IV. SAVING AND INVESTMENT: DETERMINANTS AND POLICY IMPLICATIONS

Introduction

Trends in saving and investment rates have emerged as an issue

Recent trends in national saving and investment rates have raised questions about sustainability, both with respect to their levels and the balances between them.

Strong investment has led to a large US current account deficit

– In the United States, the total investment rate rose throughout the 1990s, reflecting mostly a rapid acceleration in the purchase of machinery and equipment by the business sector, notably in real terms. In contrast, the national saving rate remained flat during the 1990s, masking significant offsetting changes in the public and private sector components. As a result, the US current account deficit widened to 4.5 per cent of GDP in 2000, before narrowing somewhat in the current downturn (Table IV.1).

Japanese saving and investment remain high despite weak growth

– In Japan, although both national saving and investment rates trended down during the 1990s, their levels are still well above the OECD average. Such high levels are not easy to justify, especially in the case of investment considering the weak output growth performance. In the case of saving also, it is not clear that the substantial demographic transition ahead, together with other factors, can fully account for the high saving rate. Parallel declines in saving and investment have left the Japanese current account surplus in a range of 2 to 2.5 per cent of GDP.

Within the euro area, a number of smaller countries face large imbalances…

– In the euro area, national investment and saving rates remain below their peak levels of the early 1990s, despite the moderate increase registered during the second half of the decade. While the euro area-wide current account is close to balance, for a number of smaller Member states large current account deficits emerged in the late 1990s.

Table IV.1. **Saving investment imbalances in OECD countries**

in per cent of GDP

	Current account			Government balances			Private sector balances		
	1996-00 *average*	2001	2003	1996-00 *average*	2001	2003	1996-00 *average*	2001	2003
				Countries with current account deficits					
United States	-2.7	-4.1	-4.0	-0.1	0.6	-0.6	-2.7	-4.7	-3.4
United Kingdom	-1.2	-1.8	-2.2	-0.6	1.1	-0.7	-0.6	-2.9	-1.5
Australia	-4.4	-3.0	-3.7	-0.1	0.1	0.5	-4.3	-3.0	-4.1
New Zealand	-5.8	-3.1	-3.8	1.4	1.3	-0.3	-7.2	-4.5	-3.5
Iceland	-5.4	-8.0	-4.8	0.7	-0.2	-0.9	-6.1	-7.7	-3.9
				Countries with current account surpluses					
Japan	2.3	2.1	3.5	-5.6	-6.4	-6.6	7.9	8.5	10.1
Canada	0.1	3.7	2.5	0.5	2.8	2.2	-0.4	0.9	0.3
Korea	3.1	2.2	2.6	3.9	5.7	5.5	-0.8	-3.4	-2.9
Sweden	3.4	2.3	2.3	0.6	3.8	1.8	2.8	-1.5	0.5
Denmark	1.0	3.2	3.3	1.3	2.0	1.7	-0.3	1.2	1.6
Norway	5.9	14.2	14.0	7.7	14.3	11.7	-1.8	0.0	2.3
				Euro area countries					
Total area	0.8	0.0	0.4	-2.0	-1.2	-0.9	2.8	1.2	1.3
				of which countries with current account surpluses					
France	2.2	1.6	1.6	-2.6	-1.5	-1.4	4.7	3.0	2.9
Italy	1.6	0.1	0.7	-2.9	-1.4	-1.1	4.6	1.5	1.8
Netherlands	4.5	3.6	4.0	-0.2	1.1	0.7	4.8	2.5	3.3
Belgium	5.0	3.3	4.1	-1.4	0.0	0.2	6.4	3.3	3.9
Finland	5.7	6.6	6.5	1.1	3.7	2.1	4.7	2.9	4.3
				of which countries with current account deficits					
Germany	-0.6	-0.7	-0.3	-1.7	-2.5	-1.8	1.2	1.8	1.6
Spain	-1.1	-2.4	-2.0	-2.4	0.0	0.0	1.4	-2.3	-1.9
Austria	-2.8	-2.5	-1.5	-2.3	0.0	0.1	-0.5	-2.5	-1.6
Portugal	-7.1	-9.2	-8.8	-2.5	-1.7	-1.4	-4.5	-7.5	-7.4
Greece	-4.5	-5.2	-5.0	-3.4	0.2	1.3	-1.1	-5.4	-6.3
Ireland	1.2	-2.0	-1.6	2.0	3.2	1.9	-0.9	-5.1	-3.5
				Emerging market countries					
Mexico	-2.5	-3.0	-3.5	7.4	7.7	8.3	-9.9	-10.7	-11.9
Turkey	-1.5	2.4	2.2	-4.7	-2.6	-3.2	3.2	5.1	5.3
Poland	-5.2	-6.2	-5.7	-2.4	-4.4	-4.9	-2.8	-1.7	-0.8
Czech Republic	-4.6	-5.1	-5.4	-3.2	-6.0	-5.8	-1.4	1.0	0.4
Hungary	-3.7	-2.9	-2.3	-5.9	-4.9	-4.5	2.2	2.0	2.2
Slovakia	-7.7	-7.8	-8.4	-4.3	-4.4	-4.7	-3.4	-3.5	-3.7

Source : OECD.

… as are some emerging market OECD economies

– Finally, in most of the OECD emerging market economies, current account deficits have widened substantially in recent years, reflecting in some cases widening government deficits and in others private sector imbalances. While it is not unusual for countries that are catching up with more advanced economies to rely partly on foreign capital to modernise and expand their production capacity, a high imbalance leaves them more exposed to possible episodes of turbulence in

international financial markets. In this context, such external deficits raise the importance of setting domestic economic policies so as to preserve credibility with investors.

If these trends prove to be unsustainable, they raise the risk of disruptive adjustments

These developments raise two related sets of issues. First, current saving and investment imbalances, if they prove to be unsustainable, could lead to potentially disruptive adjustments being triggered, with implications for financial markets and economic activity. Even though in principle large imbalances can be unwound gradually, past experience has shown that they often give rise to abrupt exchange-rate changes, with adverse spill-over effects in product and labour markets. Within the euro area, there is the additional issue of whether or not fiscal policy should play a more active role in limiting "internal" imbalances. Second, even in cases where imbalances are not a source of concern, saving and investment rates may not be at levels that are sustainable or that best contribute to underpinning output growth and economic welfare in the short and the medium term. In both cases the question arises as to what role structural and macroeconomic policies can play to facilitate the desired adjustment.

This chapter addresses these issues by looking at the factors driving the developments in saving and investment, with a view to assessing their sustainability, and then draws out a number of policy implications. The next section describes the recent trends in national investment and saving rates and examines whether their respective private-sector components can be explained in terms of their main fundamental determinants, including macroeconomic policy. Based on these findings, the last section assesses the risk that the unwinding of the existing imbalances between saving and investment, in particular of the large US current account deficit, takes place abruptly, with sharp exchange-rate swings.

The main findings from the analysis are:

Strong business investment cannot easily be explained by fundamentals

– In a number of countries, the rise in the volume of business investment observed in the second half of the 1990s can be partly explained by output growth, the steady decline in the relative price of capital goods and, until mid-2000, the relatively low cost of equity financing. This is particularly the case for most countries where real business investment has been buoyant, but also for Japan where investment has grown more modestly. On that basis, the empirical analysis would tend to support the view that investment has exceeded its steady-state level, not least in the United States. In the latter case, however, increases in depreciation rates associated with changes in the composition of capital, may have boosted gross investment sufficiently to make the actual investment rate look sustainable.

Changes in national saving have been driven mainly by changes in fiscal balances

– National saving rates have generally stabilised or even rebounded somewhat in the 1990s, halting the trend decline observed in previous decades. This change has been mainly driven by the rise in public saving, resulting from the significant fiscal consolidation efforts pursued in the majority of countries in the second half of the 1990s. The increase in public saving has been partly offset by a fall in private saving, for the most part due to sharp declines in household saving rates. While the latter have raised concerns regarding possible over-indebtedness and sustainability, there is no clear evidence that consumers have gone too far in responding to the stock market boom of the late 1990s.

A significant decline in the US current account deficit is likely to be accompanied by an exchange rate adjustment

– The slowdown in US output has already contributed to a slight narrowing of the current account deficit, which is now expected to remain close to 4 per cent of GDP over the next two years. Yet, given that cyclical factors alone are only estimated to account for a relatively small portion of the US imbalance, a further narrowing to a more sustainable level will also depend on the evolution of the basic determinants of saving and investment, including relative trend productivity growth and demographics. Private saving rates in Japan and Europe may well decline more rapidly than in the United States in the coming decades as a result of faster population ageing. However, considering that the associated weaker growth in the labour force is also seen to lower investment, the contribution of demographic changes to the unwinding of external imbalances in both the United States and Japan remains uncertain, both with respect to timing and magnitude. In any event, a significant narrowing of imbalances to more sustainable levels is likely to involve relative price adjustments.

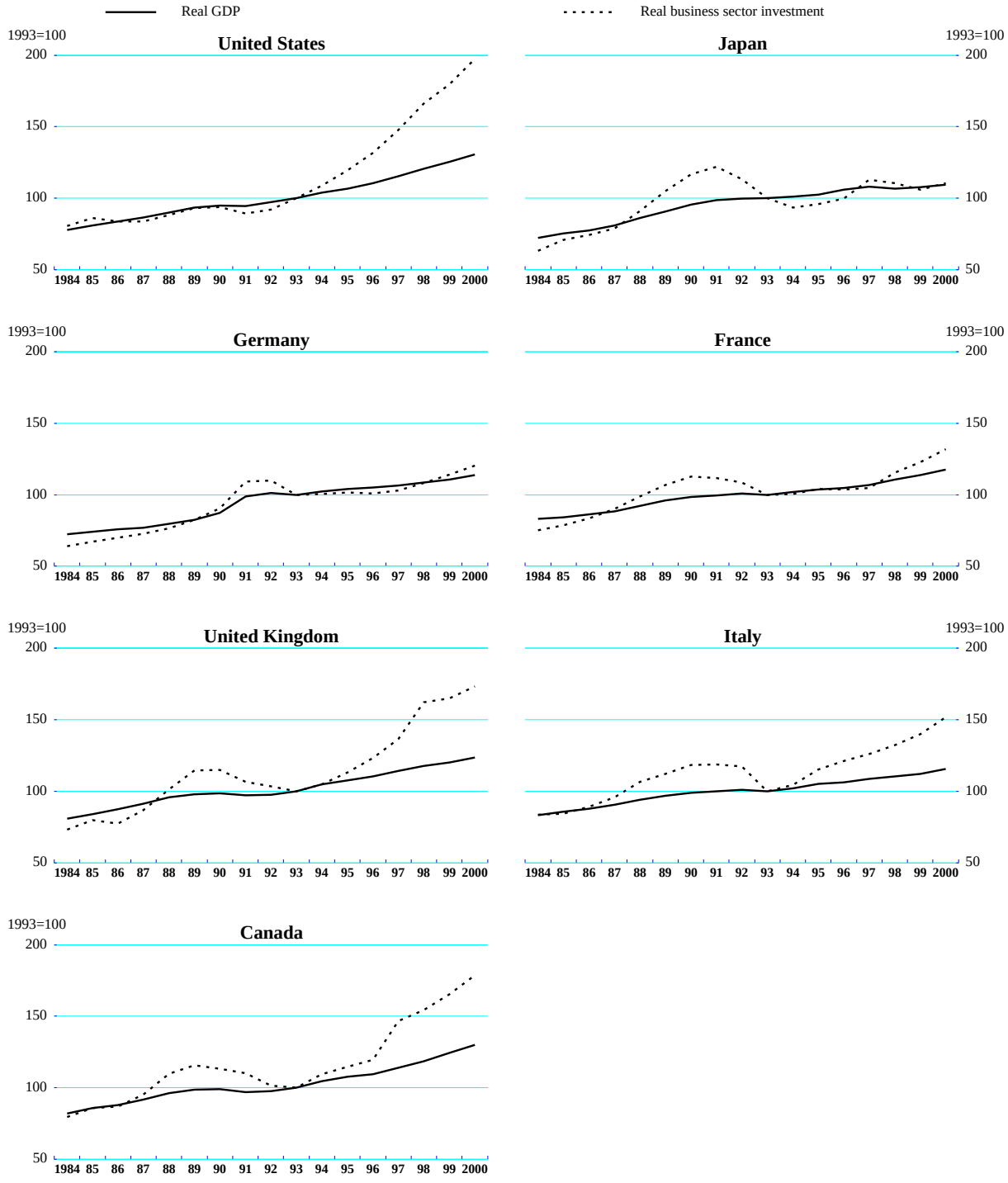
Factors driving developments in investment and saving

Development in investment rates

Investment spending by businesses has outstripped advances in GDP gains…

The rise in total investment in most countries during the 1990s was largely concentrated in the business sector, where spending on capital goods accelerated sharply, especially in volume terms. In fact, after moving more or less in line with real output throughout the 1980s and early 1990s, real business investment pulled away in the following years in some Countries (Figure IV.1). While investment is generally more volatile than

Figure IV.1. Real output and business investment



Source: OECD.

output, such a large and persistent gap between the two series is difficult to explain by traditional "accelerator" effects alone.[1] This raises the issue of sustainability of investment, unless the recent buoyancy can be accounted for by other determinants that have themselves evolved in a sustainable way.

… in part due to declines in cost of capital…

A number of additional factors may have contributed to the acceleration in business investment, including changes in the relative price of capital goods, the rate of depreciation of the capital stock, the financial cost of acquiring funds -- either in the form of loans or equities -- as well as the extent of development of financial systems which plays a role in channelling funds towards the best investment opportunities. In most countries, the composition of investment has shifted towards information and communication technology (ICT) equipment, although at a varying pace across countries (Colecchia and Schreyer, 2001).[2] Given the difficulty of properly quantifying rapid quality improvements, measuring price developments of ICT equipment has become particularly problematic.[3] Nevertheless, it is clear that in most countries the relative prices of capital goods have trended down, at least since the early 1980s, with measurement problems largely having to do with the extent of the declines. Against this background, the cost of capital, measured roughly as the real interest rate adjusted for the relative price of capital goods, seems to have fallen in the 1990s (Figure IV.2).[4]

… as well as gains in equity prices

Previous empirical work has underscored the contribution that financial market development can make to output growth *via* its impact on investment. To capture this effect, a number of proxies have been used in the literature, some of which have been found to have a significant effect on investment (Beck and Levine, 2001; Leahy *et al*., 2001). These include the

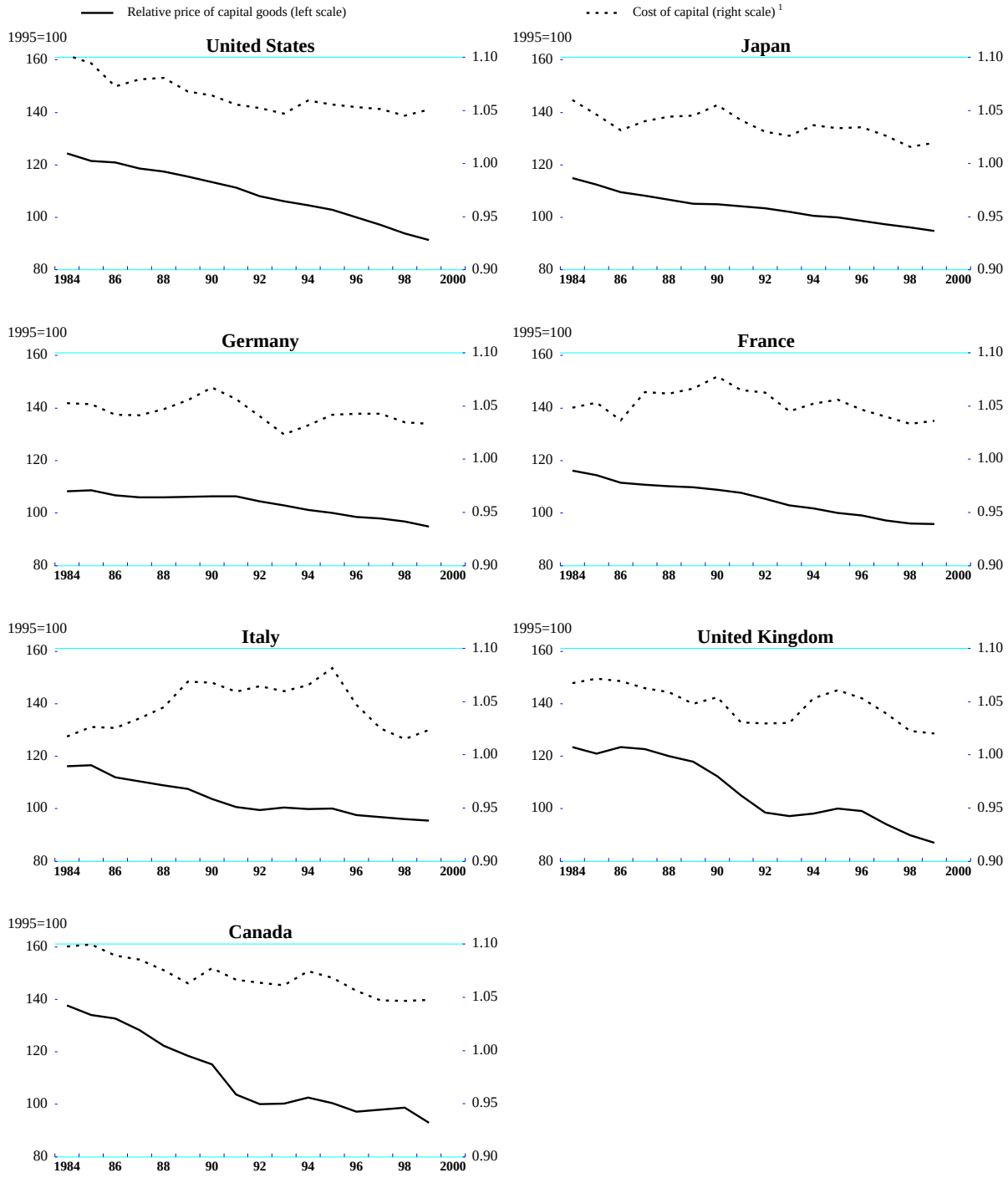
1. The accelerator effect refers to models that postulate investment as a function of the change in output.

2. Between 1990 and 2000, the percentage share of ICT investment in total non-residential investment rose from 22 to 30 per cent in the United Sates, from 11 to 16 per cent in Japan, and from 14 to 16 per cent in Germany.

3. In a growing number of countries, a hedonic method is used to measure the price of capital goods. Under such a method, the price of a particular good is adjusted so as to reflect quality improvements over time. The rapid increase in computer power and quality of telecommunication equipment have made the measured relative price of ICT equipment fall quite rapidly in countries using hedonic price measurement.

4. More specifically, the cost of capital shown in Figure IV.2 is the product of the real long-term interest rate on government bonds and the ratio of the deflator of private non-residential fixed capital formation to the GDP deflator. A more complete measure of the cost of capital would take into consideration the effects of depreciation, valuation effects on the capital stock, taxes and subsidies as well as the cost of equity. However, many of these variables are difficult to measure properly at the aggregate level.

Figure IV.2. Relative price of capital goods and cost of capital



1. The cost of capital is approximated by the product of the real long-term interest rate on government bonds and the ratio of the deflator of private non-residential fixed capital formation to the GDP deflator.
Source: OECD.

amount of private credit provided to the private sector by deposit money banks, which is intended to measure the degree of financial intermediation, as well as the stock market capitalisation or the value of domestic shares

traded on domestic exchanges (expressed in both cases as a ratio of GDP), which are aimed at capturing the relative ease with which funds can be raised in the equity market. Given that the latter two variables measure values rather than volumes, they have been strongly influenced by the sharp rise in equity prices during the late 1990s and the substantial retrenchment observed since spring 2000. As a result, they may not only be capturing the role of equity market development but also the effect on investment of the cost of equity financing, a component of the broader concept of cost of capital not taken into account in the measure shown in Figure IV.2.

Nevertheless, a large part of investment gains remains unexplained

To assess the role played by these factors in the rise in business investment in the 1990s, some econometric analysis was employed.[5] The results from estimating real business investment equations combining information across countries and over time suggest that both the adjusted real interest rate and the ratio of stock market capitalisation to GDP have, in addition to output, contributed to the rise in real business investment in the 1990s. In fact, in the case of the main euro-area countries, the changes in these variables explain most of the increase in investment between 1995 and 1999 (Table IV.2). In contrast, only between about one-third and one-half of the increase in business investment that took place in the United States, Japan, the United Kingdom, Canada, Denmark and Austria over the same period can be accounted for by these factors. Taken at face value, the results also suggest that investment rates in these countries may have been pushed beyond the levels which would be supported by long-term fundamentals. Some retrenchment from the high levels of the late 1990s has already been observed in some of these countries.

The strength in the United States could be a result of an adjustment to higher trend growth…

The difficulties in explaining the rise in investment in some cases may also reflect the absence of factors which cannot be easily incorporated in the context of regression analysis based on information that is pooled across a relatively large set of countries. For instance, it is to be expected that investment will rise faster than output for several years when an economy is adjusting to a higher trend output growth rate, which requires a higher investment rate to be maintained in the long run. Although it has become clearer recently that part of the sharp acceleration in US output in the 1990s was cyclical, a higher trend growth rate nevertheless looks likely to be sustained in the medium run. Another factor not taken into account in the econometric estimates, which could help explain the rise in gross investment, is the possible increase in the rate of depreciation associated with the compositional shift in the aggregate capital stock towards shorter-lived assets such as computers and software.

5. See Pelgrin *et al.* (2001) for details on the econometric analysis of business investment across time and countries.

Table IV.2. **Contributions to the changes in real business investment between 1995 and 1999**[a]

	United States	Japan	Germany	France	Italy	United Kingdom	Canada
Percentage changes in investment	50.3	10.5	12.1	18.2	21.3	48.9	44.3
Contribution from:							
Real GDP	17.5	5.0	6.1	9.8	6.7	11.5	15.7
Adjusted real interest rate	0.5	1.3	0.8	1.8	5.5	3.9	1.9
Stock market capitalisation	3.6	0.1	5.2	4.2	5.7	1.8	2.7
Total explained[b]	21.5	6.4	12.0	15.9	17.9	17.2	20.3

	Australia	Austria	Belgium	Denmark	Greece	Nether-lands	Spain	Sweden
Percentage changes in investment	34.8	23.1	24.5	42.3	52.1	36.2	32.9	29.9
Contribution from:								
Real-GDP	18.8	9.8	10.2	10.9	12.9	15.9	15.9	11.4
Adjusted real interest rate	3.7	0.8	2.0	4.7	3.3	2.5	5.3	4.1
Stock market capitalisation	1.6	1.8	10.3	2.2	21.4	6.5	8.4	6.0
Total explained[b]	24.2	12.3	22.5	17.8	37.6	24.9	29.6	21.5

a) These results are obtained from the estimation of panel equations which relate the volume of gross business investment to the level of real GDP, a measure of the cost of capital (adjusted real interest rate) and the ratio of stock market capitalisation to GDP. It is based on annual data going from 1970 to 1999. For more details see Pelgrin *et al*., 2001.
b) May not exactly add up due to rounding.
Source : OECD estimates.

… as well as a higher rate of depreciation

An illustration of the possible implication of different rates of potential growth and depreciation is shown in Table IV.3,[6] which provides rough, mechanical estimates of underlying investment rates on the basis of assumptions regarding the trend growth rate of GDP, the capital-output ratio and the depreciation rate. These calculations are based on a simple relationship between these variables. Looking at the results, what stands out is that despite the recent capital spending boom, the US business investment rate, at around 15 per cent, would still be at the low end of the range of estimated "steady-state" rates if it were assumed that the rise in trend output growth and the depreciation rate were permanent. Taken at face value, these simple calculations would suggest that if some excess investment took place during the 1990s, the recent retrenchment may have already brought the investment rate to a more sustainable level. The results for the other G-7 countries show current business investment rates within the "sustainable" range, albeit generally closer to the upper end.

6. While the depreciation rate is assumed to have risen to between 5 and 7 per cent in the United States, lower estimates are used in the other G-7 countries, reflecting the smaller share of ICT equipment in total capital. The assumptions used for potential growth rates correspond to the OECD's latest estimates.

Table IV.3. **Estimates of underlying "steady-state" business investment rates**

as a per cent of total GDP

	Capital output ratio[a]	Potential growth[a]	Depreciation rate[a]	Steady-state investment rate[b]	Current investment rate[c]
United States	2-3	3-3½	5-7	13-25	15
Japan	2-3	1¼-1¾	3-5	7-17	16
Germany	2-3	2-2½	2½-4½	7-17	13
France	2-3	2¼-2¾	2½-4½	7-15	12
Italy	2-3	2-2½	2-4	6-15	14
United Kingdom	2-3	2¼-2¾	3-5	10-18	14
Canada	2-3	2¾-3¼	3-5	8-17	13

a) Given the pitfalls in properly measuring capital output ratios and depreciation rates at the aggregate levels, and the fact that these could be changing, a range of plausible assumptions is used. A range is also used for trend growth rates, based on the OECD's latest estimates.

b) Under the steady-state assumption of a constant capital-output ratio (K/Y), this is calculated by $[K(g+\delta)/Y(1+g)]$, where g is the potential GDP growth rate and δ is the rate of depreciation. The result from this calculation is then multiplied by the ratio of real business sector GDP to real total GDP (average 1996-2000) so as to make it comparable to the current business investment rate (last column), which is expressed as a per cent of total GDP.

c) Real business investment as a share of real GDP in the year 2000. This ratio of real terms is reported for comparison with the steady-state rate; in countries using chain-weighting aggregation methods, it represents only an approximation of the true underlying real investment rate.

Source : OECD.

Developments in saving rates

National saving rates have stabilised in recent years

After being on a trend decline throughout the 1970s and 1980s, gross national saving rates have stabilised or risen in a large number of OECD countries since the early 1990s. Notable exceptions to this pattern are Germany, where the national saving rate continued to decline until 1995 and has remained flat since then, and Japan, where it has trended down throughout the past decade, although it remains higher than elsewhere. Developments in public-sector saving have been the dominant influence on the direction of changes in national saving in the 1990s. In most countries, both actual and cyclically-adjusted budget deficits have either turned into comfortable surpluses or at least moved in a direction that has contributed to an increase in total national saving. At the same time, the rebound in the government saving rate in the second half of the 1990s has been accompanied by a substantial decline in private-sector saving, in a few cases completely offsetting the rise in public saving (Figure IV.3).

Figure IV.3. Change in gross saving positions between 1995 and 2000
In per cent of GDP

Source: OECD.

The sharp declines in personal saving, where they occurred…

The decline in private saving has largely been concentrated in the household or personal sector, especially in the United States, Japan, Italy, Canada and Australia, where levels in per cent of GDP have been significantly lower on average in the 1990s than in the 1980s. In those countries where it has occurred, the sharp decline observed in household saving has been accompanied by a significant rise in debt as a proportion of GDP over the past few years. It is now generally above the high levels of the late 1980s (the United Kingdom being an exception). At the same time, the decline in saving rates has coincided with a sharp increase in households' financial net worth, in particular in the United States, Japan, Germany, Italy and the United Kingdom. While this could be seen as evidence that the strong rise in equity prices during the late 1990s has been

treated by households as a permanent increase in wealth -- hence leading to an unsustainable drop in saving -- several factors would suggest a more cautious interpretation.

… did not appear to reflect an excessive response to stock market gains

First, given the divergence between the economic definitions of the two main variables entering the calculation of saving -- income and consumption -- and their respective treatment in the National Accounts, it may well be that the negative correlation between household saving and financial wealth is partly spurious (see Box). Second, recent empirical evidence has shown that the sensitivity of consumption and/or saving to wealth can vary quite substantially depending on the source of capital gains (*e.g.* housing *vs.* stock-market) and whether such gains are realised or not.[7] Third, econometric analysis undertaken by the OECD suggests that the decline in private saving rates observed in many countries in the second half of the 1990s can be largely explained by fundamental determinants other than measures of financial and/or housing wealth.[8] Noteworthy in this analysis is the apparent influence on private saving of changes in public-sector saving rates. This suggests a specific link between the substantial recent improvement in public finances and the partially offsetting decline in private saving (see Table IV.4 for estimates of this over the 1995-99 period).

7. See Greenspan (2001). See also Edison and Sløk (2001) who have found that in the United States, the United Kingdom and Canada, capital gains on new economy shares (Telecommunication, Media and Information Technology) have had a lesser impact on consumption than those on old economy stocks, while they found the reverse to hold in the case of continental Europe.

8. See de Serres and Pelgrin (2001) for details of the econometric analysis of private saving behaviour over time and across OECD countries. The main factors influencing private saving appear to be public-sector saving rates, the demographic structure of the population (as measured by the old-age dependency ratio), the growth rate of labour productivity, changes in the terms of trade, the real interest rate and the inflation rate. Stock variables such as financial or housing wealth have not been included, in part because of restrictions on data availability.

Conceptual issues regarding the measurement of saving in the national accounts

Adjusting consumption for reclassification effects

The measurement of consumption depends on how certain items are classified. From an economic point of view some items can be considered as investment, but are nevertheless treated as consumption (spending on education, particularly higher education, and expenditures on R&D, which are treated as consumption when funded by the public sector and as an intermediate input when financed by the private sector). Even though the rationale is somewhat different, many argue that the purchase of a durable good by households should be treated as investment, as is currently the convention when the buyer is a firm. In all cases, legitimate arguments could be made for reclassifying these elements as investment, since, for the most part, they contribute to raising future levels of potential output. However, while making such an adjustment would no doubt raise the overall level of saving rates, there is no evidence that their relative importance has changed sufficiently in recent years to be a major factor behind the decline in private saving trends in the 1990s.

Adjusting measured income for valuation effects on net worth

The System of National Accounts (SNA) only treat as income those revenues that are generated from the current production flow, ignoring revaluation effects on the stock of wealth. As a result, even in the absence of a behavioural response to capital gains or losses, inflation and re-valuation of financial assets may have non-negligible effects on the classification of national accounts saving across the main sectors -- personal, business and government. Of particular importance in the current environment are realised capital gains, which are not included in personal income, although taxes paid on them are fully deducted. This implies a shift of income and, thereby, saving from the household to the public sector when substantial gains occur. For example, after several years with estimated annual increases of 30 per cent, realised capital gains reached 9 per cent of US disposable income in 2000. Taxes paid on those gains have lowered the personal saving rate by around 2.5 percentage points in that year (OECD, 2001*a*). Similar estimates suggest that capital gains taxation would account for 0.7 percentage points of the 5.6 per cent decline in the US personal saving rate observed between 1988 and 1999 (Reinsdorf and Perozek, 2000). Needless to say, a much bigger adjustment to the personal saving rate would ensue if realised capital gains were, on top of that, added to measured income, as will be discussed below.

In countries where fully-funded pension regimes account for a large proportion of overall retirement benefits, the SNA measure of personal saving rates may be sensitive to significant capital gains or losses on invested funds, depending on the nature of the regime. Under defined benefits schemes, large capital gains allow employers to reduce their direct contributions to employee pension funds while keeping the system fully funded. Since employers' contributions are counted as “other” labour income in US National Accounts, buoyant real estate and stock markets lead to a decline in the measure of wages and salaries (Lusardi *et al*, 2001). Nevertheless, the gains to beneficiaries and consumption plans have remained unchanged. The result is an artificial shift of saving from the personal to the corporate sector.

The SNA treatment of valuation effects discussed so far may have important implications for the composition of saving across sectors but they are essentially neutral with respect to the aggregate or national saving rate. Moreover, the induced shifts in the sectoral composition would take place even when nothing has changed for the consumer in real terms. For these reasons, it is fair to say that at least part of the decline in the US personal saving rate in the 1990s is the result of an accounting artifice, which should ideally be adjusted for when assessing household financial positions. Even though estimates of the effects of capital gains tax and pension funds are drawn from the US experience, similar factors could be at play in other countries as well, given that opposite shifts between personal, corporate and government saving rates have also been observed elsewhere.

Table IV.4. **Contributions to the changes in private saving rates between 1995 and 1999**[a]

percentage points

	United States	Japan	Germany	France	Italy	United Kingdom	Canada	
Change in:								
Gross private saving rate	-2.5	0.7	-2.0	-1.8	-6.5	-6.2	-4.8	
Contributions from:								
Old-age dependency rates	0.2	-2.2	-0.7	-0.8	-1.1	0.0	-0.4	
Gross public saving rate	-2.8	2.3	-1.0	-2.4	-4.1	-4.1	-4.7	
Percentage change of terms of trade	-0.2	0.7	-0.2	-0.2	0.5	0.5	0.0	
Productivity growth rate	0.5	0.0	0.0	0.1	-1.3	-0.2	0.7	
Real interest rate	0.0	0.0	0.0	1.4	1.0	-0.6	0.0	
Inflation rate	-0.3	0.0	0.0	0.5	0.0	0.0	-0.2	
Total[b]	-2.5	0.7	-1.9	-1.3	-5.0	-4.3	-4.7	

	Austria	Belgium	Finland	Ireland	Netherlands	Norway	Spain	Sweden
Change in :								
Gross private saving rate	-3.1	-4.0	-1.8	-1.7	-5.5	-0.5	-5.0	-8.6
Contributions from :								
Old-age dependency rates	-0.2	-1.1	-0.6	0.7	-0.3	0.6	-1.1	0.2
Gross public saving rate	-3.2	-2.4	-3.7	-3.5	-3.4	-1.1	-3.3	-6.1
Percentage change of terms of trade	-1.2	-0.1	-2.8	0.1	-0.3	1.5	-0.4	-1.0
Productivity growth rate	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Real interest rate	0.5	2.2	0.0	0.0	0.0	0.0	1.3	0.0
Inflation rate	0.0	0.4	0.0	0.0	-0.3	0.0	1.2	0.0
Total[b]	-4.0	-0.9	-7.0	-2.7	-3.3	0.9	-2.3	-6.8

a) These results are obtained from the estimation of dynamic panel equations which relate the private-sector saving rate to the set of determinants shown in the table, over a sample of annual data going from 1970 to 1999. For more details, see de Serres and Pelgrin (2001).

b) May not add up due to rounding.

Source : OECD estimates.

Sustainability and policy considerations

In this section, the issue of sustainability of trends in net saving is addressed. The discussion first focuses on the risks of an abrupt correction of the private sector financial balance in the United States. Given that the counterpart to the US external deficit is more diffused now than in the 1980s, the discussion concentrates on the US situation, albeit with references to the possible contribution of Japan to a gradual narrowing of global imbalances. The section then addresses the issue of large imbalances within the euro-area monetary union as well as in a number of emerging market OECD economies.

Sectoral imbalances in the United States and Japan

While private saving rates in the United States can be explained reasonably well, the case of investment is less clear

The US private-sector financial deficit has widened sharply, driven by a combination of strong business investment as well as declining total private saving. The sustainability of the private saving-investment balance depends on the sustainability of business investment and private saving rates. The empirical evidence presented above does not provide a clear answer. The extent (if any) to which business investment has to adjust

further to bring it to a sustainable level depends importantly on one's view of the extent to which depreciation rates have risen with the shift in the composition of capital. Regarding private-sector saving, while increases in financial wealth have certainly been a key driving force behind the declines in households saving rates to historically low levels, there is no conclusive evidence that consumers have over-reacted to the stock market boom of the late 1990s. As a result, the risk that the recent correction of stock market indices could induce an abrupt retrenchment of private saving should not be over-stated. Nevertheless, based on the analysis in the previous section, private sector saving is likely to rise in response to the projected deterioration in government saving, but not in a one-for-one fashion. Accordingly, national saving should decline.

Some part of the current account deficit looks to be sustainable…

The deterioration of the private sector financial balance has more than offset improvements in government net lending and this has led to a large and continuing reliance on foreign saving. From the point of view of the US economy, some of this looks to be sustainable. First, the stock of net foreign liabilities remains, at 20 per cent, relatively small in proportion to GDP, both according to historical and international standards. Moreover, by allowing capital to flow more easily to its most productive use, enhanced financial market integration implies that financing imbalances may now be easier compared with earlier decades.[9]

… although there is likely to be an upper limit on foreign holdings of US assets

So far, investors encouraged by prospects of relatively favourable returns have been willing to finance the US deficit. Going forward, however, persistent current account deficits of between 4 and 5 per cent of GDP would raise US foreign debt to a magnitude that would put a large burden on international financial markets.[10] While there is no straightforward definition of what constitutes a sustainable current account deficit, one approach is to define it as the level that will stabilise the net external debt to GDP ratio at a particular threshold, although defining such a level is arbitrary. For the US economy, a ratio in the range of 25 to 30 per cent of GDP could be viewed as a reasonable benchmark, as such levels leave some scope for further increases in the near term but also take into consideration the large weight of the economy in international financial markets. A current account deficit of between 1 and 2 percentage points of

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9. The more integrated are international capital markets, the less changes in national saving and investment rates should be correlated, in particular in the short run. While the simple correlation between changes in saving and investment has been declining over time, it remains, however, higher than the correlation observed in regions within countries suggesting that cross-border capital markets are less integrated than those within national borders.

10. If maintained in conditions of a 5 per cent nominal GDP growth rate, a deficit in the range of 4½ per cent of GDP would push the foreign debt-to-GDP ratio close to 50 per cent within 12 years (Obstfeld and Rogoff, 2000). Under those conditions, the foreign debt-to-GDP ratio would eventually stabilise at around 90 per cent of GDP, which would represent a very high share of world savings.

GDP would stabilise the external debt-to-GDP ratio at around 30 per cent, assuming that a 5 per cent growth rate of nominal GDP can be sustained in the medium run.

Most of the US deficit appears to be structural…

The slowdown of the US economy is already having an impact on the US trade and current account deficits given that imports have fallen more than exports. However, with a cyclically-adjusted current account deficit estimated to be in the vicinity of 4 per cent of output, a reduction by around 2 to 3 percentage points would be needed to bring the deficit back to a level that, in accordance with the above arguments, can be sustained in the medium run.

… and in this regard, a narrowing of existing growth differentials…

Two structural factors may influence the US current account imbalance, particularly *vis-à-vis* Japan and the euro area, but in themselves seem insufficient to reduce it to between 1 and 2 per cent of GDP. First, a convergence in output growth rates between the main areas could lower the US deficit by at least half a percentage point of GDP,[11] but the slower expected growth in the working-age population in Japan and the euro area suggests that potential GDP growth in the United States could remain higher for the foreseeable future, even if rates of productivity growth observed in the main zones were to converge.

… as well as differences in demographics, should reduce the US and Japanese imbalances

Second, over the next 20 years, both the total and the old-age dependency ratios are expected to rise more rapidly in Japan than in Europe and in Europe faster than in the United States, implying that saving could fall more quickly and significantly in the former zones as larger shares of their populations reach retirement age. Here as well the effect on external imbalances could be limited, at least over the next 10 to 15 years. For example, there is an absence of convincing evidence, particularly in Japan, that saving rates of older people are substantially lower than those observed for the working-age population (Börsch-Supan and Brugiavini, 2001). Furthermore, ageing is also expected to reduce investment spending because of the associated lower growth of the labour force, although the adverse effect of a falling working-age population on the labour force growth rate could be compensated for, at least partly, by an increase in participation rates or in retirement age.[12] As a result, the net expected effect of ageing on external imbalances is ambiguous.

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11. See Visco (2000). The effect would be larger if convergence were accompanied by a depreciation of the US dollar (IMF, 2001). Moreover, even in the absence of a significant convergence in growth rates, a narrowing of the difference between income elasticities of US imports and exports could contribute to lowering the current account deficit. Previous empirical evidence suggests that the increase in the US trend output growth rate in the 1990s could well lead over time to higher income elasticities of demand for US exports and lower income elasticities of import demand in the United States, reflecting product differentiation and increasing returns to scale of production (Krugman, 1989; Bayoumi, 1998).

12. In many countries, the demographic transition is so strong that an increase in participation rates or in retirement age, while being helpful by raising investment and reducing saving, would be incapable of fully restoring the labour force (see Chapter IV, "Fiscal implications of ageing: projections of age-

Structural factors may keep Japan's saving rate high

An explanation for the persistence of high private saving rates in Japan is that the effect from an ageing population has so far been more than offset by the poor *ex-post* returns that Japanese investors have realised on their financial assets since the late 1980s (Ando, 2000). A good illustration of this phenomenon is provided by the comparison between the accumulation of saving over time and the measure of the stock of net wealth.[13] As shown in Figure IV.4, significant capital gains on financial assets have been realised in the United States over the past 20 years compared with Japan. If this relatively poor performance has indeed been a key factor driving Japanese saving behaviour in the past decade, then an increase in rates of returns could in all logic lead to a reduction in saving and contribute to the narrowing of the current account surplus in Japan. In this respect, structural reforms which could successfully boost returns on investment could help bring about a smooth adjustment of external imbalances.

Some exchange rate adjustment cannot be excluded

Regardless of the role played by these structural factors, a narrowing of the US external imbalances to sustainable levels is unlikely to materialise without a contribution from relative price adjustments. In this regard, the concern is that the required change in relative prices takes place abruptly, implying large swings in currency values. However, even assuming that structural factors do not contribute significantly to the narrowing of imbalances in the medium term, the required adjustment in relative prices would not necessarily have to be particularly large, provided that it was spread over several years. On the other hand, considering the degree of short-run real wage and price rigidities and given that exporters often prefer to absorb the effect of currency changes by temporarily cutting their profit margins rather than losing market shares, a larger than proportional depreciation of the exchange rate in nominal terms may be needed if the adjustment in the current account were to take place rapidly.[14]

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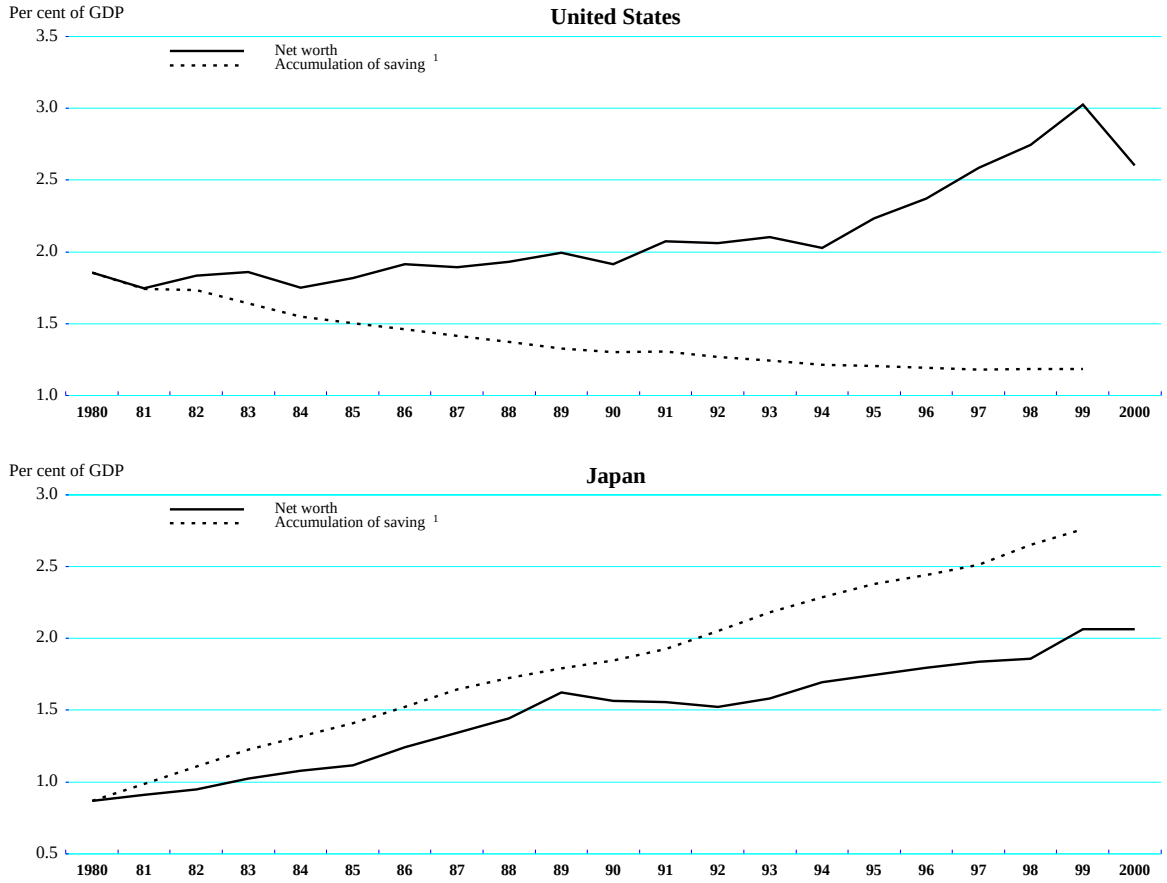
related spending", in OECD, 2001*b*). In the empirical analysis of investment discussed in the previous section, this scale effect is captured by output. A decline in total output growth induced by a falling labour force would imply a similar reduction in the growth of investment.

13. Since the measure of household net worth incorporates revaluation effects, the difference between the two lines can be interpreted as an approximation of the capital gains in excess of the "normal" return on saving which is included in the accumulation of saving.

14. According to estimates based on the OECD international model (INTERLINK), a US dollar depreciation of between 20 to 30 per cent would be needed to permanently reduce the current account deficit to between 1 and 2 per cent of GDP within two to three years. Obstfeld and Rogoff (2000), on the other hand, estimate that a 40 to 50 per cent adjustment would be required to achieve such a rapid reduction in the current account deficit

Figure IV.4. Household financial net worth and the accumulation of net saving rates



1. With 1980 net worth as a benchmark.
Sources: National flow of funds or financial accounts statistics; OECD.

Large imbalances within the euro area and in the emerging market OECD economies

Large current account deficits have emerged within the euro area

Large private sector (and in some cases external) deficits have recently emerged in a number of euro-area countries -- notably Portugal, Greece, Ireland and, to a lesser extent, Spain. With the absence of exchange rate risk, a single monetary policy implies that similar borrowing rates prevail throughout the zones, regardless of the differences in inflation rates. Moreover, country specific premiums have been limited. This could reflect either market confidence in these economies or a market assessment that, should a crisis develop, the no bail-out clause of the Maastricht Treaty will not be respected. Likewise, credit risk *premia* for individual borrowers do not appear to be strongly affected by country-specific saving and investment patterns.

This has raised concerns that a bubble in asset prices may develop

While increases in inflation in countries that experienced strong demand pressures may have led to a decline in net exports *via* the loss of competitiveness, this may not in all cases have constrained demand sufficiently to prevent household and business sectors from becoming over-indebted. At the same time, domestic overheating may have tended to push up asset prices, further adding to overheating through wealth and positive balance sheet effects. The concern has been that a bubble may emerge, the bursting of which would have potentially painful consequences. In the four countries mentioned above, real interest rates fell sharply in 2000 and household credit grew at double-digit rates, fuelling domestic consumption, and leading to a sharp decline in the private sector financial balance, and in Greece and Portugal large current account deficits have emerged.

While fiscal policy could play a more active role…

The combination of such risks and the weakening of market mechanisms have led some to argue that fiscal policy should play a more active role in countering the cycle, in part because the effect of automatic stabilisers is considered not to be sufficient. However, the benefits of fiscal policy action must be carefully weighed against the dangers of compromising medium-term credibility, public administration efficiency and simplicity of the tax structure. Notwithstanding these concerns, the fact that in Portugal the general government balance is still in deficit, even after several years of robust economic growth up to 2000, suggests that fiscal policy tightening should be undertaken; such action would be consistent with the Stability and Growth Pact. On the other hand, the situation in Ireland, and to a lesser extent in Greece, raises trickier issues given that each country currently enjoys a structural surplus that is expected to persist. Moreover, in the case of Ireland, the current account deficit is not overly large.

… a reinforcement of bank supervision and prudential standards may be preferable

Persistent imbalances may also occur in other countries with established monetary unions such as Canada and the United States. However, the emergence of such imbalances and the adverse consequences of their unwinding are diminished by the greater integration of asset markets and financial systems, the possibility of large transfers from the central budget and internal migration. The further development of some of these mechanisms in the euro area could still take quite some time. In the meantime, to the extent that household and business sector over-indebtedness during periods of boom constitutes the main concern, perhaps a solution would be to reinforce bank lending prudential standards and supervision.[15]

A number of emerging

A number of other countries also run significant saving-

15. A step in that direction, even if not motivated by the existence of macroeconomic imbalances, was taken in Spain in 2000 where new regulations on loan losses oblige all deposit institutions to set provisions so as to take into account that default rates tend to vary counter-cyclically (OECD, 2001*c*). The purpose is to force banks to increase provisions for bad loans during periods of excess demand in order to avoid raising them during recession.

market economies could be vulnerable

investment imbalances. This is notably the case in Poland, the Czech Republic, Hungary and Slovakia, where there are simultaneous government and external deficits. In the former three, external imbalances have worsened in 2001 compared with the previous half decade while that in Slovakia remains large. A large external imbalance that has much of its counterpart in a public-sector deficit could be a sign of domestic problems, in particular if inflation is also high. In the case of Mexico, the government surplus is not sufficient to offset the large and growing private sector saving-investment imbalance and, as a result, the current account deficit has risen. There is, as discussed above, some evidence to suggest that financial market integration has increased and this may facilitate the financing of continuous current account deficits. Even so, these current account deficits are projected to remain over the medium term. On balance, some of these countries could become vulnerable to changing sentiments in financial markets, in particular if international financial conditions for one reason or another should become unsettled.

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