

RESEARCH REPORT

Trade Credit: A Literature Review

**Report from SQW Ltd, Professor
Salima Paul (Plymouth University)
and Professor Rebecca Boden
(University of Roehampton)**

Contents

1: Introduction.....	3
2: Overview of trade credit.....	4
3: Market Conditions for SME Working Capital Finance.....	6
4: Theories of trade credit.....	14
5: Market failures in trade credit supply chains.....	23
6: Improving the operation of trade credit.....	27
7: Summary	30
References.....	31
Legal notice	38

1: Introduction

SQW Ltd, in conjunction with BMG Research and Professors Salima Paul and Rebecca Boden, was commissioned by the British Business Bank to undertake an evaluation of the Trade Credit Enterprise Finance Guarantee (TCEFG) pilot. As part of the study, a literature review, led by Professors Paul and Boden, was undertaken to provide an overview of pertinent trade credit issues to contextualise the formal evaluation of the TCEFG. In order to maximise the utility of this report, the approach taken was to consider the operation of trade credit within supply chains which contain SMEs.

This report provides the findings from this literature-based overview and the structure is as follows:

- Section 2 provides a brief general overview of trade credit – what it is, and how it may be conceptualised as an aspect of supply chains.
- Section 3 uses existing evidence to consider the state of the market for finance for SMEs in the UK, specifically between trade credit and other forms of borrowing. This suggests that whilst general borrowing has become constrained or more expensive, trade credit may not constitute an ideal substitute because of the deterioration in the net credit position of SMEs.
- Section 4 explores the research literature on trade credit specifically around trade credit as: an aspect of supply chains; a tool for cash management; a means of reducing transaction costs, and; a way of correcting information asymmetries, enabling price discrimination and improving customer relations. This literature suggests the considerable positive advantage to be gained from using trade credit within supply chains.
- Section 5 considers the obverse of this – the failure of trade credit to consistently deliver on these theorised advantages. The report considers three issues here: the operation of market power to short term advantage by some supply chain participants; poor risk management by those extending credit, and; poor supply chain management.
- Section 6 then considers two possible ways of mitigating these failures: regulation and third party providers such as insurers.
- Section 7 provides a summary.

2: Overview of trade credit

Trade credit is where supplier businesses and commercial or other organisational buyers exchange goods and services for cash (trade) but a time lapse occurs between delivery of the good or service and receipt of payment (credit). Trade credit is therefore credit extended by 'non-financial' firms – those which are in business to trade in goods and/or services and for whom the provision of credit is a secondary activity. Strictly speaking, trade credit is the agreed deferral of payment until some (usually agreed) point in the future. The suppliers of goods and services are usually self-evident. Buyers of goods and services who use trade credit include businesses selling to other businesses or retail consumers, and organisations providing services in a not-for-profit environment. The range of types and sizes of both suppliers and customers is extremely heterogeneous, as are the arrangements and terms under which credit is extended. Unsurprisingly given this heterogeneity, to a very significant extent, trade credit is unregulated; it can be characterised as a set of highly diverse market relationships operating under the influence of a range of market factors.

It is helpful to conceptualise trade credit as occurring in and across supply chains – that is, one or more suppliers, each facilitating the supply of goods or services in a sequence of actions until delivery to the ultimate consumer/user. As goods and services are generated through this supply chain – say from raw materials to the finished product – they embody the financial costs of production. The cash laid out in this way constitute part of a business' working capital and can be characterised by volume (the amount of working capital tied up in goods or services not yet paid for) and time (the gap between the expenditure on production and the receipt of payment from customers).

Working capital can be derived from a number of sources. Key sources include cash resources retained within the business, external finance such as overdraft facilities, credit cards or other loans. Information asymmetries can lead to financial institutions to limit the credit they offer to businesses; and such sources of external finance may also be costly and lack flexibility and adaptability. Trade credit offers a significant further source of financing of working capital and may contribute to or detract from the money available to any individual business. If goods and services are bought on credit, then the costs of production embodied in them are borne, for the period of the credit, by the supplier. Likewise, selling goods or services on credit means that businesses are delaying, for a period, recovery of the costs embodied and so must cover them out of working capital. Trade credit can therefore be seen as an important source of finance, passed up and down supply chains. Suppliers involved in taking or giving trade credit will have a 'net credit position' – the net balance between accounts receivable and accounts payable. This net credit position may be proactively managed within the firm: strictly financially, it is always better to have larger accounts payable than accounts receivable. But there may be good reasons, as we explain below, why firms chose to be net credit providers rather than recipients.

Like any source of finance, trade credit involves costs and risks. The credit extended may have to be borrowed from other sources if it is not available internally and embodies opportunity costs. These costs may or may not be recouped from those to whom the credit is extended, usually through higher prices or by giving discounts for early payment of invoices (so-called two-part invoicing). There are also opportunity costs of using the working capital – an alternative use might be found for use of the working capital that is more beneficial to the supplier. The risks include late payment (which further increases the cost of extending credit beyond that calculated –

including the costs of pursuing payment etc.) or even default by the debtor. There are also strategic risks, principally around not extending trade credit and therefore possibly adversely affecting business growth by failing to achieve sales.

The reasons why some suppliers extend trade credit to their customers, given the costs, the potential difficulties of recovering those costs, and the risks are various and include a number of business operation and strategic advantages (see section 3). There are quite rational strategic advantages in proactively managing working capital across the supply chain or at least sections of it (Hofmman and Kotzab, 2010) and in some sectors some degree of this is the norm. However, evidence indicates that these advantages are far from always achieved. Reasons for failure in this credit market include market power relationships between suppliers and customers, poor risk management, poor cultures and norms and inadequate intra- and inter-firm management of the trade credit function (Paul and Boden, 2012). Again, the nature and extent of these reasons for failure to optimise trade credit varies from sector to sector and is often contingent on market conditions and the structure of the sector.

3: Market Conditions for SME Working Capital Finance

SMEs are very important to the UK economy – making up over 99% of private sector businesses, providing 59% of private sector employment and generating 48% of private sector turnover (BIS, 2013). Around 64% of SMEs are sole traders (Fraser 2010). The differences between micro and medium sized businesses go beyond size – there will also be differences in skills, organisational systems, ownership, reporting, legal status and strategic intent. All of these impact on the financial positioning/status of the business. Likewise, this diverse range of businesses is likely to be differently positioned in the supply chain – for instance, most sole traders are likely to be at the end of supply chains. Aggregating all SMEs together for the purposes of analysing trade credit is therefore problematic.

Sources of working capital finance

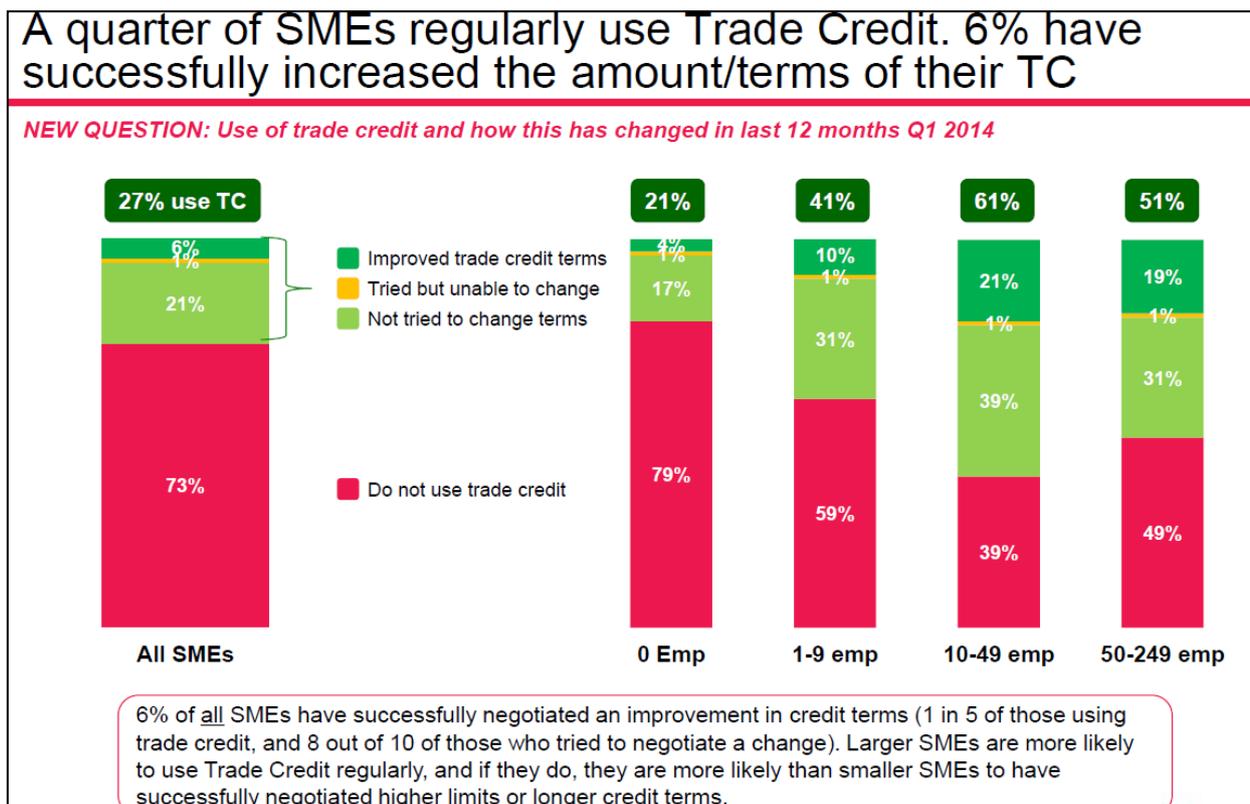
An obvious source of finance for SMEs' working capital is bank finance. This is usually thought of as loans or overdrafts. However, the authors' past and on-going discussions with practitioners, also confirmed by Fraser (2010), suggest that micro-businesses may also make regular use of credit cards – which may be in a business name or personally held; in (usually very small) unincorporated businesses there is no legal distinction between personal and business assets. SMEs generally may have much poorer access to bank finance because they will have fewer assets (hence a lack of collateral), be less well documented and be perceived as higher risk by finance providers (Fraser, 2004).

Trade credit is an important part of the finance mix alongside bank finance. The SME Finance Monitor now asks about SMEs' use of trade credit, as well as other sources. The figure below shows that in the first quarter of 2014 (when specific questions on trade credit were asked for the first time), just over one-quarter (27%) of SMEs reported using trade credit regularly as a source of finance. To put this into context, 33% of SMEs reported using any external finance (excluding trade credit) and 27% of SMEs reported using core products (i.e. loans, overdrafts and/or credit cards). Both of these indicators were at their lowest levels: since 2011, use of external finance (excluding trade credit) has been around 40-50% and use of core products at around 30-45% (BDR-Continental, 2014)¹.

Trade credit as a source of finance can be complementary to other external sources. The SME Finance Monitor in quarter 1 of 2014 indicated that 15% use external finance and trade credit regularly, 17% use external finance but do not use trade credit regularly, and 12% use trade credit regularly but no other sources of external finance.

¹ Given that 2014 was the first time the SME Finance Monitor asked about trade credit we do not have comparable historic data on the use of trade credit by SMEs.

Figure 1: SMEs' use of trade credit



Source: SME Finance Monitor (BDRC-Continental, 2014)

Tightening conditions in accessing finance

The financial crisis since 2008 has exacerbated the problems faced by SMEs in accessing finance. It is widely documented that financial institutions reduced their lending to many SMEs (Collis *et al.*, 2013). A major NIESR study (NIESR 2013) concluded that the financial crisis and subsequent recession had created a more 'challenging environment' for SMEs seeking bank finance. The NIESR study found that, even when risk factors were controlled for, rejection of applications for overdrafts and term loans were significantly higher from 2008-9, indicating a contraction of the flow of finance to the SME sector. Term loans were especially affected – perhaps because overdrafts usually bear a higher potential margin (but also greater risk) for the lender and are usually subject to immediate withdrawal. This reduction in credit supply is further indicated by NIESR's finding that the margins financial institutions were attaining on loans and overdrafts increased, even when risk factors was taken into account. This led NIESR to conclude that the benefits of the cuts in the Bank of England base rate were not passed on to SMEs, although higher funding costs must also be taken into account. Almost perversely, this tightening affected low and average risk SMEs more than higher risk businesses, suggesting that banks were demonstrating some overall withdrawal from this lending market. In short, the evidence suggested that, during this most recent downturn, SMEs have suffered a decline in bank lending and are paying more for lending facilities. NIESR posit that this is likely to have an adverse effect on economic recovery.

This work confirms that of Fraser (2010; 2012). He found that loan rejection rates increased quite significantly in 2008, but that the average loan size increased too. The conclusion was that banks were meeting lending targets by extending larger loans to lower risk businesses. In sum, the tightening of lending was only partially explained by businesses getting poorer credit scores – the tightening of lending criteria was also significant (Fraser, 2010).

Overdrafts were also tightened. NIESR (2013) highlighted that 39% of SMEs requested an overdraft between 2008-2009, and 16% of these were consequently rejected. The NIESR study (2013) also found that it was likely that demand had been dampened by the 'discouragement' of applications in that period. This was also reported in 2011 by BDRG Continental (BBC 2011). Platform Black, an invoice trading firm, asserted that, between 2011 and 2013 the percentage of all finance taken by SMEs as overdrafts had dropped from 25% to 16%, but that 56% of SMEs used this finance source (Telegraph 2014b).

Bank lending is more expensive for smaller SMEs than for larger firms because of information asymmetries: obtaining the information necessary to decide on lending is more difficult, complex and potentially unreliable for SMEs, making the cost of transacting loans higher (Fraser 2012b). Fraser (2012) not only demonstrates a tightening of term loans and overdrafts to SMEs and increasing bank margins on these, but also that arrangement fees for both overdrafts and loans increased significantly. Thus, for the SMEs that were still able to secure bank funding, the average cost of arranging an overdraft and a term loan from 2007-8 rose to £1,285 and £3,939 respectively. This was compared to figures obtained from 2001-4, which showed the costs as being £665 and £2,161 respectively. This confirms the NIESR (2013) conclusion that decreases in the Bank of England base rate were not being passed on to SMEs by banks. Fraser also reveals that businesses with assets under £10,000 paid more for their loans than those with larger asset bases, even when adjusted for credit risk (2012:43).

The study by NIESR also reveals that the credit crunch posed no substantial change to SMEs that were already classed as risky being rejected for credit. The same study did, however, highlight the disproportionate effect on low-medium risk SMEs, evidencing that they were viewed as being much more risky after the financial crisis (NIESR, 2013).

Overall, the considerable econometric evidence, some of it commissioned by BIS, demonstrates that by 2009, SMEs were more likely to be rejected for overdrafts and loans, and bank margins on SME lending were increasing as a result of higher charges to borrowers. Fraser summarises this well:

[T]he principal effect of the financial crisis has been to reduce the availability of bank debt and increase their cost as measured by overdraft facility and term loan margins. There is also evidence that arrangement fees for overdraft facilities have increased in proportion to the size of the facility. These seem to be genuine supply-side effects since the econometric models included extensive controls relating to the risk profile of the business/owner and their financial relationships. (Fraser, 2012:56).

These inherent higher costs of borrowing for SMEs, plus the additional and demonstrable tightening of credit consequent to the onset of the financial crisis may have caused SMEs to fail or fail to grow as they might otherwise have expected.

If we sum and average figures for samples or populations of individual firms, then trade credit received or given appears to far outweigh bank finance as a source of credit, and to be roughly on a par with equity in importance as a component of total assets or liabilities. Several studies have reported this result. Paul and Wilson (2006) found credit given (trade debtors) to be between 30 and 40% of all firms' balance sheets. Our own finds likewise. (Ive and Murray, 2013: 31)

Using more trade credit as an alternative to bank finance?

The deterioration in bank lending may have encouraged firms to compensate by making increased use of trade credit as a source of working capital. But, of course, during a period of capital shortage, many other businesses may also be seeking to extend the trade credit they take whilst getting their own invoices paid more quickly. Important here is not just the availability of trade credit to SMEs, but also how much they have to extend to their own customers – that is, their net credit position.

In April 2013, Experian (Experian 2013) asserted that its investigations showed that SMEs had faced a significant reduction in net trade credit availability since 2009 – a phenomenon that the credit reference agency saw as undesirable, especially where business failure was slowing, reducing the risk of lending. Experian claimed that, prior to 2009, overdrafts and trade credit were the most 'flexible and popular' ways for SMEs to finance their working capital – especially for trades such as construction. Its data showed that, whilst 10% of SMEs had access to trade credit in 2008, that had fallen to 9.2% in 2009 and to 6.1% by 2013. Experian calculated that this was equivalent to a £4.7bn fall in available credit. The smallest firms had been hardest hit.

In 2007, 90,000 businesses with a turnover of under 50k had access to trade credit, but this fell by almost 50 per cent by the following year. Businesses in the 250k turnover bracket have also seen a marked decline, with figures falling by 17 per cent from 45,449 to 37,688. (Experian 2013)

Medium sized firms, in contrast, have experienced only marginal changes. Available industry data then suggests that access to trade credit for very small businesses – micro-businesses – is seriously affected in the current climate (Experian 2013). Combined with a restriction and the expense of term loans and overdrafts, as Experian notes, this can be very problematic for micro-businesses which need to buy materials prior to delivering a job.

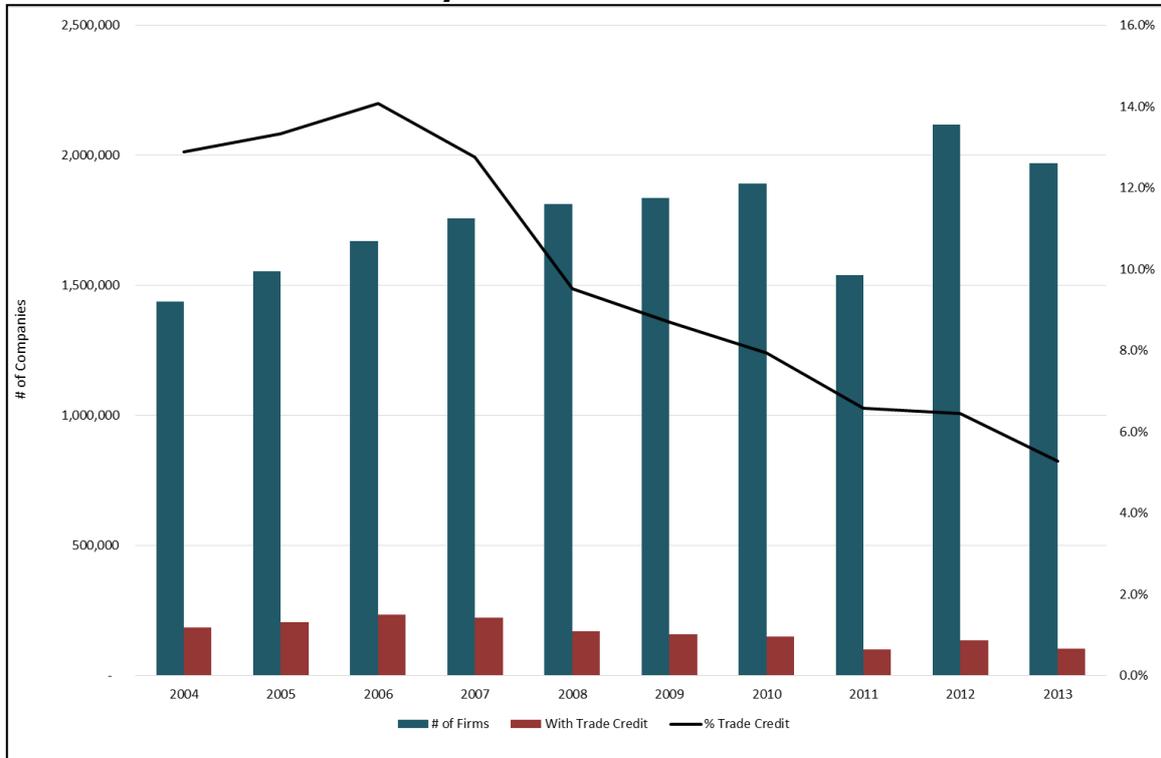
To provide a more detailed and updated perspective on this issue, equivalent data has been obtained from Experian especially for the TCEFG pilot evaluation covering the period from 2004-2013. The summary findings provided by Experian are set out in the Figure below, identifying the number of SMEs across the UK, the number with trade credit, and the resulting proportion of firms with trade credit.²

The data provided by Experian indicate that the proportion of SMEs with trade credit has continued to decline, with 5.3% of SMEs with trade credit by 2013. However, the trend has not been even, with an increase in the number of firms with trade credit in

² There appears to be an issue in the 2011 Experian data as there is a decline in the number of businesses in the Experian database. Care should be used in interpreting the figures in this year.

2012 compared to 2011 (of round 36,000 firms), before falling off again in 2013. This is likely to reflect the effects of the recession, as firms increased the availability of trade credit in 2012 as other forms of finance were limited, and reduced again as the wider finance pressures started to ease in 2013.

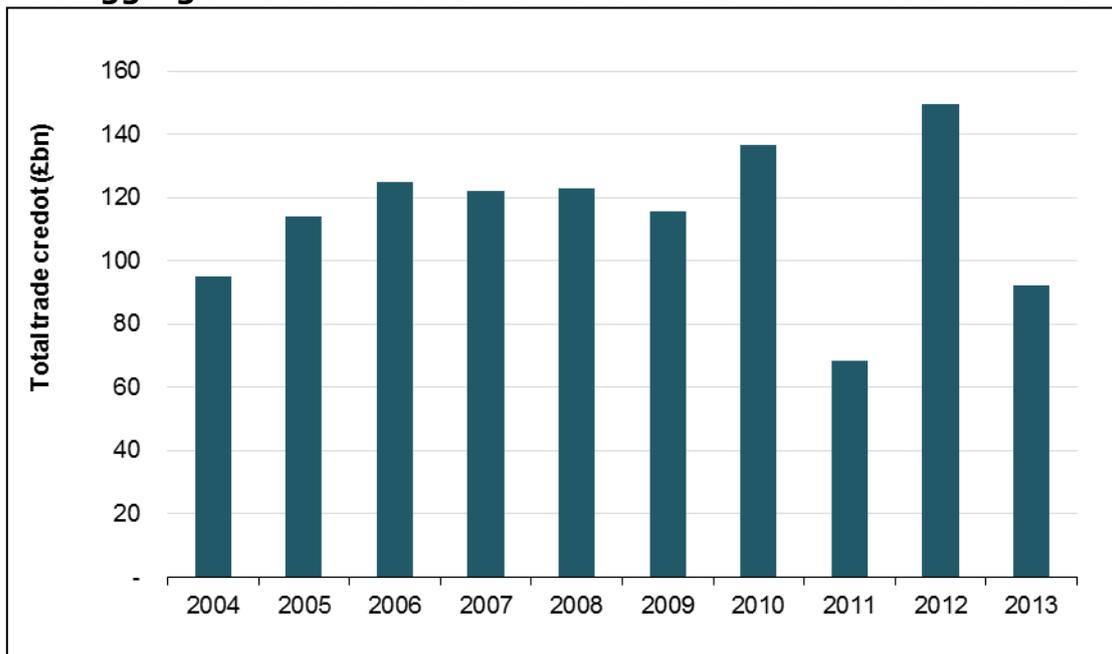
Figure 2: Use of trade credit by SMEs 2004-13



Source: Experian

This trend is also reflected in the aggregate level of trade credit available to SMEs identified by Experian, with a decline in 2011, followed by an increase in 2012 and reducing in 2013. The 2013 data suggest that the level of trade credit may be settling down to pre-recession levels. (Note that this data excludes trade credit in the financial services and insurance sector that increased very substantially in 2011 in light of the recession and financial crisis).

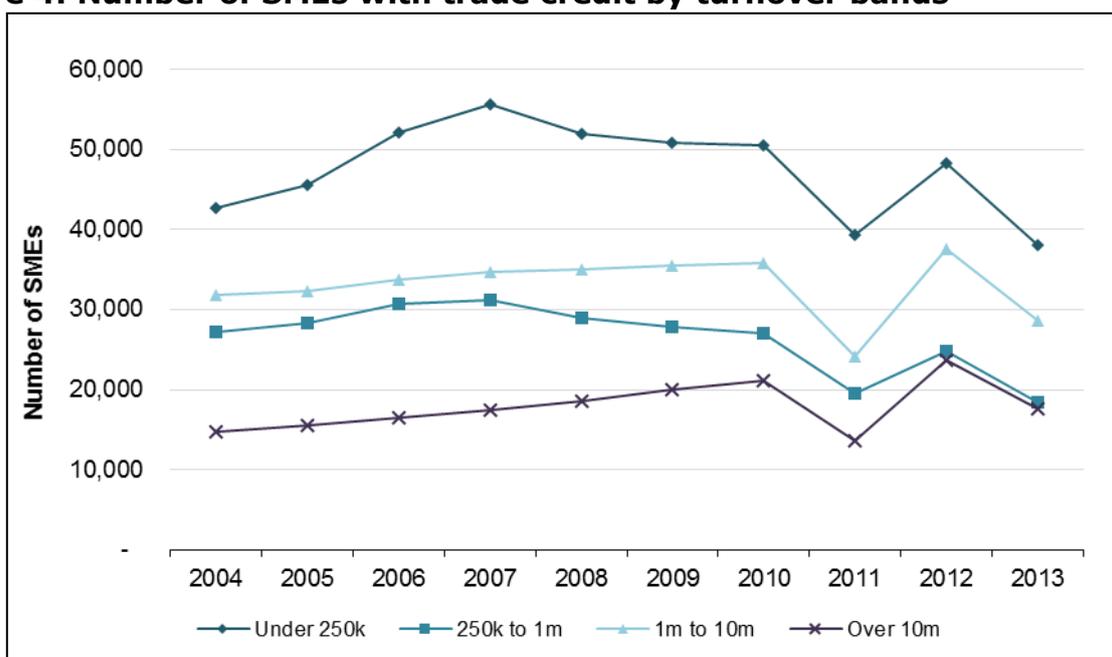
Figure 3: Aggregate value of trade credit for SMEs in the UK 2004-2013



Source: Experian

More recent data also suggest that the impacts on smaller firms of reductions in the availability of trade credit are continuing: as set out in the Figure below, the number of firms with trade credit with turnover of under £250,000 in 2013 was 38,000, compared to 43,000 in 2004, and 56,000 at its peak in 2007. The number of mid-sized firms with trade credit available to them has also declined over the past decade, whilst the number of larger firms (with turnover of over £10m) with trade credit has increased (from 14,500 to 17,500).

Figure 4: Number of SMEs with trade credit by turnover bands



Source: Experian

The Experian data also show important sectoral trends in the availability of trade credit. For example, over the period of 2004 to 2013 the number of firms with trade credit reduced substantially in the agriculture, construction, wholesale, retail, manufacturing and transport sectors.

SMEs' net credit position

Of course, credit taken is only one side of the picture – there is also the matter of the accounts receivable held by SMEs, affecting their net credit position (and therefore available working capital) in the other direction. BACS (BBC News, 2011) reported that UK SMEs were owed £33.6 bn in November 2011. By February 2014 that estimate had risen to £55 bn, with the average business owed £11,358 (Telegraph 2014). Abrahams, writing from the perspective of 2012, puts the significance of the problem into perspective; 'more than £36.4 billion is owed to SMEs nationally... high street banks lent just £56 billion to small firms in 2011' (2012:23). The problem here is plainly one of SMEs being in danger of becoming net credit providers – being owed more than they have received in credit, thereby pressurising their working capital position.

Temporal considerations are paramount here – if payment receipt periods are longer than payment demand periods, then this can quickly create funding gaps. There is evidence that this issue is affecting SMEs. Although common payment terms stipulate 30 days, Experian asserts that two months is often typical (PRNewswire 2006). The effects of this can be passed on through supply chains; a survey by Hilton-Baird Collection Services in 2014 found that 49% of firms paid their suppliers late because they had received less than they owe (Creditman.co.uk, 2014). Late payment thus slows down cashflow throughout the whole economy and causes financial distress that can lead to SME failure. There is some evidence that larger firms pay more slowly, and more often late, than SMEs (Paul and Boden, 2011; 2012; Collies, *et al.*, 2013). It is also argued that 'sloppy payers owe £55bn to small and mid-sized businesses in unpaid or outstanding invoices, which is stifling growth and restricting cash flow... [and] despite political pressure on large corporations to pay their smaller suppliers on time, this sum has jumped 52pc since last summer' (The Telegraph, 10th February, 2014). The slow payment often leads to financial problems and an 'imbalance in bargaining power', where larger businesses delay payments even when they know that the latter rely heavily on trade credit to survive (Atrill and McLaney, 2013:467)

In sum, SMEs need working capital in order to function. This can be internally generated, borrowed from financial institutions such as banks as term loans, overdrafts or on credit cards, or come from a positive net trade credit position (where the business owes more than it in turn owes to suppliers). Although the situation is dynamic, since 2008 it does appear that SMEs have experienced greater difficulty and greater costs associated with obtaining loan and overdraft financing – perhaps to the extent that they are discouraged from seeking it. This constriction could be substituted by a more positive net trade credit position. However, there is also evidence that SMEs have been experiencing difficulties here, with the supply of trade credit having declined from 2008 to 2013, and with larger firms taking longer to pay their invoices relative to SMEs. The implication is that SMEs have shifted towards being net providers of credit in recent years. There is also evidence that micro and small businesses have suffered the most, in particular in relation to bank lending and also in relation to trade credit. Whilst these findings occur across all sectors, we note

that the evidence highlights the particular importance of trade credit to the construction sector.

We now turn to the available research evidence on trade credit in general and SMEs in particular in order to offer some understanding of the factors that shape the operation of the market for trade credit.

4: Theories of trade credit

At first sight, there would appear to be little reason to extend trade credit – it involves the supplier financing the inventory of their business customers. In fact, the research literature has generated a significant number of largely normative market theories which posit that there are strategic advantages to well-managed trade credit. This section sets out these motivations for offering trade credit. There is a second body of research, discussed in sub-section 4 below, which addresses the actual operation of trading relationships within supply chains and which might be broadly described as explaining why this normatively conceived market for trade credit often operates in a sub-optimal fashion.

The principal motivation for trade credit is posited on a model of supply chain cooperation. This is predicated on the notion that, in terms of generating value, the whole is greater than the sum of its parts in supply chains. If businesses across the supply chain cooperate together, effectively and collaboratively managing the working capital of the entire chain (Hoffman and Kotzab 2010), then this will yield advantages to all – much as all boats rise together on the tide.

At the opposite end of the scale from this utopian view is a more dystopic supply chain mode of operation where the exploitation of power, poor risk management and poor trade credit management combine to thwart attempts to generate efficiencies from trade credit operations.

Of course, these are extreme variants and the reality usually lies somewhere in between. A cooperative supply chain might be said to be strategically and economically efficient, whilst a poorly operating one might be construed as suffering from market failure.

In the rest of this section we explore the various theoretical approaches in the literature to the efficient operation of trade credit across supply chains. This is followed by a summary.

Trade credit as financing and its impact on the wider economy

Businesses incur costs in the initial production of products/services before they generate any income from sales, creating a temporal gap between outlay and income. Extending credit to customers further enlarges that gap, meaning that the seller is effectively financing the customers' inventory, shifting financing costs upstream, from customer to supplier. This cost is the actual cost of the working capital plus the opportunity cost of the capital tied up in the customer's inventory (Summers and Wilson, 1999). These costs will escalate if the customer pays late or defaults. In addition, there are costs of administering the trade credit, such as monitoring, chasing late payers, dealing with discount policies (if offered), calculating interest payments etc.

These costs can be viewed as those of the individual supply chain members or, in total, across the supply chain. In the latter case, it is possible to conceptualise trade credit in terms of the collective borrowing power of the firms involved in the supply chain relationship. Some firms' survival, small ones especially, depends on whether they get credit or not. Such firms may not have ready or sufficiently cheap access to borrowing through banks due to their size, reputation, the nature of their assets and of their product etc. (Hutchinson and Ray, 1986; Choi and Kim, 2005; García-Teruel

and Martínez-Solano, 2010). SMEs tend to be less liquid and their profit and cash-flow measures more volatile; they therefore rely more heavily on short-term debt for funding than large companies (Petersen and Rajan, 1997; Cuñat, 2007; Huang *et al.*, 2011). Trade credit is an important source of such finance (Hutchinson and Ray, 1986; Forbes 2010).

Rahaman (2011) calls for research that can influence new policy insights and test existing theoretical models in the current crisis context. The debate around trade credit complementing/substituting bank credit started more than half a century ago (Meltzer, 1960; Schwartz, 1974) but tends to gain new impetus as a result of the economic crisis (Bistrova *et al.*, 2011). It is, once again, becoming much of a topical area in both banking and finance literature with specific reference to SMEs and their financing and how large firm can help in the process (Rouse and Jayawarna, 2006; Claessens and Tzioumis, 2006; Hussain *et al.*, 2006). In supply chains with both larger and smaller firms, the former are more likely to have easier and cheaper access to bank finance than the latter. Trade credit can work then as a facilitator of financing across the supply chain – with the benefit of access to finance being passed from (larger business) suppliers to (smaller business) customers via the extension of credit. Conversely, if the smaller firm is the supplier, the larger business customer can pass on the benefit of its superior access to capital by paying early/promptly. That is, this benefit can pass either way, up or down, the supply chain. This spillover effect across the supply chain is known as the ‘helping hand theory’ (Wilson and Summers 2002; Petersen and Rajan 1997; Elliehausen and Wolken 1993; Chant and Walker 1988; Emery; 1988; 1984; Rouse and Jayawarna, 2006; Claessens and Tzioumis, 2006; Paul and Boden, 2011).

Laffer (1970:242) argues that trade credit is also a ‘means by which money is transferred from economic entities that have idle money balances to entities which need additional money balances’. That is, within the supply chain, businesses can use the benefit of excess working capital holdings to promote the development of the chain to mutual advantage. Trade credit can thus be seen as part of the money supply: when general money supply is tightened, companies with relatively large cash balances increase the average length of time for which credit is extended, while in periods of easy money, credit periods tended to become shorter (Meltzer, 1960; Brechly and Lipsey, 1963; Davis and Yeomans, 1974).

[A]s money tightens, both the level of interest and credit rationing increase... as large firms increase the role of financial intermediation during period of tight money, they sell more of the monetary resource along with their unique product [by offering longer credit] and they charge for it by raising list prices’ (Schwartz, 1974:652).

Those firms that have easy access to money markets are therefore financially motivated to sell monetary resources to those companies that have productive investment opportunities but are rational or restricted in their ability to acquire funds (Schwartz, 1974). This has been substantiated empirically: the more creditworthy the firm, the more likely it is to have better access to finance and the more likely it is to offer generous trade credit to its customers (Petersen and Rajan, 1997). Likewise, when interest rates rise, smaller firms find it more difficult to borrow and this increases demand for trade credit (Nadiri, 1969; Paul and Wilson, 2007; Paul and Guermat, 2009).

Both the size and financial health of sellers are important in credit extension: large and more financially secure firms may grant credit to smaller and less financially

healthy customers (Schwartz, 1974; Wilson, 2008; Paul and Guermat, 2009). Firms in good financial health are more likely than others to offer credit to their customers and they 'may provide an important mechanism for channelling finance down to those firms rationed by financial intermediaries' (Atanasova and Wilson, 2003:504). In sum, companies that can access capital markets relatively cheaply and easily may pass on this benefit to their customers with the intention of increasing or bringing forward sales.

As noted above, in the UK researchers have noted and explored the difficulties that SMEs face in obtaining funds from financial institutions and found that the provision of trade credit to these business is crucial in facilitating their growth and contribution to the dynamic efficiency of the wider economy (Howorth and Reber, 2003; Bickers, 1994; Black *et al.*, 1996; Atanasova and Wilson 2004). Those that are less likely to be rationed by banks rely less on trade credit (Petersen and Rajan, 1995).

In terms of supply chain cooperation, suppliers who invest in their customers by financing their working capital through trade credit may benefit from their customers' survival and thus their continued requirement for goods, which may even increase if the customer grows. In turn this should increase the suppliers' market share, reducing the problem which market size imposes on their own growth. Trade credit becomes less an instrument of trade and more an instrument of finance as the length of credit period increases (Ferris, 1981; Paul and Wilson, 2007).

Trade credit and the costs of financing

Trade credit is also seen as a means of enhancing cash management such that cash holding costs can be reduced. Ideally, businesses keep a cash buffer as a contingency reserve against unplanned cash fluctuations, unforeseen expenses and for short-term emergencies. This is referred to in the cash management literature as the 'precautionary motive' for keeping cash. Cash-based businesses may be more exposed to such volatility, which can arise through fluctuations in daily sales. Unpredictable patterns of cash receipt can be mitigated by companies offering trade credit and/or accepting it from their own suppliers. This injects predictability into when customers are likely to settle their bills and when suppliers need to be paid. Trade credit 'gives the buyers time to plan for the payment of unexpected purchases, enables them to forecast future cash outlays with greater certainty and simplifies their cash-flow management' (Schwartz, 1974:643).

Extending trade credit also allows suppliers to collect better information about customers' buying behaviour. This can be used to better forecast receipts and thereby reduce the need to carry large amounts of precautionary cash, consequently reducing the cost of holding cash balances (Pike and Cheng, 2001; Wilson, 2003). Trade credit permits greater payment flexibility, again reducing the overall need for both suppliers and customers to maintain precautionary cash balance. If firms cluster invoices for payment at forecast dates in the future, it makes it easier and cheaper for them to organise payment – this is known as the so-called transaction volume motive (Summers and Wilson, 1997). The benefit is going both to the buyer, by having better cash management, and to the seller, by reducing the banking costs (Kling, Paul and Gonis, *in press*). It also provides a kind of hedging mechanism, whereby both parties can pool the risk related to cash-flow to allow the maintenance of lower cash balances (Ferris, 1981; Paul *et al.*, 2012). So, if managed cooperatively across the supply chain, trade credit can be used to better forecast and manage cash balances, lowering cash holding costs.

Finally, trade credit can reduce financing costs by reducing default loss. In the event of non-payment, the seller has the power to repossess the goods. The goods have more collateral value to the seller, who is already in that line of business, than to a bank (Summers and Wilson, 2002; García-Teruel and Martínez-Solano, 2010). However, the collateral value of goods will depend on the nature of the product and the transformation process to which they are subjected (Petersen and Rajan, 1997). Durable goods, for instance, provide better collateral and hence better credit terms are offered (Mian and Smith, 1992): 'the less the goods are transformed by the buyer, the greater the advantage the supplier will have over financial institutions in finding an alternative buyer' (Petersen and Rajan, 1997:664). Therefore, in areas such as the building trade it is generally not possible to recover goods once they have been incorporated into a building, and so the cost of default is higher, whereas in other areas where goods may wait in inventory stocks it is easier to recover these in the event of default.

Transaction costs and trade credit

In perfectly competitive markets, where information about both sellers and buyers is available at no cost, buyers can either choose to borrow from financial institutions or buy on credit according to the availability of finance and the interest rates offered. In such efficient markets, buyers are indifferent as to whether they take trade or bank credit (Lewellen *et al.*, 1980). Customers might even borrow from financial institutions using the goods as collateral, at the same notional rate of interest applied by the supplier (usually in terms of a higher price). However, cost advantages can arise where both goods and finance are supplied from a single source as compared to them being subject to separate transactions (Mian and Smith, 1992; Paul *et al.*, 2012).

Transactions between businesses take place in markets with imperfect information about both the buyer and the seller. The uncertainty this engenders creates transaction costs for both parties in evaluating the potential risk and return ratios on each transaction. These real-world information asymmetries can make trade credit more attractive than bank credit to both buyers and sellers (Wilson *et al.*, 1996, Paul and Guermat, 2009). This is because the information asymmetries between suppliers and buyers may not be as great as they are between borrowers and banks. Financial institutions do not necessarily have the same sector knowledge or close relationship with buyers in the same way as sellers may have, nor the continuous contact through visiting premises, the frequency of demand for goods, the amount of demand and so on. As a result, banks are more constrained in their ability to collect similar information about customers' creditworthiness (Petersen and Rajan, 1997; Paul and Boden, 2008; Summers and Wilson, 1999; Paul *et al.*, 2012). Because this information is collected in the course of business, the cost of collection for both parties is mitigated, especially with regular customers. The superior information means that, in the event of late payment or default, the supplier may be in a better position to minimise losses than any financial institution, thereby reducing risk. Thus, given the information asymmetries which exist, it might be that trade credit represents a cheaper and faster form of credit for customers, making it easier for them to buy, to the advantage of the supplier.

Customers and suppliers can also reduce their transaction costs by using trade credit and paying periodically, rather than for each individual order (Schwartz, 1974; Ferris, 1981; Paul and Boden, 2011); as noted above, this may have the advantage of making cash-flow forecasts more manageable and effective.

Given that SMEs, as noted above, endure greater costs in using bank financing because of their inherent characteristics and the problems of information asymmetries, trade credit, in a collaborative supply chain, may offer a more cost-effective source of working capital. Used effectively, it can also provide the suppliers to SMEs with a ready source of information about this diverse and numerous buyer group.

It follows that the TCEFG scheme may help to extend suppliers' capacity to correct information asymmetries regarding their customers, because suppliers might be able to collect information on customers that it may not have had otherwise. The scheme also allows predictable cash flow for suppliers by reducing the risk of non-payment. At the same time, and especially given the context of bank lending to SMEs outlined above, the TCEFG could also reduce transaction costs for smaller SMEs when dealing with providers of goods and services.

Correcting information asymmetries

Trading on credit can offer valuable information to both to sellers and buyers about each other, thereby reducing transaction costs and providing trading advantages. For customers, trade credit has information advantages in that the credit period can serve as a valuable opportunity for reducing asymmetries in product quality awareness (Pike and Cheng, 2005; Paul and Wilson, 2006). The delay between receipt and payment allows them to investigate and assess the quality of the product and its value for money. By having a sufficient period of time to inspect the product before payment, buyers are in a powerful position because they can withhold payment until they are satisfied. Findings suggest that firms with established reputations for offering quality products/services tend to extend less trade credit than newer, and often smaller, businesses (Long *et al.*, 1993; Lee and Stowe, 1993; Summers and Wilson, 2002), which may be unable to honour product warranties. Companies producing goods whose quality takes longer to assess are more likely to offer longer credit terms relative to sales, to allow customers to check the product quality (Long *et al.*, 1993; Wilson, 2003; Paul and Boden, 2008). Research suggests that credit terms may also be linked to product durability – firms producing durables offer more credit than those producing perishables (Smith, 1987; Long *et al.*, 1994).

Thus, 'the difference between the credit and cash price can be interpreted as the price of a warranty attached to the product... trade credit may be viewed as the strongest form of product warranty' (Lee and Stowe, 1993:286) as it gives dissatisfied buyers the option of not paying. There can be a signalling mechanism here: the existence of a 'separating equilibrium in which the size of the cash discount conveys information about product quality' means that 'lower quality producers offer larger cash discounts in order to induce buyers to pay for more of their orders with a non-revocable cash discount purchase, putting more product risk on the buyer' warranty' (Lee and Stowe, 1993:286). Conversely, higher quality producers offer lower discounts for cash payments and less trade credit because they are more certain that their products will pass market quality tests.

Trade credit therefore acts as a mechanism for firms without a strong product reputation to attest to the quality of their goods by bearing the cost of financing them until such time as buyers can ascertain quality for themselves – the 'option of inspecting the product prior to payment is the obvious market solution to the problem when seller reputation is lacking'. (Smith, 1987: 867). Credit periods therefore act as

a signal to the market of high and consistent product quality or of long-term presence in the market.

In the process of agreeing to trade credit, suppliers acquire information regarding their customers in terms of creditworthiness. Operating trade credit can allow suppliers to gather information about buyers' financial and general business health through monitoring of their ordering and payment patterns (Aaronson *et al.*, 2004; Pike and Cheng, 2005). Buying on credit also allows suppliers to amass information that might be generally useful in supply chain logistics – much as major supermarkets use loyalty cards to collect information on customers' buying habits.

As noted above, the existence of this uncertainty imposes transaction costs on both buyers and sellers if they are operating in a market with imperfect information, suggesting that 'both buyer and seller have incentives to devise institutions that reduce transaction costs due to asymmetric information' (Ng *et al.*, 1999:1112). Signalling theory offers a rationale for the use of trade credit where information about buyers' default risk is asymmetrically held and the supplier is unsure whether the buyer intends to pay on time or not (Smith, 1987). It follows, therefore, that some suppliers do not offer trade credit to certain customers because they have insufficient information on their creditworthiness. The TCEFG to some extent would mitigate these problems by extending somewhat the risks that suppliers might be willing to take.

One particularly effective signalling mechanism is if buyers are offered a discount for early payment and do not take it. This may serve as a 'trip wire to alert the supplier of deterioration in the buyer's creditworthiness' and perhaps suggesting cash-flow problems (Petersen and Rajan, 1997:663). Many researchers have argued that trade credit acts as a screening device, identifying earlier than otherwise potential problems with customers and therefore signalling the desirability of more monitoring and control (Smith, 1987; Wilson, 2008). This early warning signalling is unavailable to financial institutions and should therefore allow suppliers to reduce their costs of financing to suppliers differentially.

Price Discrimination

Trade credit, through an adjustment of credit terms, can be used to price discriminate between customers. For example, if suppliers offer 30 days but allow certain customers to pay later than agreed without penalty, it is equivalent to reducing the price of the product/service. Similarly, suppliers may manipulate their discount for early payment by offering different discounts to selected customers or allow them to take a discount even when they pay late. Companies in the US, for instance, are more likely to change the credit terms they offer to match the competition than to modify prices because of economic changes (Hill *et al.*, 1981) – so many companies formulate their credit terms as an integrated part of their pricing policy (Schwartz, 1974; Mian and Smith, 1992; Atanasova and Wilson, 2004; Pike and Cheng, 2005). Likewise, where 'credit terms are usually invariant to the credit quality of the buyer, trade credit reduces the effective price to low-quality borrowers. If this is the most price elastic segment of the market, then trade credit is an effective means of price discrimination' (Petersen and Rajan, 1997:644).

Although trade credit is influenced by industry norms generally, the bargaining power of some companies may have a disproportionate effect on the credit terms offered: trade credit 'is more likely to be offered the greater the returns from exploiting market power through effective price discrimination' (Mian and Smith, 1992:172). Trade

credit thus becomes a device to capture business and thus support sales and business growth (Summers and Wilson, 2002).

This price discrimination is only possible because the profit margin from sales permit suppliers to accept a lower profit/greater loss on financing of the trade credit element than could a financial institution. The supplier has to have enough market power to discriminate between customers: trade credit 'is more likely to be offered the greater the returns from exploiting market power through effective price discrimination' (Mian and Smith, 1992:173). If credit terms and output prices are well coordinated then, by offering customers credit terms at below market cost, the supplier can effectively offer goods at different prices to different buyers (Emery, 1984; Pike and Cheng, 2005). So varying trade credit gives the seller a more flexible approach to pricing to discriminate between different customers and increase in the discount rate (for cash payment or two-part-terms, for instance) can be used in the same way in the company's pricing policy.

Trade credit can therefore be seen as much more than a system for providing finance: it can constitute part of an integrated package of measures which can be used to generate demand, providing more opportunities for the seller to differentiate its product-finance offering from the competition (Ingves, 1984). Sellers, unlike financial institutions, are at an advantage as they are looking to get a return on the offered package which includes the offer of goods and finance, which in itself provides more options for price variation. Many businesses find that trade credit provision is an important criterion of supplier selection, especially when sellers offer an identical mix of other variables such quality and delivery (Schwartz and Whitcomb, 1976; Petersen and Rajan, 1997; Shipley and Davis, 1991; Pike and Cheng, 2005; Paul and Wilson, 2007).

Building better business relations

The decision to grant credit can be transaction-based, relationship-based or both (Berger and Udell, 2006). Investing in and maintaining good relationships with customers are one of the most important motives for suppliers to offer credit (Summers and Wilson, 1999; Paul and Wilson 2006; Paul and Boden, 2012). Especially in highly competitive environments, suppliers may invest in buyers to achieve a higher market share by granting favourable credit terms. Credit provides an opportunity to build goodwill, enhance suppliers' reputation and improve customer loyalty by cementing supply chains. Larger firms are therefore incentivised to extend trade credit to SMEs – a factor which may be pertinent in TCEFG, though there is a risk of distorting the market by encouraging the provision of trade credit amongst suppliers that improve loyalty and so market share. Conversely, small, new and growing firms may not be well-established in supply chains and trade credit gives them the opportunity to demonstrate their capability and reliability through credit terms and payment behaviour. It also gives them the contacts that they need, through credit information and knowledge collection processes. Undertaken well, the sharing of credit across supply chains can build robust business relationships.

Once the investment is made, unless the relationship is sustained the supplier may not benefit from it - the 'value is lost if the buyer fails or terminates the relationship' (Smith, 1987:865). This means that 'the seller can earn a return on the investment only if the buyer stays in business' (Ng *et al.*, 1999:1113). Rational suppliers will therefore protect their investment in relationships by ensuring that buyers are helped through any recoverable financial difficulty. This assistance should distinguish between

customers with temporary financial problems who stand a good chance of survival, and those for whom there is little hope. When suppliers have a large number of customers in the same industry they will be able to utilise their knowledge acquired through trade credit to differentiate between problems that are related to a specific customer as opposed to those which are industry-wide. The TCEFG scheme potentially offers suppliers more nuanced information around such issues, especially at the margins of the customer base.

In cooperative supply chains, suppliers have an interest in buyers' long-term survival and would therefore take longer term potential into account rather than concentrating only on the immediate profit margin on current sales (Petersen and Rajan, 1997; Cuñat, 2007). This is especially true of those newer growing companies labouring under the usual difficulties: firms often 'ease this constraint by financing the growth of their customers with trade credit loans' (Schwartz, 1974:652). There is also ample qualitative evidence that some suppliers are proactive in using trade credit to promote the growth and ensure the survival of SME customers across the supply chain (Paul and Boden, 2012). Indeed, given that suppliers bear some of the risk in TCEFG and given the history of the scheme's development, it seems that participating suppliers are exhibiting this type of behaviour.

Whilst suppliers often concentrate on marketing and sales to achieve market share, trade credit can play a vital role in encouraging repeated purchases (Summers and Wilson, 2002; Paul and Paul and Boden, *in press*). Such support of the supply chain helps many companies to maintain their lead in the market (Pike *et al.*, 1998; Paul and Boden, *in press*). In some competitive markets, failure to comply with industry norms may adversely affect sales. Companies can capitalise on recognising what their competitors are offering and grant better credit deals to maintain and/or attract new customers. Moreover, if they offer an identical mix of elements such as price, quality, delivery, then credit may be used to differentiate them from their competitors. Trade credit can be part of the marketing mix, used as a tool of differentiation, signalling product quality and long-term presence in the market and helping build long-term relationships (Wilson *et al.*, 1995; Paul *et al.*, 2012). This could be through offering different packages combining different elements such as number of days, flexible terms for seasonal/irregular demands etc. If suppliers are cash rich, they may invest in those customers with potential and may be able to offer more generous credit terms to those loyal but struggling customers who are financially rationed by banks (Summers and Wilson, 2002; Paul and Wilson, 2007; Garcíá-Teruel and Martínez-Solano (2010).

Summary: trade credit and supply chains

The literature suggests that there is an optimal trade credit position across supply chains which can be mutually beneficial across all participants. Trade credit can provide a means of financing working capital across all collaborators, especially where bank finance is restricted or more costly. Trade credit can also be a useful means of utilising otherwise idle working capital. These factors can be important to SMEs, who are likely to encounter greater problems with accessing or accumulating working capital. Trade credit can reduce the costs of financing for both suppliers and buyers. Knowledge of customers can reduce the costs of agreeing lending compared with banks. Again, given that SMEs are likely to encounter higher costs in agreeing loans, this is advantageous to them. Trade credit can also reduce cash management costs because it enables both suppliers and customers to predict cash flow cycles more

accurately, reducing the need for precautionary holdings. Given the low asset value of most SMEs, this is likely to be a significant advantage to them. Trade credit therefore has the potential to reduce transaction costs significantly for both buyers and suppliers. It generally does this by mitigating information asymmetries. For buyers, trade credit acts as an implicit warranty, allowing queries to be raised about the quality of goods before payment is made. For suppliers, trade credit provides advanced information on the financial health of customers, acting as an early-warning system for difficulties being encountered.

In sum, for SMEs, trade credit can act as a particularly cost-effective and easy means of acquiring working capital to run a business. It can also provide some guarantees over product quality. Businesses might be motivated to extend trade credit because it builds stronger and tighter supply chains, builds customer loyalty, allows them to utilise surplus working cash, yields enhanced information about customers and reduces transaction costs, including cash management costs. In theory (Hofmann and Kotzab, 2010; Kling, Paul and Gonis, *in press*) this cross-supply chain working capital management could be of significant mutual advantage to suppliers and their customers.

5: Market failures in trade credit supply chains

The theoretical work in this area suggests that cooperative supply chains are critical to the maximisation of the advantages of trade credit financing. A crucial aspect of this is the flow of trade credit through and across supply chains, with cooperation between all members. As identified earlier on the report, this may lead to positive externalities through spillover benefits to other businesses in the supply chain and the wider economy.

Unfortunately, there exists little research which indicates how well this market works in practice. The discussion of cooperative supply chains above is a rational and market-based approach to trade credit. We now turn to look factors that restrict either the provision of trade credit or limit the benefits to a wide range of businesses.

Market Power

Firstly, it is necessary to understand the importance of the operation of power in supply chains. Supply chain power is derived from the structural positioning of businesses in the supply chain. A major element in this is the degree of dominance that participant firms have by virtue of market share. Where there is customer concentration – suppliers have very few customers, or with a significant proportion of sales concentrated in very few customers – sellers can be at a serious disadvantage with regard to trade credit (Blome and Schoenherr (2011). Dominant customers can make excessive demands for trade credit in the knowledge that the supplier cannot afford to lose them as buyers (Paul and Wilson, 2006). Thus, the costs of working capital can be pushed sub-optimally up the supply chain with suppliers bearing inappropriate financing costs. In similar vein, competition for the custom of dominant buyers can lead to damaging competition in which suppliers may vary their credit terms to attract specific customers in order to achieve a certain level of market share (Summers and Wilson, 1999; Pike and Chen, 2005; Wilson, 2008). Competition on credit price rather than product quality or service might be viewed as dysfunctional in a market and lead to, in the extreme case, to the survival of firms with large working capital resources rather than those which are innovative or otherwise efficient.

We noted above that trade credit can be a useful device to attract and retain customers, building market share (Summers and Wilson, 1999; 2002). However, where suppliers have market dominance – where there might be weak competition for the supply of goods and services – sellers are empowered to load working capital costs within the supply chain on customers by restricting trade credit.

Domination of the supply chain by suppliers may also come from the nature of the product or services provided. Particularly if the product or service is supply-chain critical, the supplier will have an advantageous position and the customer may be obliged to accept less credit in order to secure supply (Summers and Wilson, 2002).

These factors can combine with sector norms regarding payment to produce particular situations where the operation of trade credit is less than optimal across the whole supply chain. Some customers and suppliers may be able to extract a greater share out of the supply chain by reducing their own working capital financing costs by exploiting their own power position (Howorth and Wilson, 1999). Collis *et al.*,

(2013:13) find that 'large companies are using small firms as their banks and exploiting their negotiation power³¹ and SMEs very often have 'to accept the trade credit terms of a large customer'. In the recent government's response to the consultation paper 'Building a Responsible Payment Culture', it is recognised that 'although most companies say they value good relationships with their suppliers and seek sustainable supply chains as an important part of their business strategy, evidence suggests that large companies at the top of supply chains are amongst the worst late payment offenders' (BIS, 2014:10).

Risk Management

One significant reason why trade credit may not work optimally across supply chains is poor risk management by those extending credit. Sales managers will typically want to sell as much as possible, increasing market share through competition. If all, or the majority of, sales were paid for before or on delivery this would be an entirely straightforward aspiration. However, in the UK the bulk of business to business transactions take place on credit and therefore the credit management task is to make sure that the debtors remain a collectable asset. Generous credit may attract more customers and increase sales and market share, but unless debtors are then collected *on time*, companies may find the cost of financing, monitoring, chasing, collecting or writing off bad debts, unaffordable. Thus risk management is crucial: 'the greater a firm's investment in debtors, the greater the risk of default by customers...' (McMenamin, 1999:616)

This means holding a number of risk factors in play when making decisions: principally the optimum level of working capital tied up in debtors, long run cash flow considerations, the need to develop robust supply chains, and balance the risk of late/non-payment against the risk of losing a sale. Firms that fail to balance these risks sensitively, and then manage them appropriately, tend to experience difficulties. Research has found that firms that rank sales as the most important goal tend to have longer overdue accounts (Pike *et al.*, 1998; Paul *et al.*, 2012). Risk management of working capital requires comprehensive action across firms to ensure the appropriate balance between sales optimisations and trade credit. 'Collection of accounts is a matter that produces the optimum cash-flow whilst ensuring continuity of business' (Bass, 1991:11). Trade credit operations can assist in collecting creditworthiness information in order to discriminate between customers, without missing out on opportunities. Customers' classification according to their level of risk (initially) and their pattern of payment (over a certain period) allows companies to manage their risk properly.

Management of the risk of trade credit across the portfolio of accounts receivable can be advantageous: 'managing the mix of risks within [the] portfolio so that some exposures counteract others, at least to some extent, could be a worthwhile strategy' (Wells, 2004:68). The aim of such portfolio management is to allow credit managers to spread the risk so firms are not solely reliant on one specific customer, sector, market segment or country. Thus, if companies concentrate on the trade debtors portfolio it gives them an insight that can lead to valuable contribution to firms' marketing strategy.

³ As reported by one of their interviewees.

Problematically, risk management of trade credit may not be proactively undertaken. Paul and Boden (2012) found qualitative evidence of firms where trade credit was not properly integrated into firms' risk-based decision making – typically where sales as a department dominated. Likewise, they found little general evidence of widespread understanding of the strategic advantages of managing trade credit as part of the risk strategy of firms. Smaller firms often had a better understanding of risk, albeit this was not usually articulated as a risk management strategy but, more often, as small owner-operators' intuitive understanding of or 'feel for' their business. Rather, they found that some larger firms failed to understand the risks of trade credit and either were quite reckless (allowing sales to dominate over other departments) or excessively cautious and therefore possibly failing to generate the expected advantages from using trade credit strategically. Surprisingly, in some quite large firms, trade credit was either absent or seen as the 'handbrake department' (Paul and Boden, 2012).

Trade credit and supply chain management

Many measures have been put in place to try to alleviate the effects of late or non-payment, but to date these are seen to be ineffective as SMEs are the weaker partners in the supply chain and therefore find it more difficult to exercise their statutory rights or enforce codes of conduct etc. (Paul and Boden 2011). It is argued that credit terms are heterogeneous between sectors as they can be contingent upon particular structural characteristics and habits (Paul 2010). For instance, Paul and Boden (2012:18) find that in the construction sector 'the complex supply chain relationships meant that respondents in this sector were a very generative source of further contacts under the snowball sampling approach – this is an industry where credit managers network extensively with each other'. Given the nature of this sector, suppliers tend to agree on a 'pay-when-paid' system which increases the risk associated with the supply chain collapsing in a domino-effect and 'even when a "pay-when-paid" clause is not in the contractual details, some customers literally cannot pay their suppliers unless they collect the cash from their own customers themselves, with the same result' (Paul and Boden, 2012:33). However, others find that firms may have a policy of paying within the agreed terms to support the supply chain; this helps the suppliers stay in business and carry on supplying them as if they strangle suppliers, there will be less competition for their custom and the power relations in their own supply chains may become less agreeable to them' (Paul and Boden 2012:35).

Extending trade credit (including when supported by government guarantee) may, to some extent, formalise payments systems and routines – but this is contingent upon buyers' compliant behaviours and the effectiveness of the suppliers' control systems. Formalisation, to the extent that it happens, can mitigate the risk of a domino-style collapse of the supply chain. However, trade credit arrangements will not necessarily guarantee that SMEs have to pay their supplier before receiving payment themselves.

Information asymmetries

In section 4 we noted that in deciding whether to extend trade credit to a customer a business will need to take account of issues such as creditworthiness, which will be informed by credit scores, previous purchasing and payment behaviour, and knowledge of the business (and its customers). Whilst we have seen that suppliers

may be in a relatively better position compared to financial institutions, there may still be imperfect information, which may limit the extent to which trade credit is offered. In the context of an uncertain economic recovery, as we have seen in recent years, these may be exacerbated as suppliers have less confidence in the outlook of their business customers.

Summary: market failures

As we saw in section 4, the literature suggests that there is an optimal trade credit position across supply chains which can be mutually beneficial across all participants. Trade credit can act as a particularly cost-effective and easy means of acquiring working capital to run a business, and can also provide some guarantees over product quality. For suppliers, extending trade credit can help build supply chain relationships and customer loyalty, potentially be used to attract new customers, and allows suppliers to utilise surplus working cash, gaining information about customers and reducing transaction costs. Therefore, working effectively, trade credit can bring about positive spillovers across supply chains.

However, as we have seen in this section, these systems can suffer dysfunctions. Supply chains always embody some element of a power-position between suppliers and buyers. Some industries are subject to sector norms which tolerate late payment. Operating out of self-interest, some firms may choose to exploit their position through their market power, taking a short term approach to trade credit management that maximises their own cash flow position. This can result in adverse effects on other firms within the supply chain. These are firms that, for instance, pay late but demand early payment themselves. SMEs are likely to be especially vulnerable to such trading by larger businesses. With other supplier firms, it may just be poor internal organisational factors that mean that the strategic and supply-chain wide mutual advantage from trade credit cannot be seen and acted upon. This might be the firms where trade credit is insufficiently understood, or where trade credit managers are relegated to back office functions. Furthermore, the internal organisation of firms around trade credit may be particularly poor, meaning that management of the function is weak and leading to a failure to exploit the potential advantages of trade credit. This may be a particular problem for SMEs, where the absence of a dedicated trade credit manager or the requisite skills may lead to a poor operationalisation of this function. This may mean that larger firms are not always well-placed to work proactively with SMEs across supply chains to optimise working capital management for all. Finally, there may be information asymmetries that affect whether a supplier can accurately assess the creditworthiness of a business applying for trade credit, which may also limit the extent to which it is offered.

6: Improving the operation of trade credit

Two possible solutions are available to address the propensity of trade credit to suffer from market failure: regulation and third-party services. We now deal with each in turn.

Regulating trade credit

It has been suggested that regulating trade credit to help SMEs' financial situation is the optimal solution to the late payment problems which are seen as a major 'contributory factor to small businesses' financial distress and failure and hampered growth and innovation' (Wilson, 2008:10). Prompter payment might help SMEs maintain a more favourable net credit position.

The Conservative governments prior to 1997 preferred self-regulation over legislation and measures such as the Prompt Payment Code, the amendment of Companies Acts (requiring UK companies to disclose their payment policies in their annual report) were introduced (Paul and Boden (2011). Other measures (such as Best Practice Group on late payment, a British Standard for Payment, a Voluntary Code of Practice and calls for the 'naming and shaming' of late payers) were all there to help mainly SMEs. But these measures resulted in only marginal improvements (Paul and Boden, 2012; Paul *et al.*, 2012). The 1997 Labour Government introduced the Commercial Debts (Interest) Acts to give the statutory right to companies to charge 8% plus the standard bank rate interest on the late payments. The intention of the legislation was to help SMEs and 'would make companies pay within the agreed terms and possibly change payment behaviour by creating a level "paying" (!) field' (Paul, 2010:81). As explained earlier, larger firms, with better access to external finance, are supposed to help SMEs by financing them through trade credit. It appears that the reverse happens, and that the net credit position of SMEs is such that debtors exceed creditors.

SMEs were the first to be given the right to charge large companies and public sector organisations interest on any outstanding debts. The right to charge interest was then extended two years later to SMEs to charge whoever they are dealing with, and then these rights were given to all firms in 2002. The European Commission introduced the 2000 Directive (2000/35/EC) where firms charge interest on any outstanding debts not paid within the contractual/legal deadline. October, 2010, the EU voted to replace the 2000 Directive. This new Directive was intended for business-to-business as well as business-to-government transactions. Government departments/organisations were considered as the worst payers in Europe and this new Directive was supposed to help suppliers to get paid from the government within 30 days. The new EU legislation was implemented in the UK on March 16th 2013 (Directive 2011/7/EU)⁴.

Peel *et al.* (2000:33) found that, prior to the legislation, SMEs were hopeful that it would help improve their cash-flow. This does not appear to have been the case. The number of SMEs who use these measures is consistently low (Paul and Boden, *in press*). For instance, two years after the introduction of the UK legislation, only 2% of SMEs charged interest on late payment, with 30% reporting that they would be

⁴ Statutory Instrument 2013 No. 395 The Late Payment of Commercial Debts Regulations 2013

worried about jeopardising customer relationships (CMRC, 2005; Wilson, 2008). SMEs are the 'victim' of late payment and as they try to survive the economic crisis, given their limited borrowing power, the legislation did not seem to help them 'turn the tide of late payment' (The Financial Times, 2008). BACS survey data show that the amount outstanding in late payments to SMEs went from £16bn in 2007 to £30.2bn in 2013. In the same way, figures from BIS showed 85% SMEs suffer from late payment and are paid 41 days late on average longer than their larger counterparts. As a result 14% of them were unable to pay their own suppliers, most of them talked about growth constraint and 25% of them failed all together. Power imbalances arising from the position of the SME in the supply chain seem to be an important factor here.

This suggests that less powerful SMEs have, despite legislative regimes, little effective power to exercise on larger market dominant firms. There seems to be 'continuing failure of formal regulatory regimes in helping SMEs tackle late payment issues, suggesting that even more rigorous regimes are unlikely to have very much or any effect unless these underlying issues of business power are addressed' (Paul and Boden, 2011:739).

Third party services

Given the shortcomings of regulatory interventions, a further source of services to assist SMEs in gaining access to cash or trade credit are third party services. These can be divided into services designed to accelerate payment of debts to SMEs and insurance and guarantee schemes (e.g. TCEFG) designed to assist SMEs giving credit and assure those extending trade credit to them. These are not cost-free solutions in either case and these costs have to be borne by someone, e.g. within the supply chain or by an external party such as government as a guarantor.

Through effective management of their net credit position, SMEs might gain access to an additional source of finance and that their larger customers may have a motivation for allowing this to happen. Problematically, the evidence suggests that this does not occur. The March 2012 report of an industry-led working group on alternative debt markets, (Boosting Finance Options for Business, 2012) stated the fact that, in the third quarter of 2011, non-financial UK companies had cash holdings of £731.4bn, but that many SMEs were struggling for cash. This report, however, offers no magic answer to resolve this situation – urging government to find ways of persuading larger companies to pay faster (thereby easing the net credit position of SMEs) but ultimately suggests that the solution lies in supply chain finance initiatives. Invoice factoring (whereby a business sells its invoices on to an invoice financing company at less than 100% of their value) and invoice discounting (whereby a business borrows on the strength of its sales ledger) are two alternative sources of finance that SMEs can use to help address cash flow. The growing interest in these financial products highlights how financial providers are seeking to respond to market failures in credit provision for SMEs and can be extremely useful. However, one view is that dealing with trade credit issues more directly offers a more appropriate solution because it addresses the problem at its base rather than developing further financial products⁵ that attempt to mitigate the prevailing situation.

⁵ A potentially second best solution

Credit insurance may be another option for SMEs: it can transfer risks and reduce earnings uncertainty (Wilson, 2008). Many find a link between the use of such external agents and the lack of access to institutional funds (Smith and Schnucker, 1994; Summers and Wilson, 2002). Companies that use external agents are more likely to 'have experienced difficulty obtaining finance for either day-to-day operations or growth' (Wilson *et al.*, 1996:49). However, credit insurance can enhance access to finance, as firms with credit insurance may get better terms from banks because the value of debtors is used as collateral (Wilson, 2008:149).

Credit insurance companies that insure against the risk of non-payment, offer a wide range of covers. Many external agents can be used (to varying degrees and at different stages of the process) to manage the credit function. Insurance can include domestic and export invoices and can cover the whole turnover or specific accounts. Furthermore, credit insurers can offer other services such as: 'continuous monitoring of creditworthiness of the insured's customers, maintaining account receivables, suggesting payment and delivery conditions and supporting debtors collection' (Wilson, 2008:149).

However, to insure their invoices, companies have to comply with requirements imposed by the insurer and often SMEs are not a position to comply with these. Such requirements often relate to internal credit procedures. Customer risk profile plays a big role in whether SMEs are able to get insurance or not and at what cost (Paul and Wilson 2006). Whilst SMEs may seek insurance, it can be costly and may even not offer an appropriate cover (Paul, 2010). When an insurer evaluates a firm's financial health, they would often look at their net trade credit position (Paul and Boden, 2011). For instance, in January 2011 suppliers to HMV were refused credit insurance because the company was struggling (Albert 2011).

It is worth mentioning that these third party services are not mutually exclusive and so companies can use a combination of them. The overlap of factoring, for instance, with other services may indicate that a firm cannot secure a full non-recourse service on its accounts receivable and is using a combination of services to deal with the cash-flow problems it encounters.

Finally, awareness raising and training measures can be used to complement other measures, such as those around regulation, to create a 'responsible payment' culture. For example, in 2011 the 'Be Fair – Pay on Time' campaign was launched to raise awareness about late payments to SMEs. Awareness raising and training can also work with SMEs directly, for example to raising awareness of credit issues and providing help to small businesses on how they can best manage their financial risk.

7: Summary

Trade credit, the deferral of payment for goods and services in business-to-business transactions, can be conceptualised as a means of distributing finance across supply chains. Firms may be incentivised to extend trade credit because of a range of possible advantages. For SMEs it may be a very valuable source of finance, and the most recent evidence from the SME Finance Monitor highlights that it is a key source of funding for working capital along with other sources of external finance such as credit cards, overdrafts and loans.

In the UK at present, SMEs have been experiencing difficulties in accessing or affording bank lending – be it through loans or overdrafts. This appears to be a function of the operation of the banking sector, and perhaps to some extent that SMEs are discouraged from seeking it. This would suggest that SMEs might turn to trade credit as an alternative source of financing. However, SMEs have been experiencing a constriction here too – often through increasingly problematic net credit positions as larger firms can and do take longer to pay their smaller suppliers. It may be, indeed, that SMEs are shifting towards becoming net suppliers of trade credit, in contradiction to conceptualisations of supply chains being a means of efficiently offering financing through trade credit. Very small SMEs seem to have suffered most severely.

The available research literature suggests a range of reasons why those with better access to working capital (either through borrowing or retained reserves) should work cooperatively across supply chains to provide working capital through trade credit, thereby resulting in spillover effects. These include: building stronger and more resilient supply chains; allowing more efficient cash management; a reduction in transaction costs; the reduction of information asymmetries between customers and suppliers; facilitation of price discrimination between customers, and; an improvement in customer-suppliers relationships.

However, there is also evidence of a failure to achieve these advantages, reducing the propensity of those with superior access to working capital to work cooperatively providing spill overs to less-advantaged supply chain participants. This review identifies the use of market power/position to short term advantage, poor risk management by trade credit suppliers (inefficiently restricting trade credit) and poor supply chain management as possible factors here.

Finally, the review identifies two possible routes to mitigate these failures in the market for trade credit. One is regulation, which has proved far from effective in the UK environment. The second is the use of third party schemes such as insurance to correct market dysfunctions. TCEFG provides such a third party intervention and the review therefore provides the conceptual underpinning to the rest of this evaluation.

References

- Aaronson, D., Bostic, R.W., Huck, P. and Townsend R. (2004), 'Supplier Relationships and Small Business use of Trade Credit', *Journal of Urban Economics*, 55, pp. 46-67.
- Abrahams, D. (2013) 'Pay on Time or You'll Damage Small Firms', *Director*, 66 (5), pp. 28.
- Albert, A. (2011), 'HMV Suppliers Refused Credit Insurance', *Supply Management*, 19 January: <http://www.supplymanagement.com/news/2011/hmv-suppliers-refused-credit-insurance/> (Accessed 7th May 2014).
- Atanasova, C.V. and Wilson, N. (2003), 'Bank Borrowing Constraints and the Demand for Trade Credit: Evidence from Panel Data', *Managerial and Decision Economics*, 24, pp. 503-14.
- Atanasova, C.V. and Wilson, N., 2004, 'Disequilibrium in the UK Corporate Loan market', *Journal of banking and Finance*, 20 (3), pp. 595-614.
- Atrill, P. and McLaney, E. (2013) 'Accounting and Finance for Non-Specialists' (8th edn.). Gosport: Pearson Education Limited.
- Bass, R.M.V. (1991), 'Credit Management: How to Manage Credit Effectively and Make a Real Contribution to Profit', 3rd ed., Stanley Thornes (Publishers) Ltd, Cheltenham.
- BBC 2011: <http://www.bbc.co.uk/news/business-14104746> (Accessed 27th May 2014).
- BBC News (2011), SMEs Owed £33.6bn in late payments: <http://www.bbc.co.uk/news/business-15552513> (Accessed 11th May 2014).
- Berger, A.N., and Udell G.F (2006), 'A more Complete Conceptual Framework for SME Finance', *Journal of Banking and Finance*, 30 (11), pp. 2935-66.
- Bickers, M. (1994), 'Factoring an Industry of Last Resort', *Director*, 47 (6), pp. 43-48.
- Bistrova, J., Lace, N. and Peleckiene, V. (2011), 'The Influence of Capital Structure on Baltic Corporate Performance'. *Journal of Business Economics and Management*, 12(4), pp. 655-669.
- Black, J., de Meza, D. and Jeffreys, D. (1996), 'House Prices, the Supply of Collateral and the Enterprise Economy', *The Economic Journal*, 106, pp. 60-75.
- Black, T. R. (1993), 'Evaluating Social Science Research: An Introduction', London: Sage.
- Blome, C. and Schoenherr, T. (2011), 'Supply Chain Risk Management in Financial Crises – a Multiple Case-study Approach', *International Journal of Production Economics*, 134 (1), pp. 43-57.
- BDRC-Continental (2014), 'SME Finance Monitor Quarter 1, 2014'
- Brechly, F.P.R. and Lipsey, R.G. (1963), 'Trade Credit and Monetary Policy', *The Economic Journal*, December, pp. 618-41.
- Chambers, M. (2008) 'Interest on Late Payments – A BACS Study', *Institute of Credit Management*, pp. 7.
- Choi, W. G. and Kim, W. (2005), 'Trade Credit and the Effect of Macro-Financial Shocks: Evidence from U.S. Panel Data', *Journal of Financial and Quantitative Analysis*, 40, 897–925.

- Claessens, S. and Tzioumis, K. (2006), 'Measuring a Firm's Access to Finance', In the *Proceedings of Access to Finance: Building Inclusive Financial Systems*. May 30-31, Washington, Brooking Institution and World Bank, 1-25.
- Collis, J., Jarvis, R. and Page, P. (2013), '*SMEs, Financial Reporting and Trade Credit: An International Study*', The Association of Chartered Certified Accounts, Research Report 133.
- Credit Management Research Centre (2005), *Quarterly Review*, Leeds University Business School, UK.
- Creditman.co.uk 2014: <http://www.creditman.co.uk/uk/members/news-print.asp?newsviewID=19674> (Accessed 20th May 2014).
- Cuñat, V. (2007), 'Trade Credit: Suppliers as Debt Collectors and Insurance Providers', *The Review of Financial Studies*, 20 (2), pp. 491-527.
- Davis, E.W. and Yeomans, K.A. (1974), '*Company Finance and the Capital Market: A Study of the Effects of Firm Size*', Cambridge University Press.
- Department for Business Innovation and Skills (2012) 'The impact of the financial crisis on bank lending to SMEs: econometric analysis from the UK survey of SME finances', URN 12/949, available at <https://www.gov.uk/government/publications/the-impact-of-the-financial-crisis-on-bank-lending-to-smes-econometric-analysis-from-the-uk-survey-of-sme-finances> (Accessed 27th May 2014).
- Department for Business Innovation and Skills (2011) '*BIS Small Business Survey 2010*'. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32228/11-p74-bis-small-business-survey-2010.pdf (Accessed 30th May 2014).
- Department for Business Innovation and Skills (2013) 'Business population estimates 2013', IS/13/92, available at <https://www.gov.uk/government/publications/business-population-estimates-2013>. (Accessed 7th September 2014).
- Department for Business Innovation and Skills (2013) 'Trade Credit in the UK construction Industry: An Empirical Analysis of Construction Contractor Financial Positioning and Performance', BIS/13/956, available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/210964/bis-13-956-trade_credit-in-uk-construction-industry-analysis.pdf (Accessed 28th November 2014).
- Department for Business Innovation and Skills (2014), '*Building a Responsible Payment Culture: Government Response*'
- Directive 2011/7/EU on 'Combating Late Payment in Commercial Transaction: a Users Guide to the Recast Late Payment Directive', March 2013. Department for Business Innovation and Skills https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/138129/bis-13-705-a-users-guide-to-the-recast-late-payment-directive.pdf (Accessed May 28th, 2014).
- Economic and Social Research Council (2013), *The Effect of the Credit Crisis on UK SME Finance* http://www.esrc.ac.uk/images/Evidence%20briefing%20-%20finance%20for%20SMEs_tcm8-13957.pdf (Accessed 11th May 2014).
- Elliehausen, G. E. and Wolken, J. D. (1993), 'The Demand for Trade Credit: an Investigation of Motives for Trade Credit Use by Small Businesses', *Federal Reserve Bulletin*, Paper 165.

- Elliott, B. and Elliott, J. (2012), '*Financial Accounting and Reporting*', (15th ed.). Gosport: Pearson Education Limited.
- Emery, G. (1984), 'A Pure Financial Explanation for Trade Credit', *Journal of Financial and Quantitative Analysis*, 19 (3), pp. 271-85.
- Emery, G. (1988), 'Positive Theories of Trade Credit', *Advances in Working Capital Management*, 1, pp. 115-130.
- Experian (2013), 'Reduction in trade credit impacting SMEs'.
<http://press.experian.com/United-Kingdom/Press-Release/reduction-in-trade-credit-impacting-smes.aspx> (Accessed 12th May 2014)
- Federation of Small Businesses (2013), Statistics: <http://www.fsb.org.uk/stats> (Accessed 12th April 2014).
- Ferris, J.S. (1981), 'A Transaction Theory of Trade Credit Use', *The Quarterly Journal of Economics*, 96, pp. 243-70.
- Forbes (2010), '*Small and Medium-Sized Enterprises: Rebuilding a Foundation for Post-Recovery Growth*'
http://www.acca.co.uk/pubs/general/activities/library/small_business/sb_pubs/SMERebuildingAFoundation.pdf (Accessed 19 May 2014).
- Fraser S. (2004), '*Finance for Small and Medium-sized Enterprises: A Report on the 2004 UK Survey of SME Finances*' (Warwick: Centre for Small and Medium-Sized Enterprises).
- Fraser, S. (2012a), 'Are Entrepreneurs Financially Constrained? A New Test Based on Finance Gaps', *CSME Working Paper*
<http://www.thefreelibrary.com/An+assessment+of+bank+lending+to+UK+SMEs+in+the+wake+of+the+crisis.-a0352231006> (Accessed 29th May 2014).
- Fraser, S. (2009) '*Small Firms in the Credit Crisis: Evidence from the UK Survey of SME Finances*'
http://www2.warwick.ac.uk/fac/soc/wbs/research/ei/latest/small_firms_in_the_credit_crisis_v3test.pdf (Assessed 30th May 2014).
- García-Teruel, P. J. and Martínez-Solano, P. (2007), 'Short-term Debt in Spanish SMEs', *International Small Business Journal*, 25 (6), pp. 579-602.
- Giannetti, M., Burkart, M. And Ellingsen, T. (2008), 'What You Sell Is What You Lend? Explaining Trade Credit Contracts', *Review of Financial Studies*, 24(4), pp.1261–1298:
<http://rfs.oxfordjournals.org/cgi/doi/10.1093/rfs/hhn096> (Accessed 13th May 2014).
- Hill, N.C., Wood, R.A. and Sorenson, D.R. (1981), 'Factors Influencing Corporate Credit Policy: A Survey', *Journal of Cash Management*, 1, pp. 38-47.
- Hilton-Baird, Al. (2014), '88% of Businesses Affected by Late Payment in 2013', In www.creditman.co.uk: <http://www.creditman.co.uk/uk/members/news-print.asp?newsviewID=19674> (Accessed 18th May 2014).
- Hofmann, E. and Kotzab, H. (2010), 'A Supply Chain-Oriented Approach of Working Capital', *Journal of Business Logistics*, 31(2), pp.305–331.
- Howorth, C. and Reber, B. (2003), 'Habitual Late Payment of Trade Credit: an Empirical Examination of UK Small Firms', *Managerial and Decision Economics*, 24 6-7, pp.471–482.
- Huang, H. S. Z. and Zhang, S. (2011), 'Counter-cyclical Substitution Between Trade Credit and Bank Credit', *Journal of Banking and Finance*, 35, pp. 1859–1878.

- Hussain, J., Millman, C. and Matlay, H. (2006), 'SME Financing in the UK and China: a Comparative Perspective', *Journal of Small Business and Enterprise Development*, 13(4), pp. 584-599.
- Hutchinson, P. and Ray, G. (1986), 'Surviving the Financial Stress of Small Enterprise Growth', (eds. Curran, J., Stanworth, J. and Watkins, D.) in *The Survival of the Small Firms*, 1, pp 53-74, Gower, Aldershot.
- Ingves, S. (1984), 'Aspects of Trade Credit', EFI, The Economic Research Institute at the Stockholm School of Economics.
- Ive, G. and Murray, A. (2013), 'Trade Credit in the UK Construction Industry: an Empirical Analysis of Construction Contractor Financial Positioning and Performance', Department of Business, Innovation and Skills, Research Paper, 118, (July): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/210964/bis-13-956-trade_credit-in-uk-construction-industry-analysis.pdf (Accessed 22nd May 2014).
- Kling, G., Paul, S. and Gonis, E. (in press) 'Cash Holding, Trade Credit and Access to Short-term Bank Finance', *International Review of Financial Analysis* (forthcoming).
- Laffer, A. (1970), 'Trade Credit and the Money Market,' *Journal of Political Economy*, 78, pp. 239-267.
- Lee, Y.W. and Stowe, J.D. (1993), 'Product Risk, Asymmetric Information and Trade Credit', *Journal of Finance and Qualitative Analysis*, 28 (2), pp. 285-300.
- Lewellen, W., McConnell, J. and Scott, J. (1980), 'Capital Market Influences on Trade Credit Policies', *Journal of Financial Research*, 9, Summer, pp. 105-13.
- Long, M.S., Malitz I.B. and Ravid, S.A. (1993), 'Trade Credit, Quality Guarantees and Product Marketability', *Financial Management*, 22 (4), pp. 117-27.
- McMenamin, J. (1999), 'Financial Management: An Introduction', Taylor and Francis Ltd: Oxford pp. 577-613.
- Meltzer, A.H. (1960), 'Mercantile Credit, Monetary Policy and Size of Firms', *Review of Economics and Statistics*, 42, pp. 429-37.
- Mian, S.L. and Smith, C. W. Jr. (1992), 'Accounts Receivable Management Policy: Theory and Evidence', *Journal of Finance*, 47 (1), pp. 169-200.
- Mullins, J. (2009), 'Capital is King', *Business Strategy Review*, 20 (4), pp. 4-8.
- Nadiri, M.I. (1969), 'The Determinant of Trade Credit in the US Total Manufacturing Sector', *Econometrica*, 37 (3), pp. 408-23.
- National Institute of Economic and Social Research (2013), 'Evaluating Changes in Bank Lending to UK SMEs Over 2001-2012 - Ongoing Tight Credit?' <http://niesr.ac.uk/publications/evaluating-changes-bank-lending-uk-smes-over-2001-12-%E2%80%93-ongoing-tight-credit#.Uydf8mCPPmI> (Accessed 12th May 2014).
- Naumann, E., Haverila, M., Sajid Khan, M., and Williams, P. (2010), 'Understanding the Causes of Defection Among Satisfied B2B Service Customers', *Journal of Marketing Management*, 26(9-10), pp. 878-900.
- Nelson, A. (1993), 'Treasury Aims to Bridge Finance Gap', *The Sunday Times*, 19th September.
- Ng, C.K., Smith, J.K. and Smith, R.L. (1999), 'Evidence on the Determinants of Credit Terms Used in Interfirm Trade', *Journal of Finance*, 54 (3), pp. 1109-29.

- OECD (2009), 'The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses', Paris: <http://www.oecd.org/industry/smes/43183090.pdf> (Accessed 26th May 2014).
- Paul, S., Wilson, N. (2006), 'Trade Credit Supply: an Empirical Investigation of Companies Level Data', *Journal of Accounting, Business and Management*, 13, pp. 85-113.
- Paul, S., Wilson, N. (2007), 'The Determinants of Trade Credit Demand: Survey Evidence and Empirical Analysis', *Journal of Accounting, Business and Management* 14, pp. 96-116.
- Paul, S.Y. and Boden, R. (2008), 'The Secret Life of UK Trade Credit Supply: Setting a New Research Agenda', *The British Accounting Review*, 40 (3), pp. 272-81.
- Paul, S.Y. and Guermat, C. (2009), 'Trade Credit as a Source of Finance in the UK', Working Paper (ISSN 2041-1596) No. 10/09, Centre for Global Finance, University of the West of England, Bristol, UK.
- Paul, S.Y. and Boden, R. (2011), 'Size Matters: the Late Payment Problem', *Journal of Small Business and Enterprise Development*, 18 (4), pp. 732-747.
- Paul, S.Y. and Boden, R. (2012), 'Getting Paid: Lessons for and from SMEs', The Association of Chartered Certified Accounts, London, March.
- Paul, S. and Boden, R. (*in press*), 'Credible Behaviour? The Intra-firm Management of Trade Credit', *Qualitative Research in Accounting and Management* (forthcoming).
- Paul, S.Y., Devi, S. and Teh C.G. (2012), 'Impact of Late Payment on Firms' Profitability: Empirical Evidence from Malaysia', *Pacific Basin Finance Journal*, 20, pp. 777-792.
- Petersen, M.A. and Rajan, R.G. (1997), 'Trade Credit: Theories and Evidence', *Review of Financial Studies*, 10 (3), pp. 661-91.
- Pike, R., Cheng, S., Craven, K. and Lamminaki, D. (2005) 'Trade Credit Terms: Asymmetric Information and Price Discrimination: Evidence from Three Continents' *Journal of Business Finance and Accounting*, 32 (5-6), pp. 1197-1236.
- Pike, R.H. and Cheng, N.S. (1998), 'Motives for Offering Trade Credit: Theory and Evidence', Proceedings of *European Accounting Association Congress*.
- Pike, R.H. and Cheng, N.S. (2001), 'Credit Management: An Examination of Policy Choices, Practices and Late Payment in UK Companies', *Journal of Business Finance and Accounting*, 28, pp. 1013-1042.
- Pixley, J. (2012). 'New Perspectives on Emotions in Finance' First J. Pixley, ed., Abingdon: Routledge.
- PR Newswire (2006) 'Experian Reports that Late Payment of Invoices Plagues Britain's Companies' in *PR Newswire* <http://www.prnewswire.co.uk/news-releases/experian-reports-that-late-payment-of-invoices-plagues-britains-companies-155576125.html> (Assessed 19th May 2014).
- Rahaman, M. M. (2011): 'Access to Financing and Growth', *Journal of Banking and Finance*, 35(3), pp. 709-723.
- Rouse, J. and Jayawarna, D. (2006), 'The Financing of Disadvantaged Entrepreneurs: Are Enterprise Programmes Overcoming the Finance Gap?' *International Journal of Entrepreneurial Behavior and Research*, 12(6), pp. 388-400.

- Schwartz, R.A. (1974), 'An Economic Model of Trade Credit', *Journal of Finance and Quantitative Analysis*, 9, pp. 643-57.
- Schwartz, R.A., Whitcomb, D.K. (1978), 'Implicit Transfers in the Extension of Trade Credit'. In: Boulding, K.E., Wilson, T.F. (Eds.), *Redistribution Through The Financial System: The Grants Economics of Money and Credit*. Boulding, Praeger Special Studies, New York, pp. 191-208.
- Shipley, D. and Davis, I. (1991), 'The Role and Burden-allocation of Credit in Distribution Channels', *Journal of Marketing Channels*, 1 (1), pp. 3-22.
- Smith, A. (2010), 'Too Late the Hero', *Credit Management*, October, pp. 38-39.
- Smith, J.K. (1987), 'Trade Credit and Information Asymmetry', *Journal of Finance*, 62 (4), pp. 863-72.
- Smith, J.K. and Schnucker, C. (1994), 'An Empirical Examination of Organizational Structure: The Economics of the Factoring Decision', *Journal of Corporate Finance* 1 (1), 119-138.
- Summers, B. and Wilson, N. (1997), 'An Empirical Study of the Demand for Trade Credit in UK Manufacturing Firms', *Working Paper*, Number 9717, University of Bradford Management Centre.
- Summers, B. and Wilson, N. (1999), 'An Empirical Investigation of Trade Credit Extension' Eleventh Annual PACAP/FMA Finance Conference, Singapore, *Working Paper*, (July).
- Summers, B. and Wilson, N. (2002) 'An Empirical Investigation of Trade Credit Demand,' *International Journal of the Economic of Business*, 9 (2), pp. 257-270.
- Telegraph (2014b), 'Banks to Banish SME Overdrafts for Good' in *The Telegraph* <http://www.telegraph.co.uk/finance/businessclub/10687831/Banks-to-banish-SME-overdrafts-for-good.html> (Accessed 29th April 2014).
- Telegraph (2014) 'Hard Look at Late Payers Reveals SMEs are Owed £55bn', in *The Telegraph*, 10 February: <http://www.telegraph.co.uk/finance/businessclub/10629738/Hard-look-at-late-payers-reveals-SMEs-are-owed-almost-55bn.html> (Accessed 2nd May 2014).
- Walker, E.W. and Petty, W. (1978), 'Financial Differences Between Large and Small Firms', *Financial Management*, Winter, pp. 61-68.
- Wearden, G. (2008), 'Government to Spend £50bn to Part-Nationalise UK's Banks', in *The Guardian*, <http://www.theguardian.com/business/2008/oct/08/creditcrunch.banking> (Accessed 18th May 2014).
- Wells, (2004), '*Global Credit Management: An Executive Summary*', John Wiley Finance.
- Wilson, N. (2003), 'Strategic Trade Credit Management and Corporate Performance', in *Credit Management in a European Context*, Economica Verlag, Huthing GmbH and Co.
- Wilson, N. (2008), 'An Investigation into Payment Trends and Behaviour in the UK: 1997-2007', *Credit Management Research Centre*, Leeds University Business School.
- Wilson, N. and Summers, B. (2002), 'Trade Credit Terms Offered by Small Firms: Survey Evidence and Empirical Analysis', *Journal of Business Finance and Accounting*, 29, (Apr/May), pp. 317-351.

Wilson, N., Watson, K. and Summers, B. (1995), 'Trade Relationships, Credit Management and Corporate Performance: A Survey', *Credit Management Research Group*, University of Bradford.

Wilson, N., Watson, K., Singleton, C. and Summers, B. (1996), 'Credit Management, Late Payment and the SME Business Environment: A Survey', *Credit Management Research Group*, University of Bradford.

Wynarczyk, P. (2000) 'Late Payment of Commercial Debts (Interest) Act 1998: An Overview 1994-1999', *Regional Studies*, 34 (1), pp. 87-89

Legal notice

British Business Bank plc is a public limited company registered in England and Wales registration number 08616013, registered office at Foundry House, 3 Millsands, Sheffield, S3 8NH. As the holding company of the group operating under the trading name of British Business Bank, it is a development bank wholly owned by HM Government and is not authorised or regulated by the Prudential Regulation Authority (PRA) or the Financial Conduct Authority (FCA). British Business Bank operates under its own trading name through a number of subsidiaries, one of which is authorised and regulated by the FCA. British Business Finance Ltd (registration number 09091928), British Business Bank Investments Ltd (registration number 09091930) and British Business Financial Services Ltd (registration number 09174621) are wholly owned subsidiaries of British Business Bank plc. These companies are all registered in England and Wales, with their registered office at Foundry House, 3 Millsands, Sheffield, S3 8NH. They are not authorised or regulated by the PRA or FCA. Capital for Enterprise Fund Managers Limited is a wholly owned subsidiary of British Business Bank plc, registered in England and Wales, registration number 06826072, registered office at Foundry House, 3 Millsands, Sheffield, S3 8NH. It is authorised and regulated by the FCA (FRN: 496977). British Business Bank plc and its subsidiary entities are not banking institutions and **do not** operate as such. A complete legal structure chart for British Business Bank plc and its subsidiaries can be found at www.british-business-bank.co.uk.

© British Business Bank plc (December 2014)

This publication is available from british-business-bank.co.uk.

Any enquiries regarding this publication should be sent to:

British Business Bank plc

Foundry House

3 Millsands

Sheffield S3 8NH

