I. GENERAL ASSESSMENT OF THE MACROECONOMIC SITUATION

Overview

Growth has become more uniform throughout the OECD area

Growth rates have become more similar across OECD regions. This is the outcome of the US economy slowing as the housing market corrects, the expansion in Japan continuing and the euro area upswing becoming self-sustained (Table I.1). Continued buoyancy in the emerging-market economies, a drop in oil prices from their recent highs and supportive conditions in financial markets should help to sustain the upswing across the OECD area. The US expansion is projected to gradually regain strength as excess supply in the auto and residential construction sectors is worked off. In the euro area domestic demand should maintain its recent momentum while Japan finally and durably exits from deflation as residual slack is being absorbed.

Long-standing tensions endure, but short-term risks are two-sided

While the projection points to continued robust growth, several long-standing risks remain. Most prominently, global current account imbalances are still large and housing markets look richly priced in a majority of countries. While the US external deficit is still being financed smoothly, the imbalances must revert to a sustainable level at some point. The unwinding could be disorderly and could involve a bout of

Table I.1. **Intra-OECD growth gaps are narrowing**

OECD area, unless noted otherwise

	Average 1994-2003	2004	2005	2006	2007	2008	2006 q4	2007 q4	2008 q4
				Per cent					
Real GDP growth[1]	2.7	3.2	2.7	3.2	2.5	2.7	3.0	2.7	2.7
United States	3.2	3.9	3.2	3.3	2.4	2.7	3.0	2.6	2.7
Euro area	2.2	1.7	1.5	2.6	2.2	2.3	2.9	2.2	2.5
Japan	1.0	2.3	2.7	2.8	2.0	2.0	2.2	2.1	1.9
Output gap[2]	-0.7	-0.9	-0.7	-0.2	-0.2	-0.1			
Unemployment rate[3]	6.6	6.7	6.5	6.0	5.8	5.7	5.9	5.8	5.7
Inflation[4]	3.5	2.4	2.1	2.2	2.2	2.1	2.1	2.2	2.1
Fiscal balance[5]	-2.3	-3.4	-2.7	-2.0	-2.0	-2.0			

1. Year-on-year increase; last three columns show the increase over a year earlier.
2. Per cent of potential GDP.
3. Per cent of labour force.
4. GDP deflator. Year-on-year increase; last three columns show the increase over a year earlier.
5. Per cent of GDP.

Source: OECD Economic Outlook 80 database.

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exchange rate volatility and a global surge in interest rates that puts pressure on asset prices. If so, housing and construction markets would be hard hit. In the United States the slump in residential construction could then deepen and spread to other sectors, while adverse wealth effects stemming from falling real house prices could hit consumption. Real house prices could fall in other countries as well, notably in Europe, and undermine the momentum in household consumption. On the upside, however, the European recovery could develop faster than expected, given that slack is only being worked off very gradually in this projection while healthy profits could buoy investment more strongly.

Monetary policy reflects different cyclical positions across regions

With the major economies at different stages in their expansions, monetary policy settings also differ across regions. In the United States, the monetary stance is slightly restrictive, and some policy relaxation could be envisaged late in 2007 if slack builds up and price pressures ease as projected in this *Economic Outlook*. In the euro area, the withdrawal of monetary policy ease still has further to go, and the projection embodies some moderate additional tightening so as to safeguard inflation close to the 2% mark. Finally, the Bank of Japan has abandoned its zero-interest rate policy this year, and further withdrawals of policy stimulus are envisaged in the projection once a clear exit from deflation has been made.

Fiscal consolidation remains a major priority

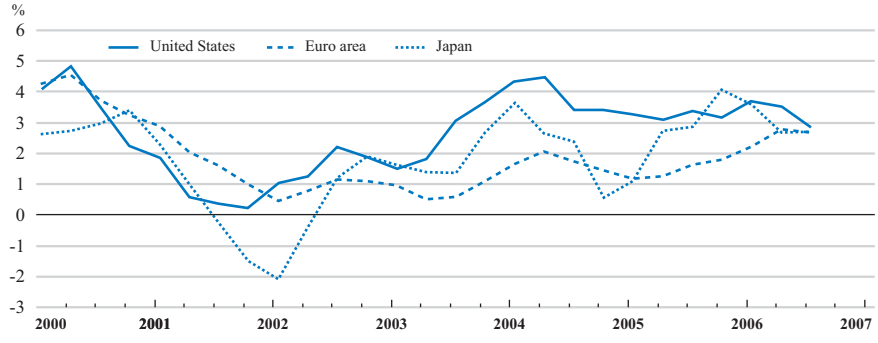
A main policy challenge looms ahead on the fiscal front. Large tax windfalls have emerged in the past two years, but not all of these windfalls may be recurrent, and governments would be ill-advised to treat them as permanent. Now several years into the upswing, not enough fiscal consolidation has been implemented, and what is being put in place has been largely based on increases in revenues. This is a concern in view of the growing pressure on public finances associated with ageing populations. Missing the opportunity of the ongoing expansion to consolidate fiscal positions could prove very costly further down the road.

Passing the baton

Intra-OECD growth gaps have narrowed

Growth differentials within the OECD have narrowed as activity in the United States has decelerated to a rate below potential while in the euro area it accelerated to an above potential rate (Figure I.1). Japan has continued to experience a robust

Figure I.1. **Growth differentials have narrowed**



Source: OECD Economic Outlook 80 database.

upswing. At the same time, world trade is estimated to have expanded at close to double-digit rates in 2006 as a whole, mirroring solid growth in the world economy. The non-OECD economies, especially those in emerging Asia, continued to be a major driver of the expansion.

US growth is moderating, not stalling…

Growth in the United States has fallen due to a sharp correction in residential investment, but all other components of domestic demand remain robust. Residential construction investment fell steeply in the second and third quarters of 2006, as builders moved to work off excess supply in the face of the weakening housing market. This correction is likely to continue into 2007. Private consumption is now expanding somewhat less rapidly than it was in previous years when it was boosted by rapid run-ups in housing prices. At the same time, healthy profit margins have helped maintain robust growth in business investment. The slowing of aggregate activity appears to be broadly in line with historical evidence of similar cyclical corrections. However, it cannot be ruled out that a further unwinding of the supply overhang on the housing market will proceed in a less benign way, in particular if house prices were to fall and undermine consumer spending.

… while that in the euro area is picking up…

In the euro area the economy picked up steeply in the first half of 2006 and continued to grow at a rate slightly above potential in the third quarter. Activity has become more broadly based as domestic demand accelerated markedly. Investment is acting as a major engine of growth, followed by consumption, which is benefiting from a stronger employment performance. Growth differentials across the region have generally narrowed, with almost all euro area economies benefiting from the upswing – an exception is France where growth stalled in the third quarter largely on account of a correction in inventories. Germany is now growing fast following years of anaemia, while activity in Italy has also gained momentum. Most of the smaller member countries are continuing to expand vigorously.

… and the expansion in Japan continues apace

In Japan the expansion continues to be driven by business fixed investment and household consumption underpinned by an improving labour market. Growth moderated in the second quarter of the year, but this was due mainly to declines in stockbuilding and public investment restraint. The dip in private consumption in the third quarter was largely weather-related. Exports rebounded since the middle of the year and corporate profits have been buoying business investment.

Labour markets are relatively buoyant

Employment has generally evolved favourably across the OECD area (Table I.2). While unemployment rates in the major OECD regions are now close to levels normally associated with full employment, wage inflation patterns continue to be dispersed (Table I.3). In the United States, slowing activity is not yet evident in the labour market, with the unemployment rate hitting a new cyclical low of 4.4% in October 2006. Unit labour costs have risen markedly on account of both sizeable wage increases and some slowing of productivity – which came to a virtual standstill. However, the hikes in compensation could well reflect the exercise of stock options rather than increases in labour cost, and may be subject to large revisions. Indeed, the more reliable Employment Cost Index indicates that labour costs remain subdued. In the euro area a pick-up in economic growth is translating into higher employment growth and lower unemployment rates. Wages may be accelerating somewhat, but this is largely matched by a pick-up in productivity growth. In Japan buoyant employment creation pushed the unemployment rate to its lowest level since

Table I.2. **Labour markets are buoyant**

	2001	2002	2003	2004	2005	2006[1]
	Percentage change from previous period					
Employment						
United States	0.0	-0.3	0.9	1.1	1.8	1.6
Japan	-0.5	-1.3	-0.2	0.2	0.4	0.4
Euro area	1.6	0.6	0.4	1.0	1.0	1.0
Labour force						
United States	0.8	0.8	1.1	0.6	1.3	1.0
Japan	-0.2	-0.9	-0.3	-0.4	0.1	-0.2
Euro area	1.1	1.1	1.0	1.1	0.7	0.0
Unemployment rate	Per cent of labour force					
United States	4.8	5.8	6.0	5.5	5.1	4.7
Japan	5.0	5.4	5.3	4.7	4.4	4.1
Euro area	7.7	8.2	8.7	8.9	8.6	8.0

1. First half of 2006 relative to second half of 2005, annualised, except for unemployment rate which is the average of the first half of 2006.

Source: OECD Economic Outlook 80 database.

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1998. Although firms are boosting regular employment, wages remain subdued as previously discouraged workers re-enter the labour market and workers' bargaining positions are weak.

Emerging economies are continuing to expand rapidly

Major non-OECD economies have continued to act as a strong pillar of global economic activity, with the notable exception of Brazil, which has not yet fully recovered from a brief cyclical downswing. The expansion in Asia continues to be led by China, whose GDP growth rate has been in the 10 to 11% range over recent quarters. Activity is broad-based on the demand side and matched by an increase in the economy's growth potential resulting from a vigorous expansion of the capital

Table I.3. **Wages are accelerating**

	2001	2002	2003	2004	2005	2006[1]
	Percentage change from previous period					
Labour productivity						
United States	0.9	2.8	2.5	2.8	1.8	2.0
Japan	0.9	1.4	2.0	2.1	2.3	2.6
Euro area	0.3	0.2	0.4	0.8	0.5	2.0
Compensation per employee						
United States	2.8	3.7	3.9	4.5	3.9	7.7
Japan	-1.0	-1.8	-1.5	-1.6	0.6	-0.2
Euro area	2.6	2.6	2.3	1.8	1.3	2.1
Real compensation per employee[2]						
United States	0.4	1.9	1.7	1.6	0.9	4.3
Japan	0.3	-0.2	0.0	-0.4	2.1	0.9
Euro area	0.1	0.0	0.2	-0.1	-0.5	0.4

1. First half of 2006 relative to second half of 2005, annualised.
2. Deflated by the GDP deflator.

Source: OECD Economic Outlook 80 database.

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stock. The Indian economy also continued expanding at a brisk pace, with growth in 2006 having been softened only slightly by the negative terms-of-trade shock associated with rising oil prices and some tightening in monetary policy. Growth in Russia rebounded strongly from a weak first quarter, driven by fixed investment and private consumption.

Forces acting and risks

Energy markets have cooled and material prices have levelled off

Energy prices have fallen back

After reaching historical highs in the summer, oil prices witnessed a marked downward correction. In the United States end-use prices for petrol, natural gas and heating oil have also come down from record highs (Figure I.2). At the time of writing, Brent crude prices were fluctuating at around $58 per barrel, only slightly above the level prevailing at the beginning of the year. This price fall may be associated with a drop in the risk premium built into oil prices, as temporary factors that were driving up prices in the first half of the year unwound. Specifically, the following factors are likely to have exercised a major impact on recent price developments:

Tensions and risks look somewhat more benign amid slowing activity

– Geopolitical tensions are perceived to have eased somewhat, the hurricane season in the Gulf of Mexico turned out to be less hostile than a year ago and some supply disruptions appeared to have been less severe than expected. Evidence of slowing activity in the United States has also contributed to an easing of price pressure.

Refinery bottlenecks have eased

– In the United States, moreover, concerns that stricter product specification standards would produce bottlenecks in refinery capacity have ebbed after the summer driving season.

Substitution effects are at work

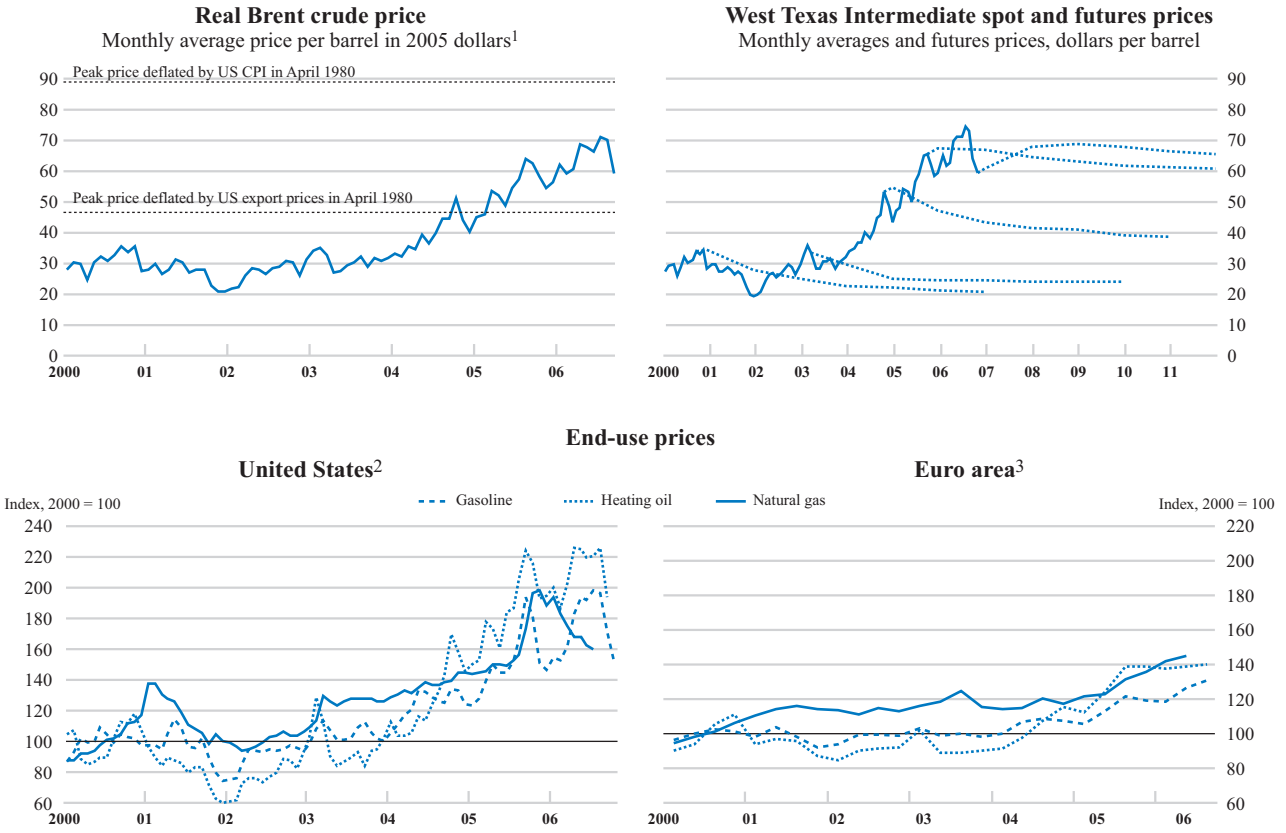
– There are signs that past oil price increases have induced oil consumers to save on oil, including a shift to cheaper energy substitutes. In particular, natural gas has been increasingly utilised as a substitute for heating oil. Indeed, oil demand in the OECD area as a whole might well turn out to have slightly contracted in 2006, while an increase might have been plausible.

But prices are unlikely to fall significantly further

Even so, it appears unlikely that prices will fall in the near term to levels seen several years ago. With the growth of oil consumption being increasingly driven by unabated economic growth in emerging economies, strong advances in global oil demand are likely to continue – not least among those that subsidise fuel consumption.[1] On the supply side, OPEC crude capacity is increasing, partly to replace output lost in Iraq and Venezuela, and rising investment activity is expected to significantly increase non-OPEC supply. However, global spare capacity is expected to remain

1. Household and cooking fuels and electricity are on average the most heavily subsidised. Also, in many non-OECD countries gas prices are set largely independently of international market conditions.

Figure I.2. **Energy markets have cooled**



1. Deflated by the US export price deflator. Deflating by the US consumer price index would show a similar profile.
2. Monthly averages. For the United States, the heating oil price refers to New York harbor No. 2 heating oil spot price FOB.
3. Quarterly averages. Euro area series are estimates based on the countries for which data are available.

Source: International Energy Agency, US Energy Information Agency, Datastream and OECD Economic Outlook 80 database.

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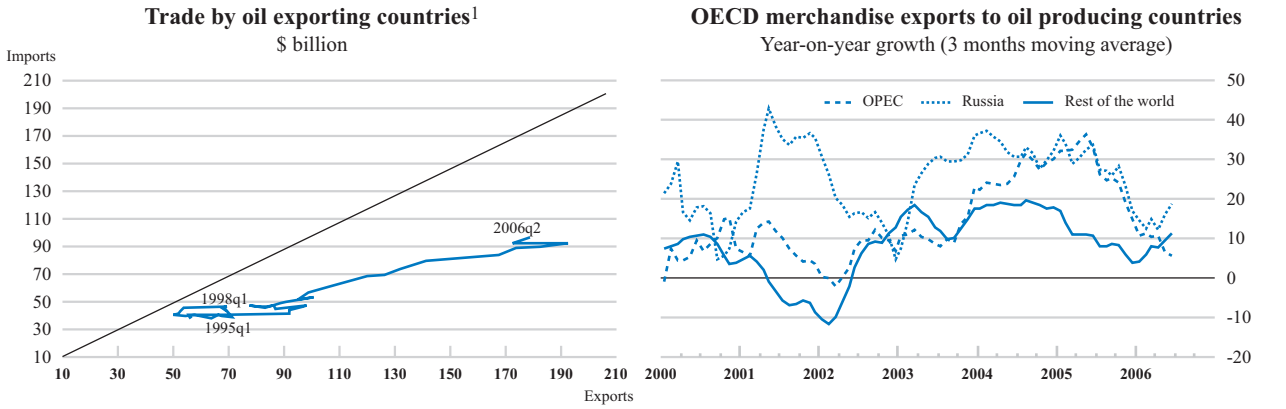
low due to limited upstream investment and long time lags between investment decisions and project completion.[2] Consequently, energy prices are likely to continue to be volatile in the face of fluctuations in supply and demand or expectations thereof. Recently, OPEC has announced production cuts to counteract the risk of further declines in oil prices. Reflecting these developments, the futures curve is sloping upwards over 2007 (Figure I.2), while the far-dated futures price stands at about the spot price.[3]

2. Political risks to energy supply also comprise potential regulatory barriers to entrepreneurial activity. In recent years some governments have responded to higher oil prices by shifting resource ownership, project participation and fiscal terms in favour of the state, implying that high oil prices do not necessarily improve the environment for upstream investment.
3. This is at variance with the situation in earlier episodes of high oil prices prior to 2005 where the futures curve sloped downward and the far-dated futures price fell significantly short of the spot price, signalling that markets expected a return to lower energy prices. However, futures prices have proven to be a weak predictor of future spot prices. Since the first half of 2005, at the latest, the far-dated futures price has moved in line with the spot rate, suggesting that it contains little information over that contained in the spot price.

Figure I.3. **Respending of pretrodollars is slow**



Note: Goods, Custom base.

1. Oil exporting countries are defined as those countries whose oil exports (net of any imports of crude oil) both represent a minimum of two thirds of their total exports and are at least equivalent to approximately 1 per cent of world exports of oil. The calculations presently used to determine which countries meet the above criteria are based on 1976-78 averages.

Source: IMF and OECD International Trade Monthly Statistics database.

Respending of petrodollars has slowed

While import demand by oil-exporting countries continues to support world trade growth, respending of oil revenues appears to be slow, as indicated by the import bill of oil-exporting countries having markedly fallen behind their export revenues (Figure I.3, left panel). Indeed, OECD merchandise exports to OPEC have been decelerating since the spring of 2005 up to the first half of 2006 (Figure I.3, right panel). Respending by Russia has been subdued, but firmed in recent months. Current account surpluses of oil exporters have thus been building up, some of which has been feeding into foreign financial assets held by oil reserve funds. This, in turn, is likely to have exercised a positive impact on financial asset market valuations in OECD economies and contributed to holding bond yields low. With the pace of respending having been muted so far, the recent fall in oil prices might turn out to be more expansionary for the OECD economies than usual as oil producers could draw on the financial buffers previously accumulated rather than being forced to cut back on imports.

Some metal prices have also peaked and may fall further

Prices for ores and metals reached record levels in the summer of 2006. Aside from the cyclical upswing in the OECD economies, the strong upward momentum in these prices has been underpinned by rapid growth in demand from emerging market economies in Asia, notably China. However, unlike the situation in energy markets, there is scope for significant price declines for metals over the next couple of years, as reflected by futures prices. Supply in metals markets is set to accelerate as marked increases in exploratory spending in recent years, notably in copper, are likely to translate into significant additions to mining capacity. Also, reductions in smelting capacity in Europe and North America in response to high energy costs are leading to a geographic shift in supply capacity to the Middle East, India and Iceland, where energy is less expensive. [4]

4. The hike in oil prices thus exercised some upward pressure on metal prices. Similarly, agricultural raw materials and food stuffs have also become more expensive in response to the energy price hike. This is true partly because agricultural raw materials are used to generate bio-fuels, and partly because of shifts away from synthetic carbon-based materials to natural substitutes, like rubber.

Financial market conditions remain supportive

Financial markets are buoyant

Although monetary policies have been tightened across the globe, liquidity is still abundant (Appendix I.1) and financial market conditions have remained supportive to date (Figure I.4):

Bond yields have fallen

– After having been on an upward trend since mid-2005, bond yields have fallen back by some 25 to 50 basis points. The fall has been steepest in the United States.

Not too much should be read into yield curve inversion

– The flattening – and in the case of the United States the slight inversion – of the yield curve should not be seen as an indication that a recession is expected by financial market participants. A number of structural factors have contributed to lower the term premium to a point where even small short-term effects on bond yields can lead to an inverted yield curve.[5] One such an effect stems from the anticipation of lower short-term interest rates in the United States in response to a more benign assessment of inflation pressures – in part owing to the reversal in energy prices.

Stock prices are underpinned by strong fundamentals

– Equity markets have continued their upward momentum, with a sell-off last spring proving short-lived. Equity prices have now recovered their losses since the bursting of the dotcom bubble in some markets, but this has been accompanied by large increases in profits; price-to-earnings ratios remain broadly in line with historical averages.

Risk premia built into corporate bond yields are low

– Spreads between corporate and government benchmark bonds have widened somewhat, but high-risk corporate spreads are well below historical averages, underpinned by low default rates. The OECD synthetic indicator of risk premia is also well aligned with the fundamentals (Appendix I.2).

Liquidity remains abundant overall

High asset prices in recent years are linked to low interest rates and abundant global liquidity associated with the build-up of official dollar reserves across the globe (see below). However, these conditions may also lead investors to become less concerned with risk, a possible example being emerging markets bond spreads, which dropped from an average of around 400 basis points in mid-2005 to 200 basis points at present. Were monetary conditions to tighten significantly and liquidity to contract, risk premia might conceivably widen abruptly. Nonetheless, such concerns have not been validated so far and may not be in the near future. Establishing just how much liquidity is outstanding is tricky, but it appears that global liquidity has not yet started to decelerate, let alone contract, and, as gauged by money and credit-based measures, it is still well above historical norms.

The housing engine keeps running in most markets

Residential construction remains buoyant outside the United States

Spurred by historically low mortgage interest rates and, in some cases, rapid population growth as well as strong growth in real per capita income, residential investment has been a major engine of the expansion in several OECD countries in recent years, notably in the United States and Canada but also in several European

5. Such structural factors include better anchored inflation expectations, high *ex ante* saving and foreign reserve accumulation in emerging Asian economies, recycling of petrodollars and portfolio shifts by pension funds towards bonds to meet impending retirement obligations. See: Ahrend, R., P. Catte and R. Price (2006), "Factors behind low long-term interest rates", *OECD Economics Department Working Papers*, No. 490.

Figure I.4. **Financial conditions remain supportive**

1. 10-year government bonds, monthly averages.
2. Deflated by core inflation (private consumption expenditure deflator excluding food and energy for the United States, consumer price index excluding food and energy for Japan and harmonised index of consumer prices excluding energy and unprocessed food for the euro area).
3. Spread between 10-year government bond yields and 3-month money market rates.
4. United States and euro area: Spread between Merrill Lynch corporate BBB bonds and government bonds based on average yields for 5-7 and 7-10 years. Japan: Spread between corporate Baa and 5-year government bond yields.
5. Wilshire 5000 for the United States, Nikkei 225 for Japan and FTSE Eurotop 100 for the euro area.
6. Bank loans to the non-financial private sector.

Source: US Federal Reserve Board, Bank of Japan, European Central Bank and Datastream.

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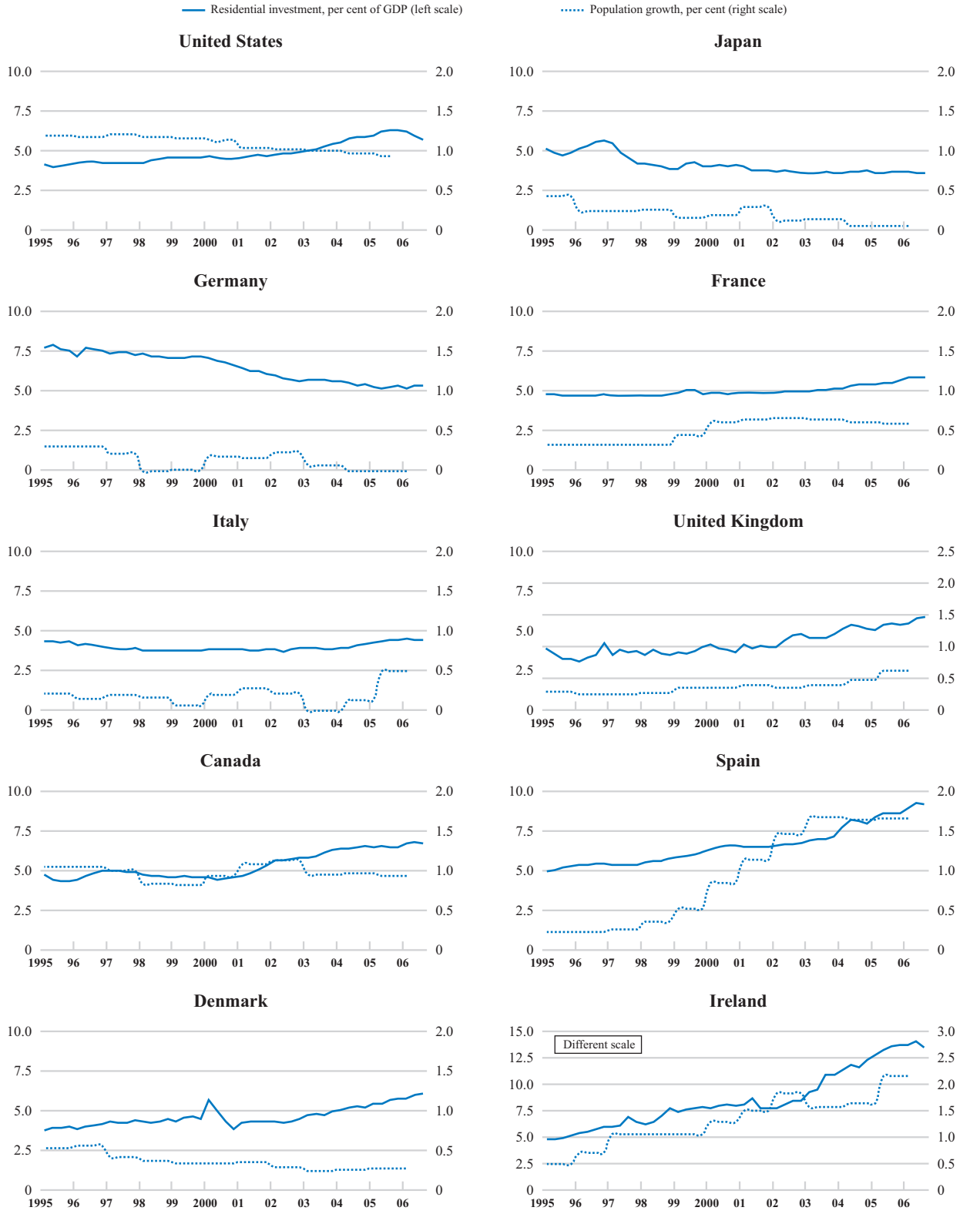
Figure I.5. **Residential investment and population growth**



Source: OECD Economic Outlook 80 database and OECD Labour Force Statistics database.

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countries (France, Spain, Denmark and Ireland, in particular). However, the United States has seen a sharp drop in residential construction activity, acting as a significant drag on economic activity in recent quarters, with buoyant commercial real estate development picking up some of the slack. At current levels of housing starts – about 20% below their peak in 2005 – the excess stock of new housing may take several years to be worked off and residential construction may have further to fall, as appears likely in view of recent declines in construction permits. Of some concern also is that residential construction may also turn down in several other countries where it has been dynamic and where it represents a high share of GDP allowing for population growth – prominent examples being France, Canada and Denmark (Figure I.5). In Canada residential construction has already shown signs of weakness.

Looking ahead, prices may peak in several markets

Real house prices are still increasing in most countries, thus accentuating some of the pressures and tensions that have built up in the past few years. But they have begun decelerating in some countries recently (Table I.4).[6] This may reflect the fact

Table I.4. **Real house prices are decelerating in some markets**

Per cent annual rate of change

	1995-2000	2001	2002	2003	2004	2005	2006[1]
United States	2.3	5.0	5.2	4.5	7.8	9.6	7.3
Japan	-2.6	-3.4	-3.8	-5.2	-6.1	-4.6	-4.4
Germany	-1.6	-1.9	-3.3	-2.0	-3.8	-1.9	-2.0
France	2.1	6.0	6.2	9.4	12.6	13.2	10.9
Italy	-0.9	5.7	6.8	7.3	7.5	5.2	4.4
United Kingdom	8.2	6.8	14.6	14.2	10.4	3.4	2.3
Canada	0.0	2.0	7.7	6.5	7.5	7.6	9.1
Australia	3.5	6.5	15.3	15.0	4.1	-1.1	1.5
Denmark	6.7	3.4	1.3	1.1	7.9	15.6	22.4
Spain	2.6	6.5	12.9	16.4	14.8	10.9	6.9
Finland	7.8	-3.5	8.3	4.5	5.9	5.1	9.8
Ireland	17.6	4.1	5.6	11.4	9.1	9.4	11.7
Netherlands	11.6	5.6	4.3	2.4	2.9	3.3	3.1
Norway	9.3	3.9	3.6	-0.7	9.6	6.6	8.4
New Zealand	1.7	-0.8	6.6	17.3	15.2	11.1	6.7
Sweden	6.3	5.1	4.3	4.2	8.2	8.1	11.5
Switzerland	-2.5	0.9	4.0	2.3	1.5	-0.1	1.8
Euro area[2,3]	1.3	3.3	4.1	5.7	5.8	5.5	4.4
Total of above countries[3]	1.7	3.3	4.5	4.4	5.4	5.7	4.6

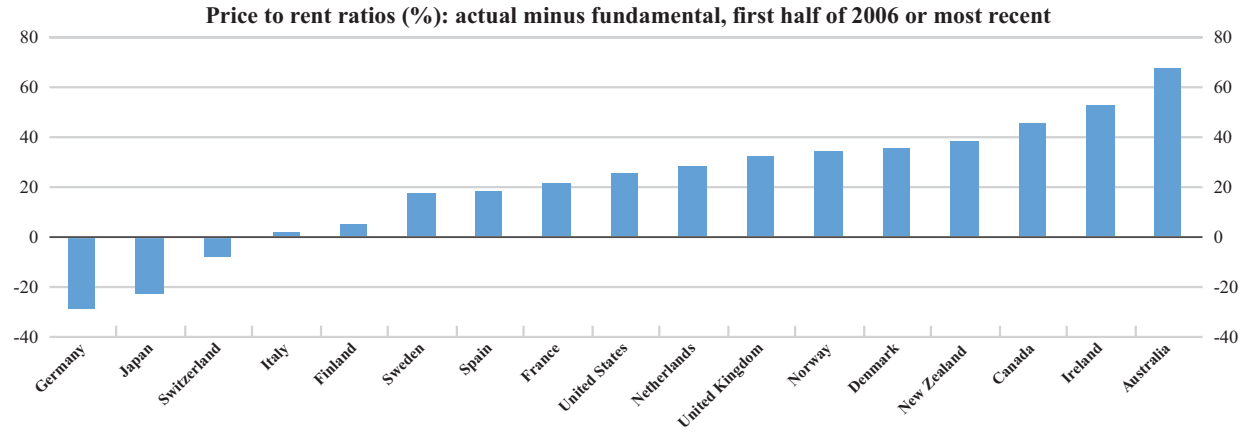
1. First half of 2006 relative to first half of 2005.
2. Germany, France, Italy, Spain, Finland, Ireland and the Netherlands.
3. Using 2000 GDP weights.

Source: Various national sources, see table A.1 in Girouard, N., M. Kennedy, P. van den Noord and C. André, "Recent house price developments: the role of fundamentals", OECD Economics Department Working Papers, No. 475, 2006.

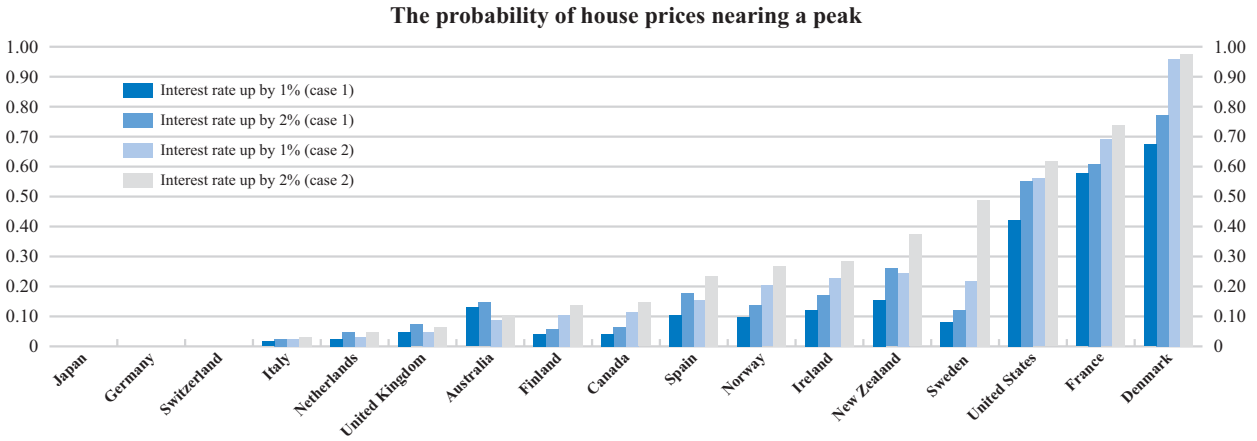
StatLink: *http://dx.doi.org/10.1787/527182645208*

6. According to some measures home prices are already falling in nominal terms in the United States. While still increasing on a year-on-year basis according to the Office of Federal Housing Enterprise Oversight (OFHEO) purchase-only house price index, the realtor median sales price of existing homes showed a 1.7% year-on-year decline in August for the first time in at least a decade (but the latter index does not take quality change of housing into account).

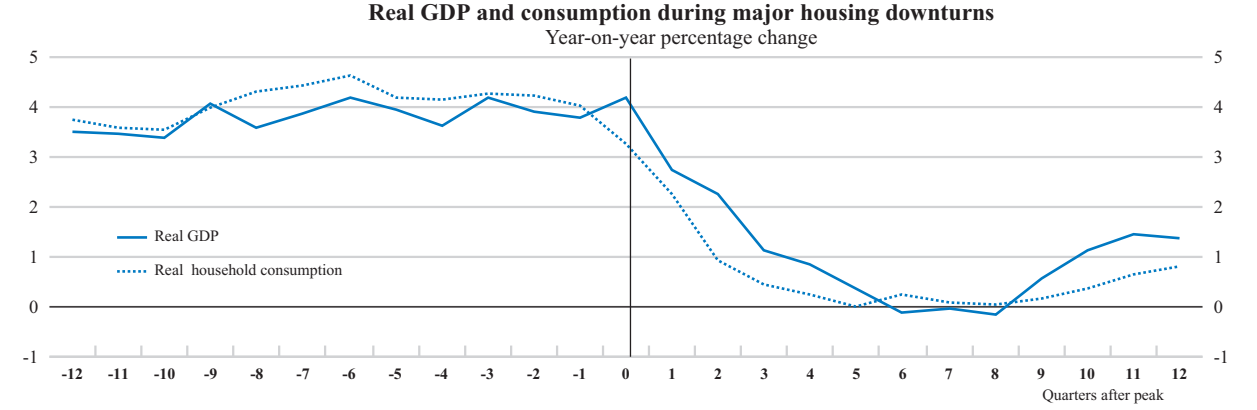
Figure I.6. Assessing housing markets and their impact



Note: The fundamental price to rent ratio is set equal to the required rate of return on housing from an asset management point of view. This rate of return is the sum of the after tax representative mortgage interest rate in real terms, the rate of property tax and a depreciation term. For further details see Girouard, N., M. Kennedy, P. van den Noord and C. André, "Recent house price developments: the role of fundamentals", OECD Economics Department Working Papers, No. 475, 2006.



Note: Case 1 refers to the situation in which the interest rate shock kicks in at real house prices as observed in the second quarter of 2006. Case 2 assumes that real house prices further increase (or decrease) at the pace observed in the preceding four quarters for another year in each country before the interest rate shock kicks in. To call a peak it is required that real prices fall over a period of at least six quarters after having risen by at least 15% cumulatively over a period of six quarters. For further details see Appendix I.3.



Note: Average growth during major downturns in housing prices in a selection of 18 OECD countries. Major downturns are defined as price falls exceeding 15% in real terms, cumulatively over a period of at least 6 quarters. (See OECD *Economic Outlook 78*, Table III.6).
Source: OECD Economic Outlook 80 database and OECD calculations.

that real house prices have been growing out of line with financial fundamentals in several markets, notably in some of the English-speaking and Nordic countries (Figure I.6, upper panel).[7] The probability of house prices peaking in real terms this year or next is still rather low, but could quickly exceed 50% if the relevant interest rates were to rise sharply, notably in the United States and France, as well as in Denmark (Figure I.6, middle panel, and Appendix I.3).

Support to consumption from housing markets is likely to fall

A house price downturn, if it occurred, or even just a stabilisation of prices, could affect consumption through reduced housing equity withdrawal and effects on perceived wealth, not least since ratios of household debt to income are at historical highs in several countries (Chapter III). The historical record suggests that in the case of a major housing downturn,[8] spill-over effects may be large, with consumption and GDP growth on average falling from around 4% prior to a housing peak to practically nil after it (Figure I.6, lower panel). A recent case in point was the Dutch experience, where consumption was severely hit by a real house price slowdown in a context where other asset markets also slumped and monetary policy was not available to cushion the downswing (Box I.1). Some comfort may be drawn, however, from the recent experiences in the United Kingdom, Australia and Finland where declines in real house price inflation occurred with seemingly little effect on macroeconomic activity in a context of increased macroeconomic resilience and with the benefit of some special factors.

Global imbalances keep lurking in the background

Global current account imbalances remain large

Global current account imbalances are proving to be very persistent, with the US external deficit estimated to have amounted to over $850 billion (6½ per cent of GDP) in 2006. Meanwhile the geographical composition of the combined external position of surplus countries has seen rapid change. Prior to the run-up in oil prices in 2004-06, the build-up of surpluses was concentrated in the emerging Asian economies. Since 2004, however, a growing share of the US deficit has its counterpart in the oil-producing countries, who are running surpluses estimated at almost half of the US external deficit in 2006 (Figure I.7, left panel).

The US external deficit is still being financed smoothly

The persistence of the US current account deficit without pressure on interest rates appears to reflect a number of factors:

The US net debtor position remains in check…

– Despite a high and hitherto growing external deficit, the US net debtor position has remained virtually unchanged as a proportion of GDP over the past four years. This phenomenon is helped by the comparatively low yield on foreign investments in US assets (mostly government and agency securities). It is also attributable to gains on US holdings of foreign assets, associated with the depreciation of the US dollar against the currencies of recipient countries

7. The computed fundamental price-to-rent ratios are based on the assumption that risk premia on housing remain unchanged over time. In reality these may have been subject to a trend decline due to greater liquidity of housing markets in response to innovations in mortgage markets. If so, the fundamental price-to-rent ratios may be higher, and the gaps with the actual price-to-rent ratios smaller, than currently envisaged. Computing risk premiums is, however, notoriously complex and risk premiums can also undershoot and reverse to historical levels along with interest rates, see Campbell, S.D., A. Morris, J. Gallin and R.F. Martin (2006), "A trend and variance decomposition of the rent-price ratio in housing markets", Federal Reserve Board , *Finance and Economics Discussion Series,* No. 2006-29.
8. A major downturn is defined as a fall in real house prices of at least 15% until the next trough, spanning a period of at least six quarters.

Box I.1. Recent adjustments in housing markets

In recent years, the United Kingdom, Australia, Finland and the Netherlands experienced a significant slowdown in real house prices. Except in the Dutch case, household consumption growth has held up relatively well in the face of these housing market adjustments, and in the Netherlands, the bulk of the slowdown in consumption was not induced by the deceleration in house prices. Moreover, a number of special, country-specific, factors have played a role. Specifically:

– In the United Kingdom, growth in real house prices has slowed considerably since its peak in 2002. The adjustment was driven initially by a fall in housing demand consequent to the stock market slump and subsequently by a tightening of monetary policy. Household consumption has been moving largely in step with real house prices. There was a temporary "disconnect" between the two in 2001-02, when a positive wealth effect stemming from housing (in response to an easing of monetary policy) was offset by a negative wealth effect stemming from the fall in stock prices, but the relationship was quickly restored when the stock market effect petered out. More recently, the easing of restrictions on immigrant workers in 2004 led to a rise in the demand for accommodation, partly offsetting the impact of tighter monetary policy on real house prices.

– In Australia, real house prices sharply decelerated in 2004 in response to a tighter monetary policy, but their level has been broadly stable since. Household consumption was eventually affected, but growth remained relatively robust. A main explanation for the resilience of consumption in the face of flat house prices, but also of housing markets themselves, is the favourable terms-of-trade shock from which the economy has benefited, associated with soaring energy and other commodity prices.

– In Finland, the legacy of the deep housing and financial crisis of the early 1990s still makes many consumers weary of taking on large debt burdens, and mortgage equity withdrawal is minute. As in Australia and the United Kingdom, mortgage interest rates are typically adjustable and as such strongly affected by money market rates. In 2000-01, real house prices responded adversely to the ICT slump, to which the Finnish stock market is strongly exposed. However, as ECB monetary policy was eased in its wake, mortgage service burdens fell and consumption picked up.

– In the Netherlands, both consumption and house prices slumped in 2000-01. Consumption was mainly affected by a drop in real disposable income as pension contributions had to be raised so as to offset capital losses suffered by the occupational pension funds after the stock market bubble had burst. Unlike in the United Kingdom, housing markets did not act as a buffer against the adverse wealth effects stemming from the stock market slump for a variety of reasons: house prices were already overstretched, the closing of tax loopholes made housing a less attractive investment and mortgage equity withdrawals had sometimes been reinvested in stocks during the dotcom bubble, leaving some households with negative net equity positions after the bubble burst.

of US foreign investment, large capital gains on those assets and a high rate of return.[9]

… while global dollar reserves keep growing rapidly

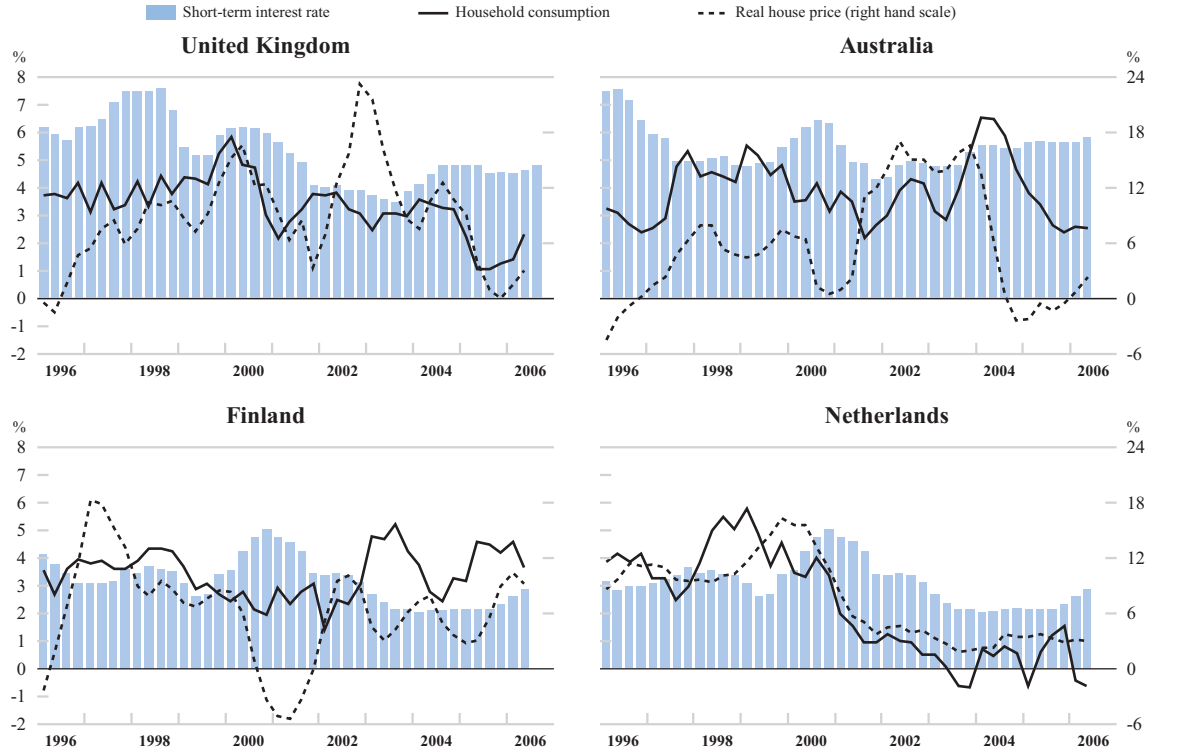
– Reserve accumulation by Asian central banks has provided major support for the dollar and dollar-denominated assets. After the late-1990s Asian crisis, the countries that had been hit by currency stress have been building up "war chests" in the form of foreign exchange reserves against future attacks, while in China official dollar reserves have been boosted by its policy of limiting the appreciation of the exchange rate.[10] More recently, the oil-exporting coun-

9. This reflects the large share of US foreign assets invested in equities. A similar phenomenon can be observed in the United Kingdom, where the yield differential between foreign assets and liabilities is even larger, i.e. enough to offset the trade deficit, partly owing to repatriation of profits of oil companies amid buoyant conditions in oil markets.

10. As noted, the peg is part of the explanation of the Chinese current account surplus, which is being driven by rapid export growth underpinned by strong competitiveness, soaring corporate profits and government revenues. In the absence of an efficient local financial system, high profits have little leverage. Moreover, while the exchange rate peg forces the Chinese monetary authorities to keep interest rates low, it also forces them to keep liquidity spill-over effects in check through open market policies and administrative controls on bank lending.

Box I.1. **Recent adjustments in housing markets** *(cont.)*

Housing adjustment episodes in four countries



Note: Year on year percentage change for household consumption and real house price. In the Netherlands, household consumption is biased downward in 2006 due to a health care reform.
Source: OECD calculations.

StatLink: *http://dx.doi.org/10.1787/765208051374*

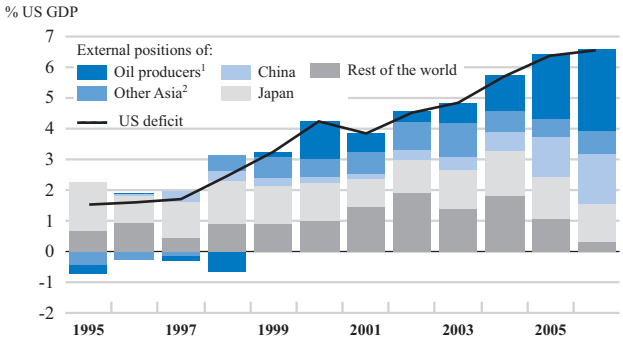
tries have been growing in importance in this regard. All in all, the official purchase of US dollars (even though oil-producing countries invest part of their petrodollars through special purpose vehicles which are not included in official reserves) has continued unabated at an annual rate exceeding $½ trillion (Figure I.7, right panel). While some surplus countries have started to accumulate more of their reserves in other currencies, an estimated two-thirds of the stock of reserves is still held in US dollars.

But the imbalances seem likely to reverse at some point

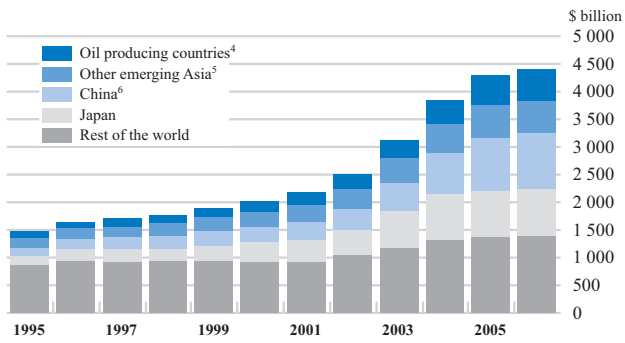
A reduction of the US current account deficit seems inevitable at some point, and this will likely involve some further adjustment in the dollar exchange rate. However, it is hard to predict when it will occur and what will trigger it. Whatever the trigger, such a development could involve sharp movements not only in exchange rates but also in interest rates, hitting interest-sensitive components of demand (notably housing) and possibly spreading to equity and emerging financial markets. Low risk premiums on most financial assets suggest that a sudden reversal is currently considered as rather remote in financial markets. However, low risk premiums are in part a reflection of abundant liquidity (see above) and could quickly reverse once global imbalances unwind.

Figure I.7. **Current account imbalances are growing and official reserves soaring**

US current account deficit and its global counterparts



Official reserves[3]



1. Africa and Middle East, Central and Eastern Europe.
2. Non OECD Asia and Oceania, excluding China and the Middle East.
3. End of year except for 2006, end of first quarter.
4. Africa and Middle East, Russia.
5. Chinese Taipei, Singapore and Korea.
6. China, People's Republic and Hong Kong.

Source : OECD Economic Outlook 80 database, International Monetary Fund.

Protectionist sentiments should be resisted

Finally, persistent global imbalances may harden protectionist sentiment, with the stalled Doha process being a reminder of this possibility. This makes it all the more desirable that efforts to liberalise trade and foreign direct investment receive renewed policy impetus.

Steady growth ahead

Major OECD economies enter 2007 with good overall momentum

All considered, the outlook for the OECD area remains favourable, even if very little, or any, support for growth is expected to stem from monetary or fiscal policies (Box I.2). Indeed, in the United States, consumer confidence has been recovering from recent lows, although business expectations retreated somewhat recently (Figure I.8). In the euro area, business expectations remain above their long-term average, while consumer confidence has hit a four-year high. Japanese business sentiment is upbeat, and consumer confidence is still at its highest level since more than a decade. The OECD's indicator models – which translate high-frequency data into point estimates for growth one or two quarters ahead[11] – suggest that in the final quarter of 2006 and in the first quarter of 2007 growth in activity continues to be below potential in the United States and above it in the euro area and – save a dip in the fourth quarter – also in Japan (Table I.5).

The US expansion is projected to resume steadily

Accordingly, growth of the US economy is projected to pick up from its present low. While the slump in residential investment has dragged down GDP growth in the course of 2006, it is not projected to spread to other main areas of activity and to peter

11. See Sédillot, F. and N. Pain, "Indicator models for real GDP growth in the major economies", *OECD Economic Studies*, No. 40, 2005/I.

Box I.2. Policy and other assumptions underlying the projections

Fiscal policy assumptions are based as closely as possible on legislated tax and spending provisions (current policies or "current services"). Where policy changes have been announced but not legislated, they are incorporated if it is deemed clear that they will be implemented in a shape close to that announced. For the present projections, the implications are as follows:

- For the United States, the projections assume that tax cuts that are due to expire are instead extended and that the Alternative Minimum Tax is indexed, while real outlays grow slowly. On the basis of these assumptions the general government deficit is projected to attain near 3% of GDP over the projection period.
- In Japan, fiscal consolidation is taken to be accomplished as announced through spending restraint achieved via further cuts in public investment and a reduction in the number of government employees. In addition, the abolition of the temporary personal income tax cut introduced in 1999 and a hike in the pension contribution rate will raise government revenue in both 2007 and 2008 by about ½ per cent of GDP.
- In the euro area, budgets for 2007 incorporate a small amount of fiscal consolidation in 2007 with the deficit declining from 2¼ per cent of GDP in 2006 to 1¾ per cent, but little further consolidation is assumed for 2008. The 3% value-added tax increase planned for 2007 in Germany has been built into the projection, as well as a set of partially counterbalancing measures, including a cut in social security contributions.

Policy-controlled interest rates are set in line with the stated objectives of the relevant monetary authorities, conditional upon the OECD projections of activity and inflation, which may differ from those of the monetary authorities. The interest rate profile is thus not to be interpreted as a projection of central bank intentions or market expectations thereof:

- In the United States, the Federal Reserve is assumed to leave the target federal funds rate at 5¼ per cent until the end of 2007. As core inflation subsides and unemployment rises over the projection period, two 25 basis point reductions are assumed to occur, bringing the policy rate to 4¾ per cent by the end of 2008.
- In the euro area, where the economy is projected to gradually build up momentum throughout 2007 and 2008, with the output gap declining, the main refinancing rate is assumed to be raised in two 25 basis-points steps to 3¾ per cent by mid-2007. A further increase to 4% is assumed to occur early in 2008.
- In Japan, the short-term policy interest rate is assumed to remain on hold at ¼ per cent up to the third quarter of 2007. Thereafter it is assumed to be raised at six months intervals in three 25 basis point steps to reach 1% by the end of 2008.

The projections assume unchanged exchange rates from those prevailing on 13 November 2006, at one US dollar equal to ¥ 118.0 and € 0.78 (or equivalently, one euro equals $1.28). For Turkey, the exchange rate is assumed to depreciate in line with the projected inflation differential *vis-à-vis* the United States.

Oil prices have fallen considerably since the previous *Economic Outlook* was published. As a working hypothesis, the price of Brent crude is assumed to remain constant at $60 per barrel on average from the fourth quarter of 2006 to the end of the projection period. Commodity price inflation, after a pause in late 2005, is assumed to resume at a fast pace, notably for metals, but it should ease in the latter part of the projection period in response to increased supplies.

The cut-off date for information used in the projections is 20 November 2006. Details of assumptions for individual countries are provided in Chapter II "Developments in individual OECD countries and selected non-member economies".

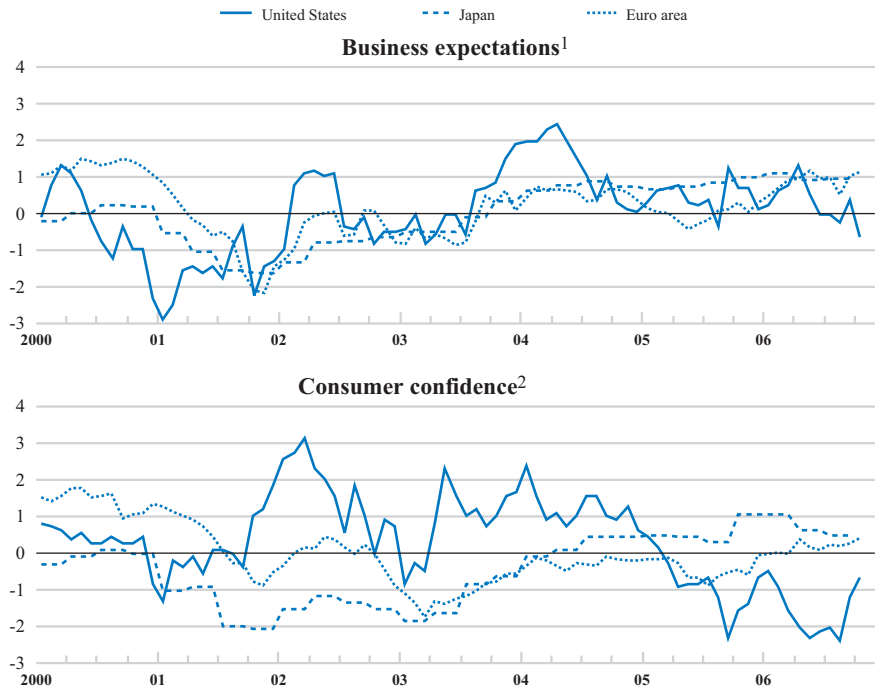
out once housing production has fallen to a more sustainable level (Table I.6). A return to more solid growth is likely to occur in mid-2007, although it would stay slightly below the potential rate over the projection period. Slower demand at home coupled with buoyant markets overseas are helping to stabilise the current account deficit at 6½ per cent of GDP (Table I.7). Employment growth is projected to slow, and the unemployment rate should drift up somewhat. Core inflation[12] should gradually decline as the indirect effects of past increases in energy prices fade away.

Solid growth is sustained in the euro area

In the euro area growth is projected to settle at slightly above the potential rate, with economic slack virtually absorbed by the end of 2008. Stronger domestic demand should underpin the recovery going forward, while external trade should

12. Core inflation defined as increases in the price index for personal consumption expenditure (PCE) excluding food and energy.

Figure I.8. **Confidence generally healthy**



Note: All series have been normalised at the average for the period starting in 1985 and are presented in units of standard deviation. Monthly data, seasonally adjusted except Japan (quarterly, s.a.).
1. USA: Purchasing Managemer Index: Production Tendency (Institute for Supply Management); Japan: Business Survey (manufacturing): Prospect; euro area: Business Survey (manufacturing): Future Production Tendency.
2. USA: Consumer Confidence Survey – Expected Economic Situation; (University of Michigan), Japan: Consumer Confidence Index, euro area: Consumer Opinion Surveys – Expected Economic Situation.
Source: OECD, *Main Economic Indicators.*

continue to stimulate activity. Equipment investment is projected to expand at a solid pace, based on healthy profits and benign financial conditions, despite some tightening of monetary policy. Private consumption growth will dip at the beginning of next year due to the hike in the value-added tax (VAT) in Germany, but resume thereafter, helped by improving labour market conditions and lagged effects from lower energy prices. Unemployment is set to decline despite a return of discouraged workers to the labour market. While wages are likely to firm, the pace of core inflation should remain below 2%.

Growth in Japan will gradually slow to its potential rate…

In Japan, growth is projected to stay close its potential rate at around 2% per annum. Exports remain a pillar of activity, with Asian markets growing briskly, although some slowing is likely to occur, reflecting a projected easing in world trade. Business investment is buoyed by high profits, but is likely to decelerate. Sluggish wage growth and the phasing out of the temporary income tax reduction in 2006-2007 are projected to hold back private consumption in the near term. But wages should eventually pick up, albeit with some delay, while core inflation is projected to move gradually into positive territory.

… as well as in most other OECD countries

Among the remainder of the OECD countries, GDP in the United Kingdom is expected to grow at about its potential rate, underpinned by solid growth in consumer spending and private investment. In Canada activity should reaccelerate quickly to a

Table I.5. **Growth remains robust**

Real GDP growth, per cent, quarter-on-quarter [1]

	Outcomes				Estimates	
	2005Q4	**2006Q1**	**2006Q2**	**2006Q3**	**2006Q4**	**2007Q1**
United States	0.4	1.4	0.6	0.4	0.4 (+/-0.5)	0.4 (+/-0.5)
Japan	1.0	0.8	0.4	0.5	0.3 (+/-0.5)	0.5 (+/-0.5)
Euro area	0.4	0.8	0.9	0.5	0.7 (+/-0.4)	0.6 (+/-0.4)
Germany	0.3	0.8	1.1	0.6	0.5 (+/-0.5)	0.4 (+/-0.5)
France	0.2	0.5	1.2	0.0	0.5 (+/-0.4)	0.6 (+/-0.4)
Italy	0.0	0.8	0.6	0.3	0.5 (+/-0.4)	0.5 (+/-0.4)
United Kingdom	0.7	0.7	0.7	0.7	0.6 (+/-0.3)	0.6 (+/-0.3)
Canada	0.6	0.9	0.5	0.4 (+/-0.1)	0.8 (+/-0.5)	..
Major 7 countries	0.4	1.0	0.6	0.4	0.4 (+/- 0.4)	0.5 (+/- 0.5)

1. Notes: Based on GDP releases and high-frequency indicators published by November 20 2006. Seasonally and in some cases also working-day adjusted. Aggregations for the G7 use 2000 purchasing power parity weights. Associated ±1 standard error ranges are in parentheses.

Source: OECD Economic Outlook 80 database.

StatLink: *http://dx.doi.org/10.1787/054476423841*

Table I.6. **Growth differentials reflect the weak US housing market**

Contributions to GDP growth, per cent of GDP in previous period [1]

	2004	**2005**	**2006**	**2007**	**2008**
United States					
Final domestic demand	4.2	3.8	3.1	2.4	2.8
of which: Business investment	0.6	0.7	0.8	0.6	0.5
Residential investment	0.5	0.4	-0.2	-0.7	0.0
Stockbuilding	0.4	-0.3	0.3	0.0	0.0
Net exports	-0.6	-0.2	-0.1	0.0	-0.1
GDP	3.9	3.2	3.3	2.4	2.7
Japan					
Final domestic demand	1.7	2.3	1.8	1.5	1.5
of which: Business investment	0.7	1.1	1.4	0.7	0.5
Residential investment	0.1	0.0	0.0	0.0	0.0
Stockbuilding	-0.2	0.1	0.2	-0.2	0.0
Net exports	0.8	0.2	0.8	0.7	0.5
GDP	2.3	2.7	2.8	2.0	2.0
Euro area					
Final domestic demand	1.4	1.7	2.5	2.2	2.3
of which: Business investment	0.3	0.4	0.7	0.7	0.5
Residential investment	0.1	0.1	0.2	0.1	0.1
Stockbuilding	0.2	0.1	0.0	0.0	0.0
Net exports	0.1	-0.3	0.2	0.1	0.0
GDP	1.7	1.5	2.6	2.2	2.3
OECD					
Final domestic demand	3.1	3.1	3.0	2.5	2.7
of which: Business investment	0.5	0.7	0.9	0.7	0.5
Residential investment	0.3	0.2	0.0	-0.2	0.1
Stockbuilding	0.2	-0.2	0.1	0.0	0.0
Net exports	-0.2	-0.2	0.0	0.1	0.0
GDP	3.2	2.7	3.2	2.6	2.7

1. Chain-linked calculation for stockbuilding and net exports in USA and Japan.

Source: OECD Economic Outlook 80 database.

StatLink: *http://dx.doi.org/10.1787/448503613505*

Table I.7. **Robust world trade and large external imbalances**

	2004	2005	2006	2007	2008
Goods and services trade volume	Percentage change from previous period				
World trade[1]	10.8	7.7	9.6	7.7	8.4
of which: OECD	8.6	6.0	8.3	5.9	6.8
NAFTA	9.7	6.2	7.1	4.7	5.7
OECD Asia-Pacific	12.8	6.8	9.0	7.1	8.1
OECD Europe	7.0	5.7	8.8	6.2	7.0
Non-OECD Asia	18.0	12.4	12.7	11.9	12.2
Other non-OECD	12.8	10.0	12.1	11.1	10.6
OECD exports	8.4	5.7	8.7	6.3	7.1
OECD imports	8.8	6.3	8.0	5.5	6.5
Trade prices[2]					
OECD exports	9.0	3.5	3.2	2.8	1.0
OECD imports	9.0	4.8	4.5	2.6	1.0
Non-OECD exports	11.2	10.1	6.3	1.7	2.1
Non-OECD imports	9.2	5.4	3.4	2.3	2.4
Current account balances			Per cent of GDP		
United States	-5.7	-6.4	-6.6	-6.5	-6.6
Japan	3.7	3.7	3.8	4.5	5.3
Euro area	0.8	0.0	-0.3	-0.1	-0.1
OECD	-1.2	-1.7	-2.0	-1.9	-1.8
			$ billion		
United States	-665	-792	-878	-909	-969
Japan	172	168	165	201	239
Euro area	81	2	-31	-15	-7
OECD	-383	-595	-741	-723	-730
Non-OECD	309	532	705	658	655
World	-74	-63	-36	-65	-75

Note: Regional aggregates include intra-regional trade.
1. Growth rates of the arithmetic average of import volumes and export volumes.
2. Average unit values in dollars.
Source: OECD Economic Outlook 80 database.

StatLink: *http://dx.doi.org/10.1787/521573366352*

rate of growth at around potential as a correction in residential construction is bottoming out and exports are recovering. While Australia is benefiting from the buoyant economic expansion in Asia, activity will remain sluggish in New Zealand over most of the projection period due to the past appreciation of the New Zealand dollar. Most Nordic countries continue to grow above the European average, although growth should slow towards potential rates. Strong exports and buoyant domestic demand are projected to sustain activity in the countries that have recently become members of the European Union.

Emerging markets continue to act as a growth engine

While activity in major emerging market economies is set to slow somewhat, it will remain a driver of global economic growth. The Chinese economy is likely to continue growing at an annual rate above 10% over the next two years. The expansion of the Indian economy should ease towards a more sustainable path as policies are tightened. Economic activity in Russia is also likely to moderate, with the large terms-of-trade gains associated with recent oil and gas price increases petering out. By contrast, economic activity should re-accelerate in Brazil, albeit to a still moderate rate.

Challenges for macroeconomic policy

Monetary policy: meeting the challenges to price stability

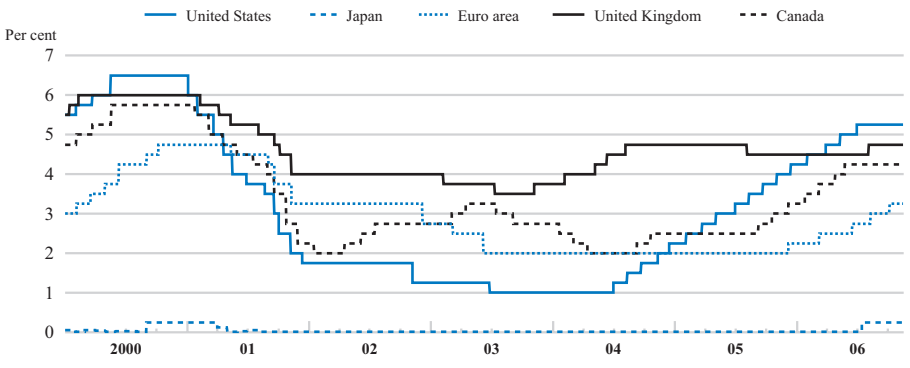
Major economies are at various stages of tightening

Reflecting the differences in cyclical positions, stances and challenges of monetary policies vary across countries (Figure I.9). In the United States, the main policy rate has remained at its current level of 5¼ per cent since the summer. In the euro area, the policy rate has been raised to 3¼ per cent in five ¼ percentage-point increases from late-2005 onwards. In Japan, the zero-interest rate policy was ended and the key policy rate increased to ¼ per cent in July 2006.

A broad range of measures of inflation should be considered

In setting policy the monetary authorities are well-advised to consider a broad range of measures of inflation, not least since the so-called underlying and headline measures sometimes give different messages at this juncture. OECD analysis finds that globalisation forces have tended to impact inflation in various ways (Box I.3). Specifically, globalisation has entailed downward pressure on manufacturing prices stemming from market entry of low-cost emerging economies. This moderating influence on inflation has been more than offset, however, by strong commodity price increases arising from a surge in demand for primary commodities by the emerging economies. These strong and, at times, erratic shifts in import prices have made it more difficult to gauge the underlying momentum of inflation in OECD countries, prompting analysts to increasingly distinguish between standard headline inflation rates and various core inflation measures which aim to abstract from erratic influences. With a range of inflation measures at hand, analysts may get a better sense of the uncertainties surrounding underlying inflation trends in OECD countries. In Japan, for instance, headline inflation has moved into positive territory, and this is also the case for "statistical" measures of underlying inflation, such as median inflation, which tend to exclude goods and services not only with rapidly increasing prices but also those with rapidly falling prices (Figure I.10). But core inflation excluding fresh food and energy has remained negative, perhaps suggesting that deflationary pressures have not yet been completely uprooted in Japan. Similarly, in the United States and the euro area core inflation excluding food and energy has been distinctively more subdued than headline and median inflation in recent years.

Figure I.9. **Policy rates have moved up**



Source: US Federal Reserve Board, Bank of Japan, European Central Bank, Bank of England, Bank of Canada.
StatLink: *http://dx.doi.org/10.1787/870721128821*

Box I.3. How does globalisation influence inflation?

Over the past 25 years inflation has moderated considerably in all OECD countries. This decline has been accompanied by a general reduction in inflation volatility. At the same time, the production of many goods and services has become increasingly internationalised and the level of trade between the OECD and non-OECD economies has risen markedly as a share of OECD GDP. This raises the question of the extent to which the observed changes in the inflation process can be attributed to the increasing integration of non-OECD economies into global goods and services markets.

Initial estimates of the effect of globalisation on inflation were presented in Box 1.5 of the previous issue of the *Economic Outlook*. That work examined the direct impact of cheap imports from emerging markets on consumer price inflation in the United States and the euro area. Subsequent work has taken a broader perspective, allowing for additional indirect effects working through the impact on the pricing behaviour of firms in import-competing industries and the potential offsetting effect of strong output growth in the non-OECD economies on commodity prices.[1]

New consumer price equations have been estimated jointly for 21 OECD countries, as have new reduced-form equations for the real price of oil, metals and three agricultural commodity groups. The consumer price equations use import prices, unit labour costs and the domestic output gap as explanatory variables. The commodity price equations relate real commodity prices to measures of the level and growth of global activity, as well as measures of the share of world trade and world GDP accounted for by non-OECD economies.

Several globalisation-related findings emerge from the analysis. In particular, import prices have become a significantly more important influence on domestic consumer prices since the mid-1990s, coinciding with the growing participation of non-OECD countries in international goods and services trade. The impact of import prices on domestic prices in all countries over the past decade is estimated to be significantly larger than the weight of imported goods and services in domestic demand, suggesting that competition from lower-priced imports has placed pressure on domestic producers in import-competing industries to lower the mark-ups of prices over domestic costs. However, no evidence of a robust significant impact from global output gaps in addition to that embodied in import prices is found.

A scenario analysis is carried out to quantify the impact of two facets of globalisation on consumer price inflation: the growth in commodity prices estimated to have resulted from strong output growth in the non-OECD economies, and a decline in the average rate of non-commodity import price inflation that is estimated to have resulted from higher levels of trade with non-OECD economies. For commodity prices, the estimated equations are used to obtain an alternative path for real commodity prices by raising the rate of output growth in the non-OECD economies from 2000 onwards. The impact of this change builds up over time. After five years, it is estimated to result in a 10% rise in metals prices and a 20% (lower bound) and 40% (upper bound) rise in oil prices, respectively. For the impact that globalisation has had on non-commodity import prices, a fall of 1% in annual inflation is considered as a lower bound and a fall of 2% is considered as an upper bound, consistent with the estimates from a range of studies.

As shown in the Figure below, such changes have almost always led to lower inflation in all the OECD economies considered over the period 2000-05, all else being equal. The impact is found to be larger in the European economies than elsewhere. Yet, even at the peak of the possible range of net effects, the estimated impact on annual consumer price inflation appears to be modest in most countries. The upper bound impact is estimated at 0.2 percentage point on average across the 21 OECD countries included in the sample. However, these calculations take the behaviour of domestic costs as given. To the extent that aspects of globalisation may be helping to restrain labour costs,[2] and also because of the potential feedback of changes in price inflation to wages, it is possible that the implicit net disinflationary impact of globalisation on price inflation is understated in the Figure below. The same holds for inflation expectations, if globalisation has led to a decline in inflation expectations or helped expectations to become better anchored.

1. Pain, N., I. Koske and M. Sollie (2006), "Globalisation and Inflation in the OECD Economies", *OECD Economics Department Working Papers*, No. 524.
2. See, for example, Dumont, M., G. Rayp and P. Willeme (2006), "Does internationalisation affect union bargaining power? An empirical study for five EU countries", *Oxford Economic Papers*, Vol. 58.

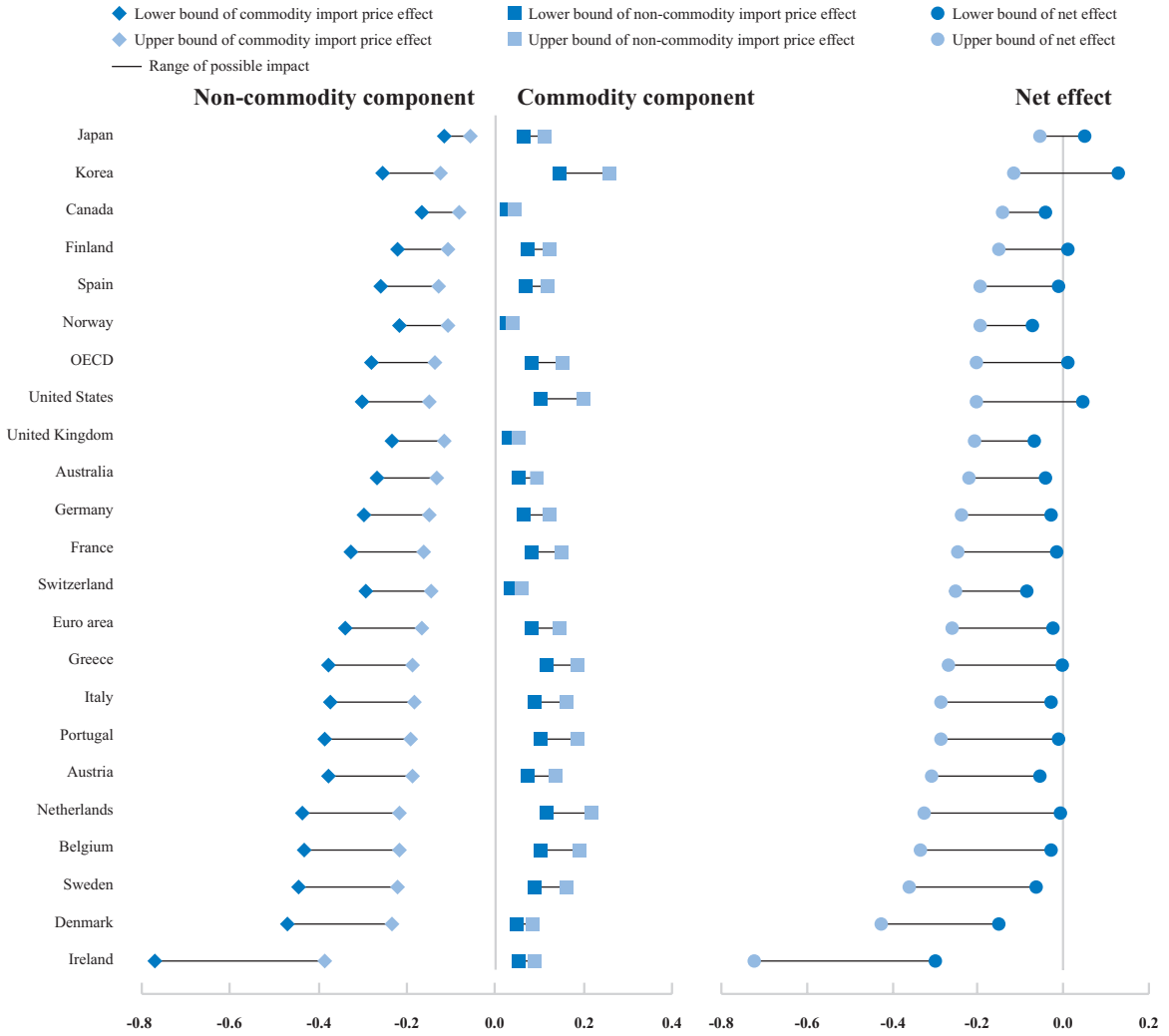
In the United States monetary tightening has run its course

In the United States, core inflation,[13] which features strongly in the conduct of monetary policy, has picked up to 2½ per cent, partly on account of indirect effects from energy prices (Figure I.11, left panel). Core inflation is projected to edge downwards as energy price effects wane and the economy slows to below potential. Headline inflation, which has been strongly influenced by falling energy prices, has

13. Defined as changes in the PCE deflator excluding food and energy, see footnote 12.

Box I.3. How does globalisation influence inflation? *(cont.)*

The impact on consumer price inflation from globalisation effects



Source: Pain, N., I. Koske and M. Sollie (2006), "Globalisation and inflation in the OECD economies", *OECD Economics Department Working Papers*, No. 524.

already dropped (Figure I.10). At a rate of around 2½ *per annum* unit labour costs are projected to rise slightly faster than overall inflation, with the historically high profit margins built up in recent years absorbing the difference. Accordingly, some easing of monetary policy could be envisaged from late-2007 onwards, with the federal funds rate falling towards 4¾ per cent by end-2008. However, if risks of higher inflation outturns materialise in the near term, the need for an initial further tightening of monetary policy cannot be ruled out.

Figure I.10. Headline and underlying inflation are converging

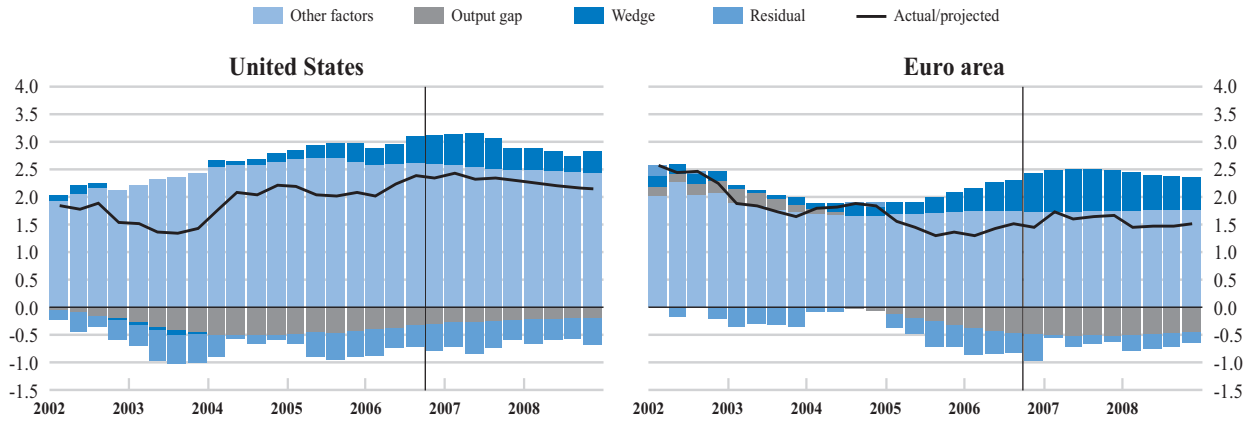
Note: For the euro area, consumer prices refer to the harmonised index of consumer prices (HICP) and core consumer prices refer to the HICP excluding energy and unprocessed food. For the United States, consumer prices refer to the consumer price index (CPI) and core consumer prices refer to the private consumption expenditure (PCE) deflator excluding food and energy. The weighted median is, each month, the middle element in the distribution of consumer price index component changes, that is, the one leaving 50% of the components (in terms of weights of the consumer price index) on each side.

Source: OECD, *Main Economic Indicators* and OECD calculations.

StatLink: *http://dx.doi.org/10.1787/816123212758*

Figure I.11. **Factors shaping core inflation**

Contributions to year-on-year percentage changes in core inflation



Note: The simulation results shown are based on regression equations of the following type:

$$PCORE_t = b_0 + \sum_i b_{1i}\, PCORE_{t-i} + b_2 GAP_{t-1} + \sum_j b_{3j}\, (PHEAD - PCORE)_{t-j} - \sum_k b_{4k}\, REER_{t-k} + \varepsilon_t$$

in which: *PCORE* is the core inflation rate (PCE excluding food and energy in the United States and the *HICP* excluding unprocessed food and energy for the euro area); *PHEAD* is the headline inflation rate (PCE in the United States and HICP in the euro area); GAP is the output gap; and *REER* is the rate of change of the real effective exchange rate. *PHEAD-PCORE*, or the "wedge", captures the impact of food and energy prices on headline inflation. The decomposition into the contributions of the respective explanatory variables, including that of the residual term ε, incorporates their impact via the lagged dependent variable. The impact of the constant term (which could be interpreted as a proxy of long-term inflation expectations) and the real effective exchange rate are combined in the item labelled "other factors". See for further details, Box 1.4 in *OECD Economic Outlook*, No. 78.

Source: OECD Economic Outlook 80 database and OECD calculations.

In the euro area monetary stimulus will have to be withdrawn

In the euro area, the recovery seems now sufficiently robust to justify some additional withdrawal of monetary stimulus to take out insurance against the risk of inflation pressure over the medium term. In this context, inflation is likely to oscillate around 2% over the projection period. Falling energy prices have recently pushed headline inflation below the 2% mark, while most measures of core inflation are in the 1½ to 2% range. But headline and core inflation are projected to converge to 2% in 2007, as lagged effects of slack and the drop in energy prices on core inflation are expected to be more than offset by the increase in the VAT in Germany (Figure I.11, right panel). With the VAT hike dropping out of the year-on-year measures in 2008 and some economic slack remaining over most of the projection period, inflation should not exceed the 2% limit. Even so, with the output gap closing steadily, supply constraints could start to materialise at the end of the projection period.

Japan should guard against premature tightening

In Japan, while headline and median inflation are positive, core inflation excluding fresh food and energy and the year-on-year rate of change of the GDP deflator are still negative. Achieving a clear exit from deflation is taking longer than expected, in part due to the revision of the consumer price index in August 2006 which lowered reported inflation by ½ percentage point. When it ended quantitative easing in March 2006, the Bank of Japan introduced a new framework for the conduct of monetary policy, announcing that "an approximate range between zero and 2% was generally consistent with the distribution of each board member's understanding of price stability". Although subsequent statements have made clear that this should not be interpreted as an inflation target, a range of 0 to 2% does not provide an adequate buffer against deflation in case of negative price shocks. Raising the lower limit of the 0 to 2% range would be helpful in this regard. In any event, the central bank should wait until core inflation excluding fresh food and energy moves clearly into positive territory before taking action.

Fiscal policy: using the windfalls wisely

Tax windfalls dominate the picture

Fiscal positions in most OECD countries are poised to turn out more favourably in 2006 than envisaged in initial budget plans. Accordingly, for the area as a whole the general government deficit is estimated to have fallen from 2¾ per cent of GDP in 2005 to just over 2% in 2006 (Table I.8). Although this experience is shared by a majority of countries, the bulk of the improvement is concentrated in the United States, and around two-thirds of it owes to increases in revenues relative to GDP. This windfall is still largely unexplained, and it is not obvious how much of it is permanent. The cyclically-adjusted deficit – which for the OECD area as a whole has improved from about 2½ per cent of potential GDP in 2005 to 2% in 2006 – treats the above-normal improvement as a shift in the underlying position, but at this juncture it is difficult to quantify the cyclical and structural components of the fiscal windfall. That said, a number of recent developments stand out:

Capital gains are re-bounding

– The proceeds of taxes levied on capital gains have recovered strongly from their lows at the time of the dotcom bust. Provisional computations suggest that the rise in capital gains tax proceeds in 2005-06 largely reflects a return to trend from its cyclical trough in 2002-03 (Box I.4). As a result, the current level of capital gains tax proceeds as a share of GDP may be sustained over the medium run, but any further gains should be considered as transitory.[14]

Table I.8. **Fiscal consolidation is stalling**

	2004	2005	2006	2007	2008
	Per cent of GDP / Potential GDP				
United States					
Actual balance	-4.6	-3.7	-2.3	-2.8	-3.0
Cyclically-adjusted balance	-4.2	-3.6	-2.4	-2.8	-2.9
Cyclically-adjusted primary balance	-2.4	-1.6	-0.3	-0.8	-1.0
Gross financial liabilities	61.6	61.8	60.9	61.8	62.6
Japan					
Actual balance	-6.3	-5.3	-4.6	-4.0	-3.7
Cyclically-adjusted balance	-5.5	-4.8	-4.6	-4.2	-4.1
Cyclically-adjusted primary balance	-4.2	-3.5	-3.2	-2.7	-2.3
Gross financial liabilities	168.1	173.1	176.2	177.6	177.3
Euro area					
Actual balance	-2.8	-2.4	-2.1	-1.5	-1.4
Cyclically-adjusted balance	-2.2	-1.5	-1.5	-1.1	-1.2
Cyclically-adjusted primary balance	0.5	1.0	1.0	1.4	1.3
Gross financial liabilities	76.0	77.3	76.8	75.6	74.5
OECD[1]					
Actual balance	-3.4	-2.7	-2.0	-2.0	-2.0
Cyclically-adjusted balance	-3.3	-2.6	-2.1	-2.1	-2.2
Cyclically-adjusted primary balance	-1.3	-0.7	-0.1	-0.1	-0.2
Gross financial liabilities	75.8	76.9	76.9	77.1	76.9

Note: Actual balances and liabilities are in per cent of nominal GDP. Cyclically-adjusted balances are in per cent of potential GDP. The primary cyclically-adjusted balance is the cyclically-adjusted balance less net debt interest payments

1. Total OECD excludes Mexico and Turkey.

Source: OECD Economic Outlook 80 database.

StatLink: *http://dx.doi.org/10.1787/601564828341*

14. Aside from capital gains tax, stamp duties on housing transactions have also been soaring in some countries due to rising house prices and high turnover on housing markets.

The commodity bonus is kicking in

– The ongoing commodity price boom has affected budget outcomes among several OECD countries that are endowed with important natural resources (most prominently, Canada, Australia, Mexico and Norway).[15] The extent to which these revenues – or their rate of increase – will be sustained over the longer haul depends on a multitude of factors, not all of which are foreseeable with certainty – such as the rate of depletion of natural resources, the investment in exploration as well as development and the prospects for demand and prices.

Wealthy taxpayers seem to be getting wealthier

– There are indications that the process of income (and wealth) distributions becoming more skewed has picked up pace lately – possibly in response to globalisation and a hunt for talent affecting the upper end of the distribution – and this may be interacting with progressive tax systems to produce more than usual increases in revenue.[16] The extent to which this is a transitory effect, a one-off level shift, or a sustained boost to growth in revenues is again largely an open question.

There is now an opportunity for fiscal consolidation

In general, using the tax windfall to relax any ongoing or planned consolidation efforts may prove very costly. Indeed, in countries where public debt remains stuck at high levels as a share of GDP, the longer-term objective of meeting the public finance challenges stemming from population ageing and other medium-run pressures will be compromised. Very little in the way of fiscal consolidation is projected on the basis of existing budget plans, with the cyclically-adjusted primary balance (excluding net interest payments) continuing to be in deficit over the projection period, while in fact a move towards a sizeable and sustained primary surplus is needed.[17] It is desirable that this transition be made during the ongoing upswing and, *a fortiori*, to avoid a pro-cyclical stance of fiscal policy, as happened in the euro area during previous upswings (Figure I.12). It is also desirable that fiscal consolidation rely primarily on reining in public spending, so as to make room for lowering tax burdens in the pursuit of economic efficiency and resilience.

The United States needs to tighten further

In the United States, the federal budget deficit has narrowed substantially, with the deficit of the general government shrinking from 3¾ per cent of GDP in 2005 to 2½ per cent in 2006. As noted, this outcome largely reflects a string of positive

15. Except for Norway, for which "mainland" and "offshore" public accounts are available, the standard method of adjusting fiscal balances treats the associated improvement as a shift in the underlying position. For example, recent calculations suggest that the improvement in the cyclically-adjusted fiscal balance in Australia is overestimated by about 1 per cent of GDP in the period 2001-05 if the terms of trade eventually returns to its long-run historical average. See Turner, D. (2006), "Should measures of fiscal stance be adjusted for terms of trade effects?", *OECD Economics Department Working Papers*, No. 519.
16. For example, in Dew-Becker, I. and R.J. Gordon (2005), "Where did the productivity growth go? Inflation dynamics and the distribution of income", *Brookings Papers on Economic Activity,* 2:2005, it is shown that in the United States over the period 1997-2001 half of the real income gains in the economy as a whole went to the top 10% of the income distribution. There has also been shift in favour of the top of the wealth distribution over this period according to Kennickell, A.B. (2006), "Currents and undercurrents: changes in the distribution of wealth, 1989-2004", Federal Reserve Board, *Finance and Economics Discussion Series*, No. 2006-13. Meanwhile the US tax system has remained rather progressive. Although there has been a dramatic decline in top marginal statutory tax rates, this has mostly affected the upper percentile of the income distribution, with relatively small changes occurring below the top percentile, see Piketty, T. and E. Saez (2006), "How progressive is the US federal tax system? An historical and international perspective", *CEPR Discussion Paper,* No. 5778.
17. Recent OECD computations show that in order for the debt-to-GDP ratio to converge to 60% of GDP by 2050, the cyclically-adjusted primary balance would have to rise from a deficit of 2% to a surplus in the range of 1½ to 3% in the United States, from a deficit of 3¾ per cent to a surplus of around 5% in Japan and from a surplus of 1% to a surplus in the range of 3-4% in the euro area. See OECD (2006), *Economic Survey of the Euro Area* (forthcoming).

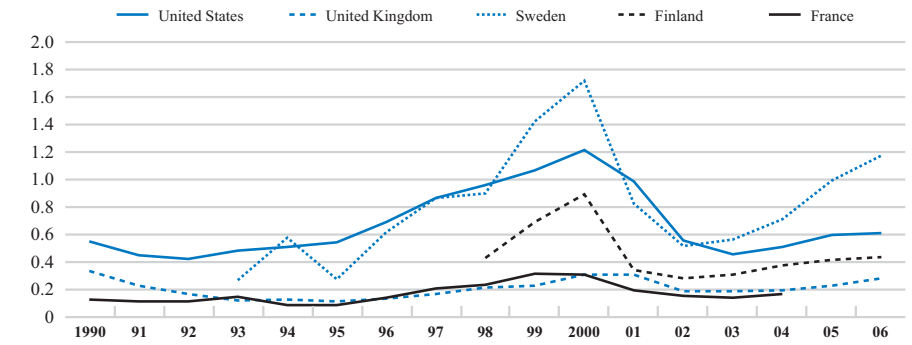
Box I.4. Cyclical fiscal windfalls and the asset cycle

Positive fiscal revenue surprises, which were an important issue at the time of the dotcom bubble in 1999-2000 in several OECD countries, have reappeared. Part of the fiscal revenue windfall can be attributed to a rebound in capital gains tax collections, as is illustrated in the figure below for several countries for which the relevant data are readily available.[1] The level of the proceeds from capital gains tax has so far been less pronounced than in 1999-2000. This may reflect in part that the composition of capital gains has shifted from stock to housing markets. Housing is less of a "tax cow" since principal homes are largely exempt from capital gains tax in most countries. Even so, the change in the tax take from capital gains since the 2002-03 cyclical through has been substantial.

It is important that transitory fluctuations in capital gains tax proceeds be recognised as such. Otherwise the underlying strength of the budget position may be overstated, possibly prompting governments to reduce taxes or defer spending cuts to an extent that may compromise subsequent budget management. The standard OECD method to correct tax proceeds for the impact of the business cycle may underestimate the cyclical component of capital gains tax (since it is lumped together with other personal income tax proceeds which are corrected only for the less-pronounced, overall business cycle). To better take the asset cycle into account, the underlying trend in capital gains revenue has been computed (using a Hodrick-Prescott filter), while all other items on the government account are adjusted in the standard way.[2] The resulting revised evolution of the cyclical component of the budget balance is shown in the figure on the next page. It suggests that the cyclical contribution of capital gains receipts to the overall cyclical component of the budget position is significant in some countries. Moreover, although the de-trending method tends to bias downward the recent contribution, it has rebounded sharply from its trough in the wake of the dotcom slump.

Capital gains receipts

Per cent of GDP



Source: National authorities.

StatLink: *http://dx.doi.org/10.1787/257000702547*

1. In *Australia*, the Taxation Office expects "other taxation revenues from individuals", a somewhat larger component than capital gains tax revenues, to rise by around 8% in both fiscal years 2005-06 and 2006-07. In *Denmark*, tax revenues from the returns on pension fund investments have surpassed their 1999 peak, reaching 1.6% and 2% of GDP in 2004 and 2005, respectively (against 1% of GDP in a "normal" year). In *Finland*, the Ministry of Finance has reported a rise in capital gains revenues by 28%, 14% and 9 % in 2004, 2005 and 2006 respectively. In *France*, the Ministry of Finance reported a pick-up in capital gains tax revenues of 25% in 2004. Data are not yet available for 2005. In *Sweden*, capital gains tax receipts are estimated to be equivalent to 1.2% of GDP, twice their level in 2002. In the *United Kingdom*, the Treasury has estimated that capital gains tax revenue grew by 10%, 20% and 30% in 2004, 2005 and 2006 respectively. Inheritance tax receipts have also been pushed up by higher equity prices since 2004. In the *United States*, the CBO reports that capital gains tax revenues rose by 20% and 25% in 2004 and 2005.
2. See for a description of the methodology: Girouard, N. and R. Price (2004), "Asset Price Cycles, "One-off" Factors and Structural Budget Balances", *OECD Economics Department Working Papers*, No. 391.

Box I.4. Cyclical fiscal windfalls and the asset cycle *(cont.)*

Cyclical component of fiscal balances

Per cent of (potential) GDP

Source: OECD Economic Outlook 80 database and OECD calculations.

StatLink: *http://dx.doi.org/10.1787/124445182187*

Figure I.12. **Fiscal policies over the cycle**

1. Change in the cyclically adjusted primary balance of general government, as a percent of potential GDP. A positive number points to fiscal tightening and a negative one to fiscal easing.
2. Difference between the change in primary balance as a percentage of actual GDP and the change in the cyclically adjusted primary balance as a percentage of potential GDP.
3. Numbers for the cyclically adjusted primary balance are corrected for a temporary reduction in the deficit owing to the transfer of a large pension fund onto the general government balance sheet in the years 2003 to 2007.

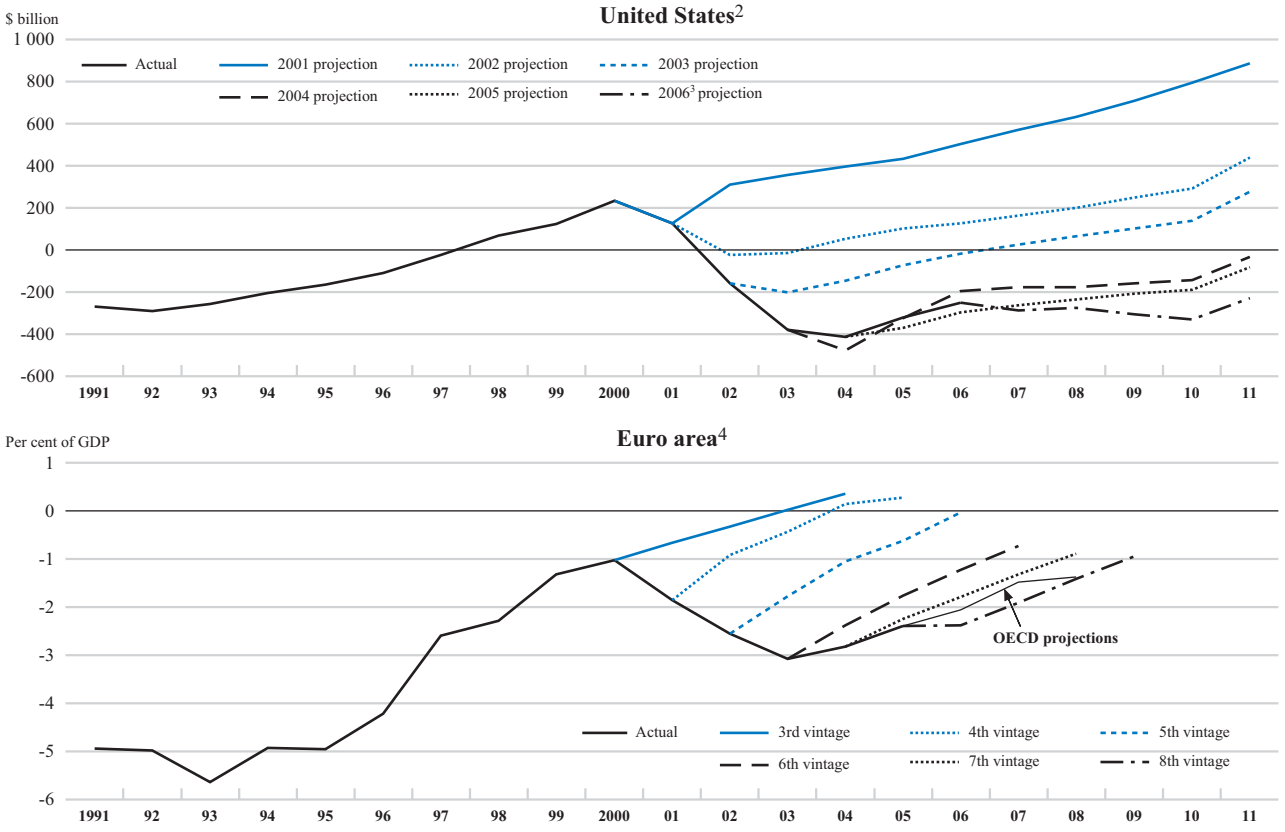
Source: OECD Economic Outlook 80 database.

revenue surprises, in particular buoyant personal and company tax receipts. The 2006 revenue surprise is projected to be locked in for 2007 and 2008 while tax cuts that are due to expire are instead assumed to be extended and the Alternative Minimum Tax to be indexed, while real outlays grow slowly. Over the longer haul, spending pressure is expected to heighten again and reform of entitlement programmes appears desirable. However, like the euro area, the United States has a history of repeated downward revisions of the medium-term projections of the fiscal position, which does not sit comfortably with the need to keep fiscal balances on a sustainable path (Figure I.13).

Euro area countries must keep spending in check

Within the euro area, it is uncertain whether the revamped fiscal rules will induce more prudent fiscal policy than during the previous recovery. In general, plans to meet medium-term objectives are not sufficiently ambitious. The fiscal balance is projected to improve slightly in 2007 (both in headline and cyclically-adjusted terms), which is largely attributable to developments in two countries, Germany and Italy. In Germany, fiscal policy is restrictive in 2007 on account of restraint on public hiring and social transfers and the increase in the VAT. In Italy the fiscal adjustment

Figure I.13. **Fiscal targets keep slipping**



1. Net lending, excluding third generation telephone licence proceeds.
2. US Congressional Budget Office projections for fiscal year federal government fiscal balance.
3. As of August 17th, 2006.
4. The various vintages of the Stability Programmes were released over the following periods: 3rd 2000/01, 4th 2001/02,5th 2002/03, 6th 2003/04, 7th 2004/05 and 8th 2005/06.

Source: US Congressional Budget Office, Statistical Office of the European Communities (Eurostat) and OECD Economic Outlook 80 database.
StatLink: *http://dx.doi.org/10.1787/832834583144*

is mainly due to higher taxes, and more efforts are needed to reduce spending.[18] By contrast, in France virtually no change in the underlying fiscal position is projected, with a reduction in the deficit being entirely cyclical. Among the smaller countries, Spain, the Netherlands and Portugal are projected to consolidate their budgets – the latter country in the framework of an austerity programme under the Excessive Deficit Procedure.

Japan should aim for sustainable debt levels

In Japan, fiscal consolidation will continue steadily, with net borrowing as a share of GDP expected to shrink by 1 percentage point (excluding the impact of a one-off factor) to 4% of GDP over the projection period. The projected deficit reduction is based on the phasing out of temporary tax credits on personal income, strong growth in corporate tax revenue, a scheduled hike in pension contributions and continued cuts in public investment. The government is committed to continued spending cuts in the pursuit of the official goal to achieve a "primary budget surplus by 2011". However, such efforts will likely be offset by increases in interest payments: while the primary deficit is projected to fall by 1 percentage point to 2½ per cent of GDP in cyclically-adjusted terms by 2008, the overall cyclically-adjusted deficit would decline by ½ percentage point to 4½ per cent of GDP. Sustained and substantial progress will be required to achieve a primary surplus large enough to stop the rise of the debt-to-GDP ratio in the long run.

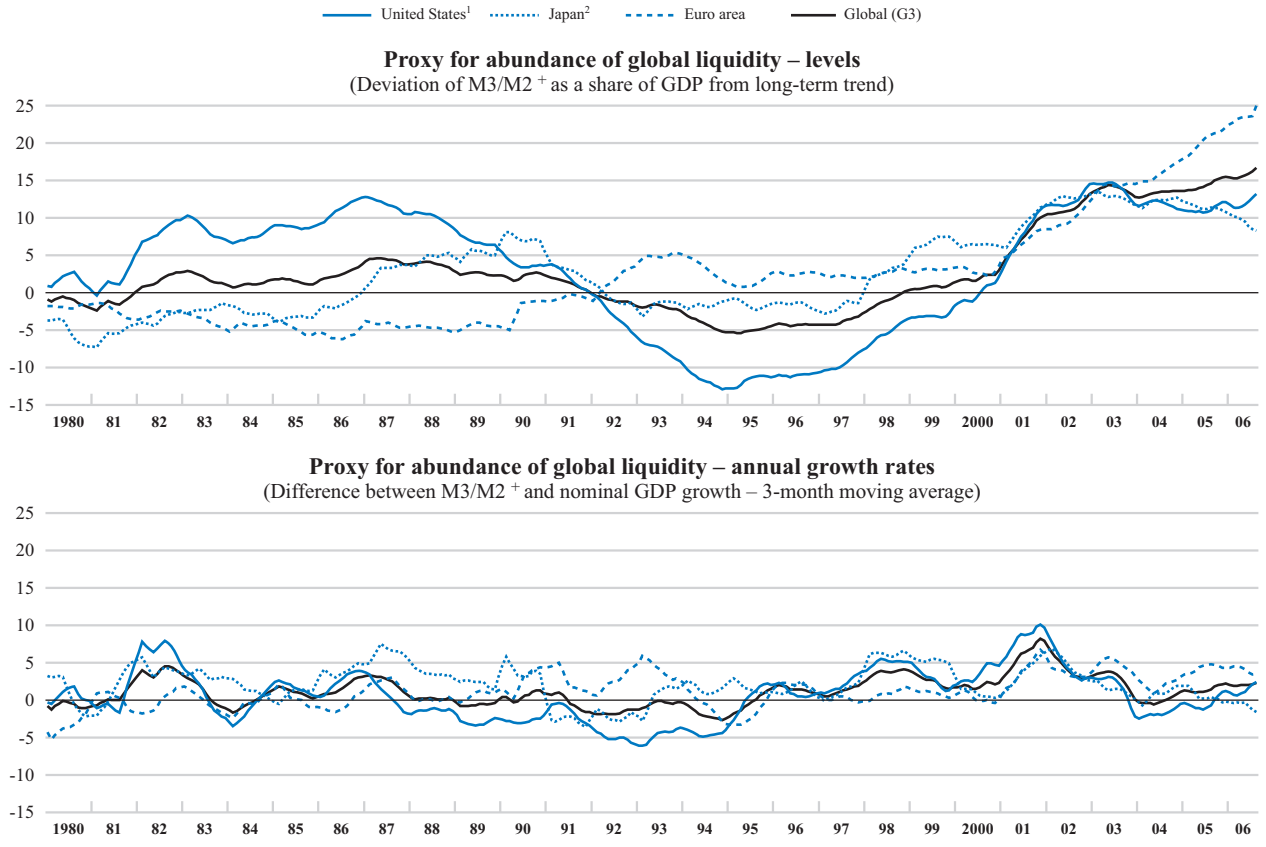
18. In Italy the extent of the reported tightening in 2007 is positively affected by around 1% of GDP by the inclusion in the 2006 deficit of a one-off VAT refund ordered by the European Court of Justice.

Appendix I.1
Gauging liquidity abundance

The term "global liquidity" is a multifaceted and somewhat vague concept, and a number of indicators – based both on money and credit measures – could be seen as useful proxies. The indicators presented below cover the United States, the euro area and Japan.

A set of money-based measures use broad money aggregates (M3 or an enlarged M2), and aim to capture the degree to which either growth or levels are above historical norms (Figure I.14).[19] Specifically, money-based global liquidity growth is defined as M3/M2+ growth exceeding nominal GDP growth, and global

Figure I.14. **Liquidity measures – deviations from historical norms: money-based measures**



1. Starting from March 2006, Unites States M3 growth is replaced by the growth of the following aggregate: M2 + balances in institutional money market mutual funds + non-transaction large-denomination time deposits.
2. For reason of comparability M2 + CD's is used for Japan.

Sources: Datastream, OECD calculations.

StatLink: *http://dx.doi.org/10.1787/538124661482*

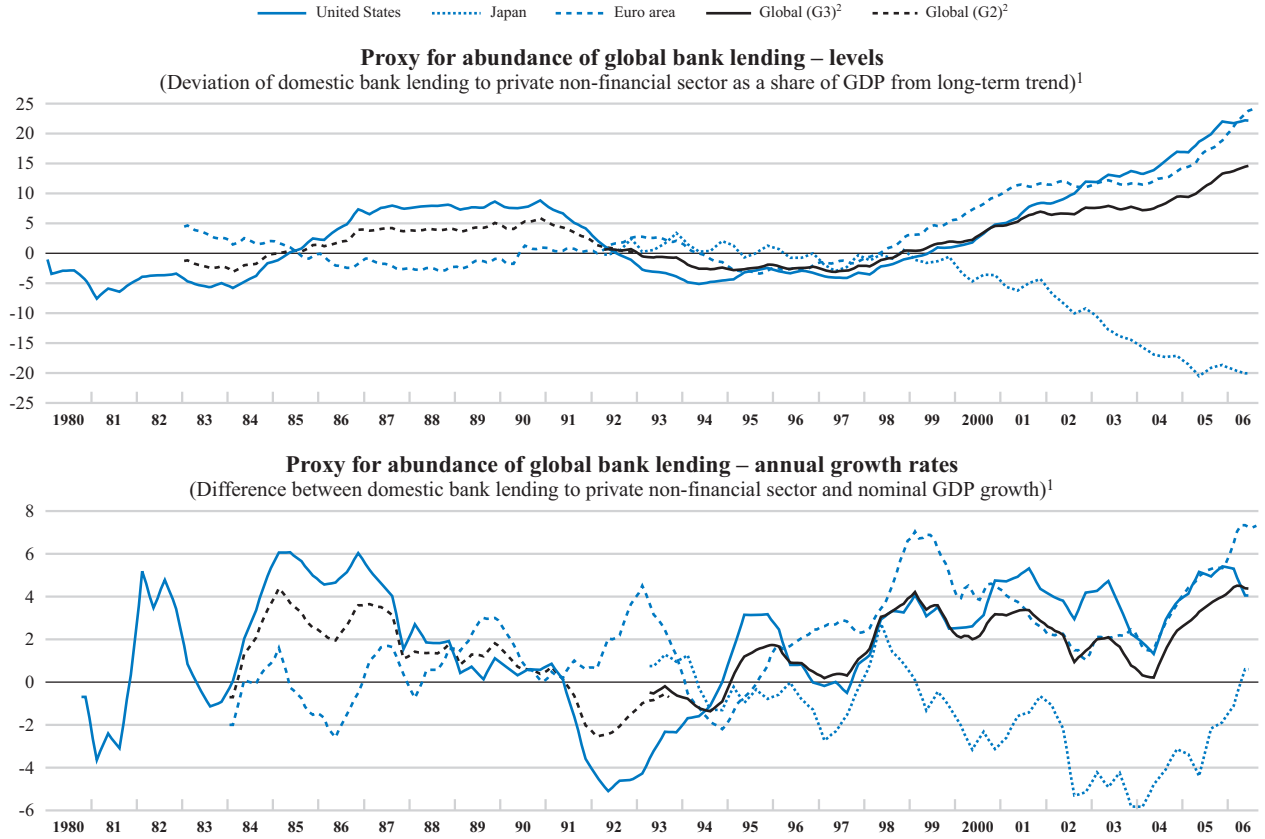
19. For reasons of comparability, M2+CD's is used for Japan. Starting from March 2006, United States M3 growth is replaced by the growth of the following aggregate: M2 + balances in institutional money market mutual funds + non-transaction, large-denomination time deposits.

liquidity levels are calculated as the deviation of the M3/ M2+ to GDP ratio from its long term trend.[20]

As it has been argued that credit-based measures are useful indicators of asset price inflation and long-term inflationary pressures, a set of proxies for global liquidity from a credit-based perspective are calculated (Figure I.15). The first of these is based on domestic bank lending to the private non-financial sector in the three largest economies, and aims to capture – both in growth rates and levels – the part of lending that is above historical norms. As with the money-based indicator, its level is defined as the deviation from the ratio of bank lending to GDP from its long-term trend and its growth as the difference between bank lending and nominal GDP growth.

Global liquidity can also be proxied by real growth of external claims of banks, or by an index that combines domestic and international bank lending with security issuance. These measures, which are not shown here, confirm the presumption arising for money and credit based indicators that global liquidity is abundant and continuing to grow.

Figure I.15. **Liquidity measures – deviations from historical norms: credit-based measures**



1. 3-month moving average.
2. G3 refers to the US, the euro area and Japan. G2 refers to the US and the euro area.
Source: Datastream, OECD calculations.

StatLink: *http://dx.doi.org/10.1787/608021256803*

20. The trend is an estimated linear function of time. It is conceivable that euro-area measures could be biased upward by a structural break that may have occurred with the establishment of the common currency zone, as the associated decrease in interest rates in many participating countries may have resulted in increased demand by its residents for assets included in M3.

Appendix I.2
The OECD synthetic indicator of risk premiums

In order to evaluate whether risk premia are at levels that would be consistent with underlying fundamentals, or whether there are significant misalignments, the OECD uses a procedure that permits the simultaneous assessment of risk premia in corporate, equity and emerging markets.[21] The first step, for both the United States and the euro area, is to calculate the spreads of high-yield and high-grade bonds over benchmark government bonds, as well as the risk premia implied by stock market valuations. A series that covers emerging market bond spreads (over US Treasuries) is added to this sample. Using principal components analysis, a "common factor" is then identified.[22] This common factor captures the shared movements of the above-mentioned spreads (respectively risk premia) and is interpreted as a synthetic indicator of risk as perceived by financial markets.

The second step – using an error correction model – is to evaluate what drives this synthetic indicator of risk. The cyclical position of the world economy, short-term interest rates, liquidity, and expected corporate default rates emerge as the main explanatory variables. More precisely, the error-correction specification used indicates that in the long run the *level* of the synthetic indicator of risk premia is well explained by the cyclical position of the world economy, global real short-term interest rates (or alternatively a measure of global liquidity levels), and levels of global corporate default rates.[23] In the short run *changes* in the synthetic indicator are also driven by changes in the cyclical position of the world economy (as proxied by the OECD Composite Leading Indicator), in liquidity, in expected volatility and in corporate default rates.[24] The actual long-term relationship has the following form:

Synthetic indicator =

–4.0 – 0.32 [–2.4] * OECD cyclical position

+ 0.6 [1.8] * Global real short rates

+ 2.2 [7.6] * Global corporate default rates

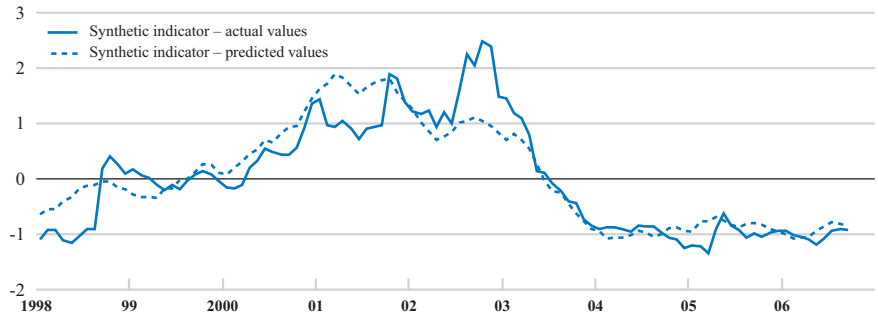
Figures in square brackets are *t* values.

Risk premia tend to fall when the cyclical outlook improves, are positively related to short-term rates and negatively related to liquidity and tend to increase with corporate default rates, either actual or expected (as forecast by Moody's). Currently, risk spreads seem to be fairly well aligned with these fundamentals (Figure I.16). Going forward, however, this assessment hinges critically on the

21. For a more detailed description of the methodology see Sløk, T. and M. Kennedy (2005), "Explaining Risk Premia on Bonds and Equities", *OECD Economic Studies,* No. 40, 2005/1.
22. While the common factor is able to account for a significant part of the shared variation in risk premia of the different assets, the strength of the relation with each of the seven individual risk premia varies: the factor loadings, a measure of the correlation between individual risk premia and the common factor, are particularly high in the case of corporate bond risk premia. This indicates that the common factor of risk premia is more closely linked to developments in corporate bond markets than those in other asset markets.
23. In the econometric analysis, actual default rates are used as a proxy of expected default rates for historic data.
24. The error-correction specification obviously also implies that the deviation of the actual level of the synthetic indicator from its estimated "normal" level (under current fundamentals) contributes to short-term changes that tend to narrow the described gap.

Figure I.16. **Actual and predicted synthetic indicator of risk premia**

Deviation from average (in terms of standard deviations of synthetic indicator)



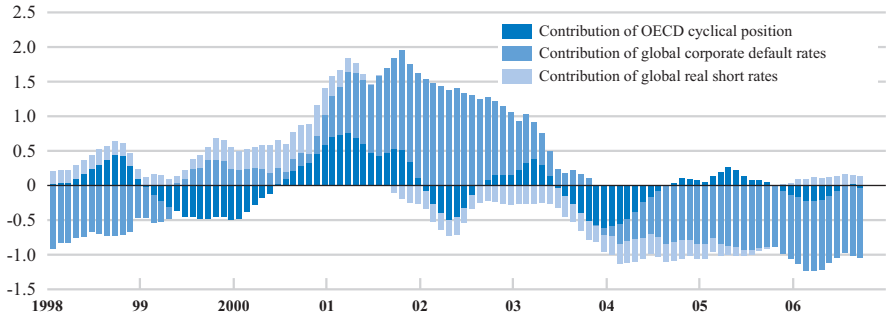
Source: Update to computations in Sløk, T. et M. Kennedy (2005), "Explaining risk premia on bonds and equities", *OECD Economic Studies*, No. 40, 2005/1.

StatLink: *http://dx.doi.org/10.1787/261734634841*

assumptions that default rates will remain low, monetary policy is not dramatically tightened and the expansion continues (Figure I.17). Moreover, the synthetic indicator is intended to summarise risk premia on different asset classes, so a finding that it is aligned with fundamentals does not necessarily mean that risk spreads on any single asset class are well aligned with fundamentals.

Figure I.17. **Contributions to predicted synthetic indicator of risk premia**

Deviation from average (in terms of standard deviations of synthetic indicator)



Source: Update to computations in Sløk, T. et M. Kennedy (2005), "Explaining risk premia on bonds and equities", *OECD Economic Studies*, No. 40, 2005/1.

StatLink: *http://dx.doi.org/10.1787/261734634841*

Appendix I.3
Have real house prices peaked? A probit approach

House prices have been moving up strongly in real terms since the mid-1990s in the majority of OECD countries, with the ongoing upswing the longest of its kind in the OECD area since the 1970s. In some countries, real house prices may be at risk of nearing a peak – in particular if interest rates were to rise significantly. The historical record suggests that the subsequent drops in prices in real terms might be large and that the process could be protracted.

To quantify the probability that a peak is nearing the *OECD Economic Outlook* makes use of a set of probit models that are re-estimated at regular intervals on a restricted set of what are generally agreed to be the main explanatory variables. Aside from interest rates, these include measures of overheating, such as the gap between real house prices and their long-run trend and the rate of change in real house prices in the recent past. This Appendix discusses the main features of the latest set of estimates.[25]

Basic assumptions

Akin to (other) asset markets, housing markets portray a high degree of cyclicality, with downturns occurring if risk factors exceed critical thresholds. Probit modelling can be used to capture such "trigger effects" in aggregate series.[26]

In the probit model presented here, the dependent variable is the probability of a real house price peak occurring in a country in the next four quarters. The dating of peaks in real house prices is thus a crucial ingredient of the analysis. Specifically, to call a peak in any quarter the requirement here is that real prices have risen over a period of at least six quarters and subsequently have fallen over a period of at least six quarters.[27] Only "major" upswings are considered, with the cumulative real price increase from trough to peak to equal at least 15%. While necessarily *ad hoc*, the 15% criterion, which has been employed in earlier studies in this field, serves to avoid local peaks.

Pooled estimation results

The model was estimated on a pooled sample containing 17 OECD countries, comprising the seven major countries, Australia, Denmark, Finland, Ireland, the Netherlands, New Zealand, Norway, Spain, Sweden, and Switzerland.[28] In the final regression three explanatory variables were retained: the nominal long-term interest rate (entered as its inverse), the real house price gap defined as the difference between the logarithm of the real house price index and the log-linear trend of the real house price index, and the two-quarter moving average of the rate of change in real house prices.

All coefficients on the explanatory variables are significant at the 1% level and have the expected sign. Aside from its statistical significance, the rationale for retaining the nominal (as opposed to the real) long-term interest rate is that it is closely

25. For an earlier set of estimates, see Van den Noord, P. (2006), "Are house prices nearing a peak? A probit analysis for 17 OECD countries", *OECD Economics Department Working Papers*, No. 488.
26. This was successfully applied to aggregate series for house prices in a recent study carried out at the Bank for International Settlements (BIS), see Borio, C. and P. McGuire (2004), "Twin peaks in equity and housing prices?", *BIS Quarterly Review*, March. They estimate a probit model on a pool of countries to examine a possible link between peaks in stock markets and housing markets (which is generally confirmed).
27. See Girouard, N., M. Kennedy, P. van den Noord and C. André (2006), "Recent House Price Developments: the Role of Fundamentals", *OECD Economics Department Working Papers*, No. 475.
28. See Girouard *op cit.* (2006), Table A1, for a review of sources and definitions.

related to financing constraints in the short run, such as the proportion of income absorbed by interest payments, the ability to borrow and the willingness to lend.[29] The rationale for including the nominal interest rate *as its inverse* is to mimic the strongly non-linear impact on financing constraints.[30] The other two retained variables are controls for overheating and should be considered together. A strong rate of growth of house prices following a trough would not, by itself, be a sign of overheating. However, if it occurs in conjunction with a large, above-trend gap of house prices, this could be a sign that these markets may indeed be overheated.

Simulations of the probability of house price peaks have been carried out in which interest rates were increased by 100 and 200 basis points relative to the observed rates in the second quarter of 2006. The simulations were run for two cases, one based on the real house prices as observed in the second quarter of 2006, and one based on the real house prices that would result if these prices were to rise for another four quarters at the same rate as that observed in the preceding four quarters. The latter provides a rough and ready estimate of the increase in the exposure to interest rate shocks, assuming that the housing upswing proceeds further. The results are reported in Table I.9.

Table I.9. Pooled regression model

Probabilities of real house prices peaking within four quarters

	Current situation[1]	After an increase in interest rates by		After a further increase in real house prices at the same rate as in the preceding four quarters and an increase in interest rates by	
		1%	2%	1%	2%
United States	0.06	0.09	0.13	0.18	0.23
Japan	0.00	0.00	0.00	0.00	0.00
Germany	0.00	0.00	0.00	0.00	0.00
France	0.07	0.15	0.22	0.38 *	0.49 *
Italy	0.01	0.03	0.05	0.04	0.07
United Kingdom	0.05	0.10	0.14	0.09	0.14
Canada	0.05	0.09	0.13	0.22	0.30 *
Australia	0.08	0.11	0.15	0.12	0.15
Denmark	0.28 *	0.43 *	0.54 **	0.92 ***	0.96 ***
Finland	0.02	0.04	0.08	0.14	0.21
Ireland	0.13	0.24	0.33 *	0.45 *	0.56 **
Netherlands	0.02	0.06	0.10	0.06	0.10
New Zealand	0.10	0.14	0.18	0.19	0.24
Norway	0.10	0.19	0.26 *	0.39 *	0.49 *
Spain	0.02	0.05	0.09	0.08	0.13
Sweden	0.08	0.17	0.25 *	0.44 *	0.55 **
Switzerland	0.00	0.00	0.00	0.00	0.01

Note: *, **, *** denote probabilities over 25%, 50% and 75%, respectively

1. Second quarter of 2006

Source: Update to table 4 in Van den Noord, P. (2006), "Are house prices nearing a peak? A probit analysis for 17 OECD countries", OECD Economics Department Working Papers, No. 488.

StatLink: *http://dx.doi.org/10.1787/655827247477*

29. Borio and McGuire (2004) also find that the nominal interest rate is significant. This feature of the housing market is confirmed in a micro probit-study for the United Kingdom by the Bank of England, see May, O. and M. Tudela (2005), "When is mortgage indebtedness a financial burden to British households?", *Bank of England Working Paper*, No. 277.
30. See Himmelberg, C., C. Mayer and T. Sinai (2005), "Assessing high house prices: bubble, fundamentals and misperceptions", *NBER Working Paper Series*, No. 11643.

They suggest that – dependent on the assumptions adopted – Denmark has the greatest risk of nearing a house price peak, followed by Ireland, Sweden and France.

Country-specific models

The fact that the pooled regression model imposes uniformity on the conditional probability responses to the explanatory variables across countries may be considered as a handicap. In theory this can be remedied by estimating the model on a country-by-country basis. However, this comes with other drawbacks, most prominently the fact that the number of observed peaks in each country is small and therefore the robustness of the results questionable. There is also an associated risk of data mining, with the quest for the best fit possibly resulting in a model that attributes large predictive power to a constellation of explanatory factors that more or less accidentally accompanied the few observed peaks. Give these pros and cons, individual country estimates should be seen as complementing the pooled results. The assessment in the main text of this chapter is therefore based on the arithmetic averages of the probabilities computed with the pooled and country-specific models for each country.

There were a few country models where it was not feasible to improve on the specification used in the pooled model (Spain and Switzerland). In all other cases the specification was changed in a number of ways:

– In several cases entering the *inflation rate* as an additional explanatory variable improved the equation significantly (United States, France, Denmark, New Zealand and Sweden). This variable enters the equation with a negative sign, suggesting that the impact of a given nominal interest rate tends to decline as the rate of inflation rises and *vice versa*.

– In a number of cases the equation was improved by entering the *share of residential investment in GDP*, either as its level (Canada, Netherlands) or as its change (Japan, Italy and Finland). The sign is always positive, indicating that an increase in housing supply may contribute to the likelihood that a peak is nearing.

– The change in the *unemployment rate*, which may be interpreted as an indicator of the overall business cycle, proved significant in the equation of Italy. The sign is negative, suggesting that falling unemployment raises the likelihood that house prices are nearing a peak in this country. In one country (Denmark) the unemployment rate appeared as its level, and with a positive sign, indicating that the trend decline in unemployment since the early 1990s has diminished the likelihood of house prices peaking.

– Financial variables that proved significant in a few cases were the change in the household saving ratio (Italy) and the rate of change in the local equity index (Finland and New Zealand).

In some cases the interest rate term needed to be modified. In several cases the short-term interest rate was found to be important, either instead of the long rate (United Kingdom, Ireland), or in addition to it (United States). In one case the real interest rate clearly outperformed the nominal rate (Australia) and in some cases lags proved necessary (Italy, United Kingdom, Canada, the Netherlands, Norway and Australia). In one case the interest rate entirely dropped out of the equation (Finland). In four cases the same happened with regard to the price gap (Italy, Canada, Ireland and the Netherlands) while the rate of change in the real house price

was retained in nine cases (France, United Kingdom, Australia, Ireland, Netherlands, New Zealand, Spain, Sweden and Switzerland).

All this suggests a large degree of cross-country heterogeneity, which the pooled model failed to capture. This is confirmed by the *ex post* performance of the country-specific models in predicting housing peaks, which is clearly superior in most cases. Carrying out the same simulation exercise as above, *i.e.* of increases in interest rates by 100 and 200 basis points superimposed on the levels of interest rates observed in the second quarter of 2006, yields findings that broadly correspond to those of the pooled model, with one important exception (Table I.10). Specifically, the United States is now in the highest risk class, together with Denmark and France, with the probabilities rising to 100% dependent on the assumptions. Other countries at risk (although it is lower, in the 25-50% range at its worst) are New Zealand, Sweden and Spain.

Table I.10. Country-by-country regression models

Probabilities of real house prices peaking within four quarters

	Current situation[1]	After an increase in interest rates by		After a further increase in real house prices at the same rate as in the preceding four quarters and an increase in interest rates by	
		1%	2%	1%	2%
United States	0.18	0.76 ***	0.97 ***	0.95 ***	1.00 ***
Japan	0.00	0.00	0.00	0.00	0.00
Germany	0.00	0.00	0.00	0.00	0.00
France	0.06	1.00 ***	1.00 ***	1.00 ***	1.00 ***
Italy	0.00	0.00	0.00	0.00	0.00
United Kingdom	0.00	0.00	0.00	0.00	0.00
Canada	0.00	0.00	0.00	0.00	0.00
Australia	0.14	0.14	0.14	0.06	0.06
Denmark	0.09	0.92 ***	1.00 ***	1.00 ***	1.00 ***
Finland	0.00	0.04	0.04	0.07	0.07
Ireland	0.00	0.00	0.00	0.00	0.00
Netherlands	0.00	0.00	0.00	0.00	0.00
New Zealand	0.06	0.18	0.35 *	0.30 *	0.50 **
Norway	0.00	0.00	0.01	0.02	0.05
Spain	0.07	0.16	0.26 *	0.23	0.35 *
Sweden	0.00	0.00	0.00	0.00	0.42 *
Switzerland	0.00	0.00	0.00	0.00	0.00

Note: *, **, *** denote probabilities over 25%, 50% and 75%, respectively

1. Second quarter of 2006

Source: Update to table 6 in Van den Noord, P. (2006), "Are house prices nearing a peak? A probit analysis for 17 OECD countries", OECD Economics Department Working Papers, No. 488.

StatLink: *http://dx.doi.org/10.1787/875216747078*