.9	2004
5.2	5.3	12.1	7.8	4.2	1.9	5.3	4.4	6.9	7.7	11.1	3.4	1.9	2005
8.5	3.1	1.0	–0.3	3.2	6.3	2.8	7.1	4.7	10.4	8.9	2.9	2.0	2006
9.1	3.2	4.6	4.3	4.2	3.9	0.0	15.8	3.2	10.3	3.4	2.5	1.9	2007

Data 5

Growth Rate of Government Consumption at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	5.5	n.a.	2.3	9.4	6.9	25.7	4.7	6.7	n.a.	–5.6
1972	n.a.	n.a.	4.1	n.a.	6.0	1.0	7.9	22.7	4.8	4.3	n.a.	15.6
1973	n.a.	n.a.	6.4	n.a.	9.7	–0.1	24.4	6.4	5.3	1.1	n.a.	4.8
1974	42.1	n.a.	–8.5	n.a.	8.8	–3.8	–11.1	48.1	–0.4	8.2	n.a.	13.8
1975	1.9	n.a.	12.2	n.a.	6.1	9.2	26.5	19.6	11.9	6.8	n.a.	6.3
1976	104.1	n.a.	9.2	n.a.	6.6	7.2	7.1	10.4	4.1	3.7	n.a.	8.6
1977	20.5	n.a.	10.5	n.a.	8.9	3.4	15.2	–2.7	4.1	6.4	n.a.	9.4
1978	–12.2	n.a.	7.0	n.a.	9.5	7.1	16.2	1.7	5.1	5.9	n.a.	5.7
1979	11.1	n.a.	8.0	n.a.	10.1	6.1	9.1	–7.5	4.1	4.0	n.a.	1.9
1980	–4.3	n.a.	7.5	n.a.	7.2	4.5	10.2	–10.1	3.1	8.4	n.a.	22.1
1981	4.2	n.a.	4.2	n.a.	19.8	4.1	9.7	–1.0	5.4	5.1	n.a.	12.3
1982	1.5	n.a.	6.3	n.a.	5.3	9.2	7.9	–2.0	4.4	2.5	n.a.	8.4
1983	–0.5	n.a.	4.6	n.a.	5.9	4.4	–1.0	1.0	5.5	3.4	n.a.	4.6
1984	3.2	n.a.	7.3	n.a.	3.8	7.2	3.4	–6.4	3.3	3.1	n.a.	–4.8
1985	3.1	n.a.	6.0	n.a.	2.7	10.0	11.8	4.7	1.4	3.6	n.a.	–1.0
1986	7.1	n.a.	3.9	n.a.	6.3	9.0	0.1	–23.0	3.3	6.7	n.a.	1.4
1987	1.4	n.a.	8.2	n.a.	3.8	7.9	–1.5	–7.2	3.8	6.8	n.a.	1.8
1988	0.2	n.a.	8.5	n.a.	3.7	5.3	7.3	–0.5	3.9	9.1	n.a.	7.0
1989	2.1	n.a.	9.9	n.a.	5.1	5.2	9.8	–4.0	2.9	8.8	n.a.	3.5
1990	0.7	n.a.	11.8	n.a.	5.3	3.3	4.7	4.2	3.3	10.7	n.a.	5.5
1991	2.0	n.a.	7.4	n.a.	7.4	–0.2	5.1	6.4	4.0	6.3	n.a.	11.1
1992	8.6	n.a.	3.7	n.a.	12.4	3.4	5.6	–0.1	2.6	7.1	n.a.	4.9
1993	9.5	n.a.	1.5	n.a.	2.1	5.8	0.2	18.1	3.1	5.4	n.a.	8.2
1994	3.2	54.0	–0.5	n.a.	3.7	1.4	2.3	–0.4	3.5	4.1	n.a.	7.6
1995	3.3	–8.8	3.8	n.a.	3.0	7.5	1.3	–3.3	3.9	4.9	n.a.	5.8
1996	0.9	4.9	7.0	n.a.	3.6	4.5	2.7	–1.4	2.3	7.7	n.a.	0.9
1997	2.0	8.4	5.8	n.a.	2.2	10.7	0.1	–3.8	0.8	2.6	n.a.	5.6
1998	12.0	3.5	3.6	n.a.	0.5	11.5	–16.7	4.2	1.8	2.3	n.a.	–8.6
1999	0.8	15.0	–4.4	n.a.	3.1	12.4	0.7	–6.5	4.1	2.9	n.a.	15.9
2000	0.1	23.6	0.7	n.a.	2.0	0.9	6.3	10.7	4.3	1.6	n.a.	1.4
2001	5.2	6.1	0.5	n.a.	5.9	2.2	7.3	3.3	3.0	4.9	n.a.	14.6
2002	16.3	16.2	2.0	n.a.	2.4	–0.4	12.2	2.6	2.4	4.8	n.a.	11.2
2003	13.2	3.8	0.6	n.a.	1.8	2.5	9.6	1.5	2.3	4.3	n.a.	8.3
2004	10.4	–5.1	–0.5	n.a.	0.7	3.5	3.9	1.5	1.8	3.7	n.a.	7.4
2005	8.6	3.9	1.1	n.a.	–3.3	6.0	6.4	5.2	1.5	4.2	n.a.	6.3
2006	5.7	1.7	–0.4	n.a.	0.3	5.3	9.2	5.6	0.4	6.4	n.a.	4.9
2007	7.1	17.8	0.9	n.a.	2.9	7.1	3.8	–8.9	2.0	5.3	n.a.	6.3

Note: Government consumption includes government expenditure on individual consumption goods and services as well as collective consumption services.

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
n.a.	n.a.	4.6	7.4	15.7	5.1	4.4	n.a.	n.a.	16.0	n.a.	−1.2	4.9	1971
n.a.	n.a.	7.5	14.4	12.5	3.8	3.1	n.a.	n.a.	4.9	n.a.	0.0	4.7	1972
n.a.	n.a.	−4.2	10.4	5.3	7.3	7.6	n.a.	n.a.	2.4	n.a.	−0.6	4.7	1973
n.a.	n.a.	−6.0	13.2	0.1	−10.8	−0.7	n.a.	n.a.	7.1	n.a.	2.4	4.4	1974
n.a.	n.a.	10.2	5.4	2.7	−7.3	13.2	n.a.	n.a.	4.3	n.a.	2.2	4.7	1975
n.a.	n.a.	26.6	2.1	4.9	2.4	17.9	n.a.	n.a.	6.3	n.a.	0.6	3.3	1976
n.a.	n.a.	4.1	0.9	8.8	3.1	9.8	n.a.	n.a.	7.0	n.a.	1.8	2.3	1977
n.a.	n.a.	4.8	3.0	10.9	24.8	12.2	n.a.	n.a.	15.6	n.a.	2.5	4.1	1978
n.a.	n.a.	3.9	3.6	−0.5	0.9	14.4	n.a.	n.a.	25.1	n.a.	1.5	3.3	1979
n.a.	n.a.	4.4	3.7	9.0	−1.7	2.8	n.a.	n.a.	3.9	n.a.	2.0	2.8	1980
n.a.	n.a.	11.4	−3.0	5.1	−0.9	13.9	n.a.	n.a.	7.5	n.a.	1.8	3.0	1981
n.a.	n.a.	8.4	7.2	12.4	15.8	1.2	n.a.	n.a.	10.5	n.a.	2.1	1.7	1982
n.a.	n.a.	16.4	−4.8	9.2	−7.1	5.1	n.a.	n.a.	9.8	n.a.	3.1	1.7	1983
n.a.	n.a.	11.7	−12.6	5.1	0.9	7.8	n.a.	n.a.	20.3	n.a.	2.2	1.3	1984
n.a.	n.a.	6.5	−1.0	21.9	21.0	6.6	n.a.	n.a.	13.2	n.a.	5.3	2.1	1985
n.a.	n.a.	9.6	0.3	1.1	15.9	−0.7	n.a.	n.a.	12.7	n.a.	4.6	2.2	1986
n.a.	n.a.	12.4	4.7	0.8	2.3	0.3	7.6	n.a.	7.1	n.a.	2.7	2.4	1987
n.a.	n.a.	4.3	8.7	−6.3	0.1	4.0	8.8	n.a.	5.4	n.a.	1.5	1.9	1988
n.a.	n.a.	18.6	6.8	5.4	−5.7	2.6	10.9	n.a.	4.6	n.a.	2.9	0.9	1989
n.a.	n.a.	−3.2	6.5	10.4	4.3	6.7	10.5	8.5	10.1	n.a.	2.6	2.5	1990
n.a.	n.a.	−0.5	0.7	7.4	8.9	6.0	8.1	−7.0	19.0	n.a.	1.1	3.1	1991
n.a.	n.a.	−8.2	−3.7	0.4	0.4	6.2	7.2	16.1	14.1	n.a.	0.3	2.5	1992
n.a.	n.a.	16.3	6.0	13.7	2.8	5.0	12.1	−7.7	10.0	n.a.	−0.4	0.7	1993
n.a.	n.a.	−10.8	5.9	−1.7	3.6	7.9	9.9	2.4	10.0	n.a.	0.3	0.9	1994
n.a.	n.a.	5.3	5.4	11.1	8.5	5.1	8.1	−4.7	7.0	n.a.	0.3	0.7	1995
n.a.	n.a.	6.6	4.0	17.9	8.2	11.4	7.2	1.3	10.4	n.a.	0.6	1.5	1996
n.a.	n.a.	−8.7	4.5	7.2	6.9	−2.9	3.9	7.3	7.3	n.a.	1.6	0.9	1997
n.a.	n.a.	6.6	−2.0	8.0	5.0	3.8	3.2	−2.5	9.3	n.a.	1.9	1.4	1998
n.a.	n.a.	−7.2	6.5	6.4	3.8	3.0	−5.9	8.3	8.6	n.a.	2.6	2.2	1999
n.a.	n.a.	7.3	6.0	16.8	5.2	2.2	4.9	5.6	11.2	n.a.	1.9	2.4	2000
9.4	3.7	−5.8	−5.5	4.0	−1.7	2.5	6.4	0.5	11.1	n.a.	3.9	2.1	2001
6.8	7.0	14.0	−3.9	6.4	−1.8	0.7	5.2	−0.3	8.4	n.a.	4.3	2.6	2002
2.9	4.3	7.0	2.6	1.0	4.7	2.4	6.9	−2.9	6.6	n.a.	2.2	2.0	2003
16.1	6.0	1.4	1.4	0.4	8.9	5.6	7.5	5.1	8.2	n.a.	1.5	1.9	2004
−2.3	0.8	1.7	2.3	6.5	11.3	10.7	7.9	6.4	21.7	n.a.	0.6	1.6	2005
16.1	6.8	39.4	9.9	6.4	9.2	2.4	8.2	13.1	21.5	n.a.	1.0	1.8	2006
25.5	3.5	−10.1	8.0	2.2	7.1	8.8	8.5	15.8	15.2	n.a.	1.4	2.1	2007

Data 6

Growth Rate of Investment at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	17.8	n.a.	20.9	7.9	10.5	−1.4	1.7	20.7	n.a.	5.6
1972	n.a.	n.a.	13.2	n.a.	8.8	0.6	9.6	28.9	9.5	−10.2	n.a.	8.5
1973	n.a.	n.a.	17.5	n.a.	11.1	6.3	13.2	−10.6	11.1	27.9	n.a.	27.1
1974	89.2	n.a.	25.5	n.a.	0.1	2.5	9.1	52.3	−7.2	28.6	n.a.	27.6
1975	−24.2	n.a.	−9.0	n.a.	1.1	5.5	11.1	32.0	−4.3	−5.9	n.a.	−30.2
1976	19.9	n.a.	14.5	n.a.	23.0	7.7	5.6	18.8	3.7	14.8	n.a.	12.9
1977	26.7	n.a.	5.5	n.a.	15.6	5.3	10.9	2.8	3.0	21.5	n.a.	18.7
1978	19.5	n.a.	13.9	n.a.	10.0	12.7	12.1	−26.0	7.3	29.4	n.a.	13.0
1979	11.1	n.a.	17.7	n.a.	15.1	−1.8	1.4	−31.5	6.2	15.0	n.a.	19.5
1980	20.7	n.a.	8.3	n.a.	17.2	−6.2	13.9	7.8	−0.6	−19.4	n.a.	8.2
1981	4.6	n.a.	1.1	n.a.	8.4	16.2	12.4	−11.2	2.9	4.1	n.a.	15.5
1982	9.0	n.a.	−7.2	n.a.	−2.2	−0.8	10.2	−2.1	0.1	5.2	n.a.	14.8
1983	2.1	n.a.	2.8	n.a.	−5.1	−0.6	4.3	29.1	−1.8	13.8	n.a.	10.4
1984	8.8	n.a.	5.9	n.a.	3.7	10.0	−15.5	−32.7	5.0	15.9	n.a.	2.9
1985	7.4	n.a.	−7.4	n.a.	−4.7	10.6	7.0	−13.1	9.0	5.5	n.a.	−24.9
1986	5.9	n.a.	6.9	n.a.	10.9	2.2	7.4	6.8	5.4	9.2	n.a.	−12.6
1987	7.4	n.a.	26.1	n.a.	15.1	0.7	8.8	15.2	7.0	17.1	n.a.	2.7
1988	5.4	n.a.	19.3	n.a.	9.9	14.3	7.8	−28.4	13.7	14.5	n.a.	23.6
1989	8.3	n.a.	7.7	n.a.	−4.4	3.5	19.5	23.6	8.7	14.9	n.a.	19.7
1990	6.5	n.a.	4.8	n.a.	9.3	10.4	2.6	42.8	6.6	18.5	n.a.	18.2
1991	1.6	n.a.	10.6	n.a.	7.6	−9.9	17.8	19.5	2.9	14.4	n.a.	26.9
1992	2.7	n.a.	17.8	n.a.	9.5	12.6	5.0	0.3	−3.2	−0.4	n.a.	2.3
1993	7.6	n.a.	9.9	n.a.	0.7	−2.8	2.3	−42.8	−2.9	4.8	n.a.	21.3
1994	8.9	0.6	6.7	n.a.	21.7	17.5	12.5	−37.8	−2.2	14.6	n.a.	16.6
1995	9.8	31.2	5.7	n.a.	13.7	17.2	12.3	29.4	2.5	11.8	n.a.	18.2
1996	11.8	4.0	3.3	n.a.	−2.2	−10.2	5.5	24.8	4.6	10.4	n.a.	5.5
1997	9.4	10.3	13.2	n.a.	13.1	14.0	13.7	4.4	0.0	−4.5	n.a.	11.0
1998	11.0	−26.0	8.3	n.a.	−17.5	2.8	−77.0	−1.3	−7.4	−44.2	n.a.	−55.4
1999	9.8	44.4	−0.2	n.a.	−17.0	19.2	−23.7	8.0	−4.2	23.8	n.a.	−3.6
2000	6.3	12.0	3.8	n.a.	17.2	−4.7	33.5	1.3	4.4	13.1	n.a.	26.9
2001	6.7	17.3	−25.1	n.a.	−4.3	3.7	8.8	4.8	−1.6	−0.3	n.a.	−10.9
2002	6.9	12.0	3.2	n.a.	−0.6	10.3	−7.3	1.4	−5.4	7.3	n.a.	9.0
2003	8.5	18.9	3.9	n.a.	2.0	12.1	−13.0	16.0	0.4	4.4	n.a.	−0.8
2004	9.1	−9.3	22.1	n.a.	1.8	20.1	19.6	7.5	2.5	2.7	n.a.	11.1
2005	11.3	26.6	−1.7	n.a.	−0.5	18.2	19.8	−1.1	2.8	2.3	n.a.	−6.2
2006	8.2	22.0	1.8	n.a.	8.1	13.0	−0.1	2.7	0.8	4.3	n.a.	8.4
2007	9.3	5.2	2.4	n.a.	7.7	14.5	9.6	5.1	1.9	3.0	n.a.	10.5

Note: Investment consists of GFCF (tangible assets, mineral exploration and software) and changes in inventories for the whole economy. For some countries, software investment includes our estimates (see Box 3).

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
n.a.	n.a.	–3.0	4.3	11.0	–6.5	–11.0	n.a.	n.a.	8.8	–23.7	6.1	–0.6	1971
n.a.	n.a.	–6.0	3.8	6.1	8.0	–29.3	n.a.	n.a.	–3.6	–1.1	7.5	3.4	1972
n.a.	n.a.	1.0	10.5	5.3	–10.3	99.3	n.a.	n.a.	12.6	–14.9	9.3	9.1	1973
n.a.	n.a.	7.1	29.5	15.8	14.0	7.9	n.a.	n.a.	4.2	10.9	–5.4	–0.3	1974
n.a.	n.a.	3.2	14.1	–7.1	4.3	11.3	n.a.	n.a.	11.9	9.7	–15.5	–12.6	1975
n.a.	n.a.	24.6	14.6	5.0	9.5	–15.1	n.a.	n.a.	–6.6	–2.8	14.5	9.0	1976
n.a.	n.a.	8.8	–1.4	–3.8	–4.3	29.9	n.a.	n.a.	8.4	4.8	10.5	–0.6	1977
n.a.	n.a.	–0.5	7.9	12.5	24.1	28.7	n.a.	n.a.	21.6	38.2	10.6	0.2	1978
n.a.	n.a.	–1.3	11.1	15.2	13.9	–4.6	n.a.	n.a.	3.8	16.3	3.5	5.8	1979
n.a.	n.a.	2.3	7.1	12.6	15.0	10.3	n.a.	n.a.	6.3	15.1	–9.3	0.8	1980
n.a.	n.a.	0.8	3.9	4.8	8.3	8.2	n.a.	n.a.	–0.9	11.5	6.5	–10.0	1981
n.a.	n.a.	12.4	7.3	11.4	–2.6	–6.9	n.a.	n.a.	6.8	–11.4	–13.2	0.6	1982
n.a.	n.a.	6.9	5.6	9.7	–2.4	19.9	n.a.	n.a.	10.8	–22.5	8.3	0.0	1983
n.a.	n.a.	4.8	–38.5	8.2	–10.3	5.1	n.a.	n.a.	17.4	–15.9	23.5	3.6	1984
n.a.	n.a.	9.7	–37.2	–12.2	5.3	–3.5	n.a.	n.a.	24.2	15.1	1.1	2.6	1985
n.a.	n.a.	4.3	8.0	–8.0	–5.3	–4.1	n.a.	n.a.	7.4	–47.6	0.8	4.1	1986
n.a.	n.a.	4.2	15.8	8.1	4.4	17.3	20.7	n.a.	6.9	10.8	3.6	4.1	1987
n.a.	n.a.	–1.2	11.6	–2.5	–5.8	25.4	3.3	n.a.	11.4	29.2	1.6	10.4	1988
n.a.	n.a.	7.2	20.0	11.0	1.4	15.7	–0.3	n.a.	0.4	–25.2	4.0	6.9	1989
n.a.	n.a.	5.1	13.9	16.3	1.8	27.1	3.0	11.0	0.7	14.1	–1.5	3.0	1990
n.a.	n.a.	1.2	–17.9	1.2	3.9	12.5	6.1	1.9	8.7	33.5	–6.4	–0.4	1991
n.a.	n.a.	11.8	5.4	8.3	7.8	5.2	19.0	25.7	13.3	2.4	6.2	–1.4	1992
n.a.	n.a.	3.9	7.1	16.2	13.4	8.4	38.4	6.9	22.1	5.4	6.0	–7.9	1993
n.a.	n.a.	–0.7	8.3	–0.3	11.3	10.2	13.2	–11.0	15.6	22.9	10.1	5.4	1994
n.a.	n.a.	4.0	4.4	13.6	–7.9	13.3	15.8	0.4	14.7	25.3	2.9	5.1	1995
n.a.	n.a.	5.6	12.7	9.1	8.8	5.1	13.3	61.6	8.6	–1.5	7.5	0.0	1996
n.a.	n.a.	–3.8	9.9	17.8	6.9	–24.5	9.0	–40.8	4.6	14.2	10.2	4.7	1997
n.a.	n.a.	1.6	–16.1	–27.6	10.1	–70.1	11.9	–11.2	5.6	21.6	8.4	8.2	1998
n.a.	n.a.	–8.2	0.6	9.9	2.2	8.2	1.3	–13.1	4.7	17.3	8.2	5.0	1999
n.a.	n.a.	4.8	20.0	21.6	7.7	10.6	9.6	–30.9	5.8	10.9	6.0	5.0	2000
–40.6	–15.0	4.4	–7.7	–25.5	–9.3	2.7	10.2	–0.7	12.9	3.2	–5.5	–0.4	2001
13.2	6.3	–0.1	–2.3	–6.0	6.9	6.0	12.0	35.8	13.3	10.2	–0.2	–2.0	2002
11.2	16.0	6.3	4.2	–36.5	11.0	12.7	11.2	–19.8	18.4	22.0	3.2	2.1	2003
13.6	9.0	–5.2	5.9	40.4	17.5	12.0	10.1	5.0	15.2	21.7	8.0	3.2	2004
43.1	4.4	11.9	–7.6	0.6	11.7	11.9	10.6	9.7	10.3	22.2	4.3	2.8	2005
–0.1	1.5	16.7	6.4	11.7	10.7	–2.5	11.2	3.6	13.9	23.7	2.7	6.0	2006
5.5	19.6	12.2	10.8	11.6	9.2	0.7	23.6	21.4	13.5	3.6	–2.7	5.2	2007

Data 7

Growth Rate of Export at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	29.8	n.a.	2.9	1.0	11.1	15.9	14.8	19.6	n.a.	1.7
1972	n.a.	n.a.	30.3	n.a.	8.7	7.9	20.6	13.4	4.0	31.6	n.a.	2.0
1973	n.a.	n.a.	23.3	n.a.	8.0	4.8	22.1	10.9	5.1	44.5	n.a.	13.3
1974	–34.9	n.a.	–6.8	n.a.	–3.4	7.9	3.6	–1.8	20.8	–1.9	n.a.	14.8
1975	11.5	n.a.	0.0	n.a.	1.3	15.2	–10.2	–10.8	–1.0	17.1	n.a.	–3.0
1976	22.1	n.a.	31.7	n.a.	22.3	18.1	11.8	10.3	15.4	33.3	n.a.	15.7
1977	22.7	n.a.	12.1	n.a.	3.9	–3.6	20.2	–8.2	11.1	19.5	n.a.	4.1
1978	–8.0	n.a.	21.1	n.a.	11.5	7.5	1.8	–31.8	–0.3	13.3	n.a.	7.3
1979	15.3	n.a.	6.2	n.a.	14.6	10.6	2.5	–24.9	4.2	2.0	n.a.	16.5
1980	1.0	n.a.	7.7	n.a.	11.1	5.1	–5.8	–108.2	15.7	7.8	n.a.	3.1
1981	24.7	n.a.	9.1	n.a.	12.4	–0.8	–2.4	–11.3	12.5	14.8	n.a.	–0.8
1982	–4.6	n.a.	1.8	n.a.	–0.3	5.8	–15.0	65.9	1.4	7.9	n.a.	10.1
1983	8.8	n.a.	16.4	n.a.	11.1	–0.9	6.1	19.8	4.9	13.4	n.a.	11.6
1984	–0.9	n.a.	16.7	n.a.	16.8	7.0	6.7	–23.1	14.3	7.9	n.a.	12.9
1985	7.6	n.a.	2.0	n.a.	5.7	–6.5	–7.0	–9.9	5.1	4.1	n.a.	0.4
1986	–1.2	n.a.	25.2	n.a.	13.6	5.3	14.6	–17.8	–5.3	23.8	n.a.	16.2
1987	1.9	n.a.	17.8	n.a.	25.0	12.0	11.3	37.8	–0.1	19.7	n.a.	8.5
1988	10.2	n.a.	5.1	n.a.	19.5	7.2	1.0	13.1	6.5	11.0	n.a.	10.3
1989	8.5	n.a.	4.9	n.a.	7.9	11.3	9.9	7.6	9.1	–4.1	n.a.	14.1
1990	16.4	n.a.	0.6	n.a.	7.9	10.5	3.3	23.9	6.9	4.4	n.a.	16.4
1991	–3.1	n.a.	12.7	n.a.	13.5	9.2	17.2	15.8	5.1	10.5	n.a.	14.6
1992	19.8	n.a.	6.8	n.a.	16.2	4.8	12.8	3.5	4.3	11.5	n.a.	11.9
1993	15.2	n.a.	7.3	n.a.	11.7	12.9	5.9	14.3	0.4	11.5	n.a.	10.9
1994	3.6	55.3	5.3	n.a.	9.0	12.3	9.5	6.3	3.8	15.1	n.a.	19.8
1995	26.8	36.3	11.9	n.a.	9.5	27.3	7.4	–23.3	4.1	21.8	n.a.	17.4
1996	7.8	–19.2	6.5	n.a.	5.5	6.1	7.3	2.5	5.7	11.5	n.a.	8.8
1997	15.3	30.8	8.8	n.a.	4.7	–2.4	7.5	–4.9	10.5	19.6	n.a.	5.3
1998	11.6	–3.0	2.7	n.a.	–4.6	13.0	10.6	10.0	–2.7	11.9	n.a.	0.5
1999	2.2	40.3	11.1	n.a.	4.4	16.6	–38.3	2.1	1.9	13.6	n.a.	12.4
2000	13.4	26.5	17.3	n.a.	15.1	16.7	23.5	1.7	12.0	17.5	n.a.	14.9
2001	13.9	15.4	–8.1	n.a.	–1.7	4.2	0.6	–1.9	–7.2	–3.5	n.a.	–7.1
2002	–2.3	12.2	10.1	n.a.	8.7	19.1	–1.2	8.0	7.2	11.4	n.a.	5.3
2003	6.6	10.5	9.9	n.a.	12.0	9.2	5.7	10.6	8.8	13.5	n.a.	5.0
2004	11.8	24.8	13.4	n.a.	14.3	24.0	12.7	–0.9	13.0	18.0	n.a.	14.9
2005	14.5	15.2	7.3	n.a.	10.1	16.2	15.4	7.4	6.7	7.5	n.a.	8.0
2006	23.0	17.6	9.8	n.a.	9.0	19.2	9.0	7.7	9.2	10.8	n.a.	6.4
2007	12.2	9.7	8.5	n.a.	8.0	2.1	7.7	–1.6	8.1	11.9	n.a.	4.4

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
n.a.	n.a.	2.2	2.9	14.6	–3.2	16.4	n.a.	n.a.	12.4	15.1	1.7	6.6	1971
n.a.	n.a.	–15.2	9.3	–9.5	–2.1	15.6	n.a.	n.a.	18.0	4.6	7.2	7.6	1972
n.a.	n.a.	24.7	13.6	21.1	1.0	–4.6	n.a.	n.a.	38.3	–10.0	17.3	10.3	1973
n.a.	n.a.	–10.2	–12.5	30.5	–14.2	7.5	n.a.	n.a.	16.2	–29.5	7.4	6.6	1974
n.a.	n.a.	–16.3	–0.3	–4.5	18.3	–4.9	n.a.	n.a.	0.3	11.5	–0.8	–3.7	1975
n.a.	n.a.	6.3	17.1	11.6	–5.1	21.6	n.a.	n.a.	3.1	7.8	4.4	9.1	1976
n.a.	n.a.	–15.1	15.3	14.6	–8.6	10.6	n.a.	n.a.	4.8	12.7	2.3	5.7	1977
n.a.	n.a.	12.0	3.7	11.8	9.0	11.7	n.a.	n.a.	46.3	12.8	9.9	5.2	1978
n.a.	n.a.	3.9	6.6	21.1	8.8	9.9	n.a.	n.a.	20.3	19.2	9.4	6.6	1979
n.a.	n.a.	23.7	12.5	21.4	4.9	7.5	n.a.	n.a.	7.7	5.2	10.3	1.0	1980
n.a.	n.a.	13.4	9.0	8.5	3.0	8.8	n.a.	n.a.	15.4	3.1	1.1	4.7	1981
n.a.	n.a.	–6.2	–11.1	4.7	9.5	11.0	n.a.	n.a.	1.8	–5.7	–7.6	1.0	1982
n.a.	n.a.	22.0	4.4	4.9	–3.0	–6.2	n.a.	n.a.	–0.7	14.4	–3.0	3.1	1983
n.a.	n.a.	–3.8	3.8	5.8	14.3	15.9	n.a.	n.a.	13.3	–11.2	7.9	7.6	1984
n.a.	n.a.	–0.4	–18.2	–2.9	4.9	9.3	n.a.	n.a.	2.0	–9.4	2.7	4.2	1985
n.a.	n.a.	28.4	15.8	10.7	6.5	14.3	n.a.	n.a.	0.7	17.9	7.5	1.5	1986
n.a.	n.a.	11.6	6.3	11.3	1.6	19.7	8.1	n.a.	7.7	–20.6	10.5	3.8	1987
n.a.	n.a.	–4.7	13.7	25.1	3.1	24.0	–10.6	n.a.	7.3	10.1	15.2	5.5	1988
n.a.	n.a.	12.9	10.2	8.7	7.9	19.2	102.5	n.a.	2.5	24.5	11.1	7.5	1989
n.a.	n.a.	1.1	1.2	11.8	10.5	12.9	12.4	1.3	5.1	13.5	8.5	6.4	1990
n.a.	n.a.	28.9	6.4	8.9	4.1	14.1	22.9	8.4	12.3	–2.8	6.3	4.5	1991
n.a.	n.a.	12.9	3.0	6.9	14.0	12.9	17.3	5.9	10.6	31.5	6.5	3.5	1992
n.a.	n.a.	1.3	6.0	15.9	12.8	12.2	3.9	–2.8	12.8	14.6	3.3	1.7	1993
n.a.	n.a.	3.1	18.1	18.7	10.4	13.3	22.3	2.8	22.4	4.7	8.5	8.9	1994
n.a.	n.a.	–3.1	11.4	13.1	7.4	14.4	16.1	15.5	6.2	–24.9	9.8	8.3	1995
n.a.	n.a.	2.0	14.3	9.2	3.8	–5.7	25.3	–3.5	–0.7	9.7	7.9	5.2	1996
n.a.	n.a.	–6.8	15.8	9.6	11.0	7.0	10.8	–5.2	20.6	21.6	11.3	9.8	1997
n.a.	n.a.	–5.9	–23.6	–4.0	0.1	7.9	7.5	–10.5	6.9	–0.9	2.2	6.5	1998
n.a.	n.a.	–2.9	3.6	7.7	5.6	8.6	12.5	13.1	14.1	6.5	4.4	5.5	1999
n.a.	n.a.	14.9	15.7	14.1	15.8	16.1	12.7	11.2	26.7	58.4	8.2	11.4	2000
19.3	–26.4	11.5	–3.5	–4.1	–8.3	–4.3	15.3	1.3	9.2	15.3	–5.9	3.5	2001
15.6	–4.9	9.5	4.0	7.1	3.3	11.3	8.3	5.6	25.8	18.7	–2.0	1.6	2002
6.8	11.6	25.0	4.8	13.2	3.3	6.8	11.4	2.2	23.7	–28.8	1.6	1.3	2003
20.4	–3.1	–1.5	14.0	17.8	7.5	9.2	17.8	–0.7	25.0	11.1	9.1	6.8	2004
3.0	–1.3	9.2	4.7	11.6	6.4	4.1	13.6	–1.3	21.7	11.6	6.6	5.3	2005
–2.4	0.5	9.4	12.6	11.1	3.8	8.8	13.7	3.8	21.5	10.6	8.6	8.3	2006
–1.1	–3.4	2.3	5.5	8.3	7.1	6.8	11.7	–10.3	15.2	6.0	8.4	4.4	2007

Data 8

Growth Rate of Import at Constant Prices

Unit: Percentage

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	—	—	—	—	—	—	—	—	—	—	—	—
1971	n.a.	n.a.	19.6	n.a.	12.0	16.6	9.5	17.8	6.8	17.5	n.a.	−0.7
1972	n.a.	n.a.	19.8	n.a.	5.0	−1.9	24.0	15.1	10.0	0.6	n.a.	−3.1
1973	n.a.	n.a.	21.3	n.a.	9.8	7.8	19.4	23.9	21.8	30.5	n.a.	15.4
1974	−46.7	n.a.	13.0	n.a.	−7.7	−13.6	23.8	58.6	4.1	15.8	n.a.	31.4
1975	−11.5	n.a.	−5.1	n.a.	3.9	1.3	7.6	41.3	−10.9	2.1	n.a.	−18.7
1976	31.9	n.a.	21.5	n.a.	20.9	1.9	7.8	−2.2	6.5	22.3	n.a.	8.8
1977	−59.2	n.a.	4.7	n.a.	7.9	24.2	20.0	12.5	4.0	18.9	n.a.	14.7
1978	46.2	n.a.	13.7	n.a.	18.7	0.0	14.5	−36.1	6.7	24.5	n.a.	12.1
1979	10.4	n.a.	17.5	n.a.	16.4	17.7	18.4	−28.3	12.1	11.4	n.a.	18.6
1980	28.8	n.a.	5.4	n.a.	16.6	13.4	14.1	2.0	−8.1	−5.1	n.a.	18.7
1981	5.8	n.a.	2.0	n.a.	12.1	9.6	23.9	−5.4	2.1	6.1	n.a.	5.4
1982	9.0	n.a.	−1.8	n.a.	−1.4	3.4	7.9	−11.4	−0.7	3.8	n.a.	12.9
1983	−4.2	n.a.	10.6	n.a.	9.7	19.9	11.6	32.7	−3.5	9.7	n.a.	8.6
1984	−6.7	n.a.	13.3	n.a.	13.6	−15.5	−7.8	−37.5	10.0	7.6	n.a.	6.3
1985	7.0	n.a.	−3.7	n.a.	6.4	13.0	5.1	−7.2	−2.7	0.6	n.a.	−10.5
1986	−4.2	n.a.	17.5	n.a.	12.6	15.8	4.1	−13.8	3.7	16.9	n.a.	−2.7
1987	5.5	n.a.	24.0	n.a.	25.1	−1.7	2.0	9.5	8.6	17.9	n.a.	4.3
1988	7.2	n.a.	18.3	n.a.	22.0	8.8	−19.4	−16.1	17.1	12.9	n.a.	18.0
1989	14.0	n.a.	10.6	n.a.	8.1	2.1	10.9	18.8	16.5	16.1	n.a.	22.9
1990	8.9	n.a.	6.1	n.a.	10.8	3.3	20.8	27.5	7.8	12.9	n.a.	23.3
1991	−16.3	n.a.	14.4	n.a.	16.3	0.0	14.6	28.6	−1.1	17.1	n.a.	22.5
1992	−9.2	n.a.	12.1	n.a.	18.6	19.2	8.3	−9.5	−1.1	5.2	n.a.	6.2
1993	31.8	n.a.	7.9	n.a.	11.2	17.6	4.1	−21.9	−1.3	5.8	n.a.	14.0
1994	−6.3	27.0	3.5	n.a.	12.2	20.4	18.5	−49.5	7.9	19.3	n.a.	22.8
1995	39.5	28.6	9.4	n.a.	11.5	24.8	19.0	−0.9	13.3	20.7	n.a.	21.3
1996	13.2	−4.6	5.9	n.a.	4.3	−2.5	6.6	15.5	12.6	13.4	n.a.	4.8
1997	−1.8	7.4	12.8	n.a.	6.7	12.4	13.7	−6.7	0.5	3.4	n.a.	5.7
1998	4.4	−0.4	6.5	n.a.	−5.9	18.9	−5.4	0.4	−7.1	−24.6	n.a.	−20.8
1999	2.3	24.9	4.4	n.a.	−0.5	6.8	−48.3	−5.4	3.5	24.5	n.a.	10.0
2000	9.7	26.7	14.0	n.a.	15.1	4.4	19.1	8.0	8.8	18.3	n.a.	21.8
2001	10.6	9.2	−14.0	n.a.	−1.5	2.7	4.1	15.9	0.6	−5.0	n.a.	−8.6
2002	−11.9	14.2	6.9	n.a.	7.1	11.6	−4.3	20.9	0.9	13.5	n.a.	6.0
2003	7.1	12.2	7.8	n.a.	10.7	12.9	1.6	21.4	3.8	10.5	n.a.	4.4
2004	10.1	18.1	17.3	n.a.	13.0	20.1	23.6	13.0	7.8	11.1	n.a.	17.9
2005	17.4	16.0	3.7	n.a.	7.7	34.4	16.4	2.0	5.7	7.3	n.a.	8.5
2006	16.7	14.8	5.5	n.a.	8.7	21.9	8.2	6.9	4.1	10.7	n.a.	7.8
2007	14.8	11.4	3.7	n.a.	8.8	6.7	8.5	3.1	1.5	11.0	n.a.	5.9

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
—	—	—	—	—	—	—	—	—	—	—	—	—	1970
n.a.	n.a.	5.4	0.2	15.1	–10.3	–14.3	n.a.	n.a.	17.7	–12.8	5.2	5.0	1971
n.a.	n.a.	–19.2	3.1	–10.2	–2.3	12.2	n.a.	n.a.	16.5	–3.8	10.7	9.1	1972
n.a.	n.a.	–0.5	4.4	14.8	–10.8	21.1	n.a.	n.a.	17.5	–43.7	4.5	10.7	1973
n.a.	n.a.	19.0	17.6	32.5	–34.4	–5.9	n.a.	n.a.	35.3	–40.6	–2.3	2.3	1974
n.a.	n.a.	13.2	4.7	–7.4	20.9	–1.7	n.a.	n.a.	–5.8	18.4	–11.8	–5.9	1975
n.a.	n.a.	8.9	1.0	9.7	8.3	7.1	n.a.	n.a.	–3.7	0.0	17.9	10.4	1976
n.a.	n.a.	4.0	6.2	10.7	25.8	18.1	n.a.	n.a.	3.8	22.4	10.4	2.4	1977
n.a.	n.a.	11.2	12.1	12.8	31.4	6.4	n.a.	n.a.	61.4	32.0	8.3	3.8	1978
n.a.	n.a.	22.7	15.2	21.0	–6.7	19.0	n.a.	n.a.	27.5	26.6	1.6	9.2	1979
n.a.	n.a.	4.8	3.2	21.2	6.3	–0.2	n.a.	n.a.	0.9	4.8	–6.9	2.0	1980
n.a.	n.a.	–6.6	–0.8	7.6	3.5	0.6	n.a.	n.a.	9.6	14.8	2.6	–1.8	1981
n.a.	n.a.	–0.5	2.4	6.1	9.8	–15.8	n.a.	n.a.	–10.7	9.9	–1.3	1.4	1982
n.a.	n.a.	10.5	–3.1	4.2	–0.6	28.3	n.a.	n.a.	11.5	–20.7	11.9	1.0	1983
n.a.	n.a.	7.0	–19.2	5.3	0.9	7.4	n.a.	n.a.	26.1	–3.1	21.8	5.8	1984
n.a.	n.a.	8.5	–15.3	–3.6	–3.3	–13.5	n.a.	n.a.	39.3	–5.4	6.3	4.2	1985
n.a.	n.a.	–2.5	9.7	9.0	11.2	–0.9	n.a.	n.a.	–2.4	–20.5	8.2	5.7	1986
n.a.	n.a.	2.0	25.2	10.3	2.4	28.9	16.2	n.a.	–8.6	0.3	5.7	7.5	1987
n.a.	n.a.	–3.5	17.9	22.3	2.4	33.3	–8.0	n.a.	20.2	–23.3	3.9	8.5	1988
n.a.	n.a.	8.0	14.1	8.6	–3.1	19.5	45.1	n.a.	2.8	–8.8	4.3	8.5	1989
n.a.	n.a.	–3.6	9.6	13.0	–2.4	21.3	10.5	16.5	–17.5	39.2	3.5	6.3	1990
n.a.	n.a.	–7.7	–2.0	7.5	12.3	12.2	9.2	13.4	16.7	–9.1	–0.1	4.0	1991
n.a.	n.a.	26.9	9.2	7.1	9.4	8.6	8.9	21.6	26.4	–0.5	6.8	3.9	1992
n.a.	n.a.	13.8	10.9	16.8	13.7	12.4	17.2	3.4	33.7	34.9	8.3	–2.9	1993
n.a.	n.a.	–11.4	13.5	16.2	12.6	13.5	21.4	–7.6	10.3	–6.2	11.3	8.1	1994
n.a.	n.a.	3.9	14.9	13.6	0.8	18.2	14.0	14.7	7.2	18.1	7.7	7.2	1995
n.a.	n.a.	12.7	15.5	10.0	2.4	–0.6	22.8	19.2	1.1	–7.7	8.3	4.5	1996
n.a.	n.a.	–3.9	12.7	10.9	9.9	–12.0	6.9	–18.2	10.5	3.4	12.6	9.1	1997
n.a.	n.a.	–5.8	–15.9	–9.1	11.7	–24.4	8.6	–14.4	3.1	15.4	11.1	9.8	1998
n.a.	n.a.	–5.6	–2.8	8.6	–2.6	10.0	5.5	–3.7	20.4	–0.8	10.9	7.6	1999
n.a.	n.a.	–2.3	4.2	18.0	13.8	24.0	9.5	–6.4	21.9	–8.3	12.2	10.6	2000
4.3	–16.3	2.1	3.5	–5.9	–11.3	–5.7	15.2	3.1	10.2	10.5	–2.9	2.4	2001
27.2	0.1	3.0	5.5	5.9	10.3	12.8	10.5	12.5	24.3	–19.2	3.3	1.1	2002
–1.2	8.1	10.6	10.3	9.1	10.7	8.1	14.7	–8.4	22.1	–17.2	4.3	2.9	2003
20.4	6.7	–9.0	5.6	20.5	8.6	12.6	15.1	3.7	20.3	–17.7	10.5	6.7	2004
16.2	6.3	34.0	2.3	10.6	2.7	8.6	9.0	2.8	10.8	1.6	5.9	5.8	2005
–4.1	1.1	17.1	1.9	11.2	6.7	3.3	13.4	4.2	14.9	11.1	5.9	8.1	2006
0.2	7.2	–3.6	–4.6	7.9	3.7	3.3	18.0	12.2	8.9	4.3	2.0	4.3	2007

Data 9

GDP at Current Prices

Unit: Local Currency Unit

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	13	224	192	23,100	458	3,587	800	74,442	2,830	n.a.	12,788
1971	n.a.	18	261	212	26,647	490	4,086	998	81,917	3,502	n.a.	13,460
1972	n.a.	9	312	261	32,168	540	4,932	1,235	93,807	4,319	n.a.	14,775
1973	69,481	13	406	338	41,284	657	7,297	1,772	114,200	5,584	n.a.	19,455
1974	105,586	11	544	450	47,165	776	11,616	2,991	136,248	7,964	n.a.	23,753
1975	173,367	11	584	563	49,567	833	13,737	3,329	150,539	10,634	n.a.	23,207
1976	153,805	11	702	624	63,141	898	16,826	4,478	169,162	14,646	n.a.	29,187
1977	161,755	11	823	660	73,222	1,017	20,688	5,269	188,539	18,795	n.a.	33,610
1978	202,470	11	985	703	85,698	1,102	24,823	5,137	207,636	25,336	n.a.	39,376
1979	242,735	11	1,190	853	112,533	1,209	34,975	6,061	225,135	32,490	n.a.	48,253
1980	273,448	11	1,486	984	143,402	1,439	49,849	6,433	244,213	39,702	n.a.	55,411
1981	322,842	11	1,770	1,057	172,965	1,691	59,178	7,756	262,530	49,836	6	59,890
1982	362,593	10	1,894	1,114	195,408	1,891	65,189	10,247	275,739	57,054	11	65,077
1983	409,302	13	2,099	1,143	216,383	2,202	85,427	12,824	286,982	67,126	20	73,238
1984	491,049	22	2,340	1,276	260,761	2,467	100,205	14,049	305,078	76,922	29	82,712
1985	563,509	21	2,470	1,317	276,823	2,785	108,325	14,956	327,813	86,071	85	80,556
1986	634,555	57	2,852	1,463	319,232	3,116	118,287	15,201	343,400	100,456	124	74,452
1987	729,979	124	3,235	1,466	393,541	3,542	142,632	18,512	357,508	117,917	161	84,330
1988	802,566	246	3,517	1,589	465,245	4,203	164,818	20,686	384,398	140,389	229	96,075
1989	893,768	303	3,930	1,756	536,268	4,828	197,787	26,297	414,081	158,453	432	109,466
1990	1,007,099	753	4,301	1,982	598,950	5,625	232,279	37,186	446,346	191,154	614	123,885
1991	1,109,648	1,680	4,801	2,044	690,324	6,451	275,398	51,826	473,238	231,411	723	140,592
1992	1,200,476	3,153	5,335	2,306	805,082	7,430	311,177	70,781	484,770	263,682	846	156,799
1993	1,259,245	6,808	5,904	2,525	927,996	8,479	363,456	100,934	487,734	297,624	953	179,209
1994	1,360,495	7,109	6,458	2,676	1,047,470	9,958	421,340	131,751	492,221	348,341	1,110	203,453
1995	1,532,897	8,458	7,017	2,775	1,115,739	11,680	501,140	188,945	498,555	408,372	1,434	231,604
1996	1,672,353	9,215	7,700	2,992	1,229,481	13,519	587,333	252,529	508,188	459,320	1,730	264,188
1997	1,817,420	10,157	8,329	3,028	1,365,024	14,961	692,409	298,147	518,936	502,876	2,206	293,458
1998	2,013,980	11,753	8,939	3,297	1,292,764	17,177	1,054,558	336,594	508,799	495,676	4,251	295,021
1999	2,211,270	13,449	9,325	3,832	1,266,668	19,085	1,213,750	456,909	501,669	542,058	10,360	313,331
2000	2,387,140	14,136	9,706	3,591	1,317,650	20,624	1,396,467	593,593	507,142	592,279	13,715	357,631
2001	2,554,158	15,634	9,534	3,787	1,299,218	22,384	1,654,765	685,047	501,764	636,921	15,757	353,874
2002	2,753,193	16,844	9,926	4,038	1,277,314	24,100	1,831,776	942,713	495,883	703,525	18,470	384,710
2003	3,030,803	18,609	10,129	4,400	1,234,761	27,012	2,025,369	1,128,121	494,878	748,651	22,602	420,510
2004	3,359,270	21,530	10,659	4,738	1,291,923	30,939	2,310,014	1,413,170	502,864	808,869	26,704	476,146
2005	3,742,428	25,871	11,034	5,022	1,382,590	35,271	2,792,525	1,735,987	506,501	846,381	30,733	524,906
2006	4,199,442	29,993	11,480	5,498	1,475,357	40,588	3,362,849	2,108,980	511,947	888,936	35,578	577,320
2007	4,776,218	35,219	12,172	5,278	1,615,431	46,444	3,986,874	2,734,642	520,387	953,761	39,486	643,188

Note: See the note in Data 1.

- Bangladesh Million Taka
- Cambodia Billion Riels
- ROC Billion New Taiwan Dollars
- Fiji Million Fiji Dollars
- Hong Kong Million Hong Kong Dollars
- India Billion Rupees
- Indonesia Billion Rupiahs
- Iran Billion Rials
- Japan Billion Yen
- Korea Billion Won
- Lao PDR Billion Kips
- Malaysia Million Ringgit

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
4,132	n.a.	58,084	39,200	5,805	15,566	148,390	n.a.	n.a.	221	14	1,025	1,199	1970
4,483	n.a.	61,784	46,291	6,841	15,886	154,471	n.a.	n.a.	239	14	1,113	1,302	1971
4,722	n.a.	66,509	51,798	8,195	17,853	171,254	n.a.	n.a.	245	14	1,222	1,419	1972
5,422	n.a.	82,106	66,319	10,257	20,835	223,661	n.a.	n.a.	267	15	1,365	1,593	1973
5,835	18,663	107,184	92,063	12,610	26,938	281,172	n.a.	2,612	274	19	1,478	1,778	1974
6,236	19,590	135,270	105,907	13,446	29,034	305,475	n.a.	2,766	295	23	1,610	1,934	1975
6,761	19,462	158,614	124,925	14,658	32,301	349,002	n.a.	3,514	297	27	1,797	2,140	1976
7,321	22,225	182,208	142,454	16,049	38,772	406,454	n.a.	4,226	317	30	2,000	2,339	1977
8,158	25,021	214,568	164,138	17,844	46,812	491,803	n.a.	4,413	361	32	2,258	2,581	1978
7,624	26,301	237,192	201,014	20,541	57,700	563,002	n.a.	6,097	409	35	2,525	2,897	1979
8,093	30,735	284,990	244,593	25,117	71,805	663,447	n.a.	10,555	459	39	2,750	3,208	1980
8,897	34,904	338,579	282,634	29,376	88,826	761,534	n.a.	9,235	501	43	3,089	3,516	1981
9,831	38,028	394,546	318,421	32,727	102,502	842,957	n.a.	9,144	559	47	3,212	3,765	1982
10,499	44,370	443,542	370,617	36,797	125,299	922,605	n.a.	8,147	622	50	3,472	3,981	1983
10,779	50,033	511,035	526,810	40,154	154,903	989,915	n.a.	8,097	736	54	3,869	4,233	1984
11,230	59,859	574,816	574,585	39,036	165,884	1,058,595	n.a.	7,786	908	56	4,140	4,474	1985
11,156	68,592	626,460	611,949	39,210	181,347	1,135,793	600	5,170	1,051	59	4,367	4,703	1986
11,635	82,602	697,079	686,417	43,322	198,611	1,302,838	2,874	5,842	1,228	69	4,643	4,969	1987
12,344	95,885	822,470	803,732	51,158	230,160	1,563,538	15,444	5,462	1,539	76	5,007	5,360	1988
12,860	111,083	937,475	931,051	58,736	261,202	1,861,723	28,140	5,907	1,731	125	5,395	5,768	1989
12,153	129,299	1,043,422	1,084,183	66,778	334,590	2,189,465	42,030	6,463	1,935	152	5,707	6,170	1990
21,960	160,582	1,238,564	1,256,574	74,570	389,215	2,513,867	76,853	6,489	2,258	187	5,885	6,510	1991
53,354	184,208	1,468,359	1,361,427	80,984	444,103	2,839,605	110,756	6,918	2,757	250	6,219	6,738	1992
211,835	214,079	1,624,089	1,485,913	93,971	526,324	3,175,563	140,560	6,728	3,694	361	6,542	6,870	1993
354,089	235,472	1,902,511	1,706,929	107,957	610,176	3,641,959	178,943	6,324	5,022	474	6,957	7,212	1994
593,998	267,435	2,274,346	1,922,720	119,470	698,064	4,201,699	229,450	6,795	6,322	606	7,287	7,552	1995
706,514	301,402	2,584,678	2,192,257	130,502	813,223	4,629,194	272,743	7,307	7,416	794	7,702	7,849	1996
890,286	323,265	2,960,849	2,450,921	142,341	939,675	4,752,437	314,490	7,824	8,166	1,123	8,185	8,214	1997
918,037	367,548	3,265,488	2,693,316	137,902	1,066,897	4,647,072	362,078	6,900	8,653	1,615	8,634	8,590	1998
1,041,813	407,819	3,584,165	3,010,492	140,022	1,161,802	4,659,078	401,192	7,943	9,113	2,197	9,178	8,943	1999
1,174,100	442,009	3,839,656	3,355,589	159,840	1,314,451	4,947,583	443,115	10,547	9,875	2,561	9,766	9,530	2000
1,284,778	459,985	4,225,731	3,677,870	153,469	1,465,150	5,161,080	482,999	10,248	10,897	3,561	10,091	10,045	2001
1,414,944	492,849	4,470,502	4,017,764	158,164	1,648,480	5,481,803	537,780	10,700	12,035	5,646	10,438	10,448	2002
1,662,755	537,466	4,896,445	4,378,851	162,382	1,837,218	5,953,367	615,902	11,681	13,640	7,748	10,942	10,709	2003
2,155,392	590,250	5,666,184	4,946,556	185,365	2,108,848	6,531,487	718,358	13,600	16,028	9,118	11,651	11,235	2004
2,784,110	655,074	6,531,178	5,533,230	201,313	2,475,261	7,141,755	843,021	16,225	18,869	12,343	12,416	11,766	2005
3,721,399	729,351	7,662,390	6,136,313	221,143	2,967,340	7,898,780	978,972	18,643	22,165	16,796	13,173	12,438	2006
4,608,034	819,803	8,720,447	6,770,663	251,610	3,615,828	8,559,568	1,149,594	18,936	26,324	23,814	13,827	13,144	2007

- Mongolia Million Tugriks
- Nepal Million Rupees
- Pakistan Million Rupees
- Philippines Million Pesos
- Singapore Million Singapore Dollars
- Sri Lanka Million Rupees
- Thailand Million Baht
- Vietnam Billion Dong
- Brunei Million Brunei Dollars
- China Billion Yuan
- Myanmar Billion Kyats
- US Billion US Dollars
- EU15 Billion US Dollars

Data 10

Household Consumption at Current Prices

Unit: Local Currency Unit

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	124	128	14,975	343	2,358	414	36,302	2,109	n.a.	7,637
1971	n.a.	n.a.	138	144	17,290	359	2,619	510	40,823	2,608	n.a.	8,376
1972	n.a.	n.a.	159	184	19,987	399	2,964	541	47,061	3,126	n.a.	9,118
1973	68,738	n.a.	200	266	26,659	494	4,342	707	56,734	3,826	n.a.	10,952
1974	100,312	n.a.	290	334	30,306	573	6,486	996	68,192	5,501	n.a.	13,564
1975	164,886	n.a.	327	383	31,922	601	7,852	1,383	78,980	7,256	n.a.	13,863
1976	142,874	n.a.	358	434	36,358	629	9,440	1,584	89,465	9,363	n.a.	15,662
1977	136,931	n.a.	414	421	44,343	728	11,278	2,256	100,088	11,440	n.a.	17,895
1978	179,954	n.a.	483	445	54,747	768	13,796	2,495	110,365	15,203	n.a.	20,845
1979	215,962	n.a.	589	505	67,544	842	17,832	3,154	121,806	19,611	n.a.	23,902
1980	238,347	n.a.	750	557	85,411	1,070	25,319	3,751	132,247	25,139	n.a.	28,659
1981	277,767	n.a.	903	668	102,788	1,187	32,356	4,864	140,698	31,432	n.a.	32,459
1982	315,452	n.a.	980	693	119,091	1,322	37,661	6,352	151,011	34,955	n.a.	35,256
1983	357,268	n.a.	1,066	735	138,268	1,581	46,934	7,983	158,991	40,374	n.a.	38,726
1984	427,090	n.a.	1,165	794	157,843	1,704	54,725	8,848	167,155	45,234	n.a.	42,139
1985	486,492	n.a.	1,234	822	169,387	1,874	58,350	9,812	176,707	50,074	n.a.	42,814
1986	539,683	n.a.	1,336	902	192,143	2,073	66,826	10,913	184,028	55,190	n.a.	38,845
1987	627,643	n.a.	1,510	934	224,020	2,363	78,637	11,347	192,604	61,458	n.a.	41,710
1988	689,315	n.a.	1,737	1,082	261,754	2,750	91,447	14,862	203,367	71,525	n.a.	48,462
1989	765,008	246	2,047	1,190	296,603	3,143	102,513	18,565	217,529	83,295	n.a.	56,026
1990	857,792	623	2,294	1,446	342,168	3,663	126,956	20,820	234,704	98,942	n.a.	65,549
1991	927,083	1,141	2,558	1,437	406,466	4,259	148,734	28,334	246,499	118,672	n.a.	74,871
1992	988,936	2,377	2,900	1,650	472,798	4,845	166,179	36,311	255,976	136,639	n.a.	80,515
1993	1,031,241	6,810	3,234	1,794	541,082	5,650	196,851	43,969	261,256	154,938	n.a.	88,460
1994	1,105,959	6,667	3,647	1,905	624,409	6,498	232,004	57,963	268,599	182,363	n.a.	100,096
1995	1,259,447	8,016	3,984	1,687	691,708	7,347	283,506	87,096	272,757	213,337	n.a.	113,358
1996	1,374,297	9,003	4,404	1,830	755,508	9,149	337,599	111,076	279,306	243,153	n.a.	124,353
1997	1,457,338	9,203	4,765	1,847	833,825	9,750	391,674	142,277	284,778	266,988	n.a.	136,108
1998	1,569,444	11,200	5,137	1,769	795,948	11,338	650,621	178,837	282,589	245,962	n.a.	126,303
1999	1,723,125	12,101	5,440	2,228	765,248	11,976	841,986	219,660	283,880	282,015	n.a.	134,378
2000	1,840,360	12,313	5,761	2,524	777,141	13,210	856,798	273,249	282,772	318,580	n.a.	155,894
2001	1,984,143	12,984	5,801	2,648	782,984	14,372	1,039,655	343,410	284,217	349,209	n.a.	162,572
2002	2,094,929	13,630	5,917	2,676	748,402	15,353	1,231,965	462,366	283,254	391,590	n.a.	172,436
2003	2,311,372	14,955	5,963	3,007	719,873	16,928	1,372,078	573,134	281,791	401,916	n.a.	186,624
2004	2,515,751	17,825	6,313	3,473	767,923	18,530	1,532,888	702,738	284,428	416,849	n.a.	208,519
2005	2,811,355	21,280	6,602	3,601	804,936	20,397	1,785,596	846,845	285,936	446,126	n.a.	234,183
2006	3,140,405	23,770	6,741	4,215	863,591	23,028	2,092,656	1,048,294	289,594	475,245	n.a.	258,226
2007	3,596,747	28,417	6,979	4,248	972,027	25,493	2,511,308	1,372,088	290,445	508,853	n.a.	292,669

Note: See the note in Data 4.

- Bangladesh Million Taka
- Cambodia Billion Riels
- ROC Billion New Taiwan Dollars
- Fiji Million Fiji Dollars
- Hong Kong Million Hong Kong Dollars
- India Billion Rupees
- Indonesia Billion Rupiahs
- Iran Billion Rials
- Japan Billion Yen
- Korea Billion Won
- Lao PDR Billion Kips
- Malaysia Million Ringgit

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	44,915	27,906	4,047	11,317	96,369	n.a.	n.a.	121	13	638	689	1970
n.a.	n.a.	47,885	33,235	4,686	11,779	99,743	n.a.	n.a.	126	13	690	748	1971
n.a.	n.a.	51,180	36,839	5,190	13,324	112,899	n.a.	n.a.	133	13	758	819	1972
n.a.	n.a.	63,155	43,691	6,135	16,132	139,306	n.a.	n.a.	143	14	838	912	1973
n.a.	15,862	87,065	61,754	7,646	22,499	179,562	n.a.	n.a.	147	17	916	1,025	1974
n.a.	16,359	110,171	71,544	8,066	24,210	198,721	n.a.	n.a.	153	21	1,011	1,131	1975
n.a.	17,142	124,391	81,797	8,327	25,009	226,904	n.a.	n.a.	159	25	1,129	1,244	1976
n.a.	18,324	142,601	93,251	8,947	28,979	264,436	n.a.	n.a.	165	26	1,253	1,361	1977
n.a.	20,726	172,475	109,881	9,805	34,094	305,591	n.a.	n.a.	176	27	1,397	1,488	1978
n.a.	22,374	194,641	132,489	11,034	42,993	364,592	n.a.	n.a.	201	29	1,559	1,676	1979
4,826	26,076	232,776	162,692	13,111	56,848	429,435	n.a.	n.a.	233	32	1,723	1,873	1980
4,746	29,483	269,471	189,021	14,462	69,023	485,415	n.a.	n.a.	263	35	1,907	2,080	1981
4,761	32,207	316,861	218,205	14,739	82,021	522,659	n.a.	n.a.	290	40	2,040	2,234	1982
5,900	37,316	351,845	253,126	15,662	98,740	592,305	n.a.	n.a.	323	43	2,234	2,357	1983
6,008	39,888	406,593	378,120	17,202	115,229	608,911	n.a.	n.a.	374	47	2,446	2,498	1984
6,238	49,601	463,878	428,841	17,590	126,124	643,990	n.a.	n.a.	469	50	2,652	2,637	1985
6,567	56,231	477,414	439,063	18,989	139,142	672,558	544	n.a.	530	53	2,824	2,756	1986
7,228	69,153	509,475	499,096	21,478	147,600	783,062	2,529	n.a.	613	63	3,018	2,922	1987
7,703	78,079	600,340	565,709	24,651	173,689	916,414	13,932	n.a.	787	68	3,271	3,131	1988
7,351	95,489	671,370	648,363	27,191	196,999	1,076,630	24,732	1,638	881	114	3,518	3,372	1989
7,602	108,457	753,437	761,809	30,649	249,576	1,239,383	36,642	1,898	945	134	3,754	3,583	1990
11,855	134,488	861,437	909,120	33,083	288,965	1,365,628	64,071	1,800	1,073	161	3,886	3,792	1991
28,780	148,281	1,035,960	998,839	36,121	328,796	1,532,877	87,897	2,448	1,300	217	4,129	3,951	1992
112,797	171,089	1,172,404	1,096,356	42,062	381,736	1,717,018	108,255	2,638	1,641	319	4,374	4,050	1993
188,259	186,467	1,361,793	1,209,582	46,649	443,168	1,989,792	135,179	2,496	2,184	417	4,637	4,236	1994
353,837	215,215	1,657,935	1,410,131	49,538	491,432	2,291,871	168,839	2,362	2,837	524	4,874	4,402	1995
450,174	242,671	1,892,208	1,581,655	52,361	558,286	2,502,686	202,704	2,670	3,396	701	5,152	4,594	1996
462,990	259,049	2,223,149	1,756,425	55,969	630,244	2,595,745	224,325	3,073	3,692	987	5,438	4,793	1997
597,511	295,064	2,387,138	1,945,316	52,720	706,544	2,433,737	254,991	2,809	3,923	1,421	5,775	5,014	1998
648,489	322,562	2,735,616	2,024,674	57,932	790,602	2,570,473	273,720	2,948	4,192	1,905	6,186	5,234	1999
822,041	354,231	2,884,021	2,166,434	67,527	926,102	2,815,781	293,407	2,765	4,585	2,237	6,663	5,599	2000
954,299	377,257	3,211,093	2,611,745	71,558	1,027,549	2,982,120	311,781	2,617	4,921	3,140	6,969	5,906	2001
1,073,536	407,438	3,329,860	2,825,902	74,867	1,174,027	3,184,679	352,073	2,698	5,257	5,049	7,253	6,109	2002
1,109,827	427,289	3,600,963	3,368,727	72,235	1,316,635	3,402,598	408,527	3,136	5,683	6,865	7,623	6,268	2003
1,280,788	468,848	4,184,717	3,741,507	78,078	1,494,131	3,715,136	469,906	3,588	6,383	7,980	8,089	6,550	2004
1,511,023	538,534	5,001,499	4,349,509	81,619	1,709,716	4,098,472	524,104	3,897	7,122	10,741	8,618	6,874	2005
1,745,857	589,429	5,720,225	4,609,955	86,430	2,006,644	4,411,569	601,341	3,988	8,048	14,191	9,117	7,214	2006
2,083,382	645,203	6,543,843	4,955,746	95,271	2,426,292	4,524,082	762,470	4,161	9,332	20,107	9,599	7,549	2007

- Mongolia Million Tugriks
- Nepal Million Rupees
- Pakistan Million Rupees
- Philippines Million Pesos
- Singapore Million Singapore Dollars
- Sri Lanka Million Rupees
- Thailand Million Baht
- Vietnam Billion Dong
- Brunei Million Brunei Dollars
- China Billion Yuan
- Myanmar Billion Kyats
- US Billion US Dollars
- EU15 Billion US Dollars

Data 11

Government Consumption at Current Prices

Unit: Local Currency Unit

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	42	27	1,630	43	293	150	7,940	277	n.a.	2,204
1971	n.a.	n.a.	47	31	1,741	49	341	201	9,347	353	n.a.	2,176
1972	n.a.	n.a.	52	38	2,078	53	414	259	10,970	449	n.a.	2,746
1973	819	n.a.	64	42	2,559	58	716	334	13,589	493	n.a.	2,953
1974	1,734	n.a.	80	54	3,171	70	841	683	17,816	774	n.a.	3,536
1975	2,854	n.a.	96	68	3,493	82	1,254	872	21,673	1,198	n.a.	3,938
1976	7,536	n.a.	111	85	4,008	92	1,591	1,066	23,896	1,648	n.a.	4,337
1977	9,307	n.a.	133	102	4,655	98	2,077	1,200	26,554	2,105	n.a.	5,433
1978	9,495	n.a.	156	115	5,436	108	2,659	1,329	28,750	2,670	n.a.	6,141
1979	11,695	n.a.	193	144	6,755	125	3,733	1,305	31,274	3,392	n.a.	6,543
1980	12,936	n.a.	248	157	8,706	145	4,688	1,472	34,304	4,963	n.a.	8,877
1981	15,102	n.a.	299	173	12,211	170	5,788	1,788	36,876	6,253	n.a.	10,478
1982	17,307	n.a.	335	204	14,547	200	6,832	2,038	39,158	7,102	n.a.	11,528
1983	18,406	n.a.	355	232	16,336	232	8,077	2,295	41,501	7,972	n.a.	11,084
1984	20,877	n.a.	389	245	18,027	266	9,122	2,336	43,455	8,595	n.a.	11,837
1985	24,073	n.a.	417	252	19,751	317	11,400	2,606	45,371	9,695	n.a.	11,925
1986	28,135	n.a.	441	253	22,843	375	11,529	2,529	47,468	11,077	n.a.	12,226
1987	31,806	n.a.	487	255	25,672	440	11,764	2,888	49,506	12,687	n.a.	12,199
1988	34,991	n.a.	554	263	29,943	508	12,756	3,413	51,707	15,165	n.a.	13,282
1989	39,445	18	648	304	36,168	582	15,698	3,428	55,046	18,328	n.a.	14,925
1990	43,439	43	777	346	43,141	663	18,649	4,385	59,025	22,684	n.a.	16,533
1991	47,121	238	879	357	51,294	748	20,785	5,982	63,074	27,055	n.a.	18,614
1992	53,890	255	948	415	63,795	847	24,731	7,574	66,550	31,908	n.a.	19,738
1993	61,917	306	992	467	72,283	983	29,757	16,127	69,350	35,397	n.a.	21,919
1994	65,850	493	1,020	437	83,148	1,093	31,014	21,558	71,985	40,054	n.a.	24,157
1995	71,070	493	1,089	446	93,624	1,296	35,584	30,360	75,121	45,964	n.a.	27,723
1996	74,999	529	1,201	474	103,541	1,469	40,299	36,022	77,348	53,628	n.a.	28,417
1997	79,771	590	1,316	508	112,751	1,738	42,952	39,125	78,967	58,370	n.a.	30,611
1998	95,332	672	1,401	573	116,550	2,152	54,416	48,327	80,305	63,752	n.a.	28,120
1999	101,770	786	1,363	608	119,993	2,527	72,631	57,695	82,207	67,036	n.a.	33,632
2000	108,494	986	1,392	618	120,172	2,651	90,780	82,444	84,942	72,101	n.a.	36,242
2001	115,368	1,082	1,404	658	128,866	2,818	113,416	96,739	87,122	83,010	n.a.	42,463
2002	136,355	1,276	1,431	682	131,291	2,910	132,219	123,189	88,306	90,930	n.a.	49,673
2003	161,673	1,350	1,459	731	130,151	3,103	163,701	140,795	88,503	100,057	n.a.	54,324
2004	185,582	1,356	1,465	778	127,327	3,381	191,056	168,705	89,468	110,128	n.a.	59,653
2005	209,136	1,494	1,498	812	121,435	3,756	224,981	217,919	90,602	120,010	n.a.	64,536
2006	234,444	1,575	1,505	865	123,033	4,215	288,080	269,251	90,703	131,901	n.a.	68,628
2007	268,110	2,008	1,529	858	130,398	4,791	329,760	268,129	92,417	143,262	n.a.	78,317

Note: See the note in Data 5.

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- Indonesia Billion Rupiahs
- Iran Billion Rials
- Japan Billion Yen
- Korea Billion Won
- Lao PDR Billion Kips
- Malaysia Million Ringgit

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	4,558	3,721	693	1,709	16,578	n.a.	n.a.	25	n.a.	188	196	1970
n.a.	n.a.	4,956	4,525	861	1,811	17,676	n.a.	n.a.	30	n.a.	202	222	1971
n.a.	n.a.	6,092	5,571	990	1,902	18,572	n.a.	n.a.	31	n.a.	218	245	1972
n.a.	n.a.	7,264	6,599	1,118	2,406	21,636	n.a.	n.a.	32	n.a.	233	276	1973
n.a.	1,120	8,031	9,527	1,298	2,762	26,086	n.a.	n.a.	34	n.a.	259	321	1974
n.a.	1,153	11,239	11,591	1,423	2,744	31,291	n.a.	n.a.	36	n.a.	291	373	1975
n.a.	1,123	13,489	13,729	1,542	2,976	38,010	n.a.	n.a.	38	n.a.	314	410	1976
n.a.	1,311	15,719	14,963	1,716	3,489	42,924	n.a.	n.a.	41	n.a.	343	449	1977
n.a.	1,684	17,978	16,818	1,964	4,935	54,584	n.a.	n.a.	48	n.a.	374	501	1978
n.a.	1,395	19,128	19,041	2,032	5,542	66,800	n.a.	n.a.	62	n.a.	411	564	1979
1,821	1,713	22,134	22,099	2,446	6,784	81,433	n.a.	n.a.	68	n.a.	465	643	1980
2,126	2,351	26,593	24,661	2,786	7,586	97,007	n.a.	n.a.	73	n.a.	520	733	1981
2,204	3,045	31,527	28,929	3,567	10,589	110,167	n.a.	n.a.	81	n.a.	566	786	1982
2,330	3,248	39,129	30,552	3,992	12,949	118,577	n.a.	n.a.	90	n.a.	607	832	1983
2,442	3,896	47,721	36,880	4,327	15,712	130,100	n.a.	n.a.	110	n.a.	655	875	1984
2,587	4,514	53,726	43,520	5,543	19,505	142,923	n.a.	n.a.	130	n.a.	713	922	1985
2,809	5,167	61,753	48,431	5,265	23,391	144,564	30	n.a.	152	n.a.	761	960	1986
2,921	6,145	72,870	57,333	5,307	26,661	147,224	173	n.a.	168	n.a.	805	1,020	1987
3,137	7,974	98,518	72,183	5,325	30,861	156,710	980	n.a.	197	n.a.	843	1,082	1988
3,219	7,985	121,510	88,186	5,997	33,154	176,798	2,204	1,494	235	n.a.	896	1,142	1989
3,118	9,880	121,850	108,843	6,758	42,567	205,354	3,164	1,578	264	n.a.	959	1,233	1990
4,753	10,613	136,909	123,885	7,327	51,654	231,127	5,055	1,516	336	n.a.	1,008	1,323	1991
8,896	13,280	146,307	130,524	7,437	54,908	280,203	7,653	1,847	420	n.a.	1,042	1,397	1992
44,152	14,249	164,282	149,057	8,693	66,894	315,982	10,279	1,768	549	n.a.	1,066	1,439	1993
80,139	18,064	177,845	182,776	8,979	76,748	354,387	14,738	1,737	740	n.a.	1,101	1,482	1994
71,397	20,516	206,081	217,045	10,097	98,944	414,403	18,741	1,724	838	n.a.	1,134	1,530	1995
91,657	22,270	252,139	259,501	12,167	113,757	469,516	22,722	1,741	996	n.a.	1,170	1,593	1996
112,048	24,969	271,621	319,935	13,129	128,711	476,705	25,500	1,968	1,122	n.a.	1,215	1,637	1997
144,566	27,210	283,660	354,406	13,818	145,803	511,691	27,523	2,083	1,236	n.a.	1,256	1,686	1998
157,128	30,272	286,296	389,238	13,937	155,632	533,041	27,137	2,445	1,372	n.a.	1,333	1,767	1999
180,330	35,785	330,691	438,858	17,339	179,948	557,807	28,346	2,875	1,566	n.a.	1,417	1,882	2000
210,538	38,586	327,562	444,834	18,390	191,646	581,117	30,463	2,920	1,767	n.a.	1,518	2,000	2001
227,446	42,652	388,446	456,904	19,423	208,085	603,891	33,390	2,863	1,912	n.a.	1,631	2,128	2002
246,082	46,397	428,689	477,411	19,438	221,622	636,002	38,770	2,762	2,062	n.a.	1,747	2,212	2003
312,843	52,453	462,462	492,110	19,988	264,069	720,595	45,715	2,979	2,320	n.a.	1,851	2,323	2004
344,488	56,794	509,864	527,045	21,423	321,037	843,649	51,652	3,194	2,661	n.a.	1,967	2,445	2005
425,279	66,847	824,300	589,930	23,450	451,438	927,575	58,734	3,636	3,012	n.a.	2,083	2,568	2006
598,566	81,482	796,204	646,676	24,450	546,545	1,037,571	69,247	4,295	3,513	n.a.	2,205	2,680	2007

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- Sri Lanka Million Rupees
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- Vietnam Billion Dong
- Brunei Million Brunei Dollars
- China Billion Yuan
- Myanmar Billion Kyats
- US Billion US Dollars
- EU15 Billion US Dollars

Data 12

Investment at Current Prices

Unit: Local Currency Unit

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	58	43	4,715	72	1,016	241	29,276	724	n.a.	2,446
1971	n.a.	n.a.	69	53	6,495	83	1,201	245	29,569	901	n.a.	2,722
1972	n.a.	n.a.	82	63	7,544	87	1,555	388	33,663	947	n.a.	3,104
1973	2,383	n.a.	120	76	9,457	110	2,231	453	43,870	1,441	n.a.	4,494
1974	8,411	n.a.	216	85	11,424	142	3,327	505	51,277	2,553	n.a.	6,599
1975	12,232	n.a.	180	116	11,379	158	4,420	757	49,864	3,065	n.a.	5,305
1976	17,633	n.a.	218	134	16,030	172	5,421	1,257	54,514	3,931	n.a.	6,254
1977	21,380	n.a.	235	155	19,436	190	6,467	1,547	58,908	5,422	n.a.	7,855
1978	27,671	n.a.	281	173	24,645	229	7,905	1,119	65,015	8,400	n.a.	10,283
1979	31,953	n.a.	395	250	36,777	259	10,866	816	74,110	11,729	n.a.	13,688
1980	47,737	n.a.	506	304	49,971	270	15,397	2,026	79,882	12,668	n.a.	16,541
1981	59,704	n.a.	532	367	60,535	380	19,180	2,128	83,036	14,804	n.a.	20,516
1982	68,652	n.a.	482	289	60,585	410	22,382	2,043	83,721	16,450	n.a.	23,747
1983	71,740	n.a.	497	238	57,767	435	30,597	3,526	81,622	19,564	n.a.	26,924
1984	80,475	n.a.	524	251	63,747	533	31,264	3,403	86,432	23,381	n.a.	27,218
1985	96,116	n.a.	478	248	59,542	661	34,788	3,163	94,695	25,899	n.a.	21,841
1986	110,195	n.a.	509	276	74,779	726	38,925	2,659	98,624	29,395	n.a.	19,016
1987	121,055	n.a.	677	229	102,473	789	48,014	4,019	104,837	35,871	n.a.	19,175
1988	134,828	n.a.	847	203	131,570	1,006	54,859	3,628	121,084	44,186	n.a.	24,904
1989	156,250	n.a.	940	222	141,565	1,160	72,277	6,165	135,269	53,839	n.a.	32,134
1990	180,198	n.a.	1,016	285	161,886	1,380	80,704	15,022	148,444	71,684	n.a.	39,369
1991	196,943	n.a.	1,145	315	184,907	1,443	98,495	24,792	156,118	91,812	n.a.	52,054
1992	214,560	n.a.	1,392	310	225,824	1,795	108,139	34,951	151,846	98,308	n.a.	54,502
1993	229,863	824	1,582	443	251,742	1,844	122,694	33,266	146,363	106,421	n.a.	69,002
1994	254,534	864	1,682	415	327,020	2,398	148,998	29,622	141,754	128,718	n.a.	82,334
1995	301,215	1,248	1,828	629	380,019	3,180	182,278	55,513	143,719	153,758	n.a.	99,278
1996	349,611	1,378	1,835	568	388,248	3,062	206,002	90,845	148,995	178,353	n.a.	107,903
1997	389,179	1,552	2,073	595	464,204	3,665	250,977	110,466	149,434	180,972	n.a.	124,164
1998	448,267	1,421	2,306	873	373,080	3,982	231,630	116,140	136,462	125,135	n.a.	78,297
1999	506,442	2,314	2,279	1,011	314,716	4,962	203,234	150,976	127,689	158,704	n.a.	69,974
2000	562,693	2,515	2,334	771	361,774	4,958	302,717	207,280	132,113	184,363	n.a.	97,020
2001	609,781	2,984	1,811	777	328,984	5,397	365,525	233,366	127,250	189,965	n.a.	87,348
2002	652,254	3,423	1,849	806	291,685	6,081	352,894	321,860	117,912	210,374	n.a.	96,480
2003	732,740	4,165	1,936	970	270,687	7,176	341,809	397,213	116,609	229,278	n.a.	97,100
2004	836,029	3,913	2,507	1,111	282,110	9,598	478,807	497,873	119,342	247,511	n.a.	111,398
2005	961,579	5,328	2,449	1,326	284,409	12,133	666,910	524,244	123,008	256,866	n.a.	106,907
2006	1,085,295	6,865	2,563	1,551	320,562	14,598	801,385	612,809	125,301	269,188	n.a.	120,404
2007	1,238,586	7,464	2,717	1,100	338,190	17,843	986,356	798,024	128,892	286,918	n.a.	142,155

Note: See the note in Data 6.

- Bangladesh Million Taka
- Cambodia Billion Riels
- ROC Billion New Taiwan Dollars
- Fiji Million Fiji Dollars
- Hong Kong Million Hong Kong Dollars
- India Billion Rupees
- Indonesia Billion Rupiahs
- Iran Billion Rials
- Japan Billion Yen
- Korea Billion Won
- Lao PDR Billion Kips
- Malaysia Million Ringgit

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	9,917	7,213	2,245	2,834	41,872	n.a.	n.a.	74	2.0	196	320	1970
n.a.	n.a.	10,344	8,348	2,778	2,577	41,383	n.a.	n.a.	82	1.7	220	333	1971
n.a.	n.a.	10,041	9,237	3,393	2,867	41,475	n.a.	n.a.	79	1.8	250	358	1972
n.a.	n.a.	11,324	12,474	4,045	2,520	65,925	n.a.	n.a.	90	1.7	291	420	1973
n.a.	2,598	15,330	22,566	5,710	3,453	82,132	n.a.	n.a.	94	2.0	306	475	1974
n.a.	2,847	23,882	29,315	5,374	4,065	89,452	n.a.	n.a.	106	2.4	293	452	1975
n.a.	2,253	30,706	36,635	5,989	5,021	92,647	n.a.	n.a.	99	2.9	358	525	1976
n.a.	3,797	36,638	38,333	5,809	4,972	120,962	n.a.	n.a.	110	3.9	429	554	1977
n.a.	3,802	40,086	44,417	6,972	9,819	152,268	n.a.	n.a.	138	5.8	515	594	1978
n.a.	4,595	44,423	59,130	8,919	15,474	169,202	n.a.	n.a.	148	7.9	581	688	1979
3,276	5,188	55,172	71,742	11,656	23,194	194,025	n.a.	n.a.	160	8.3	580	769	1980
4,673	5,797	68,938	78,372	13,626	25,883	226,816	n.a.	n.a.	163	9.9	679	766	1981
5,184	7,208	81,626	89,658	15,721	28,650	224,543	n.a.	n.a.	178	10.4	629	805	1982
4,574	7,963	90,191	110,767	17,666	31,975	277,685	n.a.	n.a.	204	9.0	687	827	1983
4,679	11,013	101,109	116,632	19,532	34,147	293,060	n.a.	n.a.	252	8.2	875	883	1984
5,295	11,437	114,053	90,399	16,673	40,258	300,503	n.a.	n.a.	346	8.8	895	928	1985
5,350	13,926	127,500	100,503	14,825	39,950	295,632	76	n.a.	394	7.6	920	972	1986
4,443	16,433	144,951	126,839	16,455	44,280	365,272	425	n.a.	446	8.0	969	1,038	1987
4,341	20,877	161,208	154,701	17,572	49,496	512,088	2,238	n.a.	570	9.9	1,008	1,188	1988
4,949	20,602	192,918	210,740	20,679	54,970	655,906	4,161	1,226	633	11.7	1,073	1,321	1989
4,626	27,113	214,845	272,868	24,773	67,810	908,898	6,100	1,421	675	20.6	1,077	1,404	1990
8,697	34,241	256,087	260,890	26,232	86,254	1,081,109	11,652	1,478	787	29.0	1,023	1,432	1991
17,906	42,988	324,289	298,269	29,539	99,793	1,140,036	19,722	1,945	1,009	34.3	1,088	1,414	1992
59,673	48,417	369,177	365,051	35,861	125,380	1,276,739	34,322	2,123	1,572	45.6	1,173	1,322	1993
90,686	59,576	405,990	421,364	36,290	159,057	1,473,555	45,892	1,924	2,034	59.6	1,318	1,415	1994
174,485	72,764	460,949	444,665	41,194	171,496	1,777,645	62,689	2,448	2,547	87.6	1,377	1,512	1995
215,793	76,580	536,245	541,940	46,165	208,183	1,946,316	77,156	2,947	2,878	99.1	1,484	1,526	1996
265,418	80,655	579,927	625,422	55,084	243,165	1,612,991	89,620	2,883	2,997	143	1,641	1,615	1997
286,241	76,042	622,595	570,355	42,838	274,990	966,598	105,936	2,478	3,131	204	1,774	1,759	1998
365,044	99,011	609,648	591,838	45,060	301,929	972,604	111,753	1,973	3,295	301	1,929	1,857	1999
341,790	99,140	672,654	686,438	53,220	339,670	1,149,016	132,240	1,644	3,484	326	2,077	2,019	2000
331,252	93,562	731,383	735,444	40,458	332,856	1,264,667	151,737	1,666	3,977	423	1,984	2,055	2001
378,559	106,001	756,221	754,110	37,358	372,849	1,328,494	180,001	2,470	4,557	592	1,990	2,048	2002
592,096	132,387	837,859	789,060	25,987	408,841	1,513,473	219,893	1,976	5,596	881	2,086	2,096	2003
745,746	156,745	960,700	890,982	40,344	535,084	1,780,601	256,737	2,109	6,917	1,133	2,341	2,225	2004
1,032,139	176,622	1,271,636	883,180	40,748	663,547	2,279,029	302,353	2,331	8,065	1,592	2,564	2,363	2005
1,310,359	206,003	1,726,994	979,732	44,420	832,634	2,285,854	363,335	2,524	9,440	2,595	2,752	2,596	2006
1,859,247	261,572	2,000,828	1,137,266	52,195	1,014,334	2,324,184	499,179	3,105	11,142	3,697	2,750	2,821	2007

- Mongolia Million Tugriks
- Nepal Million Rupees
- Pakistan Million Rupees
- Philippines Million Pesos
- Singapore Million Singapore Dollars
- Sri Lanka Million Rupees
- Thailand Million Baht
- Vietnam Billion Dong
- Brunei Million Brunei Dollars
- China Billion Yuan
- Myanmar Billion Kyats
- US Billion US Dollars
- EU15 Billion US Dollars

Data 13

Export at Current Prices

Unit: Local Currency Unit

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	69	93	21,532	18	450	154	7,909	371	n.a.	5,389
1971	n.a.	n.a.	94	106	23,841	18	532	241	9,432	504	n.a.	5,242
1972	n.a.	n.a.	134	120	27,184	22	765	299	9,759	805	n.a.	5,121
1973	3,025	n.a.	194	153	35,302	28	1,247	625	11,267	1,541	n.a.	7,767
1974	2,712	n.a.	241	221	40,926	38	3,257	1,482	18,219	2,048	n.a.	11,043
1975	3,674	n.a.	234	242	41,357	48	2,990	1,439	18,942	2,750	n.a.	10,172
1976	5,242	n.a.	336	235	56,488	61	3,597	1,788	22,534	4,228	n.a.	14,554
1977	7,728	n.a.	406	290	61,091	66	4,684	1,754	24,256	5,490	n.a.	16,216
1978	8,205	n.a.	519	299	73,416	71	5,021	1,292	22,680	6,925	n.a.	18,585
1979	10,640	n.a.	638	386	101,007	83	10,099	1,706	25,573	8,310	n.a.	26,004
1980	14,016	n.a.	783	477	127,481	90	14,525	929	32,817	12,245	n.a.	30,676
1981	16,977	n.a.	921	454	157,818	103	15,656	996	37,846	16,427	n.a.	30,154
1982	18,842	n.a.	952	481	168,121	116	13,996	1,820	39,191	18,234	n.a.	31,846
1983	23,446	n.a.	1,119	498	208,026	131	21,446	1,985	39,125	21,289	n.a.	36,298
1984	26,065	n.a.	1,324	546	278,837	158	24,939	1,689	44,902	24,689	n.a.	43,171
1985	31,189	n.a.	1,347	584	297,716	150	23,622	1,406	46,177	26,469	n.a.	42,537
1986	33,856	n.a.	1,662	609	350,012	165	22,043	598	38,058	34,440	n.a.	40,305
1987	37,587	n.a.	1,858	664	472,358	203	32,173	1,780	36,180	43,408	n.a.	50,998
1988	45,015	n.a.	1,919	862	604,374	259	37,322	1,597	37,431	49,182	n.a.	61,348
1989	51,185	n.a.	1,958	1,099	697,718	346	45,743	2,616	42,273	46,935	n.a.	75,112
1990	61,422	n.a.	2,021	1,234	782,379	406	56,016	5,129	45,863	51,397	n.a.	88,675
1991	73,634	n.a.	2,298	1,170	926,992	563	67,632	7,449	46,668	58,614	n.a.	105,161
1992	90,693	n.a.	2,350	1,195	1,110,860	673	82,608	9,645	47,288	67,440	n.a.	114,494
1993	113,049	1,094	2,640	1,321	1,255,826	861	92,537	27,420	44,109	75,944	n.a.	135,896
1994	121,892	1,833	2,863	1,508	1,404,297	1,016	106,277	39,632	44,270	89,252	n.a.	174,255
1995	165,705	2,630	3,424	1,643	1,597,770	1,307	125,429	40,362	45,230	113,237	n.a.	209,323
1996	184,359	2,334	3,700	1,878	1,683,302	1,449	144,245	51,746	49,561	123,095	n.a.	232,358
1997	216,723	3,411	4,087	1,845	1,742,544	1,652	183,405	51,007	56,074	156,682	n.a.	262,885
1998	266,809	3,661	4,360	2,002	1,609,748	1,953	530,949	44,857	55,051	220,098	n.a.	327,836
1999	289,861	5,423	4,562	2,334	1,625,385	2,277	409,619	93,509	51,144	203,710	n.a.	364,861
2000	331,446	7,020	5,392	2,035	1,887,701	2,781	569,490	131,811	55,256	232,633	n.a.	427,003
2001	390,000	8,214	4,963	2,148	1,801,786	2,908	642,595	137,732	52,567	232,820	n.a.	389,256
2002	390,021	9,300	5,444	2,256	1,909,957	3,556	595,514	245,868	55,829	238,684	n.a.	415,040
2003	427,239	10,476	5,999	2,461	2,111,509	4,174	613,721	302,169	58,882	271,321	n.a.	447,846
2004	514,938	13,636	6,978	2,445	2,456,615	5,691	739,639	408,414	66,286	338,059	n.a.	546,925
2005	614,681	16,505	7,358	2,643	2,747,138	7,121	945,122	571,401	71,913	339,757	n.a.	613,694
2006	788,788	20,475	8,304	2,646	3,032,411	9,168	1,036,316	688,202	81,756	360,625	n.a.	669,505
2007	934,403	22,892	9,284	2,597	3,359,578	9,994	1,161,956	879,946	90,830	408,754	n.a.	707,156

- Bangladesh Million Taka
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- Indonesia Billion Rupiahs
- Iran Billion Rials
- Japan Billion Yen
- Korea Billion Won
- Lao PDR Billion Kips
- Malaysia Million Ringgit

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	3,637	8,679	7,346	3,614	22,140	n.a.	n.a.	6	0.5	59	241	1970
n.a.	n.a.	3,922	9,928	8,204	3,458	24,527	n.a.	n.a.	8	0.6	62	263	1971
n.a.	n.a.	3,923	10,590	8,774	3,404	30,940	n.a.	n.a.	9	0.6	70	286	1972
n.a.	n.a.	9,961	17,082	12,199	4,481	41,316	n.a.	n.a.	12	0.7	94	338	1973
n.a.	1,601	11,960	23,873	19,059	6,283	60,276	n.a.	n.a.	14	0.9	125	433	1974
n.a.	2,034	12,994	22,807	18,684	7,306	55,694	n.a.	n.a.	14	1.2	137	439	1975
n.a.	2,211	13,881	24,926	22,263	8,773	70,114	n.a.	n.a.	14	1.4	148	508	1976
n.a.	2,264	13,991	31,013	26,425	12,311	80,531	n.a.	n.a.	15	1.7	158	567	1977
n.a.	2,841	16,629	34,760	30,115	14,835	97,081	n.a.	n.a.	24	1.8	185	618	1978
n.a.	2,911	21,529	44,452	38,785	17,660	126,148	n.a.	n.a.	35	2.7	227	717	1979
1,343	3,824	29,485	57,458	51,943	21,434	159,734	n.a.	n.a.	48	3.2	277	799	1980
1,583	3,898	35,707	67,094	59,670	25,892	181,325	n.a.	n.a.	61	3.4	301	925	1981
1,924	3,749	33,033	64,526	62,288	27,148	192,870	n.a.	n.a.	64	3.0	280	991	1982
2,082	4,553	44,395	79,813	62,741	32,016	185,222	n.a.	n.a.	64	3.4	273	1,058	1983
2,344	5,828	47,835	126,682	64,439	44,285	216,401	n.a.	n.a.	82	3.1	298	1,201	1984
2,237	7,058	49,889	137,030	61,345	42,394	245,252	n.a.	n.a.	90	2.6	297	1,281	1985
2,509	8,196	63,268	160,187	59,915	42,602	290,170	40	n.a.	122	2.4	315	1,210	1986
2,671	9,456	79,056	182,179	73,479	50,763	375,597	172	n.a.	196	1.7	359	1,249	1987
2,617	10,737	93,601	226,431	97,132	57,885	514,922	1,050	n.a.	257	2.2	440	1,346	1988
2,309	11,811	108,318	263,880	107,963	68,666	648,490	6,700	3,599	282	2.8	499	1,514	1989
2,701	15,433	126,583	299,211	122,327	97,117	745,286	11,084	3,944	348	3.0	548	1,611	1990
9,512	25,937	172,812	369,377	129,836	107,016	901,494	23,714	4,264	444	2.9	591	1,690	1991
15,624	33,573	209,215	393,706	134,822	135,114	1,046,659	38,405	3,944	435	3.6	628	1,723	1992
153,746	51,907	217,372	462,384	155,851	168,858	1,201,505	40,286	3,633	499	4.2	649	1,787	1993
168,857	57,587	254,187	572,646	184,764	195,805	1,410,786	60,725	3,189	1,025	5.4	714	1,977	1994
227,190	60,105	311,795	692,952	223,362	237,735	1,751,674	75,106	4,007	1,230	5.0	805	2,196	1995
262,168	80,118	358,375	879,773	237,039	269,765	1,809,910	111,177	4,323	1,427	5.5	860	2,322	1996
491,338	74,481	390,520	1,188,048	249,386	325,886	2,272,115	135,180	4,413	1,756	6.4	947	2,585	1997
452,342	84,779	441,406	1,389,860	238,148	369,485	2,723,953	161,910	3,422	1,750	6.7	946	2,723	1998
541,978	95,855	451,144	1,532,160	257,439	393,303	2,703,308	199,836	4,352	1,824	7.0	982	2,860	1999
660,953	99,610	514,280	1,858,576	312,724	492,301	3,287,284	243,049	6,968	2,322	12.6	1,084	3,376	2000
700,370	81,492	617,148	1,785,232	293,777	551,309	3,380,750	262,846	6,977	2,484	16.4	1,018	3,550	2001
786,572	77,280	677,855	1,991,332	304,680	571,195	3,499,004	304,262	7,023	3,040	20.0	994	3,609	2002
957,557	89,544	815,158	2,142,042	344,937	631,549	3,886,566	363,735	7,916	4,030	14.1	1,032	3,594	2003
1,466,595	85,958	883,704	2,480,966	416,050	738,713	4,587,868	470,216	9,154	5,428	16.7	1,170	3,905	2004
1,784,441	87,952	1,019,783	2,589,739	475,996	793,153	5,218,079	582,069	11,132	6,856	20.7	1,295	4,244	2005
2,394,112	94,979	1,161,257	2,851,390	538,342	885,381	5,777,554	717,109	13,090	8,464	22.6	1,460	4,765	2006
2,954,878	98,836	1,230,660	2,833,634	579,124	1,041,935	6,218,219	879,461	12,525	10,538	22.6	1,644	5,093	2007

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- Nepal Million Rupees
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- China Billion Yuan
- Myanmar Billion Kyats
- US Billion US Dollars
- EU15 Billion US Dollars

Data 14

Import at Current Prices

Unit: Local Currency Unit

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	69	99	19,752	18	529	158	6,985	651	n.a.	4,888
1971	n.a.	n.a.	87	122	22,720	20	607	199	7,254	864	n.a.	5,056
1972	n.a.	n.a.	114	144	24,625	20	766	251	7,645	1,008	n.a.	5,313
1973	5,484	n.a.	172	199	32,693	32	1,240	346	11,261	1,716	n.a.	6,712
1974	7,583	n.a.	284	245	38,662	48	2,294	675	19,257	2,912	n.a.	10,989
1975	10,280	n.a.	253	245	38,584	57	2,778	1,122	18,919	3,634	n.a.	10,071
1976	19,479	n.a.	321	265	49,743	56	3,222	1,218	21,247	4,524	n.a.	11,620
1977	13,590	n.a.	365	308	56,303	65	3,817	1,487	21,267	5,662	n.a.	13,788
1978	22,855	n.a.	455	330	72,546	74	4,559	1,098	19,174	7,862	n.a.	16,477
1979	27,514	n.a.	624	432	99,550	101	7,555	919	27,629	10,551	n.a.	21,884
1980	39,588	n.a.	801	511	128,167	136	10,080	1,745	35,036	15,313	n.a.	29,342
1981	46,708	n.a.	885	607	160,387	148	13,802	2,020	35,927	19,079	n.a.	33,717
1982	57,661	n.a.	855	553	166,936	157	15,682	2,005	37,341	19,687	n.a.	37,300
1983	61,558	n.a.	937	560	204,014	177	21,626	2,966	34,258	22,074	n.a.	39,793
1984	63,458	n.a.	1,061	560	257,693	195	19,845	2,227	36,866	24,976	n.a.	41,653
1985	74,361	n.a.	1,005	589	269,573	218	19,835	2,030	35,137	26,067	n.a.	38,561
1986	77,314	n.a.	1,097	577	320,545	224	21,036	1,498	24,777	29,646	n.a.	35,941
1987	88,112	n.a.	1,297	616	430,982	253	27,956	1,523	25,619	35,506	n.a.	39,752
1988	101,583	n.a.	1,541	822	562,396	320	31,566	2,814	29,191	39,669	n.a.	51,920
1989	118,120	n.a.	1,663	1,059	635,786	402	38,443	4,476	36,036	43,943	n.a.	68,730
1990	135,751	n.a.	1,807	1,330	730,624	487	50,046	8,170	41,690	53,553	n.a.	86,241
1991	135,133	n.a.	2,080	1,236	879,335	562	60,248	14,731	39,121	64,742	n.a.	110,107
1992	147,603	n.a.	2,255	1,264	1,068,195	730	70,481	17,700	36,891	70,613	n.a.	112,450
1993	176,825	2,226	2,544	1,499	1,192,937	860	78,383	19,848	33,344	75,076	n.a.	136,068
1994	187,740	2,748	2,755	1,589	1,391,404	1,047	96,953	17,024	34,387	92,046	n.a.	177,389
1995	264,540	3,929	3,307	1,631	1,647,382	1,450	125,657	24,386	38,272	117,923	n.a.	218,077
1996	310,913	4,030	3,441	1,758	1,701,118	1,610	140,812	37,160	47,022	138,910	n.a.	228,843
1997	325,591	4,598	3,910	1,767	1,788,300	1,843	176,600	44,728	50,316	160,137	n.a.	260,310
1998	365,873	5,202	4,264	1,919	1,602,562	2,247	413,058	51,567	45,607	159,272	n.a.	265,536
1999	409,927	7,174	4,320	2,350	1,558,674	2,657	313,720	64,931	43,251	169,407	n.a.	289,514
2000	455,852	8,698	5,173	2,357	1,829,138	2,975	423,318	101,190	47,940	215,398	n.a.	358,529
2001	545,134	9,630	4,445	2,445	1,743,402	3,111	506,426	126,201	49,393	218,083	n.a.	327,765
2002	520,367	10,785	4,715	2,383	1,804,021	3,800	480,815	210,570	49,417	228,054	n.a.	348,919
2003	602,221	12,337	5,228	2,770	1,997,459	4,369	465,941	285,191	50,907	253,920	n.a.	365,383
2004	693,031	15,201	6,604	3,070	2,342,052	6,259	632,376	364,559	56,660	303,678	n.a.	450,350
2005	854,323	18,736	6,873	3,360	2,575,328	8,135	830,083	424,421	64,957	316,378	n.a.	494,414
2006	1,049,491	22,692	7,633	3,779	2,864,240	10,423	855,588	509,577	75,408	348,023	n.a.	539,443
2007	1,261,628	25,561	8,338	3,524	3,184,762	11,678	1,002,507	583,544	82,198	394,026	n.a.	577,110

- Bangladesh Million Taka
- Cambodia Billion Riels
- ROC Billion New Taiwan Dollars
- Fiji Million Fiji Dollars
- Hong Kong Million Hong Kong Dollars
- India Billion Rupees
- Indonesia Billion Rupiahs
- Iran Billion Rials
- Japan Billion Yen
- Korea Billion Won
- Lao PDR Billion Kips
- Malaysia Million Ringgit

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	4,942	8,319	8,525	3,908	28,569	n.a.	n.a.	6	1.6	56	248	1970
n.a.	n.a.	5,323	9,745	9,688	3,739	28,859	n.a.	n.a.	6	1.5	62	264	1971
n.a.	n.a.	4,727	10,438	10,152	3,644	32,632	n.a.	n.a.	7	1.7	74	288	1972
n.a.	n.a.	9,598	13,527	13,240	4,704	44,523	n.a.	n.a.	10	1.2	91	353	1973
n.a.	2,518	15,202	25,657	21,103	8,058	66,884	n.a.	n.a.	15	1.0	128	476	1974
n.a.	2,803	23,016	29,351	20,101	9,291	69,683	n.a.	n.a.	14	1.4	123	460	1975
n.a.	3,267	23,854	32,163	23,463	9,478	78,673	n.a.	n.a.	13	1.6	151	547	1976
n.a.	3,470	26,741	35,105	26,850	10,979	102,399	n.a.	n.a.	14	2.1	182	591	1977
n.a.	4,032	32,600	41,738	31,013	16,872	117,721	n.a.	n.a.	25	3.2	212	621	1978
n.a.	4,973	42,529	54,099	40,230	23,969	163,740	n.a.	n.a.	37	4.3	253	748	1979
3,173	6,067	54,578	69,398	54,039	36,456	201,180	n.a.	n.a.	50	4.6	294	877	1980
4,231	6,625	62,129	76,514	61,169	39,558	229,029	n.a.	n.a.	59	5.6	318	988	1981
4,242	8,181	68,501	82,897	63,588	45,905	207,282	n.a.	n.a.	55	6.3	303	1,050	1982
4,387	8,710	82,018	103,641	63,263	50,381	251,184	n.a.	n.a.	59	5.2	329	1,093	1983
4,695	10,591	92,222	131,504	65,346	54,469	258,557	n.a.	n.a.	81	5.0	405	1,224	1984
5,127	12,752	106,729	125,205	62,115	62,396	274,073	n.a.	n.a.	126	4.8	417	1,294	1985
6,078	14,928	103,475	136,235	59,784	63,737	267,131	90	n.a.	148	3.9	453	1,194	1986
5,628	18,586	109,273	179,030	73,397	70,694	368,317	425	n.a.	195	4.1	509	1,259	1987
5,455	21,782	131,197	215,292	93,522	81,771	536,596	2,756	n.a.	272	3.4	554	1,388	1988
4,969	24,804	156,641	280,118	103,094	92,587	696,101	9,657	2,050	300	3.4	591	1,581	1989
5,895	31,584	173,293	358,548	117,729	122,481	909,456	14,960	2,378	297	5.5	630	1,661	1990
12,857	44,698	188,681	406,698	121,908	144,674	1,065,491	27,639	2,569	382	5.3	624	1,727	1991
17,852	53,914	247,411	459,911	126,935	174,508	1,160,170	42,921	3,265	407	5.4	668	1,747	1992
158,534	71,582	299,146	586,935	148,496	216,544	1,335,681	52,582	3,434	567	7.9	720	1,727	1993
173,853	86,221	297,305	679,439	168,726	264,602	1,586,561	77,591	3,022	962	8.3	813	1,898	1994
232,911	101,165	362,414	842,073	204,721	301,543	2,033,894	95,925	3,746	1,130	10.3	903	2,088	1995
313,278	120,238	454,290	1,070,612	217,229	336,769	2,099,234	141,016	4,374	1,281	11.8	964	2,187	1996
441,508	115,889	504,368	1,438,909	231,228	388,332	2,205,119	160,135	4,514	1,401	14.4	1,056	2,415	1997
562,622	115,547	469,311	1,566,621	209,621	429,925	1,988,907	188,282	3,892	1,387	16.9	1,116	2,593	1998
670,826	139,881	498,539	1,527,418	234,347	479,664	2,120,348	211,254	3,774	1,571	16.3	1,251	2,775	1999
831,014	146,757	561,990	1,794,717	290,969	623,570	2,862,305	253,927	3,706	2,083	15.1	1,475	3,347	2000
911,680	130,912	661,455	1,899,385	270,714	638,209	3,047,574	273,828	3,933	2,252	18.4	1,399	3,467	2001
1,051,168	140,522	681,880	2,010,484	278,164	677,676	3,134,265	331,946	4,355	2,731	14.9	1,430	3,447	2002
1,242,806	158,151	786,224	2,398,389	300,214	741,430	3,485,272	415,023	4,109	3,731	13.4	1,545	3,461	2003
1,650,580	173,754	825,399	2,659,009	369,096	923,149	4,272,713	524,216	4,230	5,020	11.3	1,799	3,767	2004
1,887,980	204,828	1,271,604	2,816,243	418,472	1,012,192	5,297,474	617,157	4,329	5,833	11.5	2,028	4,159	2005
2,154,209	227,907	1,770,386	2,894,694	471,499	1,208,757	5,503,772	761,547	4,596	6,798	12.5	2,240	4,705	2006
2,888,039	267,290	1,851,088	2,802,659	499,429	1,413,278	5,544,488	1,060,763	5,150	8,200	13.1	2,370	5,000	2007

- Mongolia Million Tugriks
- Nepal Million Rupees
- Pakistan Million Rupees
- Philippines Million Pesos
- Singapore Million Singapore Dollars
- Sri Lanka Million Rupees
- Thailand Million Baht
- Vietnam Billion Dong
- Brunei Million Brunei Dollars
- China Billion Yuan
- Myanmar Billion Kyats
- US Billion US Dollars
- EU15 Billion US Dollars

Data 15

GDP Deflator

Unit: Index (2005 = 1.0)

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	0.243	0.109	0.136	0.071	0.010	0.002	0.431	0.035	n.a.	0.242
1971	n.a.	n.a.	0.251	0.113	0.147	0.075	0.011	0.002	0.454	0.040	n.a.	0.232
1972	n.a.	n.a.	0.266	0.130	0.160	0.083	0.012	0.002	0.479	0.047	n.a.	0.232
1973	0.072	n.a.	0.306	0.149	0.183	0.097	0.015	0.003	0.540	0.054	n.a.	0.274
1974	0.100	n.a.	0.404	0.193	0.205	0.114	0.023	0.004	0.653	0.072	n.a.	0.309
1975	0.172	n.a.	0.413	0.241	0.214	0.112	0.025	0.004	0.700	0.091	n.a.	0.299
1976	0.144	n.a.	0.436	0.260	0.235	0.119	0.029	0.005	0.756	0.113	n.a.	0.337
1977	0.148	n.a.	0.464	0.264	0.244	0.125	0.033	0.006	0.806	0.132	n.a.	0.361
1978	0.172	n.a.	0.488	0.276	0.263	0.128	0.036	0.006	0.844	0.163	n.a.	0.396
1979	0.197	n.a.	0.544	0.299	0.309	0.149	0.048	0.008	0.867	0.196	n.a.	0.444
1980	0.220	n.a.	0.632	0.351	0.357	0.166	0.063	0.010	0.914	0.242	n.a.	0.474
1981	0.252	n.a.	0.709	0.355	0.394	0.184	0.069	0.012	0.943	0.287	n.a.	0.479
1982	0.276	n.a.	0.733	0.378	0.432	0.199	0.076	0.014	0.958	0.306	n.a.	0.492
1983	0.299	n.a.	0.747	0.404	0.452	0.216	0.095	0.016	0.967	0.325	n.a.	0.521
1984	0.341	n.a.	0.754	0.416	0.495	0.233	0.104	0.018	0.984	0.345	0.003	0.546
1985	0.380	n.a.	0.758	0.453	0.522	0.250	0.108	0.019	0.994	0.361	0.008	0.537
1986	0.410	n.a.	0.784	0.465	0.542	0.266	0.110	0.020	1.011	0.381	0.012	0.491
1987	0.454	0.018	0.788	0.498	0.590	0.291	0.124	0.026	1.010	0.403	0.016	0.528
1988	0.489	0.030	0.796	0.529	0.643	0.315	0.134	0.029	1.013	0.434	0.023	0.547
1989	0.530	0.037	0.823	0.518	0.725	0.342	0.148	0.034	1.036	0.459	0.038	0.571
1990	0.564	0.090	0.854	0.565	0.779	0.378	0.159	0.041	1.059	0.507	0.050	0.593
1991	0.601	0.188	0.886	0.599	0.849	0.431	0.173	0.051	1.087	0.561	0.057	0.614
1992	0.619	0.329	0.915	0.636	0.934	0.469	0.182	0.066	1.104	0.604	0.062	0.629
1993	0.621	0.681	0.948	0.679	1.015	0.515	0.199	0.100	1.109	0.642	0.066	0.654
1994	0.644	0.652	0.966	0.685	1.081	0.567	0.214	0.132	1.110	0.692	0.071	0.680
1995	0.692	0.729	0.986	0.693	1.125	0.618	0.235	0.183	1.104	0.743	0.086	0.705
1996	0.721	0.753	1.015	0.713	1.190	0.665	0.255	0.229	1.097	0.781	0.097	0.731
1997	0.743	0.786	1.033	0.737	1.258	0.708	0.287	0.258	1.103	0.817	0.115	0.756
1998	0.782	0.866	1.060	0.792	1.268	0.764	0.504	0.280	1.103	0.864	0.214	0.820
1999	0.819	0.885	1.046	0.846	1.211	0.793	0.576	0.366	1.088	0.863	0.485	0.821
2000	0.834	0.855	1.028	0.806	1.167	0.821	0.631	0.452	1.069	0.869	0.607	0.860
2001	0.847	0.874	1.033	0.834	1.145	0.845	0.721	0.494	1.056	0.902	0.659	0.847
2002	0.874	0.884	1.030	0.861	1.105	0.878	0.763	0.635	1.040	0.931	0.730	0.873
2003	0.913	0.900	1.017	0.930	1.037	0.909	0.805	0.704	1.023	0.965	0.844	0.902
2004	0.952	0.943	1.007	0.949	1.001	0.960	0.875	0.856	1.012	0.994	0.932	0.956
2005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.051	1.046	0.992	1.058	0.997	1.050	1.141	1.132	0.991	0.998	1.069	1.039
2007	1.122	1.114	0.995	1.087	1.026	1.101	1.272	1.381	0.984	1.019	1.103	1.090

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
0.007	n.a.	0.049	0.026	0.355	0.030	0.170	n.a.	n.a.	0.221	0.007	0.243	0.241	1970
0.007	n.a.	0.051	0.029	0.374	0.030	0.168	n.a.	n.a.	0.224	0.007	0.255	0.253	1971
0.007	n.a.	0.054	0.031	0.394	0.033	0.179	n.a.	n.a.	0.222	0.007	0.266	0.263	1972
0.007	n.a.	0.063	0.037	0.444	0.037	0.213	n.a.	n.a.	0.223	0.008	0.281	0.278	1973
0.007	0.102	0.078	0.048	0.515	0.046	0.257	n.a.	0.310	0.224	0.009	0.307	0.303	1974
0.007	0.103	0.095	0.052	0.528	0.048	0.266	n.a.	0.327	0.222	0.011	0.336	0.332	1975
0.008	0.099	0.106	0.057	0.537	0.051	0.278	n.a.	0.346	0.227	0.012	0.355	0.351	1976
0.008	0.108	0.118	0.061	0.546	0.058	0.294	n.a.	0.375	0.225	0.012	0.378	0.373	1977
0.008	0.119	0.128	0.067	0.559	0.066	0.322	n.a.	0.366	0.229	0.012	0.404	0.399	1978
0.007	0.128	0.135	0.077	0.588	0.076	0.350	n.a.	0.413	0.242	0.013	0.438	0.433	1979
0.007	0.138	0.150	0.089	0.656	0.090	0.394	n.a.	0.769	0.252	0.013	0.477	0.472	1980
0.007	0.151	0.166	0.100	0.699	0.105	0.427	n.a.	0.838	0.261	0.014	0.522	0.516	1981
0.008	0.164	0.182	0.108	0.727	0.115	0.448	n.a.	0.797	0.267	0.014	0.554	0.548	1982
0.008	0.180	0.192	0.124	0.753	0.135	0.465	n.a.	0.706	0.268	0.014	0.576	0.569	1983
0.007	0.192	0.210	0.190	0.758	0.159	0.471	n.a.	0.697	0.276	0.015	0.598	0.591	1984
0.007	0.219	0.220	0.223	0.748	0.162	0.482	n.a.	0.680	0.299	0.015	0.616	0.609	1985
0.007	0.247	0.227	0.230	0.736	0.169	0.490	0.003	0.463	0.319	0.016	0.630	0.622	1986
0.007	0.276	0.237	0.247	0.740	0.183	0.513	0.012	0.513	0.334	0.019	0.648	0.640	1987
0.007	0.307	0.260	0.271	0.784	0.206	0.543	0.060	0.474	0.376	0.024	0.670	0.662	1988
0.007	0.340	0.282	0.295	0.818	0.229	0.576	0.105	0.517	0.406	0.038	0.695	0.687	1989
0.007	0.372	0.301	0.335	0.852	0.276	0.610	0.149	0.560	0.437	0.045	0.722	0.713	1990
0.013	0.444	0.340	0.391	0.893	0.306	0.645	0.257	0.545	0.467	0.056	0.748	0.738	1991
0.032	0.491	0.374	0.425	0.912	0.335	0.674	0.341	0.554	0.499	0.068	0.765	0.755	1992
0.134	0.527	0.406	0.449	0.947	0.371	0.696	0.400	0.538	0.587	0.093	0.782	0.773	1993
0.217	0.560	0.459	0.493	0.975	0.407	0.732	0.468	0.491	0.706	0.114	0.799	0.789	1994
0.349	0.604	0.522	0.530	0.998	0.441	0.773	0.548	0.506	0.801	0.136	0.815	0.805	1995
0.404	0.647	0.566	0.571	1.011	0.495	0.804	0.596	0.526	0.854	0.167	0.831	0.822	1996
0.488	0.674	0.642	0.606	1.018	0.538	0.837	0.635	0.574	0.860	0.223	0.845	0.838	1997
0.480	0.733	0.690	0.669	1.000	0.582	0.914	0.691	0.508	0.846	0.303	0.855	0.851	1998
0.519	0.767	0.730	0.723	0.947	0.608	0.877	0.731	0.565	0.827	0.372	0.868	0.859	1999
0.578	0.786	0.750	0.758	0.982	0.649	0.889	0.756	0.728	0.827	0.381	0.886	0.881	2000
0.614	0.817	0.810	0.817	0.966	0.733	0.908	0.771	0.688	0.843	0.476	0.906	0.911	2001
0.645	0.843	0.830	0.854	0.956	0.792	0.915	0.801	0.691	0.853	0.673	0.921	0.936	2002
0.709	0.878	0.866	0.885	0.946	0.832	0.928	0.855	0.732	0.879	0.811	0.941	0.948	2003
0.830	0.970	0.934	0.939	0.988	0.906	0.957	0.924	0.846	0.938	0.840	0.968	0.972	2004
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	2005
1.231	1.077	1.105	1.051	1.014	1.113	1.051	1.073	1.099	1.053	1.206	1.033	1.027	2006
1.383	1.149	1.189	1.080	1.070	1.269	1.084	1.161	1.109	1.117	1.652	1.062	1.056	2007

Data 16

CPI (Consumer Price Index)

Unit: Index (2005 = 1.0)

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	0.206	0.107	n.a.	0.070	0.017	0.003	0.325	0.062	n.a.	0.266
1971	n.a.	n.a.	0.212	0.117	n.a.	0.072	0.018	0.004	0.346	0.071	n.a.	0.270
1972	n.a.	n.a.	0.218	0.143	n.a.	0.077	0.019	0.004	0.363	0.079	n.a.	0.279
1973	n.a.	n.a.	0.236	0.158	n.a.	0.090	0.024	0.004	0.405	0.082	n.a.	0.309
1974	n.a.	n.a.	0.348	0.181	n.a.	0.115	0.034	0.005	0.499	0.102	n.a.	0.362
1975	0.087	n.a.	0.366	0.205	n.a.	0.122	0.041	0.005	0.557	0.127	n.a.	0.378
1976	0.119	n.a.	0.375	0.229	n.a.	0.113	0.049	0.006	0.610	0.147	n.a.	0.388
1977	0.133	n.a.	0.402	0.245	n.a.	0.122	0.055	0.008	0.660	0.162	n.a.	0.407
1978	0.137	n.a.	0.425	0.260	n.a.	0.125	0.059	0.008	0.687	0.185	n.a.	0.427
1979	0.154	n.a.	0.466	0.280	n.a.	0.133	0.069	0.009	0.713	0.219	n.a.	0.442
1980	0.166	n.a.	0.555	0.320	n.a.	0.148	0.081	0.011	0.768	0.282	n.a.	0.472
1981	0.198	n.a.	0.645	0.356	0.323	0.167	0.091	0.014	0.806	0.342	n.a.	0.518
1982	0.222	n.a.	0.664	0.381	0.359	0.181	0.099	0.017	0.828	0.366	n.a.	0.548
1983	0.258	n.a.	0.674	0.407	0.394	0.202	0.111	0.020	0.844	0.379	n.a.	0.568
1984	0.284	n.a.	0.673	0.428	0.428	0.219	0.123	0.022	0.863	0.388	n.a.	0.590
1985	0.311	n.a.	0.672	0.447	0.443	0.231	0.129	0.023	0.881	0.397	n.a.	0.592
1986	0.346	n.a.	0.677	0.455	0.459	0.251	0.136	0.028	0.886	0.408	n.a.	0.597
1987	0.380	n.a.	0.680	0.481	0.485	0.273	0.149	0.036	0.887	0.421	n.a.	0.598
1988	0.408	n.a.	0.689	0.538	0.523	0.300	0.161	0.046	0.893	0.451	0.021	0.614
1989	0.433	n.a.	0.720	0.571	0.577	0.319	0.171	0.056	0.913	0.476	0.034	0.631
1990	0.460	n.a.	0.749	0.618	0.636	0.347	0.184	0.060	0.941	0.517	0.046	0.647
1991	0.489	n.a.	0.776	0.658	0.708	0.396	0.202	0.071	0.972	0.565	0.052	0.676
1992	0.507	n.a.	0.811	0.690	0.775	0.442	0.217	0.089	0.989	0.601	0.057	0.708
1993	0.522	n.a.	0.835	0.726	0.844	0.470	0.238	0.108	1.001	0.629	0.061	0.733
1994	0.550	0.645	0.869	0.732	0.918	0.519	0.258	0.141	1.008	0.669	0.065	0.760
1995	0.606	0.652	0.901	0.748	1.001	0.572	0.282	0.211	1.007	0.699	0.078	0.786
1996	0.620	0.718	0.929	0.771	1.064	0.623	0.305	0.273	1.008	0.733	0.088	0.814
1997	0.653	0.740	0.937	0.797	1.127	0.667	0.324	0.320	1.026	0.766	0.112	0.835
1998	0.708	0.850	0.953	0.842	1.159	0.756	0.513	0.377	1.033	0.823	0.215	0.879
1999	0.752	0.884	0.955	0.859	1.113	0.791	0.618	0.453	1.029	0.830	0.490	0.904
2000	0.768	0.877	0.967	0.868	1.071	0.823	0.641	0.518	1.022	0.849	0.613	0.917
2001	0.784	0.872	0.967	0.905	1.054	0.853	0.715	0.577	1.014	0.883	0.661	0.930
2002	0.810	0.900	0.965	0.912	1.021	0.891	0.800	0.660	1.005	0.908	0.731	0.947
2003	0.856	0.911	0.962	0.950	0.995	0.924	0.852	0.768	1.003	0.940	0.845	0.957
2004	0.934	0.947	0.977	0.977	0.991	0.959	0.905	0.882	1.003	0.973	0.933	0.971
2005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.068	1.047	1.006	1.025	1.021	1.058	1.131	1.119	1.002	1.022	1.068	1.036
2007	1.165	1.108	1.024	1.074	1.041	1.125	1.204	1.312	1.003	1.048	1.116	1.057

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	0.063	0.052	0.025	0.349	0.034	0.147	n.a.	n.a.	0.208	0.005	0.199	n.a.	1970
n.a.	0.062	0.055	0.030	0.355	0.035	0.148	n.a.	n.a.	0.209	0.005	0.207	n.a.	1971
n.a.	0.067	0.058	0.033	0.363	0.037	0.155	n.a.	n.a.	0.210	0.005	0.214	n.a.	1972
n.a.	0.075	0.071	0.038	0.434	0.041	0.179	n.a.	n.a.	0.210	0.006	0.227	n.a.	1973
n.a.	0.090	0.090	0.052	0.531	0.046	0.223	n.a.	n.a.	0.211	0.008	0.253	n.a.	1974
n.a.	0.097	0.109	0.055	0.545	0.049	0.235	n.a.	n.a.	0.212	0.011	0.276	n.a.	1975
n.a.	0.094	0.116	0.060	0.535	0.049	0.245	n.a.	n.a.	0.212	0.013	0.291	n.a.	1976
n.a.	0.103	0.128	0.066	0.552	0.050	0.263	n.a.	0.517	0.214	0.013	0.310	n.a.	1977
n.a.	0.111	0.136	0.071	0.578	0.056	0.284	n.a.	0.547	0.217	0.012	0.334	n.a.	1978
n.a.	0.115	0.147	0.083	0.602	0.062	0.312	n.a.	0.578	0.229	0.013	0.372	n.a.	1979
n.a.	0.131	0.165	0.099	0.653	0.078	0.374	n.a.	0.611	0.240	0.013	0.422	n.a.	1980
n.a.	0.146	0.184	0.111	0.707	0.093	0.421	n.a.	0.667	0.247	0.013	0.465	n.a.	1981
n.a.	0.163	0.195	0.123	0.734	0.103	0.443	n.a.	0.709	0.252	0.013	0.494	n.a.	1982
n.a.	0.183	0.208	0.135	0.743	0.117	0.460	n.a.	0.718	0.255	0.014	0.510	n.a.	1983
n.a.	0.188	0.220	0.203	0.763	0.136	0.464	n.a.	0.740	0.260	0.015	0.532	n.a.	1984
n.a.	0.204	0.233	0.250	0.766	0.138	0.475	n.a.	0.757	0.284	0.016	0.551	n.a.	1985
n.a.	0.242	0.241	0.252	0.756	0.149	0.484	n.a.	0.771	0.302	0.017	0.561	n.a.	1986
n.a.	0.268	0.252	0.262	0.760	0.161	0.496	n.a.	0.780	0.324	0.022	0.582	n.a.	1987
n.a.	0.292	0.274	0.285	0.771	0.183	0.515	n.a.	0.790	0.384	0.025	0.606	n.a.	1988
n.a.	0.318	0.296	0.315	0.789	0.205	0.542	n.a.	0.800	0.455	0.032	0.635	n.a.	1989
n.a.	0.345	0.323	0.355	0.817	0.249	0.575	0.193	0.817	0.469	0.038	0.669	n.a.	1990
n.a.	0.398	0.361	0.420	0.845	0.279	0.608	0.351	0.830	0.485	0.050	0.697	n.a.	1991
n.a.	0.467	0.395	0.456	0.864	0.311	0.632	0.484	0.841	0.516	0.061	0.718	n.a.	1992
n.a.	0.502	0.434	0.488	0.883	0.347	0.654	0.524	0.876	0.591	0.080	0.740	n.a.	1993
n.a.	0.543	0.488	0.529	0.911	0.377	0.687	0.574	0.898	0.735	0.100	0.759	n.a.	1994
n.a.	0.585	0.548	0.564	0.926	0.406	0.727	0.671	0.952	0.859	0.125	0.780	n.a.	1995
n.a.	0.639	0.605	0.606	0.939	0.470	0.769	0.709	0.971	0.930	0.145	0.803	n.a.	1996
n.a.	0.664	0.674	0.640	0.958	0.515	0.812	0.732	0.987	0.956	0.188	0.822	n.a.	1997
n.a.	0.739	0.716	0.700	0.956	0.563	0.878	0.785	0.983	0.948	0.285	0.835	n.a.	1998
n.a.	0.794	0.746	0.741	0.956	0.590	0.880	0.817	0.979	0.935	0.337	0.853	n.a.	1999
0.727	0.814	0.778	0.770	0.969	0.626	0.894	0.803	0.994	0.937	0.337	0.882	n.a.	2000
0.773	0.836	0.803	0.823	0.978	0.715	0.909	0.800	1.000	0.942	0.408	0.907	n.a.	2001
0.780	0.861	0.829	0.847	0.975	0.783	0.914	0.830	0.977	0.935	0.640	0.921	n.a.	2002
0.820	0.910	0.853	0.877	0.979	0.833	0.931	0.857	0.980	0.945	0.875	0.942	n.a.	2003
0.887	0.936	0.917	0.929	0.996	0.896	0.957	0.924	0.988	0.982	0.914	0.967	n.a.	2004
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	n.a.	2005
1.051	1.076	1.079	1.062	1.010	1.100	1.046	1.074	1.001	1.015	1.200	1.032	n.a.	2006
1.146	1.141	1.161	1.092	1.031	1.274	1.070	1.169	1.012	1.063	1.620	1.062	n.a.	2007

Data 17

Ratio of PPP to Market Exchange Rate

Unit: Index (Market Exchange Rate = 1.0)

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	0.479	0.683	0.525	0.570	0.438	0.215	0.588	0.348	n.a.	0.553
1971	n.a.	n.a.	0.471	0.687	0.546	0.572	0.410	0.228	0.606	0.339	n.a.	0.505
1972	n.a.	n.a.	0.478	0.782	0.606	0.600	0.405	0.233	0.709	0.339	n.a.	0.526
1973	0.554	n.a.	0.549	0.885	0.719	0.657	0.504	0.341	0.845	0.366	n.a.	0.677
1974	0.449	n.a.	0.665	1.038	0.753	0.671	0.690	0.471	0.871	0.440	n.a.	0.711
1975	0.727	n.a.	0.621	1.159	0.734	0.584	0.702	0.459	0.839	0.423	n.a.	0.633
1976	0.585	n.a.	0.620	1.083	0.766	0.547	0.766	0.477	0.858	0.499	n.a.	0.635
1977	0.533	n.a.	0.619	0.996	0.786	0.557	0.816	0.532	0.951	0.547	n.a.	0.659
1978	0.640	n.a.	0.625	1.053	0.789	0.569	0.784	0.525	1.186	0.631	n.a.	0.719
1979	0.643	n.a.	0.662	1.066	0.803	0.613	0.686	0.616	1.080	0.699	n.a.	0.787
1980	0.697	n.a.	0.705	1.171	0.854	0.647	0.818	0.689	1.009	0.633	n.a.	0.775
1981	0.605	n.a.	0.706	1.034	0.767	0.596	0.820	0.722	0.990	0.611	n.a.	0.677
1982	0.509	n.a.	0.649	1.002	0.731	0.556	0.783	0.746	0.844	0.572	n.a.	0.645
1983	0.477	n.a.	0.621	0.944	0.614	0.543	0.626	0.772	0.872	0.551	n.a.	0.657
1984	0.509	n.a.	0.611	0.880	0.603	0.502	0.578	0.794	0.867	0.542	0.586	0.662
1985	0.497	n.a.	0.592	0.868	0.619	0.480	0.540	0.349	0.857	0.510	0.363	0.597
1986	0.484	n.a.	0.631	0.890	0.627	0.492	0.457	0.364	1.206	0.519	0.391	0.513
1987	0.513	0.406	0.735	0.847	0.664	0.509	0.401	0.429	1.372	0.572	0.342	0.540
1988	0.520	0.406	0.798	0.764	0.699	0.496	0.426	0.462	1.508	0.670	0.298	0.520
1989	0.535	0.406	0.860	0.730	0.760	0.445	0.430	0.414	1.381	0.743	0.278	0.506
1990	0.511	0.377	0.844	0.767	0.788	0.439	0.428	0.365	1.297	0.750	0.291	0.507
1991	0.497	0.448	0.849	0.789	0.832	0.372	0.425	0.340	1.387	0.774	0.321	0.499
1992	0.470	0.436	0.913	0.791	0.898	0.347	0.421	0.332	1.466	0.765	0.322	0.539
1993	0.454	0.415	0.882	0.805	0.954	0.317	0.436	0.366	1.640	0.773	0.349	0.542
1994	0.454	0.411	0.878	0.837	0.996	0.332	0.444	0.342	1.749	0.816	0.368	0.542
1995	0.477	0.466	0.878	0.864	1.015	0.343	0.459	0.329	1.854	0.895	0.385	0.576
1996	0.470	0.442	0.856	0.874	1.054	0.331	0.471	0.317	1.564	0.885	0.375	0.584
1997	0.454	0.404	0.820	0.865	1.095	0.339	0.419	0.280	1.391	0.770	0.322	0.531
1998	0.442	0.346	0.713	0.668	1.090	0.318	0.211	0.263	1.272	0.547	0.224	0.409
1999	0.436	0.342	0.719	0.709	1.025	0.312	0.303	0.259	1.423	0.635	0.234	0.416
2000	0.409	0.322	0.716	0.612	0.963	0.303	0.333	0.233	1.438	0.662	0.258	0.443
2001	0.379	0.316	0.649	0.578	0.922	0.290	0.305	0.237	1.230	0.586	0.241	0.426
2002	0.371	0.313	0.622	0.611	0.874	0.287	0.350	0.266	1.147	0.615	0.234	0.432
2003	0.378	0.307	0.604	0.744	0.805	0.304	0.392	0.246	1.205	0.668	0.252	0.437
2004	0.374	0.310	0.601	0.809	0.754	0.321	0.397	0.274	1.241	0.693	0.270	0.450
2005	0.352	0.312	0.601	0.845	0.731	0.333	0.405	0.298	1.175	0.770	0.280	0.458
2006	0.335	0.316	0.570	0.846	0.708	0.329	0.475	0.317	1.069	0.797	0.302	0.476
2007	0.349	0.332	0.551	0.963	0.707	0.369	0.517	0.368	1.020	0.807	0.323	0.520

Note: Market exchange rates are the AMA rate in the UNSD's National Accounts Main Aggregate Database.

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	0.680	0.397	0.516	0.641	0.532	n.a.	n.a.	1.297	1.436	1.000	1.000	1970
n.a.	n.a.	0.679	0.391	0.519	0.621	0.502	n.a.	n.a.	1.252	1.335	1.000	1.000	1971
n.a.	n.a.	0.379	0.385	0.570	0.645	0.513	n.a.	n.a.	1.300	1.130	1.000	1.000	1972
n.a.	n.a.	0.361	0.425	0.696	0.642	0.586	n.a.	n.a.	1.402	1.321	1.000	1.000	1973
n.a.	0.668	0.414	0.512	0.745	0.705	0.651	n.a.	0.373	1.307	1.482	1.000	1.000	1974
n.a.	0.588	0.463	0.472	0.717	0.637	0.616	n.a.	0.370	1.248	1.196	1.000	1.000	1975
n.a.	0.492	0.489	0.471	0.663	0.552	0.608	n.a.	0.354	1.156	1.191	1.000	1.000	1976
n.a.	0.447	0.502	0.482	0.641	0.564	0.606	n.a.	0.366	1.126	1.091	1.000	1.000	1977
n.a.	0.471	0.511	0.495	0.658	0.332	0.623	n.a.	0.359	1.184	1.071	1.000	1.000	1978
n.a.	0.483	0.503	0.524	0.669	0.355	0.623	n.a.	0.390	1.249	1.083	1.000	1.000	1979
n.a.	0.476	0.503	0.539	0.694	0.368	0.642	n.a.	0.676	1.237	1.013	1.000	1.000	1980
0.236	0.457	0.506	0.524	0.685	0.349	0.596	n.a.	0.683	1.016	0.876	1.000	1.000	1981
0.232	0.439	0.436	0.496	0.663	0.341	0.560	n.a.	0.605	0.861	0.799	1.000	1.000	1982
0.254	0.432	0.398	0.419	0.670	0.339	0.559	n.a.	0.522	0.801	0.759	1.000	1.000	1983
0.249	0.391	0.393	0.412	0.644	0.364	0.531	n.a.	0.492	0.690	0.719	1.000	1.000	1984
0.247	0.381	0.352	0.422	0.597	0.333	0.459	0.138	0.451	0.583	0.701	1.000	1.000	1985
0.245	0.367	0.340	0.388	0.581	0.334	0.471	0.117	0.304	0.508	0.518	1.000	1.000	1986
0.257	0.391	0.331	0.402	0.588	0.333	0.491	0.130	0.338	0.482	0.518	1.000	1.000	1987
0.257	0.396	0.339	0.416	0.630	0.329	0.511	0.163	0.316	0.523	0.518	1.000	1.000	1988
0.276	0.364	0.311	0.424	0.654	0.310	0.514	0.159	0.342	0.540	0.518	1.000	1.000	1989
0.276	0.359	0.301	0.412	0.705	0.322	0.526	0.150	0.384	0.433	0.518	1.000	1.000	1990
0.276	0.308	0.300	0.411	0.749	0.333	0.539	0.162	0.378	0.402	0.518	1.000	1.000	1991
0.276	0.311	0.307	0.467	0.793	0.337	0.553	0.188	0.399	0.410	0.518	1.000	1.000	1992
0.323	0.296	0.291	0.458	0.812	0.328	0.560	0.227	0.381	0.442	0.518	1.000	1.000	1993
0.316	0.299	0.295	0.507	0.866	0.345	0.581	0.252	0.360	0.349	0.518	1.000	1.000	1994
0.354	0.296	0.319	0.549	0.936	0.356	0.607	0.287	0.392	0.401	0.517	1.000	1.000	1995
0.326	0.287	0.297	0.569	0.935	0.359	0.609	0.307	0.404	0.421	0.516	1.000	1.000	1996
0.276	0.296	0.291	0.529	0.879	0.360	0.504	0.303	0.409	0.422	0.518	1.000	1.000	1997
0.243	0.268	0.282	0.416	0.758	0.356	0.413	0.288	0.317	0.414	0.317	1.000	1.000	1998
0.216	0.278	0.268	0.464	0.699	0.334	0.427	0.285	0.345	0.403	0.312	1.000	1.000	1999
0.253	0.273	0.302	0.427	0.697	0.322	0.399	0.284	0.428	0.403	0.308	1.000	1.000	2000
0.257	0.281	0.276	0.384	0.644	0.307	0.359	0.272	0.379	0.401	0.283	1.000	1.000	2001
0.263	0.276	0.288	0.390	0.627	0.316	0.368	0.268	0.375	0.397	0.338	1.000	1.000	2002
0.274	0.285	0.305	0.377	0.626	0.322	0.378	0.276	0.400	0.399	0.280	1.000	1.000	2003
0.302	0.298	0.316	0.376	0.654	0.325	0.391	0.287	0.464	0.414	0.247	1.000	1.000	2004
0.346	0.317	0.321	0.395	0.648	0.350	0.396	0.297	0.543	0.421	0.242	1.000	1.000	2005
0.427	0.323	0.339	0.432	0.662	0.365	0.428	0.306	0.606	0.434	0.240	1.000	1.000	2006
0.465	0.371	0.354	0.481	0.707	0.381	0.473	0.321	0.629	0.477	0.303	1.000	1.000	2007

Data 18

Population

Unit: Thousands

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	69,817	6,938	14,754	520	3,959	547,569	117,537	28,429	104,345	31,923	2,551	10,853
1971	71,595	7,032	15,073	531	4,045	560,268	120,389	29,352	105,697	32,596	2,623	11,128
1972	73,408	7,101	15,368	542	4,124	573,130	123,360	30,269	107,188	33,266	2,701	11,407
1973	75,251	7,138	15,642	554	4,242	586,220	126,410	31,202	108,079	33,935	2,778	11,690
1974	77,114	7,137	15,927	565	4,334	599,643	129,499	32,174	110,162	34,606	2,848	11,973
1975	78,993	7,098	16,223	576	4,462	613,459	132,589	33,206	111,940	35,281	2,907	12,258
1976	80,884	7,012	16,580	587	4,518	627,632	135,903	34,284	112,771	35,849	2,953	12,544
1977	82,792	6,891	16,882	597	4,584	642,134	139,096	35,392	113,863	36,412	2,988	12,833
1978	84,738	6,775	17,202	608	4,668	656,941	142,204	36,554	114,898	36,969	3,019	13,129
1979	86,752	6,715	17,543	620	4,930	672,021	145,262	37,790	115,870	37,534	3,055	13,438
1980	88,855	6,748	17,866	634	5,063	687,332	148,303	39,124	116,782	38,124	3,103	13,763
1981	91,054	6,890	18,194	649	5,183	702,821	151,305	40,540	117,648	38,723	3,164	14,106
1982	93,341	7,130	18,516	666	5,265	718,426	154,245	42,023	118,449	39,326	3,238	14,467
1983	95,699	7,439	18,791	683	5,345	734,072	157,157	43,597	119,259	39,910	3,322	14,847
1984	98,103	7,774	19,069	698	5,398	749,677	160,075	45,281	120,018	40,406	3,414	15,250
1985	100,532	8,106	19,314	709	5,456	765,147	163,036	47,100	120,754	40,806	3,512	15,677
1986	102,980	8,425	19,509	715	5,525	781,893	166,015	48,819	121,492	41,184	3,615	16,131
1987	105,449	8,738	19,725	718	5,591	798,680	168,990	50,424	122,091	41,575	3,724	16,609
1988	107,946	9,049	19,954	719	5,628	815,590	171,994	51,898	122,613	41,975	3,838	17,103
1989	110,477	9,367	20,157	720	5,686	832,535	175,063	53,228	123,116	42,380	3,956	17,604
1990	113,049	9,698	20,401	724	5,705	849,515	178,232	54,400	123,537	42,869	4,076	18,103
1991	115,662	10,040	20,606	730	5,752	866,530	181,320	55,282	123,921	43,268	4,200	18,597
1992	118,312	10,388	20,803	739	5,801	882,821	184,322	56,178	124,229	43,663	4,325	19,087
1993	120,980	10,734	20,995	749	5,901	899,329	187,232	57,088	124,536	44,056	4,450	19,579
1994	123,646	11,072	21,178	759	6,035	915,697	190,043	58,014	124,961	44,453	4,573	20,079
1995	126,297	11,395	21,357	768	6,156	932,180	192,750	58,954	125,439	45,093	4,692	20,594
1996	128,921	11,700	21,525	776	6,436	948,759	195,457	59,879	125,761	45,525	4,808	21,125
1997	131,524	11,989	21,743	782	6,489	965,428	198,163	60,801	126,091	45,954	4,919	21,668
1998	134,127	12,264	21,929	787	6,544	982,182	200,867	61,849	126,410	46,287	5,025	22,214
1999	136,757	12,526	22,092	793	6,607	999,016	203,568	62,895	126,650	46,617	5,127	22,752
2000	139,434	12,780	22,277	799	6,665	1,015,923	206,265	63,939	126,870	47,008	5,224	23,274
2001	142,167	13,024	22,406	805	6,714	1,032,473	209,014	64,978	127,149	47,357	5,316	23,775
2002	144,943	13,259	22,521	810	6,739	1,048,641	211,817	66,014	127,445	47,622	5,402	24,258
2003	147,741	13,489	22,605	816	6,763	1,064,399	214,674	67,044	127,718	47,859	5,487	24,728
2004	150,528	13,720	22,689	821	6,788	1,079,721	217,587	68,069	127,761	48,039	5,574	25,191
2005	153,281	13,956	22,770	825	6,813	1,094,583	220,558	69,087	127,773	48,138	5,664	25,653
2006	155,991	14,197	22,877	830	6,857	1,109,811	223,042	70,098	127,756	48,297	5,759	26,114
2007	158,572	14,446	22,958	834	6,926	1,124,787	225,630	71,021	127,771	48,456	5,860	26,550

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
1,256	12,155	60,607	36,551	2,075	12,342	37,247	42,729	130	818,315	26,383	205,052	341,844	1970
1,295	12,415	62,540	37,602	2,113	12,613	38,245	43,725	136	841,105	27,042	207,661	344,147	1971
1,333	12,685	64,558	38,670	2,152	12,881	39,239	44,758	142	862,030	27,729	209,896	346,162	1972
1,371	12,964	66,652	39,760	2,193	13,146	40,228	45,825	148	881,940	28,433	211,909	347,983	1973
1,408	13,251	68,813	40,875	2,230	13,409	41,209	46,918	154	900,350	29,143	213,854	349,496	1974
1,447	13,548	71,033	42,019	2,263	13,672	42,180	48,030	161	916,395	29,847	215,973	350,809	1975
1,487	13,852	73,305	43,194	2,293	13,934	43,141	49,158	167	930,685	30,543	218,035	351,968	1976
1,528	14,166	75,626	44,399	2,325	14,196	44,089	50,295	174	943,455	31,231	220,239	353,147	1977
1,571	14,488	77,982	45,624	2,354	14,453	45,019	51,436	180	956,165	31,915	222,585	354,311	1978
1,616	14,819	80,354	46,856	2,384	14,703	45,927	52,574	187	969,005	32,602	225,055	355,538	1979
1,663	15,159	82,730	48,088	2,414	14,941	46,809	53,700	193	981,235	33,294	227,225	357,051	1980
1,714	15,509	85,096	49,314	2,533	15,167	47,663	54,722	199	993,885	33,992	229,466	358,172	1981
1,764	15,868	87,436	50,540	2,647	15,382	48,490	55,687	205	1,008,630	34,693	231,664	358,849	1982
1,814	16,237	89,832	51,774	2,681	15,591	49,291	56,655	211	1,023,310	35,395	233,792	359,357	1983
1,863	16,616	92,284	53,031	2,732	15,800	50,067	57,692	217	1,036,825	36,095	235,825	359,810	1984
1,909	17,003	94,794	54,321	2,736	16,013	50,820	58,868	223	1,051,040	36,790	237,924	360,393	1985
1,953	17,399	97,354	55,647	2,733	16,231	51,550	60,249	229	1,066,790	37,481	240,133	361,117	1986
1,994	17,804	99,953	57,005	2,775	16,453	52,258	61,750	236	1,084,035	38,165	242,289	361,854	1987
2,032	18,221	102,622	58,391	2,846	16,676	52,948	63,263	243	1,101,630	38,840	244,499	363,000	1988
2,069	18,657	105,270	59,800	2,931	16,897	53,625	64,774	250	1,118,650	39,502	246,819	364,418	1989
2,106	19,114	107,975	61,226	3,047	17,114	54,291	66,200	257	1,135,185	40,147	249,623	366,003	1990
2,142	19,593	110,750	62,670	3,135	17,324	54,948	67,606	264	1,150,780	40,772	252,981	367,651	1991
2,177	20,092	113,562	64,132	3,231	17,530	55,595	68,990	272	1,164,970	41,379	256,514	369,258	1992
2,211	20,608	116,444	65,609	3,314	17,726	56,236	70,348	280	1,178,440	41,970	259,919	370,740	1993
2,243	21,136	119,402	67,095	3,419	17,911	56,878	71,679	287	1,191,835	42,554	263,126	371,771	1994
2,275	21,672	122,375	68,587	3,525	18,080	57,523	72,980	295	1,204,855	43,134	266,278	372,723	1995
2,304	22,216	125,410	70,081	3,671	18,234	58,175	74,300	303	1,217,550	43,713	269,394	373,701	1996
2,331	22,767	128,457	71,579	3,796	18,373	58,830	75,460	310	1,230,075	44,288	272,657	374,646	1997
2,356	23,321	131,582	73,092	3,927	18,498	59,475	76,520	318	1,241,935	44,850	275,854	375,471	1998
2,378	23,873	134,790	74,633	3,959	18,611	60,091	77,515	326	1,253,735	45,385	279,040	376,536	1999
2,398	24,419	138,080	76,213	4,028	18,714	60,666	77,635	333	1,262,645	45,884	282,194	377,952	2000
2,421	24,958	141,450	77,834	4,138	18,797	61,192	78,686	341	1,271,850	46,343	285,112	379,666	2001
2,449	25,491	144,902	79,490	4,176	19,007	61,675	79,727	349	1,280,400	46,768	287,888	381,671	2002
2,480	26,021	148,439	81,172	4,115	19,253	62,127	80,902	358	1,288,400	47,170	290,448	383,903	2003
2,515	26,554	152,061	82,868	4,167	19,462	62,565	82,032	366	1,296,157	47,565	293,192	386,266	2004
2,554	27,094	155,772	84,566	4,266	19,668	63,003	83,106	374	1,303,720	47,967	295,896	388,631	2005
2,585	27,641	159,002	86,264	4,401	19,886	63,444	84,137	382	1,311,020	48,379	298,755	390,754	2006
2,608	28,108	162,481	87,892	4,589	20,010	63,832	85,155	389	1,318,310	48,783	301,621	392,903	2007

Data 19

Total Employment

Unit: Thousands

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	4,576	121	1,579	176,987	40,100	n.a.	54,438	9,617	n.a.	3,340
1971	n.a.	n.a.	4,738	135	1,602	180,112	40,523	n.a.	54,822	9,946	n.a.	3,467
1972	n.a.	n.a.	4,948	138	1,657	183,304	41,850	n.a.	55,107	10,379	n.a.	3,599
1973	21,488	n.a.	5,327	144	1,711	186,565	43,253	7,926	56,352	10,942	n.a.	3,735
1974	21,900	n.a.	5,486	157	1,766	189,896	44,441	8,124	56,115	11,421	n.a.	3,877
1975	22,447	n.a.	5,521	164	1,821	193,300	45,661	8,260	55,977	11,691	n.a.	4,020
1976	22,990	n.a.	5,669	164	1,875	196,704	46,969	8,799	56,435	12,412	n.a.	4,376
1977	23,537	n.a.	5,980	172	1,890	200,181	48,315	9,024	57,112	12,812	n.a.	4,476
1978	24,093	n.a.	6,231	185	2,003	203,732	51,780	9,207	57,669	13,412	n.a.	4,542
1979	24,668	n.a.	6,432	194	2,084	207,360	51,004	9,540	58,262	13,602	n.a.	4,700
1980	25,269	n.a.	6,547	202	2,238	211,066	51,554	9,684	58,661	13,683	1,398	4,835
1981	25,907	n.a.	6,672	208	2,411	222,517	51,553	9,892	59,108	14,023	1,420	5,219
1982	26,744	n.a.	6,811	204	2,407	228,003	57,803	10,175	59,591	14,379	1,452	5,249
1983	27,608	n.a.	7,070	212	2,427	235,989	59,310	10,534	60,493	14,505	1,490	5,457
1984	28,500	n.a.	7,308	212	2,505	244,260	60,864	10,660	60,699	14,429	1,533	5,567
1985	29,500	n.a.	7,428	222	2,543	252,826	62,457	10,935	61,028	14,970	1,580	5,653
1986	30,562	n.a.	7,733	223	2,624	261,697	68,338	11,056	61,340	15,505	1,627	5,760
1987	31,449	n.a.	8,022	217	2,681	270,884	70,402	11,370	61,583	16,354	1,684	5,984
1988	32,361	n.a.	8,107	214	2,725	280,399	72,518	11,618	62,298	16,869	1,742	6,157
1989	33,300	n.a.	8,258	246	2,723	290,254	73,425	11,926	63,216	17,560	1,788	6,391
1990	34,098	n.a.	8,283	250	2,712	300,461	75,851	12,547	64,271	18,085	1,841	6,685
1991	34,915	n.a.	8,439	259	2,754	313,924	76,423	13,097	65,578	18,649	1,897	6,849
1992	35,345	n.a.	8,632	270	2,738	321,082	78,518	13,262	66,318	19,009	1,953	7,048
1993	35,780	4,621	8,745	276	2,800	328,557	79,201	13,408	66,569	19,234	2,008	7,383
1994	36,220	4,728	8,939	279	2,873	336,370	82,038	13,688	66,644	19,848	2,062	7,618
1995	36,666	4,936	9,045	283	2,905	344,542	80,110	14,061	66,857	20,414	2,116	7,645
1996	37,117	5,117	9,068	288	3,073	353,096	85,702	14,572	66,907	20,853	2,169	8,399
1997	37,574	5,225	9,176	289	3,164	362,056	87,050	14,910	67,373	21,214	2,220	8,569
1998	38,037	5,546	9,289	290	3,122	371,448	87,672	15,259	66,579	19,938	2,276	8,600
1999	38,505	5,629	9,385	291	3,112	381,301	88,817	15,784	65,663	20,291	2,333	8,838
2000	38,979	5,915	9,491	292	3,207	391,645	89,838	16,419	65,255	21,156	2,386	9,269
2001	40,684	6,243	9,383	293	3,253	402,512	90,807	16,955	64,761	21,572	2,445	9,357
2002	42,464	6,574	9,454	294	3,218	412,761	91,647	17,755	63,747	22,169	2,490	9,543
2003	44,322	6,967	9,573	296	3,191	423,533	92,811	18,334	63,539	22,139	2,537	9,870
2004	45,311	7,496	9,786	297	3,274	434,864	93,722	19,016	63,676	22,557	2,602	9,980
2005	46,323	7,754	9,942	298	3,337	446,793	93,958	19,691	63,918	22,856	2,664	10,045
2006	47,357	8,053	10,111	299	3,401	459,364	95,457	20,476	64,198	23,151	2,736	10,275
2007	48,414	8,354	10,294	304	3,484	467,123	99,930	21,252	64,437	23,433	2,827	10,538

Note: Total employment consists of employees, the self-employed and unpaid family workers. Data for Fiji, India and Nepal over non-census years include our estimates.

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
429	4,692	17,750	11,358	702	3,600	16,493	n.a.	n.a.	392,929	n.a.	86,847	141,692	1970
440	4,853	18,371	12,543	756	3,780	16,605	n.a.	40	406,486	n.a.	86,696	141,735	1971
445	5,019	18,550	13,217	809	3,965	16,058	n.a.	42	409,156	n.a.	88,817	142,374	1972
454	5,192	19,240	13,865	863	4,087	16,754	n.a.	44	418,263	n.a.	92,518	146,552	1973
460	5,372	19,760	13,824	890	4,164	15,401	n.a.	46	426,445	n.a.	94,100	147,724	1974
461	5,559	20,300	14,517	900	4,243	16,176	n.a.	49	435,563	n.a.	92,550	147,289	1975
464	5,754	21,080	15,427	939	4,358	16,113	n.a.	52	443,163	n.a.	94,897	146,634	1976
476	5,956	21,890	14,323	976	4,476	18,138	n.a.	54	449,360	12,640	98,179	147,104	1977
486	6,167	22,730	16,668	1,031	4,598	19,215	n.a.	58	458,204	12,935	102,903	147,571	1978
502	6,386	23,620	16,267	1,079	4,723	19,022	n.a.	61	468,155	13,208	106,441	148,990	1979
516	6,614	24,150	17,154	1,154	4,851	22,524	n.a.	64	483,412	13,515	107,037	149,644	1980
525	6,851	24,700	17,810	1,245	4,929	20,874	n.a.	68	498,978	13,790	107,988	148,455	1981
535	6,865	25,270	18,614	1,318	4,974	24,831	n.a.	71	516,894	14,185	106,685	147,758	1982
548	6,884	25,850	19,366	1,350	5,018	22,912	n.a.	74	529,915	14,500	107,740	147,760	1983
552	6,909	26,400	19,368	1,370	5,064	24,159	n.a.	77	550,011	14,790	112,531	148,243	1984
590	6,942	26,960	20,327	1,332	5,132	24,227	n.a.	81	569,137	15,130	115,129	148,814	1985
643	6,982	27,020	20,926	1,311	5,175	25,086	n.a.	84	585,216	15,410	117,091	150,009	1986
665	7,031	28,700	20,795	1,367	5,199	26,414	n.a.	88	602,345	15,400	120,390	151,913	1987
743	7,089	28,990	21,497	1,437	5,214	27,726	n.a.	92	620,045	15,140	123,841	154,509	1988
764	7,159	29,900	21,849	1,504	5,235	28,456	n.a.	97	631,400	15,220	126,660	157,081	1989
784	7,242	30,650	22,532	1,603	5,047	30,844	29,412	102	647,490	15,740	128,208	159,744	1990
796	7,340	29,520	22,979	1,645	5,016	29,220	30,135	107	654,910	16,010	126,940	160,608	1991
806	7,526	30,580	23,917	1,692	4,962	30,794	30,856	110	661,520	16,470	127,022	158,464	1992
765	7,728	31,450	24,443	1,721	5,201	30,679	31,579	113	668,080	16,820	129,130	156,048	1993
760	7,949	32,230	25,166	1,801	5,281	30,164	32,303	116	674,550	17,230	131,980	156,070	1994
768	8,191	32,350	25,698	1,891	5,357	30,815	33,031	120	680,650	17,590	134,820	157,226	1995
770	8,458	33,130	27,442	1,976	5,537	31,166	33,761	124	689,500	17,960	137,131	158,116	1996
765	8,754	35,160	27,888	2,076	5,608	31,714	34,493	128	698,200	18,370	139,960	159,732	1997
793	9,087	36,940	28,261	2,134	6,049	30,105	35,233	132	706,370	18,843	143,089	162,516	1998
814	9,464	37,780	29,003	2,129	6,083	30,686	35,976	136	713,940	19,333	145,954	165,401	1999
809	9,582	37,320	27,775	2,343	6,310	31,335	37,610	141	720,850	19,822	148,911	169,020	2000
832	9,900	38,140	30,085	2,267	6,236	32,104	38,563	146	730,250	20,336	148,540	171,483	2001
871	10,121	39,640	30,252	2,223	6,519	33,061	39,508	153	737,400	20,907	147,269	172,624	2002
927	10,356	40,470	31,553	2,208	6,609	33,841	40,574	152	744,320	21,494	147,218	173,449	2003
950	10,607	42,240	31,741	2,238	6,704	34,729	41,586	159	752,000	21,675	148,832	174,798	2004
968	10,873	43,220	32,875	2,409	6,788	35,257	42,527	162	758,250	21,858	150,891	176,537	2005
1,010	11,155	46,940	33,188	2,506	7,105	35,686	43,339	173	764,000	22,045	153,366	179,134	2006
1,024	11,454	47,650	33,672	2,671	7,042	36,249	44,174	177	769,900	22,229	154,615	182,006	2007

Data 20

Labor Productivity

Unit: Index (2005 = 1.0)

Year	Bangladesh	Cambodia	ROC	Fiji	Hong Kong	India	Indonesia	Iran	Japan	Korea	Lao PDR	Malaysia
1970	n.a.	n.a.	0.181	0.864	0.259	0.463	0.299	n.a.	0.401	0.229	n.a.	0.302
1971	n.a.	n.a.	0.198	0.816	0.274	0.462	0.317	n.a.	0.415	0.240	n.a.	0.320
1972	n.a.	n.a.	0.214	0.865	0.292	0.451	0.340	n.a.	0.448	0.240	n.a.	0.337
1973	0.553	n.a.	0.224	0.934	0.318	0.458	0.370	1.010	0.473	0.255	n.a.	0.363
1974	0.595	n.a.	0.221	0.880	0.315	0.456	0.384	1.110	0.469	0.262	n.a.	0.378
1975	0.557	n.a.	0.231	0.843	0.307	0.489	0.397	1.144	0.485	0.271	n.a.	0.368
1976	0.575	n.a.	0.256	0.863	0.346	0.488	0.416	1.263	0.501	0.282	n.a.	0.377
1977	0.576	n.a.	0.267	0.859	0.384	0.514	0.443	1.203	0.516	0.300	n.a.	0.397
1978	0.603	n.a.	0.292	0.812	0.393	0.534	0.445	1.092	0.539	0.313	n.a.	0.418
1979	0.617	n.a.	0.306	0.871	0.421	0.497	0.481	1.010	0.562	0.330	n.a.	0.441
1980	0.608	n.a.	0.324	0.821	0.433	0.521	0.519	0.844	0.575	0.323	n.a.	0.461
1981	0.613	n.a.	0.338	0.846	0.439	0.524	0.557	0.790	0.594	0.335	n.a.	0.457
1982	0.608	n.a.	0.342	0.854	0.453	0.529	0.502	0.865	0.609	0.351	n.a.	0.481
1983	0.613	n.a.	0.358	0.788	0.476	0.549	0.510	0.928	0.619	0.385	n.a.	0.492
1984	0.624	n.a.	0.383	0.855	0.507	0.550	0.534	0.898	0.645	0.418	0.522	0.520
1985	0.623	n.a.	0.395	0.773	0.503	0.560	0.541	0.893	0.682	0.430	0.546	0.506
1986	0.627	n.a.	0.424	0.833	0.541	0.566	0.530	0.803	0.699	0.459	0.556	0.502
1987	0.632	n.a.	0.461	0.802	0.601	0.569	0.548	0.774	0.725	0.483	0.531	0.510
1988	0.628	n.a.	0.491	0.831	0.641	0.603	0.570	0.715	0.768	0.518	0.504	0.545
1989	0.626	n.a.	0.521	0.814	0.656	0.617	0.614	0.737	0.798	0.531	0.557	0.572
1990	0.648	n.a.	0.548	0.828	0.684	0.627	0.648	0.800	0.827	0.563	0.577	0.596
1991	0.654	n.a.	0.578	0.779	0.712	0.605	0.701	0.860	0.838	0.597	0.583	0.638
1992	0.679	n.a.	0.609	0.794	0.760	0.625	0.731	0.884	0.835	0.621	0.606	0.675
1993	0.701	0.648	0.642	0.796	0.788	0.634	0.778	0.890	0.834	0.651	0.624	0.708
1994	0.721	0.691	0.674	0.827	0.814	0.662	0.808	0.876	0.840	0.685	0.657	0.750
1995	0.748	0.705	0.709	0.839	0.824	0.695	0.895	0.878	0.852	0.727	0.686	0.821
1996	0.773	0.717	0.753	0.864	0.811	0.730	0.903	0.899	0.873	0.762	0.715	0.822
1997	0.805	0.741	0.792	0.842	0.828	0.740	0.931	0.903	0.881	0.784	0.747	0.865
1998	0.838	0.734	0.818	0.850	0.788	0.767	0.803	0.909	0.874	0.777	0.757	0.799
1999	0.868	0.809	0.856	0.921	0.811	0.800	0.799	0.898	0.886	0.836	0.793	0.826
2000	0.909	0.837	0.897	0.903	0.850	0.813	0.829	0.905	0.917	0.871	0.821	0.857
2001	0.917	0.858	0.886	0.917	0.842	0.833	0.850	0.912	0.926	0.884	0.847	0.854
2002	0.918	0.869	0.918	0.943	0.867	0.843	0.881	0.936	0.944	0.920	0.881	0.883
2003	0.927	0.890	0.937	0.949	0.900	0.889	0.912	0.970	0.961	0.946	0.915	0.904
2004	0.964	0.913	0.975	0.997	0.952	0.939	0.948	0.981	0.984	0.974	0.954	0.955
2005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.044	1.067	1.031	1.030	1.050	1.066	1.039	1.026	1.015	1.039	1.055	1.035
2007	1.088	1.134	1.071	0.946	1.090	1.144	1.055	1.056	1.035	1.079	1.098	1.073

Note: Labor productivity is defined as constant-price GDP at basic prices divided by the number of workers (total employment). GDP at basic prices includes our estimates for most countries (see Box 3).

Mongolia	Nepal	Pakistan	Philippines	Singapore	Sri Lanka	Thailand	Vietnam	Brunei	China	Myanmar	US	EU15	Year
n.a.	n.a.	0.445	0.789	0.279	0.401	0.262	n.a.	n.a.	0.102	n.a.	0.590	0.534	1970
n.a.	n.a.	0.436	0.749	0.290	0.384	0.273	n.a.	n.a.	0.105	n.a.	0.611	0.553	1971
n.a.	n.a.	0.439	0.745	0.307	0.377	0.294	n.a.	n.a.	0.109	n.a.	0.628	0.578	1972
n.a.	n.a.	0.451	0.772	0.320	0.379	0.309	n.a.	n.a.	0.115	n.a.	0.638	0.598	1973
n.a.	0.565	0.462	0.815	0.330	0.387	0.351	n.a.	1.809	0.115	n.a.	0.623	0.611	1974
n.a.	0.570	0.464	0.827	0.339	0.393	0.350	n.a.	1.724	0.123	n.a.	0.630	0.611	1975
n.a.	0.568	0.468	0.841	0.348	0.401	0.385	n.a.	1.966	0.119	n.a.	0.648	0.639	1976
n.a.	0.573	0.468	0.962	0.361	0.407	0.376	n.a.	2.067	0.126	0.346	0.656	0.655	1977
n.a.	0.566	0.486	0.872	0.370	0.425	0.392	n.a.	2.089	0.138	0.359	0.660	0.673	1978
n.a.	0.534	0.491	0.950	0.387	0.439	0.417	n.a.	2.423	0.145	0.368	0.659	0.690	1979
n.a.	0.558	0.521	0.948	0.398	0.451	0.369	n.a.	2.131	0.152	0.388	0.654	0.697	1980
0.792	0.560	0.545	0.945	0.404	0.469	0.422	n.a.	1.615	0.155	0.404	0.666	0.704	1981
0.842	0.561	0.568	0.937	0.409	0.489	0.374	n.a.	1.613	0.163	0.415	0.661	0.712	1982
0.869	0.593	0.593	0.918	0.433	0.508	0.428	n.a.	1.556	0.176	0.423	0.680	0.722	1983
0.914	0.627	0.610	0.850	0.463	0.529	0.429	n.a.	1.501	0.195	0.435	0.699	0.738	1984
0.905	0.652	0.643	0.752	0.469	0.548	0.448	n.a.	1.416	0.214	0.438	0.709	0.753	1985
0.908	0.660	0.676	0.755	0.487	0.567	0.456	n.a.	1.321	0.227	0.425	0.720	0.767	1986
0.908	0.706	0.678	0.793	0.512	0.573	0.475	n.a.	1.288	0.246	0.409	0.723	0.777	1987
0.855	0.730	0.722	0.819	0.543	0.588	0.512	n.a.	1.245	0.265	0.368	0.733	0.796	1988
0.867	0.757	0.735	0.856	0.571	0.597	0.560	n.a.	1.177	0.271	0.380	0.745	0.812	1989
0.824	0.796	0.749	0.853	0.585	0.658	0.575	0.484	1.133	0.275	0.378	0.749	0.822	1990
0.766	0.817	0.817	0.830	0.608	0.694	0.658	0.500	1.115	0.297	0.369	0.754	0.831	1991
0.715	0.828	0.850	0.796	0.628	0.733	0.676	0.531	1.136	0.335	0.393	0.777	0.852	1992
0.720	0.872	0.841	0.805	0.690	0.747	0.734	0.561	1.106	0.378	0.409	0.787	0.864	1993
0.747	0.878	0.852	0.816	0.736	0.778	0.814	0.597	1.106	0.424	0.429	0.802	0.884	1994
0.770	0.897	0.891	0.838	0.758	0.809	0.871	0.639	1.119	0.466	0.449	0.806	0.900	1995
0.790	0.915	0.912	0.831	0.782	0.813	0.912	0.684	1.122	0.506	0.469	0.822	0.910	1996
0.829	0.910	0.868	0.861	0.806	0.854	0.884	0.724	1.067	0.546	0.485	0.841	0.924	1997
0.839	0.916	0.848	0.845	0.774	0.830	0.833	0.750	1.029	0.582	0.500	0.858	0.933	1998
0.858	0.933	0.859	0.853	0.831	0.861	0.854	0.770	1.029	0.620	0.541	0.881	0.942	1999
0.874	0.973	0.907	0.946	0.831	0.880	0.876	0.786	1.026	0.666	0.600	0.899	0.959	2000
0.875	0.943	0.906	0.889	0.839	0.879	0.874	0.820	1.017	0.712	0.651	0.911	0.967	2001
0.876	0.959	0.900	0.924	0.890	0.875	0.894	0.857	1.008	0.769	0.710	0.935	0.972	2002
0.881	0.981	0.924	0.931	0.930	0.916	0.936	0.896	1.049	0.838	0.787	0.960	0.979	2003
0.950	0.952	0.950	0.986	1.003	0.952	0.970	0.943	1.012	0.913	0.887	0.983	0.994	2004
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	2005
1.041	1.007	0.978	1.046	1.042	1.029	1.040	1.062	0.979	1.108	1.119	1.011	1.011	2006
1.132	1.034	1.018	1.106	1.053	1.110	1.075	1.131	0.966	1.230	1.149	1.023	1.023	2007

Data Sources

Most of the data for APO member economies have been prepared by the national experts of each country. A list of the national experts is given in Section 1.2. GDP and industry GDP are based on the system of national accounts estimated in each country. Employment data have been constructed by using some statistics listed in the following table. For those countries where we could not find the primary statistics, we refer to the publications from which data have been taken (e.g. statistical yearbooks). These data provided by the national experts are supplemented by the use of external data sources such as CEIC Data Company, *ILO Yearbook of Labor Statistics* (http://laborsta.ilo.org), World Bank *World Development Indicators*, UN data (National Accounts Official Country Data – http://data.un.org) and *Key Indicators* of the Asian Development Bank (http://www.adb.org/documents/books/key_indicators).

The market exchange rates used in this edition are the adjusted rates, which are called the AMA (Analysis of Main Aggregate) rates, in the UNSD National Accounts Main Aggregate Database. The AMA rates coincide with the IMF rates except for some periods in countries with official fixed exchange rates and high inflation, when there could be a serious disparity between real GDP growth and growth converted to US dollars based on IMF rates. In such cases, the AMA adjusts the IMF-based rates by multiplying the growth rate of GDP deflator relative to the US.

There are three reference countries, for which the authors collected and constructed data. For China, we use multiple data sources. GDP for the whole economy, industry GDP, final demands and employment are taken from CEIC Data Company. Income data are taken from *China National Income 1952–1995* and *China Statistical Yearbook*. Time-series data of GFCF during 1950–2007 are constructed by the authors. Main references for GFCF construction are *Statistics on Investment in Fixed Assets of China 1950–2000*, *China Statistical Yearbook* and *1987*, *1992*, *1997*, *2002 Input-Output Tables of China*. Multiple data sources for manufacturing, electrics and trade data from *China's Customs Statistics* are also utilized.[77]

The data source for the EU15 is OECD.Stat (http://stats.oecd.org/WBOS/index.aspx). The data for the US are taken from the website of the Bureau of Economic Analysis (http://www.bea.gov) and the UN website (http://data.un.org).

Tax data of member economies are supplemented by the IMF's Government Finance Statistics (GFS). From its tax revenue data, "taxes on goods and services" and "taxes on imports" are used for calculating taxes on products. From its expenditure data, "subsidies" are taken. Data taken from GFS play a key role in adjusting GDP at market prices to GDP at basic prices.

Source for Employment Data			
Bangladesh	Labor Force Survey, Populations Census	Korea	Census on Basic Characteristics of Establishment, Economically Active Population Survey, Monthly Labor Survey
Cambodia	Socio-Economic Survey, Labor Force Survey		
ROC	Yearbook of Manpower Survey Statistics in Taiwan Area, Taiwan Statistical Data Book	Lao PDR	ADB Key Indicator
Fiji	Annual Employment Survey, Population Census, Estimates by FIBOS (Fiji Islands Bureau of Statistics)	Malaysia	Economic Report Various issues, Malaysia Economic Statistics-Time Series, Labor Force Survey Report
		Mongolia	Mongolian Statistical Yearbook
Hong Kong	Data download from Census and Statistics Department of Hong Kong Statistics	Nepal	Population Census
		Pakistan	Pakistan Economic Survey
India	Census of India	Philippines	Labor Force Survey, Philippines Statistical Yearbook
Indonesia	Labor Situation in Indonesia	Singapore	Labor Force Survey, Singapore Yearbook of Manpower Statistics
Iran	Population Census	Sri Lanka	Central Bank of Sri Lanka Annual Report
Japan	Labor Force Survey, National Accounts	Thailand	Labor Force Survey
		Vietnam	Estimates by General Statistics Office

77 Holz (2006) provides a useful reference on Chinese official statistics.

Industry Classification

The concordance between the industry classification used in Section 7 and the International Standard Industry Classification of All Economic Activities (ISIC), Rev.3 is shown in the following table.

	ISIC Rev.3	Databook 1st	2nd	
A - Agriculture, hunting and forestry	01	1		Agriculture, hunting and related service activities
	02	1		Forestry, logging and related service activities
B - Fishing	05	1		Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
C - Mining and quarrying	10	2		Mining of coal and lignite; extraction of peat
	11	2		Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction excluding surveying
	12	2		Mining of uranium and thorium ores
	13	2		Mining of metal ores
	14	2		Other mining and quarrying
D - Manufacturing	15	3	3.1	Manufacture of food products and beverages
	16	3	3.1	Manufacture of tobacco products
	17	3	3.2	Manufacture of textiles
	18	3	3.2	Manufacture of wearing apparel; dressing and dyeing of fur
	19	3	3.2	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
	20	3	3.3	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
	21	3	3.4	Manufacture of paper and paper products
	22	3	3.4	Publishing, printing and reproduction of recorded media
	23	3	3.5	Manufacture of coke, refined petroleum products and nuclear fuel
	24	3	3.5	Manufacture of chemicals and chemical products
	25	3	3.5	Manufacture of rubber and plastics products
	26	3	3.6	Manufacture of other non-metallic mineral products
	27	3	3.7	Manufacture of basic metals
	28	3	3.8	Manufacture of fabricated metal products, except machinery and equipment
	29	3	3.8	Manufacture of machinery and equipment n.e.c.
	30	3	3.8	Manufacture of office, accounting and computing machinery
	31	3	3.8	Manufacture of electrical machinery and apparatus n.e.c.
	32	3	3.8	Manufacture of radio, television and communication equipment and apparatus
	33	3	3.8	Manufacture of medical, precision and optical instruments, watches and clocks
	34	3	3.8	Manufacture of motor vehicles, trailers and semi-trailers
	35	3	3.8	Manufacture of other transport equipment
	36	3	3.9	Manufacture of furniture; manufacturing n.e.c.
	37	3	3.9	Recycling
E - Electricity, gas and water supply	40	4		Electricity, gas, steam and hot water supply
	41	4		Collection, purification and distribution of water
F - Construction	45	5		Construction
G - Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	50	6		Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
	51	6		Wholesale trade and commission trade, except of motor vehicles and motorcycles
	52	6		Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
H - Hotels and restaurants	55	6		Hotels and restaurants
I - Transport, storage and communications	60	7		Land transport; transport via pipelines
	61	7		Water transport
	62	7		Air transport
	63	7		Supporting and auxiliary transport activities; activities of travel agencies
	64	7		Post and telecommunications
J - Financial intermediation	65	8		Financial intermediation, except insurance and pension funding
	66	8		Insurance and pension funding, except compulsory social security
	67	8		Activities auxiliary to financial intermediation
K - Real estate, renting and business activities	70	8		Real estate activities
	71	8		Renting of machinery and equipment without operator and of personal and household goods
	72	8		Computer and related activities
	73	8		Research and development
	74	8		Other business activities
L - Public administration and defence; compulsory social security	75	9		Public administration and defence; compulsory social security
M - Education	80	9		Education
N - Health and social work	85	9		Health and social work
O - Other community, social and personal service activities	90	9		Sewage and refuse disposal, sanitation and similar activities
	91	9		Activities of membership organizations n.e.c.
	92	9		Recreational, cultural and sporting activities
	93	9		Other service activities
P - Private households with employed persons	95	9		Private households with employed persons
Q - Extra-territorial organizations and bodies	99	9		Extra-territorial organizations and bodies

Note: "n.e.c" stands for "not elsewhere classified."

About the APO

MISSION

The Asian Productivity Organization (APO) was established on 11 May 1961 as a regional intergovernmental organization. Its mission is to contribute to the socioeconomic development of Asia and the Pacific through enhancing productivity. The APO is nonpolitical, nonprofit, and nondiscriminatory.

MEMBERSHIP

APO members are: Bangladesh, Cambodia, Republic of China, Fiji, Hong Kong, India, Indonesia, Islamic Republic of Iran, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam.

KEY ROLES

The APO seeks to realize its objective by playing the roles of think tank, catalyst, regional adviser, institution builder, and clearinghouse for productivity information.

ORGANIZATION

The supreme organ of the APO is the Governing Body. It comprises one Director from each member country designated by their respective governments. The Governing Body decides on policies and strategies of APO programs and approves its budgets, finances, and matters relating to membership.

Each member country designates a national body to be its national productivity organization (NPO). NPOs are either agencies of the government or statutory bodies entrusted with the task of spearheading the productivity movement in their respective countries. They serve as the official bodies to liaise with the APO Secretariat and to implement APO projects hosted by their governments.

The Secretariat, based in Tokyo, Japan, is the executive arm of the APO. It is headed by the Secretary-General. The Secretariat carries out the decisions, policy directives, and annual programs approved by the Governing Body. It also facilitates cooperative relationships with other international organizations, governments, and private institutions.

The APO Secretariat has four functional departments: Administration and Finance, Research and Planning, Industry, and Agriculture.

PROGRAMS AND ACTIVITIES

APO's programs cover the industry, service and agriculture sectors, with special focus on socioeconomic development, development of small and medium enterprises, human resources management, productivity measurement and analysis, knowledge management, production and technology management, information technology, development of NPOs, green productivity, integrated community development, agribusiness, agricultural development and policies, resources and technology, and agricultural marketing and institutions.

Its activities include researches, forums, conferences, study meetings, workshops, training courses, seminars, observational study missions, and demonstration projects.

Asian Productivity Organization

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