

What can company data tell us about financing and investment decisions?

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- Capital markets play an important role in financing UK companies. Since 2009, corporate bond issuance has been strong, and yet aggregate UK business investment has remained weak.
- In part, this pattern of company behaviour can be explained by companies choosing to issue bonds in order to reduce other forms of debt, such as bank loans.
- But company-level data show that there is considerable heterogeneity in companies' investment behaviour. Companies that use capital markets have increased their investment significantly since the trough in 2009. Their investment growth, however, fell in 2012, suggesting that other factors besides access to finance were also influencing companies' investment decisions at the time.

Overview

UK business investment growth has been weak since the financial crisis struck in 2007. At the same time, UK companies have been actively raising finance using the corporate bond market, with bond issuance reaching its highest level in 2012 in over a decade. This article identifies three potential reasons why companies have been raising record levels of bond finance at a time of weak UK business investment.

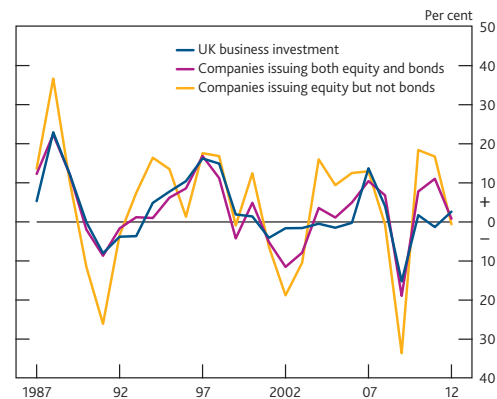
(i) **Balance sheet restructuring:** companies may have been issuing bonds in order to pay off bank loans, for example. There is some evidence of this, both in the aggregate data and in company-level accounts of publicly listed UK companies.

(ii) **UK companies that issue bonds may not matter very much for UK investment:** this could be either because relatively few companies issue bonds, or because those companies that do issue bonds do not invest very much in the United Kingdom. This article finds little support for this explanation: company-level data suggest that publicly listed UK companies that issue bonds accounted for around a third of UK business investment in 2012.

(iii) **Weak aggregate investment growth may reflect heterogeneity across UK companies:** those companies issuing bonds may be investing, while the weakness in aggregate data could reflect investment by companies that do not issue bonds. Much of the evidence supports this explanation: according to company-level data, companies

that use capital markets increased their investment significantly in 2010 and 2011 (see **summary chart**).

Summary chart Annual growth in UK real business investment and median annual growth in real capital expenditure for companies in the company-level database



Sources: Dealogic, ONS, Thomson Reuters Datastream Worldscope and Bank calculations.

The evidence in support of the third explanation implies that companies without access to capital markets reduced their investment markedly over this period. In 2012, however, investment growth fell among companies that access capital markets, despite continued strong bond issuance. This suggests that, consistent with survey evidence, factors other than access to finance, for example increased economic uncertainty in the second half of 2011 and the first half of 2012, were also influencing companies' investment decisions at the time.

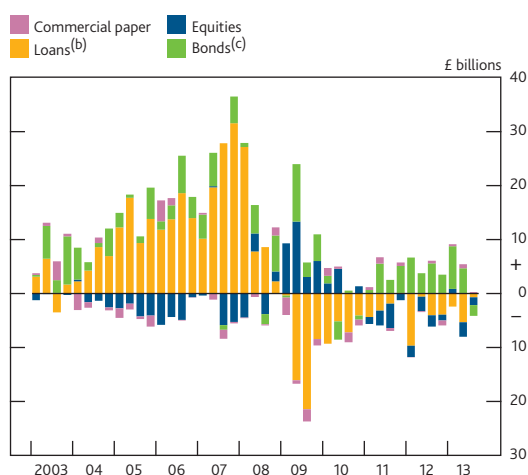
(1) The authors would like to thank David Latto and Crystal Pun for their help in producing this article.

Companies can finance their investment spending in one of two ways. They can use internal funds — that is, companies' cash flow generated from their operations, after general expenses have been paid; or they can raise finance externally, for example by borrowing from banks, by using capital markets to issue bonds and equity, or by raising equity privately.

This means that it is important to consider companies' behaviour in capital markets in order to understand their spending decisions. Following the financial crisis, UK companies revised their spending and financing decisions dramatically. They reduced investment by around 13% in real terms between 2008 and 2012 (see the **summary chart** on page 361). But during that same period, corporate bond issuance was strong: for example, 2012 saw the highest rate of gross corporate bond issuance in over a decade. Taken at face value, this might appear puzzling, as one might expect strong bond issuance to feed into stronger investment.

At first pass, this might suggest that companies were issuing corporate bonds to substitute away from alternative sources of finance, such as bank loans, perhaps in light of the financial crisis. And UK companies did alter the composition of the net external finance they raised between bank and non-bank sources over this period, as shown in **Chart 1**.⁽¹⁾ But there may be other explanations for the pattern of strong corporate bond issuance at a time of weak business investment, which may have different implications for the real economy.

Chart 1 UK PNFCs' quarterly net external finance raised^(a)



- (a) Includes sterling and foreign currency issuance.
 (b) Includes loans made by UK monetary financial institutions. Data are seasonally adjusted.
 (c) Includes bonds issued with UK issuing and paying agents.

This article sets out some alternative explanations, and assesses the evidence for each. It draws on three main data sources: aggregate statistics on corporate liabilities and investment; a company-level database for publicly listed companies constructed at the Bank of England; and publicly available surveys. The company-level database combines the Thomson Reuters Worldscope annual database with the Dealogic Debt Capital Markets database, and covers

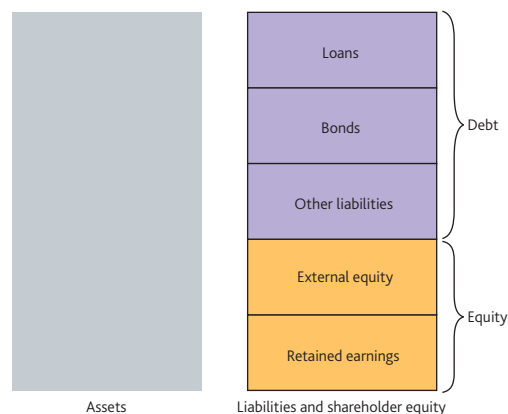
approximately 3,600 UK private non-financial corporations (PNFCs) over a period from 1987 to 2012.⁽²⁾

The first section of this article outlines the role of external finance raised in public markets and recent trends in corporate bond issuance. The second section identifies three potential reasons for why bond issuance has been strong at a time of weak investment. The third section presents evidence on each of these explanations. The fourth section concludes.

The role of external finance in the corporate sector

A useful way to understand companies' financing behaviour is to consider a stylised balance sheet, which represents a snapshot of a company's financial position at a point in time. This is shown in **Figure 1**, where the right-hand side of the balance sheet represents the different sources of funds available to a company. These can be broken down into types of debt — for example bank loans, corporate bonds and other liabilities such as trade credit — and equity. Equity can come both from external investors, who in return acquire a stake in the business, and from a company's internal funds. In **Figure 1**, retained earnings are a company's accumulated internal funds after dividends have been paid to shareholders. These liabilities together represent claims on the resources of the company, and allow investors to benefit from the cash flows a company generates or a share of its assets in the event of liquidation.

Figure 1 A stylised PNFC balance sheet^{(a)(b)}



- (a) PNFC assets typically include: property, plant and equipment; intangible assets; inventory, trading and other receivables; and cash and equivalents.
 (b) Other liabilities typically include: deferred tax; short-term debt; and trade and other payables.

Companies typically seek to raise money from outside investors for two main purposes. The first is to increase the size of their balance sheet, with the additional funds used to

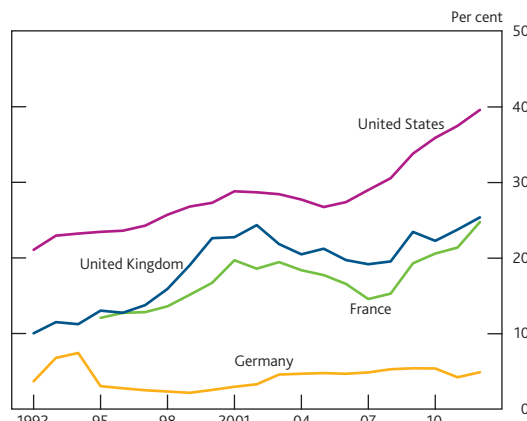
- (1) All charts in the article use non seasonally adjusted data, unless stated otherwise.
 (2) For each of the companies in the database, the amount of equity, bonds and loans issued each year can be estimated. Each company's financial statements, including its balance sheet, income statement and cash-flow statement items, are also available, providing information on capital expenditure. An annex on page 369 provides further details on the company-level database.

acquire assets such as new machinery. The second reason companies might wish to raise funds externally is to change the structure of their liabilities — for example by substituting debt for equity, or one form of debt or equity for another.

The corporate bond market in the United Kingdom

Corporate bond issuance in the United Kingdom has increased markedly over the past two decades. The stock of outstanding debt securities (most of which are bonds) issued by UK companies, shown in **Chart 2**, has risen from around 10% of nominal GDP in early 1992 to around 25% in 2012. That is similar to the level in France, but remains below the level in the United States, for example. Data from Dealogic suggest that UK companies issued close to £220 billion of corporate bonds between 2009 and 2013 in gross terms, and £140 billion in net terms.⁽¹⁾ **Chart 3** shows cumulative gross corporate bond issuance by UK companies each year, starting in 2003. Issuance since 2009 has been stronger than the average between 2003 and 2008. And in 2012, UK companies issued bonds at the fastest rate in over a decade. That strength has broadly continued in 2013.

Chart 2 Total debt securities of non-financial corporations as a proportion of nominal GDP^{(a)(b)}



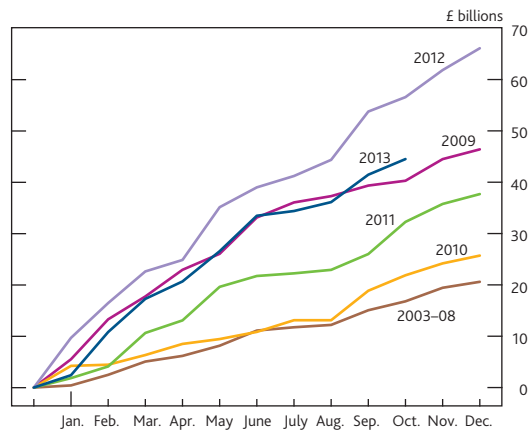
Sources: OECD and Bank calculations.

(a) Securities other than shares, except financial derivatives.
 (b) Data for non-financial corporations include both private and public companies, although ONS data suggest that private corporations accounted for 96% of the stock of debt securities of all UK non-financial corporations in 2012.

The growing importance of the corporate bond market is reflected in companies' balance sheet structure. According to ONS data, bonds accounted for 7% of the stock of UK companies' financial liabilities prior to the crisis in 2007. That has since risen to 10% in 2013 Q2. The use of loans as a source of finance, meanwhile, has fallen from its peak of 38% of UK PNFCs' financial liabilities in 2009 Q1, to 27% in 2013 Q2.

The number of companies issuing bonds has also increased, particularly since the beginning of the financial crisis in 2007. **Chart 4** shows that so far in 2013, the number of companies issuing bonds for the first time has already matched the record reached in 1998.

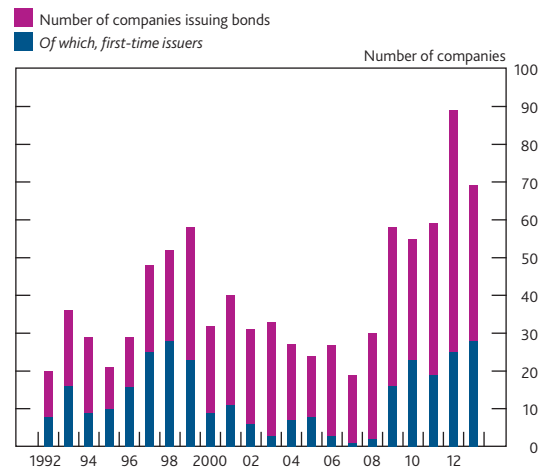
Chart 3 Cumulative gross bond issuance by UK PNFCs^(a)



Sources: Dealogic and Bank calculations.

(a) Issuance by PNFCs where the issuer's country of incorporation and that of any parent or guarantor is the United Kingdom. Includes investment-grade and non-investment grade bonds. Data are subject to periodic revisions. 2003-08 is an average over the period.

Chart 4 Estimate of the number of UK PNFCs issuing bonds (all currencies)^(a)



Sources: Dealogic and Bank calculations.

(a) 2013 includes data up to October.

There are various potential explanations for why corporate bonds have become a more popular source of finance since the onset of the financial crisis. One is the sharp decline in corporate bond yields, particularly since the beginning of the Bank's programme of asset purchases — 'quantitative easing' (QE) — in 2009. There are at least two ways in which QE affects corporate bond yields. One is directly, via the Bank's purchases of corporate bonds: those purchases were designed to improve the liquidity in the market and to provide a backstop to this market at the height of the crisis. The size of these purchases, however, was very small in comparison with the Bank's purchases of gilts.

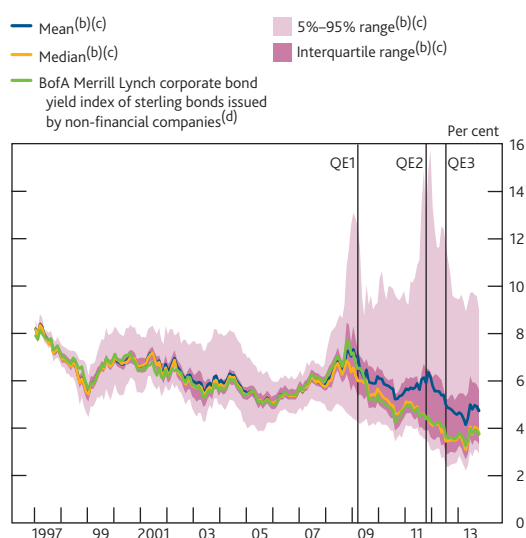
Another way in which QE could affect corporate bond yields is indirectly, through the *portfolio balance channel* of QE. To the extent that sellers of gilts to the Bank regard private sector

(1) Based on data up to October 2013. Net issuance is estimated as the difference between bonds issued and bonds maturing in a given year, using contractual maturities for non-callable bonds based on Dealogic data. For callable bonds, actual call dates (provided by Bloomberg) were used.

assets to be a closer substitute for gilts than money, they may want to reduce the increased money holdings that result from gilt sales and buy private sector assets, such as corporate bonds, instead. As gilt yields change, other investors may also wish to move into riskier assets, including corporate bonds. This provides a boost to corporate bond prices, pushing down on corporate bond yields.⁽¹⁾

The decline in corporate bond yields since early 2009 appears to be consistent with QE having had an impact, as shown by the green line in **Chart 5**. But **Chart 5** also illustrates that the dispersion of bond yields across companies has increased markedly since the beginning of the crisis. That might be the result of increased discrimination between companies by investors, or companies being affected in different ways by the financial crisis and the subsequent recession.

Chart 5 Distribution of yields for UK companies' bonds issued in sterling^(a)



Sources: BofA Merrill Lynch Global Research (used with permission), Dealogic, Thomson Reuters Datastream and Bank calculations.

(a) 2013 includes data up to October. QE1 refers to £200 billion of assets purchased between March 2009 and January 2010; QE2 refers to £125 billion of assets purchased between October 2011 and May 2012; QE3 refers to £50 billion of assets purchased between July 2012 and November 2012.

(b) As the maturity and effective duration of corporate bonds varies widely across the sample, the methodology in Gilchrist and Zakrajsek (2007) was used to adjust bond yields to ensure that neither the cross-sectional nor time-series variation in company-specific bond yields reflect variation in term premia. Specifically, a duration-adjusted nominal bond yield (\tilde{r}) has been constructed for each bond (h), issued by each company (i), for each point in time (t), by adjusting the nominal yield (r) with an estimate of the difference in term premia between a duration-matched (d) gilt yield and a gilt yield with a target duration (d^*):

$$\tilde{r}_{it}^h = r_{it}^h + [y_t(d^*) - y_t(d^h)]$$

The target duration was set at seven years, which is approximately equal to the median duration of bonds in the entire sample. A market-value weighted average adjusted yield for each company at each point in time was then calculated.

(c) Data include sterling-denominated investment-grade and high-yield bonds and medium-term notes issued by UK PNFCs.

(d) The index includes sterling-denominated investment-grade bonds of non-financial companies.

Why might companies have been issuing bonds at a time of weak investment?

2012 saw the highest rate of corporate bond issuance in over a decade, which appears puzzling given that aggregate UK business investment has been so weak since 2009. In order

to understand the importance of the recent strength in bond market issuance for the real economy, it is necessary to understand what companies are doing with the finance raised. Of course, there will be lags between a company raising funds and undertaking investment — but market intelligence suggests such lags tend to be less than a year.

There are a number of possible explanations for this pattern of strong bond issuance and weak aggregate investment. This article identifies three. They are not mutually exclusive, but they have different implications for the real economy, which are discussed in the final section of the article.

(i) **Companies may want to change the structure of their balance sheets.** One reason for this would be if companies wished to move away from a reliance on the banking system towards alternative sources of finance following the financial crisis — so-called 'disintermediation' of the banking system. This would explain the strength in corporate bond issuance, while weak investment might reflect continuing uncertainty over economic conditions in the euro area or prospects for UK demand.

An alternative reason why companies may have wanted to restructure their balance sheet is because of the impact of QE on term premia. In particular, an argument put forward by Federal Reserve Governor Stein suggests that when term premia are negative, a decline in interest rates driven by lower term premia rather than lower expected interest rates may not encourage companies to increase investment to the same extent. The box on page 365 outlines this argument in more detail and assesses the evidence that this might have been happening in the United Kingdom.

(ii) **Companies that issue bonds may not matter very much for UK growth prospects.** This could be the case if the corporate bond market is not available to most companies and so is not an important source of funds for UK companies in aggregate. Alternatively, it could reflect companies that have access to the bond market not investing very much in the United Kingdom.

(iii) **The aggregate picture may be masking different behaviour across companies.** In particular, it may be that companies with bond market access are investing, while those without access are not. In this case, the recent weakness in investment at the aggregate level would reflect heterogeneity among companies, and imply that companies are likely to be using at least some of the funds raised in the corporate bond market to finance investment.

(1) See Joyce, Tong and Woods (2011) and Joyce, McLaren and Young (2012).

QE, term premia and balance sheet restructuring

One possible reason why companies may have issued bonds and decided to restructure their balance sheets is because QE has encouraged such behaviour. Federal Reserve Governor Stein (2012) has put forward an argument along these lines, suggesting that companies may respond differently when interest rates move because of a change in term premia rather than expected policy rates.

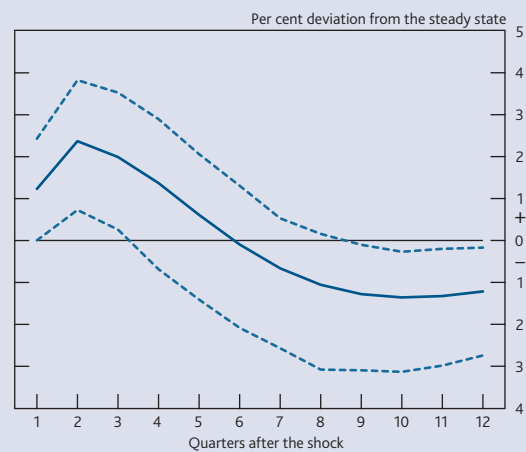
The term premium is the extra return investors expect to obtain from holding long-term bonds as opposed to holding (and rolling over) a series of short-term securities over the same period. Term premia are often thought to be positive: longer-term assets might be expected to offer a higher return because they are more risky, with greater potential to fall in value. But term premia can also be negative, when longer-term rates are lower than the expected sequence of short-term rates. This could be because long-term bonds give investors a form of insurance, for example if their prices tend to rise during times of low economic growth, providing a hedge against falls in risky asset prices. If term premia are negative — for example, if a company could issue a ten-year bond at an annualised rate of 2%, but expected the sequence of rolled-over short-term rates to average 3% — then the company may be incentivised to restructure its balance sheet. This is because it could issue long-term debt at 2%, and use these funds to pay back short-term debt, repurchase equity, or buy short-term securities, as all these adjustments yield an effective return of 3%. As a result, the 'hurdle rate' for capital investment, defined as the overall return a company must earn before it embarks on an investment project, remains pinned at 3% — the return a company can earn if it invests in financial assets instead. **So according to this argument, once term premia become negative, further QE may encourage bond issuance but have less effect on investment spending.**

It is difficult to test this formally — not least because it is hard to get good measures of term premia in corporate bonds. But to shed some light on this, term premia in corporate bond yields can be proxied by term premia in government bond yields.⁽¹⁾ In order to see how investment responds to a decline in interest rates driven by a fall in the term premium, including when the term premium becomes negative, a dynamic time series structural threshold vector autoregression model (STVAR) can be used. A vector autoregression involves estimating a set of equations, where each variable is regressed on past movements of itself and the other variables in the system. The threshold element of an STVAR allows these estimates of the effect of one variable on another to vary under different 'regimes'. Consistent with Stein (2012), it is assumed that there are two 'regimes': one where the term

premium is positive and one where it is negative. The model, which is estimated over the period 1997–2012, includes annual growth in real GDP, annual growth in real business investment (in aggregate, and for companies with different levels of access to capital markets), annual inflation, the policy rate, and the term premium in ten-year government bond yields.⁽²⁾ The responses of output and inflation to a change in the policy rate in the STVAR are similar to those in Kapetanios *et al* (2012).

Chart A shows the effect of a 25 basis point decline in the term premium on the annual growth rate of business investment when the term premium is negative, assuming that the expected policy rate remains unchanged. It leads to a 2.5 percentage point increase in investment growth, two quarters after the fall in the term premium.⁽³⁾ This short-run response of investment to a change in the term premium suggests that companies respond to a decline in long-term interest rates by increasing investment, even when the decline in interest rates comes about because of a fall in term premia, and long rates fall below the expected future path of short rates. This result is robust to different measures of the term premium.⁽⁴⁾ And it provides little support for the hypothesis that QE has encouraged UK companies to issue bonds to restructure their balance sheets, at the expense of any increase in their investment spending.

Chart A Impulse response of annual aggregate investment growth to a 25 basis point reduction in term premium when the term premium is negative^(a)



Source: Bank calculations.

(a) Dashed lines show the 90% confidence interval.

- (1) In reality, the corporate term premium is likely to be higher than the government term premium: corporate defaults are procyclical so that, relative to gilts, corporate bonds tend to pay out less in bad times, when returns are most valued — hence the premium required by investors should be higher.
- (2) The company-level data are annual. That frequency is too low for this type of analysis so Kalman Filter interpolation techniques are used to transform the annual investment data into quarterly observations. Without loss of generality, it is assumed that the time-series properties of investment are best described by a simple autoregressive moving average model.
- (3) In the longer run, it is assumed that the level of investment is unchanged, so a period of growth rates above the steady-state level is then followed by a period of growth rates below steady state, as shown in Chart A.
- (4) There are various models to decompose bond yields into expected interest rates and term premia. One of the models used in this article is described in Guimarães (2012).

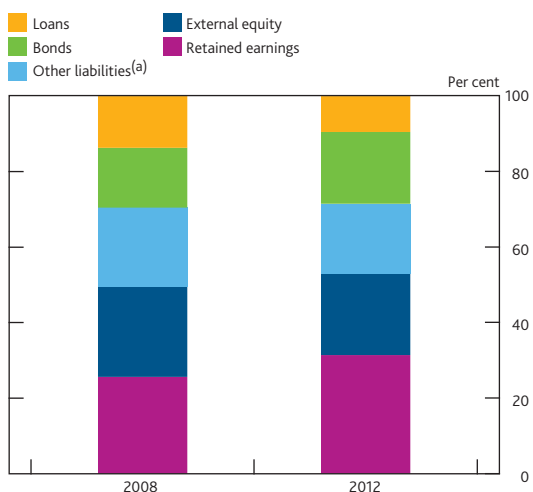
What evidence is there for each of the explanations?

In summary, there is some evidence to support companies having issued bonds since 2009 in order to reduce other forms of debt. But the evidence does not appear to support the idea that companies with access to capital markets are not important for the UK economy. Much of the evidence supports the third explanation, relating to the heterogeneity of companies' investment behaviour. Company-level data show that companies that use capital markets have increased their investment significantly since the trough in 2009, particularly in 2010 and 2011. Their investment growth, however, fell in 2012, suggesting that other factors besides access to finance, such as a rise in economic uncertainty, were also influencing companies' investment decisions at the time.

Companies may want to change the structure of their balance sheets

There is some evidence that companies have restructured their balance sheets and that this is one of the factors behind the recent strength in bond issuance. That can be seen in the aggregate data in **Chart 1**: since 2009, UK companies have been repaying loans and issuing bonds. And based on company-level balance sheet data, **Chart 6** shows that companies have substituted some bank loans (orange bars) on their balance sheets with bonds (green bars). That would suggest that there has been some disintermediation of the banking sector. These companies have also increased equity through retained earnings.

Chart 6 Breakdown of aggregate debt and equity of UK PNFCs issuing both equity and bonds



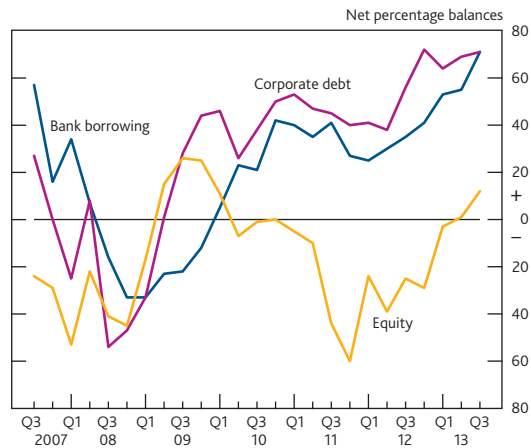
Sources: Dealogic, Thomson Reuters Datastream Worldscope and Bank calculations.

(a) Includes: deferred tax; short-term debt; and trade and other payables.

One reason why companies are likely to have restructured their balance sheets since 2009 relates to the sharp contraction in bank credit that followed the financial crisis. The *Deloitte CFO Survey* of large corporates, for example, showed that bank borrowing, as shown by the blue line in

Chart 7, went from being the most attractive source of funding in 2007 and 2008 — compared with raising funds through bond and equity issuance — to the least attractive in 2009.

Chart 7 Survey responses on the attractiveness of sources of external funding^(a)



Source: Deloitte CFO Survey.

(a) Survey respondents were asked whether they rate each of the sources of external funding as 'attractive', 'unattractive' or 'neither'. The lines show the percentage of respondents who thought that the source of funding was attractive less the percentage who thought that it was unattractive.

Companies may have also restructured their balance sheets in response to the impact of QE on term premia in corporate bond yields. But as shown in the box on page 365, there is no evidence to suggest that UK companies would decide not to increase their investment when interest rates decline because of a fall in term premia, even when term premia become negative. So it seems unlikely that the pattern of strong bond issuance and weak investment reflects the impact of QE-related changes in term premia.

Companies that issue bonds may not matter very much for UK growth prospects

As highlighted in the first section, the corporate bond market has become increasingly important as a source of finance for UK companies over time. Drawing on a company-level database of publicly listed companies, the box on page 367 outlines some of the characteristics of UK companies that access capital markets and that issue bonds in particular. It finds that UK companies that issue bonds tend to be large: in 2012, none of the companies that have issued bonds in the past would be classified as a small or medium-sized enterprise. But, despite this, the companies that have access to the bond market play an important role in influencing UK growth prospects. According to the Bank's estimates, all listed UK companies accounted for around 45% of UK business investment in 2012, based on data from their audited financial statements.⁽¹⁾ And while only a few of these listed companies

(1) In line with Pattani, Vera and Wackett (2011), this is estimated as a company's total capital expenditure scaled by the average share of a company's domestic sales and domestic assets (as reported in their financial statements). This approximation may, of course, not be accurate in all cases. For example, a company may hold a majority of its assets (or conduct a majority of its sales) at home, but invest predominantly abroad (or vice versa).

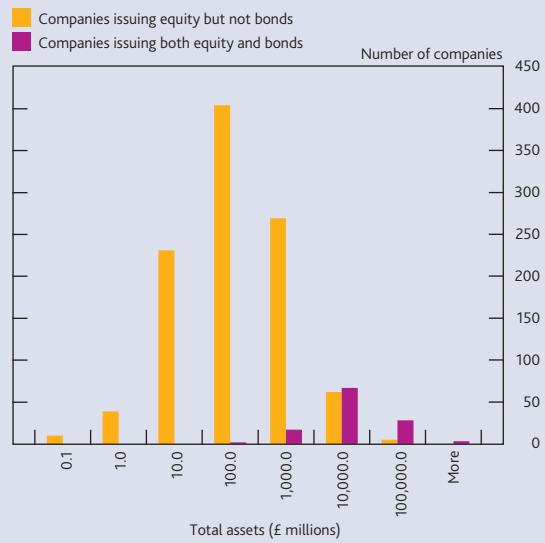
Characteristics of companies with access to capital markets

The company-level database used in this article includes all UK PNFCs with publicly listed equity — both in the FTSE All-Share and in the Alternative Investment Market. There were around 1,100 such companies in 2012. According to the Bank’s estimates, only around 100 of these publicly listed companies have also issued bonds in the past.

The companies that access capital markets vary considerably in terms of size. Of those companies that access the equity market but not the bond market, almost half would be classified as small and medium-sized enterprises (SMEs).⁽¹⁾ In 2012, the median company had around £40 million of assets (the orange bars in **Chart A**), turnover of around £20 million and around 200 employees. But around a quarter of the companies had more than £150 million of assets, turnover of over £140 million and more than 1,000 employees. Together, the companies that issue equity but not bonds accounted for around 10% of UK business investment in 2012.

The companies that also issue bonds tend to be much larger than companies that only issue equity (the magenta bars in **Chart A**). These companies jointly accounted for around a third of UK business investment in 2012. In 2012, the median company had close to £3 billion of assets, turnover of around

Chart A Distribution of companies in the database with respect to total assets (as of 2012)



Sources: Dealogic, Thomson Reuters Datastream Worldscope and Bank calculations.

£2 billion and over 15,000 employees. Around a quarter of companies had more than £10 billion of assets, turnover of above £9 billion and more than 40,000 employees. In 2012, none of these companies would be classified as an SME.

(1) Using the standard definition from the Companies Act 2006 that a company qualifies as medium sized if it satisfies two of the following three criteria: (i) it has turnover of no more than £25.9 million; (ii) the total size of its balance sheet is no more than £12.9 million; and (iii) it has no more than 250 employees.

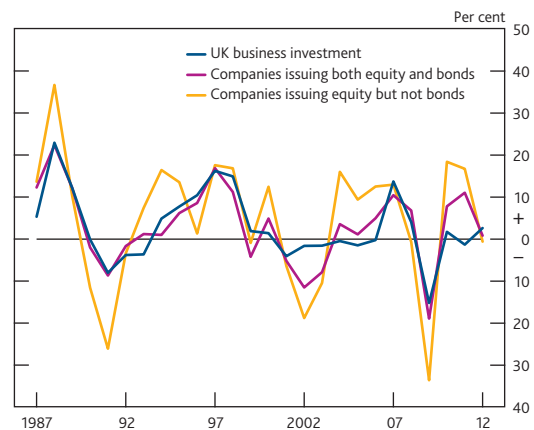
also issue bonds, those that do accounted for around a third of UK business investment. Taken together with the recent strength in bond issuance, there would, therefore, appear to be little support for the strength in corporate bond issuance at a time of weak investment being a reflection of bond issuers not being important for the UK economy.

The aggregate picture may be masking different behaviour across companies

To help shed light on this explanation, **Chart 8** shows growth rates of business investment, using both company-level data and aggregate data. The blue line shows UK business investment growth from the ONS National Accounts; the magenta line shows the median growth rate of investment for companies in the company-level database that have issued in both bond and equity markets; and the orange line shows the median growth rate of investment of listed companies that have not issued bonds.

Up until 2009, there was a close correlation between the aggregate business investment growth rate (blue line) and investment by companies issuing both bonds and equity (magenta line), suggesting no obvious bias in investment behaviour between the median company in the company-level database and the aggregate data.

Chart 8 Annual growth in UK real business investment and median annual growth in real capital expenditure for companies in the company-level database

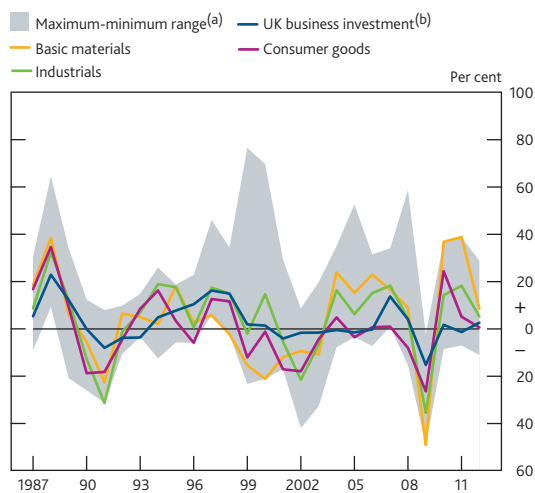


Sources: Dealogic, ONS, Thomson Reuters Datastream Worldscope and Bank calculations.

Since 2010, however, while aggregate UK business investment has remained weak, investment by companies with access to capital markets recovered sharply. This suggests that improvements in capital market conditions have allowed companies with access to those capital markets to undertake investment. That pickup in investment has been broad-based across sectors, as shown in **Chart 9**. And it does not seem to simply reflect investment overseas: the picture in **Chart 8**

does not change markedly if one approximates for domestic investment by scaling each company's total capital expenditure by the proportion of its assets that are held (or sales that originated) domestically. This strength in investment in 2010 and 2011, combined with the weakness in aggregate ONS business investment over that period, suggests that companies without access to capital markets may have reduced their investment markedly in 2010 and 2011.

Chart 9 Annual growth in UK real business investment and median annual growth in real capital expenditure in the company-level database by sector

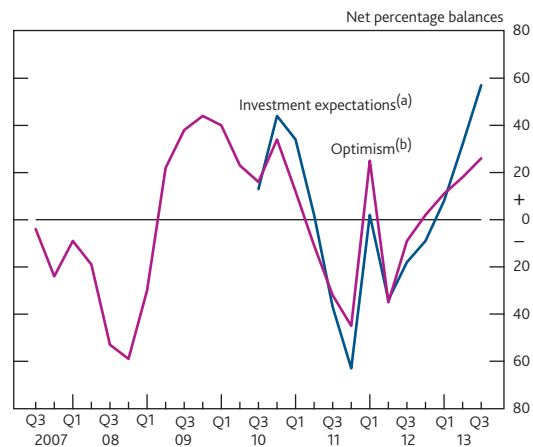


Sources: ONS, Thomson Reuters Datastream Worldscope and Bank calculations.

- (a) The maximum-minimum range shows the median growth rate of investment for each sector as defined by the Industry Classification Benchmark used by the FTSE, excluding financials.
 (b) ONS data for aggregate UK business investment.

In 2012, however, investment growth has fallen for companies that access capital markets, despite their continued strong bond issuance.⁽¹⁾ This suggests that other factors, besides the availability of finance, are likely to have influenced companies' investment behaviour in 2012. **Chart 10** shows that the *Deloitte CFO Survey* suggests that large companies anticipated a slowdown in investment in late 2011. The deterioration in expectations for investment over the following twelve months appeared to be linked with an increase in financial and economic uncertainty, and a decrease in optimism regarding the economic outlook.⁽²⁾ The increase in economic uncertainty may also have been reflected in the sharp increase in the dispersion of UK companies' bond yields around the end of 2011 and early 2012, as shown in **Chart 5**. Looking ahead, however, **Chart 10** shows that investment intentions and optimism have since risen, suggesting that investment growth by larger companies with bond market access may have picked up again in 2013, despite the continuing weakness in the aggregate investment data.⁽³⁾ There may also be a lag between companies raising finance and undertaking investment projects, which may suggest that some of the record bond issuance in 2012 could be used to support investment in 2013.

Chart 10 Net balance of *CFO Survey* respondents feeling optimistic and expecting an increase in capital expenditure



Source: *Deloitte CFO Survey*.

- (a) Net balance of respondents expecting capital expenditure by UK corporates to increase over the next twelve months.
 (b) Net balance of respondents feeling more optimistic about the financial prospects of their own companies than in the previous quarter.

Conclusion

Understanding companies' behaviour in capital markets is important. Even though a relatively small proportion of UK companies issue debt and/or equity publicly, they appear to account for a relatively large share of UK business investment. And understanding why aggregate investment has remained weak, while corporate bond issuance has been strong, is important in the context of understanding the role public capital markets play for UK companies.

There is some evidence that companies have been raising bond finance because of a desire to restructure their balance sheets — and in particular, to reduce their reliance on banks. To the extent that companies have diversified their sources of funds and reduced the cost of their debt, this may have strengthened their balance sheets and put them in a better position to increase investment in the future.

But much of the evidence presented suggests that the pattern of weak investment in 2010 and 2011 at a time of strong corporate bond issuance reflects heterogeneity among companies, with those with capital market access investing and those without not, such that overall aggregate investment remained weak. That might suggest that an improvement in the availability of external finance to companies without capital market access could provide support for UK business investment. In 2012, however, investment growth across

- (1) As the majority of UK companies report full-year results in the following year, 2013 data are not yet available in the company-level database.
 (2) Haddow *et al* (2013) discuss a number of indicators of economic uncertainty and estimate the impact these have had on economic activity.
 (3) As stated in the November 2013 *Inflation Report* on page 38, the Monetary Policy Committee continues to put relatively little weight on the recent weakness suggested by the official investment data.

companies with capital market access appeared to fall. That suggests that other factors, besides the availability of external finance, have played a role in explaining the weakness of business investment in 2012. These factors may include increased uncertainty about the economic and financial

outlook and weak business confidence. Looking ahead, larger companies have become more optimistic in 2013, suggesting that their investment may have picked up again in 2013 even as aggregate investment data have remained weak.

Annex Differences between the company-level and aggregate data sets⁽¹⁾

Analysis of companies' corporate financing decisions relies, in part, on examining company-level data. But there are differences in both the coverage and how variables are

measured between the company-level database used in this article⁽²⁾ — which is based on Thomson Reuters Worldscope data from companies' audited accounts, supplemented with Dealogic bond issuance data — and aggregate data from the ONS's National Accounts. The key differences are outlined in **Table A1**.

Table A1 Key differences between the data sets

	Company-level database	ONS data
Coverage	All UK private non-financial corporations (PNFCs) with <i>publicly listed equity</i> , both in the FTSE All-Share and in the Alternative Investment Market. There are around 3,600 companies in the database, covering a period of nearly 30 years. These companies accounted for around 45% of UK business investment in 2012. Small and medium-sized companies currently make up around half of the sample.	All UK PNFCs, both publicly listed and privately owned.
Data sources	Companies' audited accounts — balance sheets, income statements and cash-flow statements — combined with Dealogic bond issuance data.	Based largely on ONS inquiries and surveys — for example the <i>Financial Assets and Liabilities Survey</i> . A number of variables have to be estimated. Data on the issuance of securities are provided by the London Stock Exchange.
Valuation method	Balance sheet data are recorded at book value.	Balance sheet items are reported at market values — changes over time reflect both new issuance and a revaluation of existing assets and liabilities.
Measurement of investment	Investment is measured using the capital expenditure entry in companies' (audited) cash-flow statements. This variable represents the funds used to acquire fixed assets.	Business investment estimates are based primarily on data from the <i>Quarterly Capital Expenditure Inquiry</i> . The <i>Inquiry</i> has a sample size of approximately 27,000 UK businesses. In addition, data on capital expenditure from public corporations are also collected from company accounts, quarterly questionnaires or <i>Whole of Government Accounts</i> . Business investment in the National Accounts also includes investment by monetary financial institutions, although this tends to be small.

(1) For more information on the ONS National Accounts see 'National Accounts Concepts, Sources and Methods', available at www.ons.gov.uk/ons/re/naa1-rd/national-accounts-concepts--sources-and-methods/index.html; and 'Information Paper on Business Investment', available at www.ons.gov.uk/ons/guide-method/method-quality/quality-information/economic-statistics/summary-quality-report-of-business-investment.pdf. The worldscope definitions guide can be found at <http://extranet.datastream.com/Data/Worldscope/index.htm>.

(2) This database has previously been used in Pattani, Vera and Wackett (2011).

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