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European Economic Forecast

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Box 1.2 pp 18-21

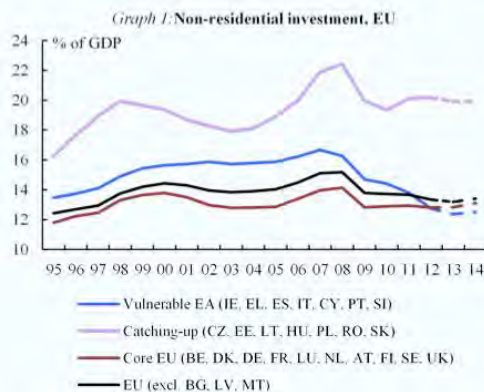
Non-residential investment in the EU

“The EU Commission notes that non-residential investment (that excludes households buying houses) as a share of GDP “*stands at its lowest level since the mid-1990s*”. And the main reason? “*A reduced level of profitability*”. The report makes the key point that “*measures of corporate profits tend to be closely correlated with investment growth*” and only companies that don't need to borrow and are cash-rich can invest - and even they are reluctant.” Michael Roberts

Box 1.2: Non-residential investment in the EU

In 2012, total investment in the EU remained significantly below its long-term average. While in the aftermath of the crisis, investment had recovered somewhat, it started decreasing again in the third quarter of 2011. The fall in total investment that set in in 2011 has continued up to the third quarter of 2012 and is forecast to last until mid-2013. Total investment now stands below the trough reached at the end of 2009. Part of this weakness can be attributed to a sharp fall in residential investment in several peripheral economies. However, the level of non-residential investment, which is mainly investment by non-financial corporations (NFC), also appears weak and the share of non-residential investment as a share of GDP stands at its lowest level since the mid-1990s. This box reviews the possible causes of this weakness.

One of the key features of developments in EU investment rates since the crisis has been the large degree of heterogeneity across Member States. To better understand this divergence, it is useful to decompose total non-residential investment into three country groups that show very distinct patterns. The correlation of investment ratios between these groups has turned from being highly positive during the 1995-2008 period, to being negative over 2009-14, indicating a substantial divergent trend since the onset of the crisis. Graph 1 shows that in "vulnerable euro-area" economies, investment rates are at an all-time low. In "catching-up" countries, investment ratios were deeply affected by the crisis in 2009-10 but have since recovered somewhat and remain high by historical standards. In "core EU" Member States, investment rates are only slightly below their long term average.



Overall, the country-group breakdown suggests that much of the current weakness in non-residential investment in the EU can be attributed to "vulnerable euro-area economies". Understanding the reasons behind these sharp country divergences requires a closer look at investment's standard determinants, namely the expected level of output, financial factors, profitability and uncertainty. An additional possible source of divergence that merits closer inspection is the ongoing corporate deleveraging process which weighs heavily on corporate spending in some Member States. The analysis throughout this box will focus on vulnerable and core economies only, given that catching-up economies are affected by different investment dynamics and show an overall high investment rate.

Output expectations

Corporate investment is a strong cyclical component of demand, and therefore weakness in investment ratios is not surprising given the current depressed cyclical conditions.⁽¹⁾ With significant divergence in GDP growth and prospects across EU Member States, investment dynamics are expected to be very different across country groups.

Deleveraging processes, credit constraints and a high level of uncertainty in "vulnerable" economies are acting as a drag on future demand growth in these countries, as explained in the following sections. Moreover, a high degree of spare capacity in these economies will further weigh on investment. By contrast, relatively higher expected demand and higher capacity utilisation rates in "core" economies have led to more positive developments in investment rates.

This being said, the current level of non-residential investment for the EU as a whole is weaker than one would expect in view of the GDP outlook based on past correlations. Therefore, other determinants must have been at play.

Financial factors

Tighter credit conditions in "vulnerable" than in "core" economies can also partly explain the differences in non-residential investment dynamics across country groups.

(1) Bernanke, B., Irreversibility, uncertainty, and cyclical investment, *Quarterly Journal of Economics*, MIT Press, 1983, vol. 98, no. 1, pp. 85-106.

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Box (continued)

The Commission's composite financing costs indicator (CFCI), a broad measure of financing costs faced by non-financial corporations, shows that while financing costs have been close to historical lows in several "core" economies, they remain somewhat higher in real terms than in the pre-crisis period in some "vulnerable" euro-area countries, such as Portugal, Spain, and Italy. Divergences in financing costs started to increase in 2009, and after reaching record high-levels in early 2012, have started to decrease again (see "coefficient of variation" in Graph 2). The fall has been mainly driven by improved conditions on corporate-bond markets. It is however important to stress that differences in bank lending rates have so far shown no signs of receding. Besides, credit supply conditions remain tight in particular in vulnerable euro-area economies.⁽²⁾ In this context, credit rationing or quantitative credit constraints in "vulnerable" economies could be an additional factor (besides higher financial costs) contributing to the observed divergences in investment dynamics among country groups.



Profitability

Measures of corporate profits tend to be closely correlated with investment growth. In large parts of the empirical literature on the determinants of investment, this correlation has been interpreted as an indication that, in a credit constrained environment, only companies that generate sufficient cash flow can self-finance investment.⁽³⁾

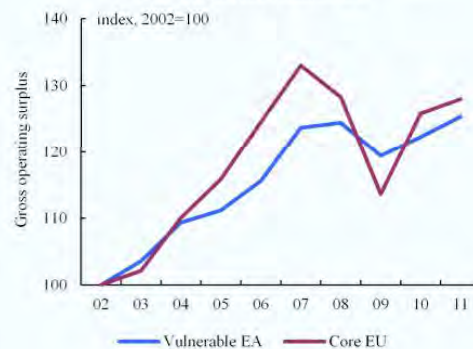
⁽²⁾ European Commission (DG ECFIN), "Indebtedness, deleveraging dynamics and macroeconomic adjustment" (forthcoming).

⁽³⁾ Fazzari, S.M., Hubbard R.G., and B.C. Petersen (1988): "Financial constraints and corporate investment", *Brookings Paper on Economic Activity*, 1988, No. 1, pp. 141-195.

Alternatively, profits may also act as a proxy for future investment opportunities.⁽⁴⁾

After falling between 2007 and 2009, profitability in the EU (as measured by the ratio of the gross operating surplus to GDP) has recovered somewhat but has remained below pre-crisis levels. This aggregate picture masks again large differences at the Member State level. In contrast with the two previous determinants, recent developments in profitability may have been a force of convergence rather than divergence in investment. While profitability remains lower than in the pre-crisis period in core economies, it has actually increased in some "vulnerable" Member States (notably in Spain) under the combined effects of productivity gains and wage moderation (Graph 3).

Graph 3: Evolution of operating profitability for core EU and vulnerable countries EA



Balance-sheet adjustment

Deleveraging forces are an important factor explaining the large divergences in Member States' investment rates since the crisis. Graph 4 shows a strong negative correlation between changes in investment since the onset of the crisis and the pre-crisis debt accumulation, suggesting that the build-up of deleveraging pressures has been an important factor behind investment weakness, especially in "vulnerable economies".⁽⁵⁾

⁽⁴⁾ Kaplan, S.N. and L. Zingales, Do investment-cash flow sensitivities provide useful measures of financing constraints?, *Quarterly Journal of Economics*, February 1997, Vol. 112, No. 1, pp. 169-215.

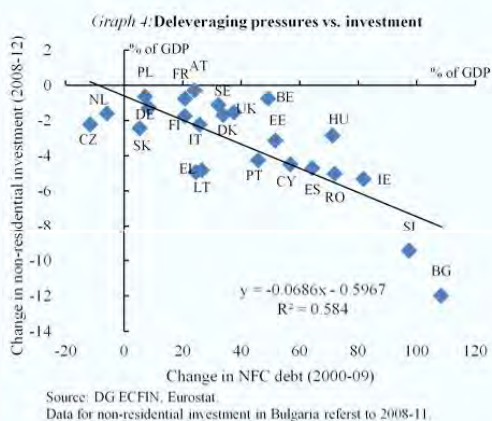
⁽⁵⁾ The chart assumes that large increases in corporate debt between 2000 and 2009 are an indication of over-indebtedness. For an in-depth assessment of private sector deleveraging needs see European Commission, "Indebtedness, deleveraging dynamics and macroeconomic adjustment" (forthcoming).

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Box (continued)

Further corporate deleveraging is expected in the coming years. In view of their current level of indebtedness and their capacity to repay, euro-area non-financial corporations appear to be facing further deleveraging needs of about 12% of GDP. Corporations can reduce their debt stock in real terms by either increasing savings (e.g. reducing the income distributed to workers and capital holders), by decreasing investment, or both. Empirical studies suggest that both channels of adjustment are generally at play – and for extended periods – during deleveraging episodes.⁽⁶⁾

Simulations using the European Commission's QUEST model suggest that a 10% of GDP deleveraging in the euro area over 10 years, would reduce corporate investment by 0.6% in the first year and by a cumulative 1.6% after 5 years.



The observed deleveraging process in the EU may in part be ascribed to the divergence in the access to finance already mentioned, with credit rationing in "vulnerable" economies forcing corporate balance-sheet adjustment in these countries. There are, however, reasons to believe that deleveraging forces may persist even if full access to credit is restored rapidly across the EU. Balance-sheet restructuring is not only driven by changes in capital costs but also by changes in other factors, including depressed asset prices (e.g. the impact of negative valuation effects on firms' debt), more prudent risk behaviour by non-financial corporations and reduced growth expectations. These elements are likely to weigh persistently on corporate balance sheets and thereby on investment

⁽⁶⁾ Ruscher, E. and G. Wolff, Corporate balance sheet adjustment: stylized facts, causes, and consequences, DG ECFIN Economic Papers no. 449, February 2012.

in "vulnerable" economies, even once financial conditions have normalised.

Beyond direct effects arising from corporate deleveraging processes, there are also indirect effects arising from balance-sheet adjustment by households and budgetary consolidation efforts in "vulnerable" economies. These additional factors weigh further on demand prospects, being an additional drag for investment in these economies. In "vulnerable" economies, external demand could partly compensate for lower domestic demand attributable to deleveraging processes; however, external rebalancing is a lengthy process, implying that investment is likely to recover only very gradually in these countries the years to come.

Uncertainty

A last factor that has also probably contributed to holding back investment in the EU is an unusually high degree of uncertainty, both in vulnerable and core EU economies. In contrast with previous recoveries, policy uncertainty in the EU has remained exceptionally high and volatile since the onset of the financial crisis but has decreased from a record level reached in 2012.

The available empirical literature has identified a significant negative correlation between uncertainty and activity or investment.⁽⁷⁾ Faced with high uncertainty, firms tend to delay their investment projects as they gather new information because investment is often costly to reverse.⁽⁸⁾ This effect can be amplified by financial market imperfections as investment projects become more risky and creditors charge higher interest rates and limit lending.⁽⁹⁾ Uncertainty may also increase managerial risk aversion.⁽¹⁰⁾

Although uncertainty is difficult to quantify, empirical research has offered several ways of constructing uncertainty measures, such as stock market volatility, dispersion in forecast errors, or the prevalence of terms such as "economic uncertainty" in the media. Currently, one of the most widely used measures of uncertainty is the

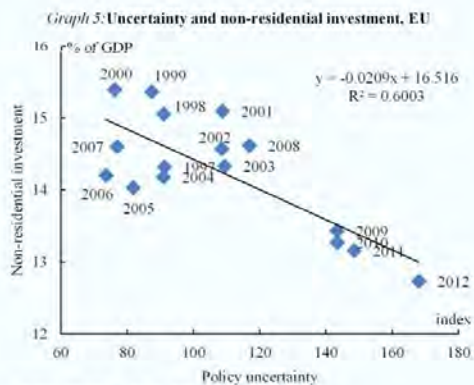
⁽⁷⁾ The direction of the causality remains, however, a matter of debate.
⁽⁸⁾ Bemanke, B., 1983, *ibid*.
⁽⁹⁾ Gilchrist, S., Sim, J. and E. Zakrajsek, Uncertainty, financial frictions, and investment dynamics, Working Paper, September 2010.
⁽¹⁰⁾ Panousi, V. and D. Papanikolaou, Investment, idiosyncratic risk, and ownership, *Journal of Finance*, June 2012, Vol. 67, No. 3, pp. 1113-1148.

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Box (continued)

index developed by Baker, Bloom and Davis (2012).⁽¹¹⁾ The authors estimate that an increase in policy uncertainty of the same magnitude than the one experienced between 2006 and 2011 results in a drop of private investment of 13%. These results are consistent with those of Kose and Terrone (2012),⁽¹²⁾ who estimate that a one standard deviation increase in uncertainty results in a fall of investment growth by between 0.7 and 2.2 pps.

The index developed by Baker et al. suggests that policy uncertainty has been at record levels since the onset of the financial crisis in both the EU and individual Member States (data available for 10 countries, 5 "vulnerable" and 5 "core"). The peak was reached end-2011 but since mid-2012, the index has been falling at the EU level, reflecting determined policy actions. This uncertainty index appears to be negatively correlated with investment ratios in the EU (Graph 5).



It is therefore likely that EU investment has been dampened by high uncertainty in recent years. However, given the limited availability of the Bloom et al. index at the Member State level, it is difficult to say to what extent policy uncertainty has also contributed to the observed divergence in investment rates across Member States.

Conclusion

Non-residential investment is low by historical standards in the EU. Some of this weakness can be attributed to common factors such as low growth expectations and uncertainty, which apply across the EU, though their impact is likely to be largest in "vulnerable euro-area" economies. In the "vulnerable economies", the investment weakness is compounded by deleveraging and, tighter credit financing conditions.

A drag that appears to be specific to "core EU" economies is a reduced level of profitability. However, historically-low financing costs are providing some support to investment.

Looking ahead, the headwinds weighing on investment growth are expected to diminish gradually, thereby opening the way for a slow return of investment growth also in vulnerable countries.

⁽¹¹⁾ Baker, S.R., Bloom, N. and S. J. Davis, Measuring economic policy uncertainty, Stanford University Working Paper, January 2013.

⁽¹²⁾ Kose, M. A. and M. E. Terrones, "How does uncertainty affect economic performance?", *IMF World Economic Outlook*, October 2012, 49-53 (Box 1.3).