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Introduction

Trade credit is a financing instrument arising from the deferral of payment in a transaction for the purchase of goods or for the provision of services, the lender and the borrower corresponding to the seller and purchaser, respectively.¹ Most of these financial flows take place within the sector of resident non-financial corporations, which finance each other in this way, although part of these flows feeds through to credit granted by these firms to other sectors, such as households, general government and the rest of the world.

The quantitative importance of this type of financing has declined over the course of the crisis, but remains high. In 2014, the outstanding amount of trade credit received by Spanish non-financial firms was equivalent to 33% of GDP and to 54% of bank financing to firms. The study of trade credit is therefore of interest from the point of view of macroeconomic stability (since greater or lesser access to this source of financing may affect the investment and hiring decisions of firms) and from the point of view of financial stability (given that inter-company debt may be another channel for transmitting shocks between companies).

This article analyses the behaviour of trade credit in Spain between 2007 and 2014.² To do so it uses both aggregate data obtained from the financial accounts of the Spanish economy and microeconomic data of the Central Balance Sheet Data Office (CBSO).³ This means that a breakdown by industry and company size can be made and the statistical distribution of different indicators obtained. By contrast, the counterpart institutional sectors (households, non-financial corporations, general government, the rest of the world) of the trade finance granted by firms are not studied, since there is no breakdown available at the individual level. In addition to this introduction, the article has three sections. The first describes the behaviour of total trade credit over the last few years, the second analyses the average periods for paying suppliers and for collecting from customers and the third summarises the main conclusions.

Outstanding amounts

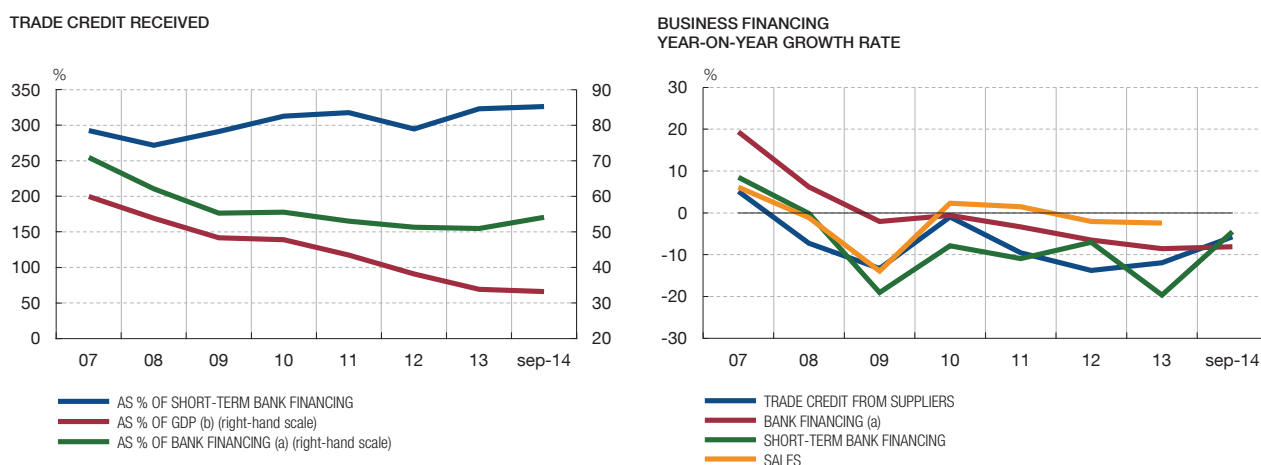
The importance of trade credit is high compared with other types of corporate finance (such as bank loans) and national output. According to the financial accounts of the Spanish economy, between 2007 and 2014 the outstanding amount of trade credit obtained by Spanish non-financial firms fluctuated within the range of 50% to 70% of the bank financing raised by this same sector (see the left-hand panel of Chart 1). Relative to short-term bank loans, which are close substitutes for trade credit, the latter amounted to around 300% of the former. And in terms of GDP, total trade credit fluctuated between levels of 30% and 50%.

During the period analysed in this article, aggregate trade credit followed a downward trend, in line with the contraction in the activity of firms (approximated by volume of sales, see right-hand panel of Chart 1). However, since 2010, trade finance has declined at

¹ Trade credit is basically effected through invoices, notes, bills of exchange, payment commitments, certificates and even, although infrequently, through delivery notes.

² For an analysis of the behaviour of trade credit over the period 2000-2010, see García-Vaquero and Alonso (2011).

³ In this case the analysis only covers the period up to 2013 given that information is only available for 2014 for the sub-sample of firms that report to the CBSO's quarterly survey, basically made up of large firms.



SOURCE: Banco de España.

a Includes securitized loans and transfers to Sareb.

b The latest GDP figure has been calculated by aggregating four quarters.

substantially higher rates than sales. The fall in trade credit has also been steeper than that in bank financing, although more moderate than that in short-term bank loans, which, as mentioned above, are close substitutes.

Although commercial invoices are not a negotiable instrument, it is possible to use them as security for some types of bank financing such as factoring and bill discounting.⁴ As seen in the left-hand panel of Chart 2, credit with a discount agreement as a percentage of total outstanding trade credit has displayed a mild downtrend since 2007, although in the initial years of the crisis the decline was more pronounced. This contraction reflects the decline in transactions “with recourse”, i.e. those in which the bank manages the collection but does not incur the risk of non-payment by the issuer of the invoice (which must be assumed by the firm that discounted it).

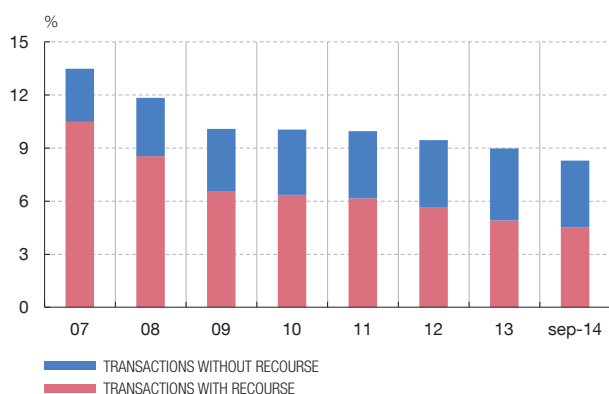
The percentage of past-due bills has been heavily influenced by the business cycle (see the right-hand panel of Chart 2). In 2008 and 2009 it rose strongly, coinciding with the start of the crisis. In 2010 it fell, in line with the less unfavourable economic developments, rising again in 2011 and 2012, in tandem with the worsening of the recession in these years. The more favourable evolution of the economy in subsequent years translated into new declines, to levels similar to or even lower than (in the case of firms’ bill portfolios) those existing before the crisis.

Chart 3 shows the evolution of the weight in firms’ balance sheets of trade finance granted (trade debtors as a percentage of total assets) and obtained (trade creditors as a percentage of total liabilities), with a breakdown by size and sector of activity, based on CBSO integrated data (CBI).⁵ It can be seen in the upper panels how, throughout the period

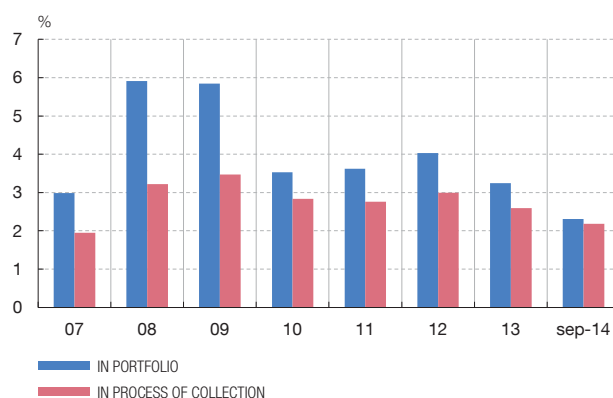
4 Normally, this type tends to be more associated with the use of enforceable instruments, such as bills of exchange and commercial paper.

5 The CBI (integrated CBSO database) is obtained by merging the CBA and CBB databases. The CBB is compiled from the information filed by firms with the Mercantile Registries. The CBA includes the data of companies that voluntarily report their annual data to the CBSO and contains data for around 9,000 firms each year, with a certain bias towards large and medium-sized firms. The CBB contains data for 600,000 firms on average, most of which are small and medium-sized enterprises, so that their inclusion in the CBI makes it more representative of the business sector.

CREDIT WITH DISCOUNT AGREEMENT AS A PERCENTAGE OF TOTAL TRADE CREDIT



PAST-DUE CREDIT AS A PERCENTAGE OF TOTAL CREDIT (a) (b)



SOURCES: INE and Banco de España

- a** In portfolio: bills issued or endorsed to the order of the financial institution. In the process of collection: bills received by the institution to process collection.
b The data are annual averages, except the September 2014 figures which are the average of the latest twelve months.

analysed, the weight of trade credit in the balance sheet was higher for SMEs than large firms, both in the case of credit granted and, to a lesser extent, credit received. The sector breakdown shows that the wholesale and retail trade and accommodation and food service activities sector and the industrial sector are those in which the relative importance of trade credit is highest, while in energy (not shown in the chart) and construction and real-estate activities (in the case of SMEs) its relative weight is comparatively low.

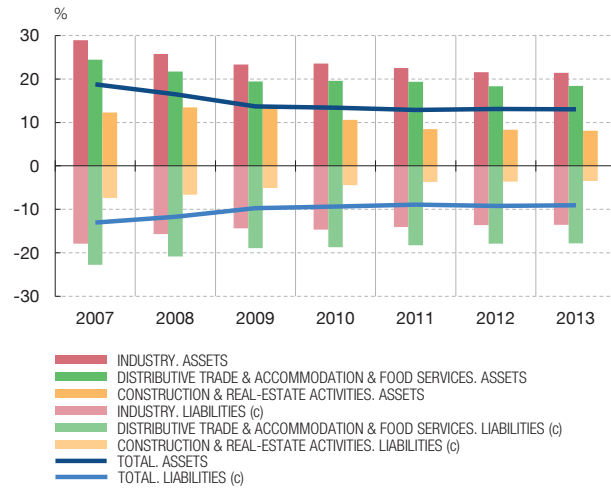
Meanwhile, it can be seen in the central panels how, overall, both large companies and SMEs grant trade finance, in net terms. Accordingly, the business sector as a whole lends to other sectors (households, general government and the rest of the world) as a consequence of its business activity. The net financing granted by SMEs, in balance sheet terms, is greater than that granted by larger companies, which, inter alia, may reflect their lesser bargaining power. The sector breakdown shows that industrial firms grant the highest percentage of funds. By contrast, large companies in the wholesale and retail trade and accommodation and food service activities sector and, to a lesser extent, construction and real-estate firms receive trade finance in net terms.

In any case, there is a high degree of heterogeneity in the relative amount of net financing granted by the firms within each sector and size bracket. For example, as seen in the lower panels of Chart 3, although industrial SMEs as a whole grant more net financing than the other groupings considered, an appreciable percentage of them (around 25% in terms of sales) are net recipients of financing.

Chart 3 also shows how the weight of trade credit in the balance sheet has displayed a downward trend during the period analysed, especially during the initial years of the crisis, in line with the contractionary trend in business activity. In particular, for the sample as a whole, the ratio of trade debtors to total assets fell from 11.6% in 2007 to 8.4% in 2013, while the ratio of trade creditors to total liabilities fell from 9.7% to 6.7% over the same period. This pattern was seen in most sectors and affected both large companies and especially SMEs, in keeping with the more pronounced impact of the crisis on the activity of the latter. In addition, the different behaviour of financing granted and received led to a decline in the net financing granted by this latter group, as against the relative stability of

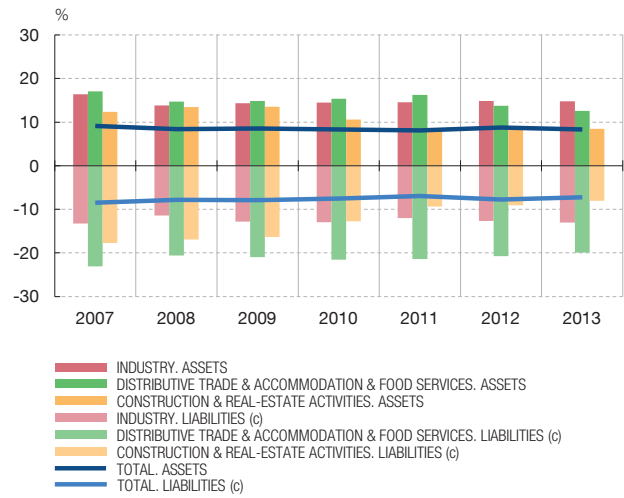
SMEs

TRADE DEBTORS/TOTAL ASSETS AND TRADE CREDITORS/TOTAL LIABILITIES

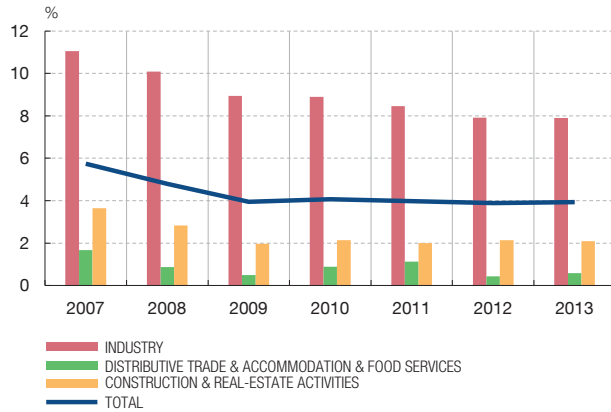


LARGE CORPORATIONS

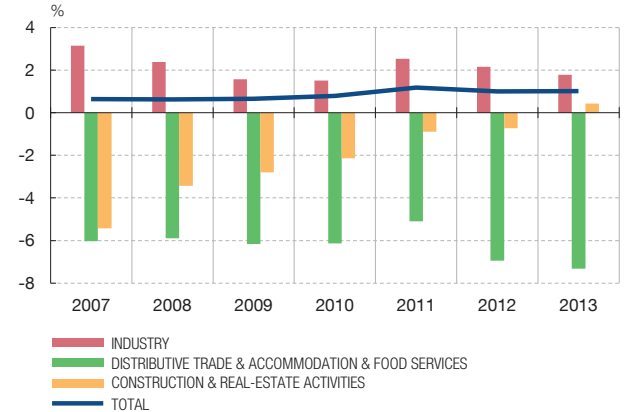
TRADE DEBTORS/TOTAL ASSETS AND TRADE CREDITORS/TOTAL LIABILITIES



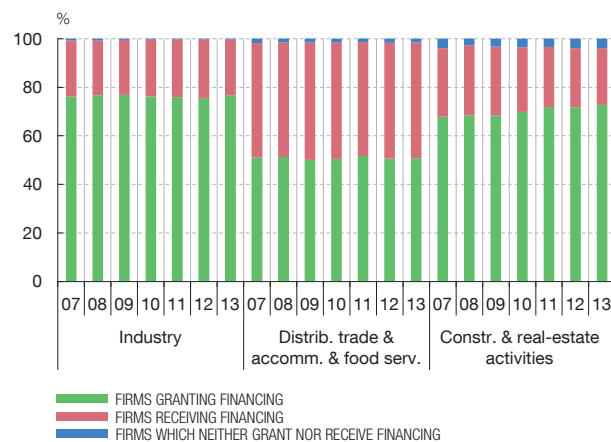
(TRADE DEBTORS-TRADE CREDITORS) / ASSETS



(TRADE DEBTORS-TRADE CREDITORS) / ASSETS



WEIGHT IN SALES ACCORDING TO SIGN OF NET TRADE FINANCING



WEIGHT IN SALES ACCORDING TO SIGN OF NET TRADE FINANCING



SOURCE: Banco de España.

- a The breakdown by size is in line with construction & real-estate activities in line with Commission Recommendation 2003/361/EC, whereby an enterprise is considered an SME if it has no more than 250 employees and its assets or net turnover do not exceed a certain threshold. In addition, irrespective of the above criteria, neither State-owned enterprises nor firms belonging to a group that exceeds the above thresholds are considered SMEs. All firms that are not classified as SMEs are included in the group of large corporations.
- b The 2013 data are the result of applying the change in the relevant percentage, calculated for a common sample of firms, to the prior-period data.
- c Sign changed.

FIRMS WHOSE FINANCIAL DEBT DECREASES



FIRMS WHOSE FINANCIAL DEBT DOES NOT DECREASE



SOURCE: Banco de España.

- a Excluding companies with no financial debt.
- b The breakdown by size is in line with Commission Recommendation 2003/361/EC, whereby an enterprise is considered an SME if it has no more than 250 employees and its assets or net turnover do not exceed a certain threshold. In addition, irrespective of the above criteria, neither State-owned enterprises nor firms belonging to a group that exceeds the above thresholds are considered SMEs. All firms that are not classed as SMEs are included in the group of large corporations.

this indicator for large companies (see the central panels of Chart 3). The breakdown by sector shows that the most pronounced falls in the weight of trade credit received by firms occurred in the group of large real-estate and construction companies, which switched from being net recipients of financing in 2007 to net grantors of credit in 2013. With regard to credit granted, the largest decline occurred among industrial SMEs, which led to a significant decline in the net financing granted by the latter as a consequence of their business activity (from 11% in 2007 to 8% in 2013).

Finally, the behaviour of trade credit in recent years shows the important role that this instrument has played in the redistribution of financial resources within the business sector, from firms with greater access to bank credit to those with less access owing to their greater need to deleverage. In particular, as seen in Chart 4, during the crisis period the group of firms that reduced its financial debt also reduced the net volume of trade credit granted (by reducing the amount of trade debtors, by increasing the amount of trade creditors, or by doing both), while those companies whose financial indebtedness rose or remained unchanged used part of the funds obtained through this channel to increase the amount of trade credit granted. In both cases, this behaviour was observed both for large companies and for SMEs.

Average supplier-payment and customer-collection periods

Drawing on the CBI information, indicators approximating the supplier-payment and customer-collection periods can be calculated. Specifically, the average supplier-payment period can be calculated as the ratio of trade creditors (taken from the balance sheet) to annual purchases (taken from the profit and loss account), multiplied by 365. This ratio measures the average number of days that the company takes to pay its suppliers.⁶ The average customer-collection period can be calculated similarly, as the ratio of trade debtors to annual sales, multiplied by 365. This indicator provides an estimate of the

⁶ This is an approximation, since it is calculated on the basis of the number of suppliers at year-end. For an exact number, it should be calculated using the average amount, but this figure is not available. Therefore, the figures examined in this section should be interpreted with all due caution.

average number of days that the company takes to collect payment from its customers.⁷ Finally, the average period of net trade finance extended, expressed in days, can be calculated as the difference between the net balance of trade debtors and trade creditors, divided by total annual sales, and multiplied by 365, and it measures the average number of days the company grants net financing as a consequence of its business transactions. A negative figure denotes that the company raises financing, in net terms, in its business activity.

Chart 5 shows the statistical distribution of average payment and collection periods, and of net trade finance, from 2007 to 2013 (calculated using the above-mentioned procedure) for the CBI sample, drawing a distinction between SMEs and large corporations. The 25th, 50th and 75th percentiles (weighted by purchases or sales⁸) are given so as to reflect the situation of the average company (50th percentile or median) and of companies where the indicator gives an extremely low (25th percentile) or high (75th percentile) value. Chart 6 shows the (weighted) median for certain sectors of activity, likewise drawing a distinction between the above two company sizes.

Across the whole of the distribution, the average periods are shown to be generally longer for supplier payment than customer collection, with sharper differences in the case of large companies (see Chart 5). On the other hand, collection periods tend to be longer at SMEs than at large corporations, except in the construction and real estate sectors, where the opposite occurs (see Chart 6). Among other reasons, these differences may reflect the stronger bargaining power of large companies, which makes it easier for them to defer payments.

Across the sectors of activity, the longest payment and collection periods occurred in the group of real estate and construction companies, especially in the large ones, where the median customer-collection and supplier-payment periods exceeded 100 and 160 days, respectively, during the period analysed. The shortest were in the wholesale and retail trade and accommodation and food service activities sector (the median was less than 40 days for collecting from customers and under 70 days for paying suppliers).

Average collection and payment periods tended to increase in 2009, coinciding with the deepening financial crisis, and no doubt reflected heightened pressures on companies' cash flows. In subsequent years, the periods have gradually become shorter, more so at the higher end of the distribution (75th percentile) than in the median or, in particular, the lower end (25th percentile). This recent downward trend can be found both at SMEs and large companies, and can be seen in most sectors, albeit to varying degrees of intensity. As a result, at the end of the period under analysis, both average customer-collection and supplier-payment periods fell, overall, to below pre-crisis levels.

As the bottom panels of Chart 5 show, the developments in average customer-collection and supplier-payment periods led to shorter net trade financing periods for companies that granted financing for longer terms (75th percentile). Set against this, periods also

7 As mentioned in footnote 6, this is also an approximation, as it is calculated using the customer figure at year-end.

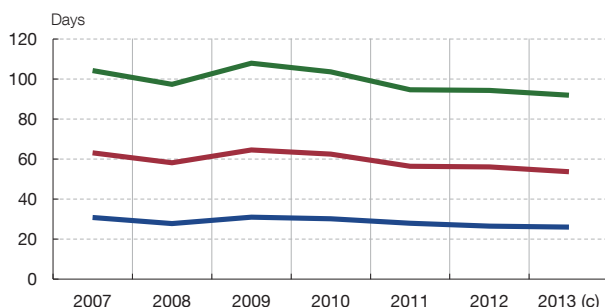
8 The percentiles are weighted on the basis of the volume of purchases (for the average payment period) and sales (average collection period and net trade finance) to give more weight to the figures of companies with a greater volume of business activity, as they are considered to be more representative. For example, a value for the 25th, 50th and 75th percentiles of the average supplier-payment period means that purchases by companies with similar or shorter periods are equivalent to 25%, 50% and 75%, respectively, of the total purchases of the companies in the sample.

DISTRIBUTION OF AVERAGE PAYMENT AND COLLECTION PERIODS, AND NET TRADE FINANCING. BREAKDOWN BY SIZE (a)

CHART 5

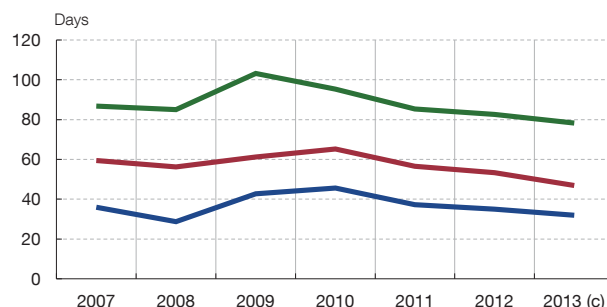
SMEs

AVERAGE SUPPLIER-PAYMENT PERIOD (b)

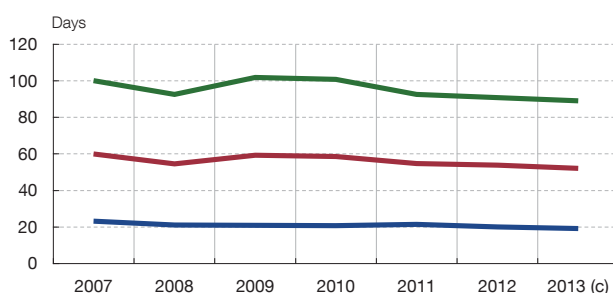


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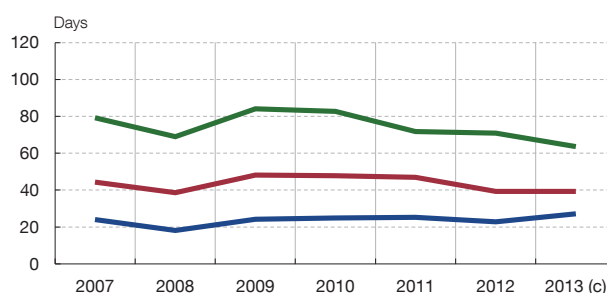
AVERAGE SUPPLIER-PAYMENT PERIOD (b)



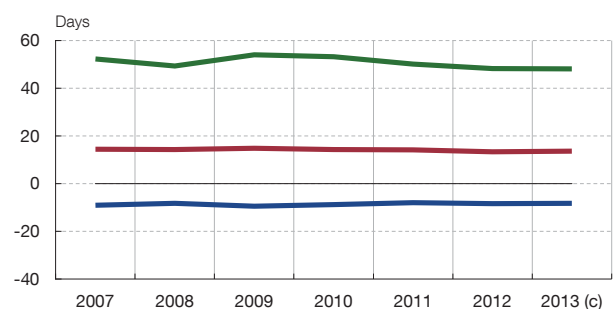
AVERAGE CUSTOMER-COLLECTION PERIOD (d) (e)



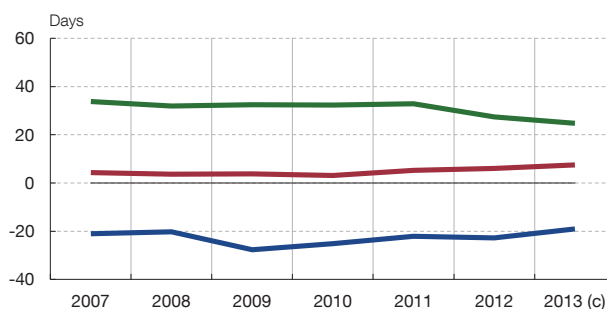
AVERAGE CUSTOMER-COLLECTION PERIOD (d) (e)



NET TRADE FINANCING (f) (e)



NET TRADE FINANCING (f) (e)



— 25th PERCENTILE — 50th PERCENTILE — 75th PERCENTILE

SOURCE: Banco de España.

- a The breakdown by size is in line with Commission Recommendation 2003/361/EC, whereby an enterprise is considered an SME if it has no more than 250 employees and its assets or net turnover do not exceed a certain threshold. In addition, irrespective of the above criteria, neither State-owned enterprises nor firms belonging to a group that exceeds the above thresholds are considered SMEs. All firms that are not classed as SMEs are included in the group of large corporations.
- b Defined as ratio of suppliers to annual purchases, multiplied by 365. For the calculation of percentiles, the weight of the corporation's purchases relative to the total purchases corresponding to its group and period have been taken into account.
- c The 2013 data are the result of applying the change in the average number of days, calculated from a common sample of firms, to the prior-period data.
- d Defined as the ratio of customers to annual sales, multiplied by 365.
- e For the calculation of percentiles, the weight of the corporation's sales relative to the total sales corresponding to its group and period have been taken into account.
- f Defined as the ratio of customers less suppliers to annual sales, multiplied by 365.

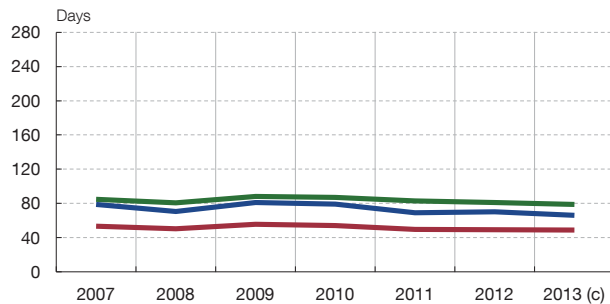
became shorter in companies in the opposite situation (25th percentile), more evidently so in the larger companies. This no doubt helped lighten the financial pressure on lending companies which, in principle, would be under greater stress owing to their longer collection periods.

**MEDIAN FOR AVERAGE PAYMENT AND COLLECTION PERIODS, AND NET TRADE FINANCING.
BREAKDOWN BY SIZE AND SECTOR (a)**

CHART 6

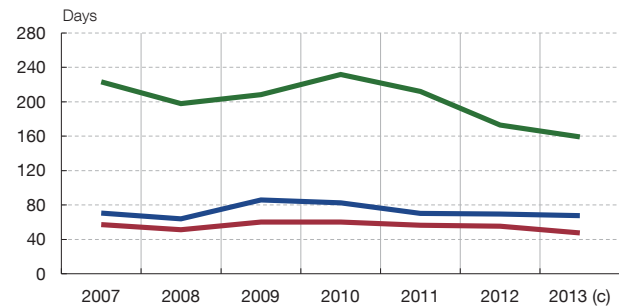
SMEs

AVERAGE SUPPLIER-PAYMENT PERIOD (b)

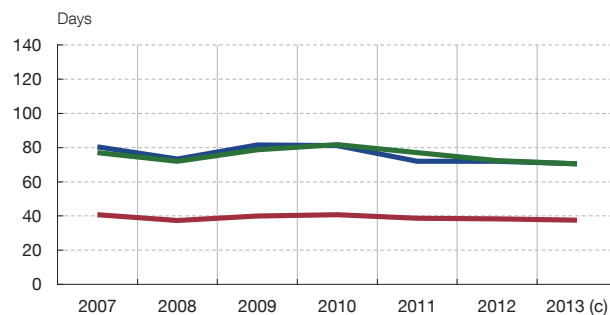


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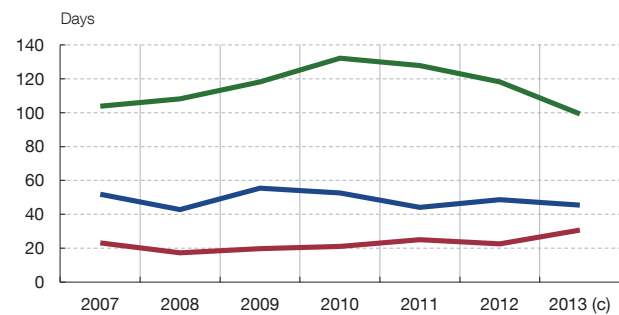
AVERAGE SUPPLIER-PAYMENT PERIOD (b)



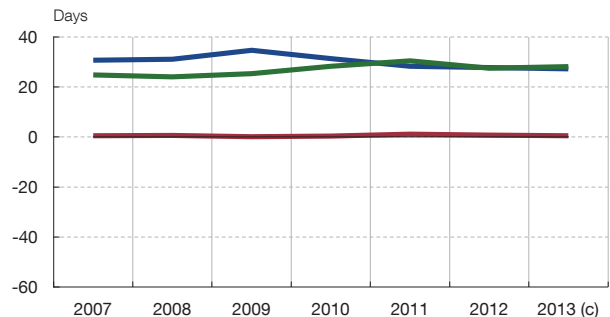
AVERAGE CUSTOMER-COLLECTION PERIOD (d) (e)



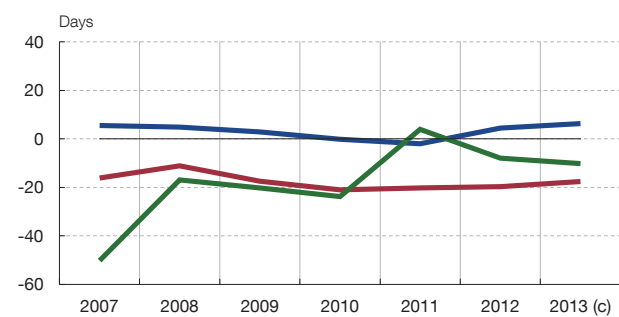
AVERAGE CUSTOMER-COLLECTION PERIOD (d) (e)



NET TRADE FINANCING (f) (e)



NET TRADE FINANCING (f) (e)



— INDUSTRY — DISTRIB. TRADE & ACCOMM. & FOOD SERVICES — CONSTR. & REAL ESTATE ACTIVITIES

SOURCE: Banco de España.

- a The breakdown by size is in line with Commission Recommendation 2003/361/EC, whereby an enterprise is considered an SME if it has no more than 250 employees and its assets or net turnover do not exceed a certain threshold. In addition, irrespective of the above criteria, neither State-owned enterprises nor firms belonging to a group that exceeds the above thresholds are considered SMEs. All firms that are not classed as SMEs are included in the group of large corporations.
- b Defined as the ratio of suppliers to annual purchases, multiplied by 365. For the calculation of the median, the weight of the corporation's purchases relative to the total purchases corresponding to its group and period have been taken into account.
- c The 2013 data are the result of applying the change in the average number of days, calculated from a common sample of firms, to the prior-period data.
- d Defined as the ratio of customers to annual sales, multiplied by 365.
- e For the calculation of the median, the weight of the corporation's sales relative to the total sales corresponding to its group and period have been taken into account.
- f Defined as the ratio of customers less suppliers to annual sales, multiplied by 365.

The shortening of average periods in recent years is due, at least in part, to certain economic policy measures. These included the introduction of maximum payment periods in commercial transactions, which had previously been freely agreed between the parties. Specifically, Law 15/2010, amending measures to combat late payment in commercial transactions, set a maximum payment period of 60 days from the date of receipt of the goods or provision of the services. To this end, it set a timetable⁹ to progressively lessen the payment period from 85 days in July 2010 to 60 days at the start of 2013. For general government debt, the limit was set at 30 days, on the basis of a stricter timetable¹⁰ reducing the maximum period from 50 days in 2011 to 30 days in 2013. Subsequently, Royal Decree-Law 4/2013 on measures supporting entrepreneurship and promoting economic growth and job creation, tightened up these regulations by establishing a maximum period of 30 days for commercial payments between companies in cases where there was no mutually agreed time limit. More recently, Organic Law 9/2012 on the control of trade debt in the public sector stipulated that all government agencies should disclose their average supplier-payment period, and have in place a cash management plan including, at least, information on projected payments to suppliers.

The successive tranches of the Fund for the Financing of Payments to Suppliers¹¹, between 2012 and 2014, were another factor which contributed to reducing the collection and payment periods. The purpose of this Fund was to finance the payment of the outstanding invoices of the regional and local governments to their suppliers. A total financed volume of €41.8 billion was used to pay more than 8 million invoices to 200,000 suppliers, 60 % of which related to the health and pharmaceutical sectors.

Conclusions

The findings of this article highlight how the relative significance of trade credit remains high, despite its decline in recent years. In 2014, outstanding trade credit amounted to 33 % of GDP, and to 54 % of the bank loans granted to non-financial corporations in the same year. This type of financing has a greater relative weight in SMEs and, by sector of activity, in the wholesale and retail trade and accommodation and food service activities sector and the industrial sector. However, even within these subgroups, there is a high degree of heterogeneity among companies. Moreover, in recent years, trade credit has played a pivotal role in the redistribution of financial resources within the business sector, since companies that have been able to increase their financial debt have, overall, used some of the new funds to grant more trade credit to companies with a higher level of indebtedness and, therefore, more difficulties in obtaining bank loans.

In addition, the evidence presented shows that average supplier-payment and customer-collection periods have trended downward since 2010, meaning that in 2013 they stood, overall, at below pre-crisis levels. This trend has benefited from certain economic policy measures adopted in recent years, such as the regulation of payment periods in commercial transactions (with the introduction of maximum terms), or the successive tranches of the Fund for the Financing of Payments to Suppliers (which have provided for quicker payment to suppliers of outstanding invoices by regional and local governments). Also, the subsequent shortening of the average net trade financing period has been more

⁹ The timetable was defined as follows: from 7 July 2010 to 31 December 2011, the maximum period was 85 days; from 1 January 2012 to 31 December 2012, 75 days; from 1 January 2013, 60 days.

¹⁰ The transition period was set as follows: from 1 January to 31 December 2011, the maximum period was 50 days; from 1 January to 31 December 2012, 40 days; from 1 January 2013, 30 days.

¹¹ For further details, see García-Vaquero (2013)

pronounced in companies extending loans for longer terms, thus reducing the financial pressure on them.

16.1.2015.

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