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Prospects for the Global Economy

Summary of the outlook

Confronted with capacity constraints in the resource sector, sharp rises in commodity prices, and a tightening of monetary policy among Organisation for Economic Co-operation and Development (OECD) countries, the global economy has slowed from the record pace posted in 2004. Nevertheless growth remains robust, especially among developing countries. Their GDP increased 6.4 percent in 2005 (4.3 percent for oil-importing developing economies, excluding India and China) as compared with 2.8 percent among high-income countries. The resilience of developing countries—which reflects a sustained improvement in the potential growth rate of many developing countries—has been heartening, especially given the magnitude of the oil-price shock. This brisk expansion is projected to continue, but slow towards a more sustainable pace of 5.9 percent by 2008. Such rapid growth argues against a sharp decline in oil prices, which are expected to remain above or close to $60 a barrel through 2008.

This relatively benign soft-landing scenario for developing countries faces both internal and external risks. First, the high growth of the past several years is generating tensions within individual countries. In several East European countries this has taken the form of rising inflation, currency appreciation, and high current-account deficits, while in others it has expressed itself in rising asset prices, inflationary pressure, and growing domestic tensions between fast and slower growing regions and sectors. Second, many of the buffers that permitted countries to absorb higher oil prices with a minimum of disruption have been exhausted, and countries have yet to fully adjust to higher oil prices. As a result, developing countries are much more vulnerable to potential external shocks, such as a disruptive resolution of global imbalances, a decline in nonoil commodity prices, or a hike in oil prices following a supply shock.

High oil prices have had only a limited impact on global growth

Lower oil intensities, more flexible product and labor markets, exchange rate flexibility, and more credible monetary policy have all reduced the real-side and inflationary impacts of higher oil prices. As a result, and in contrast to past episodes, monetary policy has remained accommodative and interest rates low. This, plus the fact that oil deliveries have continued to increase rapidly (as opposed to the 1970s and 1980s, when supply was cut), helps explain the resilience of output to higher oil prices. An additional factor for developing countries has been the substantial rise in the share of exports in GDP, which has increased the foreign currency inflows available to finance a given increase in the oil bill.

Adjustment was facilitated by solid initial conditions. In particular, many oil-importing developing countries entered the period of high oil prices running current-account surpluses and building up foreign currency reserves. This, plus high nonoil commodity prices and a rapid expansion in trade, meant that finding foreign currency to pay higher oil bills was relatively easy. In addition, foreign currency inflows for the poorest countries were bolstered by increasing aid flows, which in many cases rose by more than 0.5 percent of GDP in 2004 (the last year for which data is available).

While output has remained resilient, developing countries nevertheless have endured a large hit

on their incomes. On average, the rise in oil prices between 2003 and 2005 reduced real incomes in oil-importing countries by 3.6 percent and by as much as 10 percent for some low-income oil importers. For developing oil importers the additional expenditure, some $137 billion annually, exceeds by a large margin official development assistance (ODA, $84 billion in 2005 net of additional debt relief) and is about one-half of foreign direct investment (FDI) inflows ($234 billion).

Unsurprisingly, some countries are having difficulty adjusting. Fiscal deficits have risen alarmingly in several countries that subsidize domestic energy prices. In many African countries, utility firms, unable to pay mounting energy bills, have imposed rolling blackouts. Moreover, a few countries appear to be financing their higher oil bill through an unsustainably rapid reduction in international reserves. Finally, rising food and transportation prices have pushed inflation to worrisome levels in several countries in Africa and, to a lesser extent, South Asia. While it is not clear that an inflationary spiral has begun, an eventual economic slowdown appears likely if policy makers are forced to use macro policy measures to bring inflation back under control.

Developing countries face further adjustment challenges over the medium term

While the resilience of output to high oil prices is heartening, the initially comfortable current-account positions that allowed many developing countries to weather higher oil prices have now been absorbed. Moreover, many of the factors that allowed countries to deal with higher oil prices relatively easily in the short run imply that much real-side adjustment has yet to occur.

Adapting to more or less permanently higher prices poses substantial challenges, especially for those countries where high oil prices are already generating economic strain, as evidenced by excessive increases in current-account or fiscal deficits or by unsustainable financing of oil import bills through the depletion of reserves or bank borrowing. Policy makers in these countries must take urgent steps to increase energy efficiency in general and reduce oil dependency in particular. Unwinding energy subsidization programs would simultaneously relieve pressure on government finances and also promote private sector energy conservation. For those countries that have managed the

recent rise in oil prices more easily, similar policy steps would reduce their vulnerability both to further oil shocks and other shocks, including a decline in nonoil commodity prices. For countries benefiting from fixed-price contracts at what are currently below-market prices, policy should encourage energy conservation now before the contracts expire or are renegotiated.

More generally, because higher prices are likely to be a more or less permanent fixture, countries need to take steps to improve their international competitiveness. Policies that stimulate productivity growth and investment in the domestic economy are most likely to be successful. Countries with flexible exchange regimes are likely to have more success in improving their export revenues and diminishing nonoil imports so as to reestablish a comfortable margin on the current account. Trade reform—domestic, behind-the-border reforms to improve competitiveness, accompanied by progress at the multilateral level—could further expand developing-country exports and the base upon which oil and other imports essential to development can be financed.

For oil exporters the challenge will be to use petroleum revenues in a way that minimizes economic distortions and maximizes development gain. Even if oil prices remain high for an extended period, most countries do not have the capacity to absorb these huge inflows immediately. As a result, they should resist the temptation to use oil-related budgetary revenues for programs that are politically popular but developmentally unsound. Instead, they should consider introducing or expanding oil funds by sequestering that part of revenues that cannot be productively placed in the domestic market and investing it abroad, where it will generate a permanent income stream to support development even after current prices ease or oil supplies dwindle. Recent steps by some oil-exporting countries that have unwound structural reforms for short-term political gain are unlikely to be helpful.

Global imbalances may have been exacerbated by high oil prices

The rapid rise in oil prices has contributed to global imbalances by increasing the U.S. current-account deficit by some $125 billion since 2002. It also has changed the nature of those imbalances by inducing a swing in the counterparts to the U.S. deficit away from oil importers and toward

oil-exporting countries. Their oil-related export earnings are up some $400 billion since 2002. These are being recycled—partly through increased imports, approximately 65 percent of additional export revenues are being spent as additional imports, and partly via financial flows. As a result, there is little likelihood that an excess in oil exporters' savings will lead to a global slowdown. Rather, increased financial flows—either directly or through third-party intermediaries, are contributing to low interest rates and, both directly and indirectly, to the financing of the U.S. current-account deficit.

Despite the ease with which the U.S. deficit is being financed, the continued accumulation of foreign liabilities is not sustainable. Unwinding these imbalances will almost certainly take a long time. Indeed, given the magnitude of the required adjustment, a gradual approach is to be preferred to an abrupt one. However, the longer significant steps to resolve the issue are delayed the greater will be the tensions implicit in the disequilibrium and the risk that they will be resolved in a disorderly manner. Of particular concern is that some of the temporary factors holding down interest rates (including corporate balance-sheet restructuring and financial flows from oil revenues) will ease, increasing the servicing costs on U.S. liabilities. That would add to the deficit and possibly raise concerns about its sustainability, driving interest rates even higher.

Resolving these imbalances is a common but differentiated responsibility requiring increased private and public savings in the United States, increased demand outside of the United States, and more flexible exchange rate management. Action on all fronts is required, particularly because in the absence of higher U.S. savings, increased foreign demand or exchange rate appreciation is unlikely to have a meaningful impact on imbalances.

The outlook for developing countries carries both internal and external risks

Prospects for a soft landing among developing countries are good, but a hard landing is also possible. In particular, many countries, notably in the Europe and Central Asia region, now have current-account deficits that exceed 5 or 6 percent of GDP. In some instances those deficits are associated with high interest rates, strong capital inflows, and appreciating currencies. The future ability of these economies to finance current levels of consumption and investment is vulnerable to changes in investor confidence or additional external shocks. Elsewhere, rapidly rising incomes may be contributing to asset bubbles in regional real estate and stock markets. In other countries, tensions arising from localized labor market shortages, combined with significant disparity in the degree to which regions or segments of the population are benefiting from growth, could prompt a harder-than-projected landing. These internal risks could generate a hard landing on their own or they could be triggered by and exacerbate an external shock. In particular, growth in several countries in South Asia and a few in Latin America is generating significant inflationary pressures requiring a tightening of macroeconomic policy if an abrupt slowdown in the future is to be avoided.

The principal external risks to the global economy have not changed much since the publication of the last edition of the World Bank's *Global Economic Prospects* (2005). These include the possibility that persistent global imbalances will resolve themselves in a disorderly manner, either through a significant increase in interest rates or a sharp depreciation of the dollar; the possibility that a significant supply shock will send oil prices even higher; and the possibility that nonoil commodity prices will weaken. Should any of these risks be realized, they might reduce global growth by between 1 and 3 percent, depending on the shock, with much of the slowdown borne by developing economies. Even if the impact of the shock is relatively benign at the global level, the increased current-account deficits of many oil-importing developing countries make them vulnerable. For heavily indebted countries, the most serious risk stems from the possibility of higher interest rates. For small oil-importing African countries, the largest risk is that nonoil commodity prices, particularly for metals and minerals, will decline.

The outturn from the Doha trade liberalization round poses a balanced risk to the outlook. The baseline scenario assumes an unambitious accord. However, an ambitious conclusion to the Round, including significant liberalization of trade in agricultural products and on-the-ground progress in the aid-for-trade agenda, could yield substantial benefits for developing countries. More importantly, a failure of Doha could go beyond this agreement by weakening the whole multilateral

trade liberalization process—resulting in a more fragmented path forward with fewer benefits for developing countries.

While a remote possibility, an influenza pandemic could have serious consequences

The continued spread of avian influenza (bird flu) among wild birds, with limited bird-to-human transmission, comprises part of the baseline forecast. A serious risk to the global economy is presented by the possibility that avian influenza mutates into a form of the flu that is easily transmitted between humans and to which the population has only limited immunity.

The potential human and economic consequences of such a pandemic are very large. They depend importantly on the nature of the flu that emerges and on the reactions of people as it spreads. Even a relatively moderate flu in terms of transmission and mortality could have serious consequences for the world economy if the global population has limited immunity. Estimates suggest that, depending upon the severity of the eventual disease, a combination of lost output due to illness, additional deaths, absenteeism, and private and public efforts to avoid infection could lower global GDP by between 2 and 5 percent (with the latter number implying a global recession). More important, between 14 and 70 million people could be killed.

Policy makers need to focus simultaneously on two critical tasks: (1) further strengthening efforts to monitor and curtail outbreaks of avian influenza at points (such as domestic poultry flocks) where the likelihood is highest of the disease mutating into a viable human-to-human form; and (2) developing and putting systems in place to minimize the human cost of a pandemic if one does emerge, whether by developing effective containment strategies or improving the world's capacity to rapidly create and distribute vaccines.

Global growth

Despite oil prices that reached $60 a barrel in the second half of the year, the world economy grew by a very robust 3.6 percent in 2005. Developing countries led the way, expanding by 6.4 percent, more than twice as fast as high-income countries (table 1.1).

Outturns and prospects in high-income countries

Growth among industrialized economies in 2005 came in at 2.8 percent, substantially lower than the 3.3 percent recorded the year before. Industrial production and trade flows among these countries were particularly anemic. Industrial production growth declined from more than 5 percent in mid-2004 to less than 1 percent in late spring. Growth has since accelerated, reaching 3 percent (year-over-year) in the first quarter of 2006 (figure 1.1).

High oil prices, rising short-term interest rates, a cooling of the housing market, and an unusually disruptive hurricane season helped slow growth in the United States to 3.5 percent in 2005 as compared with 4.2 percent in 2004. Partly reflecting a bounce-back in activity following a weak fourth quarter, GDP expanded 4.8 percent in the first quarter of 2006. Although inflation

Figure 1.1 Industrial production remains robust

% change in volumes year-over-year

Source: World Bank.

Figure 1.2 Inflation in high-income countries

% change, year-over-year

Sources: World Bank, Datastream.

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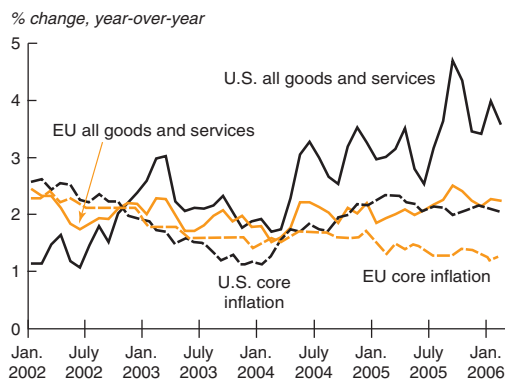
Table 1.1 The global outlook in summary

% change from previous year, except interest rates and oil prices

	2004	2005*	2006**	2007**	2008**
Global conditions					
World trade volume	10.6	7.1	7.6	7.7	7.8
Consumer prices					
G-7 countries[a,b]	2.1	2.6	2.2	1.8	1.8
United States	2.7	3.4	2.9	1.9	2.0
Commodity prices (US$ terms)					
Non-oil commodities	17.5	13.4	5.8	−3.2	−5.8
Oil price (US$ per barrel)[c]	37.7	53.4	64.2	61.0	56.9
Oil price (% change)	30.6	41.5	20.2	−5.0	−6.8
Manufactures unit export value[d]	6.9	0.8	1.6	2.8	1.2
Interest rates					
$, 6-month (%)	1.6	3.6	5.1	5.2	4.9
€, 6-month (%)	2.1	2.2	2.6	3.1	3.9
Real GDP growth[e]					
World	4.1	3.6	3.7	3.5	3.5
Memo item: World (PPP weights)[f]	5.3	4.6	4.6	4.5	4.5
High-income countries	3.3	2.8	3.0	2.8	2.8
OECD Countries	3.2	2.7	2.9	2.7	2.8
Euro Area	2.0	1.4	2.1	2.1	2.2
Japan	2.7	2.8	2.8	2.1	1.8
United States	4.2	3.5	3.5	3.3	3.3
Non-OECD countries	6.2	5.5	5.1	4.7	4.7
Developing countries	7.1	6.4	6.3	6.0	5.9
East Asia and Pacific	9.1	8.8	8.3	8.2	8.1
Europe and Central Asia	7.2	5.7	5.5	5.4	5.1
Latin America and Caribbean	6.0	4.4	4.6	4.0	3.7
Middle East and N. Africa	4.7	4.8	5.3	5.2	5.1
South Asia	6.7	7.7	6.8	6.5	6.2
Sub-Saharan Africa	5.2	5.2	5.4	4.9	5.4
Memorandum items					
Developing countries					
excluding transition countries	7.2	6.6	6.4	6.1	6.0
excluding China and India	6.1	5.0	5.1	4.8	4.5

Source: World Bank.

Note: PPP = purchasing power parity; * = estimate; ** = forecast.

a. Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

b. In local currency, aggregated using 2000 GDP Weights.

c. Simple average of Dubai, Brent and West Texas Intermediate.

d. Unit value index of manufactured exports from major economies, expressed in US$.

e. GDP in 2000 constant dollars; 2000 prices and market exchange rates.

f. GDP mesaured at 2000 PPP weights.

spiked following Katrina-related increases in gasoline prices, it has since declined and remains relatively muted at 3.4 percent in March 2006. Core inflation (price changes of goods and services other than energy and food) remains low at 2.1 percent, below the rate recorded in December 2004 (figure 1.2).

The relatively low oil intensity of European economies, significant excess capacity, and a relaxed macroeconomic policy stance limited the slowdown in Europe. For the year as a whole, growth was a relatively weak 1.5 percent (1.4 percent for the Euro Area), but this reflected a fourth-quarter pause in exports following a strong acceleration in the first nine months of the year. Since then economic activity has picked up with GDP in the Euro Area estimated to have increased by around 2.4 percent in the first quarter of 2006.

In Japan, growth has been strong, with industrial production ending the year up 5 percent and unemployment declining to 4.4 percent of the labor force. Overall, GDP increased by 2.8 percent, with both domestic and external demand contributing about equally to the overall result. As a result, both consumer and business confidence have improved.

The increase in oil prices in 2005 and early 2006 are expected to slow growth in high-income countries by about 0.25 of a percentage point in 2006 compared with what it would have been had prices remained stable. In the United States, improved net exports are projected to maintain the pace of growth in 2006, despite weaker consumer demand due to higher interest rates and a cooling of the housing market. For 2007/8, the balance of these forces is expected to reverse somewhat, leading to a moderate easing of growth.

Continued accommodative macroeconomic policy and pent-up investment demand following several years of very weak growth should maintain the recent acceleration of output in Europe during 2006. As a result, GDP is projected to expand by about 2.1 percent in 2006 and to continue growing at close to its potential rate in 2007/8.

In Japan, vigorous growth in developing East Asia, renewed consumer and business confidence, and reduced drag from consolidation are all expected to keep the recovery strong in 2006. While the economy is projected to slow somewhat (partly because of less expansionary monetary and fiscal policies), GDP should expand at or above the economy's potential rate of growth.

Developing economy outturns and prospects

Notwithstanding high oil prices, economies in every developing region continued to grow at above-trend rates in 2005. Overall, the GDP of low- and middle-income countries expanded by an estimated 6.4 percent. The expansion was particularly robust in China and India, where output increased by 9.9 and about 8.0 percent, respectively. Excluding these countries, growth in other oil-importing developing countries came in at an estimated 4.3 percent, down significantly from 5.7 percent in 2004. At the same time, dwindling spare capacity in the petroleum sector caused the expansion of oil-exporting developing economies to ease from 6.6 to 5.7 percent, even though oil revenues continued to rise.

High oil prices, rising interest rates, and building inflationary pressures are expected to restrain growth in most developing regions in 2006/8 (figure 1.3). As a group, however, low- and middle-income countries should again outperform high-income economies by a wide margin. Growth in five of the six developing regions

Figure 1.3 Developing-country growth remains robust

GDP growth
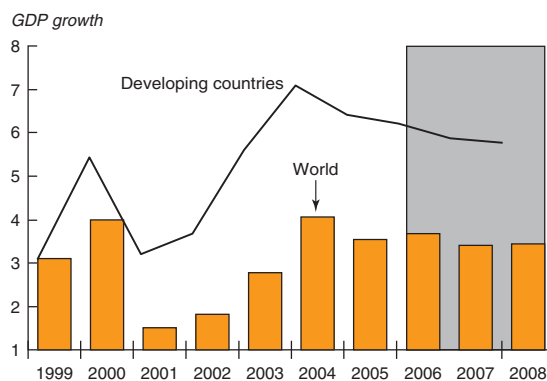
Source: World Bank.

is projected to exceed 5 percent through 2008, with the Latin America and Caribbean region projected to expand 4.1 percent on average over the projection period.

Regional outlooks

More detailed descriptions of economic developments in developing regions, including regional forecast summaries, are available at http://www.worldbank.org/globaloutlook.

East Asia and the Pacific[1]

The economies of the East Asia and Pacific region continued to expand rapidly in 2005. Their GDP is estimated to have increased by 8.8 percent, down from 9.1 percent in 2004 (figure 1.4). Growth in China was very strong (9.9 percent), despite a substantial slowing in both private consumption and investment demand, because exports continued to grow rapidly, and imports slowed.

For other countries in the region, output expanded by a more modest 5.3 percent, as the slowdown in Chinese imports, weak global high-tech demand, and elevated oil prices translated into reduced export growth and rapidly rising producer prices. Among larger oil-importing countries in the region, GDP growth slowed relatively sharply in the Philippines and Thailand. Among oil-exporters, growth slowed in Malaysia, but picked up in Vietnam and Indonesia.

Strong exports and weak import demand in China meant that the region's current-account bal-

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Figure 1.4 Regional growth trends

% change, GDP
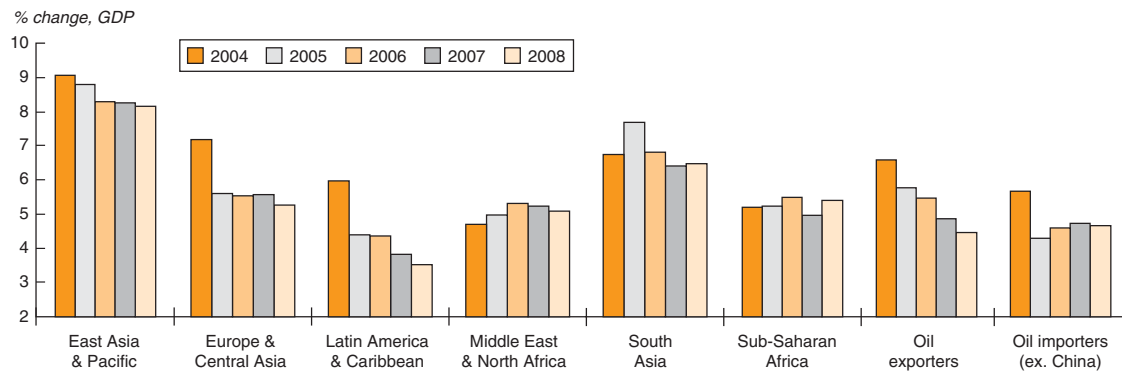
Source: World Bank.

ance improved, reaching a surplus of $143 billion (4.9 percent of GDP). Of the larger economies, only Thailand and Vietnam are running current-account deficits, while the surpluses of China and Malaysia exceed 6 and 15 percent of their respective GDP.

Output in the region continues to feel the effects of endemic bird-to-bird avian influenza. Cambodia, China, Indonesia, Laos, Thailand, and Vietnam are the countries most affected. So far some 200 million domestic birds (less than 1 percent of domestic bird production in the region but rising to 12 percent in Vietnam) have died or been killed to prevent the spread of the disease. As of early May 2006 no new outbreaks have been recorded among birds in Thailand and Vietnam, attesting to the effectiveness of preventive measures. However, new outbreaks have been recorded in China, East Java, Indonesia, Malaysia and Myanmar[2].

While the disease has had only a limited effect on GDP so far (depending on the country, the sector represents between 0.6 to 2 percent of GDP), its impact on incomes has likely been more acute. Poultry accounts for as much as 7 percent of the incomes of the poor.

As higher oil prices take hold, reduced investment growth in China and reduced global liquidity are expected to slow regional growth to around 8.1 percent by 2008. This reflects a modest slowdown in China, as slower export growth is partially offset by stronger domestic demand. Excluding China, growth in the remaining economies in the region is expected to come in at about 5.5 percent in 2006 through 2008. Stronger domestic demand, terms of trade effects and some currency appreciation are projected to result in about a $25 billion decline in the region's current-account surplus.

Europe and Central Asia

Economic activity in the Europe and Central Asia region grew by a robust 5.7 percent in 2005. High oil prices boosted demand in the region's oil producers, particularly in the Russian Federation, where real GDP increased 6.4 percent. That, in turn, contributed to strong exports for other countries in the region, notably the Baltics and the Commonwealth of Independent States. Turkey and other Central European countries participated in the export boom to a lesser extent, as they reoriented exports away from a still weak European Union.

The region received record capital inflows in 2005, reflecting favorable international credit conditions and the advancing EU accession process for new and candidate members. These flows contributed to rapid credit growth in the Baltics, Bulgaria, Romania, Turkey, and Ukraine, and a significant deterioration in current-account positions. High oil prices, substantial increases in the price paid for imported natural gas in some countries, and lax fiscal policy in the Czech Republic, Hungary, the Kyrgyz Republic, and Poland also boosted current-account deficits.

About half of the region's economies posted current-account deficits equal to or in excess of 5 percent of GDP in 2005. Current-account deficits exceeded 6 percent of GDP in Albania, Bulgaria, Croatia, Estonia, Georgia, Hungary, Latvia, Lithuania, Romania, and Turkey.

At the regional level these deficits were significantly offset by improved external positions of oil exporters, including Azerbaijan, where the deficit shifted from a 30 percent share of GDP in 2004 to 5 percent in 2005, as new oil capacity came on stream. This also propelled Azerbaijan's growth to more than 25 percent.

GDP growth is projected to slow slightly in 2006, coming in at 5.5 percent, as tighter international credit conditions and monetary policy are expected to slow domestic growth in the Commonwealth of Independent States (CIS) subregion. Elevated energy revenues, investment expenditure, and the projected recovery of western European demand are expected to sustain growth at relatively high levels in 2007/8. High fiscal and current-account deficits in a number of countries, including Hungary and Turkey, pose serious risks to the outlook. For regional oil exporters, key challenges include the need to foster greater investment and productive capacity in the nonoil sectors so as to improve economic diversification, control inflation, and prevent excessive exchange rate appreciation.

Latin America and the Caribbean

Economic activity in Latin America and the Caribbean is estimated to have increased by some 4.4 percent during 2005. Outturns were strong throughout the region, reflecting high levels of international liquidity, strong global demand, and high prices for the region's exports. Macroeconomic policy has also played a role. Except in Brazil and Mexico, where rising interest rates contributed to a slowdown in 2005, monetary policy in the region has been generally accommodative. Fiscal policy, in turn, has been relatively neutral. Despite windfall revenues from high international commodity prices and reduced debt servicing charges (due to reduced interest rates and lower debt stocks) most countries, with the notable exception of República Bolivariana de Venezuela, have avoided a significant pro-cyclical surge in spending. As a result, government deficits in the region have declined and "structural" balances actually improved in some countries. Nevertheless, structural rigidities in public expenditures remain an issue in a number of countries.

Increases in coffee, sugar, and metal prices largely offset the effect of higher oil prices and lower agricultural prices (notably soybeans) in many countries. High nonoil commodity prices and strong inflows of remittance prevented most countries in the region from experiencing a significant deterioration in their current-account positions. Indeed, with a few exceptions (Honduras, Nicaragua, Panama, Paraguay, and Uruguay), the current-account balances of most countries in the region have either remained constant or improved since 2002. These favorable external conditions contributed to a general pressure toward exchange rate appreciation that has been checked by accumulation of international reserves.

Looking forward, regional growth is projected to pick up in 2006 as easier monetary policy boosts output in Mexico and Brazil. Growth in most countries in the region is expected to be broadly stable in 2007 and 2008, slowing only somewhat in the face of a modest weakening in commodity prices and a gradual moderation in capital inflows. However, the expansion for the region as a whole is projected to slow toward 3.7 percent in 2008, reflecting a significant slowing in Argentina and República Bolivariana de Venezuela toward more sustainable growth rates.

Growth trends in Central American countries are projected to improve, partly because of the recent Central American Free Trade Agreement. The agreement should boost both trade (the United States is these countries' major trading partner) and investment, thereby lifting longer-term growth prospects. However, to reap the full benefits of this reform, further steps need to be taken towards improving road quality, increasing port and customs efficiency, boosting financial depth, and raising the quality and coverage of education.

A central risk to this forecast remains the possibility that as growth slows and commodity prices ease, government deficits will rise, potentially raising inflation or increasing uncertainty. Either result could lead to higher-than-projected interest rates and slower growth.

Middle East and North Africa[3]

High oil prices and strong oil demand continue to be key drivers for the developing economies of the Middle East and North Africa[4], where GDP is estimated to have increased by 4.8 percent in 2005. A 40 percent increase in oil revenues, to some $250 billion or (66 percent of their GDP), boosted public spending in oil-exporting developing countries in the region, causing their GDP to expand by 5.3

percent. This had spillover effects for the region's oil importers in the form of strong exports, tourism revenues, and inflows of investment and remittances. All of these factors helped to sustain robust growth among regional oil importers (4.2 percent), despite higher oil-import bills and relatively weak demand in Europe.

Looking forward, high oil prices are expected to continue feeding domestic demand in oil-producing countries—outstripping domestic supply and causing imports to continue rising rapidly, even as growth of export revenues slows. As a result, GDP in developing oil-exporting countries should expand by 5.2 percent in 2006 before slowing to around 4.8 percent in 2008. Their current-account surpluses should decline from around 20 percent of GDP in 2005 to about 8 percent of GDP in 2008. In the oil-importing economies, growth is expected to accelerate to about 5.3 percent, supported by stronger European growth, continued exports of goods and services to regional oil exporters, and a weaker negative effect from the reduction in textile and clothing quotas.

Prospects for the region remain clouded by geopolitical developments. For the region as a whole, western investors' risk perceptions have worsened. For the moment, this has been offset by an intraregional recycling of oil revenues, which has contributed to a sharp inflation in asset prices.

South Asia
Strong external demand and private consumption growth, supported by generally accommodative monetary policies, spurred growth in South Asia to a very robust 7.7 percent in 2005, led by India and Pakistan, which both expanded by about 8 percent. Excluding these two countries, regional growth was still a strong 5.3 percent. Robust regional clothing exports following the removal of quotas helped limit the overall deterioration of the current account, the deficit of which is estimated at 2.6 percent of regional GDP in 2005.

Despite some efforts to raise retail energy prices, higher oil prices have not been completely passed through to consumers. Nevertheless, inflationary pressures in the region have been building. Consumer prices rose 9.1 percent in 2005 as compared with 3.6 percent in 2003. To a significant degree, higher inflation reflects fluctuations in food prices. However, rapid growth, particularly strong domestic demand in response to a relaxed

monetary policy stance in both India and Pakistan also played a role.

Because higher oil prices have not been passed through fully, there remains significant latent inflationary pressure from this source. In addition, implicit energy subsidies have raised fiscal deficits by as much as 0.7 percent of GDP between 2002 and 2005, apparently crowding out spending on education and health care in India (Devarajan and Ghani 2006).[5] Moreover, by impeding the price mechanism from restraining energy demand, the pass-through policy (along with robust domestic demand) has contributed to a deterioration equal to 4.0 percent of GDP in the region's current-account balance since 2003.

Growth is projected to weaken to about 6.8 percent in 2006, reflecting continued above trend growth in Pakistan and India. However, domestic capacity constraints and rising inflation are projected to cause growth to decline to a more sustainable 6.2 percent by 2008.

Notwithstanding this cyclical slowdown, growth is projected to remain robust with investment in both India and Pakistan expected to continue to benefit from strong external and domestic interest. This, plus a four-year infrastructure project (Build India) valued at 5 percent of GDP, are projected to augment capacity and support demand over the projection period. The services sector in India is expected to continue expanding rapidly, as a result of strong FDI inflows and outsourcing. Export growth throughout the region should remain strong, despite slower growth in the United States, partly because of increased demand from Europe.

Solid domestic demand should cause the current-account deficit to grow further, reaching around 3.5 percent of GDP in 2006 before improving somewhat as demand slows.

Sub-Saharan Africa
GDP in Sub-Saharan Africa expanded by an estimated 5.2 percent in 2005, bolstered by robust growth in resource-rich countries. Indeed, oil-exporting economies grew an estimated 6.4 percent in 2005, while growth in South Africa came in at 4.9 percent, lifted by high metal prices, strong consumer confidence, and low nominal interest rates. Economic activity in small oil-importing economies expanded by a slower but still robust 4.3 percent, down from 4.7 percent in 2004.

This strong performance marks a sharp departure from the weak and relatively volatile growth recorded by the region in the 1980s and 1990s. 2005 was the fifth year in a row that regional growth was at least 3.5 percent, and ended the first 5 year period since the 1960s that per capita growth remained positive in every year. Hearteningly this improved performance reflects stronger growth by many countries rather than very fast growth by a few. More than half of Sub-Saharan African countries have grown by 4 percent or more on average during the past five years, compared with fewer than one-quarter during the period 1980–95.[6]

Better subsistence and cash crops bolstered agricultural incomes and industrial production in many West African countries, while performance in East Africa was also good, despite drought in some areas. High metal prices bolstered growth in small resource-rich oil-importing economies.

The current-account position of oil exporters improved significantly because of higher oil revenues. However, external balances in many oil-importing countries have come under pressure. Excluding South Africa, the current-account position of oil importers deteriorated by 2.8 percentage points in 2005, reaching 6.4 percent of GDP. In Ghana, for example, the current-account deficit is estimated to have more than doubled to reach 6.8 percent of GDP, while in Tanzania it surged close to 6.2 percent of GDP. In several other countries, a failure to fully pass through higher prices has placed fiscal accounts under serious strain (Madagascar, Mauritius, Rwanda, and Uganda) or forced utilities to ration energy consumption by imposing rolling electrical blackouts (Madagascar, Malawi).

Looking forward, growth in established oil-exporting countries is projected to average more than 6 percent as new oil production is expected to come online in Angola, Republic of Congo, Equatorial Guinea, and Sudan. Moreover, Mauritania and São Tomé and Principe are expected to begin exporting oil in 2006.

Small oil importers are also expected to do well, with growth remaining at about 4.5 percent in 2008 as many countries benefit from debt write-offs and increased aid flows. Madagascar, Tanzania, and Uganda are expected to continue to profit from prudent macroeconomic policies and reforms implemented in previous years. In contrast, growth in sugar and textile producers (Lesotho, Mauritius, and Swaziland) is expected to weaken as European sugar preferences are withdrawn, while strong competition from low-cost textile producers in China and South Asia will continue to be a drag on regional exports. Continued rapid expansion in South Africa is expected to spill over into the Southern Africa Development Community. A more peaceful and stable sociopolitical environment will serve to accelerate growth in Liberia, Sierra Leone, and several other countries. On the other hand, should low-level conflicts, in places such as Chad, Côte d'Ivoire, Nigeria, and the Sudan escalate, they could bring down regional growth to a significant degree.

Commodity markets
The oil market
The sharp rise in oil prices since 2003,[7] which was driven by strong demand and dwindling spare capacity, showed signs of ending toward the end of 2005. Beginning in September 2005, the trend rise in oil prices marked a pause, with barrel prices fluctuating around $63. However, the market remains tight, and the pricing power of OPEC has increased. As a result, prices are volatile, and sensitive to small changes in perceptions such as concerns over future supply, which sent barrel prices toward the $73 mark in early May 2006, before declining once again (figure 1.5).
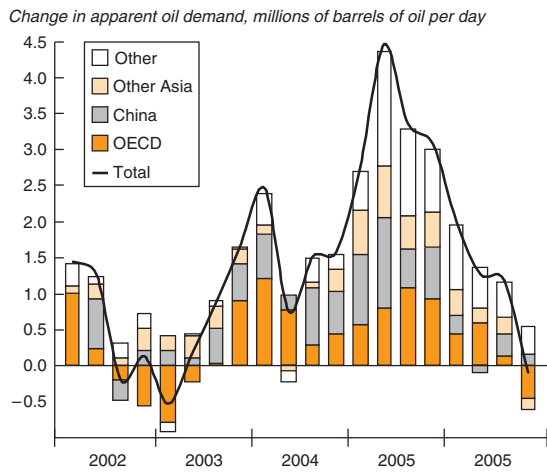
Oil demand slowed to 0.5 million barrels per day (mbpd) in the second half of 2005, from 3.5 mbpd in the first half of 2004 (figure 1.6). While slower GDP growth played a role in this decline, the most important factor appears to have been higher oil prices. Econometric models suggest that

Figure 1.5 An end to the trend rise in oil prices?

World Bank average, oil, $ per barrel
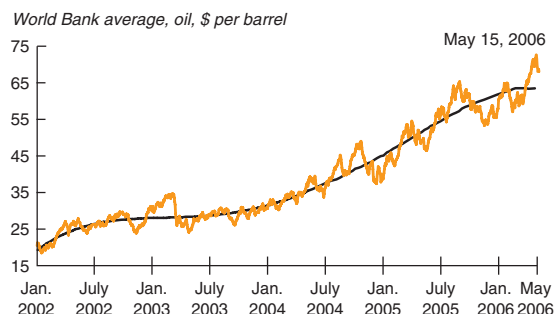
Sources: Datastream, World Bank.

Figure 1.6 Higher prices slow oil demand

Change in apparent oil demand, millions of barrels of oil per day

Source: International Energy Agency.

Figure 1.7 A disappointing supply response

Change in global oil deliveries, millions of barrels of oil per day

Source: International Energy Agency.

had prices remain unchanged, oil demand would have increased by some 2–2.5 mbpd.[8]

Incremental oil demand declined in all regions. In addition to prices, a number of special factors were at work. In the United States, higher petrol prices in the wake of hurricane Katrina provoked a sharp decline in both vehicle miles and gasoline consumption in the autumn, while a mild winter has also eased demand. In Asia, growth in oil consumption slowed, due in part to subsidy cuts in countries such as Indonesia and Thailand. In China energy demand eased partly because new electrical-generating capacity reduced the use of relatively inefficient diesel-fueled backup power generators.
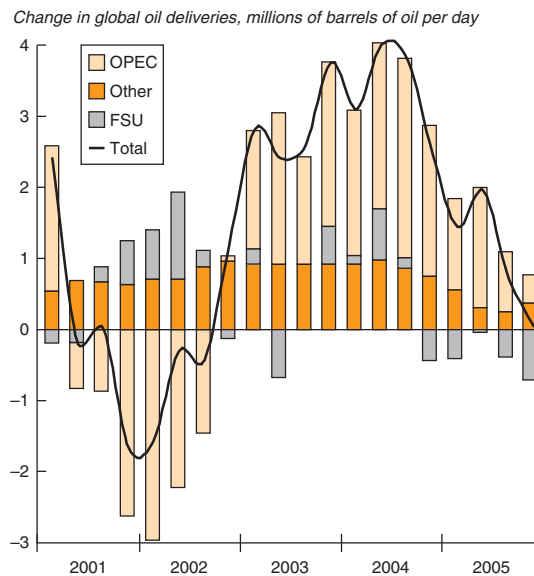
Notwithstanding some three years of higher prices[9] and the coming on stream of new fields in Africa and elsewhere, there has been no discernible acceleration in aggregate oil supply (figure 1.7).[10] This contrasts with the 1970s and 1980s, when increased output brought substantial new capacity online, helping to reduce prices.[11]

Aggregate supply has failed to respond, despite a sharp increase in investment activity among oil-exporting developing countries. Output from those sources has increased just 2.7 percent, or 0.9 mbpd (4.2 percent, or 0.2 mbpd, for African producers).

A number of factors have contributed to limit the response of aggregate oil supply:

1. Existing fields in the United States and in the North Sea have entered into a period of declining yields and the rate of increase in production of fields in the former Soviet Union has slowed.

2. A deterioration in the investment climate in some developing countries has lowered production levels and reduced investment, despite the existence of ample reserves.

3. Low oil prices during the 1990s limited incentives to explore for new oil. More recently, uncertainty over the durability of higher oil prices led firms to be cautious about investing in new (relatively high-cost) capacity, especially given the long lead times (between three and six years) needed to develop new fields.

4. Low investment in the past has contributed to a lack of skilled labor and equipment, further delaying the supply response.

5. A large share of known reserves is located in countries to which major oil companies do not have access. Major oil firms have been offered service contracts to help countries develop their resources. Thus far, however, oil companies appear to have found share buybacks and increased dividends to be a more profitable use of their earnings. Recent decisions in some developing countries to renounce existing contracts are unlikely to increase firms' willingness to invest further.

Figure 1.8 Spare production capacity remains low

OPEC spare production capacity, millions of barrels per day
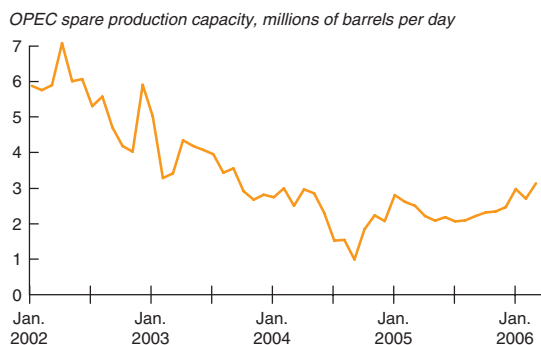
Sources: World Bank, International Energy Agency.

The combination of still growing demand and a weak supply response has meant that although spare production capacity has improved, it remains tight (figure 1.8). Looking forward, investments in new productive capacity are increasing (up some 15 percent in 2005). Moreover, continued high prices will increase incentives to adopt more petroleum-efficient technologies and conserve fuel. As a result, demand growth is expected to remain relatively moderate (at about 1.5–2 million barrels per day).

Unless non-OPEC supplies rise much faster than expected (the International Energy Agency, 2005, projects non-OPEC supply to increase by 3 mbpd over the next three years), spare capacity will remain limited and OPEC's pricing power high. The organization has signaled its willingness to reduce output in line with demand.

Prices are expected to remain volatile but should gradually decline, reflecting the countervailing influences of continued strong growth in global output and limited increases in non-OPEC oil on the supply side, and increasing energy efficiency on the demand side. While the precise path to be taken in these conditions is largely unknowable, the forecasts reported in this chapter assume that barrel prices will begin moderating in 2006, averaging $64 for the year and decline gradually towards $57 in 2008.

However, the market remains vulnerable to disruption, whether by natural disasters or geopolitical events.[12] Hence, the possibility of sudden upward spikes in oil prices cannot be ignored, even if the general trend is one of stabilization or slight decline.

Nonoil commodities

The rise in oil prices since 2003 has been accompanied by increasing prices for agricultural goods, metals, and minerals (figure 1.9). Reflecting continued strong growth in global output, metals and minerals prices increased by some 27 percent in 2005 and up an additional 24 percent in the first four months of 2006. Increases in 2005 were concentrated in industrial metals, such as iron ore (up 72 percent), zinc (up 38 percent), and copper (up 21 percent). Prices for other metals and minerals also rose, but by less. Tin, the price of which fell by 13 percent over the year, stands out as an exception.

At the global level, prices of agricultural products have been relatively stable, up 9.3 percent between April 2006 and the same date a year earlier. High prices early in 2005 reflected a poor monsoon season in South Asia and drought conditions in Sub-Saharan Africa. Improved weather conditions, in combination with increased supply in some countries, contributed to an easing in agricultural prices through much of 2005, followed by a modest pickup in prices in the first quarter of 2006. Raw materials are up 11 percent since April 2005.

The recent strength of nonoil commodity prices is primarily a reflection of strong world demand in recent years and low spare capacity brought on by low prices during the 1990s. Prices also have been influenced by strong energy prices, because energy is a major input in the production of many commodities (notably aluminum), and because several commodities are important substitutes for petroleum-based products (such as rubber and sugar used in the production of ethanol). Overall, about one-third of the increase in nonoil

Figure 1.9 Commodity prices

Index, 1990 = 100
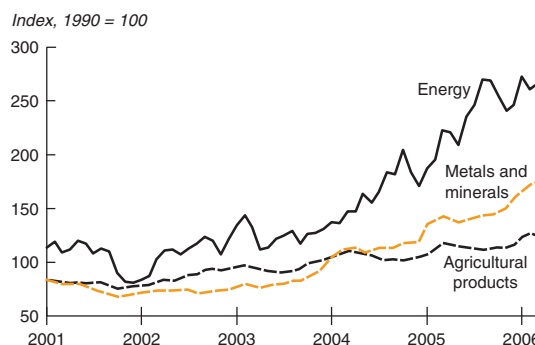
Source: World Bank.

commodity prices between 2002 and 2005 was due to higher oil prices (Baffes 2005).[13] Some of the very recent strength in the prices of precious metals may also reflect investor uncertainty in the face of a declining dollar and continued global imbalances.

Improved supply should ease the prices of most agricultural commodities beginning in 2006. However, the prices of close energy substitutes and energy-intensive products are expected to rise further. Overall, agricultural prices are projected to rise by about 10 percent in 2006 before easing by about 3 percent in each of 2007 and 2008. Strong demand from China and other developing economies, low stocks, and high energy prices are projected to push metals and mineral prices up some 25 percent in 2006, before they begin easing by about 5 percent in 2007 and 12 percent in 2008. Demand-driven increases in energy prices represent an upside risk to energy-sensitive non-oil commodities including food stuffs, whose yields depend on energy-intensive fertilizers.

## Inflation, interest rates, and global imbalances

Inflation

Perhaps the most critical explanation for the limited impact of higher oil prices on output has been the weak response of inflation to higher oil prices—especially in high-income countries, where world interest rates are determined.

While inflation is up in virtually every region, most of the increase appears to reflect the direct impact of higher oil prices. With perhaps the exception of South Asia and Sub-Saharan Africa (see discussion below), there is little evidence of the rapid price pass-through or the wage–price spirals that characterized the oil shocks of the 1970s and 1980s (figure 1.10). Despite a pickup toward the end of 2005 in the United States, core inflation (the rate of price increase of goods and services, excluding food and energy) has increased relatively little (see figure 1.2). As a result, inflation expectations and interest rates have remained low, eliminating one of the principal mechanisms through which past oil shocks have slowed growth.

Many factors explain this inflationary performance—among them more flexible labor and product markets in high-income countries, lower oil intensities, more credible monetary policy,

Figure 1.10 Moderate increases in inflation

End of period, year-over-year monthly inflation rate
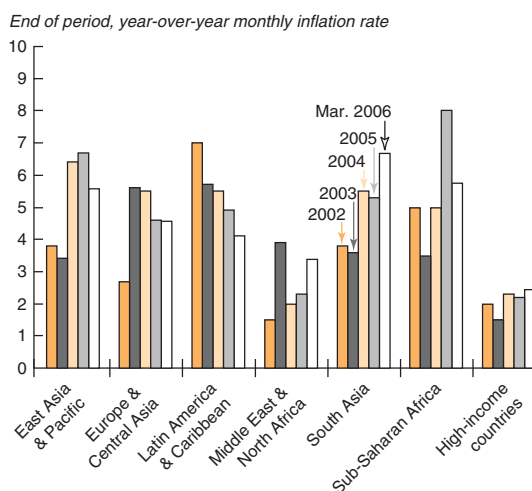
Source: World Bank.

and more prudent fiscal policies. In addition, the rapidly expanding role of Asia and, to a lesser extent, the countries of the former Soviet bloc as low-cost manufacturing centers have served to dampen price inflation in high-income countries, where many of these products are consumed.
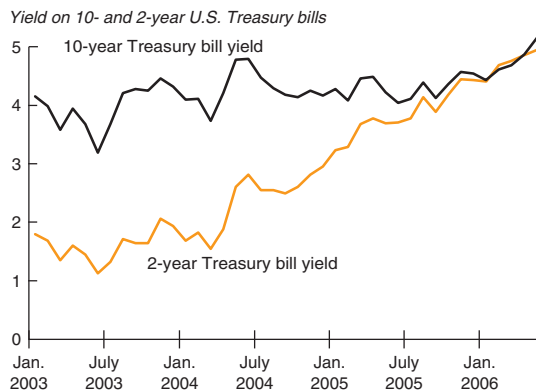
The pickup of inflation in Sub-Saharan Africa and South Asia is partly explained by food prices, which increased substantially in both regions during the course of 2005 and should be expected to ease in 2006 as crops improve. However, as is the case in a few Latin American countries, it also likely reflects overheating in those regions, which have been growing at historically high rates.

This possibility is particularly worrisome in the case of Africa, because the credibility of monetary authorities is not yet well entrenched. Should an inflationary spiral develop, it could have serious consequences for macroeconomic stability and affect the ability of those economies to sustain the strong growth of the past several years. In the meantime, continued aid flows to finance improved governance and social and physical infrastructure investments will be essential to raising the trend growth rate that these countries can sustain.

Interest rates

The subdued response of inflation has allowed monetary (and fiscal) policy to remain relatively accommodative. While short-term interest rates are
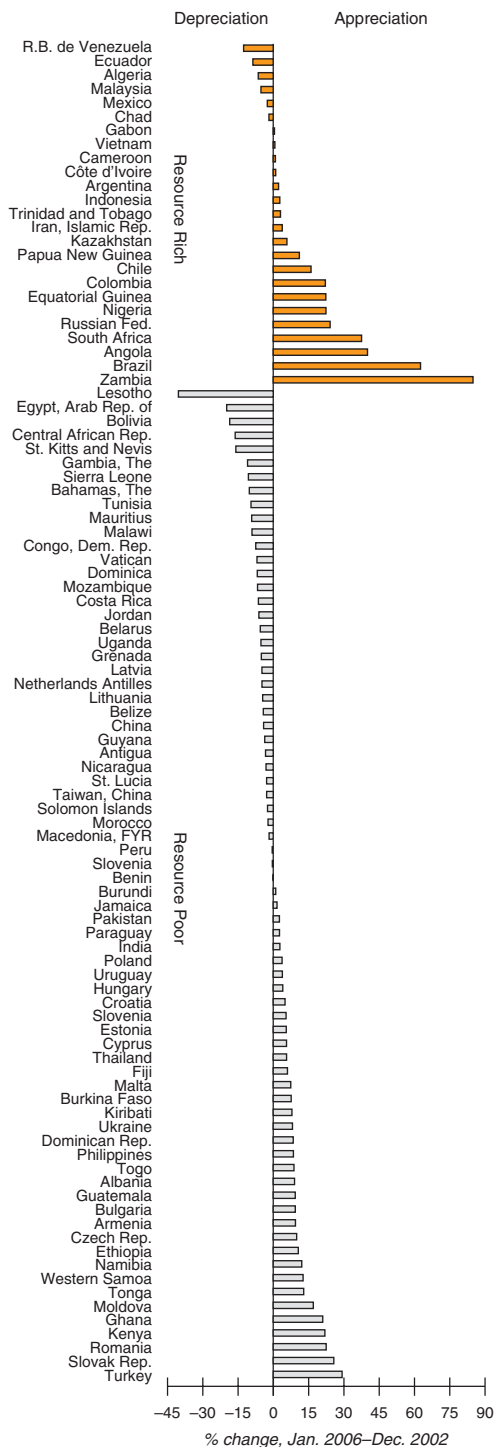
25

Figure 1.11 Flattening yield curve

Yield on 10- and 2-year U.S. Treasury bills

Source: World Bank.

Figure 1.12 Changes in real effective exchange rate

Sources: World Bank, IMF.

rising, they remain low in real terms, and long-term rates have only recently begun rising in high-income countries. As a result, the yield curve has flattened significantly, with short-term bond yields virtually equal to longer term yields.

Indeed, on several occasions during February and March 2006 the yield on two-year U.S. Treasury bonds marginally exceeded that of the 10-year bond (figure 1.11). Such yield-curve "inversion" has historically been a good indicator of a future recession (Estrella 2005).[14] As such, these inversions may signal a slowing of the U.S. economy. However, they were very small and occurred with both short- and long-term real interest rates at low levels. Moreover, while the yield curve remains flat, long-term rates in April and early May were once again higher than short-term rates. In this context, the flattening of the yield curve reflects a broadly positive outlook for global growth, characterized by stable expectations for inflation, significant spare capacity in Europe, and an American economy that continues to expand quickly even as it slows in response to a more neutral monetary policy stance.

Developing economies experienced a similar flattening of the yield curve. Bond spreads continued to decline, reaching a historic low of 174 basis points for sovereign borrowers in May 2006. However, the combination of relatively stable bank spreads (around 100 basis points) and rising rates in high-income countries means that the average interest rate paid by developing countries actually rose over the past 12 months (see chapter 2).[15]

Exchange rates

A further factor limiting the real-side consequences of higher oil prices is the wider adoption of flexible-exchange-rate regimes over the past two decades (see chapter 5). Among oil-importing developing countries that have not benefited from high metals and minerals prices, there was a modest tendency toward depreciation.[16] Unsurprisingly, among developing oil exporters the tendency toward appreciation was much more pronounced, with two-thirds of these countries appreciating by an average of 18 percent.[17] Such exchange rate fluctuations contributed to the resilient response of these economies to higher oil prices by facilitating adjustment to the change in relative prices implied by higher oil prices (figure 1.12). For oil importers, the depreciation transfers the price shock over a wider range of tradable goods and services. Moreover, by making exports more competitive and imports less so, the depreciation increases net exports, reducing the impact on economic output that would otherwise be observed as a result of reduced incomes and lower consumption.
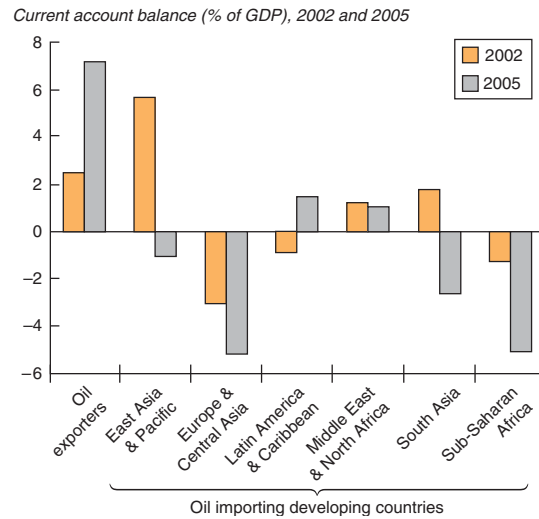
Most developing oil importers have financed higher oil bills successfully

Another factor behind the resilience of growth has been the relative ease with which developing countries were able to finance higher oil bills. Many developing countries entered into this period of higher oil prices with positive or near-zero current-account balances. As a result, despite deteriorations of 2 or more percent of GDP in many cases, current-account positions for most countries remain at levels that should not pose serious financing difficulties (figure 1.13).

In the poorest countries, substantial increases in ODA during 2004 and 2005 provided some of the foreign currency necessary to finance the increase in their oil bills (figure 1.14). For many African countries, the increase in foreign currency earnings from this source amounted to more than 0.5 percent of GDP in 2004 (data for 2005 are not yet available). Simulations suggest that for oil-importing poor countries, increased ODA inflows may have reduced the first-round impact of higher oil prices by as much as two-thirds (Diaz-Bonilla and Savescu, 2006) (figure 1.14).[18]

While some countries may have used the money directly to finance oil consumption, in most instances this was not the case. To the degree that projects financed by this aid had low import intensities, the foreign currency, after conversion to domestic currency, would be available to finance other imports—perhaps, but not necessarily, more expensive oil. Moreover, if there is a positive externality associated with domestic export activity (Frankel and Romer 1999; Ibrahim and

Figure 1.13 Developing countries' current-account balances

Current account balance (% of GDP), 2002 and 2005

Source: World Bank.

Figure 1.14 Increased aid helped finance oil costs in 2004

Increases in net ODA in 2004, excl. debt relief; % of GDP
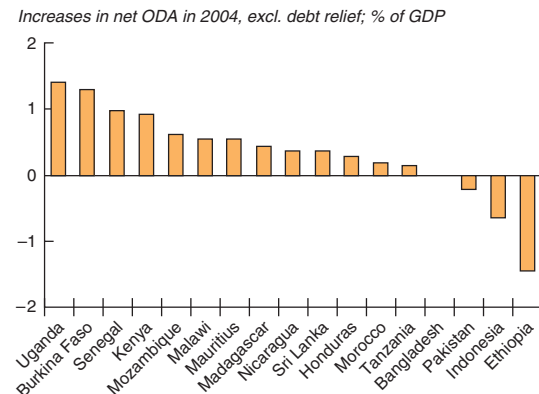
Sources: OECD, World Bank.

MacPhee 2003), the negative oil shock may actually have improved development prospects by partially offsetting the Dutch-disease effect associated with the increased aid.[19]
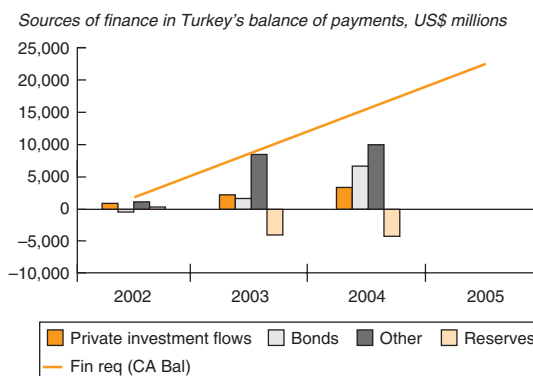
Despite these offsetting factors, several countries appear to be encountering difficulties financing their higher oil bills. In Africa, current account deficits among oil-importers (excluding South Africa) have soared and average more than 6 percent of GDP. Current-account deficits have also reached worrisome levels in many European and Central Asian countries. Many countries are experiencing fiscal difficulties because of less-than-complete pass-through. Madagascar, Malawi, and Sierra Leone have been forced to ration electricity consumption through rotating blackouts in an effort to conserve energy, suggesting that they may have met binding current-account constraints and are unable to finance additional oil imports. Several other countries appear to be consuming international reserves at unsustainable rates (Benin, Guinea Bissau, Mali, Tanzania) (figure 1.15). In still others, reserves represent a dangerously low share of monthly import cover (Bangladesh, Madagascar, Namibia, Swaziland). In all of these countries, policy makers will need to take concrete steps, including currency depreciation and energy conservation measures, so that domestic demand and the country's net revenue positions adjust to recent changes in relative prices.

Figure 1.15 Reserves in some countries are falling rapidly or worrisomely low

Import coverage in months of imports
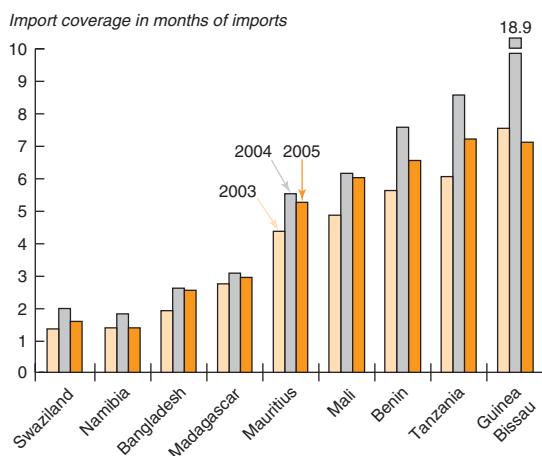
Source: World Bank.

Figure 1.16 Tensions associated with fast growth, the case of Turkey

Sources of finance in Turkey's balance of payments, US$ millions

Source: IMF.

Of particular concern are a number of countries that combine high current-account deficits, significant capital inflows, high interest rates, and an appreciating currency, notably Bulgaria, Romania, and Turkey (figure 1.16). These conditions pose serious problems for policy makers, as the capital inflows (initially in the form of direct investments) prompt an appreciation of the currency, increase domestic money supply, and raise inflationary pressures. In each of these countries monetary institutions have responded by raising interest rates, which reduces domestic money supply growth but has also induced additional financial inflows, adding to domestic liquidity and inflationary pressures.[20] While tighter fiscal policy has helped combat these tendencies, external deficits continue to rise and currencies to appreciate in many of these countries. Should capital inflows slow or stop, financing current levels of expenditure could be very difficult, placing these currencies under significant pressure. A sudden depreciation could generate an inflationary push—partially undoing recent achievements in stabilizing currencies and controlling domestic inflation.

More generally, the deterioration in the current-account position of oil-importing developing countries means that they are much more vulnerable now than they were in 2003. An important supply disruption that pushed oil prices even higher, or a decline in nonoil commodity prices, would be much more difficult to finance and could precipitate painful adjustments (see risks section).

Global imbalances persist

The imbalances in global spending patterns that have characterized the world economy over the past five years, with the United States consuming significantly more than it produces and running a large current-account deficit, persisted in 2005 (figure 1.17). High oil prices both exacerbated imbalances and changed their nature, contributing to about 40 percent of the additional deterioration of the U.S. current-account deficit in 2005.[21] At the same time, high oil prices caused the current-account position of almost all oil-importing countries to deteriorate and substantially boosted those of exporters. As a result, whereas in 2002 oil-importers in virtually every region except the United States were running a current-account surplus, now almost all are running deficits—with the notable exceptions China, Japan, Korea, and a few other high-income countries.

The sustainability of these imbalances and their financing is a question of growing concern (IMF 2006; World Bank 2005a, 2005b). Persistent current-account deficits have transformed the United States from being the world's most important creditor nation (with a net international investment position of 13 percent of GDP in 1979) to being the world's largest debtor (with a net asset position of –21 percent of GDP in 2004). Unless savings in the United States increase substantially,

its net asset position is set to deteriorate sharply, reaching between 65 and 48 percent of GDP by 2015 (Higgins, Klitgaard, and Tille 2005).[22]

So far, financing of these deficits has not posed a serious problem for the United States, in part because of low interest rates and because of a generalized willingness of foreigners to hold American assets that yield lower returns than the foreign assets held by Americans.[23] As a result, despite the deterioration of its net asset position, the United States has continued to earn a positive net return on foreign investments.[24] If investor's willingness to continue accumulating such assets changed, U.S. interest rates would rise and the current account balance would deteriorate (by about 0.5 percent of GDP for every 100-basis-point rise in U.S. interest rates relative to foreign rates).[25] Over the past year, short-term interest rates in the United States have risen by about 100 basis points more than in Europe, bringing the overall difference to 220 basis points. The long-term differential is now some 100 basis points (figure 1.18). Although it is certainly too early to tell, this movement (and the decline in emerging-market risk premia against the dollar) could reflect a reassessment of the dollar as a safe haven.

Independent of the reasons for these movements, the course of long-term interest rates continues to be sensitive to the willingness of nonmarket sources of finance (formerly developing-country central banks and now, increasingly, authorities in

Figure 1.17 Global imbalances

Current account balance, $ billions, 2002 and 2005
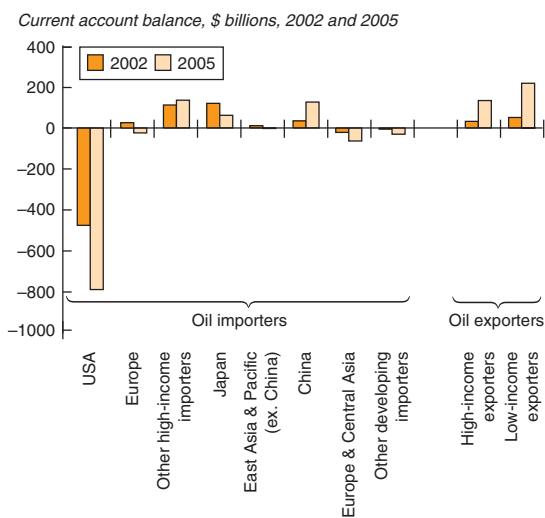
Source: World Bank.

Figure 1.18 Interest rate spreads support the dollar

3-month and 10-year bond yield, %

Sources: World Bank, Datastream.

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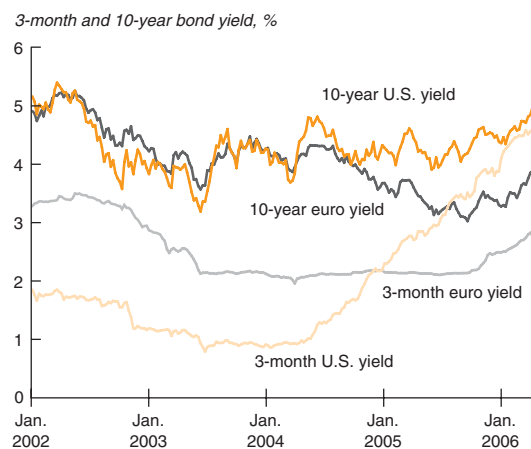
Figure 1.19 Funding the U.S. current account deficit

Net flows by asset class, US$ billions
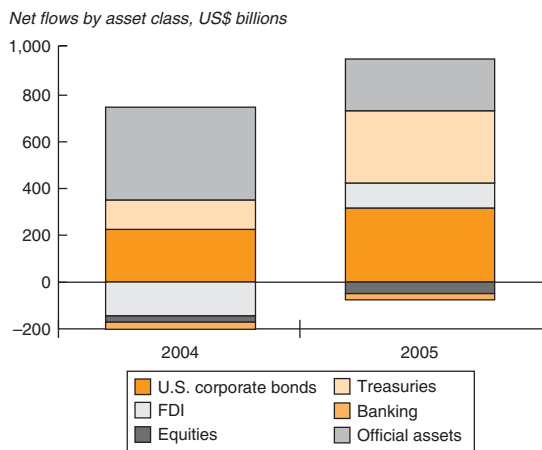
Source: World Bank.

oil-exporting countries) to purchase low-yield dollar-denominated assets. Lower reserve accumulation by oil-importing developing economies translated into a $130 billion decline in their purchases of U.S. Treasury bills and official assets (figure 1.19). This was only partly offset by a $14 billion increase in purchases by oil exporters. The need to meet this (nonmarket) financing shortfall may have been among the factors that pushed up long-term U.S. interest rates.

The tensions implicit in the U.S. current-account deficit are building and need to be addressed. Reducing global imbalances is a shared international responsibility, requiring a tightening of fiscal policy in the United States, increased imports abroad and increased exchange-rate flexibility. Implementation must necessarily be gradual—to avoid excessive disruption, both within the United States as macro policy is tightened and in developed and developing Asia as currencies are allowed to appreciate. However, to be effective and pre-empt market jitters the effort must be credible. In particular, in the absence of increased savings in the United States, increased domestic demand abroad and greater exchange rate flexibility are unlikely to have a significant effect on global imbalances and would likely exacerbate global capacity constraints—reducing the likelihood of a soft landing.

Although in the near term global imbalances are unlikely to provoke the serious currency crisis suggested by some (Roubini and Setser 2005), they do imply that the dollar will face further down-

ward pressure and that U.S. interest rates will continue to exceed those in Europe. Indeed, between January and early May 2006, dollar cross rates have been relatively sensitive to interest rate differentials. During this period, it has depreciated 7 percent against the euro (4 percent against the won and 0.7 percent against the renminbi) and 2.3 percent in real-effective terms. Looking forward these trends are expected to continue and the dollar to depreciate slowly by about 5 percent per year over the projection period.

World trade

Overall, merchandise trade growth slowed somewhat in 2005, expanding by 8.9 percent, as compared with 11.8 percent in 2004 (figure 1.20). Most of the slowdown occurred during the first half of the year and among high-income countries. For 2005 as a whole, their export volumes increased only 6.0 percent, down from 10.2 percent the year before. However, toward the second half of the year and into 2006, outturns have improved, in part because of increased European exports to the Middle East.

In contrast, China's export volume expanded by 27.8 percent in 2005, almost exactly as fast as in 2004. Moreover, despite a slowing in the pace of Chinese foreign sales towards the end of 2005, export volumes have once again picked up—expanding by more than 25 percent during the first

Figure 1.20 Healthy growth in world trade

% change, year-over-year
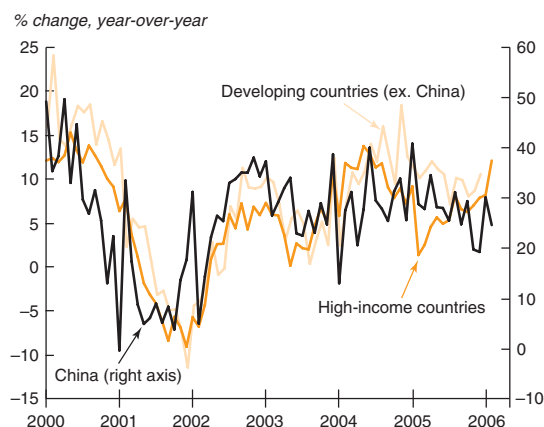
Source: World Bank.

two months of 2006. Other developing countries also continued to expand their market share. Their export volumes increased 10.3 percent, only somewhat slower than the year before. Here, too, trade growth decelerated early in the second half of 2005 but has since picked up.

Oil revenues of developing-country oil exporters nearly doubled between 2002 and 2005, increasing by some $215 billion. For all oil exporters, the increase was about $400 billion. However, oil exporters have increased their own imports markedly, and more than three-quarters of additional export revenues have been spent on additional imports.

Oil exporters are also recycling petrodollars through financial markets. Between 2002 and 2005, oil-exporting developing countries increased foreign currency reserves by $255 billion (with $117 billion of the increase accounted for by the Russian Federation). In total some $245 billion has flowed into the United States as securities, bonds or bank deposits, while about $50 billion has been placed directly into the European banking sector. Unfortunately, because of the use of third-party intermediaries and reduced reliance on the banking sector (as compared with past episodes of high oil prices) it is particularly difficult to trace the destination of these funds (BIS 2005).

Not all regions shared equally in the recycling of petrodollars. In particular, the share of the United States in the imports of oil-exporting countries fell from 25 to 20 percent during this period.[26] In contrast, most developing countries increased their market share in the imports of oil-exporting countries. However, the increase in their export revenues paled in comparison with the increase in their oil bills.

Can developing countries continue to gain market share at recent rates?

The strong economic performance of low- and middle-income countries over the past several years reflects both rapid growth in world exports (up 90 percent since 1995) and an almost 50 percent increase in the market share of developing economies, up from 20 percent in 1995 to almost 30 percent in 2005. This improvement is due, in large part, to increases in the market share of China. Nevertheless, every developing region (except East Asia excluding China) has seen its global market share increase (figure 1.21).

Figure 1.21 Regional increases in market share

% increase in global market share, 2005, since 1995
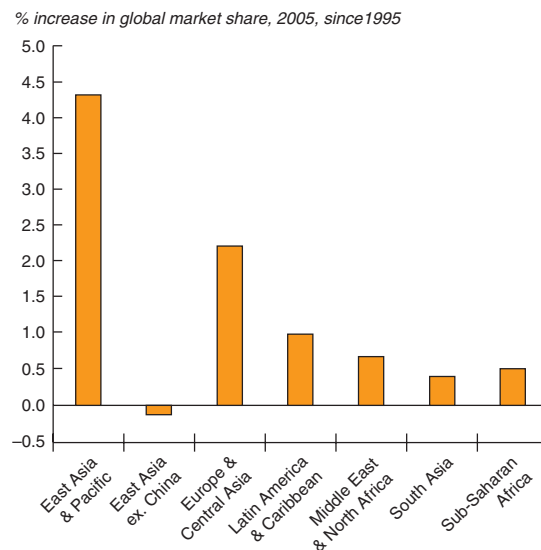
Source: World Bank.

The export boom of China is similar to past booms in a number of countries that are now classified as high income (Israel, Japan, the Republic of Korea, and Taiwan) in that it was mostly driven by an expansion in the range of goods exported. Thus, while technological progress, investment, and labor productivity growth contributed to a 290 percent increase in Chinese sales to the United States of products already on sale in 1992, more than 60 percent of the total increase came from the sale of goods that China did not export to the United States in 1992.[27] This contrasts with Bangladesh, for example (figure 1.22). That country's revenues from exports of traditional products to the United States increased by an impressive 173 percent between 1992 and 2005, but compared with China it managed only to generate one-tenth as much additional revenue from new products.

While not as marked as in China, there is evidence that other developing countries are diversifying the range of goods that they export and moving up the value-added ladder. Today, the revenues of developing countries from exports to high-income countries depend much less on raw materials (figure 1.23) and much more on higher-value-added goods (and services).

The rapid increase in the market share of China and other developing countries resulted from the exploitation of preexisting competitive

Figure 1.22 Increased product range explains most of Chinese export growth

Index of the value of exports to the USA, 1992 = 100

Legend:
- New export products
- Goods being sold in 1992
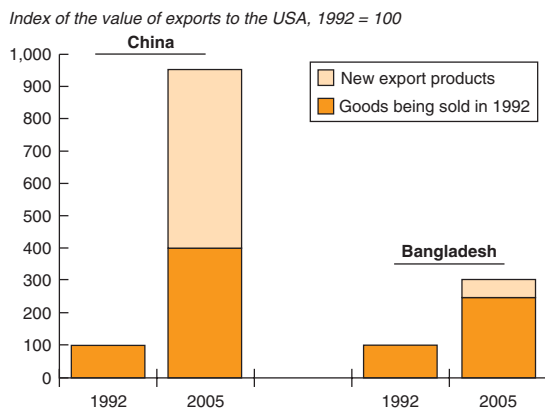
Source: World Bank.

Figure 1.23 Exports of developing countries have diversified
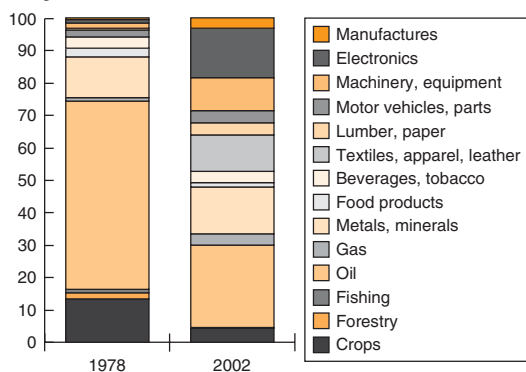
Product shares in exports of developing countries (ex. India & China) to high-income countries, %

Legend:
- Manufactures
- Electronics
- Machinery, equipment
- Motor vehicles, parts
- Lumber, paper
- Textiles, apparel, leather
- Beverages, tobacco
- Food products
- Metals, minerals
- Gas
- Oil
- Fishing
- Forestry
- Crops

Source: World Bank.

advantages that have been exposed by market liberalization and domestic policy reforms. These include trade liberalization (both multilateral and, importantly, autonomous liberalization [World Bank 2005]), and behind-the-border reforms, such as regulatory reform, liberalization of foreign investment regimes, and improved labor market regulations.[28]

The important role that expanding the range of goods exported has played in China's success suggests that trade expansion need not be bound by increases in productivity or lower wages. Rather, it reflects the exposure of preexisting com-

parative advantages to new markets, the application of lessons learned in existing sectors to new ones, and a widening of the product base.

Long-term prospects for developing economies will depend importantly on their ability to continue increasing market share in this way. For countries and regions that, like Bangladesh, have yet to enjoy an export boom, trade liberalization and facilitation comprise key agendas. For China, the boost in exports associated with accession to the World Trade Organization (WTO) may be easing (accession is estimated to have increased export growth by 12 percentage points). Nevertheless, China's volume of exports can be expected to continue growing at around 18 percent.[29]

More generally, developing countries must establish and maintain low tariffs across the board, minimize administrative burdens associated with trade, and reduce transit times so that markets can be served in a timely manner (Newfarmer 2005). On the multilateral front, efforts need to be concentrated on agriculture, the most heavily protected sector and one where many developing countries enjoy a comparative advantage. Liberalization here would allow these countries to reap the same kind of benefits that have accrued to countries specialized in manufacturing following the liberalization of that sector. Second, countries need to reduce rigidities in product, labor, and financial markets so that firms can react with agility to new opportunities to expand the range of products they produce and sell.

Risks

The relatively benign soft-landing scenario for developing countries that is described above is subject to a number of important downside risks.

Managing fast growth

Internal risks exist on both the upside and downside. Following several years of very fast growth, a number of economies are showing signs of strain, as capacity constraints appear in some sectors or as weaknesses in their infrastructure or institutional frameworks are exposed. In several countries in the Europe and Central Asia region, strong FDI inflows attracted by privatizations and the prospects of accession to the European Union have prompted an appreciation of domestic currencies,

high current-account deficits, and domestic monetary expansion. Subsequent increases in domestic interest rates have attracted further financial inflows, exacerbating the current account and exchange rate pressures. While, these pressures are projected to ease in our baseline projection, they carry with them the potential to prompt a currency crisis—possibly resulting in a hard landing—in one or more of these countries.

The rapid expansion of investment and domestic credit in some Asian economies may be overextending the banking sector in these countries in ways that are not yet obvious, potentially resulting in a sharp reversal of fortunes. The rapid rise in stock-market valuations, housing prices, and prices of other assets in several oil-exporting countries may also spur a crisis if conditions change rapidly.

Finally, the real-income shocks that developing countries have been subjected to are large, and adjustment to them remains incomplete. While inflationary pressures in most countries have been contained so far, pressures on wages are being felt in some. Rising inflation in a few countries in Latin America, South Asia, and, perhaps, Sub-Saharan Africa are suggestive of the beginning of an inflationary spiral. Unless fiscal and monetary authorities succeed in slowing growth, inflationary expectations may become engrained requiring a sharper slowdown later on as authorities intervene to contain them.

External risks

The external environment of the past few years has been especially propitious for growth, characterized by ample liquidity, rapidly expanding demand for the exports developing countries. Looking forward, conditions will be less benign. Interest rates are rising, while very high current account deficits in a number of developing countries suggests that many have yet to adjust fully to higher oil prices and that they have become more vulnerable to additional shocks.

The principal external risks facing the global economy have changed little over the past several years. They include: (1) the possibility that a supply shock will cause the price of oil to rise even further; (2) the possibility that interest rates demanded by foreign investors to finance the large U.S. current-account will rise, either gradually, in response to depreciation of the dollar, or more precipitously, because of a change in perceptions or

behavior; and (3) the possibility that nonoil commodity prices will fall significantly.

The effects on output in the global economy, should those risks be realized, have been presented in past editions of *Global Development Finance* and *Global Economic Prospects*. Rather than discuss them at length here (past results are summarized briefly below), this section explores their potential effects on the most vulnerable of low- and middle-income countries, particularly those that have significantly less room for maneuver than they did in 2002 because of the recent increases in oil prices.

Table 1.2 summarizes the results from previous simulations of three hypothetical shocks: (1) a reduction of 2 million barrels per day in oil supply, resulting in a rise in oil prices to $100 a barrel for three months and $80 for a further nine months; (2) a 200-basis-point increase in long-term interest rates and risk premia; and (3) a 15-percent decline in the price of nonoil commodities.

While for analytical clarity these simulations are presented independently, there are likely to be interactions between them. For example, were output to slow following a disruptive resolution of global imbalances both oil and non-oil commodity prices would likely decline. This kind of interaction is accounted for in table 1.2, but not in the more detailed impact analyses presented in tables 1.3–5. Similarly the probabilities of these external shocks differ. The probability of a disruptive resolution of global imbalances is low (but grows the longer corrective steps are not taken), while experts argue that there is a 70 percent chance of a 2 mbpd supply disruption sometime in the next 10 years (Beccue & Huntington, 2005).

In the first scenario, a substantial disruption in global oil supply pushes oil prices to $100 for one quarter and to $80 for a further nine months. As a result, global growth slows by about 0.75 percent a year over two years. The impact is more severe in large low-income and middle-income countries, both because of higher energy intensities and a greater inflationary impact, which requires a larger contraction to eliminate. On average, the current-account position of oil importing countries would deteriorate by about 1.1 percent of GDP.

In the second scenario, concerns over the U.S. current-account deficit push long-term interest rates up by 200 basis points. Heightened insecurity, especially because the dollar—the traditional

Table 1.2 Estimated impact of three risk scenarios

	GDP (% change from baseline)				First-round impact, % of GDP
	Year 1	Year 2	Year 3		
Scenario 1: a 2-million-barrels-per-day negative supply shock[a]				**Scenario 3: a 15 percent decline in non-oil commodity prices**	
World	−1.0	−1.5	−1.1	High-income countries	0.0
High-income countries	−0.7	−1.5	−1.3	Low- and middle-income countries	−0.1
Middle-income countries	−1.6	−1.6	−0.1	Low- and middle-income oil exporters	0.0
Large low-income countries	−1.7	−2.8	−1.8	Low- and middle-income other	−0.1
Current-account-constrained				Low-income countries	0.0
low-income countries	−0.3	0.1	0.0	Low-income oil exporters	0.2
				Low-income other	−0.1
Scenario 2: a 200-basis-point increase in interest rates[b]				East Asia & Pacific	0.1
World	−1.7	−2.9	−1.9	Latin America & Caribbean	−0.4
High-income countries	−1.5	−2.7	−2.5	Europe & Central Asia	−0.2
Low- and middle-income countries	−2.4	−3.5	−3.0	Middle East & North Africa	0.5
				South Asia	0.2
				Sub-Saharan Africa	−0.7
				Oil exporters	0.3
				Oil importers	−1.1
				Oil importers less South Africa	−1.1
				HIPC	−0.7
				Oil exporters	0.0
				Other	−1.2

Source: World Bank.
a. For more details see (World Bank 2005b, Table 1.5)
b. For more details see (World Bank 2005b, Table 1.6)

safe haven currency—is the source of disruption, causes developing country risk premia to increase by an additional 200 basis points. World growth slows by about one-half for a period of two years, as higher interest rates cut into investment and consumption demand, both through classic transmission mechanisms and via the impact of interest rates on housing prices and consumer wealth. Slower growth eases inflationary pressure and global tensions, allowing monetary policy to loosen. Growth starts to pick up again.

In the third scenario, a 15 percent fall in nonoil commodity prices affects global growth only marginally. The bulk of the impact is felt by Sub-Saharan African oil-importing countries, which sustain a terms-of-trade loss equal to 1 percent of GDP. In the context of already elevated current-account deficits, this translates into a substantial reduction in domestic demand but only a limited fall in output, because net exports increase as a lack of access to foreign currency forces non-oil import volumes to decline in line with the increased oil bill.

Potential impacts in the most vulnerable countries
For the majority of developing countries, the fundamental improvements (increased globalization in both product and financial markets, improved credibility of monetary policy, and more flexible labor and product markets) that allowed them to absorb the recent hike in oil prices with limited effects on output should also permit them to deal with the kinds of shocks modeled above without too much difficulty.

For other countries, however, the recent oil price hike caused a substantial deterioration in their current-account position. In addition to the real-side consequences of higher interest rates or a further increase in oil prices, the macroeconomic position of these countries could be placed under serious strain by the shocks assumed here—resulting in significant disruption. In the case of an interest rate shock, heavily indebted countries and middle-income countries would be most vulnerable, while a further increase in oil prices would strike the most oil-intensive economies hardest. A decline in nonoil commodity prices could also have important consequences for countries that are currently benefiting from strong nonoil commodity prices, notably metals and minerals.

Tables 1.3 through 1.5 summarize these sensitivities by highlighting the expected first-round impacts of the three shocks outlined above on the current accounts of developing economies. These simulations are meant to be illustrative—not predicative. Both the likelihood of a shock and its

eventual magnitude are very uncertain. As the results presented in these tables are estimates of the first-round impact for a given size shock, they can be scaled up or down to estimate the impact of a smaller or larger shock.

Table 1.3 shows an estimate of the the cumulative impact of a 200-basis-point increase in U.S. interest rates and a 200-basis-point increase in risk premia for the most vulnerable developing countries[30] (the most heavily indebted and those with high concentrations of short-term and other interest sensitive debt). Such a shock could represent as much as 3.5 percent of these countries' GDP and could send their current-account deficits

Table 1.3 Impact of a 400-basis-point increase in interest rates in selected developing countries
% of GDP

	Increase in debt servicing costs	Interest payments on external debt, 2004		Increase in debt servicing costs	Interest payments on external debt, 2004
Estonia	3.8	3.4	Lithuania	1.4	1.6
Latvia	3.4	2.3	Jordan	1.4	1.6
Kazakhstan	3.0	2.2	São Tomé and Principe	1.3	5.0
Croatia	2.9	3.5	Poland	1.3	1.4
Moldova	2.0	2.4	Romania	1.3	1.5
Argentina	2.0	1.2	Zimbabwe	1.2	0.5
Hungary	1.9	1.8	Mauritius	1.2	1.4
Sudan	1.8	0.4	Turkey	1.2	2.3
Slovak Republic	1.8	2.2	Malaysia	1.1	1.8
Bulgaria	1.8	2.1	Paraguay	1.1	1.9
Chile	1.7	1.5	Nicaragua	1.1	1.0
Uruguay	1.6	3.6	Lebanon	1.1	6.6
Philippines	1.6	4.4	Peru	1.1	2.1
Côte d'Ivoire	1.5	0.7	Panama	1.0	4.8
Czech Republic	1.4	1.3	Colombia	1.0	2.5
Indonesia	1.4	1.8	Jamaica	1.0	3.8

Source: World Bank.

Table 1.4 Impact of a further $30 hike in oil prices in selected developing countries
% of GDP

	Change in current account due to $30 hike in oil price	Current account balance in 2005		Change in current account due to $30 hike in oil price	Current account balance in 2005
Guyana	−8.2	−25.1	Vanuatu	−3.0	−44.4
Mongolia	−6.4	−2.8	Antigua and Barbuda	−3.0	−5.5
Tajikistan	−6.3	−4.2	Ukraine	−2.9	1.3
Lesotho	−5.8	−2.9	Paraguay	−2.9	−0.8
Togo	−5.4	−10.3	Lebanon	−2.8	−16.3
Kiribati	−5.3	−13.6	Mali	−2.7	−8.5
Solomon Islands	−5.2	−14.2	Jordan	−2.7	−5.8
Swaziland	−5.1	1.9	Mozambique	−2.6	−5.1
Tonga	−4.4	−0.5	Malawi	−2.6	−7.1
Cambodia	−4.4	−5.2	Bahamas, The	−2.5	−11.6
Ghana	−4.3	−6.9	Grenada	−2.4	−71.7
Belize	−4.3	−14.2	Gambia, The	−2.3	−12.4
Honduras	−4.0	−4.4	Dominica	−2.2	−26.3
Moldova	−3.8	−25.1	St. Lucia	−2.2	−10.1
Nicaragua	−3.5	−18.6	Nepal	−2.2	−1.3
Samoa	−3.5	−0.3	Pakistan	−2.2	−1.9
Jamaica	−3.3	−11.3	Mauritius	−2.2	−4.8
São Tomé and Principe	−3.3	−32.1	Madagascar	−2.1	−9.1
Macedonia, FYR	−3.2	−6.0	New Caledonia	−2.1	—
Maldives	−3.2	−25.1	Kyrgyz Republic	−2.1	−5.0
Micronesia, Fed. States of	−3.1	—	Lao PDR	−2.1	−7.9
Palau	−3.0	—	Armenia	−2.1	−2.3

Sources: World Bank; IMF.
Note: — = not available.

Table 1.5 Impact of a 15 percent fall in non-oil commodity
% of GDP

	Change in current account balance	Current account balance (2005)
Guyana	−8.3	−25.1
Tajikistan	−7.3	−4.2
Suriname	−7.0	−12.3
Solomon Islands	−4.5	−14.2
Belize	−3.8	−14.2
Mauritania	−3.8	−29.6
Mongolia	−3.7	−2.8
Paraguay	−3.5	−0.8
Papua New Guinea	−3.5	10.0
Kyrgyz Republic	−3.1	−5.0
Mali	−3.0	−8.5
Côte d'Ivoire	−2.9	2.2
Ghana	−2.9	−6.9
Malawi	−2.8	−7.1
Chile	−2.5	−0.9
Zimbabwe	−2.3	46.6
Zambia	−2.2	−10.3
Ukraine	−2.0	1.3
Jamaica	−2.0	−11.3

Source: World Bank; IMF.

to unsustainable levels. Depending on the availability of additional financing, this would require substantial retrenchment in these countries, likely implying large cuts in government spending and reductions in domestic demand that would likely translate into a period of sustained lower growth or a sharp recession. Encouragingly, a number of heavily indebted countries have taken advantage of favorable financing conditions to restructure their debt, reducing their sensitivity to changes in interest rates. As a result, countries that have experienced financial crises in the past, such as Brazil, Mexico and Thailand, appear to be much less vulnerable to a rapid rise in interest rates and do not appear in table 1.3.

On average, for oil-importing low-income countries, the initial terms-of-trade shock of a further $30 hike in oil prices is estimated at 4.1 percent of their GDP. This would translate into a 2.7 percent decline in domestic demand, with potentially serious impacts on poverty. For the most oil-intensive economies, this could amount to as much as 8 percent of GDP (table 1.4). While many countries throughout the developing world would be hard hit, most countries could be expected again to manifest the same resilience they showed during the previous oil hike. Problems are most likely to crop up in those countries that combine a large ex-

pected impact with already large current-account deficits. Such countries are unlikely to be able to find additional financing for their oil bills and, as a result, could be expected to undergo significant real-side adjustments as the volume of domestic demand, as well as oil (and nonoil) imports, would have to be cut in order to finance the higher cost of imported oil.

Table 1.5 reports the expected terms-of-trade impact from a 15 percent reduction in nonoil commodity prices, as well as estimates for the current-account deficit in 2005, for those countries where the impact would be greater than 2 percent of GDP. While countries throughout the developing world would be hard hit, large impacts are concentrated in developing Africa. Indeed, for the region as a whole, the negative impact would be 0.7 percent of GDP, or 1.2 percent of the GDP of heavily indebted poor countries. While many of these countries currently have healthy current-account balances (for example, Côte d'Ivoire, Papua New Guinea, Paraguay, and Ukraine) and can be expected to absorb even such a large shock relatively easily, many others are already in a vulnerable state. For these countries, taking steps now to improve the competitiveness of their export industries and reduce reliance on imports is even more critical.

Avian influenza

The continued spread of the bird-to-bird version of avian influenza (or bird flu, also known by its scientific identifier H5N1), with limited bird-to-human transmission comprises part of the baseline forecast. A serious risk to the global economy stems from the possibility that avian influenza might mutate into a form of flu that is easily transmitted between humans and for which the population has limited immunity.[31] The human and economic consequences of such a pandemic are potentially very large and depend importantly on the nature of the flu that emerges and on the reactions of people as it spreads.

Economic consequences of a further spread of bird-to-bird flu

The principal economic impact of the H5N1 virus so far has come in the rural sectors of several Asian economies in which the disease is endemic.

Table 1.6 Impact of a widening of bird-bird flu
% change in GDP, relative to the baseline

	Bird-bird[a]
World total	–0.1
High-income countries	–0.1
Low- & middle-income countries	–0.4
East Asia & Pacific	–0.4
Europe & Central Asia	–0.4
Latin America & Caribbean	–0.7
Middle East & North Africa	–0.4
South Asia	–0.4
Sub-Saharan Africa	–0.3

Source: World Bank.
a. Assumes that 12 percent of domestic birds in each region die from the disease or are killed in efforts to prevent its spread.

Its appearance in a number of European and African countries suggests that the disease may become as prevalent among the wild birds of these continents as it is currently in Asia.

Table 1.6 reports an effort to estimate the economic impact of such a spreading of the current bird-to-bird flu. The reported results are based on a scenario where bird-to bird flu becomes endemic throughout the world to the degree observed in Vietnam in 2004 (approximately 12 percent of all domestic birds died from the disease or were culled to prevent spread). While direct costs are small (only 0.1 percent of world GDP),[32] differing degrees of international specialization and cost structures suggest that, allowing for interactions with other sectors, regional impacts could be as high as 0.7 percent of GDP.[33] Because the sector is more important in developing countries and relatively labor intensive, job losses could represent about 0.2 percent of the global work force, or some 5 million jobs during the time it takes the global economy to adjust.

Possible economic consequences of a human pandemic

Even a flu with "normal" characteristics in terms of transmissibility and deadliness could have serious consequences for the global economy if the world's population has limited immunity. Estimates suggest that such a flu could infect as much as 35 percent of the world's population (WHO 2005), spreading throughout the world in as few as 180 days (RTI, 2006). As compared with a normal flu season, where some 0.2–1.5 million die (WHO 2003),[34] deaths from even a mild new flu might include an

additional 1.4 million people worldwide. A more virulent form, such as the 1918-9 flu, which was more deadly for healthy adults than a normal flu, could have much more serious consequences, killing as many as 1 in 40 infected individuals (Barry 2005) or some 71 million, with some authors suggesting that as many as 180–260 million could die in a worst-case scenario (Osterholm 2005).

Table 1.7 reports the results of three separate simulations of the economic consequences of a pandemic (McKibbin and Sidorenko 2006). The first (mild) scenario is modeled on the Hong Kong flu of 1968-9; the moderate flu has the characteristics of the 1957 Asian flu; and the severe simulation is benchmarked on the 1918-9 Spanish flu.[35] Each of these scenarios assumes that efforts by individuals and official agencies to limit the spread of the disease are no more effectual than those observed during previous epidemics and reflects differences in population density, poverty, and the quality of health care available. For the world as a whole, a mild pandemic would reduce output by less than 1 percent of GDP, a moderate outbreak by more than 2 percent, and a severe pandemic by almost 5 percent, constituting a major global recession. Generally speaking, developing countries would be hardest hit, because of higher population densities, poverty and weaker health infrastructure.[36] In addition, as modeled, less flexible market mechanisms accentuate the economic impacts in some countries.

Table 1.8 shows an alternative modeling of a pandemic. It is based on a pandemic similar in terms of mortality to the Asian flu epidemic of 1958. This scenario is presented with a view to better understanding the factors driving the aggregate

Table 1.7 Possible economic impacts of flu pandemic
% change in GDP, first-year

	Mild	Moderate	Severe
World	–0.7	–2.0	–4.8
High-income countries	–0.7	–2.0	–4.7
Developing countries	–0.6	–2.1	–5.3
East Asia & Pacific	–0.8	–3.5	–8.7
Europe & Central Asia	–2.1	–4.8	–9.9
Middle-East & North Africa	–0.7	–2.8	–7.0
South Asia	–0.6	–2.1	–4.9
Deaths (millions)	1.4	14.2	71.1

Source: World Bank calculations based on McKibbin & Sidorenko (2006).

Table 1.8 A breakdown of economic impacts of a potential human-to-human pandemic
% of GDP

	Mortality[a]	Impact of illness and absenteeism[b]	Impact of efforts to avoid infection[c]	Total	Total ($ billions)
World total	−0.4	−0.9	−1.9	−3.1	−965.4
High-income countries	−0.3	−0.9	−1.8	−3.0	−744.9
Low- and middle-income countries	−0.6	−0.9	−2.1	−3.6	−220.4
East Asia & Pacific	−0.7	−0.7	−1.2	−2.6	−44.8
Europe & Central Asia	−0.4	−0.7	−2.3	−3.4	−21.7
Latin America & Caribbean	−0.5	−0.9	−2.9	−4.4	−87.3
Middle East & North Africa	−0.7	−1.2	−1.8	−3.7	−32.2
South Asia	−0.6	−0.8	−2.2	−3.6	−22.7
Sub-Saharan Africa	−0.6	−0.9	−2.2	−3.7	−11.8

Source: World Bank.

a. Assumes a human flu pandemic similar to the 1958 Asian flu. Globally 1.08 percent of the world population dies, with regional mortality rates varying from 0.3 percent in the U.S. to more than 2 percent in some developing countries.

b. Assumes that for every person that dies 3 are seriously ill, requiring hospitalization for a week and absence from work for two weeks, 4 require medical treatment and are absent from work for a week and approximately 27 percent of the population has a mild bout of flu requiring two days absence from work. It assumes that in addition for every sick day another absentee day is registered either because people stay at home to care for a sick person or to avoid illness.

c. Efforts to avoid infection are modelled as a demand shock, reflecting reduced travel, restaurant dining, hotels, tourism and theatre as individuals seek to avoid contact with others.

numbers in such simulations. The first column shows the impact in terms of GDP lost in the first year of the pandemic purely from additional deaths (here roughly equal to McKibbin and Sidorenko's severe scenario). The second column builds in the impact on aggregate productivity resulting from the infection of some 35 percent of the population. Even though individuals are only temporarily unavailable from work, the impact on output here is more than twice as large as from the loss of life, because the affected population is so much larger.

The third column shows the largest impact. Here individuals are assumed to change their behavior in the face of the pandemic by (a) reducing air travel in order to avoid infection in the enclosed space of a plane, (b) avoiding travel to infected destinations, and (c) reducing consumption of services such as restaurant dining, tourism, mass transport, and nonessential retail shopping. The degree to which such reactions would occur is necessarily uncertain. In this scenario it was assumed that for the year as a whole air travel would decline by 20 percent and that tourism, restaurant meals, and consumption of mass transportation services would also decline by 20 percent.

This compares with a peak decline of 75 percent in air travel to Hong Kong during the SARS epidemic and an average decline of 50–60 percent during the four-month period the outbreak was active. Retail sales declined by 15 percent at the peak and by about 9 percent over the four month

period—implying about 15 percent decline from trend (Siu and Wong, 2004). Higher declines on an annualized basis are assumed in these simulations because a flu pandemic would likely last more than a year (pandemics are typically experienced in at least two waves with a peak period of infection during the winter).

The total impact of a shock combining all these elements is 3.1 percent for the global economy and ranges from 4.4 percent in Latin America and the Caribbean to 2.6 percent in the East Asia and Pacific region, mainly reflecting the relative importance and labor intensity of tourism and other services in each region.

The modeling attempted to take into account the possibility that the economic effects of an outbreak would be greatest in the country where the human-to-human strain originates, the main factor here being private and public efforts to isolate and contain the disease by avoiding travel and imposing quarantines. However, simulations of an outbreak beginning in Thailand suggest that whatever additional costs the originating country may endure, these would be dominated by secondary effects as the disease spreads to other countries and global economic activity declines.

Given the tremendous uncertainties surrounding the possibility and eventual nature of a pandemic, these simulations must be viewed as purely illustrative. They provide a sense of the overall magnitude of potential costs. Actual costs, both in

terms of human lives and economic losses, are likely to be very different.

That said, these simulations serve to underline the importance of mobilizing global efforts to meet this potential crisis. Monitoring outbreaks of bird-to-bird and bird-to-human infections and culling infected flocks appear to be effective strategies to reduce bird-to-human transmission and reduce the likelihood that the disease will mutate into a form that is easily transmissible between humans. The fact that there have been no reported cases of bird flu in Vietnam in the 2005-6 flu season suggests that such preventative efforts can be effective.

However, even with such efforts, an eventual human pandemic at some unknown point in the future is virtually inevitable (WHO, 2004). Because such a pandemic would spread very quickly, substantial efforts need to be put into place to develop effective strategies and contingency plans that could be enacted at short notice. Much more research and coordination at the global level are required.

Notes

1. In addition to the Prospects for the Global Economy web site (http://www.worldbank.org/outlook) the World Bank's East Asia update provides more detailed information on recent developments and prospects for the East Asia and Pacific region (http://www.worldbank.org/eapupdate/).

2. The World Bank's East Asia Update provides additional detail on avian influenza in the region (http://www.worldbank.org/eapupdate/).

3. In addition to the *Prospects for the Global Economy* web site (http://www.worldbank.org/globaloutlook), which provides more detail on the regional forecasts, the World Bank's Middle East and North Africa Region's *Economic Developments and Prospects* (http://www.worldbank.org/mena) provides country-specific analysis of economic developments, projections, and policy priorities.

4. For the purposes of this report, the developing countries of the region are Algeria, Egypt, Jordan, Iran, Morocco, Oman, Syria, Tunisia, and Yemen. A lack of data prevented inclusion of Djibouti, Iraq, Lebanon, and Libya from the projections. Important regional players include the high-income countries of Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates.

5. Fiscal and quasi-fiscal spending increased by 0.7 percent of GDP in Bangladesh, by 0.5 percent of GDP in India, and by significant, though lesser, amounts in other countries of the region.

6. More than one-third grew faster than 5 percent on average between 2000 and 2005, compared with less than 10 percent during the period 1980–1995.

7. While large in percentage terms, the increase in oil prices from around $10 to $20 a barrel between 1999 and 2000 is not considered as part of the oil shock, because it merely reflected the reversal of a similar fall in prices the year before.

8. The short-term price elasticity of oil demand is estimated at between –0.01 and –0.2 percent (Burger 2005), implying that immediately following a 100-percent increase in oil prices, such as observed between 2002 and 2005, oil demand would be expected to decelerate by between 1 and 20 percent. Long-term elasticities are larger (between –0.2 and –0.6 percent), implying that the negative effect of higher prices over the past few years will continue to be felt.

9. The current rise in oil prices began in early 2003.

10. OPEC did increase its deliveries during 2004 by drawing down its spare capacity, but so far investments to increase that capacity have been limited.

11. In the three years following both the 1973 and 1979 oil price hikes, non-OPEC non-former Soviet Union oil producers increased their output by some 3.5 million barrels per day. In contrast, since 2002, production from these sources has actually declined.

12. Beccue and Huntington (2005) estimate the probability of a 2 mbpd supply shock occurring during the next 10 years as 70 percent for one lasting 6 months and 35 percent for one lasting 18 months.

13. Baffes (2005) estimates the elasticity of nonoil commodity prices to oil prices to be 0.15.

14. Normally, the yield curve is upward sloping, implying that bonds of shorter duration yield lower rates of return than longer term bonds. This upward slope is generally thought to reflect individuals' time preference for money, on the one hand, and the increased risk associated with longer term lending.

15. For low- and middle-income countries as a whole, net bank lending actually exceeded bond emissions by a small margin.

16. About as many appreciated as depreciated. Overall, the unweighted average impact was a real effective depreciation of just 1 percent.

17. The unweighted average appreciation of oil and mineral exporters was smaller, at around 9 percent.

18. Simulations using the World Bank's MAMS model (a computable general equilibrium model for studying the impact of aid on achieving the Millennium Development goals) indicate that a negative term-of-trade shock of 1 percent of GDP would reduce import volume growth in the first year by 2 percent. When combined with a 1 percent of GDP increase in aid flows, imports fall by only 0.7 percent.

19. The same simulations suggest that the real appreciation from a permanent increase in aid inflows equal to 1 percent of GDP would reduce exports by about 3 percent in the first year and .66 percent per annum over a 10-year period. When combined with a negative terms-of-trade effect equal to 1 percent of GDP, the appreciation is reduced by half and the impact on export growth rates reduced by 10 percent.

20. In the case of Turkey, the central bank has tightened policy rates, while in Bulgaria the rise in interest rates is an automatic response to capital inflows by the country's currency board system.

21. The current-account deficit of the United States came in at $805 billion or about 6.4 percent of U.S. GDP.

22. These estimates are based on three scenarios. In the first, the current-account deficit is assumed to remain constant at 6 percent of GDP; nominal GDP is projected to increase by 5 percent per annum; and exchange rates and rates of return of U.S. and foreign assets are to remain constant. Because net returns fall to –1.2 percent of GDP, this implies an improvement in the U.S. current-account deficit equal to 1 percent of GDP. A second scenario assumes that the current-account deficit declines to 2.5 percent of GDP, implying a substantial improvement in the U.S. trade balance equal to 0.5 percentage point per year. In the third scenario, the rates of return on U.S. and foreign assets are assumed to equalize, increasing net debt-servicing costs to 2.1 percent of GDP.

23. Empirically, this willingness takes three principal forms. First, foreigners hold a higher share of relatively low-yield dollar-denominated assets than do Americans—reducing the overall earnings on their assets. Secondly, as recorded in the balance of payments, American investments abroad earn a significantly higher rate of return than do foreign investments in the United States (6.9 percent vs. 2.5 percent over the past 10 years). Finally, foreigners hold large quantities of dollars in cash, which earn no return. These three factors, in combination, mean that despite the negative net international asset position of the United States, the country continues to earn a small but positive net income from capital services.

24. Haussman and Sturzenegger (2005), in a controversial article, take this observation to an extreme. They argue that if the United States earns a positive return on its net foreign asset position, in economic terms, it must be positive. They propose to measure it as the net present value of the income stream recorded in the balance of payments. They then redefine the current-account balance as the change in that net asset position (effectively 20 times the annual change in income flow). Finally, they define the difference between this measure and the normal current account of the balance of payments as exports of "dark matter," or know-how services embodied in FDI, insurance services provided by less risky U.S. assets, and liquidity services deriving from the quality of the U.S. dollar as the world reserve currency. On this basis they compute that the net asset position of the United States was actually a small surplus in 2004.

25. Interestingly, such a change in the willingness of investors to hold U.S. assets would cause Haussman and Sturzenegger's (2005) definition of the net international investment position of the United States to deteriorate by 10 percent of GDP, and would imply an equal fall in their estimate of the current account—highlighting the sensitivity of their measures to interest rates and unmeasurable confidence factors.

26. While economic factors certainly have played a role (the erosion of market share among high-income countries mirrors earlier developments), political factors also played a role. In particular, the imports of oil importers from the United States declined substantially in the period 2001/2. While growth rates since then have been on a par with other high-income countries, the lost market share has not been recouped.

27. Between 1972 and 2004, China went from exporting 510 separate goods to 10,199 (Borda and Weinstein 2004).

28. In the case of China, many behind-the-border changes were precipitated by the country's desire to join the World Trade Organization. Similarly, many reforms in the European transition countries were motivated by the desire of those countries to join the European Union.

29. Econometric estimates suggest that over the past three years the underlying trend growth in China was 11.7 percent. WTO accession contributed an additional 12 percent to Chinese export growth. Market growth was worth 6.3 percent. Relative price changes reduced the total by 4.2 percent (Martel Garcia, forthcoming).

30. Only countries where the estimated impact equals or exceeds 1 percent of GDP are shown.

31. There are a number of kinds of avian influenza that are carried by many wild bird species with no apparent harm. Some of these make other bird species, notably domestic poultry, sick. Typically, the birds are mildly sick, but the H5N1 virus that is currently circulating is relatively dangerous for domestic birds. Most forms of avian influenza viruses are highly species-specific and do not normally infect people. However, H5N1 has crossed the species barrier to infect humans on three occasions in recent years—in Hong Kong in 1997 and during the current outbreak, which began in December 2003. While deadly (115 human deaths among 208 confirmed cases as of May 12, 2006), the virus in its current form is not easily transmitted to or between humans (WHO 2006).

32. Direct costs are small. Six percent of the world population of domestic poultry amounts to some 170 million birds. At a retail price of $2 per bird, and assuming (based on the Vietnamese experience) 0.75 cents in costs associated with monitoring and culling infected birds, this would amount to about $760 million worldwide, or about 0.02 percent of world GDP.

33. While the poultry sector represents less than 0.2 percent of the GDP of high-income countries, its share in developing countries is about 1.2 percent of GDP, rising to 2.4 percent of GDP in the East Asia and Pacific region.

34. The World Health Organization (2003) estimates between 200,000 and 500,000 deaths each year. Osterholm (2005) reports a higher death toll of between 1 and 1.5 million people worldwide from influenza infections or related complications, making it the third most deadly infectious disease after AIDS and tuberculosis, but ahead of malaria.

35. McKibbin and Sidorenko also model an "Ultra" flu, which is not based on any known previous pandemic, but has the characteristics of the Spanish flu, plus higher mortality for older people. This simulation is not reported here.

36. McKibbin and Sidorenko's model has relatively limited country coverage: 20 economies. comprised of 10 high-income countries and 1 residual high-income region; 5 low- and middle-income countries in East Asia and one in South Asia; and three additional developing regions. Regional aggregates in table 1.7 are approximations based on the countries and regions modeled.

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