Box 5

INVESTMENT RATIOS IN THE EURO AREA

Investment is an important component of aggregate demand, accounting for about a fifth of real GDP in the euro area. It also has an impact on future supply, as it increases the capital stock. A given investment to real GDP ratio may represent feasible choices of inter-temporal resource allocation, but could in some cases also point to a build-up of imbalances if, for instance, investment is excessively biased towards non-income generating output. Factors determining the investment ratio traditionally comprise real GDP growth, the depreciation rate of capital, real interest rates, the cost of capital and other production inputs, and expected profitability.[1] Recently investment theory has also taken account of market imperfections. This box presents some stylised facts about investment ratios in the euro area with respect to total and sectoral investment.

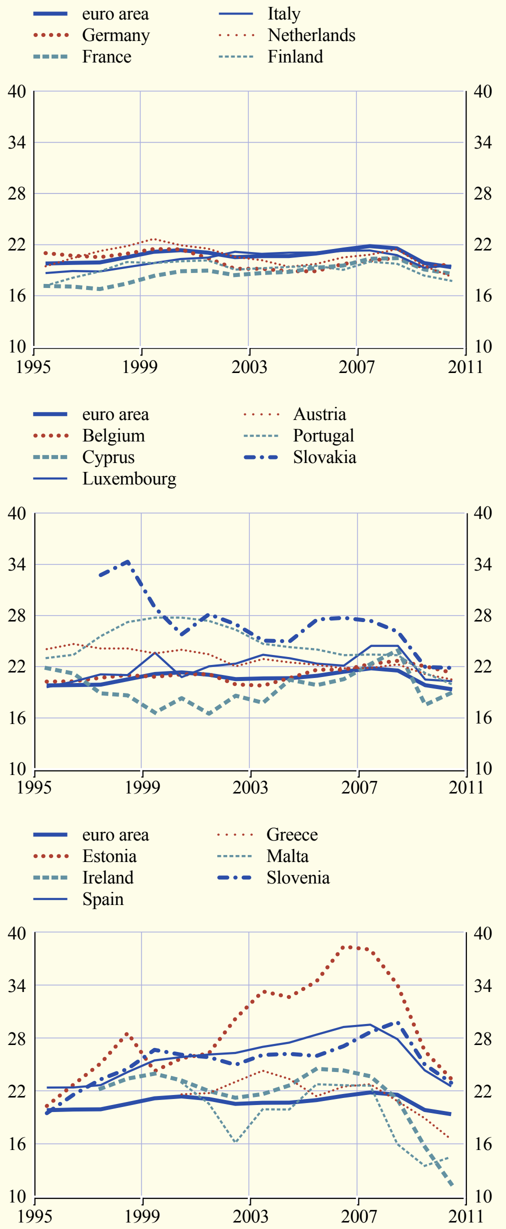
The euro area investment ratio

The ratio of real total investment to real GDP for the euro area has been broadly stable since 1995 (see Chart A), with both overall investment and GDP growing at somewhat less than 2% per annum on average. Given that investment exhibits greater short-term volatility than GDP, there are pro-cyclical peaks and troughs in the investment ratio over the business cycle. In 2010 the euro area ratio reached 19.4%, an all-time low since the euro area series began in 1995.[2]

The relatively stable ratio of total investment to GDP in the euro area over the past 15 years masks large differences across euro area countries. While many countries have exhibited increasingly similar conjunctural patterns,

Chart A Total investment-to-GDP ratio

(percentages of real GDP)



Sources: Eurostat and ECB calculations.

1 These are factors explaining private investment, which constitutes around 90% of total euro area investment. See, for instance, Chirinko, R. (1993), "Business Fixed Investment Spending: Modeling Strategies, Empirical Results, and Policy Implications", *Journal of Economic Literature*, Vol. 31(4), pp. 1875-1911.

2 The level of the ratio depends, inter alia, on the reference year of the deflator series used to deflate the underlying value data for GDP and investment. The reference year of the deflator series is 2000.

the levels of investment ratios, as well as the amplitude of swings, have differed substantially across euro area economies (see Chart A).

While the investment ratios were relatively flat in many euro area countries, Spain and Estonia (and to some extent Cyprus and Slovenia) witnessed strong rises in their investment ratios in the decade preceding the 2008 financial crisis. Strong investment growth in these countries may partly reflect catching-up processes in which these economies, with a relatively low level of income per capita, benefited from large inflows of foreign direct investment.

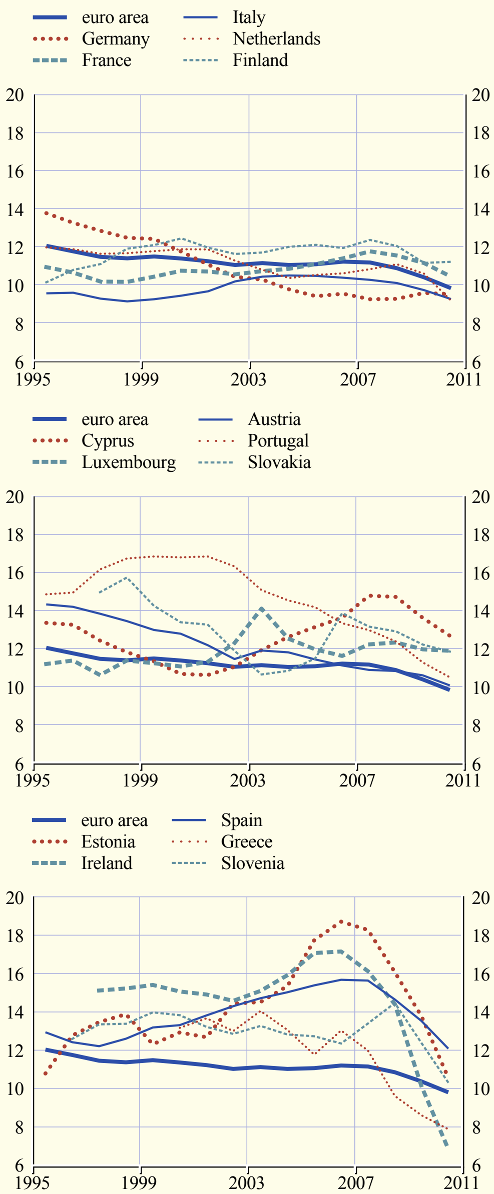
During downturns – and particularly during the latest recession – most countries experienced a decline in their investment ratios as overall demand fell, the cost of capital increased and profitability shrank. In 2010 in the euro area as a whole and in most euro area countries the investment-to-GDP ratios stood at historical lows since the euro area series began in 1995. In Estonia and Ireland, in particular, but also in Malta, Spain, Slovenia, Greece, Slovakia and Cyprus, considerable downward corrections took place, amounting to 5 percentage points or more from their peak levels.

Sectoral developments in investment ratios

The two main sectors supplying investment goods are construction and the metal and machinery sector. In 2010 construction accounted for about 50% of overall euro area investment and the metal and machinery sector accounted for around 30%.[3] While the share of construction in euro area total investment has declined over the past 15 years, the share of metal and machinery has seen a small increase.

Chart B Construction investment-to-GDP ratio

(percentages of real GDP)



Sources: Eurostat and ECB calculations.
Note: Data for Belgium and Malta are not available.

In many euro area countries, movements in the ratio of construction investment to GDP have been substantial over the past 15 years (see Chart B) and explain much of the pattern of developments in overall investment ratios. For example, in Germany and Portugal, the construction investment ratio was high in the mid and late 1990s, then gradually unwound over the following decade.

3 The remaining share of investment is composed of transport equipment (around 10%), other products and agriculture (which together account for around 10%).

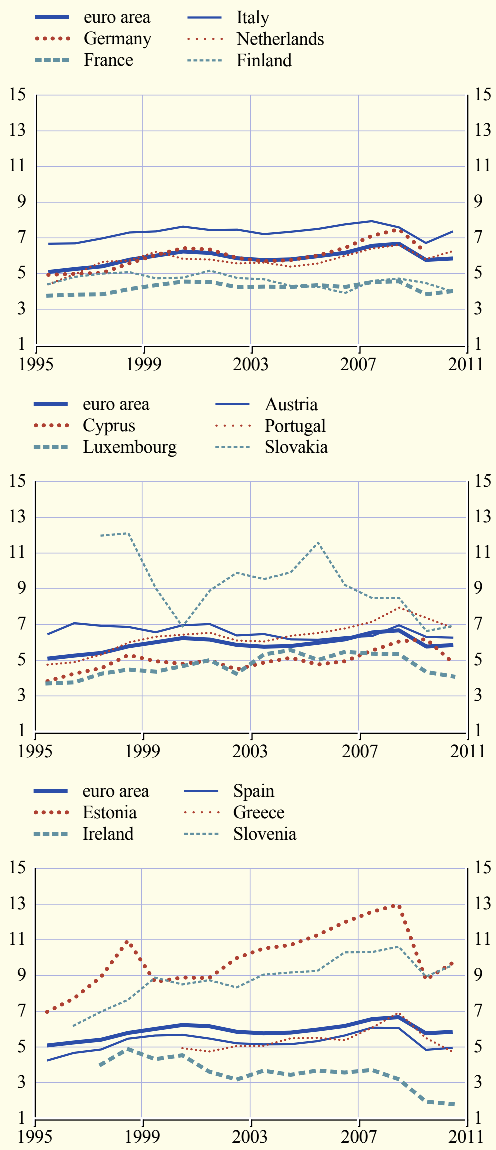
In Cyprus, Ireland, Spain and Estonia, strong rises, related to construction booms, were registered in the ratio in the decade preceding the 2008 crisis.

Construction investment ratios fell in all euro area countries during the recession, particularly in Cyprus, Ireland, Spain, Greece, Estonia and Slovakia. Among the countries characterised by strong and, in some cases, partly unsustainable developments in the construction sector prior to the crisis, some countries (Cyprus and Slovakia) still register relatively high ratios, while others (Greece, Ireland, Spain, Estonia and Slovenia) have seen their ratios fall to levels in 2010 close to, or lower than, the levels preceding the boom.

In the period preceding the financial crisis the ratio of investment in metal and machinery goods to GDP was characterised by a flat or slightly upward trend in most euro area countries (see Chart C). Estonia, Slovenia and Slovakia saw their ratios rise more strongly. This may reflect large capital inflows invested in their capital stocks given expectations of particularly high productivity during the transition to joining the European Union and the euro area. Despite falling relatively steeply during the crisis, investment levels in these countries nevertheless remain relatively high. In general, the other euro area countries and the euro area as a whole saw a more limited downward correction of the metal and machinery investment ratio during the crisis.

Chart C Metal and machinery investment-to-GDP ratio

(percentages of real GDP)



Sources: Eurostat and ECB calculations.
Note: Data for Belgium and Malta are not available.

Looking ahead, the low levels of the total investment-to-GDP ratio in the euro area as well as in many euro area countries in 2010, together with short-term indicators pointing to increasing capacity utilisation, growing production of capital and construction goods, and rising new orders for capital goods, suggest that there is scope for stronger investment growth.[4] Investment in construction may still be affected by ongoing adjustment processes in some countries, whereas non-residential investment is expected to recover earlier and more strongly.

4 For more information on the investment outlook, see the box entitled "Investment outlook in the euro area: an assessment based on survey and capacity utilisation data", *Monthly Bulletin*, ECB, February 2011; and the box entitled "The recovery of production capacity utilisation in the euro area", *Monthly Bulletin*, ECB, October 2010.