

ADB Economics Working Paper Series



The US Financial Crisis, Global Financial Turmoil, and Developing Asia: Is the Era of High Growth at an End?

William E. James, Donghyun Park, Shikha Jha,
Juthathip Jongwanich, Akiko Terada-Hagiwara, and Lea Sumulong
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December 2008

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Abstract

The global economy is threatened with a deep and prolonged recession as a consequence of the financial meltdown that began with the housing price crisis in the United States. The financial implications of the global macroeconomic imbalances that have persisted and enabled the housing bubble to develop with the spread of toxic mortgage-backed securities first became apparent in September and October 2008 with the collapse of major investment banks and mortgage loan institutions, and the credit freeze and the panic that ensued in global equity markets. This paper provides a summary of these events and the transmission of the crisis from the United States to United Kingdom, the eurozone, other industrial economies, emerging markets, and developing Asia. Financial and real economy effects of the crisis on Asia and various channels of transmission of the crisis are evaluated in some detail. In general, financial institutions, particularly commercial banks in developing Asia are well prepared to cope with this crisis as a result of reforms undertaken in response to the Asian crisis of a decade ago, and the fact that Asia has accumulated vast foreign exchange reserves through persistent current account surpluses. Still the real economy effects of the global downturn are likely to be severe. A major deterioration in economic growth in developing Asia in both the current and the coming year is in the cards. Growth in world trade is likely to stall making it difficult for export-oriented economies in the region to continue rapid growth fueled by external demand. Rebalancing Asia's growth toward domestic demand led by consumption, infrastructure investment, and improved health and social security programs will be important in cushioning the impact of the recession taking place in the industrial economies. This paper sets the context for the *Asian Development Outlook 2009* with an emphasis on rebalancing growth in developing Asia and, by implication, the world economy.

I. Introduction

The present crisis that is sweeping across the world economy has left serious damage at its epicenter in the United States (US). The stock market collapse that took place on Monday, 29 September 2008—a loss of 778 points off the Dow Jones Industrial Average (DJIA)—was the largest single-day loss in the history of the DJIA. In a single day, US\$1.2 trillion of wealth, equivalent to nearly 7% of the market's value, was wiped out.¹ Globally, equity markets were hammered in the aftermath and the seizure of credit has become severe. The credit squeeze was reflected in the sharp rise in the London Inter Bank Offered Rate (LIBOR)—the rate of interest banks charge one another for short-term (overnight) loans—which rose to an astonishing 6% in September. Commercial paper, usually regarded as a safe investment by money market funds, suddenly became risky as blue chip firms' profit reports had worsened. Bankruptcy procedures involving large investment banks had also tied up funds of third parties. Then runs began on money market mutual funds that hitherto had been regarded as akin to deposits in commercial banks. Loan windows suddenly were slammed shut. Credit became impossibly expensive as bank spreads between deposit and loans grew astronomical and investors fled from equities into cash and US Treasuries, to the point that interest on the latter approached zero. A general collapse of confidence became contagious and credit conditions globally froze. Understanding why this has happened and what the implications will be for developing Asia is the purpose of this paper. The paper begins in Section II by identifying the underlying fundamental causes of the collapse in the US after a credit crisis that has been unfolding for nearly 14 months but took years in the making. The spread of the crisis from the US to the rest of the industrialized world, particularly Europe, and the surprising negative impacts on oil-rich economies of Russia and the gulf region are presented in Section III. Section IV sets out the exposure of Asian financial markets and Section V gives the prognosis for the real economy and Asian growth. Section VI identifies the key lessons for Asia.

¹ The previous record one-day loss took place on black Monday, 19 October 1987, with a plunge in the DJIA of 508 points. As a percentage of market value the black Monday loss was a multiple of the 29 September 2008 plunge at 22.6%. And that is not even the biggest percentage plunge in the DJIA for one day. On 12 December 1914 the DJIA lost 24.4% of its value.

II. Anatomy of the US Financial Crisis

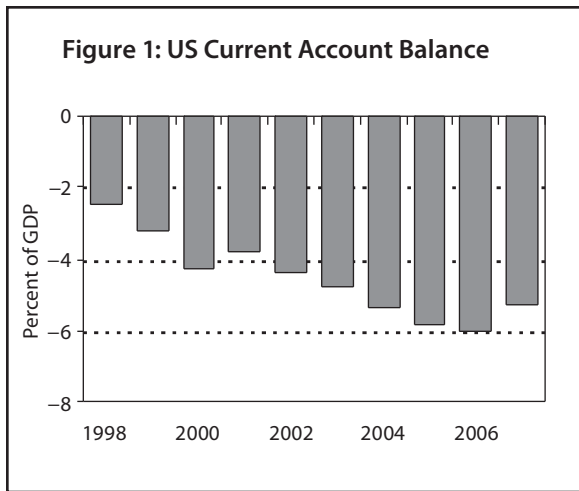
The financial problems of the US have their roots in monetary and fiscal policies, but are also a result of the irresponsible behavior of private lenders and borrowers; and the excessive risks that were taken fueled by cheap and plentiful money, which made possible a decade-long housing boom. The proximate cause of the downturn in the US economy is the declining prices of housing, the major asset of US households. However, the downturn in housing prices alone cannot explain the recent turmoil in the financial markets as housing prices have been falling for almost 2 years. Fundamental structural problems are apparent and have to be considered in analyzing the crisis and the evaporation of confidence that accompanied the recent credit crunch.

The US macroeconomic fundamentals are indicative of the policy shifts that occurred just after the turn of the century toward fiscal and monetary excess. “Twin deficits” have characterized the US economy after 2001. The current account deficit reflects the imbalance between US national saving and investment (Cooper 2005), which takes into account both private and government saving and investment balances.

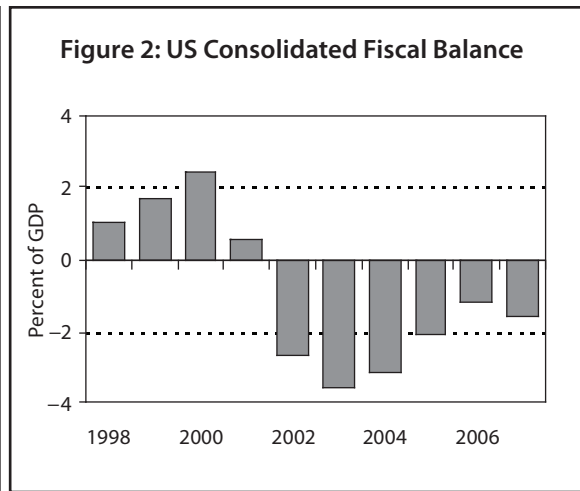
Although the US has experienced a structural imbalance between savings and investment that has led to a persistent current account deficit, this deficit was usually a small percentage of gross domestic product (GDP) and was to some extent offset by fiscal surpluses during the 1990s.

The past 10 years have seen a persistent deepening of the US current account deficit (Figure 1), which reached the critical level of 5% of GDP or more than US\$600 billion in each of the past 4 years to 2007. The component of the current account deficit that is explained by private investment in excess of private saving was partially offset by positive net government savings (fiscal surpluses in the consolidated government account) in the years 1998–2001 but since then the fiscal balance has deteriorated (Figure 2). In 2008 the consolidated US fiscal deficit is expected to surpass the US\$400 billion mark. The degree of fiscal proclivity is reflected in net consolidated government borrowing ranging from over 2% to nearly 5% of GDP between 2002 and 2007 (Figure 3), as a combination of tax cuts, war expenditures, and absence of any sacrifice of other expenditure categories resulted in cumulative borrowing of over US\$2.5 trillion over the past 7 years. The fiscal imbalance (government sector dissaving) is thus contributing to the rise in the current account deficit. The current account imbalance also reflects the decline in US private saving, which is largely attributable to falling household savings. Corporate private sector saving on the other hand has been relatively steady.²

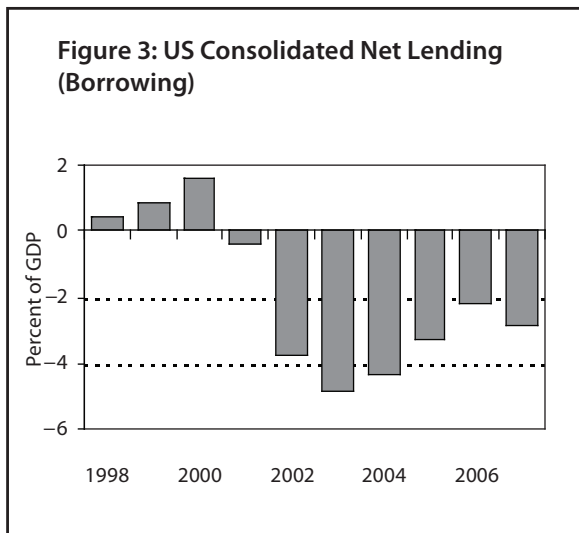
² See Adams (2006) for a discussion of the issue of the components and sustainability of the US current account deficit. Adams reports a current account deficit in 2005 of 6.5%, much larger than the revised estimates provided in Figure 1.



Source: US Department of Commerce, Bureau of Economic Analysis (2008).

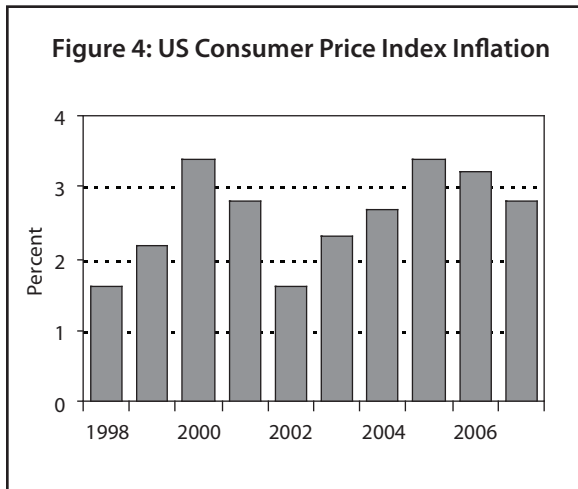


Source: US Department of Commerce, Bureau of Economic Analysis (2008).

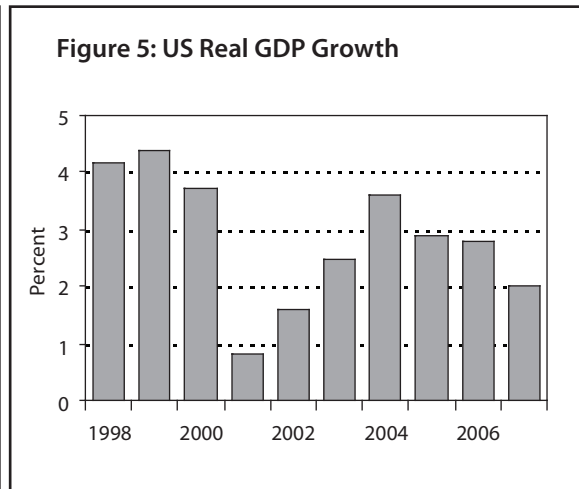


Source: US Department of Commerce, Bureau of Economic Analysis (2008).

Macroeconomic performance has deteriorated. Inflation as measured by the consumer price index (CPI) has exceeded 2% in each of the 5 years after 2002 (Figure 4) and after rising close to 3% in 2007, jumped to nearly 5% in 2008 (preliminary data from Bureau of Labor Statistics as of September 2008). Real GDP growth has weakened and has topped 3% only once in the past 7 years (Figure 5), a growth rate attained routinely in the period 1998–2000. Inflation rates now typically exceed GDP growth rates—another indicator that a loose policy environment has taken hold. Growth in 2008 is now widely expected to be the lowest since 2001 after negative growth in Q3 2008 of –0.5% (Bureau of Economic Analysis 2008).

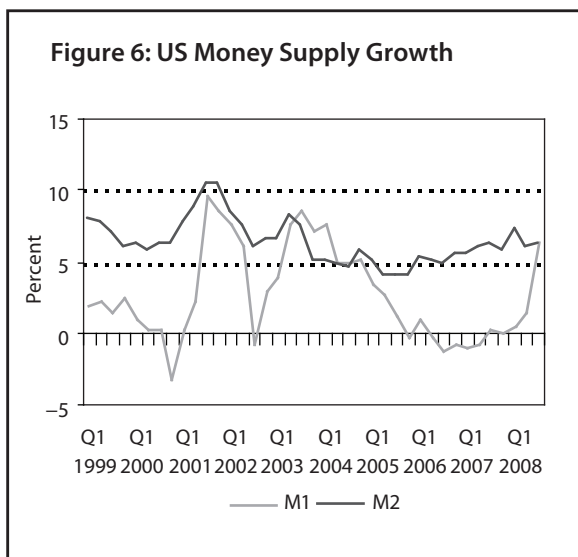


Source: US Department of Labor, Bureau of Labor Statistics (2008).



Source: US Department of Commerce, Bureau of Economic Analysis (2008).

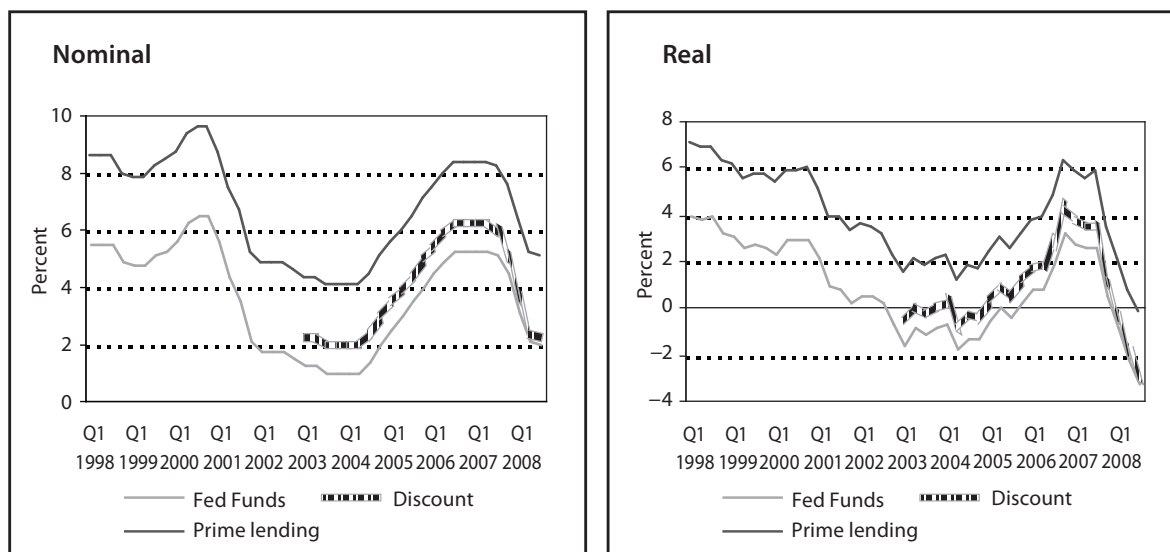
Money supply growth as measured by M2 (currency, demand deposits, time deposits, and money market mutual funds) grew continuously over the past decade (Figure 6). The expansion of broad money was benign as long as fiscal policy was restrained, as the surpluses of the consolidated governments (municipal, state, and national) afforded scope for noninflationary credit growth. However, once tax cuts and outsized expenditures pushed the fiscal balance into deficit, continued easy monetary policy exacerbated imbalances and fueled a housing-led consumption binge that was financed in large part by borrowing abroad.



Source: Board of Governors of the Federal Reserve System (2008).

The expansionary monetary policy stance that characterized the boom years after the 2001 dotcom recession is reflected in the sharp drops in nominal and real interest rates between 2001 and 2004 (Figure 7). Policy rates were negative in real terms for a period of 3 years between Q4 2002 and Q3 2005, and after a brief interval of tightening between Q4 2005 and Q4 2006 were subsequently loosened thereafter, in response to the slowdown in economic activity turning negative in real terms again by Q1 2008. In 2008 the real policy lending rate fell sharply as the Federal Reserve (Fed) aggressively implemented a series of cuts, although this decline failed to alleviate the freeze in credit markets as the spread between policy and lending rates widened.

Figure 7: US Interest Rates



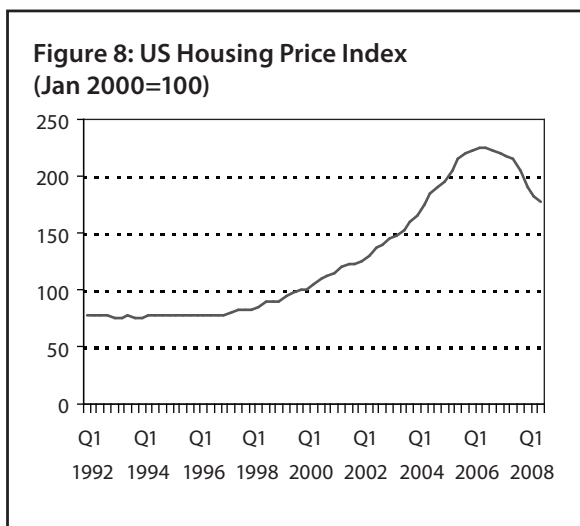
Sources: Board of Governors of the Federal Reserve System (2008); US Department of Labor, Bureau of Labor Statistics (2008).

Mortgage lending grew alongside a long boom in US housing prices that seemed never ending. The Case-Shiller Composite Index of housing prices rose continuously for 38 straight quarters beginning in 1997 and lasting into the first half of 2006 before it finally began to slide (Figure 8). Growth in housing prices (Figure 9) was such that lenders began to take untoward risks in providing mortgage credit to “sub-primes”—borrowers who had no collateral, made no down payments, had no credit history (or had bad credit history), and who initially paid only interest but not principal at low initial “teaser” interest rates.

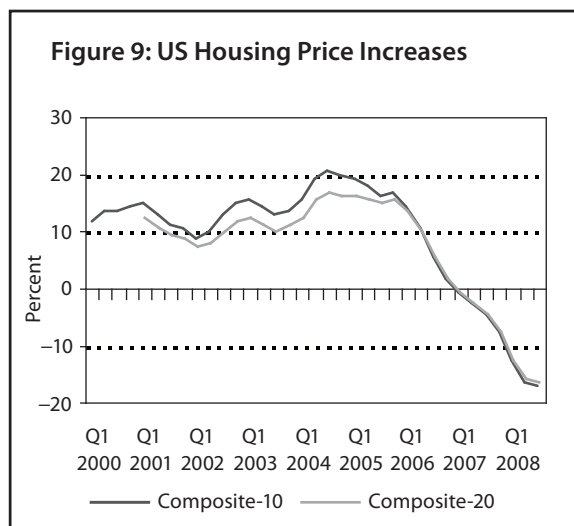
The peak in the housing price index and its growth coincided with the effects of loose monetary policy. The rapid expansion of base money (currency plus bank cash reserves) operates with an approximate 12-month lag and the overly expansionary policy fueled housing prices and peak growth in housing prices in 2004–2005 (Figure 10)³. The easing

³ Gordon (1984, 519–21) estimated the average lag in the impact of expansionary monetary policy in six postwar recessions at 13.3 months incorporating five types of lags. He takes the starting point to be an unexpected pause or decline in economic activity and the end point to be the arrival of the stimulus from a reaction to the event by the Fed.

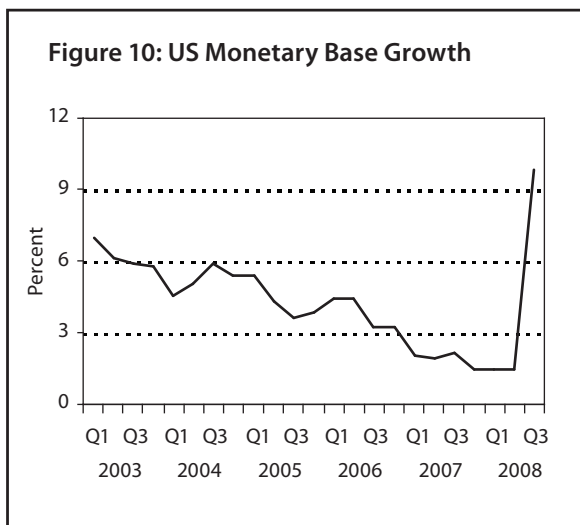
in base money growth that began in Q2 2005 through Q2 2008 had a dampening effect that is now apparent in the contraction in housing prices that started in the latter half of 2006. The subprime mortgages were packaged and securitized (with “triple A” ratings provided by credit rating agencies) and then were sliced and diced into derivative assets that provided the fuel to investment banks to develop the credit default swap (CDS) market on a global basis. As the US housing bubble began to deflate in the latter half of 2006, delinquency rates started to snowball (Figure 11). The development of subprime lending led to the perverse trend of US homeowners defaulting on their mortgage payments at nearly the same rate as customers defaulted on their credit card debts—hitherto an unheard of behavior pattern.



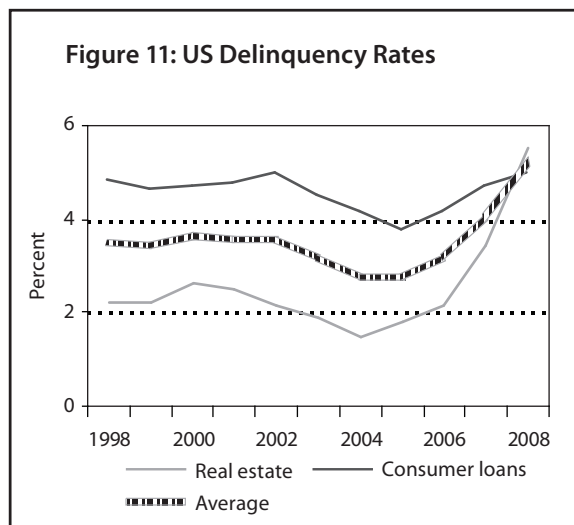
Source: Standard & Poor's (2008).



Source: Standard & Poor's (2008).



Source: Board of Governors of the Federal Reserve System (2008).



Note: 2008 delinquency rates as of Q3.
Source: Board of Governors of the Federal Reserve System (2008).

The two mortgage loan guarantee giants, Fannie Mae and Freddie Mac, participated actively in the secondary market for housing-backed securities and helped primary lenders to make mortgage credit available to households and individuals who would not otherwise qualify for home loans.⁴ Both of these government-sponsored enterprises (GSEs) were pushed to help primary lenders expand this risky type of lending, and this contributed to the massive expansion of their portfolios to over US\$5 trillion or nearly half the value of all US housing mortgages. The GSEs' combined share of mortgage debt outstanding rose from 25% in 1990 to 41.4% in 2007 (OFHEO 2008). Their holdings of mortgage-backed securities (MBS) expanded more than ten-fold over the decade to 2007 (*The Economist* 2008a). The combined liabilities of the two GSEs of US\$5.3 trillion as of March 2008 were equal in value to the entire stock of publicly held US government debt (Lockhart 2008). Yet the combined Tier 1 capital backing was a paltry US\$83.2 billion implying a leveraging of 65 to 1.⁵ Between Q2 2006 and Q1 2008 the share of MBS issues backed by the two GSEs rose from 33% to 84%, implying that as housing prices began to soften the GSEs took on enormous additional risks. The net income of the GSEs plunged after Q2 2007 and with these losses their share prices collapsed and all but wiped out their capital, forcing the US government to step in and take them over on 7 September 2008.

The derivatives of the residential MBS were supposed to be financial innovations that allocated risk efficiently to those best able to bear it. Instead the innovative instruments merely moved risk off the balance sheets of the banks and allowed them to hide losses and to continue to expand credit in the pursuit of commissions and fees that inflated profits. Freddie Mac and Fannie Mae purchased as much as 50% of these assets in recent years with dire consequences. The emergence of this shadow banking sector was aided and abetted by decisions of the Securities Exchange Commission in 2004 to permit this and at the same time to all but dismantle the SEC's supervisory unit (Labaton 2008). The "securitized" mortgage-backed assets were moved onto the books of separate vehicles (structured investment vehicles or SIVs and collateralized debt obligations or CDOs) and artificially made the balance sheets of the banks appear more profitable than they really were. What emerged was a shadow banking sector that was riddled with nonperforming assets of very uncertain valuation. Insuring these assets against default risk was undertaken privately through CDS by which large insurers such as American International Group (AIG) provided guarantees that ultimately proved to be very costly indeed.

There was a colossal failure of financial regulation and supervision. The internationalization of securitized derivative instruments spread toxic assets abroad (to be discussed in Section III below). The emergence of the CDS market as insurance

⁴ Legislated targets for expanding GSE support for housing loans to low-income and disadvantaged individuals and households were ratcheted up in recent years (Roberts 2008). The failure of the regulators of the GSEs to recognize that a housing bubble was being supported by increasingly risky behavior is explained in detail in Shiller (2008) and Smick (2008).

⁵ Such leveraging was permissible under the law but was clearly not advisable under the standards of Basel 2 (*The Economist* 2008a).

against default by the highly leveraged investment banks (leveraging against capital was often in excess of 30-1 in major US investment banks) provided only the illusion of risk dispersion. As the giant AIG found out once Lehman Brothers went bust, the CDS calls put even insurance giants at the edge of bankruptcy. Valuation problems are rife and the search for the bottom of the housing and stock markets still has a way to go. Confidence has evaporated and credit lines between banks and between firms in real economy sectors and nonbank financial institutions are frozen. No one wants to lend.

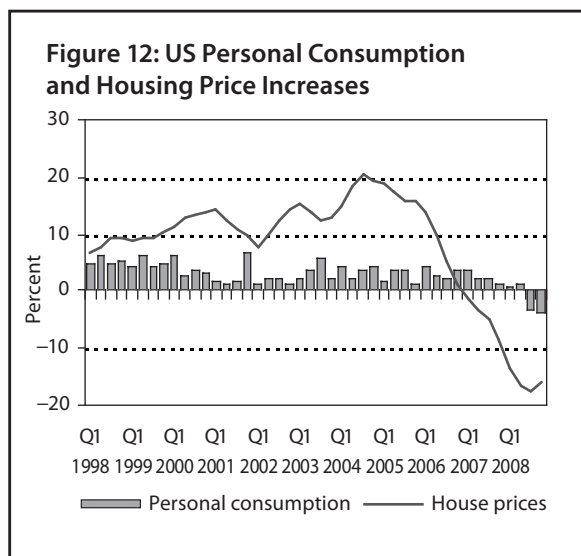
The credit freeze will be difficult to mitigate as long as financial institutions struggle to reduce leverage and restore minimum capital requirements. This becomes even more difficult as financial companies' share prices continue to plunge to new lows and as customers cash out of money market funds and other investments. There are still some additional financial landmines that are waiting to be set off—hedge funds are even more highly leveraged than banks at up to 100:1 (Morris 2008, 113). Credit card debt is another huge risk with defaults likely to erase the profits and capital of card issuers and their investors. Commercial mortgage backed securities (CMBS) are warehoused in banks amid fears that if marked to market there would be huge additional losses facing commercial banks (Morris 2008, 123). Finally monoline insurers that have underwritten insurance policies for purchasers of securities such as municipal bonds are also facing potentially huge losses. Some of these insurers have in recent years expanded into mortgage-backed CDOs and are even more highly leveraged than the hedge funds. Thus, the turmoil in financial markets is far from over.

There will be a spillover into the real economy since US consumers have stopped buying. US retail sales are plunging and consumption growth has become negative, and with continued declines in housing prices, this dampening of personal consumption expenditures is likely to worsen in the coming quarters (Figure 12). A recession that may be long and painful is now a likely prospect. The downturn will last until the restructuring and rebalancing of the US economy corrects the deficit between saving and investment and begins to reduce the burden of debt.⁶ As has been seen in Japan's experience of the 1990s, this process could be aggravated by inappropriate policies.⁷ The prospects for relief through the infusion of funds by the US government to recapitalize banks, guarantee money market accounts, support the corporate sector's borrowing by purchasing commercial paper, increase deposit insurance, and purchase the sour mortgage-backed assets held by banks have improved the picture somewhat. However, there are numerous other fires to put out with the outflows of money market funds and

⁶ It is perhaps too early to conclude that a disorderly market-driven correction to the imbalance between US saving and investment is under way but this may be the case as households are forced to live within their means and to reduce consumption relative to income, that is to say, to save more (Wolf 2008).

⁷ The structural characteristics of the US economy are very different from those of Japan as is discussed in Section III E below. In particular, Japanese households have a high propensity to save and Japan has current account surpluses. However, the failure of Japanese banks to quickly dispose of bad debts led to a prolonged period of sluggish economic activity in the 1990s, a mistake the US should avoid repeating (Smick 2008).

the potential for depositors to panic. The IMF (2008) concludes that the likely outcome of a financial crisis centered on banks and other financial institutions is an extended recession in the US and further financial turbulence and slowing of economic activity elsewhere.



Notes: Data for Q4 2008 are projections from Oxford Economics.

Sources: US Department of Commerce, Bureau of Economic Analysis (2008); Standard & Poor's (2008).

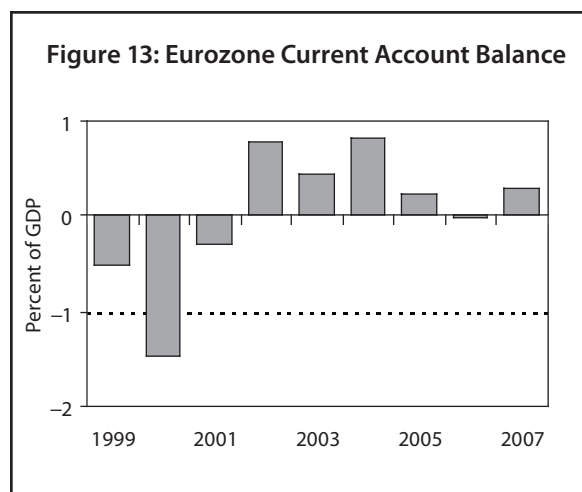
III. The Spread of the Crisis to Financial Markets

This section considers the exposure of various groups of countries in the Organisation for Economic Co-operation and Development to the US meltdown. Housing bubbles in the United Kingdom (UK) and in parts of the eurozone became noticeable almost immediately after the subprime crisis began in the US in August of 2007. The large mortgage lender, Northern Rock, ran into funding difficulties in September 2007 and requested help from the Bank of England. Northern Rock had aggressively expanded its share of the UK mortgage lending from 3.6% in 1999 to 9.7% in 2007 (Bank of England 2008a) and had financed this expansion through securitization of its assets. In a situation of deteriorating credit and money market conditions, Northern Rock faced difficulties in meeting its debt obligations amid doubts about the value of its assets. Quickly the spread between its borrowing and loan rates plunged and Northern Rock approached the monetary authority for help. Liquidity support provided by the Bank of England could not save Northern Rock from bankruptcy, and in early 2008 the UK Government had to place Northern Rock under public ownership.

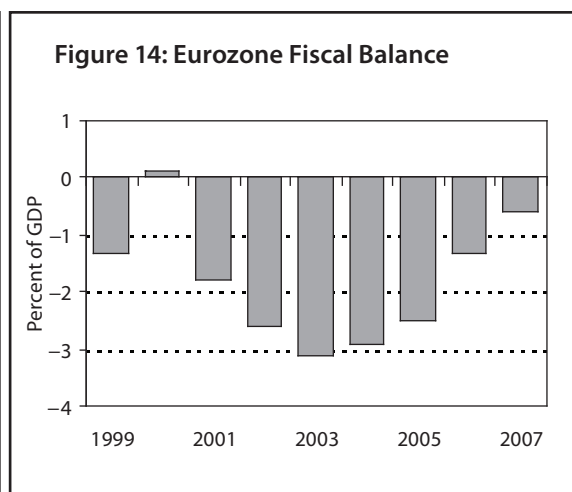
The rapidity with which the US subprime crisis spread across the Atlantic was related to the perception that many investors there had exposure to the toxic assets derived from the US mortgage mess. This perception has proven to be accurate. For example, the Dexia Group (a French-Belgian lender incorporated in Luxembourg) had exposure to the subprime residential mortgage backed securities through its affiliate Financial Security Assurance, Inc., which had to write down losses of over US\$750 million in the first half of 2008, and saw its credit rating downgraded from AAA+ to AAA– and then to AA–. Shortly thereafter the governments of Belgium, France, and Luxembourg had to jointly inject US\$9 billion into Dexia after its shares plunged by 30%. Fears of losses from exposure to the subprime-backed derivatives through the investments by big European banks in failed US investment banks such as Bear Stearns and Lehman Brothers are palpable.

A. The Eurozone

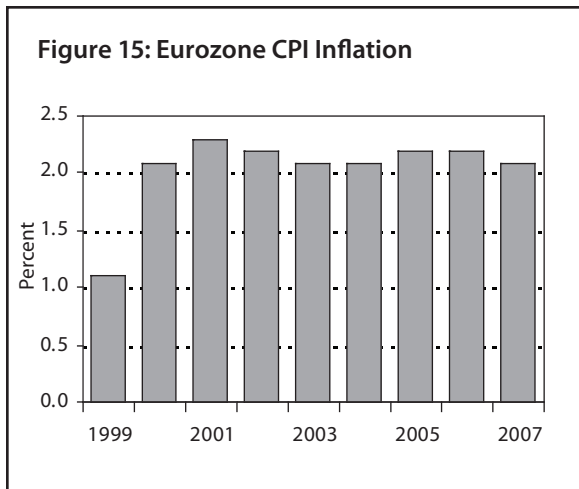
Macroeconomic conditions in the eurozone appeared to be less precarious than in the US case. The current account balance has varied from small surpluses to small deficits, and fiscal balance is also much more comfortable than in the US case (Figures 13 and 14). Consumer price index inflation and growth have generally been more sluggish in the eurozone than in the US (Figures 15 and 16). Monetary policy also has been kept neutral throughout the recent period of financial turbulence, although that may be set to change. The ECB has maintained policy rates generally above the rate of inflation (Figure 17) so credit conditions had not been as loose as in the US (Figure 18). Still housing prices had grown excessively in parts of the eurozone in recent years and have now started to come off their peaks.



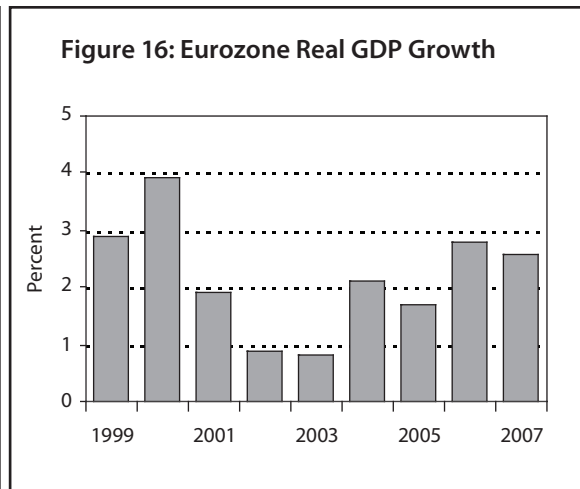
Source: CEIC Data Company, Ltd., downloaded 18 November 2008.



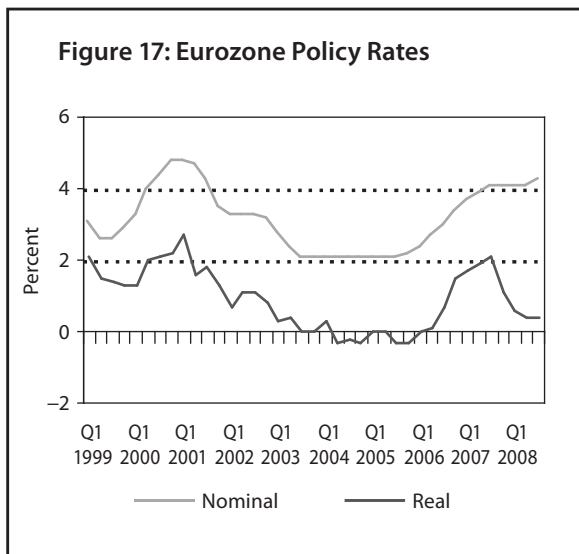
Source: CEIC Data Company, Ltd., downloaded 18 November 2008.



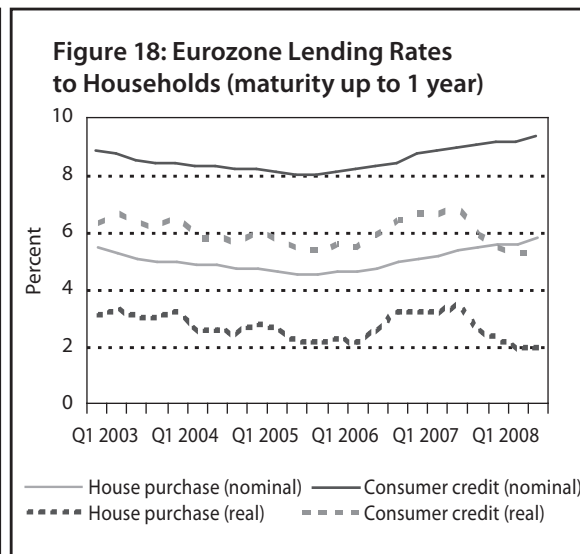
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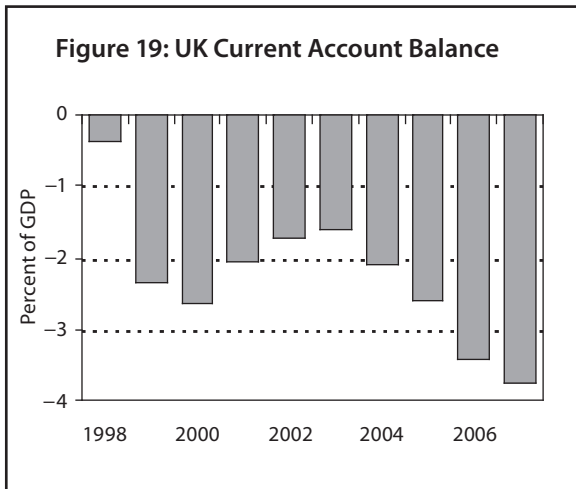
Several recent developments have highlighted institutional weaknesses in the eurozone that may constrain policy makers there from responding as rapidly and flexibly as in the US case, which may mean that the eurozone governments have little margin for policy errors. The ECB mandate does not provide it with the leeway that the Fed has in providing support to ailing banks and financial groups such as AIG. Indeed, recent bailouts of Fortis, Dexia, and Hypo have required national government authorities to provide funds—a task that is complicated when one of these banks has branches in more than one country within the EU. The ECB has been able to provide liquidity injections

that have helped calm markets to some extent. However, if push comes to shove and large private banks start to fail, they may have to seek help under the Paulson Troubled Asset Relief Program (TARP) for which they are eligible to the extent they are holding US-mortgage backed securities and other assets sold them by US entities. Alternatively, credit swap lines that have been established between central banks including the Fed, ECB, Bank of England, Bank of Canada and others may provide liquidity into these banks. Despite criticism of US regulators emanating from European capitals, the eurozone financial supervision has been equally lax; and leverage ratios of big eurozone banks as well as those of the UK are even worse than was the case for failed US investment banks. For example, leverage ratios for Deutsche Bank (1.2%), Barclays (2.4%), and UBS (2.1%) are even lower than the 3% level for Lehman Brothers and Bear Stearns (*The Economist* 2008b.). Bank capitalization is estimated to be around 8% of bank assets (Tier 1 ratio), on average. This may appear to be sufficient but this judgment hinges critically on risk management and valuation of securitized assets. Different risk assessment models are shown to yield disparate estimates of the ultimate loss rate from US subprime mortgages ranging from 10 to 30% for collateralized debt obligation (CDO) models to 25-45% for “risk-neutral” default probability models (Bank of England 2008b). Loss write downs from exposure to subprime backed assets may or may not wipe out a bank’s capital depending upon which model proves to be the more accurate.

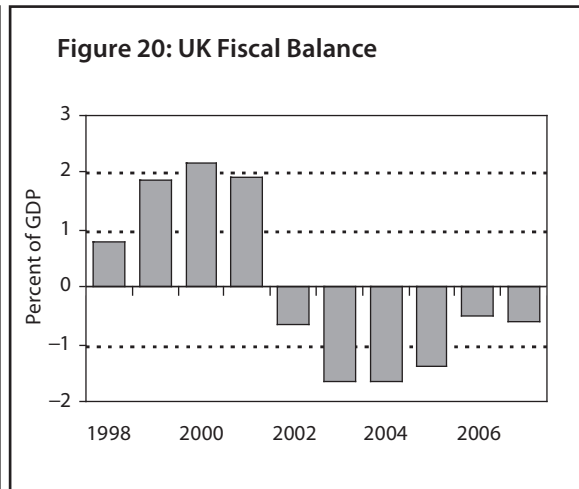
The industrial economies of Australia, Canada, Japan, and UK are facing headwinds from slowing growth in the US and eurozone and financial turbulence.

B. United Kingdom

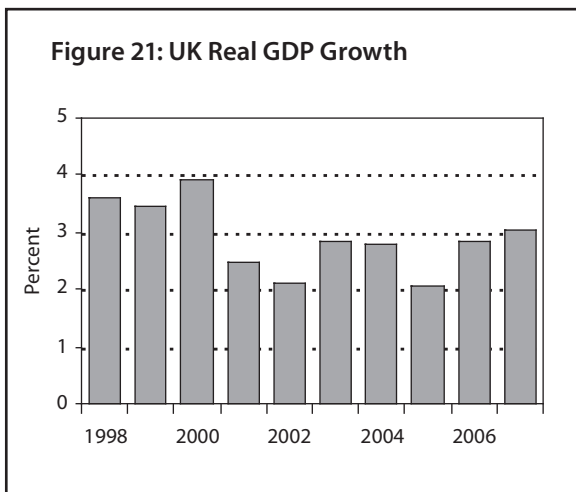
The UK has similar problems to the US with rising current account deficits since 1998 and a persistent budget deficit after 2001 (Figures 19 and 20). The UK’s current account deficits however are smaller as a share of GDP than those of the US. Moreover UK real GDP growth has been close to 3% per annum and has exceeded the rate of inflation in most years in this century (Figures 21 and 22). Inflation has reached new heights in 2008 and was a major reason why the Bank of England kept the policy rate relatively high at or above 5% over the period of Q4 2006 to Q3 2008. It was only cut to 4.5% in coordination with rate cuts by other central banks after the global financial turmoil of late September and October 2008 and remained positive in real terms (Figure 23). Subsequent sharp interest rate cuts in November brought policy rates down to 3.0% with an effective real rate of interest near or below zero. The money supply, however, has been growing rapidly in recent quarters and for an extended period (Figure 24). Consumer credit had expanded at double-digit rates for a prolonged period (1998–2005) but was sharply lower in 2006–2007 before beginning to accelerate again in 2008 (Figure 25). This growth had fueled a housing bubble that extended throughout 2007 before housing prices finally began to fall in Q2 2008 (Figure 26).



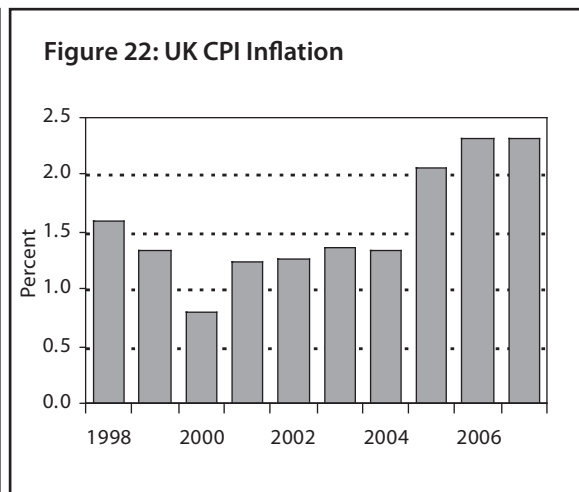
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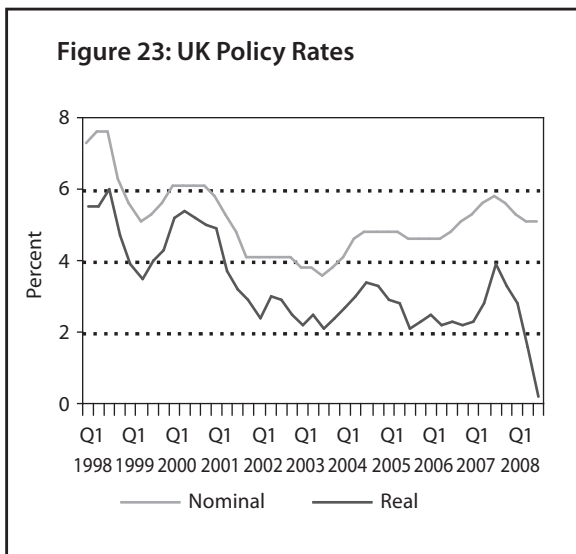
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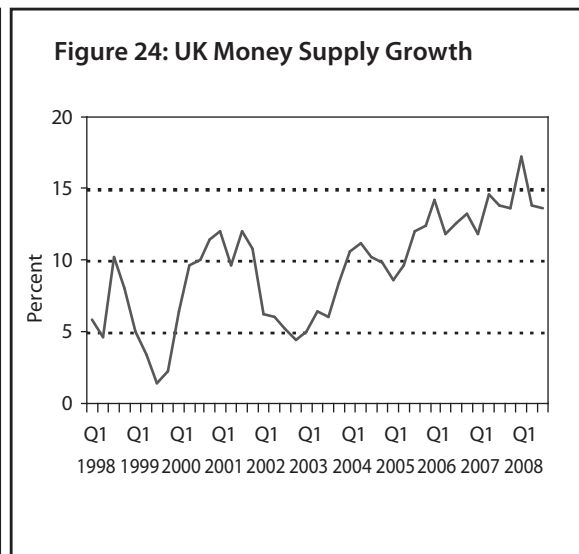
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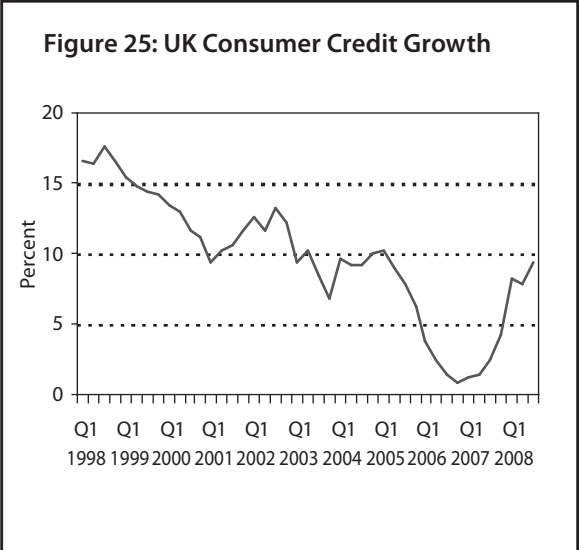
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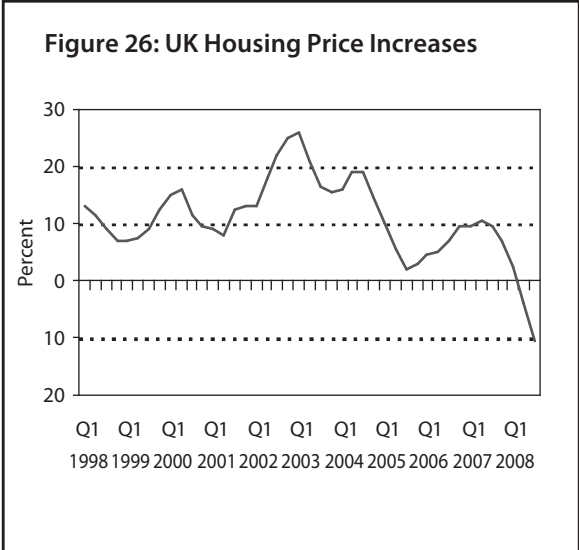
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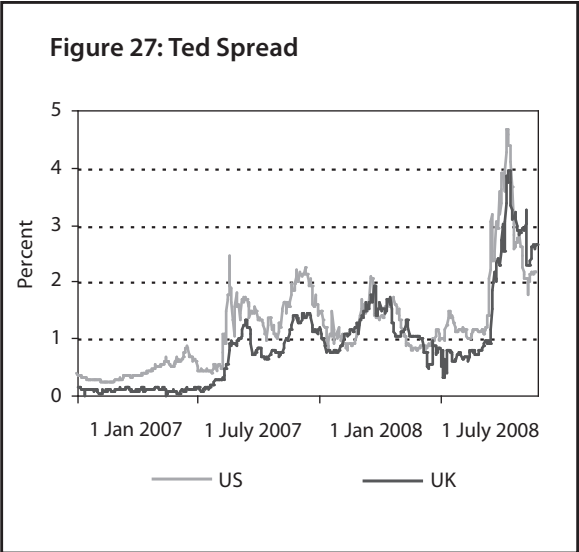


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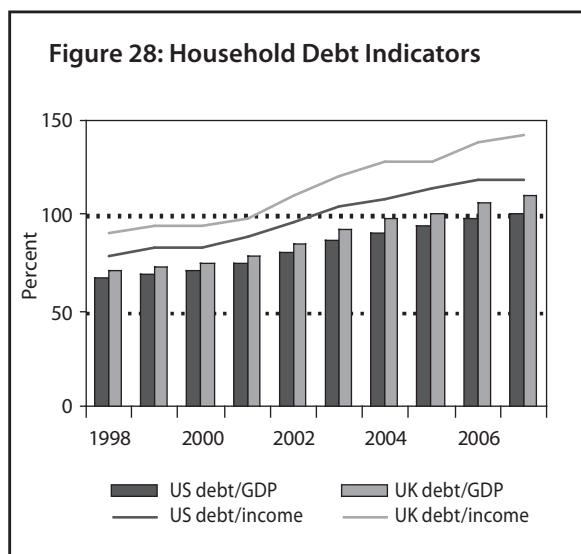
Source: Datastream, downloaded 18 November 2008.

Housing market troubles spread more rapidly into the financial system in the UK with the Northern Rock failure discussed above. In 2008 the deepening of the housing crisis led to the collapse of the large mortgage lender Bradford and Bingley, forcing the UK Treasury Department to take over that institution. The UK government then moved quickly to inject large sums of new capital into the banking system, providing support to a number of large banks in an unprecedented move. These banks had yet to record subprime write-offs unlike their American counterparts. A clear sign that the UK is on a precipice is the sharp increase in LIBOR that occurred in late September and its widening spread over treasuries, reaching about 400 basis points (bp) (Figure 27).



Note: The TED spread is the difference between the 3-month LIBOR and the yield on Treasuries.
 Source: Bloomberg, downloaded 24 November 2008.

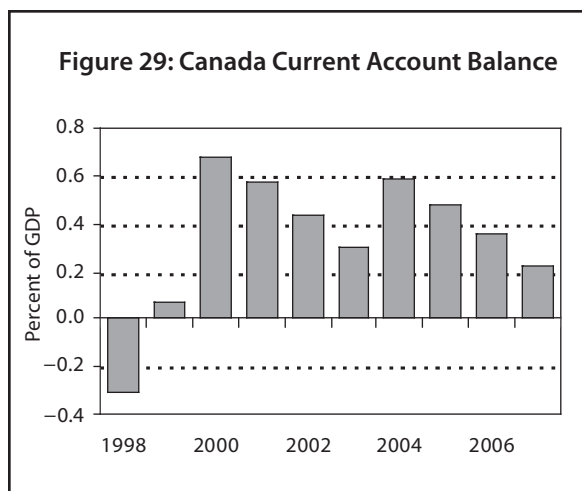
Consumer debt in the UK is even greater than in the US relative to GDP and household income (Figure 28). Hence, the outlook is grim and a prolonged recession is as or more likely to be experienced in the coming 12–24 months.



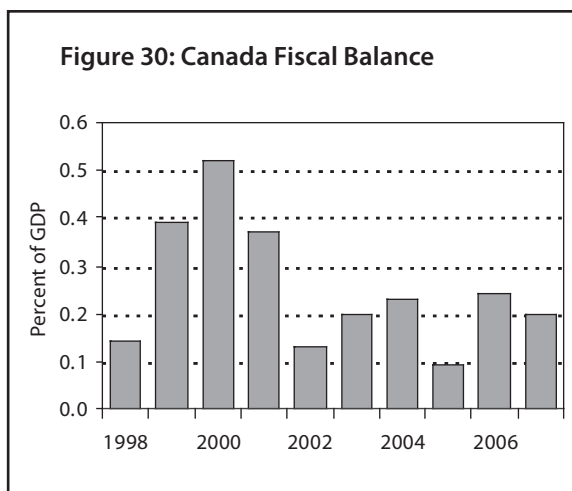
Sources: Board of Governors of the Federal Reserve System (2008); US Department of Commerce, Bureau of Economic Analysis (2008); UK Statistics Authority (2008); Datastream, downloaded 18 November 2008.

C. Canada

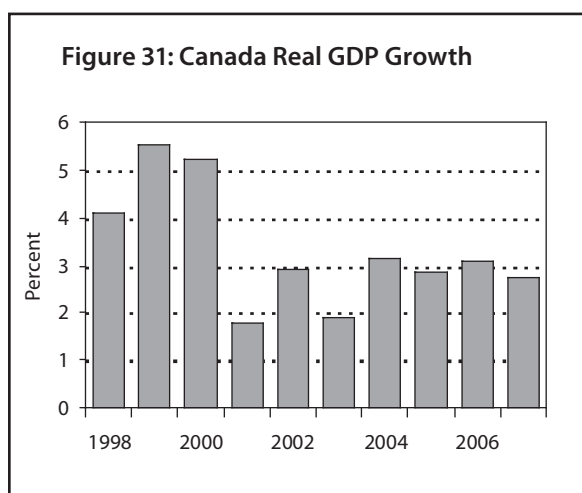
Of all the so-called Anglo-Saxon economies, Canada appears to be in the best shape. It benefited from elevated commodity prices as a net exporter and has experienced current account and fiscal surpluses (Figures 29 and 30). The strong fiscal and current account position has provided Canada with a cushion against the turbulence emanating from south of its border. The growth of real GDP has been stable and sustained at about 3% per annum since 2002 and inflation has remained under control at around 2% through 2007 (Figures 31 and 32). Inflation has been tracking upward in 2008, however. Policy rates have been cut in sympathy with rate cuts in the US (Figure 33) from 4.5% in Q3 2007 to 3.0% in Q2 2008. Still money supply growth has been restrained (Figure 34). Growth in consumer credit has been on the high side (Figure 35) and this has led to accelerated growth in housing prices that finally began to cool in Q4 2006 and thereafter (Figure 36). Housing prices have continued to rise in 2008 but this may be the calm before the storm. Still overall Canada has avoided much fallout from the subprime mess although some losses have been experienced in money market funds that had been exposed to mortgage-backed US securities. Canada is more likely to experience slower growth as a result of US import contraction than through financial market problems, as the US is by far Canada's largest market.



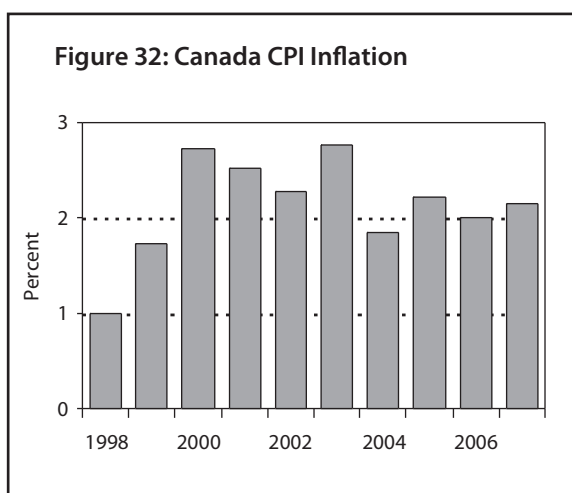
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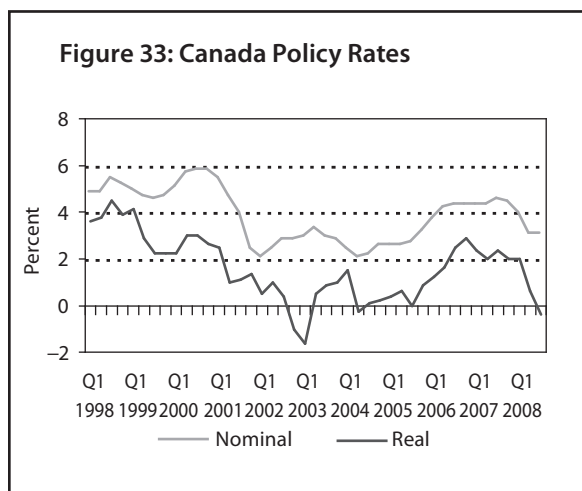
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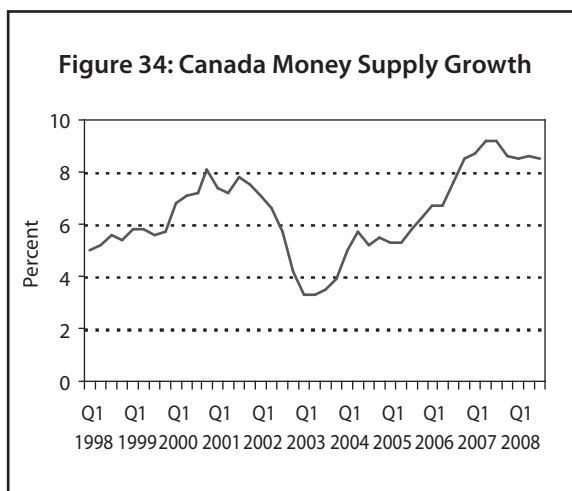
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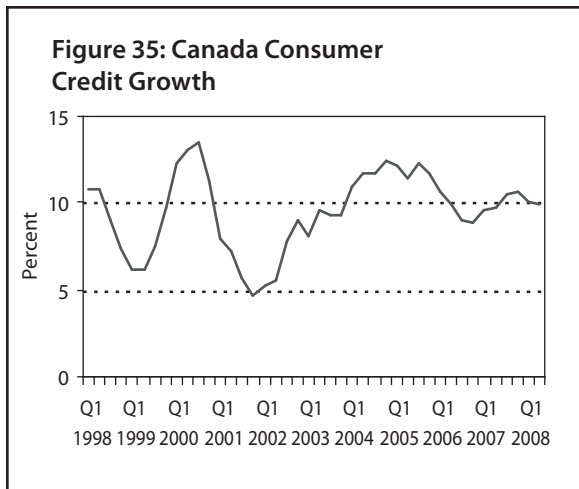
Source: Datastream, downloaded 18 November 2008.



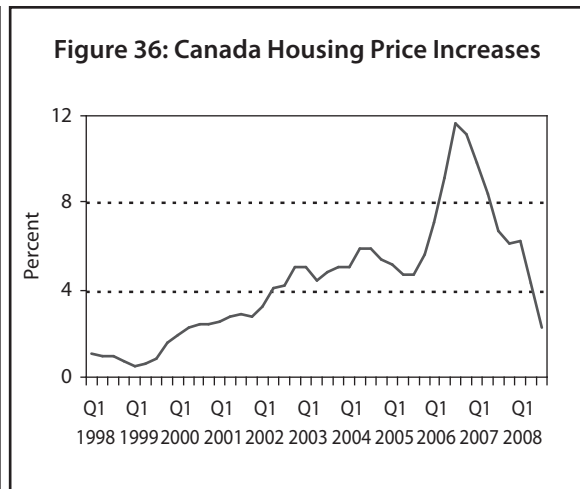
Sources: Datastream, downloaded 18 November 2008; Bank of Canada (2008).



Source: Bank of Canada (2008).



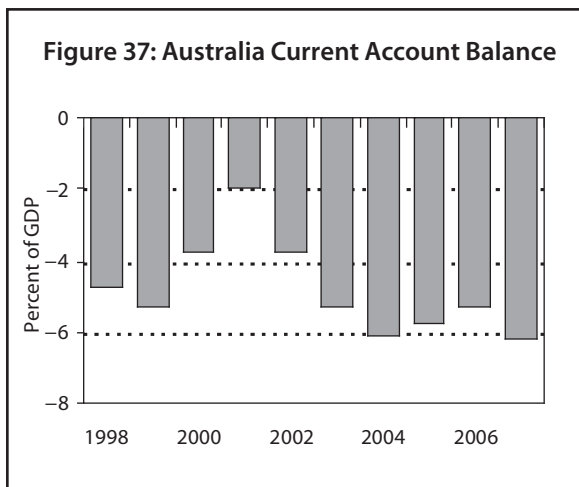
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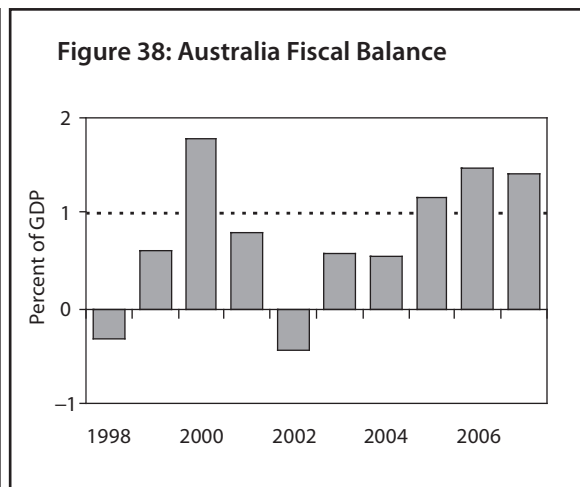
Source: Datastream, downloaded 18 November 2008.

D. Australia

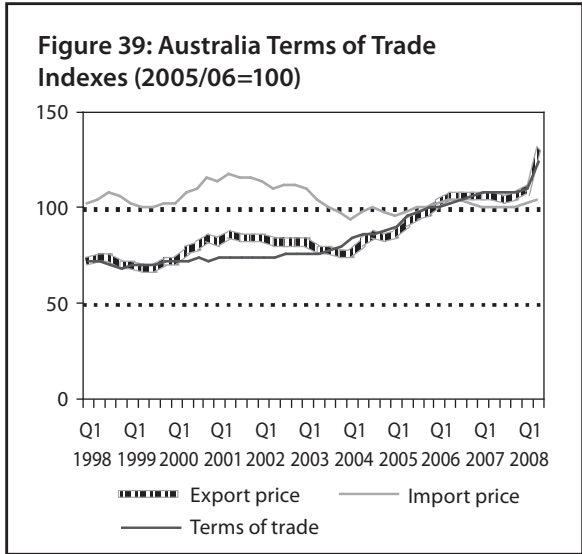
In contrast to Canada, Australia has been as guilty as the US in living beyond its means with burgeoning current account imbalances reaching over 6% of GDP in 2007 (Figure 37). In contrast with the US, the consolidated budget of Australia is in surplus, albeit not a large one (Figure 38). The relative size of the current account imbalance is worrisome and has contributed to the recent weakness of the Australian dollar despite the relative strength of the prices of Australian exports in world markets and terms of trade gains arising as a result (Figure 39). Falling commodity prices in the latter part of 2008 are deteriorating the outlook.



Source: Reserve Bank of Australia (2008).

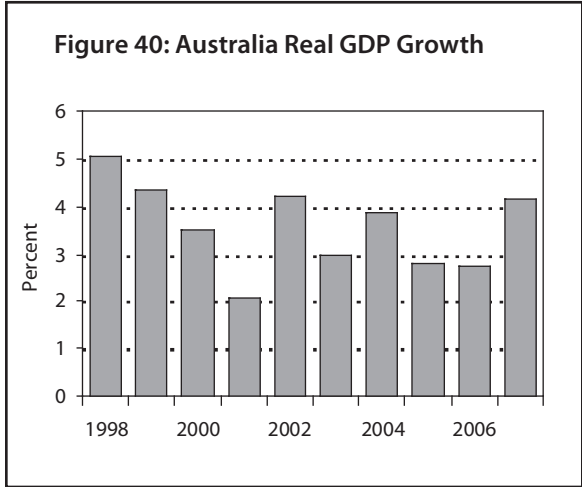


Source: Australian Government Budget (2008).

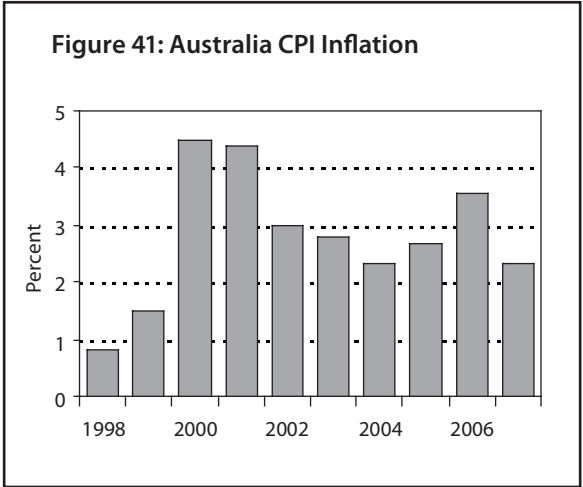


Source: Reserve Bank of Australia (2008).

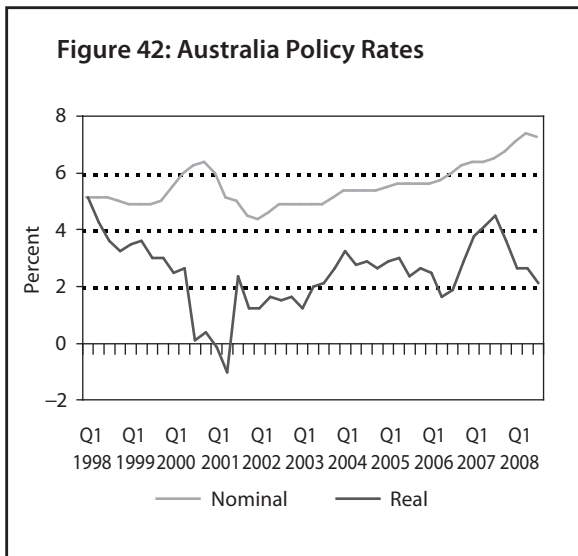
Growth of real GDP has been near the 3–4% range over the last 6 years (Figure 40) and has also matched the rate of inflation in those years (Figure 41). There are clear signs however that the good times are coming to an end. Despite higher policy rates than elsewhere (Figure 42) in the industrial economies, rapid expansion of money supply peaking at over 20% in Q4 2007 and excessive consumer credit growth (Figures 43 and 44) are heating up the housing market (Figure 45). There may be trouble ahead for the banks and a dilemma for the Reserve Bank of Australia as a plunging exchange rate and rising inflation push policy in the opposite direction from easing, at the same time growth is slowing and commodities are coming off recent price peaks. The Australian government has recognized that demand is weakening, and is planning to introduce an offsetting fiscal stimulus in 2009.



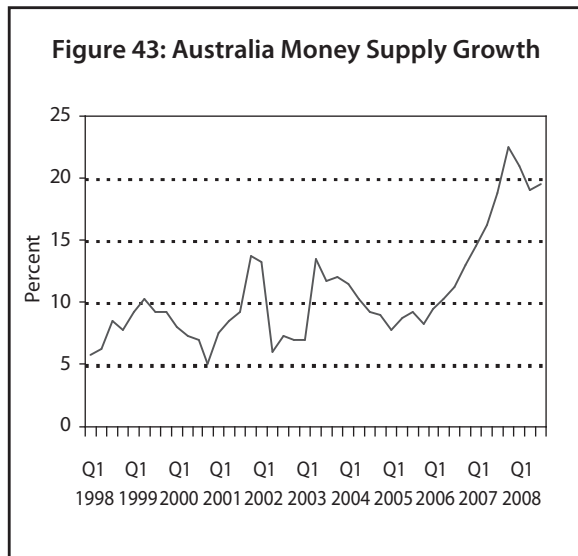
Source: Reserve Bank of Australia (2008).



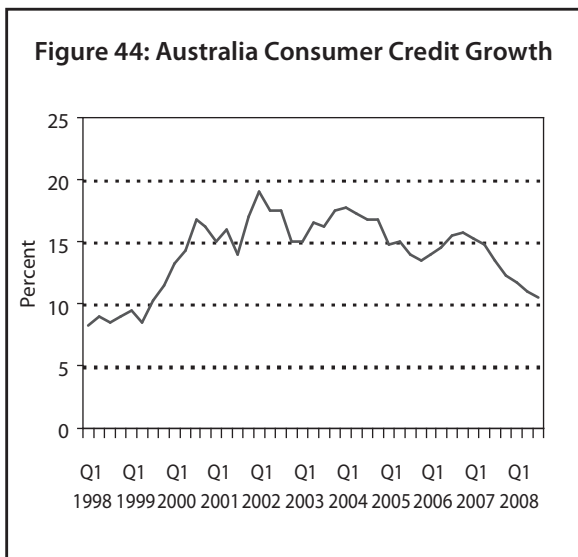
Source: Reserve Bank of Australia (2008).



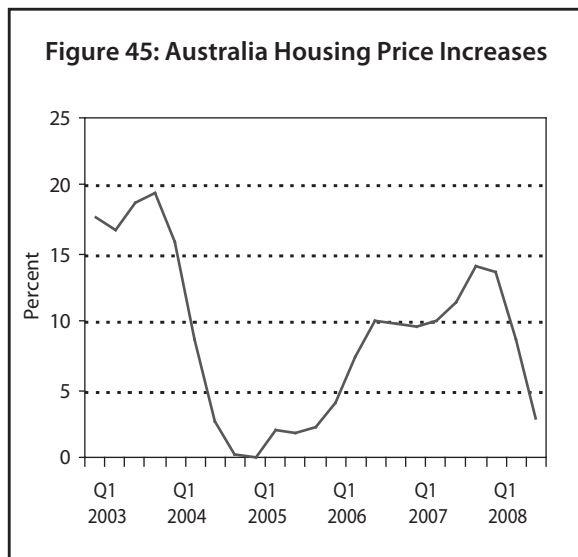
Source: Reserve Bank of Australia (2008).



Source: Reserve Bank of Australia (2008).



Source: Reserve Bank of Australia (2008).

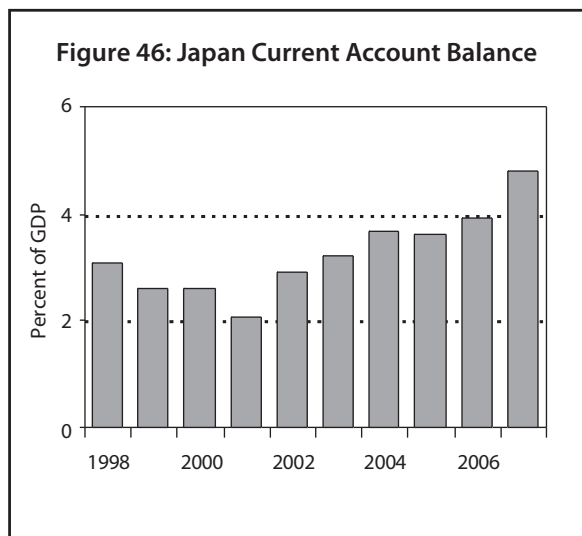


Source: Reserve Bank of Australia (2008).

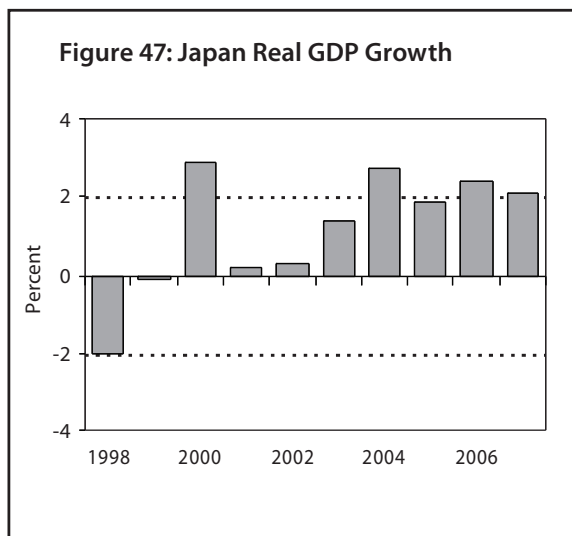
E. Japan

Japan appeared initially to have fared well in the face of the global financial turmoil. It benefited from its limited exposure to toxic assets and a relatively healthy financial sector. Its strong current account position has provided Japan with a cushion against the turbulence (Figure 46). Growth of real GDP had been recovering from the prolonged recession in the 1990s at about 2% per annum since 2004 (Figure 47). The deflation that has persisted since 1999 finally turned to inflation in 2006, which ended the quantitative

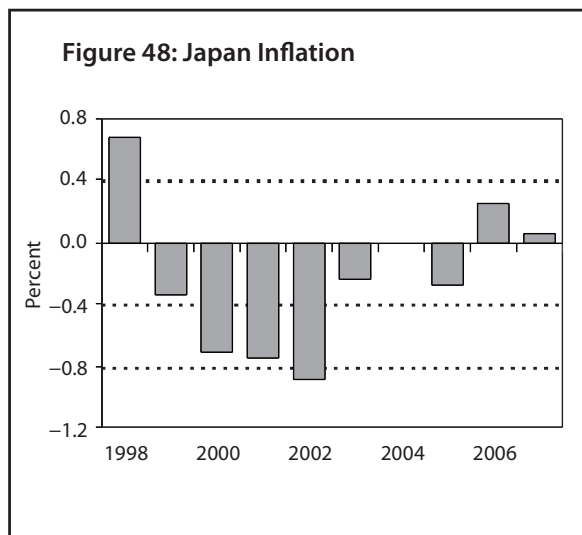
easing monetary policy (Figure 48). As inflation has been far from being a concern, policy rates have been cut following the rate cuts in the US from an already very low 0.5% to 0.3% in October 2008 (Figure 49). Given the positive though moderate inflation rate, with the already low policy rate, the real rate is slipping into a negative range in Japan. While its fiscal deficit persists, Japan's policy options remain extremely limited (Figure 50). Land prices hit their peak in 2007 and started to soften this year (Figure 51). Japan is more likely to experience slower growth as a result of deteriorating terms of trade (Figure 52), exchange rate appreciation (Figure 53), as well as US import contraction than through financial market problems. In 2008 real GDP growth turned negative in both the second and third quarters, thus constituting a technical recession. The import demand from People's Republic of China, Japan's major trading partner followed by the US, will be the key to its economic growth prospects in 2009.



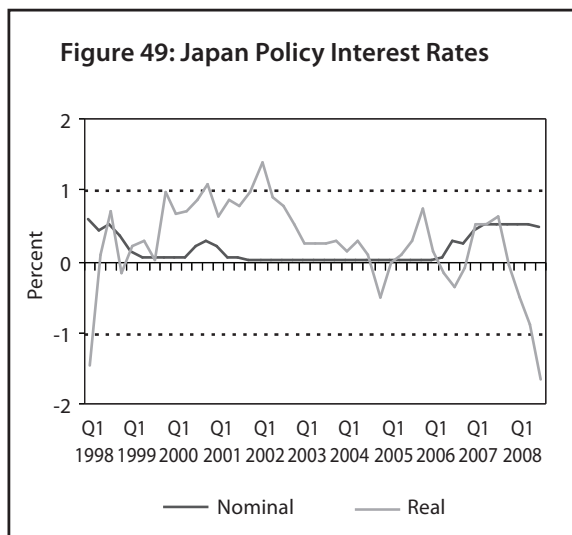
Source: Ministry of Finance (2008).



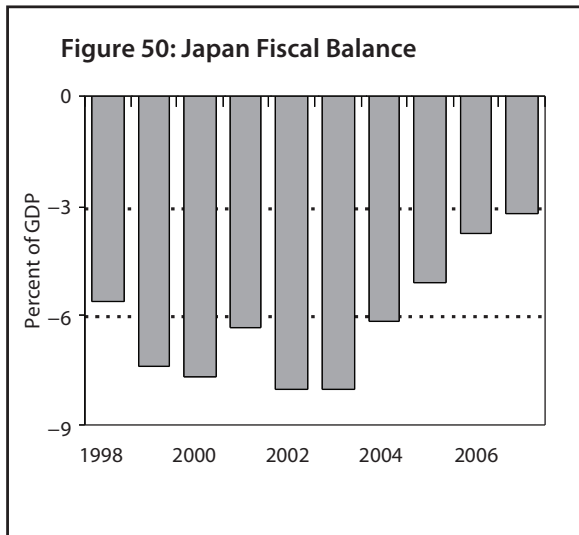
Source: Economic and Social Research Institute (2008).



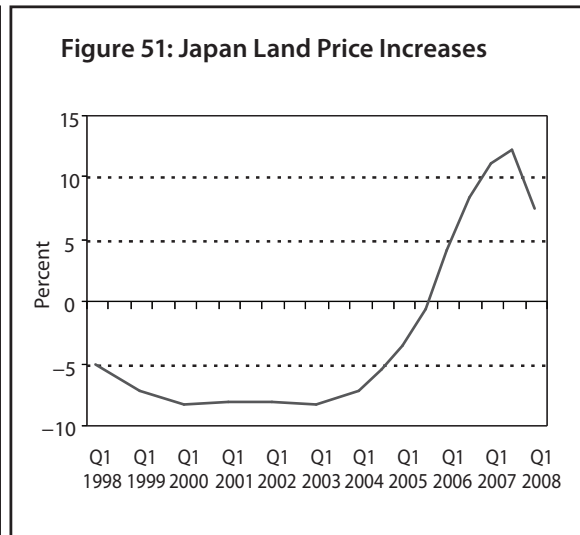
Source: CEIC Data Company Ltd., downloaded 14 November 2008.



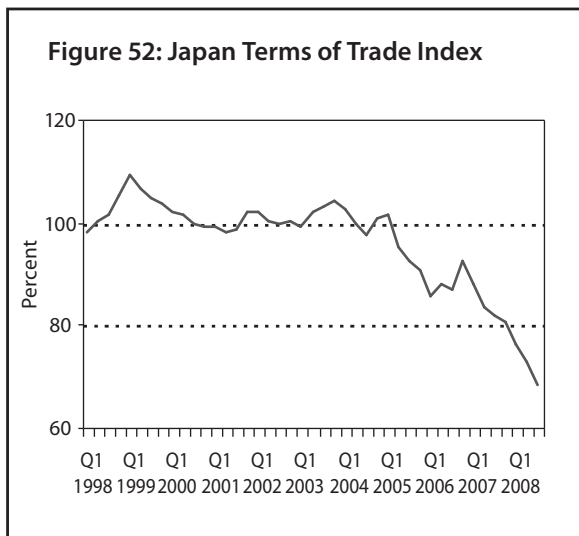
Source: CEIC Data Company Ltd., downloaded 14 November 2008.



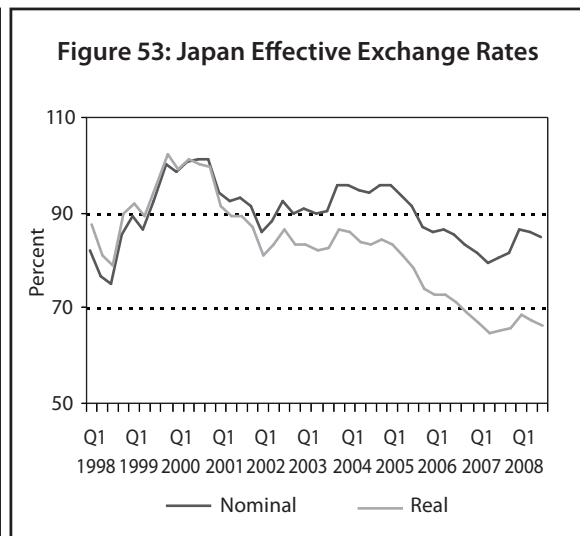
Source: World Economic Outlook Database (October 2008), available: www.imf.org, downloaded 14 November 2008.



Source: Japan Real Estate Institute, available: www.reinet.or.jp, downloaded 14 November 2008.



Source: Ministry of Internal Affairs and Communications, Statistics Bureau and the Director-General for Policy Planning (Statistical Standards) (2008).



Source: Bank for International Settlements, available: www.bis.org/statistics/eer/index.htm, downloaded 14 November 2008.

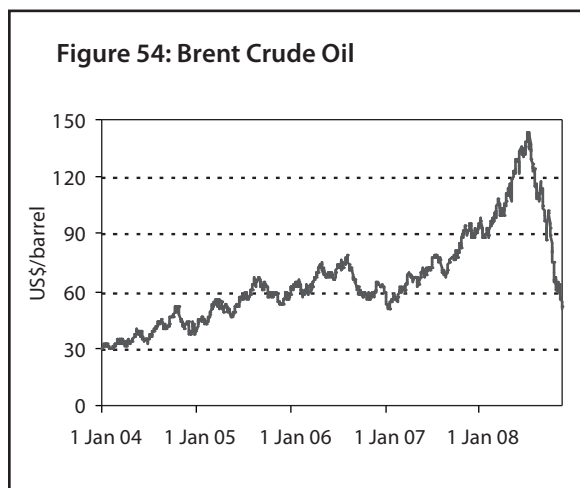
Other surplus-saving economies such as the oil-rich Gulf states and Russia have also found that they are far from immune to the financial turbulence and G3 slowdown. The volatility in commodity prices presents these economies with hard choices and significant risks.

F. Emerging Markets: Russia and the Gulf States

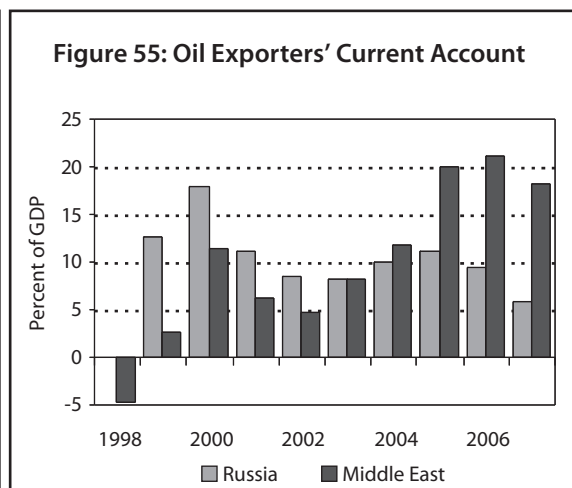
This section considers how the markets of oil-exporting countries have been affected by the US downturn and global financial turmoil and how this might change the outlook for these countries. Why are they so vulnerable to this turbulence? What happens to the US dollar will have a strong effect on the markets in these countries. In turn, this may dampen the outlook for Asian exports and exacerbate the downturn in global growth.

Russia has been hit by financial volatility and its stock exchange has fallen by 60% between May and October 2008. Inflation is in double-digits and at the same time economic growth is weakening from recent peaks. Foreign investors have been selling shares and withdrawing from planned investments as confidence has crumbled surprisingly fast. The sharp drop in oil prices that is accompanying the global slowdown threaten to erode Russia's strong external balance and is revealing some cracks in its financial system. The weakness of large domestic corporate groups with high debt is alarming and casts uncertainty on the outlook for the Russian economy in 2009.

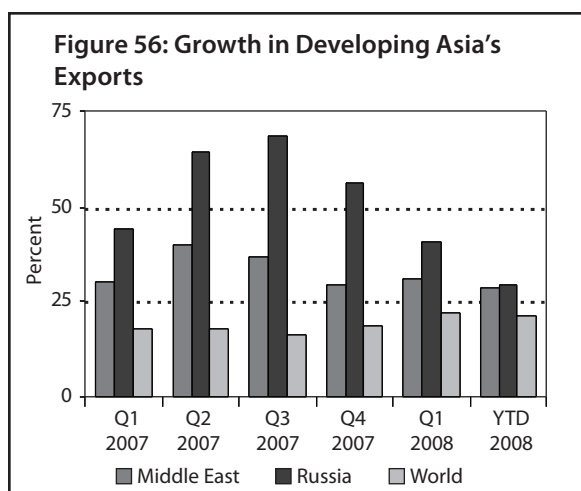
In the Persian Gulf region, high oil prices provided a large current account surplus in recent years fueling stock and real estate market booms (Figures 54 and 55). These countries have shown a good appetite for Asian exports and have been a source of growth at a time of slowing in G-3 markets. However, Asia may not be able to rely for long on these economies to offset weaker industrial country demand (Figure 56). Falling oil prices are imposing constraints on the ability of these markets to continue to experience rapid growth, and there are signs that property and shares are in decline. Estimates are that property prices in Dubai and elsewhere in the region are set to fall, and stock markets are down as much as a third in a number of Arab countries.



Source: Datastream, downloaded 18 November 2008.



Source: World Economic Outlook Database (October 2008), available: www.imf.org, downloaded 18 November 2008.



Note: YTD2008 refers to January–May.

Source: International Monetary Fund, Direction of Trade Statistics CD-ROM (October 2008), downloaded 18 November 2008.

IV. Asian Exposure to the Financial Turmoil

In this section, we explore the issue of the extent to which the current global financial turmoil rooted in the US subprime crisis has affected the financial stability of Asian countries. In Section III, it was seen that the subprime crisis has already spread across the Atlantic to many European countries. The general perception is that so far Asian financial institutions and financial systems as a whole have been largely unscathed by the global credit crisis. By and large, the empirical evidence, which will be presented and discussed below, justifies this upbeat perception. The underlying reason behind Asia's relative immunity is that the region's financial institutions, unlike their counterparts in Europe, have only limited exposure to subprime and related products, the so-called toxic assets. Nevertheless, the global financial turmoil is far from over, as the dramatic events in the fall of 2008 made abundantly clear. It remains to be seen whether Asian financial systems will remain healthy as the global crisis unfolds.

Although the impact of the global financial instability on Asia's financial stability has been limited up to now, we should remember that the region suffered a devastating financial meltdown of its own a decade ago. Underdeveloped financial systems incapable of directing capital to its most productive uses lay behind the devastating Asian crisis of 1997–1998. Postcrisis reform and restructuring efforts have improved the soundness and efficiency of the region's financial institutions but they still lag far behind their counterparts in industrialized countries. In a fundamental sense the relative backwardness of Asian financial systems has turned out to be a blessing in disguise. Their backwardness prevented Asian lenders from moving into complex and sophisticated financial products

that lie at the heart of the current financial turmoil. However, notwithstanding its accidental benefits for Asia at the present, financial underdevelopment is more generally a cause of financial instability and fragility.

At the same time, as a result of postcrisis reform and restructuring, the region's financial system is in much better shape than it was a decade ago. In particular, the health of Asia's commercial banks, which continue to play a dominant role in Asian financial systems despite the rapid development of capital markets, has improved substantially. This improvement is reflected in the incidence of nonperforming loans, capital adequacy ratios, rates of return on assets, and other key indicators. According to Adams (2008), key changes in Asian banking sectors include consolidation and rationalization, greater transparency and disclosure, increase in foreign ownership, and decline in state ownership. Furthermore, in most countries the prudential supervision and regulatory structures have been strengthened, and have become more forward-looking and risk-based. As a result of all those changes, Asian banks have become better at managing risks, which contributed to their avoidance of subprime products.

There are various channels through which the global financial chaos could be transmitted to Asia. The most direct and core transmission channels are through banks and short-term credit markets. Banks may have either direct exposure to toxic assets or indirect exposure through investments in foreign financial institutions with large exposure to toxic assets, e.g., in Lehman Brothers. Furthermore, the seizing up of global cross-border interbank markets will raise the cost of funding for banks relying on those markets. At the level of individual banks, these direct transmission channels have materialized to varying degrees. **However, in Asian countries the banking system as a whole seems to have withstood the shock so far, which goes a long way toward explaining why the global crisis has not spread to the region.** However, the region has not completely escaped the fall-out from the global financial chaos because two more peripheral and indirect transmission channels—equity and US dollar debt markets—have materialized to a more significant degree and uniformly across Asian countries. **We now look at each of the transmission mechanisms to get a more accurate view of the financial impact on Asia.**

A. Asia's Direct Exposure to Subprime Assets

In this section, we examine the popular perception that Asian banks and financial institutions have only limited exposure to toxic assets. The region's direct and indirect exposure to toxic assets is the obvious point of departure for our analysis since toxic assets are, after all, the underlying root cause of the US subprime crisis. According to the estimates of Kawai, Lamberte, and Yang (2008), the direct exposure of Asian financial institutions to subprime products such as MBS and CDOs is in fact minimal. As a result, the estimated losses arising from subprime assets are similarly minimal relative to the size of bank capital and assets (Table 1). This generally benign picture must be qualified by the fact that many regional banks are less than fully transparent about the composition

of their overseas assets and the valuation of complex subprime-related derivatives on their balance sheets. As of May 2008, total reported write-down and credit losses of the world's 100 biggest banks and securities amounted to US\$379 billion. Of these, Asia ex-Japan accounted for US\$10.8 billion, which is less than 3% of global losses. The conventional wisdom that Asia's direct exposure is much less than that of US or Europe is strongly borne out by the empirical evidence.

Table 1: Asia's Subprime Losses

	United States	Japan	Korea, Rep. of	China, People's Rep. of	Malaysia	Total Asia
Subprime losses (US\$ billion)	157.7	8.7	0.4	2.8	0.1	19.5
Total bank assets (US\$ billion)	15,492	11,350	1,184	5,950	267	20,965
Capital of banks (US\$ billion)	1,572	572	85	256	29	998
Subprime losses as share of capital (percent)	10.03	1.52	0.52	1.08	0.30	1.95
Subprime losses as share of assets (percent)	1.02	0.08	0.04	0.05	0.03	0.09

Note: Capital of banks: "capital account" item in International Monetary Fund, International Financial Statistics online database as of December 2007.
Total bank assets as of December 2007 for Malaysia and the US; as of January 2008 for PRC, Japan, and Republic of Korea.
Total Asia includes data on other commercial banks in Asia.
Japan: Mizuho Financial Group and Nomura Holdings.
Korea: Woori Bank.
PRC: Bank of China, Commercial Bank of China, China Construction Bank.
Malaysia: 0.3% of capital base of banks.
US: 14 banks.

Source: Kawai, Lamberte, and Yang (2008).

Even though direct exposure is minimal, developing Asia may suffer from substantial indirect exposure if Asian banks have sizable exposures to major US and European financial firms that hold significant amounts of toxic assets. This risk is material since many of the US and European firms hit by the crisis—Bear Stearns, Lehman Brothers, AIG, UBS, and Fortis—are large, well-established multinationals with extensive business transactions with Asian banks. In particular, Asian banks that have bought bonds or equities in the infected western financial institutions are likely to share in the losses suffered by those institutions as a result of their exposure to subprime products. The larger the direct losses incurred by the holders of toxic assets, the larger will be the indirect losses of Asian investors.

Perhaps the best-known case of a big-name financial firm infected by the US subprime crisis is Lehman Brothers (or Lehman). One of the five biggest US investment banks, the firm was unable to overcome the debilitating effects of its sizable investments in toxic assets and went bankrupt on 15 September 2008. The exposure of Asian banks to Lehman, either reported by the banks themselves or detailed in Lehman's Chapter 11 bankruptcy filing, has been limited (Table 2). At the economy level, Taipei, China and Republic of Korea (henceforth Korea) had the highest exposure levels to Lehman.

According to regulators, financial firms and retail investors in Taipei, China had invested about US\$1.2 billion in Lehman. The Bank of Korea reported that Korean financial institutions had a combined exposure of US\$1.34 billion to Lehman and Merrill Lynch. Philippine banks had a combined exposure to Lehman worth US\$386 million, while the corresponding figure for Thailand's 14 commercial banks was US\$124 million. The absorptions of Bear Stearns into JP Morgan and Merrill Lynch into Bank of America have not adversely affected Asian banks.

Table 2: Selected Asian Banks with Exposure to Lehman Brothers

Bank	Economy	Exposure (million US\$)
Citibank (Hong Kong, China branch)	Hong Kong, China	275
Mega Financial	Taipei, China	200
Industrial and Commercial Bank of China	China, People's Rep. of	152
Banco de Oro	Philippines	134
Bank of China	China, People's Rep. of	129
Bangkok Bank	Thailand	101
Bank of Nova Scotia (Singapore branch)	Singapore	93
Development Bank of the Philippines	Philippines	90
Shin Kong Fin	Taipei, China	80
Metropolitan Bank and Trust Company	Philippines	71

Source: Reuters (2008).

While the impact arising from the Lehman bankruptcy appears limited so far, stock price developments indicate that some exposed banks experienced or are still experiencing selling pressures. The annual returns of some exposed banks reveal severe selling pressure. We examine the beta of bank stocks, which is a measure of the correlation between the total returns to an individual bank stock and the overall stock market index. A beta greater than 1—indicating that the bank stock declines more than proportionately against the overall stock market—suggests that the bank is relatively risky.⁸ The index is constructed only for negative returns to focus on negative shocks. Therefore, during high-stress episodes, this index would reflect an unusually large drop in banking stock prices relative to overall market prices. Among the banks for which data are available, Banco de Oro of the Philippines has been under selling pressure since July, and the Mega Financial Holding of Taipei, China has also recently come under pressure; the betas of both banks exceeded 1.

In contrast to Lehman Brothers, the US government considered AIG too big to fail and rescued the insurance giant with a massive bailout package of about US\$100 billion. Only a few Asian banks and financial institutions have reported exposure to AIG. Korea's National Pension Service held US\$177.71 million worth of stocks and bonds in AIG, Lehman, and Merrill Lynch, and booked total losses of US\$107.4 million from such investments. In Hong Kong, China, Bank of East Asia's exposure to AIG totaled HK\$ 49.9 million. Fannie Mae and Freddie Mac were effectively nationalized by the US

⁸ The betas are the coefficient on the rolling returns of each country's banking sector index regressed on the returns of the country's overall stock market index.

federal government in September 2008. Asian central banks have accumulated hundreds of billions of Fannie Mae and Freddie Mac bonds, largely as a means of recycling their large and growing foreign exchange reserves. For example, Standard & Poor's estimates that, as of June 2008, the People's Bank of China held US\$340 billion of such securities. Asian banks and financial institutions are also believed to have substantial exposure to the two lenders' securities. This helps to explain why stock markets across the region rallied strongly when the \$700 billion US bailout was announced.

B. Impact on Asian Banking Systems

Despite the rapid development of capital markets in recent years, Asian financial systems continue to be dominated by commercial banks. As such, looking at the banking system's soundness must be at the front and center of any meaningful evaluation of the impact of the global financial turmoil on Asian financial systems. Broadly speaking, the fundamentals of the Asian banking industry were strong when the subprime crisis broke out in the fall of 2007. At that time, all the key industry performance indicators—nonperforming loans as a share of total commercial bank loans, risk-weighted capital adequacy ratios, and rate of return on commercial bank assets—all told the same, upbeat story (Table 3). Although there are differences across countries, the unmistakable overall trend is one of systematic improvement in the health of the region's banking system since the Asian crisis that precipitated the system's restructuring and reform. The incidence of nonperforming loans has come down and the rate of return on bank assets has gone up throughout the region between 1999 and 2007/2008. Although the risk-weighted capital adequacy ratio has declined in some countries, this reflects the extreme conservatism of banks and hence unusually high ratios in the immediate aftermath of the Asian crisis. The ratios prevailing in the region in 2007/2008 are above the global norms for capital adequacy.

Even though the financial indicators suggest that banking systems are currently healthy, banking systems may not be resilient to negative shocks and risks. Past history of financial crises suggests that seemingly healthy financial systems can collapse when put under severe pressures such as the current global turmoil. Given the inherently fragile nature of financial systems, many central banks and/or supervisory agencies regularly conduct stress-testing of their country's financial systems. Stress testing is a simulation technique used on asset and liability portfolios to determine their sensitivities to different financial situations. Stress testing is a useful method of determining how a portfolio will fare during a period of financial crisis by imposing various scenarios that are sufficiently robust and forward-looking. Among the Asian economies we examined, Indonesia; Hong Kong, China; Korea; and Singapore regularly conduct stress tests, some of which are publicly available. Given the current global financial turmoil, it would be particularly interesting to see what the stress tests reveal about the robustness of Asian financial systems to credit and liquidity risks.

Table 3: Financial Soundness Indicators

	Nonperforming Loans (percent of bank loans)		Risk-weighted Capital Adequacy Ratio		Bank Return on Assets	
	1999	2007/2008	1999	2007/2008	1999	2007/2008
Developing Asia						
China, People's Rep. of	-	6.7	12.8	7.7	0.1	1.0
Hong Kong, China	7.2	0.8	18.7	14.3	0.4	2.0
India	14.7	2.8	11.2	12.6	0.5	1.0
Indonesia	32.9	8.5	-6.7	20.5	-8.7	2.7
Korea, Rep. of	8.3	0.8	10.8	12.0	-1.3	0.9
Malaysia	16.6	6.6	12.5	13.2	0.7	1.5
Philippines	14.6	5.8	17.5	15.9	0.4	1.4
Singapore	5.3	1.8	20.6	14.0	1.2	1.4
Thailand	38.6	7.9	12.4	14.8	-5.7	0.1
Other						
Japan	5.8	1.4	11.9	12.3	-0.9	0.3
United States	1.0	1.7	12.2	12.8	1.3	0.6

Note: Latest data for the PRC are as of December 2007 for nonperforming loan ratio, and June 2007 for the other two indicators. Latest data for Hong Kong, China; India; Indonesia; Japan; Republic of Korea; and US are as of March 2008. Latest data for Malaysia are as of November 2007 for nonperforming loan ratio and December 2007 for the other two indicators. Latest data for the Philippines are as of September 2007 for risk-weighted capital adequacy ratio and December 2007 for the other two indicators. Latest data for Singapore are as of September 2007. Latest data for Thailand are as of December 2007.

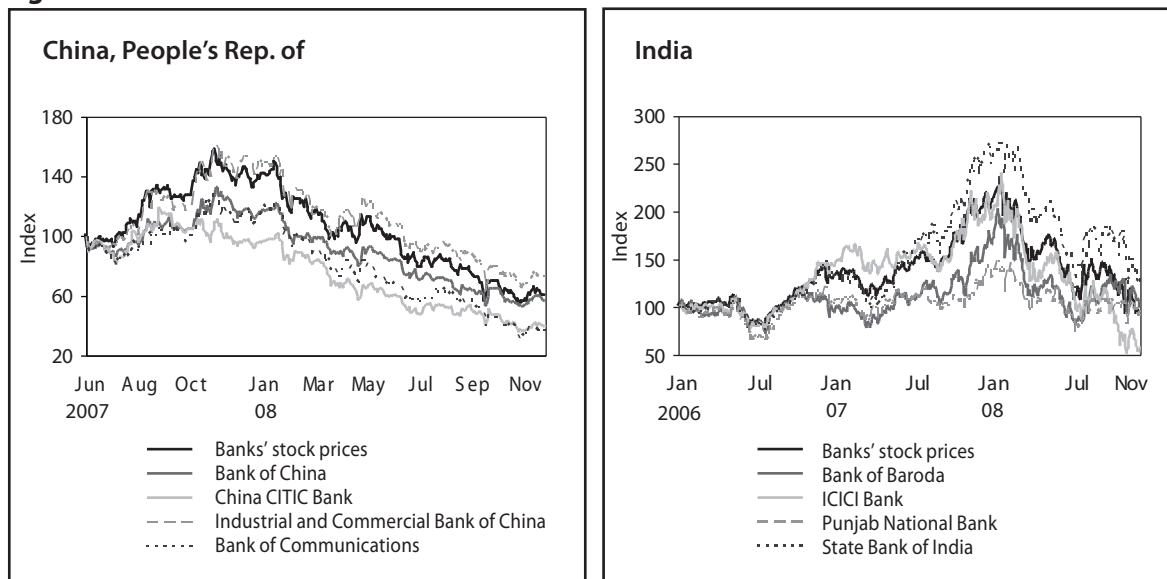
Sources: *Global Financial Stability Report* (International Monetary Fund 2008b and 2004).

While the exact details differ, the reported test results of Indonesia; Hong Kong, China; Korea; and Singapore broadly convey the same message—the financial systems are generally resilient to various shocks. For example, Bank of Indonesia (2008) reports the result of a stress test, and concludes that banks are resilient to the risks associated with credit, the interest rate, and exchange rate, as well as the price of government debt securities. The central bank of Hong Kong, China (Hong Kong Monetary Authority) reports the stress test result in their *Half-Yearly Monetary and Financial Stability Report* (most recently published in June 2008). A variety of shocks similar to those that occurred during the Asian financial crisis are individually introduced into a macro stress testing framework. These include negative real GDP growth in Hong Kong, China; the declining growth of the People's Republic of China's (PRC) real GDP; a rise in real interest rates; and reduction in real property prices. The test results reveal that except in extreme scenarios, credit losses would be minimal and the banks would continue to make profits even under a stressed scenario. This suggests that the current credit risk of the banking sector is moderate. The *Annual Report 2007/2008* of the Monetary Authority of Singapore states that Singapore's financial system is resilient under stressed scenarios, largely due to the limited exposure of Singapore-based financial institutions to US subprime mortgage-backed assets and collateralized debt obligations. The *Bank of Korea (2008)* reports the results of stress tests conducted on Korean banks' portfolios at the end of 2007. Under all scenarios and five different types of shocks (i.e., interest rates, stock prices, exchange rates, oil prices, and global economic slowdown) the stress test reveals that their risk-

weighted capital ratio would decline by up to 2.22 percentage points from the baseline value (end of 2007), but banks' capital ratio would remain at 8% or above.

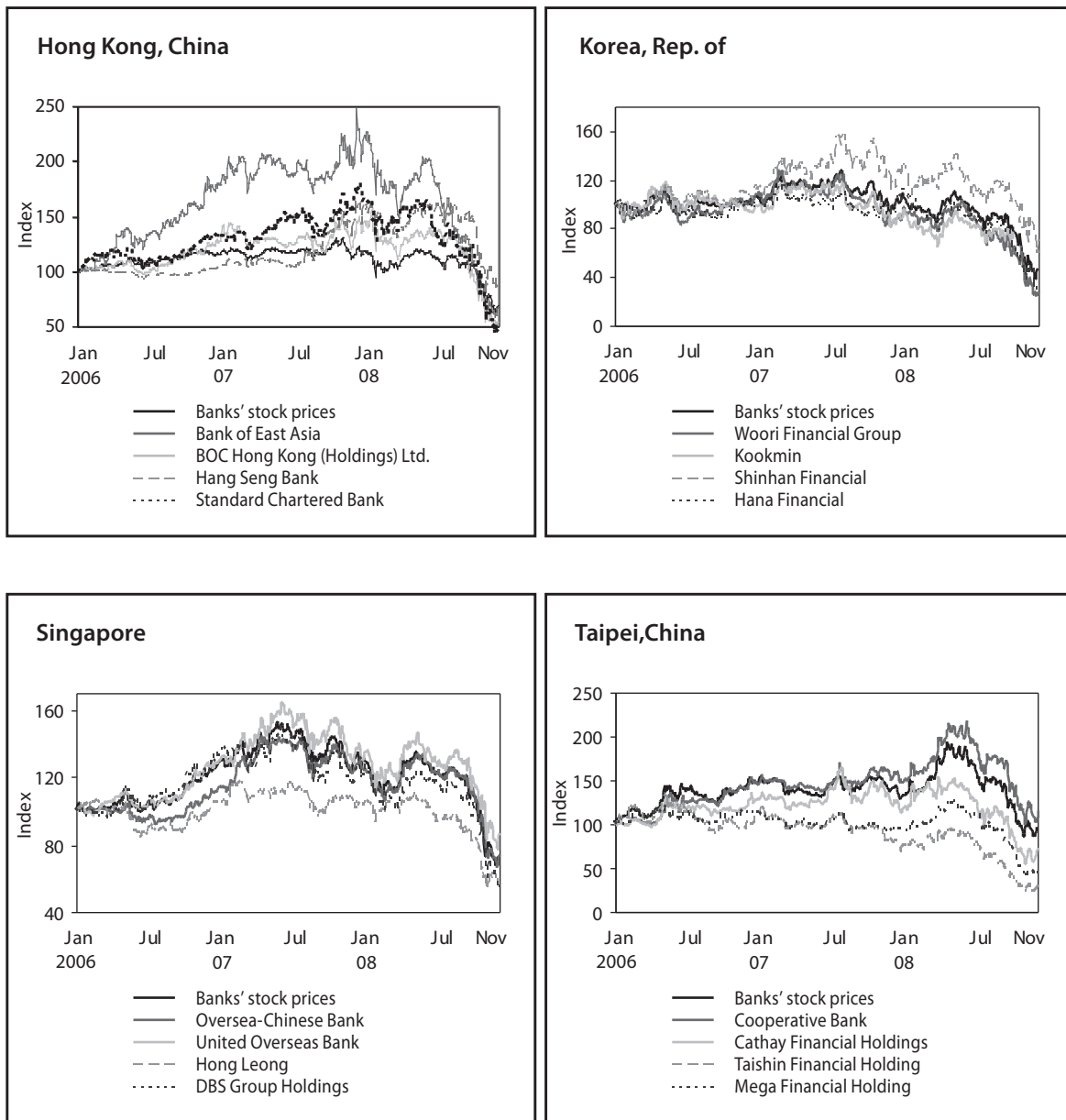
The stress test results, along with financial soundness indicators, suggest that Asian banks entered the subprime crisis in good health, but it is not clear how they will leave, even though the signs are positive up to now. One indirect way to monitor the health of Asian banks as the global credit crisis unfolds is to track the movement of their share prices. In a market economy, the stock market is often the most comprehensive, sensitive, and accurate repository of firm-specific information. At a minimum, the share price of an individual bank provides at least some information about the stock market's perception of that bank's future prospects. For example, if, due to new developments, market participants perceive a bank to be highly exposed to toxic assets, the share price of that bank will decline. By the same token, the composite index of a country's banking shares gives some indication of the health of the banking system as a whole. The share prices of some individual banks as well as the banking sector share index for 10 Asian economies are tracked (Figure 57). The movements of bank share prices indicate that market perceptions of the future prospects of individual Asian banks and banking systems have deteriorated sharply since the outbreak of the subprime crisis in the fall of 2007.

Figure 57: Banks' Stock Prices



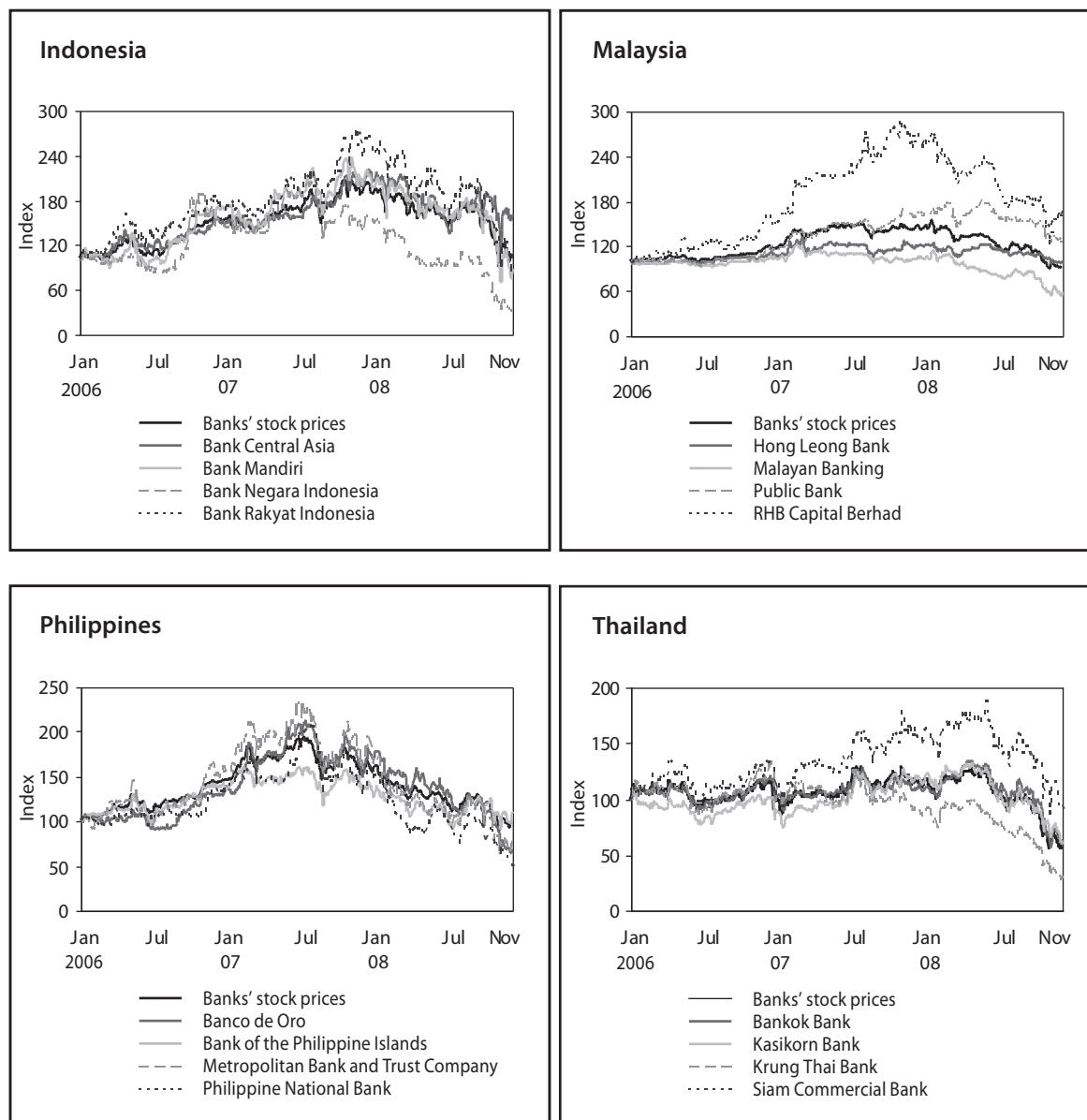
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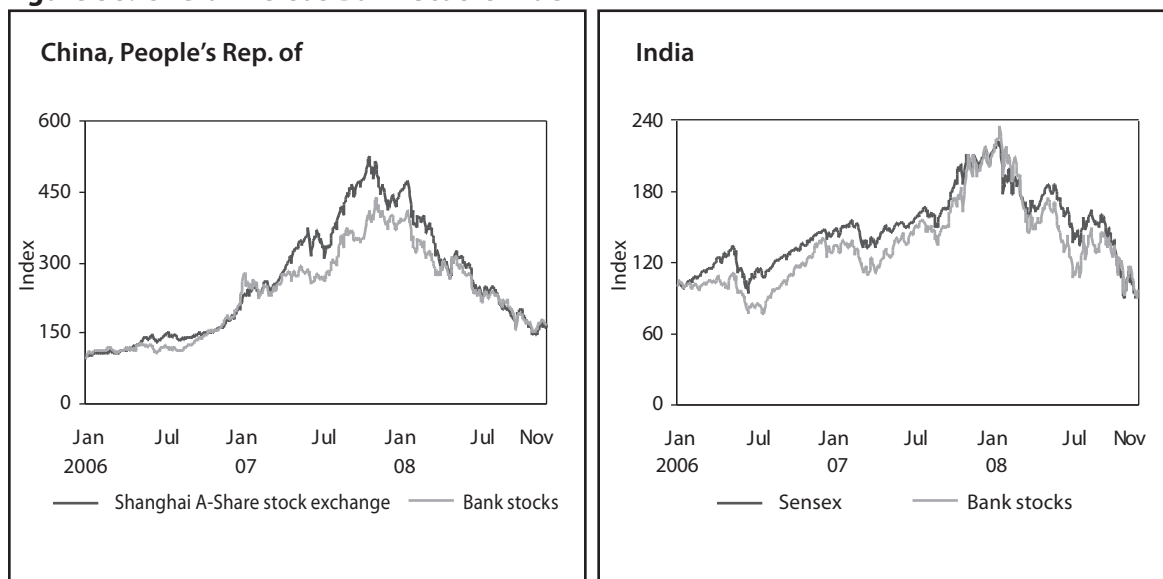


Note: The base period is 2 January 2006, except for the PRC where the base period is 1 June 2007.
Sources: Bloomberg and Datastream, both downloaded 27 November 2008.

It is important to note that by and large the fall in share prices cannot be attributed to poor banking industry fundamentals. The decline in bank share prices does not so much reflect concern over a deterioration of industry fundamentals as it does concern over the gathering clouds on the global economic outlook and its impact on Asian economic growth. In particular, the spillover of the global financial crisis to the real economies of the G3 will adversely affect Asian countries' export and growth performance. Banking is a

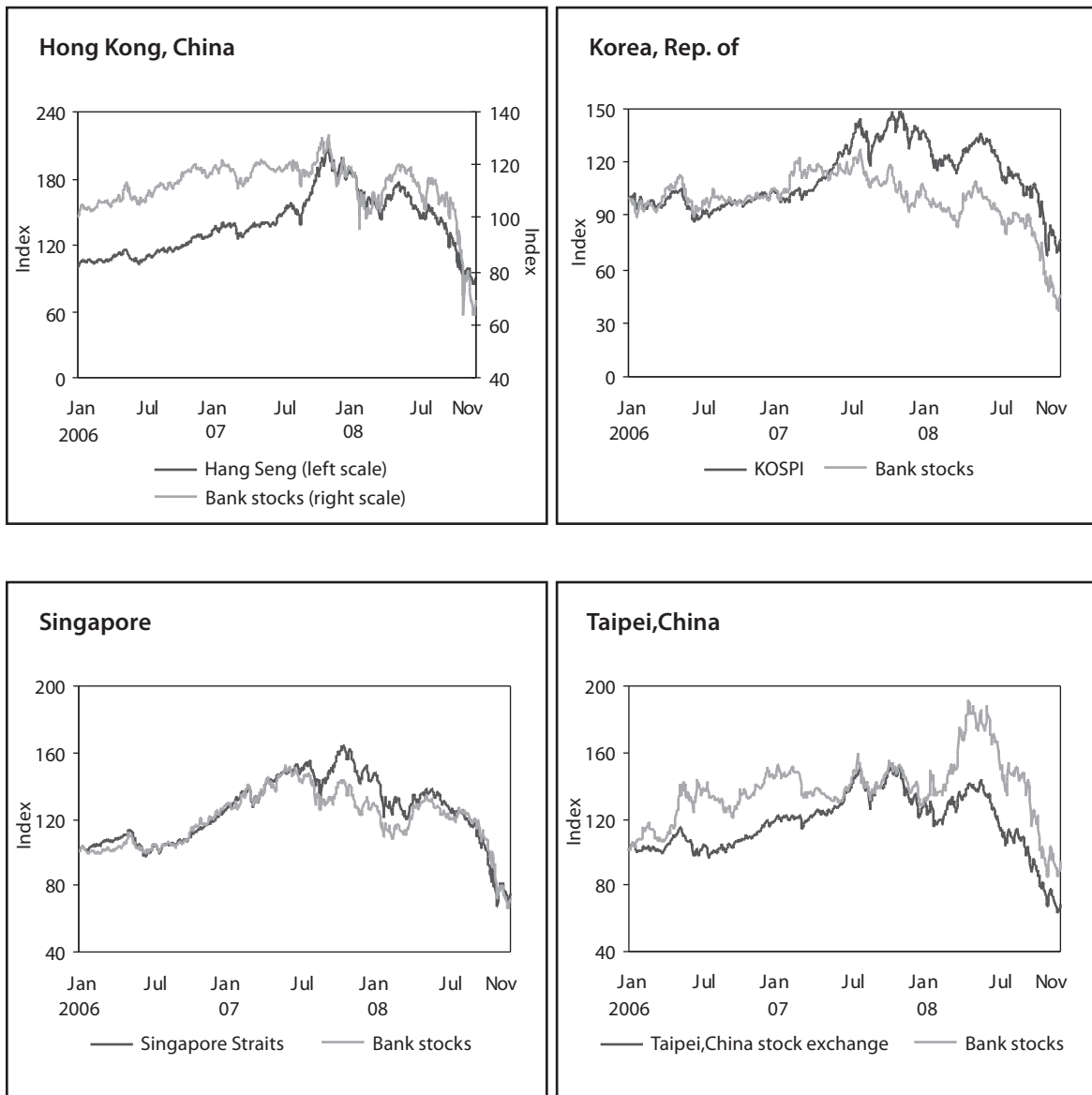
highly pro-cyclical industry that performs well during booms and poorly during recessions. The banking stock index closely tracks the overall stock index both before and after the onset of the global financial crisis. This indicates that the poor postcrisis performance of regional banking shares is largely due to the factoring-in of the adverse impact of the global economic slowdown on banks' earnings (Figure 58). By the same token, the generally positive pre-crisis performance of regional banking shares mirrors the region's robust economic performance. Nevertheless, whether the banking industry's fundamentals are solid or not will depend to some extent on the macroeconomic environment facing the industry. For example, given the likelihood of an increase in nonperforming loans in the unfolding economic slowdown, the region's banks should set aside more provisions for nonperforming loans. This suggests that capital ratios that may have been adequate before are unlikely to be adequate in the current environment.

Figure 58: Overall versus Bank Stocks Index

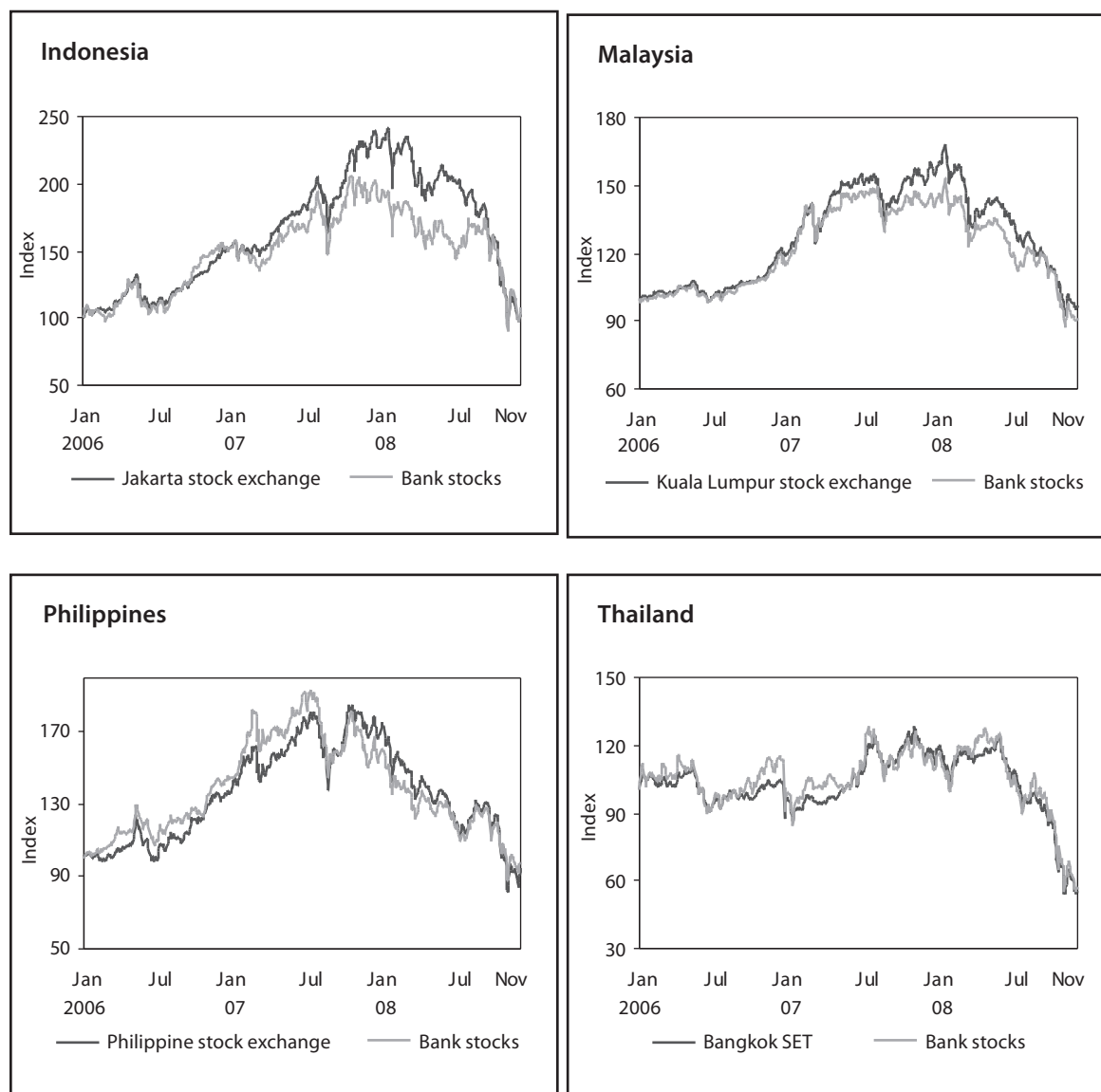


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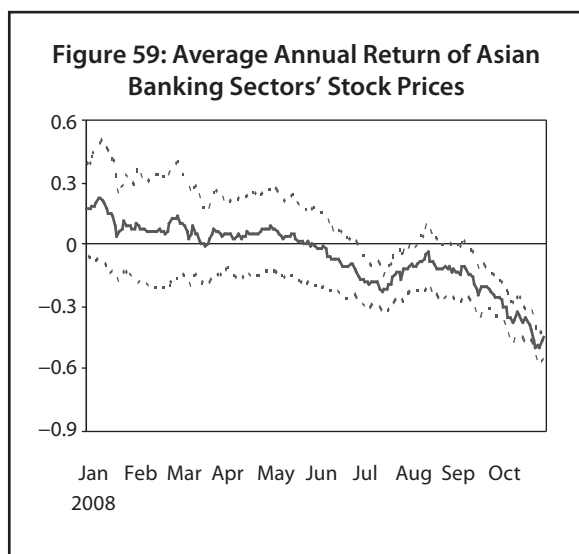
Note: The base period is 2 January 2006.

Source: Datastream, downloaded 27 November 2008.

In terms of the annual returns of the banking sector stock indices, all Asian economies in our sample exhibit a similar trend.⁹ While about half of the economies enjoyed positive returns until June, all economies have slipped into negative returns since July this year. The lowest average return of -50% was recorded at the end of October, when the return of the PRC banking system slumped to more than -65% (Figure 59). In addition to the

⁹ Annual return is simply the daily growth rate in bank stocks price index computed over a 1-year period (e.g., between 2 January 2007 and 1 January 2008) and averaged across 10 major economies: PRC; India; Hong Kong, China; Korea, Rep. of; Singapore; Taipei, China; Indonesia; Malaysia; Philippines; and Thailand.

persistence of negative returns, another noteworthy development in recent months has been the narrowing of the standard deviation of the returns. The fact that the banking sector shares in Asia have been fluctuating much more closely lately suggests that those movements are largely driven by common concerns over events in the US.



Note: The solid line is the average annual return, and the dotted lines are the average ± 1 standard deviation of the returns.

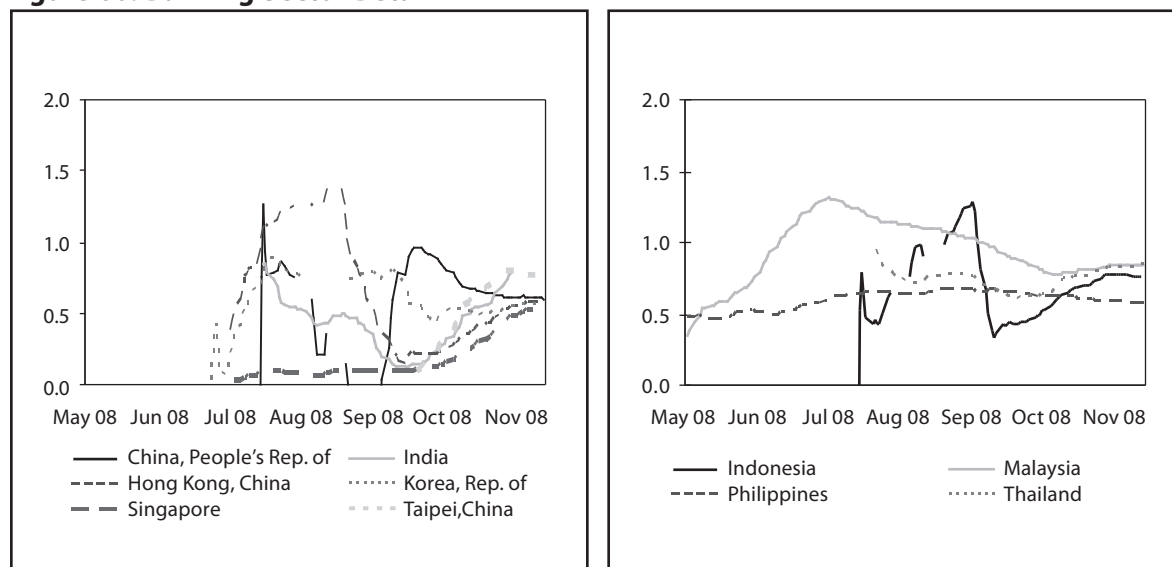
Sources: Staff calculations from Bloomberg and Datastream, both downloaded 18 November 2008.

The stock price movements suggest that although Asian banks have fared well in the global financial turmoil so far, it is far from certain that they will continue to do so in future.

Next, we examine the beta coefficients more closely. Those coefficients help us to distinguish between (i) bank stock prices falling simply due to deteriorating general economic conditions versus (ii) banking stocks falling as a result of risks and unfavorable factors specific to the banking sector. A closer look at the beta coefficients of the banking sector price indices reveals that banking sectors of Hong Kong, China; Indonesia; and Malaysia have experienced market pressure since May this year (Figure 60). The first surge of negative pressure hit the Malaysian banking sector in early July. The beta exceeded 1—a sign of heavy selling pressures, above and beyond the market average—driven by selling pressures against a couple of major banks. Some are known to be exposed to Lehman, but others are not. Likewise, the banking sectors in Indonesia and Hong Kong, China subsequently came under pressure, albeit at different times. In other economies, there have been some instances of beta exceeding 1 at the individual bank level but not at the overall banking sector level. The evidence indicates that the degree of exposure to ailing US financial institutions is uneven across the region's economies and banks. A beta above 1 may also reflect market concerns about either unreported

exposures or contagion effects that adversely affect both exposed and unexposed banks. In any case, banks will come under tighter scrutiny from the market during economic downturns, which tend to harm bank balance sheets.

Figure 60: Banking Sector Beta



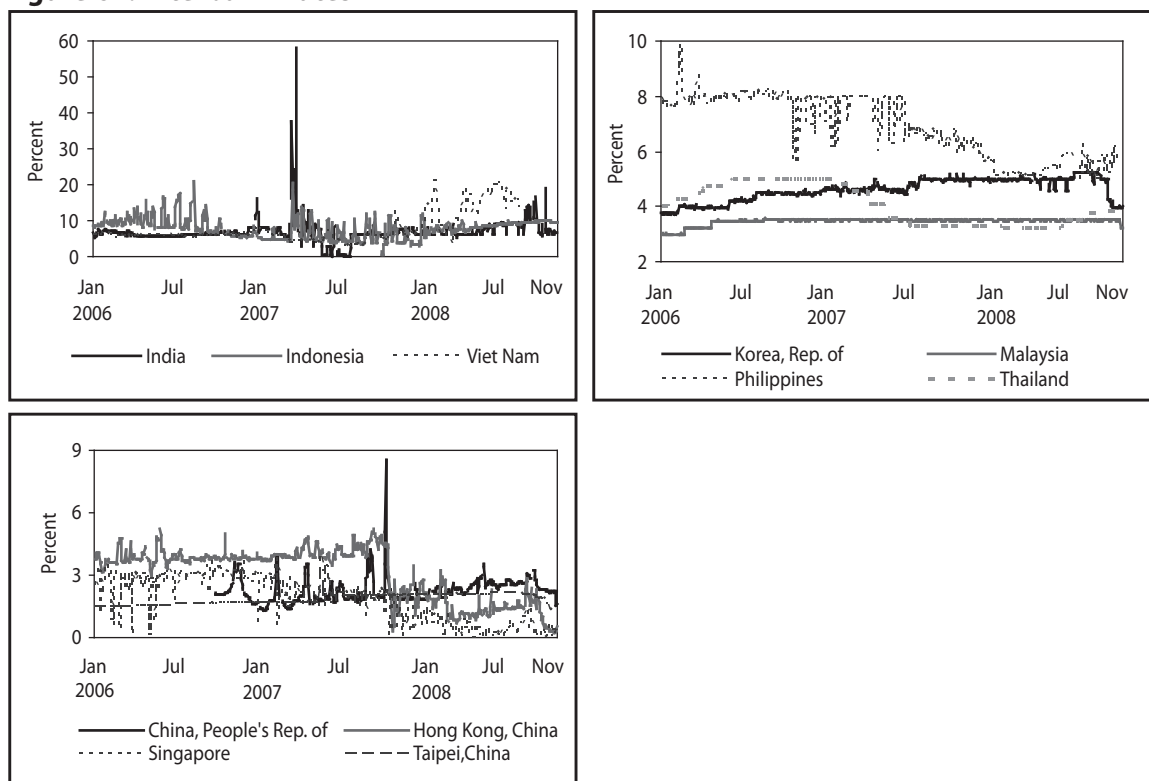
Source: Staff calculations from Datastream, downloaded 27 November 2008.

Another indirect source of information about the health of the banking system is the interbank interest rate. Banks interact extensively with each other and generally have good information about each other. The interbank interest rate refers to the interest rate that one bank charges another bank for loans and provides information about the assessment of one bank's health by other banks. For example, an increase in the interbank interest rate at which bank B can borrow suggests deterioration in the other banks' perception of bank B's health. While interbank interest rates for individual banks would help us to identify problem banks, such data are very difficult to obtain. Nevertheless, data are available for the market average of interbank interest rates. Although Asian interbank markets are still thin and less developed with the exception of Singapore and Hong Kong, China, such data would give us information about the cost of interbank borrowing for the banking system as a whole.

Since the beginning of the second quarter of this year, there have been sporadic signs of stress in some money markets in the region. The money market in Viet Nam had been under pressure along with its banking sector earlier this year due to macroeconomic imbalances, which the authorities have begun to address since then. The money markets of India and Hong Kong, China also witnessed a sharp increase in interbank rates in the wake of the Lehman collapse (Figure 61). The spike in rates required liquidity injections by the monetary authorities. Despite the sporadic and intermittent episodes of extreme market pressures in Asian money markets, the interbank rates have generally remained under control. This could partly be due to liquidity injections by central banks and the

relatively minor role of interbank borrowing as a source of funding. More fundamentally, it reflects the fact that in Asia, the global credit crisis has not disrupted the flow of short-term credit, both among banks and to the real economy. Table 5 in the next subsection indicates that most countries have not experienced any significant disruption of private domestic credit. This is in stark contrast to the US and Europe where short-term credit markets have frozen up.

Figure 61: Interbank Rates



Source: CEIC Data Company Ltd., downloaded 28 November 2008.

If Asian banks rely on foreign borrowing to finance their loans, the seizing up of credit markets in the US and EU can spread to Asia. In this context, a key indicator is the ratio of loans to domestic deposits in the banking system (Table 4). If this ratio is less than 1, domestic deposits are sufficient to fund the banking system's loans. On the other hand, if this ratio is more than 1, the banking system has to turn to wholesale markets, including international markets, to fund their loans. That is, if banks' loans exceed their deposit base, they have to borrow from other domestic and foreign sources. If foreign borrowing accounts for a substantial share of total borrowing, the credit paralysis in the US and EU can cause liquidity problems for Asian banks. A low loans–deposits ratio does not necessarily augur well for the financial health of the banking system since it can simply reflect the economic slowdown and hence reluctance of firms and households to borrow,

or of banks to lend. However, in the current global crisis, a low ratio implies an absence of liquidity risks arising from foreign liabilities. Among major Asian economies, Korea stands out for its high loan–deposit ratio. All the other economies have ratios that are either below 1 or, in the cases of Malaysia, Thailand, and Viet Nam, marginally above 1. Another worrisome indicator for the Korean banking system is the ratio of foreign liabilities to domestic deposits, which is higher than all other Asian economies except the financial centers of Singapore and Hong Kong, China.

**Table 4: Bank Ratios
(as of 2nd quarter 2008)**

	Ratio of Loans to Domestic Deposits	Ratio of Loans to Total Liabilities	Ratio of Foreign Liabilities to Domestic Deposits
China, People's Rep. of	0.72	0.71	0.01
India	0.95	0.94	–
Hong Kong, China	0.54	0.30	0.80
Korea, Rep. of.	1.40	1.15	0.22
Singapore	0.85	0.51	0.68
Taipei, China	0.79	0.71	0.10
Indonesia	0.78	0.73	0.06
Malaysia	1.08	0.94	0.13
Philippines	0.57	0.50	0.14
Thailand	1.05	1.00	0.07
Viet Nam	1.04	0.96	0.09

– means data not available.

Note: Data for PRC; Hong Kong, China; Indonesia; Malaysia; Thailand; and Viet Nam are based on banking institutions from the IFS. Data for India, Korea, Rep. of, Singapore, and Philippines are based on deposit money banks from the IFS. Data for Taipei, China are based on deposit money banks from CEIC Data Company, Ltd. Data for Korea are as of March 2008, while data for the Philippines are as of December 2007.

Sources: Staff calculations from CEIC Data Company, Ltd.; International Monetary Fund, International Financial Statistics online database; both downloaded 21 October 2008.

However, if the definition of deposits is expanded to include other liabilities of the banking system, Korea's loan–deposit ratio falls significantly, from 1.40 to 1.15. According to Korea's Financial Supervisory Service, classifying certificates of deposit, which have many deposit-like characteristics and are subject to strict reserve requirements, as deposits further reduces the ratio to 1.03. Such a classification is not *ad hoc* but standard convention in many countries. Nevertheless, serious market concerns about Korea's ability to roll over its external short-term debt provoked a sharp depreciation of the Korean won from a monthly average exchange rate of 940 won/dollar in January 2008 to 1,330 won/dollar in October 2008. Excluding debt related to foreign banks' onshore branches, Korea has US\$95 billion in external short-term debt that must be rolled over by the end of June 2009. Much of this debt has been incurred by Korean banks, in contrast to 1997–1998, when external borrowing by industrial conglomerates—the *chaebols*—lay at the heart of the country's liquidity crunch.

The Korean government has taken various strong measures to shore up the banks. On 19 October the government and state-run lenders announced that they will guarantee up to US\$100 billion of external debt incurred by Korean banks between 20 October

2008 and 30 June 2009. In addition, to alleviate the dearth of US dollars in the financial markets, the government has committed to providing the banking system with US\$30 billion from its foreign exchange reserves. Most dramatically, on 30 October, the Bank of Korea and the US Federal Reserve reached a currency swap agreement that extends a credit line of US\$30 billion to Korea in case of emergencies. All these measures collectively have helped to stabilize the foreign exchange and stock markets although it is far too early to tell whether Korea is completely out of the woods. One major cause for optimism is that unlike in 1997–1998 Korea has an ample supply of foreign exchange reserves. In fact, Korea remained the world's sixth largest reserve holder at the end of October 2008 with US\$212 billion in reserves, even though there has been a decrease of US\$49 billion since January 2008. More fundamentally, unlike during the Asian crisis, Korea does not suffer from serious macroeconomic imbalances such as large current account deficits. Such considerations suggest that Korea's liquidity problems may unwind in an orderly way, even though the government should continue to monitor the markets closely and be prepared to act boldly.

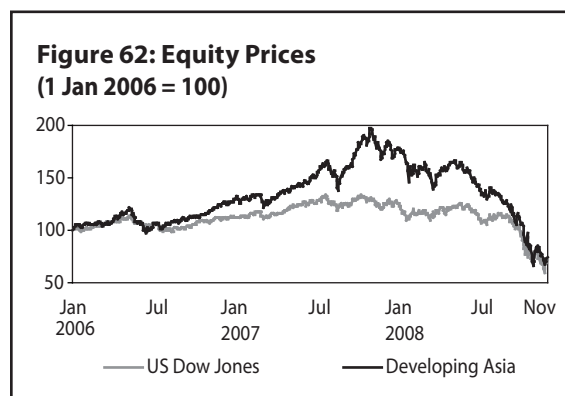
Despite the importance of strong and effective prudential regulation, it is ultimately the individual banks themselves that have to manage their own risks. Indeed risk management is a critical area of competition among banks, and investors and depositors will punish banks that are bad or perceived to be bad at managing risk. The recent run by panicking depositors on Hong Kong, China's Bank of East Asia is a case in point. Internet rumors about the bank's financial stability, kicked off by a downward restatement of earnings due to the belated discovery of losses from an unauthorized trade, were further fueled by alleged overexposure to Lehman Brothers and AIG. Calm was restored only after the bank issued an official statement disclosing the extent of its exposure to Lehman Brothers (US\$54.2 million) and AIG (US\$6.4 million). The Bank of East Asia's combined exposure to Lehman Brothers and AIG amounted to barely 0.12% of its total assets. Although stability has been restored at the Bank of East Asia, the saga shows the ease with which confidence can evaporate in the current environment of global financial fragility, even in a region that has so far been only slightly affected by the global crisis.

C. Impact through Equity Markets and US Dollar Debt Markets

The banking sector lies at the very core of Asian financial systems, and the banking sector has been largely unscathed. The adverse impact of the global financial crisis on Asia has been limited and transmitted through indirect, peripheral channels. More specifically, the two areas of Asian financial systems where the subprime crisis has had some impact are the equity markets and US dollar bond markets. These two channels are relevant in that they affect the amount of financing available to the real sector.

Share prices have suffered heavy losses since the fourth quarter of 2007 (Figure 62). The rout is driven largely by mounting concerns over the deteriorating global economic outlook and its impact on Asia. For a region still heavily dependent on G3 exports to power its

economic growth, the sharp deceleration of growth in G3 will have a substantial impact on corporate performance and earnings. The plunge in Asian stock markets also reflects growing uncertainty over global financial stability as the global financial crisis continues to unfold. Major events such as the collapse of Lehman Brothers can harm global financial stability and thus have negative spillover effects on Asian stocks. The loss of investor confidence in Asian equity markets closely mirrors that of the US, and the two markets have moved in tandem since August 2007.



Note: The developing Asia index is represented by the Morgan Stanley Capital International (MSCI) All Country Asia excluding Japan price index.

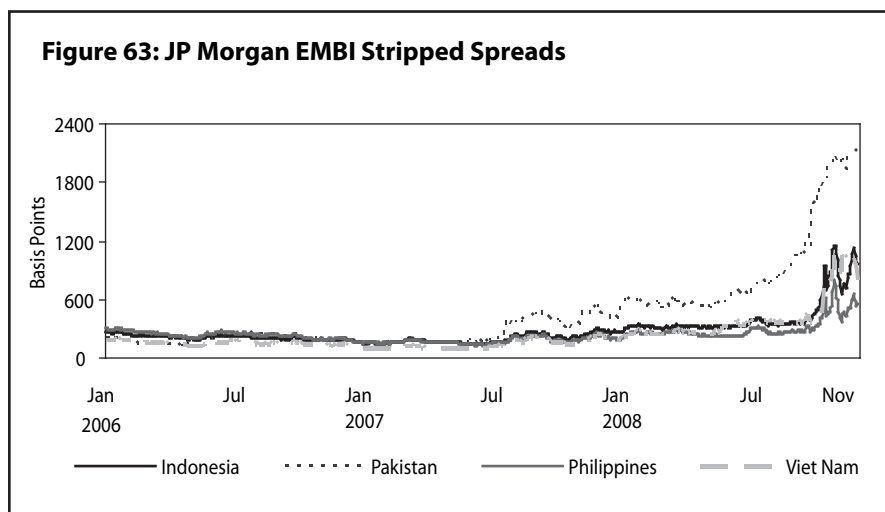
Source: Datastream, downloaded 27 November 2008.

Slumping stock prices could influence bank lending through a number of channels.

First, they effectively raise the cost of capital for firms and thus make it more difficult for them to finance new investments. This exacerbates the slowdown in economic activity, which reduces bank lending and revenues. In addition, the negative wealth effect due to falling stock prices will curtail household consumption. However, both effects are known to materialize only after a lag and their magnitude is uncertain. Falling stock markets may further dampen business and consumer confidence, which may further slow down economic activity and banking business. Stock market slumps may also have a significant negative effect on the balance sheets of banks, especially for banks with substantial exposure to equities. The balance sheet risks are magnified if the equities have been purchased through leveraging. However, the general consensus is that in Asia the balance sheet risks to banks arising from stock market corrections are relatively small, and the property market poses a bigger potential threat.

The risk premium on dollar-denominated offshore bonds of Asian issuers has risen sharply since the outbreak of the subprime crisis (Figure 63). This increase in yield is part of a trend toward repricing of risk in international dollar bond markets. This trend is, in turn, part of a broader widening of spread on high-risk borrowers. The deterioration of investor confidence in the US dollar bond market has been especially evident for

Indonesia, Pakistan, Philippines, and Viet Nam but other countries have also suffered to a lesser degree. Not surprisingly, the widening of the credit spread has curtailed the issue of new bonds from the region. Such tightening of financing conditions has not yet spilled over into local currency bond markets, except for Indonesia. According to Adams (2008), the limited spillover reflects limited switching of funding between the dollar and local currency bond markets. In addition, the dollar bond remains at best a minor source of funding for firms in the region.



Source: Datastream, downloaded 27 November 2008.

There has been no noticeable reduction in the growth of private domestic credit in most countries in the region. The exceptions are India and Korea, where the year-on-year growth rate of banking credit to the private sector turned negative in the second quarter of 2008 (Table 5). The Indian banking sector has begun to suffer from high credit costs as can be seen in the spikes in the interbank rate in Figure 61. In India, credit spreads are widening for corporate sector borrowing as well as household loans. For example, the spread for 1-year, AAA-rated companies increased to 257 basis points in August from 100–130 bp in early January 2008. Similarly, banking sector spreads on household loans have increased significantly. The tight lending condition of the banks would most severely affect middle- to low-income consumers (for consumer durables and automobile purchases), small- and medium-size enterprises, and property companies (Ahya 2008). In Korea, the sharp decline in domestic credit may be partly a result of the banks' increasing difficulty in borrowing from abroad. As discussed earlier, the outstanding loans of Korean banks exceed their domestic deposit base and they have relied on foreign borrowing to fill the gap. The drying up of foreign credit lines may thus have encouraged banks to cut back their credit to firms and households. The reduction of domestic credit may also be partly due to weakening consumption expenditures (see Figure 69 in Section V), hence weakening demand for consumer financing.

Table 5: Growth of Private Domestic Credit in Selected Asian Countries (percent, year-on-year)

	2006	2007	2008Q1	2008Q2
China, People's Rep. of	12.1	18.0	19.1	16.9
Hong Kong, China	4.3	7.6	9.6	14.6
India	28.1	22.8	22.8	-16.4
Indonesia	13.9	18.9	27.4	31.4
Korea, Rep. of	10.8	14.3	14.3	-22.6
Malaysia	8.6	9.0	10.9	10.9
Philippines	-0.5	4.9	4.3	-
Singapore	3.6	10.2	18.5	20.5
Thailand	6.0	2.5	5.0	7.2

- means data not available.

Note: Shaded cells indicate a deterioration.

Source: International Monetary Fund, International Financial Statistics online database, downloaded 1 October 2008.

Finally, the state of property markets in developing Asia will influence the robustness of the region's financial systems. It is worth remembering that the immediate catalyst of the US subprime crisis that precipitated the global financial crisis was the decline in US housing prices. Furthermore, although there are substantial differences across countries, the EU as a whole is also suffering from a housing market slump, which will further complicate the recovery of the financial system and the real economy. The overall trend of Asian housing market price indices suggests that housing prices have not experienced the sharp declines seen in the US or EU. The declines that have occurred have been moderate and are nowhere near as pronounced as those seen in the region's equity markets. Intuitively, property prices are determined by local conditions and there is much less scope for contagious effects from industrialized country markets, in particular the US. Looking ahead, however, the ongoing slowdown in the region's real economy will have adverse effects on its housing markets.

V. The Real Economy at Risk

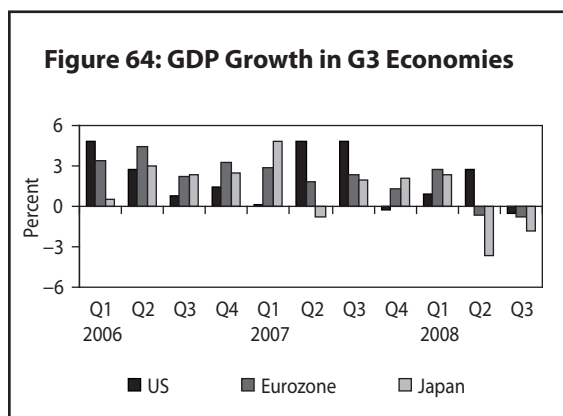
The previous section examined the risks to Asian financial markets from the contagion of the global financial crisis. This section extends the analysis to the impacts of the turmoil on the real sector of developing Asia, which has already begun to feel the pinch. While the *Asian Development Outlook 2008 Update* (ADB 2008b) anticipated a deceleration in industrial countries' economic expansion that would extend through 2009, a recession is now already under way in Japan, UK, US, and eurozone (see Section III). The contagion may affect the region seriously if tightening credit conditions and financial instability weigh on broader economic activity. Global demand is being crimped, already translating to slower growth in overall trade volumes. In many Asian countries, exports remain an important driver of growth by promoting industrial production, encouraging corporate investment, and stimulating job markets. If the turmoil continues to affect Asian financial

markets severely, the level of investment and consumption would be seriously impacted as well. Therefore economic performance and growth in emerging Asian countries could suffer significantly.

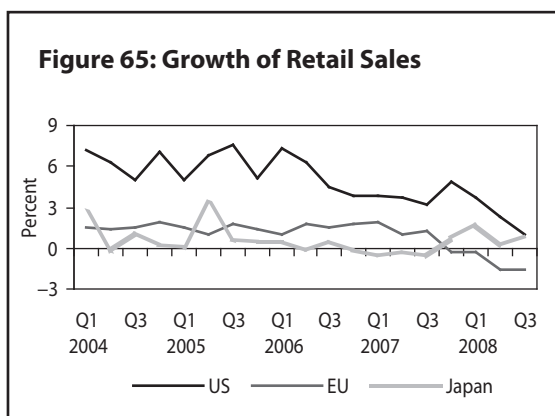
The exposure of some regional economies is higher than others. Those with weak macroeconomic fundamentals, i.e., facing higher inflation, faster credit growth, fiscal and current account deficits, and higher external debt, may have less capacity to withstand the adverse effects if the turmoil is to worsen. In this section, we first examine how the global economic slowdown is transmitting into the real economy in Asia. We then carry out a simulation exercise to project possible impacts of the G3 economic recession on key macroeconomic variables in selected Asian countries in 2008 and 2009.

A. Trends in the Transmission of the Contagion to the Real Sector in Asia

In the first quarter, growth in the G3 economies held up well. The US economy expanded quarter-on-quarter (seasonally adjusted) by 0.9%; while in both the eurozone and Japan, growth was sharply above expectations, at 2.6% and 2.5%, respectively (Figure 64). However, in the second quarter, the eurozone and Japanese economies contracted, and while growth in the US was much stronger than in the first, this was partly due to the impact of the tax rebates given to households.¹⁰ The effects dissipated in the third quarter and negative GDP growth at 0.5% was observed in the US economy; while in the eurozone and Japan, GDP growth was clipped to -0.8% and -1.8%, respectively.



Sources: US Department of Commerce, Bureau of Economic Analysis (2008); Economic and Social Research Institute (2008); Eurostat, available: ec.europa.eu/eurostat; all downloaded 9 December 2008.



Source: CEIC Data Company Ltd., downloaded 26 November 2008.

¹⁰ See ADB (2008b) for a detailed discussion of the G3 economies in the first half of 2008.

A further slowdown in the G3 economies in the fourth quarter of 2008 is imminent. The contraction of consumer spending is gathering momentum and a recession has set in, with the likelihood that growth will contract further in 2009. The fall of AIG and Lehman Brothers in September 2008 suggests that GDP growth in the G3 in 2008 and 2009 could be lower than the forecasts provided in ADB (2008b). The growth of retail sales in the US and the eurozone continuously declined through the third quarter of 2008, reaching the lowest level over the past 4 years in the US at 1.0%, while a contraction of 1.5% was revealed in the eurozone during the same period. In Japan, retail sales in the third quarter slightly picked up from the second quarter but significantly declined from 1.8% in the first quarter (Figure 65).

The G3 economic recession resulting from the global financial turmoil could transmit into the real economy in Asia through two key channels, namely the trade channel and the financial channel. So far, trade has been the crucial channel of transmission while the impacts through the financial channel have been limited as discussed in Section IV.

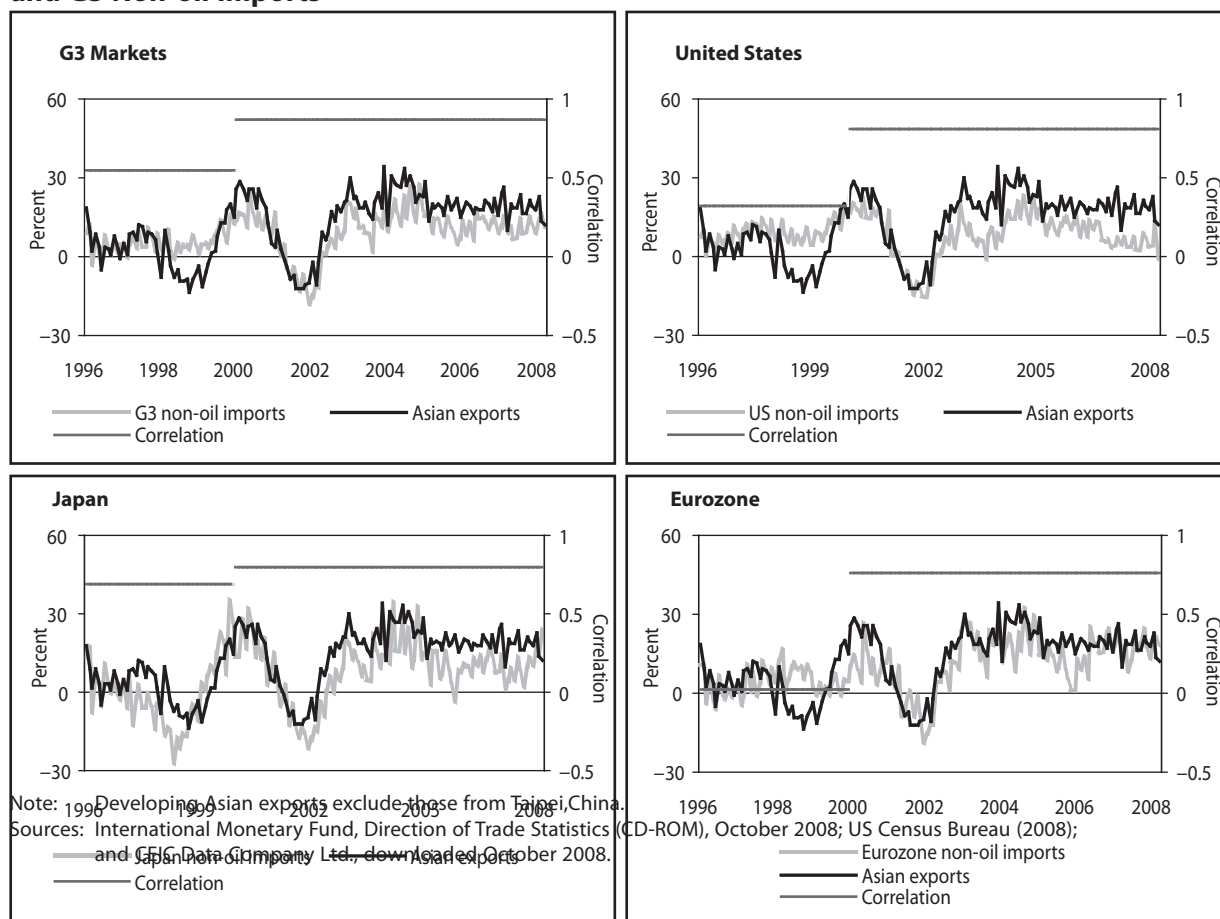
1. Impact on Trade

The economic recession in the G3 economies has led to a contraction in their import demand, thereby discouraging exports from developing Asia. In particular, the high correlation between growth in developing Asian exports and the G3 non-oil imports indicates that a slowdown in G3 demand could result in a noticeable decline in Asian export growth. Figure 66 shows that the correlation between these two variables almost doubled from less than 0.5 in 1996–2000 to around 0.9 in 2001–2008. The correlation was more robust for Japan and the US, compared to the eurozone. However, the strengthened relationship in the eurozone indicates that Asian export activity has also become more, not less, synchronized with external demand in the eurozone.

Although intra-Asian trade has been expanding more rapidly than Asia's trade with the rest of the world, particularly with the G3 markets, the nature of intra-Asian trade creates stronger links between the Asian and the G3 economies. As pointed out in ADB (2007a and 2007b), because of rapid advances in production technology and technological innovations in transportation and communications, international product fragmentation—the cross-border dispersion of component production/assembly within vertically integrated production processes—and a shift in the composition of exports toward intermediate goods (parts and components) have become increasingly important over the past 15 years, particularly in East and Southeast Asia. The growing importance of parts and components trade has been associated with the diversification of export destinations. The PRC has become one of the major export destinations for all economies in the region, particularly for machinery and transportation equipment exports, at the expense of the US and the EU. However, for the PRC, the US and EU markets have been increasingly important. This shows that the expansion of intraregional trade reflects the PRC's role as an assembly point for Asia and its greater reliance on demand from outside the region.

Through its forward linkages to the PRC, the rest of the region also remains dependent on external sources of final demand so that Asia is still closely linked and highly harmonized with G3 markets.

Figure 66: Correlations between Growth in Developing Asian Exports and G3 Non-oil Imports

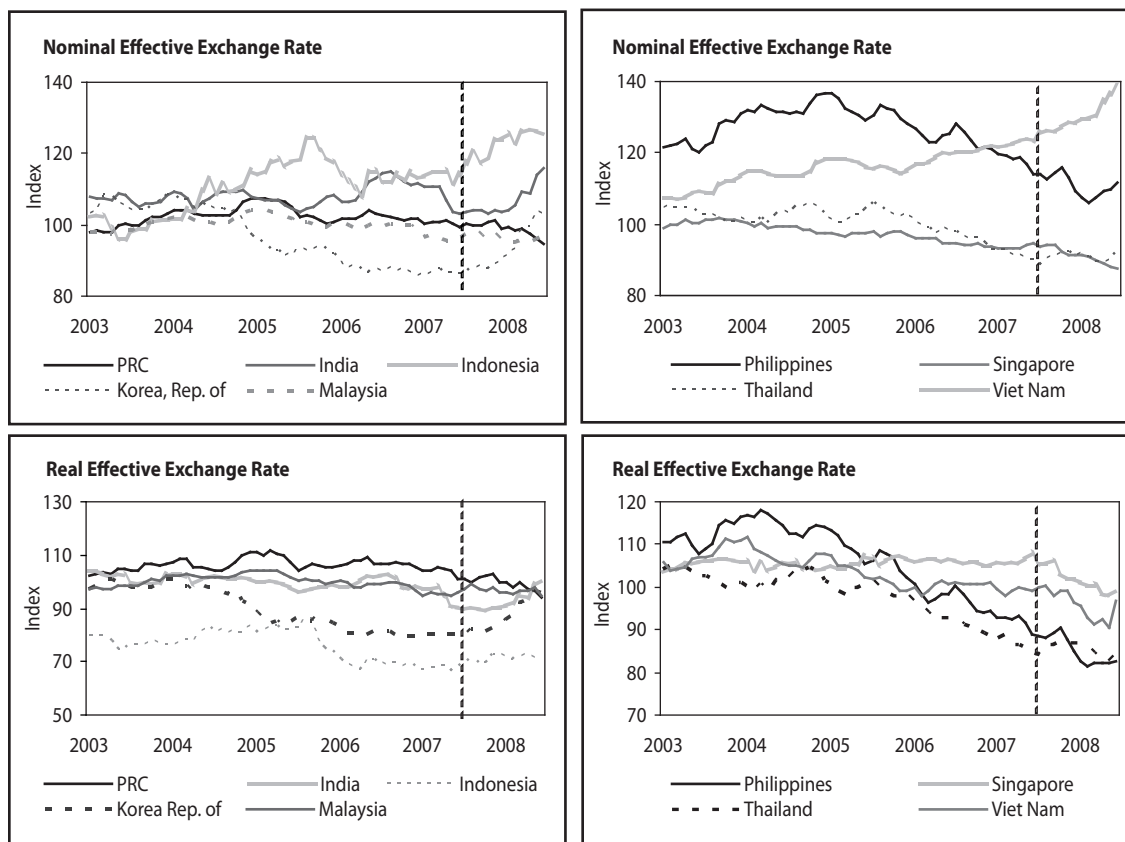


The effects of the G3 demand slowdown vary across industries and countries. The electronics sector could be severely affected since the extent of intra-Asian trade in parts and components in this industry is perhaps larger than in any other industry. In addition, this industry is probably more dependent on the G3 markets than others and the products of this industry display high world income elasticity. As pointed out by Athukorala (2004 and 2006), world income would become more important for parts and components trade than other sectors. Therefore, the G3 slowdown is likely to have a relatively larger effect on this industry and on countries where the electronics sector is relatively important, e.g., Korea; Malaysia; Philippines; and Taipei, China. In general, labor-intensive industry exports may also be adversely hit. Although the income elasticity of clothing and footwear

is likely to be relatively lower than electronics, since G3 markets are still important for developing Asia, a country that produces a large proportion of these products, e.g., Bangladesh, Cambodia, Indonesia, and Sri Lanka could be significantly affected by the G3 recession. In contrast, the effect of G3 slowdown is likely to be relatively small in a country where much larger portions of production are in more standardized industries like food products.

The recent nominal and real exchange rate depreciation in some Asian countries may help to limit the negative impacts from the G3 demand slowdown. The recent strengthening of the US dollar and Japanese yen against other major currencies after the financial turmoil resulted in depreciation of the nominal effective exchange rates in many Asian countries (Figure 67). In the Philippines and Thailand, the nominal effective exchange rates began to depreciate in early 2008, reversing a trend of appreciation since 2005; while for India, Indonesia, and Korea nominal depreciation has occurred since 2007. In response to nominal depreciation, the real effective exchange rate in the latter three countries has depreciated since 2007. The real depreciation was still limited in other countries as their domestic prices increased more than those in G3 countries and their nominal exchange rate depreciation. However, as noted by Athukorala (2004) and Jongwanich (2007), rapid diversification of exports away from traditional products and toward assembly/component specialization within global industries has tended to weaken the link between the real exchange rate and export performance. The exchange rate channel would become relatively less important in affecting export performance while world (income) demand has increased in importance in determining exports.

Figure 67: Nominal and Real Effective Exchange Rates, 2003–2008 (2000 = 100)



Note: An increase reflects exchange rate depreciation.

Source: Staff calculations from International Monetary Fund, International Financial Statistics online database, downloaded October 2008.

2. Impact of Financial Instability on the Real Economy

The effect of the still unfolding global financial crisis on the real economy of Asia has largely been indirect through the trade channel while the impacts through the financial channel have been limited so far. As mentioned in Section IV, this is because the direct exposure of Asia's commercial banks, which play a dominant role in Asian financial systems, has been limited as exposure to subprime mortgages and structured credit products is very small. The health of the financial system has improved noticeably since the 1997–1998 financial crisis, especially in terms of capital-adequacy ratio and ratio of nonperforming loans. Asian financial systems therefore have a stronger capacity to withstand adverse shocks emanating from the global financial crisis. So far, equity markets and offshore bond markets are the two areas of the financial system in Asia where the financial turmoil in developed countries has had some impact (see Section IV).

However, real economic impacts through the financial channel should not be ignored. A number of indicators such as bank liquidity (see Section IV) indicate that prolonged turmoil in the global financial market could eventually deteriorate real Asian economies through this channel. Consumption and investment could weaken through shrinking liquidity, rising costs of capital, and a decline in household wealth. In particular, the availability of loanable funds is a key factor influencing investment behavior independently of the cost of capital. Available bank credit to the private sector may be quantitatively the most important variable in determining the amount of actual investment in developing countries (Gertler 1988, Hubbard 1998, and Jongwanich and Kohpaiboon 2008). This is because equity markets are not well developed and excess demand for credit typically exists. Thus, firms are highly dependent on bank credit for both their working capital needs and longer-term financing of capital accumulation.

In addition to banking illiquidity, net capital inflows have begun to decline in many Asian countries. Particularly, portfolio investment in some developing economies such as India; Malaysia; Philippines; Taipei, China; and Thailand turned into net capital outflows in the second quarter of 2008 (Table 6). For example, in India, net portfolio investment declined from almost US\$35 billion in 2007 to an outflow of US\$4.2 billion in 2008Q2 while in Malaysia, investment flows reversed to an outflow of US\$7.4 billion, from US\$5.3 billion during the same period. The decline in portfolio investment occurred in both portfolio equity and debt borrowings.

Foreign direct investment (FDI) has also begun to slow down in some countries. Particularly, in Hong Kong, China; Singapore; and Thailand, the net FDI inflows in the first half of 2008 declined noticeably from trend (Table 6). Even though in some countries such as India, there has been no reduction in FDI inflows in the first half of 2008, the inflows are expected to decline following portfolio equity, since based on historical patterns, FDI inflows into emerging markets and India tend to lag portfolio inflows by a year. In particular, a large part of the rise in FDI inflows into India has been in the form of merger and acquisition of stakes in Indian companies by multinationals. So far, there has not been any significant increase in FDI into greenfield manufacturing activities so that a large part of the FDI inflows will probably follow the mood of the capital markets (Ahya 2008). A decline in FDI inflows, especially greenfield FDI, would have significant repercussions in Asian countries. It has been widely recognized that FDI has been a growth-enhancing factor in receiving countries. FDI not only brings in capital but also introduces advanced technology that can enhance the technological capability of the host country firms.

Table 6: Net Capital Inflows in Selected Asian Countries (US\$ billion)

	PRC		Hong Kong, China		India		Indonesia		Korea, Rep. of	
	FDI	Portfolio	FDI	Portfolio	FDI	Portfolio	FDI	Portfolio	FDI	Portfolio
2005	90.3	-5.9	6.4	-31.5	4.6	12.1	5.3	4.2	2.0	-3.5
2006	87.9	-96.8	0.1	-26.7	6.8	9.5	2.2	4.2	-4.5	-23.2
2007	172.3	13.8	6.7	4.7	10.1	34.8	2.1	5.5	-13.7	-24.6
2008Q1			7.2	-24.0	6.4	-3.7	1.1	1.9	-4.8	-10.0
2008Q2			-10.3	3.0	10.1	-4.2	1.0	4.3	-2.9	6.0
2008Q3									-2.3	-12.8
	Malaysia		Philippines		Singapore		Taipei, China		Thailand	
	FDI	Portfolio	FDI	Portfolio	FDI	Portfolio	FDI	Portfolio	FDI	Portfolio
2005	1.0	-3.7	1.7	3.5	7.0	-3.3	-4.4	-2.9	7.5	5.5
2006	0.04	3.6	2.8	3.0	12.5	-9.0	0.03	-18.9	8.0	3.6
2007	-2.7	5.3	-0.5	4.4	11.7	-17.2	-3.3	-40.1	7.3	-6.9
2008Q1	-0.9	6.6	0.5	0.4	2.5	-3.2	-2.6	2.9	1.8	4.1
2008Q2	0.9	-7.4	0.2	-0.6	0.9	-6.0	-1.5	-10.8	0.3	-4.2

FDI = foreign direct investment.

Note: Shaded cells indicate a deterioration.

Source: CEIC Data Company Ltd., downloaded 12 November 2008.

A prolonged fall in portfolio investment could adversely affect household wealth directly through changes in household budgets, and indirectly through an expected change in future income. This could result in a decline in Asian consumption and investment. Funke (2004) using a panel of 16 emerging markets found that over a 3-year period, a 10% decline in stock prices is associated, on average, with a 0.2–0.4% decrease in private consumption. In addition, difficulty in attracting foreign capital could shrink liquidity and raise costs of capital in Asian countries, which could eventually hamper consumption and investment. Moreover, prolonged tightening of financing conditions in the offshore bond markets and the sharp rise in the credit default swap rate, which measures perceived credit risk, could make it difficult for Asian countries to raise the same magnitude of foreign capital at a reasonable rate of return.

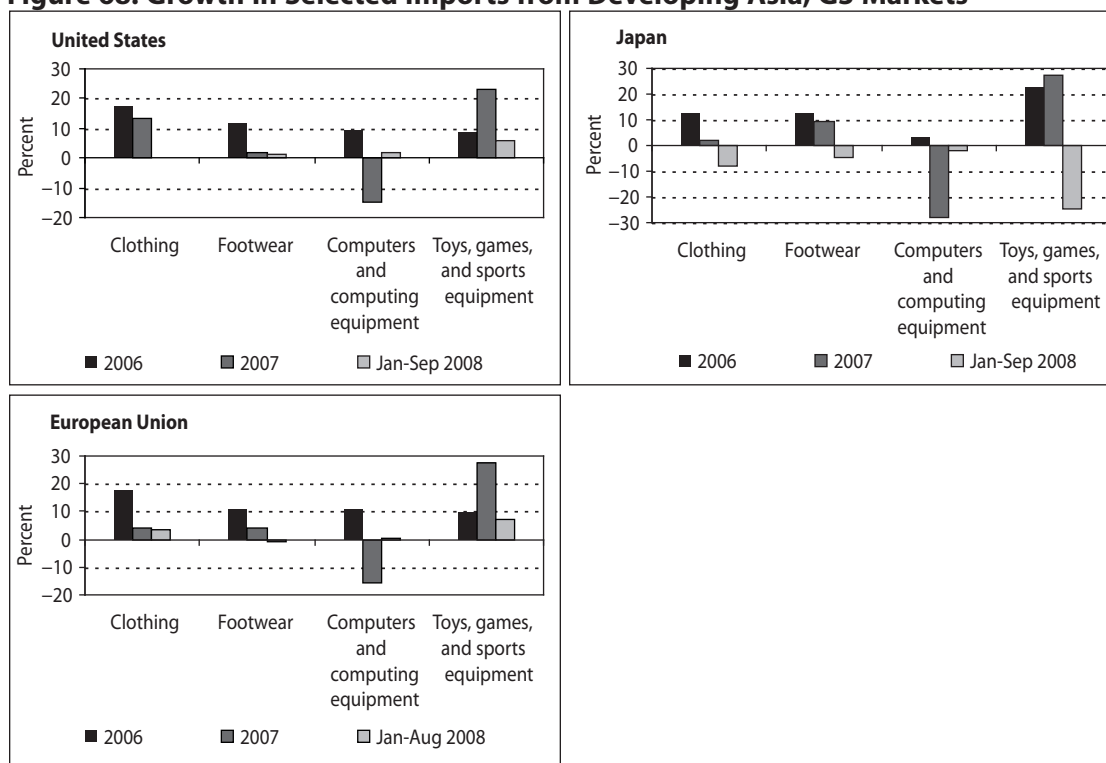
B. Recent Macroeconomic Performance of Developing Economies in Asia

As seen in the previous subsection, external demand, FDI, and portfolio investment flows from outside Asia are likely to dry up. This could have implications for macroeconomic performance of developing Asian countries, particularly in terms of exports, consumption, investment, GDP growth, and employment. This subsection presents a snapshot of current macroeconomic performance of developing Asia followed in the next subsection by an analysis of prospects for the near future.

In terms of exports, manufacturing products, especially labor-intensive products such as clothing, footwear, toys and games, and also more technology- and capital-intensive products such as computers and computer equipment were affected noticeably from the decline in G3 consumer demand (Figure 68). Developing Asian manufacturers supply about two thirds of clothing imports to the US, with the PRC as the leading supplier.

Since 2007, US demand for imported clothing has been on a downward trend. This trend was also noted in Japanese and EU markets. In 2008, the growth rate of clothing imports from developing Asia became negative in the US and Japan but remained slightly positive at 3.3% in the EU market. A similar downturn is evident in footwear trade. Shipments of footwear have been shrinking since late 2007, and in 2008, negative growth was seen in EU and Japan. Deterioration of G3 markets resulted in a sharp fall of clothing and footwear shipments from the PRC and Southeast Asian countries. Particularly, the decline in Japanese demand led to a sharp fall of footwear shipments from Cambodia.

Figure 68: Growth in Selected Imports from Developing Asia, G3 Markets



Note: Footwear imports for the US represents data up to August 2008.

Sources: US: International Trade Administration (2008a and b); United States International Trade Commission, available dataweb.usitc.gov/; both downloaded 25 November 2008.

Japan: Japan Customs (2008) and Ministry of Finance (2008); both downloaded 25 November 2008.

European Union: Eurostat, available: epp.eurostat.ec.europa.eu/portal, downloaded 25 November 2008.

Apart from clothing and footwear, developing Asia is also a significant supplier of US imports of toys, games, and sports equipment. The market for these items tends to lag the clothing and footwear markets. A significant decline is evident in 2008. The growth rate of these products in the first three quarters of 2008 was merely 5.9%, compared to 23.3% in 2007. In terms of computers and computing equipment, growth in the US and EU imports was sluggish but less so in 2008, compared with 2007. In Japan, a sharp fall of supply from the PRC and Southeast Asian countries resulted in the continuously

negative growth of these products. In January–September 2008, the growth rate of computers and computing equipment was –2.3%, compared to –28% in 2007. A decline in exports and total trade, especially labor-intensive manufacturing products, is likely to reduce incomes and employment in Asia.

The overall export growth and trade balance has begun to soften from trend in almost all Asian countries (Table 7). Export growth declined noticeably in Hong Kong, China; Korea; Malaysia; Philippines; Singapore; Thailand; and Taipei, China. It declined in Thailand from 44% in July to 15% and 19% in August and September, respectively. Meanwhile, in Singapore and Hong Kong, China, growth dropped to 18% and 3.5% in September, from 29% and 11%, in July, respectively. Machinery and transportation equipment, including electronics and electrical appliances, clothing, and footwear have been the hardest hit. A declining trend of PRC export growth (i.e., from 27% in July, to 21% and 19% in September and October, respectively) indirectly contributed to the reduction of regional exports as the PRC emerged as an important location for final assembly, especially for electronics. In India where intra-industry trade is still limited, export growth showed a declining trend. It was only 10% in September compared to 31% in July and 27% in August. Gems and jewellery, handicrafts, textiles and leather, which account for over 80% of India's total exports, have been the hardest hit.

Table 7: Trade Indicators in Selected Asian Economies, 2006–2008

	PRC	Hong Kong, China	India	Indonesia	Korea Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand
Export growth (percent)										
2006	26.9	9.8	21.9	17.9	14.4	14.4	15.2	18.9	13.3	16.9
2007	26.7	8.9	21.8	13.3	14.3	9.8	6.7	10.2	9.9	17.3
2008	22.3	8.1	29.2	29.7	22.7	22.9	4.2	23.1	14.8	24.3
Jan-Sep										
Jan	26.6	15.7	34.9	34.5	14.9	19.5	6.0	22.2	11.8	33.3
Feb	6.4	7.8	43.6	28.7	18.9	25.9	10.5	28.0	18.3	16.6
Mar	30.6	8.0	18.6	32.5	18.5	14.4	–6.6	14.9	22.7	14.5
Apr	21.8	14.8	45.7	22.5	26.4	31.0	4.9	29.3	13.9	27.0
May	28.1	10.6	27.6	31.6	26.9	29.0	2.3	25.3	20.5	21.4
Jun	17.7	–0.6	23.5	34.1	16.5	25.4	8.8	24.6	21.2	27.5
Jul	26.9	11.4	31.2	24.8	35.6	32.7	4.4	28.5	7.9	43.9
Aug	21.1	2.0	26.9	30.3	18.2	14.4	6.6	16.9	18.2	14.9
Sep	21.3	3.5	10.4	28.5	28.2	13.7	1.2	18.0	–1.6	19.4
Oct	19.1				10.0				–8.3	
Trade balance (percent of GDP)										
2006	2.8	–9.4	–6.1	10.9	1.8	18.8	–3.7	24.3	5.8	0.4
2007	3.4	–11.3	–6.3	9.2	1.5	15.6	–3.4	22.5	7.1	4.9
2007 H1	5.4	–12.5	–6.1	9.7	1.6	14.6	–1.3	24.5	5.8	4.1
2008 H1	3.6	–14.6	–8.4	7.2	–1.3	18.5	–4.7	11.8	4.0	–0.7

Note: Shaded cells indicate a deterioration.

Source: CEIC Data Company Ltd., downloaded 12 November 2008.

Combined with high import growth resulting from the relatively high oil and food prices, the trade balance has also dampened in many Asian countries, particularly in India and the Philippines. In India, the trade deficit registered 8.4% of GDP in the first half of 2008, compared to the deficit of 6.1% of GDP in the first half of 2007 while in the Philippines, it rose to 4.7% of GDP from 1.3% during the same period of the previous year.

In addition to a decline in exports and the trade balance, the downturn in G3 demand may have implications for the services sector, particularly tourism and remittances in Asia. Some regions are especially vulnerable such as Southeast Asia (the Philippines in particular) where tourism and remittances are key sources for generating economic activity. Adequate data are not yet available to notice any discernible downtrend in tourism, but declining trends can already be observed in remittance flows from the G3 countries to Asia (see Box 1).

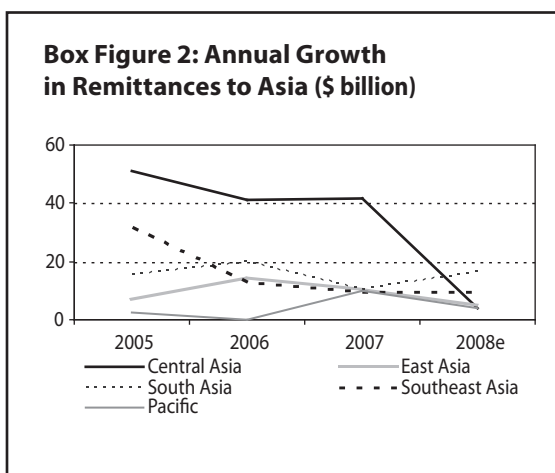
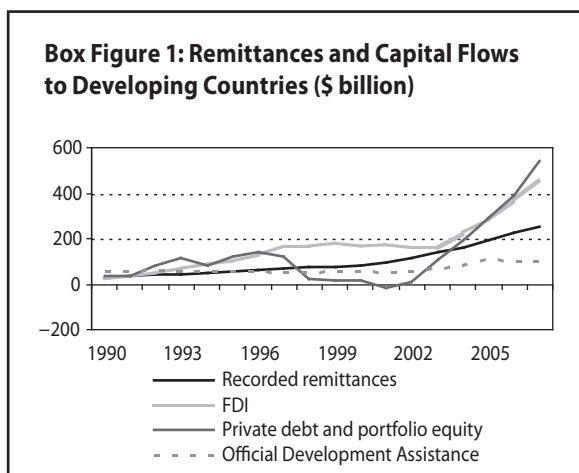
Box 1: Implications for Remittance Flows—Developing Asia at the Receiving End

Remittance flows, being more robust, in general act as stabilizers and counter the effects of a fall in FDI, debt, and equity flows during economic downturns (Box Figure 1). Nevertheless, the stability of remittances varies by the special circumstances of countries when faced with crises caused by *their own economic mismanagement*. However, *external events* such as the current financial crisis may influence the flow of remittances to developing countries in line with the size of their migrant populations. Other factors that may determine the extent of the flow include employment in cyclically sensitive sectors such as construction (high-impact) or sectors such as health care, which employs many overseas Filipino workers (low-impact). In response to the deepening global financial crisis, after several years of strong growth, remittance flows to developing countries began to slow down in the third quarter of 2008. The World Bank predicts a fall in remittances in real terms from 2% of GDP in 2007 to 1.8% in 2008 (Box Figure 2). This slowdown is expected to intensify in 2009 with the uncertainties surrounding global growth, commodity prices, and exchange rates but remittances will remain resilient. For small and poor countries such as Kyrgyz Republic and Tajikistan where remittances form a large share of GDP, the reduction in the growth of remittance flows in 2009 is likely to be significant. Recipient countries in the Middle East, North Africa, and South Asia may be affected more than emerging economies elsewhere. This corroborates the discussion of the spread of the crisis to non-Asian emerging markets in Section IIIF.

In 2007, three of the top four recipients of remittances were in Asia, respectively, India, PRC, and Philippines. Along with Mexico, these countries accounted for almost 30% of total world remittance inflows or 40% of remittances received by developing countries. Bangladesh and Pakistan were the other developing economies among the world's top 10 recipients. Rising unemployment in the G3 is grasping in its folds migrant workers including those from Asia, thereby impacting their remittance transfers. The slowdown in new home construction in the US has touched the 1991 level but not yet reached a plateau. The recession in the US will adversely affect East Asia and the Pacific, and South Asia, which receive, respectively, 44% and 28% of their inflows from it. Bangladesh and Pakistan depend more on the Middle East. Remittance flows from the oil-rich Gulf Cooperation Council countries contribute respectively 63% and 52% of their inflows. But the stock of international migrants from developing countries is not expected to decline because migrants generally provide a cheaper source of labor than domestic workers.

continued.

Box 1. continued.



Source: World Bank (2008); *Revisions to Remittance Trends 2007*, available: econ.worldbank.org.

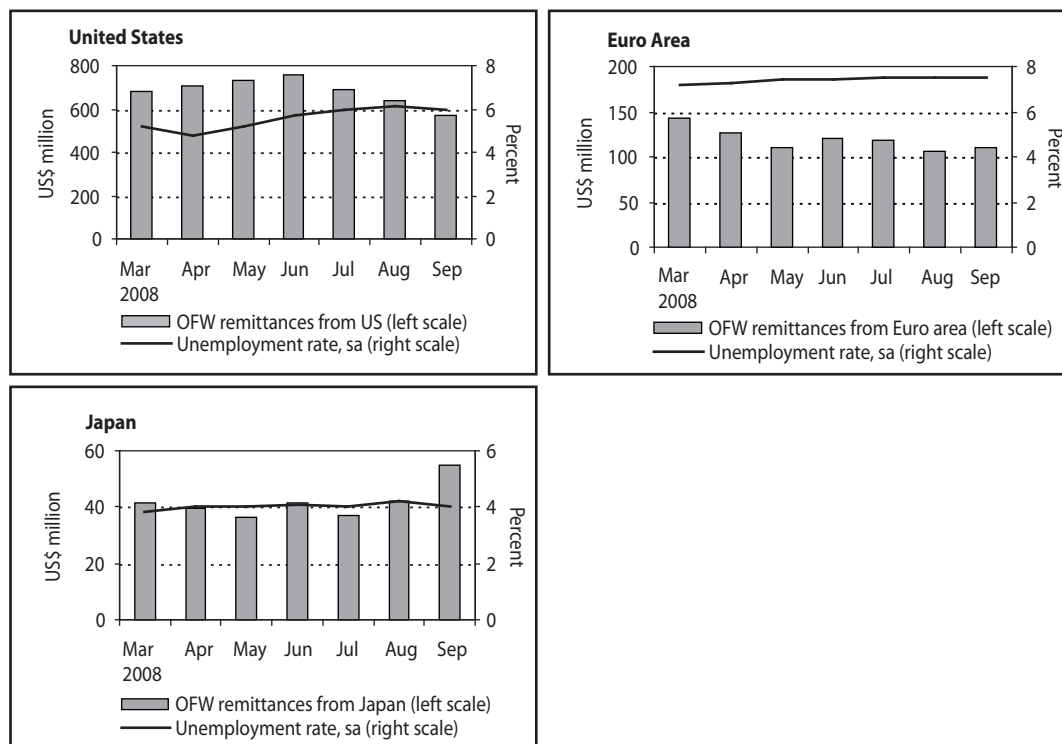
Source: World Bank (2008); *Revisions to Remittance Trends 2007*, available: econ.worldbank.org.

Combining data on remittance flows from and unemployment in the G3 countries provides an insight on how the former may decline during the ongoing global slowdown. A special case is that of the Philippines, one of the largest recipients in the world (Box Figure 3). While remittances to the country increased by nearly 50% in nominal dollar terms between 2004 and 2007, they increased by only 22% after accounting for the appreciation of the Philippine peso. After adjusting it further for domestic inflation, remittances increased by a mere 3%. The downtrend continued through September 2008 except in Japan when the dollar value of remittances increased. These trends are noteworthy since remittances make up about 10% of Philippine GDP. About 26% of overseas Filipino workers work in the G3 countries: 13% in Japan, 11% in US/Canada, and 3% in Europe. Remittances provide about 80% of income of receiving households in the country. A large part of these transfers goes toward food, education, house purchases and renovation, and acquiring land. Because of remittances, poverty incidence in the Philippines declined by 30% in 2003. A slowdown in these flows would lead to a higher incidence of poverty.

continued.

Box 1. *continued.*

Box Figure 3: Remittance Flows to the Philippines, 2008



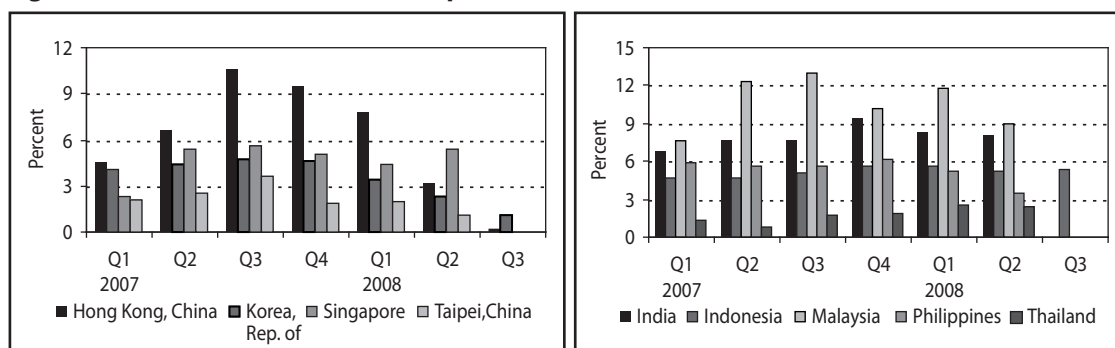
sa = seasonally adjusted.

Source: Datastream, downloaded 20 November 2008.

Sources: ADB (2004); Ketkar and Ratha (2008); Mohapatra and Ratha (2008); Pernia (2008); and World Bank (2008).

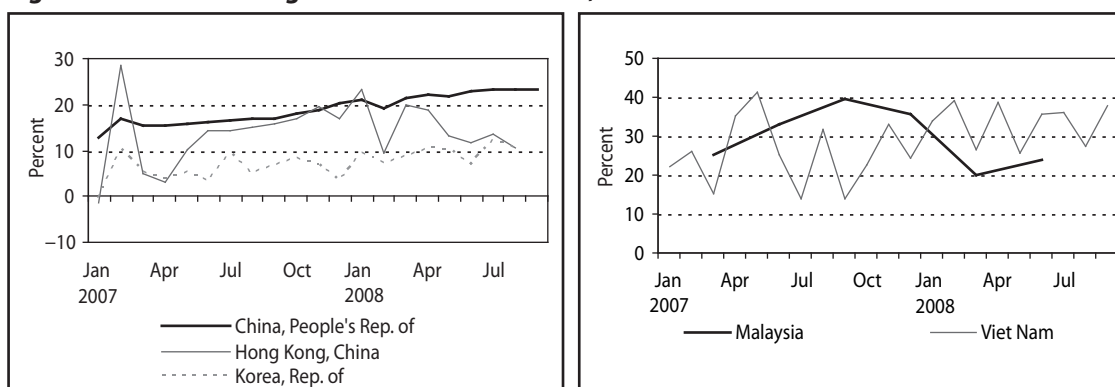
Private consumption began to weaken in 2008 in many Asian countries including Hong Kong, China; Korea; Philippines; and Taipei, China (Figure 69). Particularly, in Hong Kong, China, the growth of private consumption noticeably declined to 0.2% in the third quarter of 2008, from around 3.2% in 2007. The consumption growth of Korea in the third quarter of 2008 softened to 1.1%, from 4.5% in 2007, partly because of a significant decline in private domestic credit. While there is no quarterly data for private consumption in the PRC, the slight decline of retail sales in the third quarter of 2008 and in October provides the prospect of a slowdown in PRC's private consumption in the second half of 2008 (Figure 70).

Figure 69: Growth of Private Consumption, Selected Asian Economies



Source: CEIC Data Company Ltd., downloaded 20 November 2008.

Figure 70: Annual Change in Value of Retail Sales, Selected Asian Economies

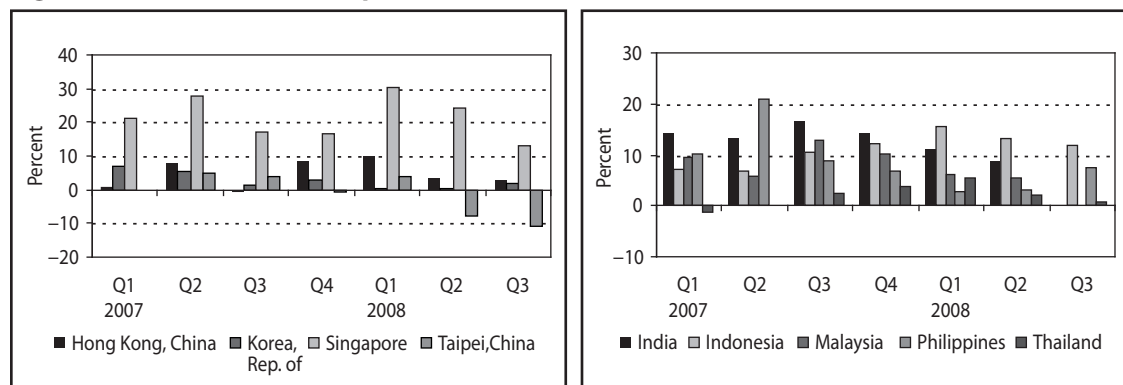


Note: Retail data for Malaysia refers to average of quarter.
Source: CEIC Data Company Ltd., downloaded 20 November 2008.

In addition to consumption, investment growth (measured by real gross fixed capital formation) also showed a declining trend in many Asian countries. In Malaysia and Philippines, the growth rate of investment declined to 5.6% in the second half of 2008, from around 10% in 2007 while a negative growth rate was revealed in Taipei, China in Q2 2008 (Figure 71). In India, the growth rate of investment at 9% was a steep fall from almost 15% in 2007. The recent decline in investment has become a concern for policymakers in many Asian countries, especially in the 1997–1998 crisis-affected countries where private investment has not yet fully recovered. Even though investment typically represents a much smaller component of aggregate demand than consumption, it determines the rate at which physical capital is accumulated and generates a signal to foreign investors. Thus, a slow recovery process or noticeable reduction could hinder efficiency of resource use and generate a negative signal to foreign investors. The movements of private investment in Asian economies also have policy relevance worldwide due to the concern of persistent global payment imbalances reflected in the

current account deficit in the US, and the surplus in Asian and oil-exporting countries. For Asian economies, except for the PRC, instead of an increase in the savings rate, it is the private investment drought that induced these countries to run successive current account surpluses.

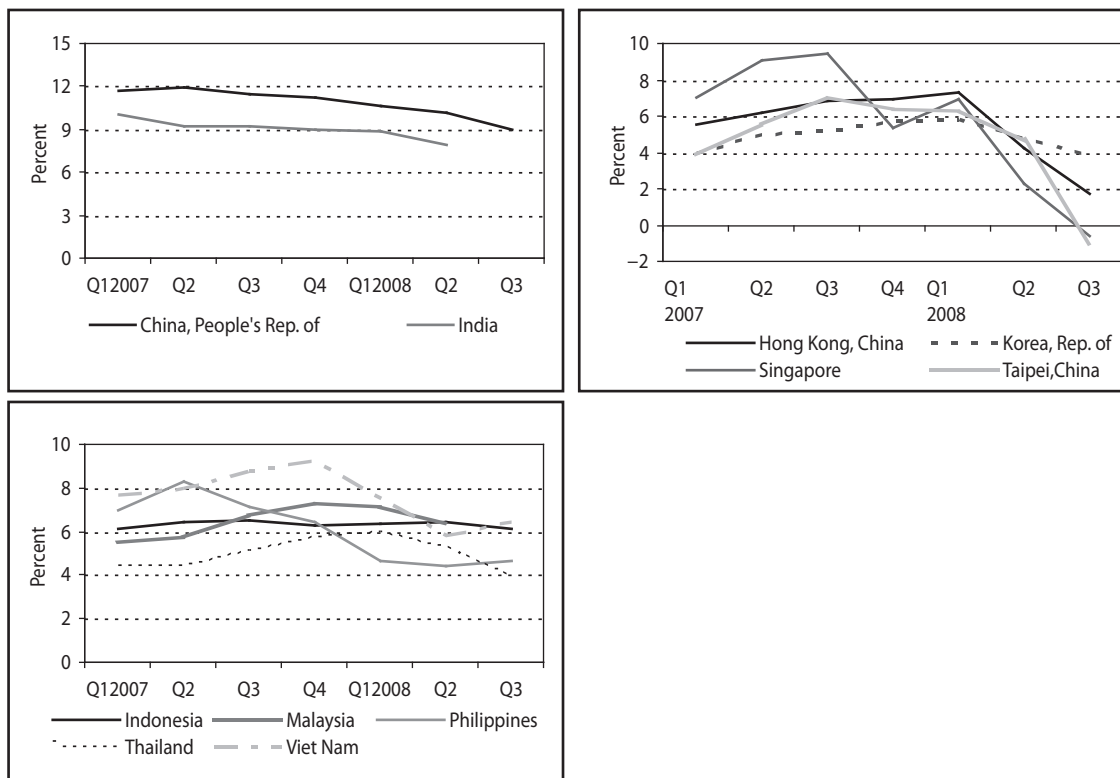
Figure 71: Growth of Fixed Capital Formation, Selected Asian Economies



Source: CEIC Data Company Ltd., downloaded 20 November 2008.

All in all, in terms of GDP growth, up until the second quarter of 2008, the global slowdown has had negative but limited impact on developing Asia's real sector. Many regional economies continued to post robust, albeit moderately easing, growth. As global financial conditions have worsened since then, the threat of a deeper and more protracted downturn in industrial countries has intensified. This implies that the fallout on developing Asian economies could be more severe. In fact, the slowdown in growth is gathering momentum in PRC; Hong Kong, China; and Korea for which Q3 data are available (Figure 72). GDP growth in the PRC softened to 9% in the third quarter of 2008, from double-digit growth for the last 5 years, while that in Hong Kong, China and in Korea was 1.7% and 3.9%, respectively in Q3 2008, declining from 5.8% and 5.3% in the first half of 2007. Because of a decline in exports, FDI, and portfolio investment as well as tightening credit conditions, GDP growth in other countries, especially Singapore where the financial sector contributed significantly to GDP growth, is expected to noticeably soften.

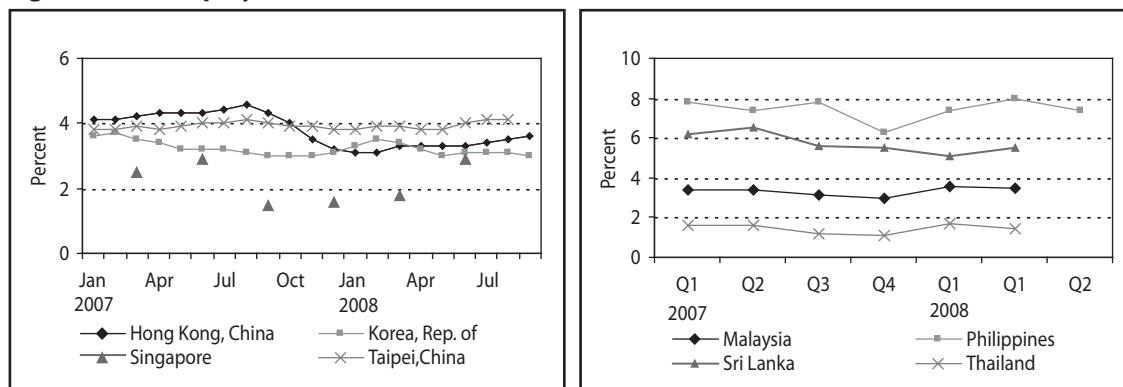
Figure 72: GDP Growth, Selected Asian Economies



Source: CEIC Data Company Ltd., downloaded 20 November 2008.

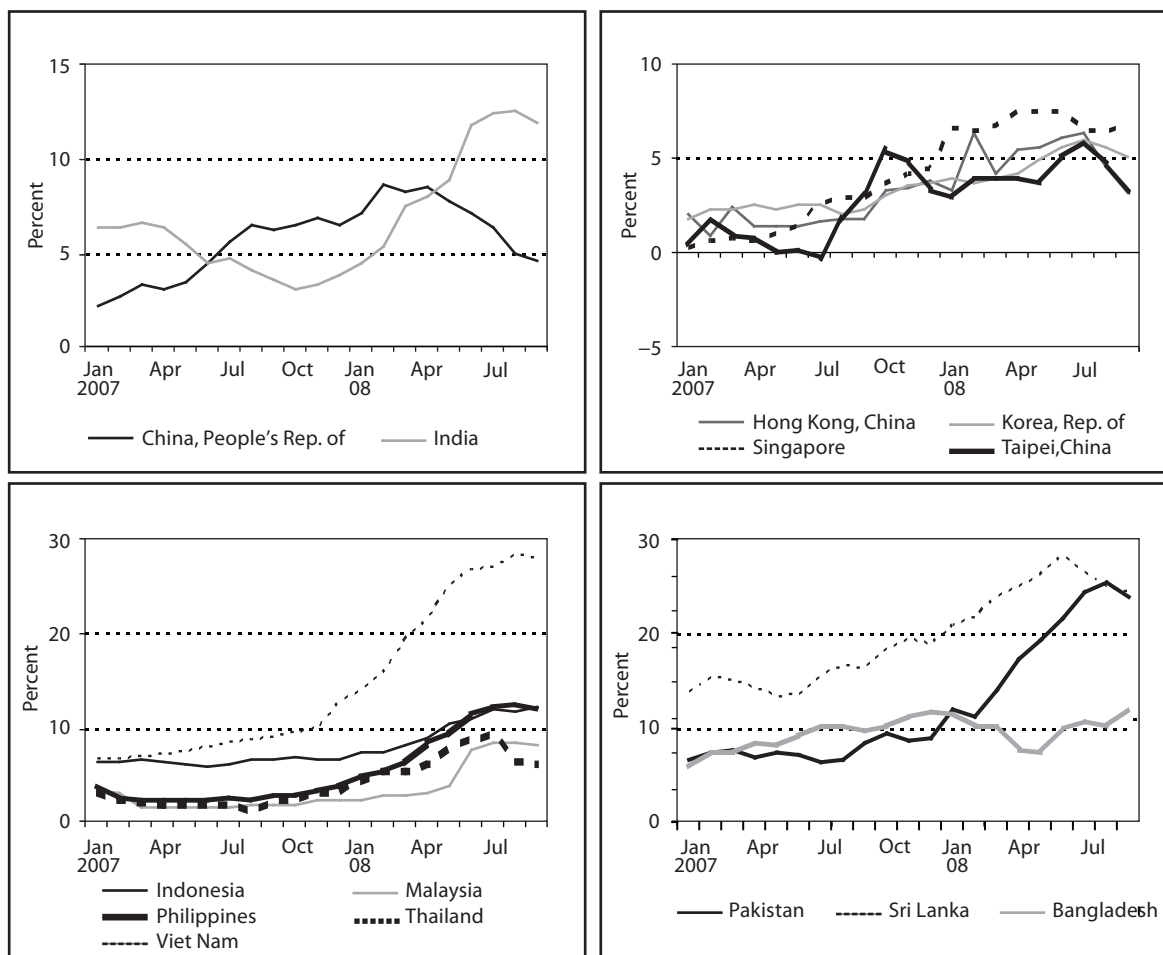
The impacts of lower growth on unemployment are slowly becoming visible. Data up to September 2008 shows a slight upward movement in many countries (Figure 73). At the same time, the specter of high inflation continues to haunt populations and governments alike in the region even though inflation pressures have eased (Figure 74). Can the region adjust by boosting domestic demand? In the face of high inflation is this the right time to loosen monetary policy? What role can fiscal stimulus play? Which countries are exposed by weak fiscal and external balances and which ones are in good shape? These are some of the questions that we now turn to.

Figure 73: Unemployment Rates, Selected Asian Economies



Note: Unemployment data for Singapore, Malaysia, Philippines, Sri Lanka, and Thailand are on a quarterly basis.
 Source: CEIC Data Company Ltd., downloaded 7 November 2008.

Figure 74: Inflation Rates, Selected Asian Economies



Source: CEIC Data Company Ltd., downloaded October 2008.

In the current global financial market environment, countries with limited banking sector liquidity and high current account and government budget deficits are more vulnerable to the global financial turmoil. Countries suffering from illiquidity in the banking sector such as India and Korea could face relatively more serious problems from the global slowdown since the central bank may find it difficult to neutralize the abnormal stress in the system. The combination of high inflation and slowing growth poses a serious dilemma for monetary policy formulation, which needs to delicately balance the twin objectives of high growth and low inflation.

Moreover, in a country with high levels of government deficit and public debt, the probability of implementing active fiscal pump-priming to reduce the problem of shrinking liquidity and of worsening market sentiment would be limited. This concern tends to be more pronounced in India where the fiscal balance as a percentage of GDP registered -5.9% in January–June 2008, compared to -7.9% during the same period in 2007 (Table 8). India's fiscal deficit in 2007–2008 was also high, compared to that in the 1990s. For other countries, fiscal balances were in a relatively better position. Particularly, the fiscal surplus in Hong Kong, China; Indonesia; Korea; and Taipei, China in 2007–2008 was much higher than in the precrisis situation in 1990–1996. However, even though in some countries such as Malaysia and Thailand where there is a relatively larger public sector, and economy and fiscal positions have been well managed, the lack of political stability could undermine the government's ability to implement expansionary fiscal policy to neutralize the abnormal stress in the markets.

Table 8: Fiscal Balance in Selected Asian Economies (percent of GDP)

	PRC (CY)	Hong Kong, China (FY ending March) (FY ending March)	India (FY ending March)	Indonesia (FY ending March)	Korea, Rep. of (CY)	Malaysia (CY)	Philippines (CY)	Singapore (CY)	Taipei,China (CY)	Thailand (CY)
1990-96	-2.5	1.6	-5.1	0.3	-0.3	-0.2	-0.9	11.1	-4.0	2.9
1997-99	-2.4	1.4	-5.1	-1.2	-2.6	-0.9	-1.9	6.5	-4.2	-2.5
2005	-1.2	1.0	-4.1	-0.5	0.4	-3.6	-2.7	6.7	-0.6	-0.6
2006	-0.7	3.9	-3.4	-0.9	0.4	-3.3	-1.1	9.7	-0.6	1.1
2007	0.7	7.5	-3.1	-1.2	3.8	-3.2	-0.2	12.2	-0.3	-1.7
Jan-June 2007	7.5	7.6	-7.9	1.7	2.7	0.3	-1.3	6.1	1.1	-2.0
Jan-June 2008	9.1	2.6	-5.9	2.4	4.7	-2.6	-0.5	8.7	1.4	0.2

CY = calendar year, FY = fiscal year.

Source: CEIC Data Company Ltd., downloaded 12 November 2008.

A country that has a problem of persistent and large current account deficits is more vulnerable to the global financial turmoil as these deficits are, in general, likely to be associated with huge capital inflows. In a situation of global illiquidity, the country would face the risk of sudden reversal of capital inflows. This would undermine consumer and investor confidence and the exchange rate could significantly depreciate. The country

could then face the risks of macroeconomic instability and currency crisis. India tends to face this risk more than other Asian countries. The current account balance in India has turned negative since 2005 and in the first half of 2008, the deficit was 2.1% of GDP, compared with 0.4% in the first half of 2007 (Table 9). For other countries such as Indonesia, Korea, Philippines, and Thailand, the current account balance as a percentage of GDP deteriorated as well. But the vulnerability of their current account position has been limited compared to the precrisis period in 1990–1996 when the current account deficit was large in these countries.

Table 9: Current Account Balance as a Percentage of GDP in Selected Asian Economies

Calendar Year	PRC	Hong Kong, China	India	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand
1990–96	1.2	1.2	-1.4	-2.4	-1.6	-5.7	-3.9	12.4	4.1	-6.8
1997–99	2.8	1.1	-1.0	2.0	5.2	7.6	-2.2	18.4	2.1	7.0
2005	10.0	11.4	-1.4	0.1	1.9	15.0	2.0	18.6	5.0	-4.3
2006	12.6	12.1	-1.2	3.0	0.6	16.3	4.5	21.8	7.2	1.1
2007	15.7	13.5	-1.1	2.4	0.6	15.6	4.4	24.3	8.6	5.7
2007H1	11.4	12.0	-0.4	2.4	-0.4	15.0	5.5	25.7	8.4	4.4
2008H1	na	10.6	-2.1	0.3	-1.1	16.7	2.0	14.5	7.4	1.2

Note: Shaded cells indicate a deterioration.

Source: CEIC Data Company Ltd., downloaded 12 November 2008.

C. Prospects for Developing Asia amidst Economic Stagnation in Industrial Countries

This subsection traces the impacts of the economic slump in industrial countries on Asia's regional economies in 2008 and 2009, based on the Oxford Economics (OE) global model.¹¹ The OE updates projections for key economic variables for selected industrial and developing economies on a monthly basis. For purposes of analyzing the impacts of a more severe global slowdown, the October 2008 model release was used. Baseline projections of the OE model pertaining to GDP growth in selected industrial countries and developing Asian economies are presented in Table 10.

The model includes 10 developing Asian economies, namely, PRC; Hong Kong, China; India; Indonesia; Korea; Malaysia; Philippines; Singapore; Taipei, China; and Thailand. The key assumptions in the analysis are: (i) the central bank adopts an inflation targeting framework so that the short-term policy interest rate will be adjusted in response to inflationary pressure; (ii) the exchange rate is flexible; and (iii) the real wage is rigid in the short run, so that involuntary unemployment is possible when output falls. Simulations are conducted by assuming that economic growth in France, Germany, Italy, Japan, Spain, UK, and US would be lower than the baseline projections provided by the OE global

¹¹ See www.oxfordeconomics.com for details of the model.

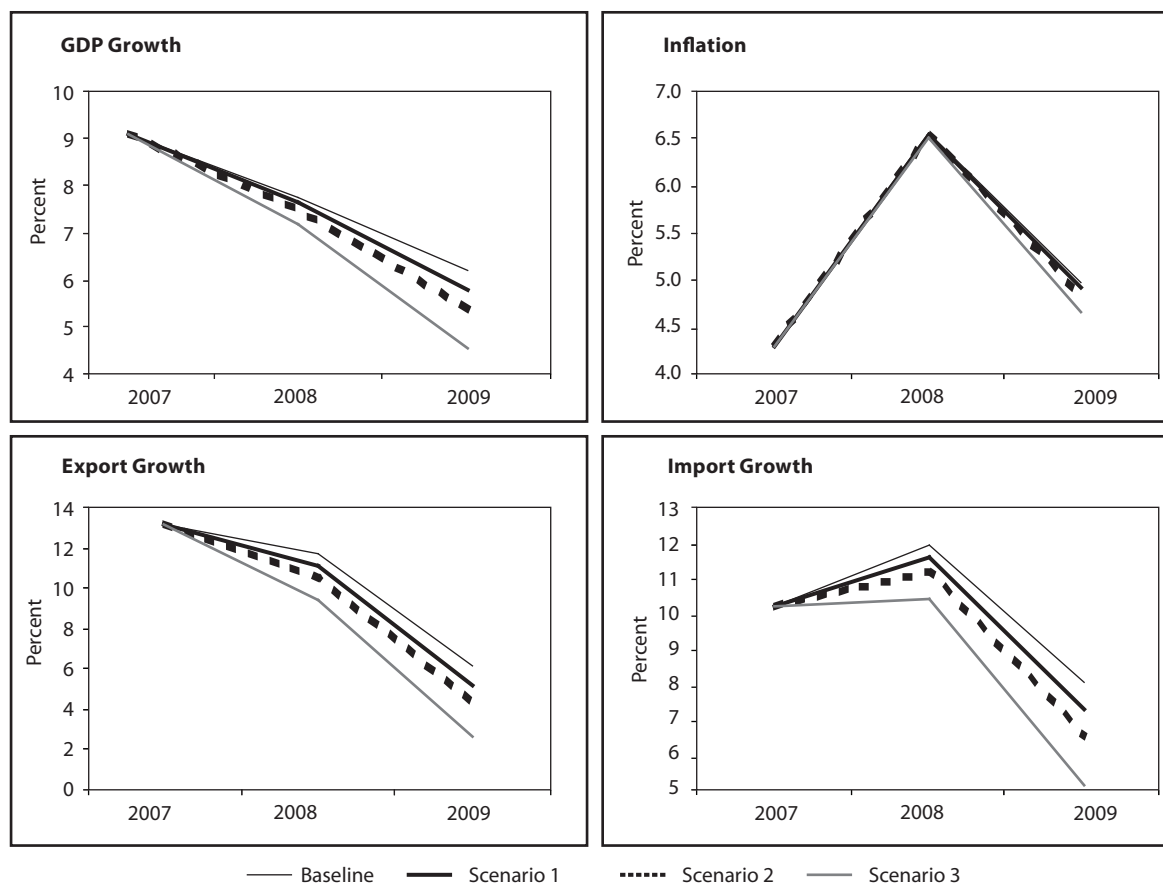
model. Three scenarios of GDP growth in these countries are considered: (i) GDP growth in these countries would decline from the baseline projection by one-half of a percentage point in the second half of 2008 through the end of 2009 (implying the downturn lasts 18 months); (ii) by one percentage point; and (iii) by two percentage points.

Table 10: Baseline GDP Growth Projections (percent, year-on-year)

Economy	2008	2009	2010
United States	1.5	0.4	2.8
Japan	0.7	-0.1	1.1
Germany	1.5	0.2	1.5
France	0.9	0.1	1.6
Italy	-0.1	-0.2	0.9
Spain	1.3	-0.7	1.5
China, People's Rep. of	10.0	8.3	8.0
Hong Kong, China	4.7	3.0	4.7
India	7.8	6.2	7.6
Indonesia	5.9	4.4	5.5
Korea, Rep. of	4.2	2.1	4.0
Malaysia	5.4	4.4	5.8
Philippines	4.3	3.4	4.9
Singapore	3.2	1.5	4.6
Taipei, China	3.8	2.0	4.0
Thailand	4.8	3.2	5.2

Source: Oxford Economics model, October 2008.

A moderate slowdown in the industrial world (Scenario 1) reduces growth in developing Asia by one-tenth of a percentage point in 2008 and four-tenths of a percentage point in 2009 (Figure 75). The Appendix tables present baseline and simulated projections for key economic variables for individual countries. The region's heavy reliance on exports to support growth is largely responsible for the adverse impact. Reduced import demand in Japan, UK, US, and the large eurozone economies is reflected in slower exports from developing Asia. Export growth in the region falls by an average of six-tenths of a percentage point in 2008 and nine-tenths of a percentage point in 2009. This negative impact is amplified by the fact that weaker final demand for the region's exports translates into slower intraregional exports, which is largely driven by trade in parts and components within the region's vertical supply chains. As a result, growth in imports of Asia is weakened.

Figure 75: Impacts on Developing Asia

Note: The scenarios assume slower growth in France, Germany, Italy, Japan, Spain, UK, and US from 3Q 2008 to 4Q 2009.
 Scenario 1: Growth falls by 0.5 percentage point.
 Scenario 2: Growth falls by 1 percentage point.
 Scenario 3: Growth falls by 2 percentage points.
 Developing Asia comprises PRC; Hong Kong, China; India; Indonesia; Korea; Malaysia; Philippines; Singapore; Taipei, China; and Thailand.

Source: Oxford Economics simulations.

Singapore suffers the heaviest economic blow, with GDP growth easing by two-tenths and eight-tenths of a percentage point in 2008 and 2009, respectively, on account of sluggishness in exports and private consumption. The PRC sustains the largest cutback in its exports, as growth is clipped by seven-tenths of percentage point in the first year and 1.0 percentage point in the second, slashing economic expansion by two-tenths and six-tenths of a percentage point, respectively, in 2008 and 2009. The PRC's massive dependence on external demand accounts for the hefty decline in GDP growth.

Slower demand for the region's exports reduces the region's current account surplus and damps investment spending and industrial production. As a result, unemployment rises and incomes fall. Personal spending and import demand drop. Slumping demand then eases price pressures and reduces inflation.

A sharp slowdown in Japan, UK, US, and major eurozone economies results in more adverse effects on developing Asian economies (Scenario 2). Regional expansion slows by three-tenths and nine-tenths of a percentage point in 2008 and 2009, respectively. Export growth tumbles, leading to a deterioration of the region's current account balance. Industrial production slackens and unemployment increases. Regional incomes decline.

A deeper downturn in industrial countries dents developing Asia's growth by a still larger magnitude (Scenario 3). Regional GDP growth slips by six-tenths of a percentage point and 1.7 percentage points in the 2 years under consideration. The simulations show that in 2009, Singapore's expansion will be knocked down by 3 percentage points as exports plunge. The PRC's growth will likewise be slashed further as its export sector takes a beating from lower industrial country demand.

The results of these three scenarios are based on the assumption that interest and exchange rates are not allowed to adjust. However, if a real depreciation in developing Asian currencies occurs in tandem with the global slowdown, the negative impacts on regional economies will be mitigated. Depreciating currencies effectively lower the price of developing Asia's exports, boosting demand from other trading partners, and limiting the adverse effects on export growth. Local currency depreciations also accelerate price pressures, lifting inflation rates across the region. If nominal interest rates are held fixed at baseline levels, rising prices reduce real interest rates, encouraging investment and consumption. The overall impact on the region is therefore positive.

However, if in addition to the real depreciation of Asian currencies, interest rates are allowed to adjust, intensifying price stresses call for nominal interest rate hikes. With interest rates generally rising by more than the increase in prices, positive real interest rate changes ensue, crimping domestic demand. The positive GDP outcome thus turns out to be smaller under the flexible interest rate scenario than in the fixed.

Recent developments, however, indicate a tendency for central banks to be more accommodative in their monetary policies than suggested in the OE global model, particularly since inflationary pressures from high food and fuel prices have eased in some countries. In early October, the central banks of Canada, Switzerland, Sweden, UK, US, and eurozone cut policy rates by 50 bps; of Australia by 100 bps; Hong Kong, China by 150 bps; of the PRC by 27 bps; and of Korea and Taipei, China by 25 bps. Canada and Sweden have reduced policy rates further and a few other countries such as India, New Zealand, and Viet Nam have joined the interest-cutting bandwagon. These decisions aim to unfreeze money markets and restore credit access to the financial sector and to the real economy. Indonesia, meantime, raised its policy rate by 25 bps as domestic inflation seemed to be accelerating in September. A few other regional economies are still suffering from double-digit inflation rates. Where inflation remains high, monetary policy should be kept tight. If current interest rates are fixed until end-2008, or cuts are implemented through 2009, prospects for developing Asia are set to improve. However,

if inflationary pressures persist as high production costs are passed on to consumers, growth prospects for the region could deteriorate further.

Note, however, that the results presented above have not considered government responses that have recently been announced to boost growth and ease liquidity and credit constraints. This is because there is incomplete information as to how these stimulus packages would actually be implemented. A major implication of this shortcoming is that the resulting impacts of the various scenarios on developing Asia could be biased downward, and that outcomes could turn out better for the region. Nonetheless, forecasts of growth in developing Asia in 2008 and 2009 have been sharply downgraded as the severity of the recession in the industrial economies has worsened.¹² Hence, we are more concerned that growth could weaken even more than is implied in these scenarios and could remain well below recent growth rates for a prolonged period.

As the global financial crisis continues to unfold, there is increasing uncertainty about the eventual duration of the global slowdown. The 3 scenarios presented earlier assumed the global downturn would last for 18 months. However, there is a possibility that the slump may extend to 24 months. Under such a scenario, Asia's growth prospects would be hammered through 2010. A slowdown in industrial countries that would stretch through the first half of 2010 would further batter regional exports, reduce growth, and clip domestic demand. On the whole, a deep and prolonged global downturn would have severe ramifications on developing Asia's growth prospects.

To sum up, impacts of the global financial turmoil on the real economy in Asian countries have begun to intensify. Trade has so far been the most important channel through which the slowdown in the global economy, resulting from the global financial turmoil, is affecting the real economy in Asia. However, the evidence of a significant decline in equity and offshore bond markets, and a reduction of net capital inflows (both FDI and portfolio investment) in many Asian countries points to additional risks to the real economy that could occur from prolonged global financial turmoil. Consumption and investment began to deteriorate from illiquidity of the banking sector, an increase in costs of capital, and a reduction in household wealth. This situation needs to be watched closely, especially in countries with high current account and government budget deficits and tightening credit conditions. Under such circumstances, a country faces the risk of sudden reversal of capital flows and a limited capacity of government in implementing expansionary fiscal and monetary policy in order to neutralize the contraction in aggregate demand.

¹² ADB's December 2008 forecast cuts growth estimates for developing Asia in 2008 and 2009 to 6.9% and 5.8% compared with September forecasts of 7.5% and 7.2%, respectively (ADB 2008a and 2008b).

VI. Key Lessons for Asia

A number of key lessons for developing Asia emerge from our analysis. Some of those lessons pertain to the short term while others pertain to the medium and long term. In the short term, given the fragile state of public confidence in the region's financial systems, it is critical for the monetary authorities to do everything within their power to support their financial institutions. In the current environment of tension and uncertainty, the fall of one bank could easily entail domino effects that would bring down the whole banking system. Injecting liquidity into the financial system, relaxing the terms of access to the discount window, and expanding deposit insurance are some specific measures the region's monetary authorities can take to bolster public confidence. In fact, many of them have already begun to take such policies (see Table 11). Since lack of confidence in the financial system is in no small part due to lack of information, authorities should also encourage their financial institutions to become more transparent. In the short run, it is also important for the region's governments to support their real economies through expansionary monetary and fiscal policies. Encouragingly, many of them have already begun to cut interest rates and boost public spending in an effort to lessen the severity of the slowdown and speed up the recovery of their economies (see Table 12).

In the medium and long term, the US subprime crisis highlights the need for Asian countries to continue and build upon the postcrisis structural reforms of their financial sectors, including further strengthening of their regulatory infrastructures. While those reforms have helped to protect the region from the global financial meltdown this time, the more general lesson for Asia is that even financially advanced economies are susceptible to risks arising from lax regulation and reckless lending. It is also important that the region's policymakers do not draw the wrong lessons from the current crisis. In particular, it is not financial innovation per se that precipitated the crisis but rather the failure of prudential regulation to stay on top of innovation. Finally, in the long term, the unsustainable nature of the global current account imbalances that have contributed to this crisis has some implications about Asia's economic growth strategy. In particular, it suggests that Asia may have an enlightened self-interest in modifying its growth strategy toward a greater reliance on domestic demand.

Table 11: Monetary Policy Responses across Developing Asia

Economy	Policy Response of Authorities
Hong Kong, China	<ul style="list-style-type: none"> • Lower policy base rate. • Use of Exchange Fund to guarantee repayment of all customer deposits until 2010. • Establishment of a Contingent Bank Capital Facility to provide additional capital to locally incorporated licensed banks, effective until 2010. • Liquidity assistance to banks by: including US dollar assets as eligible securities for access by individual licensed banks to the discount window; extending duration of liquidity assistance through the discount window on a case-by-case basis; increasing the threshold for the use of Exchange Fund Paper as collateral for borrowing through the discount window from 50% to 100%; conducting foreign exchange swaps (between the US dollar and the Hong Kong dollar); and lending term money for up to 3 months.
China, People's Rep. of	<ul style="list-style-type: none"> • Cut RMB reserve requirement ratio for depository financial institutions. • Reductions in benchmark lending rate.
India	<ul style="list-style-type: none"> • Reductions in repo rates. • Reduction in cash reserve ratio. • Sale of foreign exchange (US dollar) through agent banks to augment supply in the domestic foreign exchange market.
Indonesia	<ul style="list-style-type: none"> • Increase in deposit guarantees up to Rp2 billion. • Increase in foreign exchange swaps tenor to a maximum of 1 month (effective from 15 October 2008), undertaken to fulfill the temporary demand of US dollars. • Provision of foreign currency supplies to domestic companies through the banking industry based on underlying transactions (effective from 15 October 2008) to enhance assurance in fulfilling foreign currency demand by domestic companies. • Lower minimum reserve requirement for foreign exchange deposits on commercial banks from 3.0% to 1.0% (effective from 13 October 2008) with the objective of increasing US\$ liquidity to be used by banks in their transactions with customers. • Elimination of limit on daily balance positions for short term loans (effective from 15 October 2008) to decrease pressures in US dollar purchases due to transfer of rupiah account to foreign currency accounts by foreign customers. • Lower rupiah minimum reserve requirement.
Korea, Rep. of	<ul style="list-style-type: none"> • Government guarantee of up to \$100 billion on banks' new external debt for a period of three years. • Deposit insurance for foreign currency deposits. • Increase in credit guarantees for small- and medium-size enterprises. • \$30 billion swap facility with the Federal Reserve to ease dollar shortage. • Policy rate cuts. • Provision of \$30 billion to the banking sector by using foreign exchange reserves, which is expected to be sufficient to absorb banks' foreign currency debt due to mature by end-2008.

continued.

Table 11: *continued.*

Malaysia	<ul style="list-style-type: none"> • Full guarantee of all local and foreign currency deposits with commercial, Islamic, and investment banks, and deposit-taking development financial institutions regulated by Bank Negara until December 2010, with the possibility of extending to interbank obligations.
Philippines	<ul style="list-style-type: none"> • Reduction in reserve-requirement ratio. • Doubling of the central bank's rediscounting budget. • Opening of a US dollar repurchase agreement facility.
Singapore	<ul style="list-style-type: none"> • Guarantee of all Singapore dollar and foreign currency deposits by individual and nonbank customers in banks, finance companies, and merchant banks licensed by the Monetary Authority of Singapore until 31 December 2010. • Guarantee on deposits in credit cooperatives registered with the Registry of Cooperative Societies. • \$30 billion swap facility with the Federal Reserve. • Policy rate cuts.
Taipei,China	<ul style="list-style-type: none"> • Temporary insurance guarantee on all bank deposits and interbank lending. • Policy rate cuts.
Thailand	<ul style="list-style-type: none"> • Guarantee on all domestic deposits of local and foreign financial institutions until August 2011.
Viet Nam	<ul style="list-style-type: none"> • Cuts in benchmark base rate. • Lower discount rate at which the central bank buys paper from banks and the refinancing rate which the central bank uses for loans to commercial banks. • Reductions in reserve-requirement ratio.

Sources: Central banks' websites, International Monetary Fund (2008), national and international press reports.

Table 12: Fiscal Policy Responses across Developing Asia

Economy	Fiscal Measures
China, People's Rep. of	<ul style="list-style-type: none"> • Economic stimulus package worth \$586 billion, which includes spending on various areas such as roads, airports and other infrastructure, health and education, environmental protection, high technology, and housing; also covers tax deductions for exporters.
India	<ul style="list-style-type: none"> • Economic stimulus package that includes additional government spending worth 200 billion rupees (US\$4 billion), a cut on value-added tax, credit support for textile, leather, handlooms and other labor-intensive sectors, and infrastructure financing.
Korea, Rep. of	<ul style="list-style-type: none"> • Economic stimulus package worth at least 14 trillion won (\$11 billion), which covers spending on regional infrastructure and providing tax benefits, mainly on investment in factories.
Malaysia	<ul style="list-style-type: none"> • Economic stimulus package worth 7 billion ringgit (\$2 billion) to be spent on "high-impact" construction projects including roads, schools, hospitals, and low-cost housing.
Taipei,China	<ul style="list-style-type: none"> • Economic stimulus package of NT\$500 billion (\$15 billion), which includes a shopping voucher program, launch of public construction projects, urban renewal plans, and incentives to encourage private investment and industrial upgrading.

Source: National and international press reports.

Looking ahead, in the short to medium term, an important variable that will determine whether Asian financial systems will continue to be relatively immune from the global financial turmoil is the depth and length of the global economic slowdown. It should be remembered that the balance sheets of Asian banks have benefited from the region's strong macroeconomic performance during the last few years, in addition to postcrisis restructuring and reform. The benign global outlook prior to the current crisis has enabled robust economic activity throughout the region. A severe and extended global slowdown will have a substantial adverse impact on the region's growth, which will reduce the earnings and profits of Asian banks. The sharp fall in bank equity prices, which closely mirrors the fall in overall equity prices, implies that the main forward risk for Asian banks will be the softening of Asia's hitherto vibrant real economies. Therefore, the key question is how resilient the region's financial institutions are to a potentially sharp deterioration of the macroeconomic environment. To the extent that they can adjust well to an environment of slower economic activity, they will be able to retain their current good health.

In terms of short-term policy implications, it is critical for Asian monetary authorities to do as much as possible to shore up their financial markets and systems. Possible measures include injection of liquidity, expanding the range of assets that can serve as collateral, and extending the maturity period of lending. Some Asian monetary authorities are already moving in this direction. For example, in late September, the Monetary Authority of Singapore has pumped liquidity into the banking system via market operations and has announced its willingness to provide additional liquidity to individual banks on a case-by-case basis. Likewise, on 30 September the Hong Kong Monetary Authority announced that it would expand collateral accepted for accessing its discount window and to extend the duration of funds on a case-by-case basis. While Asia does not suffer from a credit crisis, it does suffer from the public's *fragile confidence in the financial system*. There seems to be a popular disbelief about the safety of Asian financial institutions in the face of the global credit crisis. Examples of such disbelief include the run on Bank of East Asia in Hong Kong, China fueled by groundless rumors of overexposure to Lehman and AIG, and the run on AIG offices by worried policyholders in Singapore. This suggests that the biggest negative effect of the global financial turmoil on Asia up to now may be the *loss of confidence in the financial system*. In this environment, adverse developments for an individual financial institution could instantaneously spread to and infect the entire financial system. Therefore, it would be prudent for regional monetary authorities to give utmost priority to restoring confidence instead of basking in the region's relative immunity.

The fact that in Asia the financial crisis is a crisis of confidence rather than an actual crisis also has significant implications for financial supervision and regulation even in the short run. In particular, regulatory authorities should proactively encourage financial institutions to fully disclose their exposure to and losses from the subprime crisis, perhaps through the threat of punitive penalties for inadequate disclosure. The importance of transparency in the current environment of elevated uncertainty is illustrated by the

sharp fall in the share prices of Hang Seng Bank, one of Hong Kong, China's largest lenders, in early October. The immediate cause of the plunge is investor concern about the bank's exposure to debt tied to Washington Mutual, the failed US savings-and-loan. Most analysts estimate Hang Seng's exposure to be only a marginal fraction of its capital base. Therefore, what is causing the steep fall in Hang Seng's share price is not so much exposure to Washington Mutual but the bank's unwillingness to be forthcoming about its exposure.

Another confidence-boosting regulatory measure might be to bolster deposit insurance and other safety nets, although this entails contingent fiscal liabilities. However, their confidence benefits are likely to be unusually large in these times of uncertainty. In fact, on 17 October, in a coordinated effort, Malaysia and Singapore have agreed to provide a blanket guarantee on all deposits in their banking systems. The governments of both countries will guarantee all local-currency and foreign-currency deposits belonging to both individual and non-individual bank customers in banks and other financial institutions regulated by the monetary authorities, with immediate effect until year-end 2010. Earlier, on 14 October the Hong Kong Monetary Authority issued a blanket guarantee through year-end 2010 for all customer deposits held in all authorized institutions in the territory. As in Malaysia and Singapore, the guarantee covers both local-currency and foreign-currency deposits. In all three cases, government officials have emphasized that the banking system is sound and the deposit guarantees are primarily precautionary. This is encouraging because it indicates that the governments of financially more open Asian countries are fully aware of the pivotal importance of public confidence in containing the contagious effects of the global crisis.

In addition to shoring up their financial systems, in the short run the region's governments should do everything within their power to support their real economies. While the region's economies have far stronger fundamentals than they did at the onset of the Asian crisis, they will not be immune from the adverse consequences of the ongoing G3 slowdown. In particular, the negative impact on exports will lower GDP growth throughout the region. However, regional governments can help to reduce the severity and duration of the slowdown by pursuing expansionary monetary and fiscal policy. The effectiveness of monetary policy in supporting domestic demand will depend on the effectiveness of the policies aimed at boosting confidence in the financial system since the latter facilitate the flow of credit to the real economy. Many countries have in fact aggressively and appropriately cut interest rates, which will bolster both the financial system and the real economy (see Table 12). The softening of oil and food prices in recent months will lessen the inflationary costs of lower interest rates. Increasing government spending and cutting taxes is another policy option available for the region's policymakers seeking to tackle the weakening of exports and private domestic demand. In fact, PRC; Korea; Malaysia; Taipei, China; and Thailand have already announced fiscal stimulus packages (see Table 12). Years of sustained fiscal prudence have given the region's governments, with the notable exception of India, public debt-to-GDP ratios significantly lower than those of their

G3 counterparts and hence ample space to pursue expansionary fiscal policy to help their economies weather the storm better and recover more quickly. In short, lower interest rates and higher public spending are the appropriate medicines for the region under the current circumstances, and the region has already begun to take both in sizable doses.

Looking further ahead to the medium and long term, it is critical for Asian governments not to draw the wrong policy lessons from the limited effects of the subprime crisis. It is true that the structural improvement of Asian financial systems since the Asian crisis has helped to protect the region from the current global credit crisis. Yet it is equally true that Asia was in some sense fortunate in that its banks largely avoided exposure to subprime mortgages. The negative impact on the region's financial stability would have been far greater had exposure levels been substantially higher. The more relevant general lesson for Asia is that even financially advanced economies such as the US are susceptible to financial crises arising from imprudent lending and unsound policies. This gives Asian countries all the more reason to build upon and further reinforce the postcrisis structural reforms, including the strengthening of prudential regulation and supervision, which have significantly improved the soundness and efficiency of their financial systems. A more specific lesson for Asian lenders, which have only recently begun to shift from financing companies to financing households, is that they will have to be more alert to the risks of mortgage lending. Those risks tend to be magnified in an environment of rising housing prices.

The last point brings us to a critical issue facing the prudential regulation and supervision authorities in Asia today. If financial innovation can wreak such havoc on deep, broad, and sophisticated financial markets such as that of the US, the obvious implication for financially underdeveloped Asian countries might be that they should promote financial innovation at their own risk. In fact, this is the type of reasoning used by some in the region to call for slowing down or even halting financial reform. However, financial backwardness, which fortuitously protected Asia this time around, carries costly risks of its own, as was emphatically demonstrated by the Asian crisis. Furthermore, Asia's banks have already reaped substantial benefits from innovations of their own, such as their strategic shift toward household and real estate lending in the face of weakened demand for business loans. It is not financial innovation itself that brought about the current global financial turmoil. Rather, it has been the failure of prudential regulators to identify and control the risks stemming from innovation. It may be more productive for Asian countries to apply the lessons learned from the crisis—e.g., what risks are involved in financial innovation—to their financial reform process. The global crisis may even benefit the financial reform process in Asia by enabling the region to avoid the regulatory mistakes of the US and Europe.

The global financial crisis also has major implications about the future growth strategy of developing Asia. In particular, global imbalances—i.e., large, persistent current account deficits of industrialized countries, in particular the US, counterbalanced by large, current account surpluses of developing countries, including developing Asia—may have partially contributed to the outbreak of the crisis. The underlying notion here is that the flipside of such current account imbalances (massive capital inflows into the US) may have brought about a global savings glut that, in turn, lowered the cost of capital and encouraged imprudent lending into risky asset classes such as subprime mortgages. It is true that developing Asia has run persistently large current account surpluses since the Asian crisis. However, other developing countries, in particular oil exporters, have also contributed significantly to global imbalances. Furthermore, even if we accept the uncertain premise that Asian countries are oversaving, global imbalances are as much the result of oversaving in surplus countries as the result of overconsumption in deficit countries.

Nevertheless, as was seen in the analysis of this paper, although the global financial crisis originated in the US and spread to the EU, developing Asia will not escape its adverse consequences. This means that to the extent that unsustainable global imbalances played a role in bringing about the crisis, developing Asia has an enlightened self-interest in helping to reduce those imbalances. More fundamentally, however, long before the outbreak of the current crisis, many observers suggested that developing Asia would benefit significantly from a more balanced growth strategy with a greater reliance on domestic demand. For example, higher consumption in countries that save “too much” would improve the living standards and welfare of present-day citizens. Likewise, increased investment in countries that invest “too little” would enhance long-run productive capacity. The global financial crisis has not created the need for developing Asian countries to rebalance their economies. What the crisis has done is to add a much-needed sense of urgency to a need that was already there. More balanced growth is in the best interest of developing Asia’s own growth and development in the long run. The fact that it helps to mitigate global imbalances is a positive by-product, albeit an important one, especially in view of current circumstances.

Appendix

Appendix Tables: Comparison of Baseline and Simulated Projections

GDP Growth (percent, year-on-year)

Economy	2008				2009			
	Baseline	Scenario 1	Scenario 2	Scenario 3	Baseline	Scenario 1	Scenario 2	Scenario 3
United States	1.46	1.21	0.95	0.45	0.41	-0.09	-0.59	-1.59
Japan	0.70	0.45	0.20	-0.30	-0.10	-0.60	-1.10	-2.10
Eurozone	1.09	0.87	0.66	0.23	0.09	-0.35	-0.78	-1.65
United Kingdom	1.07	0.81	0.56	0.06	-0.11	-0.61	-1.11	-2.12
China, People's Rep. of	10.00	9.86	9.69	9.37	8.25	7.71	7.17	6.12
Hong Kong, China	4.69	4.57	4.45	4.22	2.98	2.56	2.13	1.30
India	7.78	7.72	7.65	7.53	6.23	6.08	5.94	5.65
Indonesia	5.90	5.79	5.69	5.47	4.42	4.15	3.89	3.36
Korea, Rep. of	4.19	4.02	3.87	3.55	2.10	1.81	1.53	0.96
Malaysia	5.44	5.37	5.31	5.17	4.43	4.08	3.73	3.05
Philippines	4.32	4.22	4.12	3.92	3.39	3.12	2.84	2.31
Singapore	3.18	2.94	2.69	2.21	1.51	0.74	-0.02	-1.52
Taipei, China	3.79	3.59	3.40	3.03	1.96	1.64	1.33	0.71
Thailand	4.80	4.66	4.53	4.27	3.22	2.78	2.35	1.51
Developing Asia	7.80	7.65	7.51	7.22	6.24	5.81	5.39	4.56

Consumer Price Inflation (percent)

Economy	2008				2009			
	Baseline	Scenario 1	Scenario 2	Scenario 3	Baseline	Scenario 1	Scenario 2	Scenario 3
United States	4.55	4.56	4.58	4.60	2.57	2.61	2.66	2.75
Japan	1.22	1.17	1.13	1.04	0.33	0.09	-0.15	-0.63
Eurozone	3.51	3.54	3.56	3.62	2.29	2.23	2.18	2.09
United Kingdom	3.82	3.81	3.79	3.76	2.92	2.77	2.62	2.31
China, People's Rep. of	6.44	6.43	6.42	6.40	4.42	4.31	4.21	4.00
Hong Kong, China	5.14	5.13	5.12	5.11	3.18	3.02	2.86	2.55
India	7.43	7.42	7.41	7.39	7.57	7.50	7.43	7.30
Indonesia	10.91	10.90	10.89	10.88	10.07	10.05	10.02	9.98
Korea, Rep. of	4.69	4.69	4.69	4.68	3.73	3.70	3.67	3.62
Malaysia	6.11	6.10	6.09	6.07	5.02	4.95	4.88	4.74
Philippines	9.67	9.66	9.65	9.63	6.04	5.98	5.93	5.83
Singapore	6.62	6.61	6.60	6.58	3.21	3.17	3.14	3.09
Taipei, China	3.59	3.59	3.59	3.58	2.49	2.45	2.42	2.36
Thailand	6.37	6.36	6.36	6.36	4.07	4.01	3.94	3.81
Developing Asia	6.55	6.54	6.53	6.51	4.99	4.92	4.84	4.68

continued.

Appendix Tables: *continued.*

Export Growth (percent, year-on-year)

Economy	2008				2009			
	Baseline	Scenario 1	Scenario 2	Scenario 3	Baseline	Scenario 1	Scenario 2	Scenario 3
United States	8.41	8.15	7.88	7.36	4.26	3.68	3.11	1.99
Japan	3.84	3.48	3.12	2.42	-4.38	-5.05	-5.71	-7.02
Eurozone	3.41	3.10	2.79	2.17	1.27	0.57	-0.12	-1.48
United Kingdom	1.89	1.68	1.48	1.09	2.17	1.70	1.23	0.34
China, People's Rep. of	13.97	13.23	12.51	11.09	8.22	7.25	6.29	4.40
Hong Kong, China	5.43	5.08	4.73	4.05	2.79	1.99	1.20	-0.35
India	11.40	11.04	10.68	9.98	4.24	3.37	2.50	0.79
Indonesia	13.12	12.75	12.38	11.64	3.42	2.73	2.04	0.70
Korea, Rep. of	9.73	9.36	8.99	8.26	2.94	2.29	1.65	0.40
Malaysia	5.33	4.97	4.61	3.91	3.28	2.62	1.97	0.69
Philippines	3.60	3.16	2.72	1.86	3.73	3.01	2.29	0.89
Singapore	6.30	5.94	5.57	4.86	2.77	1.97	1.19	-0.35
Taipei, China	6.31	5.88	5.47	4.65	3.35	2.59	1.84	0.37
Thailand	7.53	7.14	6.76	6.01	4.70	3.96	3.23	1.79
Developing Asia	11.65	11.09	10.54	9.46	6.10	5.22	4.36	2.66

Import Growth (percent, year-on-year)

Economy	2008				2009			
	Baseline	Scenario 1	Scenario 2	Scenario 3	Baseline	Scenario 1	Scenario 2	Scenario 3
United States	-1.65	-2.13	-2.62	-3.57	1.41	0.74	0.08	-1.26
Japan	-0.76	-1.12	-1.47	-2.18	-3.33	-3.94	-4.55	-5.75
Eurozone	3.29	2.90	2.51	1.75	1.67	0.78	-0.10	-1.81
United Kingdom	1.36	1.01	0.65	-0.06	0.67	-0.04	-0.75	-2.17
China, People's Rep. of	14.40	13.89	13.38	12.38	10.42	9.57	8.74	7.10
Hong Kong, China	4.47	4.16	3.85	3.25	2.21	1.51	0.82	-0.53
India	15.04	14.83	14.63	14.23	8.93	8.39	7.86	6.82
Indonesia	13.21	12.97	12.74	12.29	5.68	5.11	4.55	3.46
Korea, Rep. of	7.94	7.71	7.48	7.03	3.30	2.70	2.11	0.97
Malaysia	6.00	5.63	5.26	4.54	5.71	5.08	4.46	3.24
Philippines	-0.53	-0.82	-1.11	-1.68	5.77	5.26	4.76	3.78
Singapore	10.69	10.37	10.06	9.45	3.12	2.45	1.79	0.50
Taipei, China	3.37	3.05	2.74	2.13	1.81	1.02	0.25	-1.26
Thailand	6.35	6.03	5.72	5.10	4.36	3.71	3.08	1.83
Developing Asia	12.00	11.61	11.22	10.47	8.08	7.34	6.61	5.19

Source: Oxford Economics simulations.

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About the Paper

William E. James, Donghyun Park, Shikha Jha, Juthathip Jongwanich, Akiko Terada-Hagiwara, and Lea Sumulong examine how the global financial crisis first broke out in the United States and spread to the rest of the world. The current global economic crisis highlights the unsustainability of macroeconomic imbalances. This study argues that if developing Asia is to mitigate the financial and economic impact of the crisis, it must seek to restore confidence in markets and rebalance growth toward domestic demand through a judicious use of monetary and fiscal policy stimulus.

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