IN-DEPTH ANALYSIS

Abstract

Business investment has been weak in the euro area for a number of years and the share of GDP allocated to this type of investment is now at a historically low level. This has undoubtedly been a disappointment for the ECB who would have hoped cutting interest rates to zero would have produced a more positive investment response. However, business investment decisions depend on more than just interest rates. Depreciation and other factors influence the potential cost of capital investment and there are important factors restraining investment in the euro area such as poor demographics, weak productivity growth and high levels of private sector debt in some member states. The banking sector has acted as a constraint on investment in recent years but now appears set to support positive investment growth. The ECB has done much to boost investment but there is still room for a large and co-ordinated public investment strategy to give the euro area economy a much-needed boost.
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EXECUTIVE SUMMARY

- Business investment has been very weak in the euro area for a number of years.
- While investment by businesses is now growing, it is still doing so at a weaker pace than during previous expansions and the share of GDP allocated to this type of investment is now at a historically low level.
- Weak business investment has contributed to slow economic growth via the usual aggregate demand channel but it is also contributing by slowing the supply-side growth potential of the euro area economy.
- McQuinn and Whelan (2015) calculate estimates of the growth rate of the euro area capital stock and estimate that slower capital stock growth due to weak investment has been subtracting about 0.7 percentage point per year from the supply side growth potential of the euro area economy.
- The weakness of business investment has undoubtedly been a disappointment for the ECB who would have hoped cutting interest rates to zero would have produced a more positive investment response. However, business investment decisions depend on more than just interest rates.
- Depreciation and other factors influence the potential cost of capital investment and there are important factors restraining investment in the euro area such as poor demographics and weak productivity growth.
- The banking sector has acted as a constraint on investment in recent years. Large European banks have cut their risk-weighted assets by 20 percent by cutting the size of their balance sheets and moving away from assets considered risky, which includes loans to business.
- This deleveraging process is largely over and the banking sector which now appears set to support positive investment growth.
- Evidence from the ECB’s Bank Lending Survey and its Survey on the Access to Finance of Enterprises shows that firms are getting lower interest rates on loans from banks, that businesses are optimistic that the availability of bank loans is going to improve and that the fraction of firms being turned down for bank loans is declining.
- High levels of business debt in a number of member states have also been restraining the ability of firms to borrow for investment purposes. Debt-to-profit levels for businesses have either levelled off or are declining in most of these countries but this factor is likely to continue restraining investment for a number of years.
- The ECB has done much to boost private investment but public investment is running about one percent of GDP lower than during the pre-crisis period. There is little sign that the Juncker plan, which involves small amounts of public money and relies on co-financing investment projects, is going to have much impact.
- This is a strong argument for a large, co-ordinated increase in public infrastructural spending.
1. INTRODUCTION

Capital investment by firms is a key driver of the business cycle, growing during booms and contracting during recessions much more than other components of GDP such as household or government spending. Significant contractions in capital investment played an important role in both of the “double-dip” recessions the euro area went through in the past decade and one of the disappointing aspects of the recovery in the euro area economy that has been in place since early 2013 has been the relative weakness of investment. As a share of euro area GDP, private capital investment remains well below pre-crisis levels.

The weakness of business investment in recent years must be particularly frustrating for the Governing Council of the European Central Bank, which has cut interest rates to historically low level and must have hoped that this policy would produce a substantial expansion in investment. Instead, investment growth is weak and inflation is consistently undershoot the ECB’s target.

Weak business investment has contributed to slow economic growth via the usual aggregate demand channel but it is also contributing by slowing the supply-side growth potential of the euro area economy. McQuinn and Whelan (2015) calculate estimates of the growth rate of the euro area capital stock and estimate that slower capital stock growth due to weak investment has been subtracting about 0.7 percentage point per year from the supply side growth potential of the euro area economy. This effect is most likely larger in size than the impact of any of the most common so-called structural reforms that are endlessly promoted in Brussels and Frankfurt.

In this paper, I discuss the recent behaviour of business investment in the euro area, the link between investment and monetary policy and the prospects for investment in the coming years. The paper is structured as follows. Section 2 presents the evidence on business investment in the euro area, highlighting the crucial role of the decline in investment in countries with high debt that have been affected by the euro crisis. Section 3 discusses the theory and evidence for the link between monetary policy rates and business investment, concluding that this link is weaker than many believe. Section 4 discusses the role of credit, focusing on how banking sector developments have increased the supply of credit as well as how “debt overhang” has influenced business demand for credit. Section 5 concludes that there are a number of positive developments in train that should see investment growth continue to pick up but there is still room for this to be complemented by a significant increase in public sector investment.
2. RECENT TRENDS IN INVESTMENT IN THE EURO AREA

Figure 1 on the next page illustrates the growth rates of business investment and GDP (in real terms) in the euro area since the mid-1990s. During the 1990s and the mid-2000s, when the economy was expanding at a good pace, investment growth strongly outstripped GDP but when the economy was in doing less well, such as in the early 2000s and particularly during the recession of 2008/09, investment contracted. The double-dip recession of 2012/13 saw investment decline again before a modest recovery over the past few years. Still, the current growth rates of real investment are below those seen in previous expansions.

Figure 2 describes the weakness of business investment in recent years by plotting the share of nominal GDP allocated to this category of expenditure. It shows that the investment share of GDP moved up and down in a predictable fashion prior to the onset of the euro crisis, rising to high levels during expansions and falling to lower levels during contractions. However, during the euro crisis period of 2011/12, the investment share slumped to historically low levels and has barely recovered despite an expansion being in place since early 2013.

The central role of the euro crisis in this investment slump can be seen by separately calculating the investment share of GDP for five countries deeply affected by the crisis (Greece, Ireland, Italy, Portugal, Spain) from the rest of the euro area. Figure 3 shows that the fall in investment as a share of GDP is solely due to these five countries (labelled GIIPS here). The investment share for the remaining countries has been remarkably stable, not rising so high during the expansion of the 2000s and not falling so much in the period since.

Figure 4 illustrates how real investment in Greece, Italy, Portugal and Spain is still well below its historical peaks and showing little sign of recovery.
Figure 1: Year-over-Year Percentage Change in GDP and Private Investment

Source: Eurostat

Figure 2: Business Investment as a Share of Euro Area GDP
Calculated as Nominal Investment / Nominal GDP

Source: Eurostat
Figure 3: Investment Shares of GDP

Source: Eurostat

Figure 4: Real Investment in Various Countries (1997:Q1 = 100)

Source: Eurostat
3. MONETARY POLICY AND BUSINESS INVESTMENT

Investment spending by businesses is generally considered to be particularly sensitive to interest rates. If firms are borrowing the money to invest, an increase in interest rates on loans makes it less likely that any given investment project will be profitable and thus less investment will be undertaken. Even if firms are not borrowing the money, an increase in monetary policy interest rates that pass through to other financial instruments raises the attractiveness of allocating a firm’s available funds to investment in savings accounts, bonds or stocks rather than towards capital investment.

Despite these obvious points, the academic literature on business investment has generally pointed to a relatively weak link between investment and monetary policy interest rates. Here, I discuss four aspects of this weak relationship: Risk premia for private borrowing, the need to cover depreciation, changes in the rate of return on capital and the weak empirical relationship between investment and the cost of capital.

3.1. Risk Premia for Private Borrowing

The ECB has cut its headline policy rate (the rate applied to its main refinancing operations) from 4.25 percent in October 2008 to zero in recent months. However, as anyone who has approached a bank for a loan will know, businesses and households are not able to borrow at zero rates and the transmission of monetary policy interest rates to private sector borrowing rates is not always so simple.

One reason changes in monetary policy rates don’t translate fully to private sector rates is that the ECB rate applies to short-term loans the Eurosystem makes to banks while most private sector borrowing is over longer periods.\(^1\) More importantly, the ECB prices its loans on the basis of there being no risk: There is always a small chance that a bank may not pay ECB back if it goes into liquidation but the ECB’s collateral framework means the chance of losses for the Eurosystem are very low. In contrast, when banks make loans to businesses, they need to consider the potential that borrowers will not repay: The serious problems with non-performing loans at many European banks show that default risk is particularly important when the economy is performing poorly. For this reason, banks need to add a “risk premium” to the interest rates they charge to businesses.

Figure 5 shows, for selected countries, average interest rates on business loans of under €1 million and with a maturity of over one year. One pattern evident in the chart is that, unlike sovereign bond rates, business loan rates still showed a reasonable amount of variation across countries during the pre-crisis period. For instance, business loan rates in Portugal were always higher than in Spain, Italy or the other countries shown in the graph. This variation in business loan rates became greater during the most intense phase of the euro crisis. By 2012, increasing risk spreads meant that interest rates for business were about as high in Italy, Spain, Portugal and Ireland as they had been prior to the global recession, meaning the substantial easing in monetary policy had done nothing to reduce the cost of credit in these countries.

The period since early 2014 has seen more positive developments. There has been a significant reduction in business interest rates in these countries, with ECB policies playing an important role. The ECB’s commitment to its OMT policy has played an important role in reducing the perceived chances of these countries exiting the year. This has reduced the perceived default risk for businesses as well as the cost of non-ECB funding for banks, with financial markets less concerned about “redenomination risk” than during 2011/12.

\(^1\) Of course, most of the ECB’s lending is now in the form of long-term refinancing operations but in this case the “long-term” is shorter than the term of most private borrowing.
Another factor that has contributed to lower interest rates for business is that euro area banks have generally stopped reducing the size of their balances sheets. (This is discussed in greater detail below). Since most bank loans can’t generally be “called in”, banks that are seeking to reduce the size of their balance sheet often decide to offer very few new loans. In this environment, there is very little competition between banks for new business and this allows interest rate margins on new loans to be higher. The latest ECB Bank Lending Survey (BLS) suggests that this has been an important factor in the recent reductions in interest rate margins. Table 1 on the next page reproduces a table from the latest BLS, showing a significant percentage of banks in Italy and Spain citing increased competition as a factor in reducing margins.

A final factor has been the ECB’s comprehensive assessment, which has helped to clarify how well capitalised European banks are and shed additional light on the extent of the problems with non-performing loans at large euro area banks. This has contributed to a reduced cost of external funding which has helped to reduce interest rates for businesses.
Table 1: Response to the ECB Bank Lending Survey

Factors contributing to the net tightening of terms and conditions for loans or credit lines to enterprises

(Net percentages of banks reporting tightening terms and conditions)

<table>
<thead>
<tr>
<th>Country</th>
<th>2015Q4</th>
<th>2016Q1</th>
<th>2015Q4</th>
<th>2016Q1</th>
<th>2015Q4</th>
<th>2016Q1</th>
<th>2015Q4</th>
<th>2016Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro area</td>
<td>-5</td>
<td>1</td>
<td>-22</td>
<td>-28</td>
<td>-5</td>
<td>-1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>DE</td>
<td>-6</td>
<td>0</td>
<td>-21</td>
<td>-12</td>
<td>-9</td>
<td>0</td>
<td>3</td>
<td>-3</td>
</tr>
<tr>
<td>ES</td>
<td>0</td>
<td>-20</td>
<td>-20</td>
<td>-40</td>
<td>0</td>
<td>-10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>FR</td>
<td>4</td>
<td>2</td>
<td>-13</td>
<td>-34</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>IT</td>
<td>-25</td>
<td>0</td>
<td>-25</td>
<td>-50</td>
<td>0</td>
<td>-13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NL</td>
<td>2</td>
<td>28</td>
<td>-25</td>
<td>-24</td>
<td>-25</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Still, despite these positive developments, it remains the case that business loan rates have generally not fallen as much as the 425 basis point fall in the ECB’s policy rate and interest rate margins, though declining, remain relatively high in many countries, most notably Ireland.

3.2. Depreciation

It is easy to imagine that interest rates are the crucial component driving business investment. For example, one might imagine that if the interest rate on business loans is 3 percent, then borrowing €100,000 to purchase a piece of equipment only needs to boost profits by at least €3,000 for the investment to be worth it. However, this is not the calculation that businesses need to make when undertaking capital investment projects. The capital that businesses invest in, whether it be equipment, software or buildings, depreciates over time and often has a finite lifetime within which it can be used. So, for example, if a €100,000 piece of equipment declines in value by €10,000 each year, then taking out a ten-year loan with an interest rate of 3% to buy the equipment will only be profitable if the investment increases profits by €13,000.

The calculation being describe here is essentially a simplified version of the so-called user cost of capital, as developed by Jorgenson (1963) and Hall and Jorgenson (1967). The user cost of capital factors in all the elements required for a business investment to be profitable, including the cost of finance, depreciation and the tax treatment of profits and depreciation.

Depreciation plays a key role in determining the level of business investment. While investment in buildings and structures tends to depreciate more slowly than investment in equipment, the need to replace faster-depreciating equipment generally means there is more investment in equipment than structures. Indeed, figures from the European Commission AMECO database show that between 1995 and 2007, net private capital formation in the euro area averaged about 30 percent of gross private capital formation. In
other words, about 70 percent of investment is simply covering depreciation. With the
slump in investment in recent years, this ratio plummeted to 12 percent in 2015. In other
words, current rates of business investment in the euro area are barely replacing the
depreciation of the existing capital stock.

These considerations explain why declines in business loan rates of the size that we have
seen may not spark that much new investment because they represent a relatively small
proportional decline in the overall user cost of capital for businesses. For example, a
reduction in business loan rates from 6% to 3% may seem like a dramatic decline that will
allow lots of previously unprofitable projects to be undertaken but if you factored in a 10%
depreciation rate, so that the “user cost” only falls from 16% to 13%, you can see why the
effect on investment may be less dramatic.

3.3. The Rate of Return on Capital

Another factor the influences business investment is the rate of return on capital
investment that firms expected to obtain. In fast growing economies, there are lots of
profitable investment opportunities and a relatively high interest rate may still be
consistent with lots of investment projects being undertaken. However, in slow growing
economies, profitable investment opportunities may be more limited and a low interest rate
may not stimulate much investment.

Unfortunately, the euro area looks far more like the second (more negative) case. McQuinn
and Whelan (2015) discuss prospects for long-term growth in the euro area and document
a number of negative patterns. An important one relates to demographics: The working-age population of the euro area has peaked and Eurostat projections anticipate that the
decline in this age group will accelerate in the coming decades. This will drag down the
growth rate of GDP, so that firms considering long-term investments will, in many cases,
have to anticipate a decline number of potential customers.

Another negative pattern is the weakness in recent years in what economists term “total
factor productivity” (TFP) which is growth in GDP that cannot be directly attributed to
increases in hours worked or by additional capital inputs. Growth in TFP has been a crucial
part of the increase in living standards over time but the euro area’s recent experience has
been of minimal growth in this component.

The most common response to these negative supply-side patterns, one that is aired
continually by Mario Draghi and other European leaders, is that “structural reforms” can
produce a new period of faster growth and this will open up lots of profitable investment
opportunities. In theory, this may be true. However, when you examine the most likely
potential reforms, it seems unlikely that they will have a transformative effect on growth in
the euro area. McQuinn and Whelan (2015) examine the potential impact of successful
labour market and pension reforms, two of the more widely discussed areas, and find they
would add 0.5 percent per year to GDP growth in the euro area in the first decade. This
impact would be welcome but is unlikely to lead to a significant change in the climate for
capital investment.

3.4. Empirical Evidence

A final reason why interest rate cuts may not stimulate investment as much the ECB might
hope is that the empirical evidence for a link between investment and the user cost of
capital. The user cost plays a key role in most theoretical models of business capital
formation and many of these models predict that a one percent decline in the user cost of
capital will, over time, be matched by a one percent increase in the capital stock. If this
were true, then investment would be highly responsive to changes in the cost of capital.
In practice, many econometric examinations fail to find a strong role for the cost of capital. Leading macroeconomist, Olivier Blanchard (1986) once noted “it is well known that to get the user cost to appear at all in the investment equation, one has to display more than the usual amount of econometric ingenuity.” Among the many studies in this area, a typical finding is the conclusion of Chirinko, Fazzari and Meyer (1999) that a one percent decline in the user cost will leave to a quarter percent increase in the capital stock, a sensitivity one-quarter the size predicted in standard theoretical models.

These results may seem surprising because there is plenty of evidence that monetary policy can stimulate the economy and investment is a particularly cyclical part of the economy. It is possible that this pattern occurs because reductions in interest rates play a big role in boosting investment, which in turns boosts GDP. However, figuring out causality in macroeconomics is hard and it is not clear that the direct channel from interest rates to investment is really quite so strong.

4. SUPPLY OF CREDIT AND DEBT OVERHANG

Much of the debate about weak investment in the euro area has focused on the role of the banking sector. Here, I first discuss factors influencing the supply of credit to businesses and then focus on how the overhang of debt associated with the financial crisis has affected the demand for credit.

4.1. Supply of Bank Loans

It is likely that developments in the euro area banking sector has played a role in the weakness of business investment in recent years. The deep recession of 2008/09 was followed by a prolonged slump and together these have had a highly negative effect on asset quality at many European banks. In addition, the change in attitudes to risk that resulted from the global financial crisis has seen many banks lose access to external funding that was previously relied on to finance expansion of balance sheets. These problems, which have placed intense pressure on banks to reduce the size of the balance sheets, have been most intense in the “peripheral” countries where investment has been particularly weak.

The adjustment to higher regulatory capital standards has also played a role in the limiting bank financing to businesses. In particular, the adjustment towards meeting Basel 3 standards has required banks to gradually raise their capital ratios. These ratios can be increased by raising capital but they can also be increased by reducing the denominator in the capital ratio, i.e. risk-weighted assets.

Figure 6, from the latest European Banking Authority Basel 3 monitoring exercise (EBA, 2016) shows how the largest banks in the EU (those labelled “Group 1” banks by the EBA) have increased their core equity capital ratios. While European banks have raised a large amount of equity capital, they have also cut risk-weighted assets by almost 20%. Reallocating away from loans to businesses towards items like government bonds is one of the strategies that banks can use to reduce risk-weighted assets because the risk weight on business loans tends to be high while the risk weight for European sovereign debt is zero.

Figure 7 shows that the outcome of these developments has been that since 2009, loans to nonfinancial corporations in the euro area have been declining more often than they have been expanding. In theory, of course, firms could diversify away from banks to seek other types of finance. It is well known, however, that European businesses are more reliant on

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2 The EBA defines Group 1 banks as those that have Tier 1 capital in excess of €3 billion and are internationally active.
banks for funding than firms in the United States and this is likely to remain the case despite the Capital Markets Union initiatives. Thus, it is very likely that the banking sector’s problems have played a significant role in depressing investment, most particularly in “peripheral” countries with high debt problems.

Thankfully, after a long period of bad news, there are some important positive signs for the European banking sector. The EBA’s latest report suggests that large European banks are no longer cutting their risk-weighted assets and loans to nonfinancial business are finally growing again.

The ECB’s Survey on the Access to Finance of Enterprises also provides relatively good news. The latest survey (ECB, 2016), covering the period October 2015 to March 2016, shows that firms are getting lower interest rates on loans from banks and there is an easing in non-interest costs (see Figure 8 for a chart from the survey report). Businesses are also generally optimistic that the availability of bank loans is going to improve (see Figure 9) and the fraction of firms being turned down for bank loans (or too discouraged to apply for one) is declining.

With the euro area economy continue to expand and improved financial incentives to provide loans to businesses via the ECB’s expanded Targeted Long-Term Refinancing Operation (i.e. TLTRO2) there are some grounds for optimism that the banking sector will no longer act as a restraint on business investment in the euro area.
Figure 6: Core Equity Capital and Risk-Weighted Assets at the Largest EU Banks

Source: European Banking Authority

Figure 7: Euro Area Growth Rate of Loans to Nonfinancial Corporations

Source: ECB Statistical Data Warehouse
Figure 8: Business Responses on Cost of Bank Loans

Change in the cost of bank loans granted to SMEs across euro area countries

(over the preceding six months; net percentages of enterprises that had applied for bank loans)

Source: ECB SAFE Survey

Figure 9: Business Expectations on Availability of Bank Loans

SMEs’ expectations regarding the availability of bank loans and overdrafts across euro area countries

(over the preceding six months; net percentages of respondents)

Source: ECB SAFE Survey
4.2. Debt Overhang and the Demand for Credit

The conditions in the euro area banking sector has undoubtedly had an impact on the supply of funds for business investment. However, it is likely that the decline in loans to nonfinancial corporations also reflects a lack of demand for credit for investment purposes from firms.

The global financial crisis brought to an end of a period of low risk spreads and increasing financial integration in the euro area. This period has left the private sector carrying high levels of debt in the countries highlighted earlier as having particular weak business investment. In these countries, the business sector has had to focus in recent years on getting its debt levels down, thus discouraging capital investment.

Figure 10 shows the level of debt for nonfinancial corporations for selected countries as a ratio of their total operating surplus (profits).

It is notable that this ratio has barely changed in Germany over the past 20 years. This is likely because the transition to low interest rates associated with EMU did not constitute a change for German businesses. However, as discussed at length in Whelan (2013), the decline in interest rates due to EMU was a major shock to countries such as Ireland, Portugal, Spain and Greece where interest rates for business loans had always been much higher than in Germany. As the chart shows, the result was a significant build up in the amount of debt taken on by businesses in these countries. The chart shows that businesses in these countries are currently at different stages of dealing with this high debt burden. Debt ratios have levelled off in Greece and Italy while they are now declining in Spain and Portugal.

This pattern of business sector deleveraging is likely to take a long time to work itself out but there are positive signs that it is gradually acting as less of a restraint on investment. For example, a weak demand for credit was often cited by banks participating in the ECB’s Bank Lending Survey as an important reason why the supply of bank loans was so weak in recent year. This survey is now reporting a stronger demand for credit, particularly for fixed investment purposes.

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3 These data were taken from an OECD website. [https://data.oecd.org/corporate/non-financial-corporations-debt-to-surplus-ratio.htm](https://data.oecd.org/corporate/non-financial-corporations-debt-to-surplus-ratio.htm)
Figure 10: Nonfinancial Corporations Debt to Surplus Ratios

Source: OECD
5. CONCLUSIONS

The weakness of investment in the euro area has undoubtedly been a disappointment for the ECB. While ECB officials may believe they have provided substantial stimulus for private investment, it does not take 20/20 hindsight to argue that the ECB was too slow to cut interest rates to zero – the consistent under-shooting of inflation relative to target provides the best answer to the question of whether policy was too tight or too loose.

However, beyond its main job of setting its policy interest rates, the ECB is to be credited with taking other actions that have boosted financing conditions and are likely contributing to the strengthening of business investment over the past years. These actions include

(i) The introduction of the OMT policy, which has reduced fears of a break-up of the euro and contributed to lower costs of funding for banks and lower interest rates for businesses.

(ii) The comprehensive assessment of the euro area’s banks which has boosted transparency and increased confidence in the capital levels of these banks.

(iii) The TLTRO policy which incentivises banks to maintain or expand their balance sheet.

(iv) The move towards purchasing corporate bonds, which will reduce the cost of investment for large corporations.

That said, for the reasons I argue in this paper, monetary policy actions can only do so much to boost business investment, particularly in the kind of environment many European businesses are operating in, with weak demographics, poor productivity growth and an overhang of debt from the pre-crisis era.

This still leaves plenty of room for fiscal policy and, in particular, public sector investment to play a role in boosting the euro area economy and reducing the unemployment rate, which, while falling, remains unacceptably high. Public investment is running about one percent of GDP lower than during the pre-crisis period. There is little sign that the Juncker plan, which involves small amounts of public money and relies on co-financing investment projects, is going to have much impact.

Instead of relying on this half-hearted approach, there is a strong argument that with interest rates on government debt so low and infrastructural deficits evident in many countries, there has never been a better time for a large, co-ordinated increase in public infrastructural spending. The European Commission could assist with a programme of this type being executed by reforming the Union’s fiscal rules to acknowledge the beneficial role played by public capital investment.
REFERENCES


