The impact of the PRA's proposals for implementing Basel 3.1 standards in the UK

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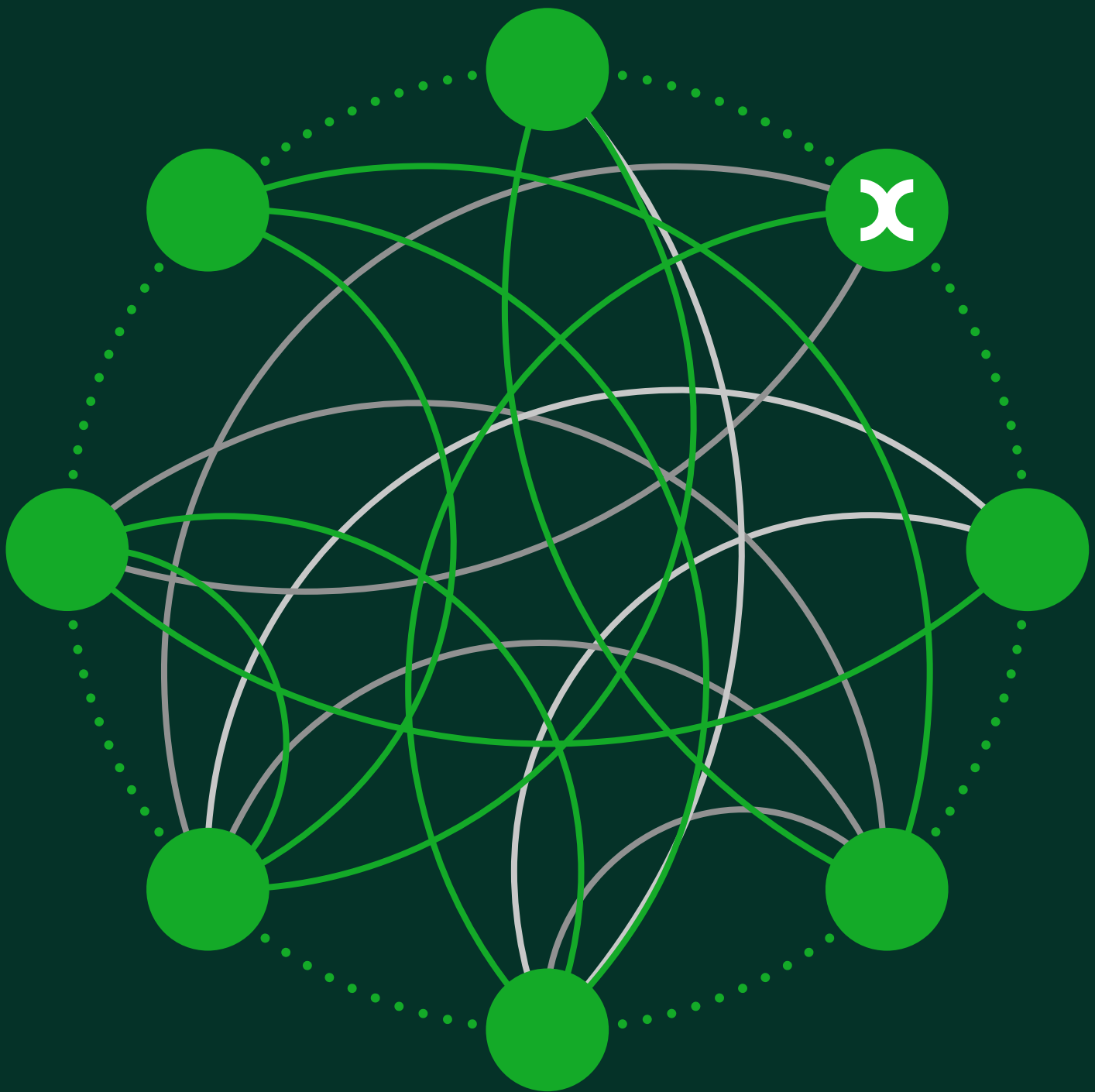
An economic analysis of the potential negative impact on SME lending and economic growth

20 March 2023



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Foreword by Martin McTague, National Chair of the Federation of Small Businesses

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FSB has been concerned about the availability of credit to SMEs for some time: our Small Business Index shows that historically high numbers of SMEs are applying for credit but relatively few are successful and the interest rates being charged are rising.[1] In our Credit Where Credit's Due report, published in December 2022, we specifically urged the PRA not to seek to implement Basel 3.1 standards in a way that would affect funding to SMEs.[2]

We fully support Allica for commissioning Oxera to undertake a thorough analysis of the PRA's proposals in relation to SME lending. Oxera have assessed the economic impact of the PRA's proposals to remove the SME Support Factor and impose a 100% floor to the risk weight on property-secured business loans. Oxera estimates that this will result in a 32% increase in challenger and specialist bank capital requirements for SME lending, and, when combined with the effects for IRB banks, could reduce overall SME lending by up to £44bn.

There is a real risk that lending to the SME sector may become even more expensive, leading to a reduction in the provision of credit and higher interest rates. If the SME sector finds it more difficult to access credit and must pay higher interest rates for borrowing, it is likely that this will compromise the ability of SMEs to scale up and create jobs.

As Oxera's report demonstrates, given the small and systemically unimportant nature of the providers of most SME lending, the PRA have an opportunity to pursue their secondary objectives in terms of supporting the UK's economic growth and competitiveness, and encouraging competition in the financial sector, without compromising on their primary objective of ensuring financial stability.

We would welcome the PRA publishing empirical evidence and cost benefit analysis specific to SME lending, as it isn't clear that the proposed changes are justified.

[1] FSB Small Business Index 2022, Q4.
[2] FSB (2022), 'Credit Where Credit's Due: Small businesses and the need for external finance for investment and growth'

Foreword by Paul Goodman
Chair of the National Association of Commercial Finance Brokers

In early March, the National Association of Commercial Finance Brokers (NACFB) hosted a forum with a range of non-high-street banks and SME industry bodies. All participants raised concerns about the potential consequences of the PRA's proposals for implementing Basel III—in particular, whether the PRA's proposals made the correct trade-off between greater prudence but also higher costs to banks lending to SMEs, and the implications this might have for borrowing costs and access to finance for SMEs themselves.

We are grateful to Allica Bank for commissioning Oxera to undertake this economic impact study, and we are also grateful to the other banks who provided data where it was needed.

As this report shows, SMEs are economically significant for the UK, accounting for almost 99% of companies, more than half of private sector employment, and around half of the UK's economic output. However, the most successful SMEs are often hindered in their efforts to grow by challenges in accessing capital. This is an area where the UK economy has made real progress over the last decade or so, with lending volumes increasing largely as a result of a vibrant group of smaller banks, many of which are recent entries to the sector.

Market plurality and competition are central tenets of what has become a vibrant SME lending community, and now is not the time to hinder smaller players and hold back their evolution. The NACFB supports calls for a greater examination of the potential unintended consequences that the proposals framework will likely bring and encourages the Bank of England and the PRA to show their workings by releasing supporting data ahead of any implementation.

Executive summary

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In November 2022, the PRA published its proposals for implementing the Basel 3.1 prudential standards in the UK.[3] Allica Bank has commissioned Oxera to consider the likely economic impact of these proposals. Our particular focus has been on the potential impact of the PRA's proposals in the market for SME lending.

SME finance is important for the general health of the UK economy, with SMEs having been described as an 'engine of growth' for the UK.[4] Therefore this report focuses on the potential impact of the PRA's proposals on SME lending.

SME lending is an area where 'challenger' banks have been able to successfully enter and serve a substantial section of this market in spite of the competitive disadvantages challenger banks face vis-à-vis larger high-street banks. The advantages of large incumbent banks include:

- in many cases, being able to use their own internal ratings-based (IRB) models to assign risk weights to different kinds of loans—these risk weights are almost always lower than those assigned via the standardised approach (SA) that other banks must use;
- cheaper funding costs that come from having a more established brand and being able to offer low interest rates on a large number of consumer deposits—and using these deposits to fund various lending activities.[5]

The PRA's proposals would have a material impact on all banks, larger and smaller ones. On a volume-weighted basis, the impact for SA banks would be an increase of around 32% in the risk weighting that must be assigned to loans made to SMEs. For banks using their own IRB models, the impact is less clear, as there is some uncertainty about the output of their internal models today to which we do not have access. Our best estimates suggest that the increase for IRB banks could be around 39%.

The overall effect of the increase in risk weighting, assuming no change in either the level of capital held by banks or the capital-risk-weighted asset ratio with which they operate, would be a reduction in SME lending of up to £44bn from the banking sector. Of this, £21bn comes from reduced lending by SA banks and £23bn comes from reduced lending by IRB banks. SMEs may find reduced bank lending more problematic than larger firms because while some larger firms have access to wholesale debt markets, SMEs do not. Of course, this reduction in lending is an upper bound as banks may also be able to respond by raising more capital. However, raising more capital may be difficult, would take time, and may come with other economic costs.

[3] Prudential Regulation Authority (2022), 'CP16/22 – Implementation of the Basel 3.1 standards'.
[4] Bank of England (2020), 'Open data for SME finance: What we proposed and what we have learnt', March (accessed 8 February 2023).
[5] Recent research has shown that very few easy-access savings accounts have passed on the recent increases in base rates to savers. See The Guardian (2022), 'Why aren't banks passing on interest rate rises to customers?', accessed 8 March 2023.

In addition to the general tightening of prudential regulations, the changes proposed by the PRA would have some concerning consequences. In particular, while secured and unsecured business loans to SMEs today carry the same risk weighting for banks using the SA, if the changes proposed by the PRA were to be implemented, this would no longer be the case: the risk weighting for secured lending would be higher than for unsecured lending. Secured lending, *ceteris paribus*, should be expected to be less risky than unsecured lending because the loss given default should be lower for secured lending. In the event of default, the bank can recover the asset that was offered as security and sell it to cover the outstanding loan while there is no such option on an unsecured loan. So, it is counterintuitive that the PRA is proposing a *higher* risk weighting for secured lending to SMEs than for unsecured lending to SMEs. Banks are unlikely to become more prudent if prudential regulation encourages them to offer unsecured rather than secured business loans.

The increase in risk weights in terms of loans to SMEs is primarily jointly driven by the PRA's decision to eliminate the SME Support Factor and the 100% risk weight floor on lending to SMEs secured on property. This Support Factor was introduced when prudential regulation was initially tightened in the immediate aftermath of the global financial crisis as a means of ensuring that finance would remain accessible for SMEs. While the PRA does not believe that the SME Support Factor has had a material impact in terms of encouraging lending to SMEs, the evidence we have surveyed is more positive and indicates both that the Support Factor:

- has led to more lending to SME firms than would have happened in a counterfactual without the Support Factor; and
- has not significantly increased prudential risk exposures for banks.

Furthermore, our research finds that SMEs remain important in terms of the UK economy, making up more than half of private sector employment and approximately half of UK GDP. Indeed, while employment for firms with more than 250 employees has grown by 1 million over the last ten years, employment at smaller firms has grown by twice that. SMEs are also more likely to be incubators of innovation and therefore drivers of higher rates of economic growth.

SMEs are particularly reliant on bank finance as a source of financing. Such financing is typically used by high-growth SMEs to fund their growth and expansion plans. A lack of access to finance appears to be a key obstacle to growth for many SMEs. A recent Bank of England discussion paper has identified a £22bn funding gap in terms of SME financing. Given rising interest rates and changes in the macroeconomic climate, this challenge is only likely to heighten in the near term.

All this suggests that the reasons for the introduction of the SME Support Factor are still relevant today.

The PRA has conducted a cost–benefit analysis to weigh the benefits of stronger prudential regulation in terms of less frequent and shallower financial crises against forgone investment and growth

opportunities as a result of restricted credit access. However, the PRA's analysis has been calibrated to economy-wide data, where large systemically important banks may obscure what is happening to smaller banks. No specific cost–benefit analysis has been conducted on SME lending. In 2022 more than half of SME finance came from smaller banks, thus:

- the benefits of stronger prudential regulation will be much weaker as these smaller banks do not present systemic risk; and
- the costs to the economy in terms of foregone investment and growth are greater as SMEs are particularly reliant on bank finance to fund investment and growth.[6]

Overall, this report concludes that:

1 the elimination of the SME Support Factor for non-systemic banks using the SA should be reconsidered. The available evidence suggests it is justified both in supporting the availability of SME finance and its risk calibration of capital requirements for lending to SMEs;
2 the risk weight floor for business loans secured on property that the PRA is proposing should be removed. It is above international standards and creates the counterintuitive outcome that an unsecured loan would have a lower risk weight than a secured loan. This second point is important as—if prudential regulation were to lower the cost of unsecured loans relative to secured loans—it might incentivise *riskier* behaviour by banks.

[6] By contrast larger firms are able to benefit from other sources of finance, e.g. by issuing equities or bonds.

1 Introduction

Allica Bank has commissioned Oxera to examine the proposals by the Prudential Regulation Authority (PRA) for the implementation of Basel 3.1 prudential regulation standards in the UK. These standards are the next phase in the tightening of prudential regulation internationally in response to the events of the global financial crisis (GFC) of 2007/08. The analysis in the report has also been informed by data from Atom Bank and Arbuthnot Latham.

Allica has asked us to examine the impact on lending to small and medium-sized enterprises (SMEs). This is an area that Allica Bank, along with several other 'challenger' banks, has been able to profitably serve in recent years, despite the competitive disadvantages faced by challenger banks in the financial sector. We note here that these banks tend to be small local banks rather than the internationally active banks for which the Basel 3.1 regulations were designed. As such, there is no obligation to apply Basel 3.1 to these banks. SME finance is also important for the general health of the UK economy as SMEs have been described as an 'engine of growth' for the UK. Therefore this report focuses on the potential impact of the PRA's proposals on SME lending.

Overall, a tightening of prudential regulation—increasing the capital that banks must hold in order to minimise the risk of bank failure—can be expected to lead to lower levels of lending. If this is the case, it will have consequences for SMEs as they are particularly reliant on bank finance whereas larger firms have had more success in securing financing from other sources.

Our report proceeds as follows.

- Section 2 examines the market for SME financing as it is currently served and shows how challenger banks have made considerable progress in terms of overcoming the disadvantages they face vis-à-vis larger banks in order to profitably serve a majority of this market.
- Section 3 outlines the relevant elements of the PRA's proposals.
- Section 4 estimates the potential impact of these proposals on SME lending from the large incumbent banks and from the challenger banks.
- Section 5 examines the role of SMEs in the economy and the potential economic consequences for the UK of restricting SME access to credit.
- Section 6 places this analysis in the context of the PRA's proposals, and its objectives in terms of ensuring financial stability, but also promoting growth and competition.

Box 1.1 The collapse of Silicon Valley Bank

The purpose of prudential regulation is about reducing the likelihood of bank failure in the first place and reducing the damage done to the

rest of the economy when a bank does fail. As such it is always instructive to look at examples of bank failure; what prompted the bank failure; and whether there was any systemic fallout as a result of the bank failure.

At the time of writing, the most recent bank failure concerns Silicon Valley Bank (SVB). The bank was based in the USA, and had a subsidiary in the UK. The US parent bank was facing a bank run on 10 March and collapsed over the weekend. The Bank of England began resolution measures for the UK subsidiary that weekend and by the morning of 13 March were able to announce that the UK subsidiary had been sold to HSBC for £1.

First, we note that SVB's UK subsidiary was larger than most of the challenger banks covered in this report but there has been no systemic fall out from its failure. This supports our argument that failure of a SME lending specialist would be unlikely to pose systemic problems.

Second, there are two important features that may have been relevant in SVB's failure which are absent from the challenger banks engaged in SME lending which are the subject of this report. In particular, that the banks engaged in the UK market are better regulated and have less risky business models. We expand on each of these points below.

Unlike the US regulators, the PRA broadly applies the Basel framework in the regulation of all deposit-taking banks in the UK (and this would still be so if the PRA were to accept our recommendations). However, we understand that SVB in the USA was subject neither to Basel liquidity measures nor to Interest Rate Risk in the Banking Book (IRRBB) controls.

Moreover, SVB's business model was prudentially different and riskier than the business model of the SME lending UK challenger banks. SVB provided credit to companies in the Tech sector; by contrast, the UK banks covered here provide credit to SMEs across all sectors of the economy. An even bigger prudential risk on the asset side of the balance sheet that was taken by SVB but not taken by the UK banks covered here was investing the proceeds of short-term deposits received in long-maturity, fixed-rate bonds at a time of low interest rates. This investment led to substantial losses and interacted with a high risk taken by SVB on the liability side that, again, is not taken by the UK banks covered here. This risk is holding a substantial proportion of deposits from de facto connected parties. Specifically, the small number of venture capital firms funding the Tech start-ups banking with SVB became worried by the bond portfolio losses and told their associated start-ups to withdraw their deposits. What transpired was in effect a coordinated bank run.

2 The market for SME lending

As will be discussed further in section 4, the proposals outlined by the PRA will have a significant effect on the capital requirements associated with bank lending to SMEs. Therefore, before turning to the specific PRA proposals, this section provides a brief description of the market for SME lending in the UK.

SME lending has been the subject of a number of sector reviews, most recently the Strategic Review of Retail Banking in 2018 by the Financial Conduct Authority (FCA), the Treasury Select Committee report on SME finance in 2018, and the retail banking investigation in 2016 by the Competition and Markets Authority (CMA). Each of these reviews has expressed concerns about the level of competition for SME lending. This was summarised by the CMA in its final report:[7]

> Overall we therefore find that competition for both BCAs and SME lending is not working well for customers. A combination of factors mean there is weak customer response to price and quality weakening the constraints on banks from customer switching or the threat of switching, or in the case of SME lending going to an alternative lender.

Despite the hurdles described within these studies, data shows that smaller banks have played an increasingly important role in the provision of finance to SMEs over the last ten years and now collectively account for the majority of gross lending.

This section gives a brief outline of the key characteristics of the SME lending market and the role of smaller 'challenger' banks, particularly:

- the nature of the product and different kinds of SME lending services;
- who provides SME lending services; and
- the key market dynamics, including the role of capital requirements.

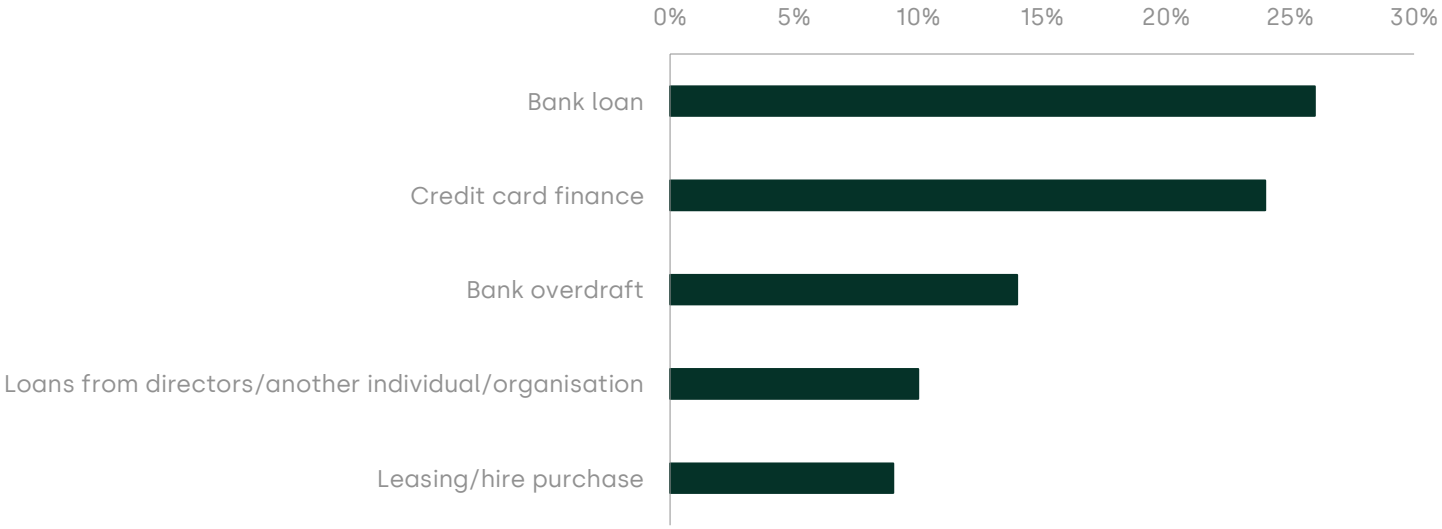
2.1 What are SME lending services?

SME lending is an umbrella term for a range of business lending products and services provided to SMEs by banks and other finance providers. These products include general-purpose business loans, commercial mortgages, credit cards, overdrafts, asset finance, invoice finance and alternative lending platforms (e.g. peer-to-peer lending).

Figure 2.1 below presents a breakdown of the types of debt finance commonly used by SMEs.

[7] Competition and Markets Authority (2016), 'Retail banking market investigation: Final report', p. xxvii.

Figure 2.1 External financial support used by SMEs (%) in the UK, 2021



Note: Government or local grants and personal funds are not included.
Source: British Business Bank/Ipsos MORI (2022), 'SME Finance Survey', March.

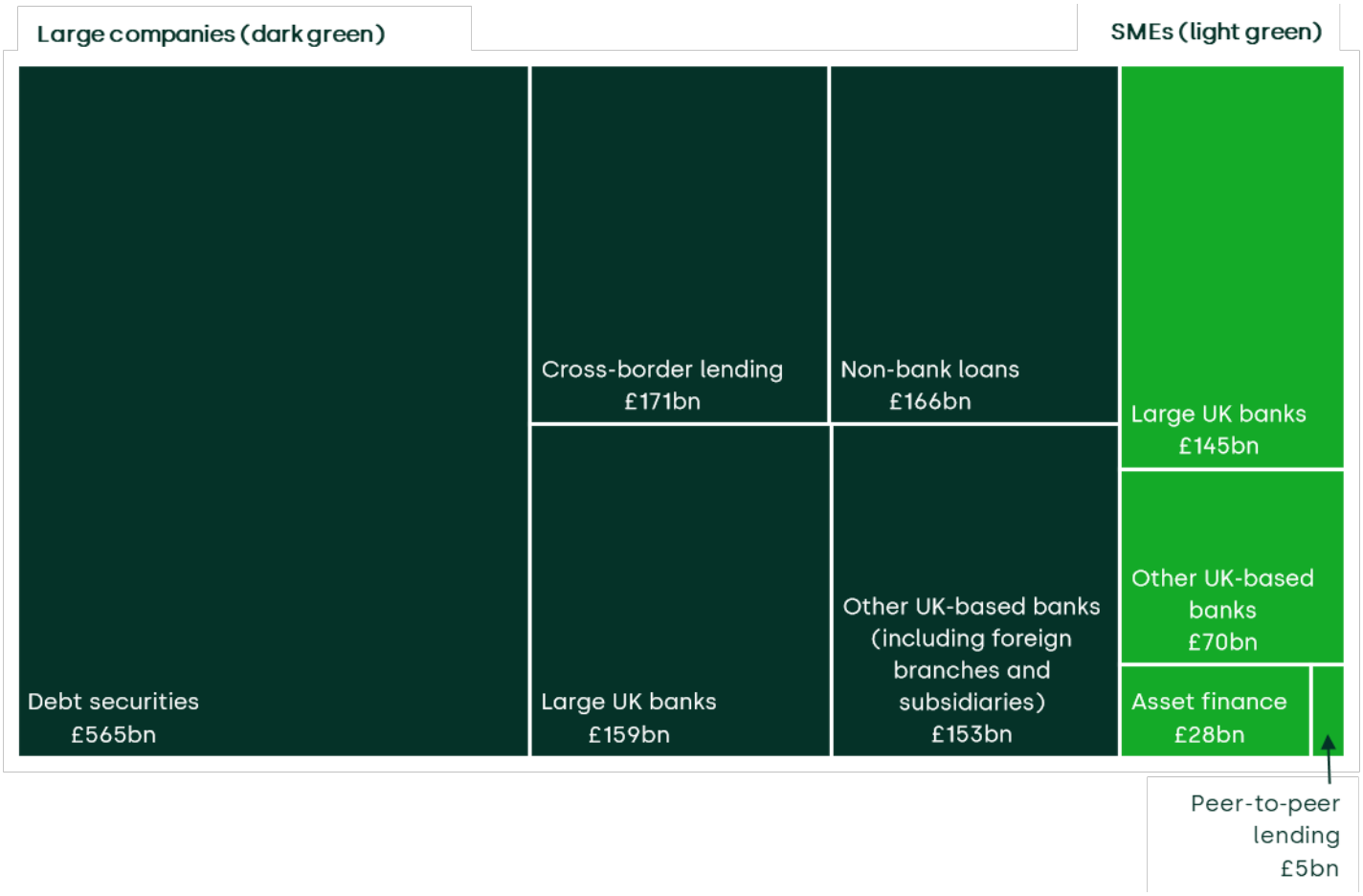
There is a degree of substitutability between the various types of SME lending products, but some SMEs may purchase several lending products in combination. Some products (e.g. credit cards, invoice finance) are generally used to finance short-term business needs and manage day-to-day cash flows, while others are used for longer-term financial needs, e.g. capital investment. Bank loans make up a high proportion of long-term finance arrangements.

SME lending products also differ based on whether they require security (i.e. whether the lender can take ownership of collateral such as a property in the case of default).

2.2 Current market structure for SME lending services

UK SMEs generally face more limited access to debt finance than large companies. As shown in Figure 2.2 below, the majority (87%) of SME debt in the UK is held by banks, but certain types of business loans are offered by a wider range of providers.

Figure 2.2 Composition of the stock of external debt finance to UK business, March 2021



Source: Bank of England (2021), 'Financial Stability in Focus: The corporate sector and UK financial stability', October, https://www.bankofengland.co.uk/financial-policy-summary-and-record/2021/october-2021/financial-stability-in-focus.

In 2021, banks in the UK granted a total of £58bn of new loans to SMEs, leading to a total stock of outstanding balances of £209bn.[8] In contrast, in the same year, around £7bn of new SME asset finance was provided by non-bank lenders, while the value of total outstanding business lending provided by peer-to-peer or marketplace lending models was around £5bn.[9] Thus, while alternative forms of finance exist, bank lending remains the most widely used option.

In terms of bank lending to SMEs, a distinction can be drawn between the five largest banks (Lloyds Banking Group (LBG), Barclays, HSBC, NatWest and Santander) and other providers, sometimes collectively referred to as challenger banks.[10]

[8] Bank of England data as at December 2021. Data covers all loans, advances and finance leases (excluding overdrafts) granted to non-financial SMEs by monetary financial institutions. This compares to £215bn in March 2021 (based on the adding the £145bn lending from "large UK banks" and £70bn from "other UK-based banks"), as shown in Figure 2.2.
[9] British Business Bank (2022, 2023) and Finance and Leasing Association data. According to this data, around £13bn of SME asset finance was provided by banks. This is assumed to be broadly included within the Bank of England's overall bank lending figure.
[10] This is the split used by the British Business Bank in its analysis of large banks.

The FCA has previously identified sub-categories within the cohort of banks outside the big 4: scale challengers (e.g. Santander, Virgin Money, and TSB); mid-tier firms (e.g. Co-op, Metro); digital personal current account (PCA) challengers (Starling and Monzo); and non-PCA providers (e.g. Aldermore, Shawbrook and OakNorth) and traditional building societies. Our focus in this report is those banks for which PCAs are not their main product, which are also active in SME lending.[11]

However, there is considerable variation in the size and business models across each of the sub-categories listed above and the larger banks outside the big 4 (e.g. Santander and Virgin Money) are also sometimes included within a wider group of 'high-street banks'.

This split is broadly reflected in prudential regulation. As Table 2.1 shows, six of these larger banks active in SME lending are designated as systemically important and are approved to use an internal ratings-based approach for calculating credit-risk-weighted assets ('IRB banks'). The other banks active in SME lending are not classed as systemically important and use the standardised approach for SME lending ('SA banks').

[11] Financial Conduct Authority (2022), 'Strategic review of retail banking business models', Final Report, January, https://www.fca.org.uk/publication/multi-firm-reviews/strategic-review-retail-banking-business-models-final-report-2022.pdf.

Table 2.1 Banks active in SME lending in the UK

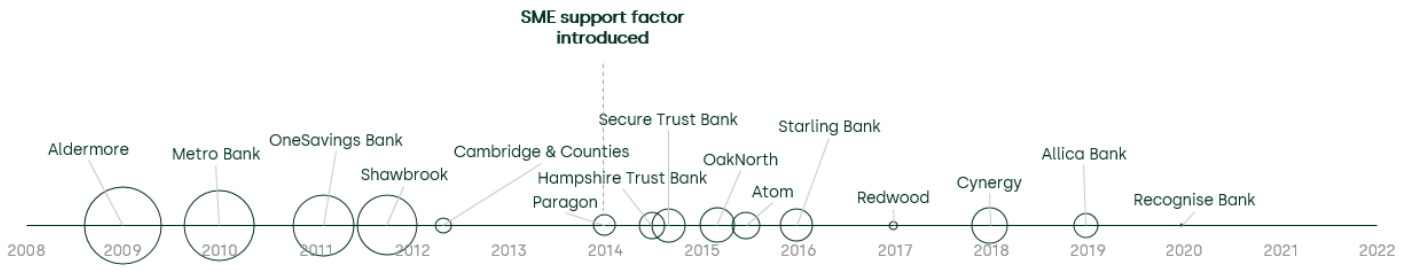
Bank	Systemically important		Credit risk approach		Year of entry*
	G-SIB	D-SIB	IRB	SA	
HSBC	✓	✓	✓	x	-
LBG	x	✓	✓	x	-
NatWest	x	✓	✓	x	-
Barclays	✓	✓	✓	x	-
Santander	✓	✓	✓	x	-
Virgin Money	x	✓	✓	x	-
The Co-operative Bank	x	x	x	✓	-
Handelsbanken	x	x	x	✓	-
Arbuthnot Latham	x	x	x	✓	-
United Trust Bank	x	x	x	✓	2004
Aldermore	x	x	x	✓	2009
Metro Bank	x	x	x	✓	2010
OneSavings Bank	x	x	x	✓	2011
Shawbrook	x	x	x	✓	2011
Cambridge & Counties	x	x	x	✓	2012
Secure Trust Bank	x	x	x	✓	2014
Hampshire Trust Bank	x	x	x	✓	2014
Paragon	x	x	x	✓	2014
TSB	x	x	x	✓	2015
Atom	x	x	x	✓	2015
OakNorth	x	x	x	✓	2015
Starling Bank	x	x	x	✓	2016
Redwood	x	x	x	✓	2017
Cynergy	x	x	x	✓	2018
Allica Bank	x	x	x	✓	2019
Recognise Bank	x	x	x	✓	2020

Note: * For most banks this refers to the year the bank received authorisation from the PRA/Financial Services Authority (if after 2001). In the case of Aldermore, Shawbrook, Hampshire Trust Bank, and United Trust Bank, the controlling groups entered the market by acquiring the banking licence of an existing provider, so the dates shown refer to the dates of acquisition. Prior to 2015, TSB was majority-owned by LBG. Cynergy was first authorised in 2012 as a subsidiary of Bank of Cyprus, but was acquired by Cynergy Capital in 2018. Handelsbanken received its authorisation in 2018 for its UK subsidiary but prior to this was active in the UK using Swedish authorisation. The date of entry for Secure Trust Bank corresponds to its entry into the SME lending market through its Commercial Finance division.
Source: FCA Register.

Many of the SA banks have entered the market for SME lending in the last five to ten years—see Figure 2.3.

While, not surprisingly, there is a difference in the current size of the loan books for more recent entrants compared to banks that entered prior to 2012, it is also important to note that all of the new entrant banks shown below remain significantly smaller than systemically important competitors. For context, the largest new entrant (One Savings Bank) had a total loan book size (i.e. not just SME lending) of £25bn in 2021. In comparison, the average loan book sizes for Virgin Money UK and LBG were £106bn and £657bn respectively.

Figure 2.3 Timeline of new entry by challenger banks in the UK

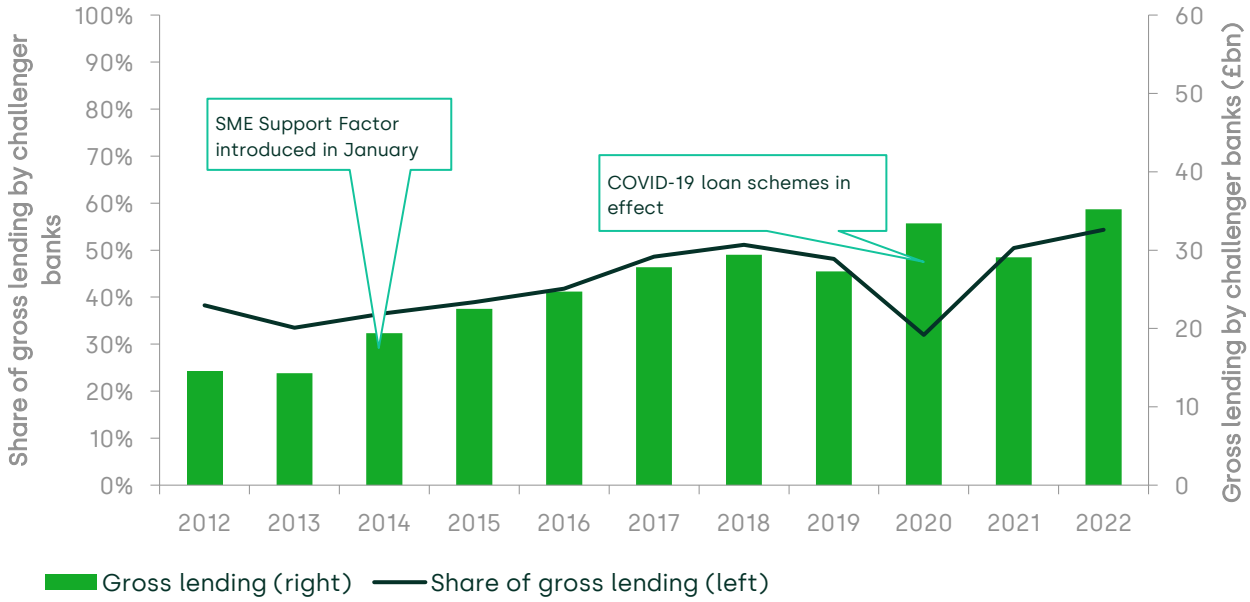


Note: The bubbles reflect the relative size of all credit exposures that relate to SME lending (not the whole loan book) in 2021. For most banks this includes exposures to 'corporates', 'retail' and 'mortgages secured on immovable property'. For OneSavings Bank, the category 'secured by mortgages on immovable property' is restricted to SMEs.
Source: FCA Register, banks' annual reports.

Figure 2.5 below shows the value of lending to SMEs by challenger and specialist banks, as well as their share of total bank lending. As this data shows, smaller banks (defined as those outside the top five) have grown their share of SME lending over time and in 2021 they accounted for over half of gross bank lending to SMEs. The significantly lower share in 2020 was due to the introduction of government-backed COVID-19 loan schemes. Large banks were responsible for a significant proportion of this activity. The British Business Bank attributed the outsized share of larger banks to a reluctance on the part of smaller banks to gain accreditation (due to concerns regarding capacity constraints in dealing with applications and commercial viability, since some interest rates were capped at 2.5%).[12]

[12] British Business Bank (2021), 'Small Business Finance Markets 2020/21', https://www.british-business-bank.co.uk/wp-content/uploads/2021/03/BBB-SBFM-Report-2021-Widescreen-AW-tagged-002.pdf.

Figure 2.4 Gross lending to SMEs by challenger and specialist banks in the UK



Note: Challenger and specialist banks are defined as banks other than the top five largest lenders. COVID-19 loan schemes include the UK government's Coronavirus Business Interruption Loan Scheme (CBILS) and the Bounce Bank Loan Scheme (BBLS), launched in March 2020 and May 2020 respectively.
Source: British Business Bank data.

2.3 Market dynamics

Challenger bank is something of a misnomer. While some banks have entered across a broad range of banking services and do aim to challenge the position of the high-street banks, others have found customers that are poorly served by the high-street banks and are aiming to serve these customers profitably. 'Specialist banks' might be a better term.[13] SME lending might be considered just such an area, although various market features still present obstacles for entrants to overcome. These features have been well described by competition authorities and regulators and are as follows.[14]

Limited shopping around—analysis commissioned by the British Business Bank found that only 20% of SMEs considered more than one provider the last time they sought finance.[15] The majority of SMEs go to their main business current-account provider in order to borrow.[16]

High search costs—prices for SME loans depend on a number of factors, such as the size and duration of the loan, the level of security held against the loan, the SME's business sector and the risk associated with the SME. As a result, it can be difficult for SMEs to compare prices, eligibility and other terms across banks.

[13] See, for example, Competition and Markets Authority (2016), 'Retail banking investigation: Final report', para. 9.15.
[14] In 2016, the CMA proposed a number of remedies that aimed to reduce these structural hurdles, e.g. requiring banks to share customer data and promoting the use of price-comparison tools. See Competition and Markets Authority (2016), 'Retail banking investigation: Final report'.
[15] British Business Bank/Ipsos MORI (2022), 'SME Finance Survey', March.
[16] See, for example, Figure 2 in Financial Conduct Authority (2022), 'Strategic review of retail banking business models: Annexes to the Final Report', January.

Information asymmetries—these arise because lenders cannot easily distinguish between high- and low-risk customers when assessing applications. Such information asymmetries can exist both between the customer and the potential lender and between the main bank (which has access to customer transaction data) and other lenders. Some smaller lenders aim to overcome this by doing additional due diligence of business models and credit history, but this can obviously add to the search costs for SME lending, although the use of digital technology is starting to improve this.[17]

Differences in capital requirements—SA banks must apply different risk weightings relative to IRB banks, which can affect the amount of capital they are required to hold for equivalent loans. The role of capital requirements is discussed further in the following sub-section.

In recent years there has been material growth in the use of commercial finance brokers by SMEs in order to reduce search costs and seek out a competitive deal, and brokers represent an important market channel for most challenger banks.[18]

2.4 How does prudential regulation affect supply of lending?

The return a bank makes on a loan is determined by the difference between the interest rate charged to the borrower and the cost of funding the loan, including both liquidity and capital components.

The cost of overall funding and level of capital required are key drivers of the amount of lending, as well as the degree to which smaller banks are able to impose an effective competitive constraint on incumbent players.[19]

Loans can be funded by a mixture of capital (equity and subordinated debt), retail funding (customer deposits) and wholesale debt funding. The exact mix of funding relied on by each bank is a strategic decision and will depend on the cost of each type of funding. However, banks must hold a minimum level of capital, which is set by prudential regulations (summarised in Box 2.1 below).

Equity is significantly more expensive than wholesale debt or deposit funding, so the higher levels of own capital requirements that increase the portion of equity required in turn raise funding costs.[20]

There is some evidence that raising equity for challenger banks has also become substantially more difficult in recent years. For example, in its latest report the British Business Bank noted the plans of two

[17] See, for example, Financial Conduct Authority (2022), 'Strategic review of retail banking business models: Final Report 2022', p. 18.
[18] See, for example, National Association of Commercial Finance Brokers' Annual Survey 2023, https://nacfb.org/nacfb-members-facilitate-45bn-of-borrowing-in-2022/
[19] The latter will be influenced by the funding costs and capital requirements relative to those of the larger banks.
[20] The Modigliani–Miller theorem implies that the required return on debt will decrease as the proportion of equity funding increases, such that the total cost of funding remains unchanged. In practice, it has been accepted by bank regulators globally that, at least for the short and medium term, a fall in the required return on debt would not fully offset the impact of a bank relying on more expensive equity funding, which may be due to the differing tax treatments of debt and equity.

challenger banks to withdraw from the UK because they were unable to raise the capital required, further stating:[21]

> According to the Bank's market intelligence, capital has become more difficult to access and the cost of it has risen

Capital requirements therefore play a crucial role in the ability of challenger banks to provide SME lending and compete with incumbents.

In this vein, the tightening of capital requirements over the last 15 years with the implementation of new prudential regulations may be contributing to regulatory uncertainty for small and start-up banks. As capital requirements increase, the scale at which a small bank needs to operate in order to be profitable increases.

Box 2.1 The minimum capital requirements regime

Loans made to SMEs are assets on a bank's balance sheet. These assets are funded by liabilities, usually a combination of customer deposits and wholesale debt funding, as well as the bank's own capital.

To ensure that banks are able to cover potential losses (e.g. from defaulting loans) without risking bank failure which could impose losses on depositors or the Financial Services Compensation Scheme (FSCS), banks are required to hold a minimum level of capital relative to their total assets. The level of capital required is determined by a multi-tiered set of standards that aim to ensure that banks hold sufficient levels of capital to absorb losses in the event of failure or near failure. These minimum levels of capital have been raised substantially since the GFC.

These minimum capital requirements are structured as follows.

- Pillar I: Minimum Capital Requirements—under existing requirements banks have to maintain a minimum ratio of 8% capital to their risk-weighted assets, of which at least 4.5% must be common equity tier 1 (CET1) capital (i.e. share capital, reserves and retained earnings).
- Pillar IIA: Supervisory Review—regulators determine a specific amount of additional capital for each bank to cover risks that are potentially not adequately reflected by Pillar I.[22]
- Additional buffers—all banks are required to hold additional capital buffers (the countercyclical buffer and capital conservation buffer) as well as a bank-specific PRA buffer (Pillar IIB). An additional buffer is applied to systemically important banks.

[21] British Business Bank (2022), 'Small Business Finance Markets 2022/23', pp. 137-138.
[22] See, for example, PRA (2020), 'The PRA's methodologies for setting Pillar 2 capital', Statement of Policy, January; and PRA (2017), 'Refining the PRA's Pillar 2A capital framework', Policy Statement 22/17, October.

These risk weights are fundamental in the overall capital requirement.

Under Pillar I, banks must weight assets (e.g. loans) according to their associated risk to ensure that they hold more capital against riskier assets. Banks are able to use one of two approaches when calculating risk weights for credit risk. The SA applies a single set of risk weights to each asset class based on broad assumptions regarding credit quality, while the IRB approach allows banks to calculate their own risk weights based on internal data and models.

Source. Oxera review of BIS (2011), 'Basel III: A global regulatory framework for more resilient banks and banking systems', June; Competition and Markets Authority (2016), 'Retail banking market investigation: Final report', August; BIS (2017), 'Basel III: Finalising post-crisis reforms', December.

The degree to which differences in capital requirements between larger and smaller banks act as a barrier to further competition in SME lending has been subject to some debate. While the risk weights applied under the SA (used by smaller banks) are significantly higher than those used by larger banks' internal models (see section 3), some studies have suggested that overall levels of required capital are broadly similar. For example, in its investigation in 2016, the CMA concluded that, once Pillar II and additional capital buffers were taken into account, the value of capital required for an SME loan of £100,000 was broadly similar for both SA and IRB banks.[23]

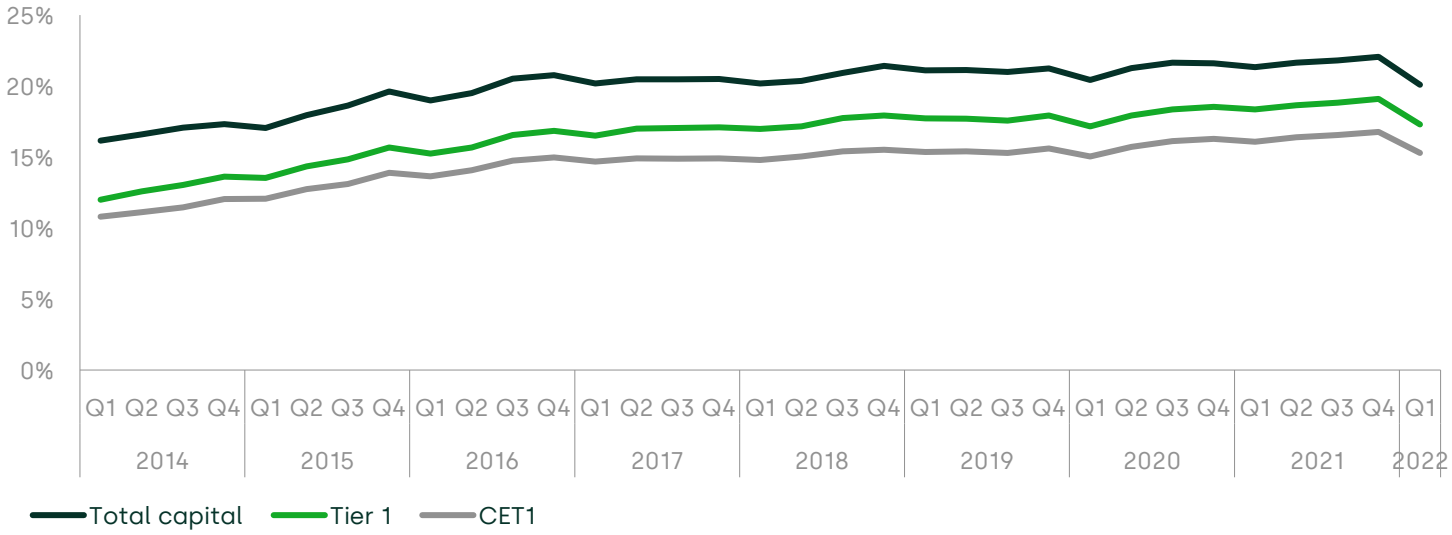
Larger incumbent banks also possess broader funding advantages relative to smaller banks. In particular, incumbents benefit from:

- lower retail funding costs due to their large and stable back books of retail deposits; and
- lower wholesale funding costs, driven in part by the 'too-big-to-fail' subsidy.[24]

Finally, it is also important to note that prudential regulations impose a *minimum* level of Pillar I capital requirements for banks. In reality, banks need to operate with levels of capital above this published regulatory minimum. This is in order to meet the Pillar IIA add-on and Pillar IIB buffers. Indeed, Figure 2.5 below shows how the total capital ratio in the UK banking sector has tended to be more than double the current Pillar I requirement of 8%. Most of this difference is the result of additional Pillar II requirements, although banks may also hold small voluntary reserves (e.g. to ensure that they do not unintentionally breach regulatory requirements).

[23] Competition and Markets Authority (2016), 'Retail banking market investigation: Final report'.
[24] See, for example, Sigert, C. and Willison, M. (2015), 'Estimating the extent of the "too big to fail" problem — a review of existing approaches', Bank of England Financial Stability Paper No.32, February.

Figure 2.5 Capital ratios for the UK banking sector, Q1 2014–Q1 2022



Note: CET1 refers to common equity tier 1 capital (see Box 2.1]. Tier 1 capital consists of CET1 plus additional tier 1 capital (e.g. hybrid debt instruments that can be written down or converted to CET1 upon the occurrence of a trigger event).
Source: Bank of England data.

2.5 The impact of the SME Support Factor

The SME Support Factor was originally introduced in the UK at the start of 2014 to limit disruption to the flow of credit to SMEs during the phase-in of stricter capital requirements following the GFC.[25] This was part of an EU policy—we note that the EU is proposing to retain the SME Support Factor.[26] As we discuss further in section 3, in effect the Support Factor allows banks to apply a lower level of risk weighting for credit exposures to SMEs and therefore hold lower amounts of capital against SME lending.

While there have been no empirical studies on the impact of the SME Support Factor in the UK, Figure 2.4 shows how the value of SME lending grew markedly from 2014 onwards. There have been a number of detailed studies focused on EU countries.

The PRA cites a study by the European Banking Authority (EBA) in early 2016 which sought to identify: 1) the credit supply effects related to the introduction of the SME Support Factor, and 2) the consistency of capital requirements with the riskiness of SME lending.[27]

While the EBA study did not find evidence that the SME Support Factor provided additional stimulus to SME lending relative to that of large corporates, it did note several limitations with its approach used for the study. In particular, the study emphasised that it was likely to be too early to draw any strong conclusions from its analysis, given the

[25] Regulation (EU) No 575/2013, para. 44.
[26] See Prudential Regulation Authority (2022), 'CP16/22 – Implementation of the Basel 3.1 standards', para 3.149(5).
[27] European Banking Authority (2016), 'EBA report on SMEs and the SME supporting factor', EBA/OP/2016/04, March.

relatively recent introduction of the SME Support Factor.[28] The study also found that, while the Support Factor might be justified for the calibration of risk weights for SA banks, the evidence was mixed for IRB banks. This ultimately led the EBA to conclude that further analysis would be required.

A number of other papers (which the PRA does not refer to in its Consultation Paper) have also analysed the SME Support Factor, generally finding that the Support Factor:

- has had a positive effect on SME lending; and
- is appropriate from a prudential perspective.

In terms of the SME Support Factor having improved credit provision for SMEs, a 2014 study by Banco de España found evidence that, after the introduction of the SME Support Factor in Spain (in 2013), credit to SMEs continued to grow relative to that to large firms.[29] Furthermore, Mayordomo and Rodriquez-Moreno (2018) adopt a similar approach to the EBA study but use a different definition of SMEs.[30] They find that the SME Support Factor did contribute to alleviating credit rationing faced by medium-sized firms, albeit not by micro or small firms. Dietsch et al. (2020) evaluate the effectiveness of the SME Support Factor using data on actual bank lending to SMEs in France.[31] Here, the authors find that the SME Support Factor led to an increase in eligible credit exposures of 5–10% on average.[32]

In terms of the appropriateness of the SME Support Factor from the perspective of prudential risk, a detailed loan-level empirical study by Dietsch et al. (2016) found that SMEs in France and Germany exhibit a significantly lower systematic risk than large corporates. They conclude that use of the SME Support Factor in risk weights is consistent with prudent capital requirements.[33] Similarly, Dietsch et al. (2020) find evidence that the magnitude of the SME Support Factor-induced reduction in capital requirements was consistent with the

[28] The EBA also noted that overlaying developments (such as the introduction of CRR/CRD IV) limited the identification of the effect of the SME Support Factor and that large firms were an imperfect control group.
[29] Banco de España (2014), 'Financial Stability Report', 05/2014.
[30] Mayordomo, S. and Rodriguez-Moreno, M. (2018), 'Did the bank capital relief induced by the Supporting Factor enhance SME lending', *Journal of Financial Intermediation*, 36, pp. 45–57.
[31] Dietsch, M., Fraisse, H., Lé, M. and Lecarpentier, S. (2020), 'Lower bank capital requirements as a policy tool to support credit to SMEs: evidence from a policy experiment', Banque de France Working Paper No. 789.
[32] The paper estimates the effect of the SME Support Factor using a difference-in-differences approach. Here, the authors exploit the fact that the SME Support Factor applies only to loans with outstanding amounts below €1.5m to define a control group of SME loans that are not eligible for the SME Support Factor. The paper also finds that the magnitude of the SME Support Factor effect increased over time to reach a magnitude of 8–10% two years after its introduction (the latest period of data available).
[33] Dietsch, M., Düllmann, K., Fraisse, H., Koziol, P. and Ott, C. (2016), 'Support for the SME supporting factor – multi-country empirical evidence on systematic risk factor for SME loans', Deutsche Bundesbank Discussion Paper No45/2016.

lower contribution of risk of lending to SMEs compared to large firms.[34]

The PRA Consultation Paper does not mention any of these studies that support the SME Support Factor, and has not published its own empirical study into the SME Support Factor in the UK.

2.6 Conclusion

In conclusion, we find that there are various structural issues with financial markets that place new entrants and challengers at a disadvantage compared to incumbents. These measures are present in the market for SME lending as well; however, here challenger banks have managed to overcome the challenges and account for the majority of recent supply.

Prudential rules also play a critical role in affecting competition between incumbents and challenger banks. Prudential rules determine how much capital, and of what kind, banks must keep on hand to cover the risks involved in their lending activity. Since there is a cost to holding such capital, prudential rules have an impact on the cost of offering loans. Where different prudential rules apply, this can have an impact on competitive dynamics.

Lending to SMEs up until now has been somewhat shielded from tightening prudential regulation post-GFC as a result of the SME Support Factor. The factor was introduced as a result of a deliberate decision, in order to ensure that SMEs would not be adversely affected. The overall evidence, including and beyond the EBA banking study, indicates that the SME Support Factor has been effective at preventing any drop-off in lending to SMEs. Moreover, these studies indicate that the SME Support Factor is not at odds with the aims of prudential lending (i.e. it does not understate the risks of lending to SMEs).

In the UK, there is some indication that the SME Support Factor has contributed to the growth in challenger bank SME lending, both in absolute terms and relative to large banks. Challenger bank lending to SMEs more than doubled in the period 2014–22, following the introduction of the SME Support Factor, having been flat between 2012 and 2013. Given the broader economic outlook in the UK, and the extent to which SMEs rely on bank finance, this does not seem to be a good time to take risks with eliminating the SME Support Factor.

[34] Dietsch, M., Fraisse, H., Lé, M. and Lecarpentier, S. (2020), 'Lower bank capital requirements as a policy tool to support credit to SMEs: evidence from a policy experiment', Banque de France Working Paper No. 789.

3 Proposed rule changes and impact on capital requirements

3.1 The theory of capital adequacy regulation

There are costs to the rest of society when banks fail, as well as costs to the banks' shareholders. Banks will not necessarily take account of these costs when deciding what risks to accept in their business strategy. In particular, when banks incur material losses from defaulting loans, the following may materialise:

- depositors may lose money and banks will not internalise this risk;
- some deposits may be protected by an explicit guarantee, such as the FSCS and banks will not take account of the costs of providing this guarantee that fall on others;
- if a bank is systemically important, its failure is likely to lead to failures of other banks and losses for their shareholders and depositors, and banks will not take account of these potential losses.

The motivation for regulating banks (from an economic perspective) is driven by these social costs that banks would otherwise not account for. Capital adequacy regulation intends to internalise the *externality costs* imposed by bank failure, to realign (or at least, better align) a bank's private incentive to take risk with the incentives of the economy in which it exists.

The magnitude of the externalities described above will vary substantially according to the overall size of the bank. If a small bank fails, relatively few depositors are at risk of losing money compared to when a large bank fails. As concluded in an International Monetary Fund (IMF) staff discussion note: 'large banks, on average, create more individual and systemic risk than smaller banks.'[35] The IMF discussion note highlights that large banks tend to create more systemic risk as they make a larger contribution to liquidity stress in the banking system, and—due to their size and the way in which they benefit from economies of scale—they cannot easily be replaced by smaller banks in terms of their contribution to interbank markets.[36]

These observations on the greater systemic risks of large banks are borne out when one considers that, since 2019, no fewer than five smaller banks engaged in the buy-to-let and SME lending markets have exited. Specifically, Masthaven, Bank and Clients, Bank North, PCF Bank, and Wyelands Bank have all left the UK market.[37] In no case have these exits led to systemic issues in the UK banking system. There has been no contagion from one bank to another.

It is worth noting that, in at least three cases, the exits were prompted by difficulty raising capital to meet regulatory requirements, and not

[35] Laeven, L., Ratnovski, L. and Tong, H. (2014) 'Bank Size and Systemic Risk', *IMF Staff Discussion Note*, May, SDN 14/04, p. 23.
[36] Ibid., p. 15.
[37] The two that failed in 2022 were Bank North and Masthaven, and were the two referred to in the quote from the British Business Bank report above. We report a larger number of failures here as we are considering failures since 2019.

due to loan deterioration.[38] One other bank, Wyelands, did cite a deterioration in its loan book as a reason for leaving the UK market, but we understand this was due to specific issues on large loans to businesses connected to the primary shareholder, rather than SME lending.[39] However, Wyelands Bank has confirmed that it has 'successfully completed the repayment of depositor funds as part of a solvent wind down of its balance sheet.'[40] In addition, even if loan books deteriorate to the extent that wind-downs are not managed in a solvent fashion and banks are unable to pay depositors, then changes to the FSCS have added to the level of depositor protection. Depositors can be sure of getting their money back within a reasonable timeframe.[41] As a result, wind-downs impose lower costs on consumers even if the bank is not fully solvent, reducing the need for tighter prudential regulation.

By contrast, if a systemically important bank were to fail, the government would be likely to be forced to intervene and bail out the bank. As a result, such banks benefit from an implicit government guarantee, the cost of which is borne by taxpayers. These costs will not be internalised by banks. This is why elements of prudential regulation explicitly target systemically important banks. The Bank for International Settlements explains this issue as follows:

> The negative externalities associated with institutions that are perceived as not being allowed to fail due to their size, interconnectedness, complexity, lack of substitutability or global scope are well recognised. In maximising their private benefits, individual financial institutions may rationally choose outcomes that, on a system-wide level, are suboptimal because they do not take into account these externalities. Moreover, the moral hazard costs associated with implicit guarantees derived from the perceived expectation of government support may amplify risk-taking, reduce market discipline and create competitive distortions, and further increase the probability of distress in the future. As a result, the costs

[38] See, for example, Masthaven (2022), 'Masthaven Bank to withdraw from UK banking marketMasthaven Bank to withdraw from UK banking market', 1 February (accessed 8 March 2023): 'We assessed a range of options, but all of them required a significant commitment of long-term capital and we have not been able to secure the level of investment necessary to grow the bank while serving our customers efficiently and effectively.' Similarly, altfi (2022), 'Bank North: SME neobank goes bust after failing to raise Series B', 3 October (accessed 8 March 2023): 'One of the newest-minted UK digital banks, Bank North last raised money in a £20m Series A round in 2021 when it also secured a full banking license but this year's markedly tougher market has prompted it to wind down its operation as regulatory capital requirements were unlikely to be met.' Similarly, see MoneySavingExpert (2022), 'PCF Bank to leave the UK market – what it means for your savings and loans', 11 November (accessed 8 March 2023), 'The bank [...] said it made the "very difficult strategic decision" after failing to secure the capital it needed to grow.'

[39] Financial Times (2021), 'Wyelands "extremely unlikely" to find a buyer, says bank chief', 29 June (accessed 13 March 2023). Financial Times (2021), 'Wyelands "extremely unlikely" to find a buyer, says bank chief', 29 June (accessed 13 March 2023).

[40] See Wyelands Bank (2021), 'Wyelands Bank announces successful completion of depositor repayment programme and considering options to sell or wind up the Bank', 13 May (accessed 8 March 2023). See Wyelands Bank (2021), 'Wyelands Bank announces successful completion of depositor repayment programme and considering options to sell or wind up the Bank', 13 May (accessed 8 March 2023).

[41] See Financial Services Compensation Scheme (2020), 'How FSCS protects *your* money: A guide to the Financial Services Compensation Scheme', p. 2.

associated with moral hazard add to any direct costs of support that may be borne by taxpayers.[42]

In the case of international banks, the same principles of negative externalities can apply to the prudential regulations themselves. For example, when creating regulations, national regulators may not fully take into account the cost to other countries of a large international bank failing.

This ultimately explains why international capital requirements regulations have tended to be focused on larger banks, whose failure is associated with the largest externalities, and for which independent national regulations may inadequately reflect the global costs of failure.

3.2 How prudential regulation works

As described in more detail in Box 2.1, prudential regulation has three core elements, with banks required to:

1 apply percentage weightings to assets (capital at risk in money loaned out) to reflect the underlying levels of risk associated with different types of exposures;
2 adhere to a minimum capital adequacy ratio which prescribes how much capital a bank must hold as a fraction of its (risk-weighted) assets;
3 hold material additional buffers as prescribed by national regulators (both general macroeconomic and prudential buffers, and specific to the firm).

As noted above (see Figure 2.5), some banks may also hold voluntary capital buffers, such that total capital ratios are slightly higher than prudentially required.

3.3 The PRA's proposals

The PRA's Consultation Paper outlines a broad package of proposals, covering those parts of the Basel 3.1 standards that remain to be implemented in the UK. For the purposes of our analysis, we focus on three proposals that will have a significant impact on SME lending. These proposals increase capital requirements for SME lending by increasing the risk weights associated with loans to SMEs.

- **Increasing risk weights for exposures to SMEs**—the PRA is proposing to remove the SME Support Factor (see section 2.5), retain the retail SME risk weighting of 75% and introduce a corporate SME risk weighting of 85% for SA banks.[43]
- **Increasing risk weights for commercial mortgages**—the PRA is proposing to introduce a risk weight floor of 100% for any lending

[42] https://www.bis.org/basel_framework/chapter/SCO/40.htm?inforce=20211109&published=20211109 (accessed 1 March 2023).
[43] The SME Support Factor applies to all credit risk exposures to SMEs (businesses with a turnover below €50m and a total amount owed to the bank not exceeding €2.5m). The current rules also allow qualifying SME loans (under €1m) to be treated as retail exposures and to be risk-weighted at 75%. See FCA Handbook, BIPRU 3.2.10, and PRA (2022), 'CP16/22', paras 3.126–3.127.

secured against commercial property (making no distinction between owner-occupier and investment).

- **Introduction of an output floor**—the PRA will introduce an output floor which requires IRB banks to calculate, at an overall portfolio level, risk-weighted assets as the higher of: i) risk-weighted assets calculated under the IRB approach, or ii) 72.5% of risk-weighted assets calculated using the SA approach.[44]

In some cases, the PRA's proposals require higher risk weights than the Basel 3.1 international standards (which apply to internationally active banks).[45] In particular, under Basel 3.1 standards, business term loans that are secured on property are not subject to the 100% risk weight floor currently proposed by the PRA. Instead loans to SMEs secured against commercial property are subject to a risk weighting between 60% and 85% depending on the loan-to-value (LTV) ratio of the loan.[46]

Other jurisdictions have taken different approaches. For example, the PRA has stated in its Consultation Paper that the European Commission is planning to retain the SME Support Factor, rather than introducing a new risk weight for corporate SME exposures.

Furthermore, we note that the way in which the PRA is applying the Basel 3.1 standards leads to some perverse outcomes. In particular, the PRA's proposals would lead to a situation where the risk weighting was higher on secured lending than on unsecured lending. However, it should be clear that, keeping other things equal, a loan secured on property should be safer than an unsecured loan because, in the event of default, the bank can get some of the principal of the loan returned by recovering and selling the security.

For a typical SA challenger/smaller bank, the impact of these proposals is that average risk weights for SME lending increase by approximately 32% (see Table 3.1 below). The increase in risk-weighted assets associated with business term loans and commercial investment loans is primarily driven by the 100% risk weighting floor described above.

[44] See Prudential Regulation Authority (2022), CP16/22, section 9.
[45] See https://www.bis.org/basel_framework/chapter/SCO/10.htm?inforce=20191215&published=20191215.
[46] Basel 3.1 standards allow for SME loans secured against the commercial property to be split based on the LTV. LTV refers to the value of the loan as a proportion of the estimated value of the property. Under Basel 3.1, the portion of the loan below an LTV of 55% is risk-weighted no higher than 60%; while the portion above 55% LTV is weighted according to the risk weight of the borrower (in the case of SMEs, usually 75–85%). See https://www.bis.org/bcbs/publ/d424_hlsummary.pdf.

Table 3.1 Changes in risk weighting by type of loan for banks using the standardised approach

Loan type	Proportion of total exposures	Pre-Basel 3.1 risk weighting density	CP16/22 risk weighting density	Change in risk-weighted assets*
Business term loan (secured on property)	30-40%	60-70%	100%	40-50%
Unsecured business term loan	10-20%	60-70%	80-90%	20-30%
Asset-based finance (equipment finance loans and invoice finance loan)	20-30%	70-80%	80-90%	10-20%
Commercial investment loan	20-30%	70-80%	100%	30-40%
Weighted average				**32%**

Note: * This reflects the percentage change in risk-weighted assets, not the percentage point change in risk weighting. The weighted average change in risk weightings is based on the proportion of each type of SME loan for a challenger bank, taking Allica as a reference.
Source: Data provided by banks.

For IRB banks, the situation depends on the detail of each bank's internal models. Some public information on this is disclosed via Pillar 3 disclosures, and we have analysed in conjunction with Allica these disclosures for NatWest, HSBC, and Lloyds Banking Group for lending exposures that represent 53% of the UK Finance data on high-street-bank SME lending . The effect of the output floor combined with the SA 100% risk weight floor on commercial mortgages, and the removal of the SME Support Factor, is to increase risk weights across SME loans by an estimated 39% (see Table 3.2).

Table 3.2 Estimated changes in risk weighting by type of loan for banks using IRB models

Credit exposure class	IRB proportion of total exposures	Pre-Basel 3.1 risk weighting	CP16/22 output floor	CP16/22 risk weighting	Change in risk-weighted assets*
Corporate SME	64%	54%	70%	75%	39%
Retail SME—property secured	6%	39%	73%	73%	86%
Retail SME—other	30%	54%	54%	71%	31%
Weighted average					**39%**

Note: * This reflects the percentage change in risk-weighted assets and not the percentage point change in risk weighting. This analysis assumes that the 72.5% output floor applies to each credit exposure class. However, in practice, the output floor applies at the overall portfolio level. Figures based on Allica analysis of Pillar III disclosures from HSBC, NatWest and LBG.
Source: Allica.

4 Impact of the PRA's proposals

4.1 Reduced lending to SMEs

As discussed in section 2, SME lending is one of the areas in which challenger banks have been commercially successful, where there has been evidence of new entry and where smaller banks now account for a majority of the new supply of lending. This makes the potential impact of increasing risk weights for SA banks particularly relevant, as it is likely to affect the ability of these banks to lend to SMEs.

In simple terms, if risk-weighted assets increase, a bank must either raise additional capital in order to maintain the same value of lending, or it must reduce the stock of loans on its balance sheet until the risk-weighted assets have fallen to a level that can be supported by the bank's existing capital. Given this, we can estimate an upper bound for the reduction in lending to SMEs by calculating the reduction that would be required if no new capital were raised.[47] While this is the upper bound, given the British Business Bank's recent commentary on the difficulty in raising capital for challenger banks in 2022, it seems likely that the impact will be material. Indeed the PRA's move to propose materially increased capital requirements for SME lending is likely to make capital raising even more difficult in 2023.

Based on the estimated increases in risk weights for a typical bank (outlined in section 3), we estimate that the PRA's proposals could lead to a reduction in lending to SMEs of up to £44bn. This is a result of a reduction of up to £21bn from banks using the SA and a reduction of up to £23bn from banks using IRB models.

4.1.1 Calculation of the impact on SME lending

As at September 2022, the stock of lending to SMEs by SA banks was worth approximately £87bn.[48] As explained in section 3, a typical SA bank may expect to see an increase in risk-weighted assets across its SME lending portfolio of around 32%. By keeping the regulatory capital and the capital adequacy ratio constant, this implies that the new loan book has to decrease by £21bn.[49]

[47] There are alternatives midway between these extremes, e.g. responding by raising some additional capital while also cutting back on the loan book to some extent.
[48] Calculation is based on the residual between the total stock of SME lending as reported by the Bank of England and the stock of SME lending as reported by UK Finance. This covers the seven largest UK banks and is taken as a proxy for lending by IRB banks. All estimates exclude SME lending in Northern Ireland. Estimates of the total loan stock also exclude the outstanding value of loans issued under the Bounce Back Loan Scheme.
[49] In simple terms, let $C = rwL$, where C represents the value of regulatory capital, r represents the capital adequacy ratio, w represents the risk weighting percentage and L represents the value of the loan book. Current risk weightings and loans are denoted by w_0 and L_0, while risk weightings post-PRA proposals are w_1 and L_1. Assuming C and r remain constant, it follows that $L_1/L_0 = w_0/w_1$, and subsequently that $L_1 = L_0/(1+x)$, where $x = (w_1 - w_0)/w_0$ i.e. the relative change in risk weightings. This calculation assumes that the proportional mix of risk-weighted assets remains constant before and after the new risk weightings.

While there are caveats to the above estimate (see the following section), this is clearly a significant fall in SME lending by challenger banks.

While challenger banks now account for the majority of new lending to SMEs, IRB banks still loan a significant amount to SMEs. As described in section 3, as a result of the removal of the SME Support Factor and the introduction of the output floor on IRB models, the risk weighting that IRB banks must attach to such lending will also increase. At the very least, the increased risk weights for IRB banks mean that they will be unlikely to be able to expand lending to compensate for the reduction in lending from SA banks. It is more likely that lending to SMEs by IRB banks will also fall.

Using the same calculation as applied for SA banks, we estimate that the PRA's proposals could reduce SME lending from IRB banks by up to £23bn. This assumes an increase in SME risk weights for a typical IRB bank of approximately 39% and a total stock of SME lending for IRB banks of around £81bn.[50]

To adjust to the new capital requirements in 2025, given the immediate application of the proposed changes to all existing SME loans creating a large cliff-edge effect, challenger banks will have to reduce their new SME lending very materially in the 2024–26 period.

4.2 Qualifications and discussion

As explained above, the estimated £44bn reduction in SME lending is an upper bound. There are some caveats to this estimate, which we discuss briefly below.

First, as noted above, reducing lending is not the only possible response to changes in regulatory requirements. Banks might also seek to increase the capital they hold. However, increasing capital can be challenging and, as stated above, can lead to an increase in the scale at which banks must operate in order to cover their fixed costs—potentially leading to exit if they fail to grow to that scale. Reduced credit availability is likely to be rationed by higher interest rates (i.e. the equilibrium price increasing to clear demand and supply).

If credit rationing leads to higher interest rates, it should be noted that higher interest rates also have the potential to exacerbate the problems of information asymmetry described in section 2. In the extreme, the only borrowers that may be willing to pay a very high interest rate are SMEs that do not have the ability to actually repay the loan. In this context, significant rationing of credit may also increase the overall riskiness of SME lending. This issue is discussed in more detail in section 5.3.

Second, this calculation assumes that the relative mix of risk-weighted assets remains constant across all loan types in the banks' SME lending portfolio. In reality, banks may rebalance their loan books towards loans that have lower risk weightings, meaning that the

[50] Data provided by Allica. Calculation is based on the stock of SME lending as reported by UK Finance. This covers the seven largest UK banks and is taken as a proxy for lending by IRB banks.

required reduction in overall lending would be lower. As shown in section 3, the changes in risk weights would be likely to imply a shift in SA bank lending activity from: 1) property secured lending to unsecured lending, and 2) longer-term to shorter-term lending (e.g. invoice finance, and overdrafts). These potential reactions seem counterproductive. First, a shift from secured to unsecured lending seems likely to increase bank losses in the event of default, which would be undesirable from a prudential perspective. Second, from the perspective of the wider economy, long-term finance is more likely to be used to fund significant investment projects than short-term finance.

Similarly, the analysis above regarding IRB banks applies the 72.5% output floor to the new SA risk weights for each sub-category of credit exposure. However, in practice, the output floor applies at the overall portfolio level. This means there may be some types of credit exposure where an IRB bank is able to apply a risk weighting lower than 72.5% of the SA risk weight.

Third, we might also expect some supply-side substitution from non-bank finance sources such as peer-to-peer lending, non-bank specialist lenders and venture capital. Here, it is difficult to quantify the degree to which non-bank finance would increase in response to a fall in bank lending to SMEs. However, as discussed in section 2, the current value of non-bank lending to SMEs is approximately 13% of the value of total SME lending, so there is unlikely to be sufficient capacity to completely offset the reduction described above.

Fourth, as an additional point, IRB banks would have a five-year transitional period to adapt their loan book to the new output floor.[51] Therefore, the reduction in lending from IRB banks may not appear immediately. The same does not hold for SA banks, which do not benefit from a transitional period and may therefore already start adjusting their lending portfolios now.

Despite these caveats, the overall conclusion has to be a reduction in lending supply to SMEs and an increase in the cost of this SME lending, which will have consequences for SMEs and—given their importance to the UK economy—for the UK more generally.

4.3 Impact on competition between banks

The PRA in its Consultation Paper has argued that the proposed changes are consistent with its secondary competition objective. Specifically, the PRA states that:[52]

> [t]he proposal to remove the SME Support Factor is consistent with the PRA's secondary competition objective, as the PRA proposes the same change under the SA and IRB approach [...] The PRA considers that its proposal to introduce the new SME corporate exposure sub-class would improve competition, as it would partially offset the removal of the SME Support Factor under the SA, whereas the PRA does not propose any offsetting changes in IRB. This could facilitate

[51] PRA (2022), 'CP16/22 – Implementation of the Basel 3.1 standards', para. 9.42..
[52] PRA (2022), 'CP16/22 – Implementation of the Basel 3.1 standards', para. 3.148.

> greater competition between the typically smaller SA firms and the larger IRB firms.
>
> [...] The PRA considers that the proposed output floor, by applying the same SA methodologies to SA and IM firms, would support competition by narrowing and stabilising the gap in risk weights between them.

While the output floor may directionally close the gap between SA and IRB approaches, it still imposes lower risk weights for IRB banks relative to SA banks. The PRA has also stated it may reduce Pillar 2A capital requirement for IRB firms where the output floor bites,[53] which we would expect to be the case on business loans secured on premises. This still means that, all else equal, challenger banks must hold more capital in reserve for the same value of SME lending.

The PRA's competition objective should also be considered within the broader context of the market structure and trends in SME lending. Despite the hurdles facing smaller banks, under the current capital requirements regime, many have been successful at entering the market and increasing the size of their SME loan books. Increasing costs for specialist banks that have done so much to widen SME access to credit at a time when the macroeconomy is forecast to enter a recession and when SME financing may become scarcer could be counterproductive in terms of the PRA's objectives around promoting growth.

[53] See Bank of England (2022), 'CP16/22 – Implementation of the Basel 3.1 standards: Credit risk – standardised approach', para. 10.19.

5 Impact on SMEs, productivity, the role of SMEs in the economy.

In this section, we first discuss the importance of SMEs for the UK economy, and their potential importance for understanding the UK productivity puzzle and resultant sluggish economic growth. We then examine how access to finance represents a key problem for SMEs in the UK economy. The analysis and research presented in the sections above suggest that with the growth of SME financing as an area where challenger banks could profitably enter, there was hope of alleviating the funding problems that SMEs faced. However, by increasing the funding costs for SME lending, the PRA's proposals are likely to lead to reduced SME lending, potentially unwinding any progress that has been made to date.

It should first be acknowledged that there is no firm definition of a SME. Most sources say that to qualify as a SME, a firm should have fewer than 250 employees. There are also typically limits on turnover specified in the definitions. However, the two criteria can be used together so that a SME is a firm with fewer than a certain number of employees *and* turnover below a certain level. For example, the definition agreed at European Union level states that: [54]

> SMEs are made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

However defined, SMEs in the UK are far from homogeneous, with a great deal of variation in size, turnover, growth and productivity.

Box 5.1 There is no 'model SME'

SMEs are a heterogeneous group. As at 2022, 95% of SMEs had fewer than ten employees and accounted for 53% of SME employment and just under 40% of SME turnover. By contrast, only 1% of SMEs had between 50 and 249 employees, yet these larger SMEs accounted for 21% of SME employment and a third of SME turnover. The middle group, with 10–49 employees made up 4% of SMEs, but accounted for just over a quarter of SME employment and 29% of SME revenues.

Note: The definition of SME applied uses a cut-off of 250 employees, and so may include SMEs with revenues in excess of €50m that would not qualify for the SME Support Factor.
Source: Oxera analysis of data from the Department for Business, Energy and Industrial Strategy (BEIS).

[54] See Annex to Commission recommendation of 6 May 2003 concerning the definition of micro, small and medium sized enterprises, Article 2(1) (accessed 9 March, 2023). This is similar to the definition currently used by the UK government. See Department for International Trade (2020), 'Small and medium-sized enterprises action plan', p. 5.

5.1 The importance of SMEs in the UK economy

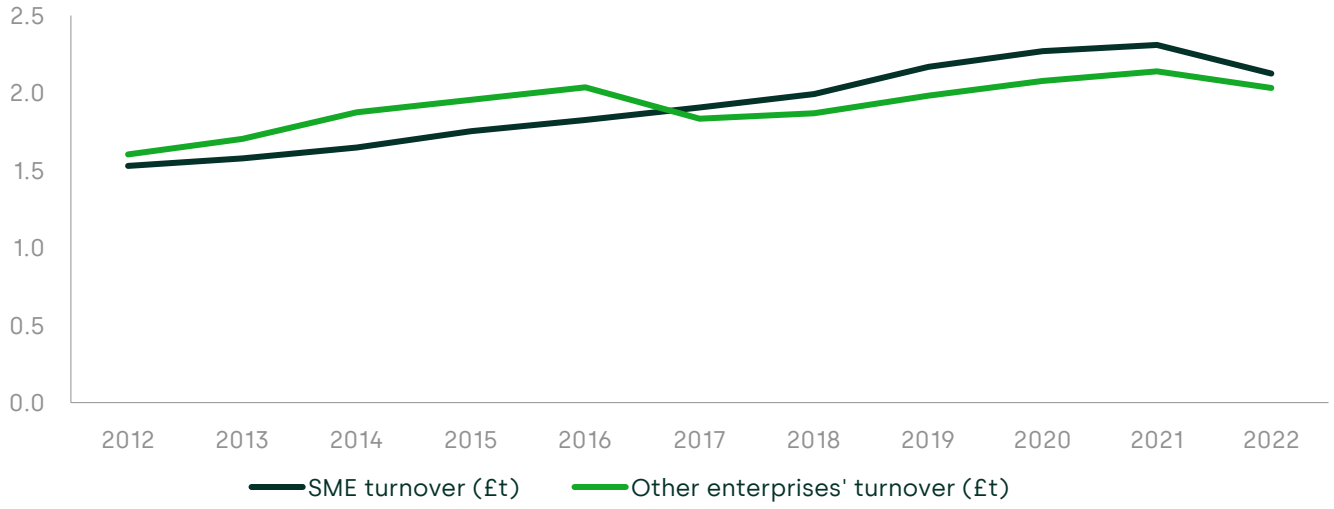
SMEs represent an important part of the UK economy. As at 1 January 2022, there were over 5.5 million SMEs in the UK, making up over 99% of all private sector businesses. They account for 61% of private sector employment and 51% of total turnover of the private sector.[55]

Data going back further suggests that in 2018, SMEs accounted for 50% of UK GDP; however, access to finance continues to represent a key hurdle for these businesses.[56]

5.1.1 Economic growth

The Bank of England described SMEs as 'an engine of growth', in a March 2020 research paper on SME finance.[57] SMEs are certainly an important part of the economy, as described above; they make up more than 99% of all private firms, and account for a majority of private sector employment and private sector turnover.

Figure 5.1 Evolution of turnover for SMEs and other enterprises in the UK, 2012–22



Note: As this data uses only employment headcount (of fewer than 250 employees) to define SMEs, some firms included here as SMEs would not qualify for the SME Support Factor.
Source: BEIS, business population estimates released 2012–22.

We show in Figure 5.1 above that since 2012 turnover for SMEs has grown faster than turnover for other enterprises. While turnover is a measure of revenue and not a measure of the value added, this would indicate that SMEs are responsible for a large proportion of economic growth.

[55] Hutton, G. (2022), 'Business statistics', Research Briefing, House of Commons Library, 6 December (accessed 8 February 2023).
[56] Bank of England (2020), 'Open data for SME finance: What we proposed and what we have learnt', March (accessed 8 February 2023), p.3.
[57] Bank of England (2020), 'Open data for SME finance: What we proposed and what we have learnt' March (accessed 8 February 2023), p. 6.

A report from 2013 by the Department for Business Innovation and Skills (now known as the Department for Business, Energy and Industrial Strategy) highlighted three ways in which SMEs drive economic growth in the UK:

1 stimulating innovation;
2 as a competitive spur to existing businesses;
3 making a disproportionate contribution to job creation.[58]

The issue of SMEs and employment is discussed in the next sub-section. In terms of stimulating innovation and spurring competition, the argument in the Department for Business Innovation and Skills report might be summed up as saying that SMEs are where creative destruction happens within the economy. Innovative firms start out as SMEs and the sector sees a lot of births and deaths of firms as some are able to thrive and others cease trading.

However, not all of the SME firms that are capable of thriving succeed. A study by Experian found that only around 20% of those firms with the greatest potential to become 'champions' actually went on to do so.[59] Finding those firms and providing the support they need in order to succeed has long been a goal of industrial policy. The Experian report goes on to describe how 'accessing finance is a key concern for enterprises looking to fund growth',[60] and how those SME champions that did borrow to expand tended to generate more employment than those that did not.[61]

A well-functioning financial sector will allocate resources to those SMEs with the innovative products to satisfy consumer needs and the innovative production processes that reduce costs. As such, SME access to finance is crucial for SME growth. Indeed, Davis and Haltiwanger (2019) have shown that employment shares for young firms increase with credit availability, particularly with the availability of credit secured on housing.[62] Similarly, Besley et al. (2020) have shown that credit frictions (caused by asymmetric information about a firm's financial health) depress economic output and affect SMEs in particular.[63]

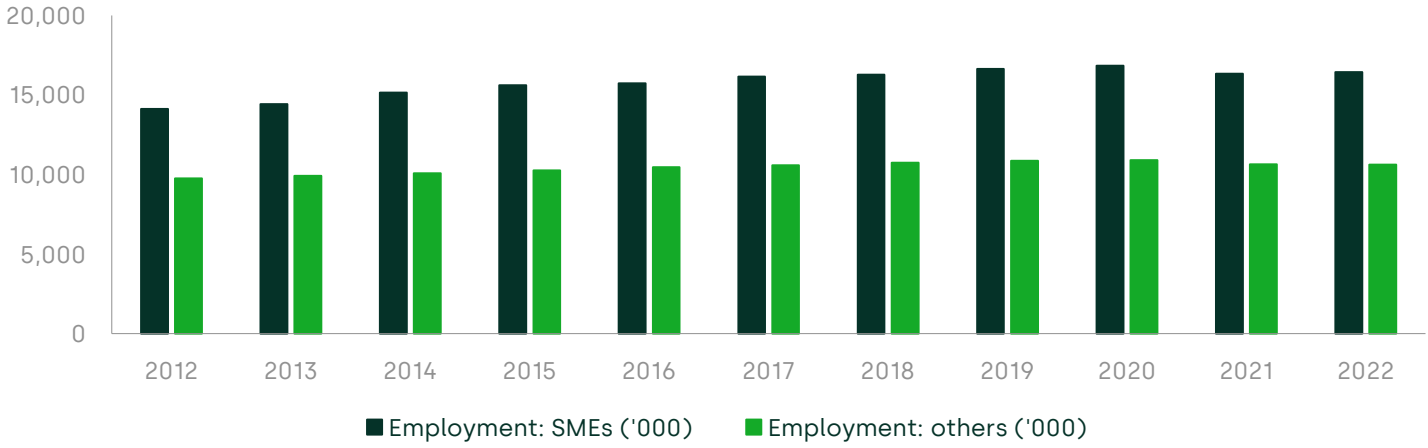
5.1.2 Employment

As the statistics cited above point out, SMEs account for the majority of private sector employment. In fact, SMEs have been increasing their importance for UK employment over the last decade. While

[58] See Department for Business Innovation & Skills (2013), 'SMEs: The Key Enablers of Business Success and the Economic Rationale for Government Intervention', BIS Analysis Paper Number 2, December.
[59] Experian (2010), 'The Insight Report: Tomorrow's champions: finding the small business engines for economic growth', p. 9. The report uses the term 'champions' to refer to the c. 10% of SMEs that are high-growth firms and account for around two-thirds of employment created by SMEs, replacing the jobs lost among the 40% of the SME population that declines or ceases trading.
[60] Experian (2010), op. cit., p. 19.
[61] Ibid, p. 13.
[62] Davis, S. and Haltiwanger, J. (2109), 'Dynamism Diminished: The Role of Housing Markets and Credit Conditions', Hoover Institution Economics Working Papers (accessed 26 February 2023).
[63] Besley, T., Roland, I. and Van Reenen, J. (2020), 'The Aggregate Consequences of Default Risk: Evidence from Firm-Level Data', CEP Discussion Paper No. 1672.

employment by firms larger than SMEs (i.e. those with more than 250 employees) has grown by only around 1 million in the last ten years, employment by SMEs has grown by twice that amount.

Figure 5.2 Employment by SME and non-SME firms in the UK



Note: As this data uses only employment headcount (of fewer than 250 employees) to define SMEs, some firms included here as SMEs would not qualify for the SME Support Factor.
Source: BEIS, business population estimates released 2012–22.

To the extent that encouraging employment is a goal of any industrial strategy, there are advantages to encouraging SME growth—policies that encourage SMEs are likely to increase employment. With higher employment, there should be less pressure on government expenditure in terms of benefits payments for jobseekers; and more choice of employment for workers.

The level of job creation by SMEs masks a considerable degree of churn in SME employment. For example, over the period 2003–06, the fastest-growing 10% of SMEs created 1.6 million jobs, while 1.75 million jobs were shed from the remaining 90%.[64] While the overall picture in this period is a reduction in employment, the churn will have led to a reallocation of labour from less-productive uses to more-productive uses, increasing productivity. Labour reallocation can contribute to growth in labour productivity.

5.1.3 Productivity

Improving productivity is one of the main goals of the government's industrial strategy.[65] Productivity improvements essentially mean that the economy is able to produce more output using the same or less input—the very definition of economic growth. Traditional models of economic growth show how growth in output per worker is achieved either by giving workers more capital to work with, or by discovering new technologies of production which can produce the same output

[64] Experian (2010), 'The Insight Report: Tomorrow's champions: finding the small business engines for economic growth', p. 6
[65] Roland, I. (2020), 'Unlocking SME productivity: Review of recent evidence and implications for the UK's Industrial Strategy', Centre for Economic Performance, London School of Economics, January (accessed 8 February 2023).

with less input.[66] Either means of achieving growth in output per worker requires investment either in capital formation or in R&D to develop those new technologies. It is a lack of productivity growth that has plagued the UK's economic performance since the GFC—an issue that has been labelled the 'productivity puzzle (see Box 5.2).

Box 5.2 What is the UK's productivity puzzle?

The productivity puzzle is the name given to the observation that, since the GFC, productivity growth in the UK has slowed down permanently. In the UK, productivity growth over the ten years prior to the GFC was, on average, around 2% a year. In the years since the crisis, it has been around 0.6% a year. While part of the puzzle is that other countries have seen a faster rebound of productivity growth since the GFC, it should also be acknowledged that the UK has had slower productivity growth than similar countries for a long time (since the 1970s), leading to two productivity puzzles in terms of productivity levels and productivity growth.

Different explanations have focused on the sectoral mix of the UK economy and historical underinvestment in capital and R&D, suggesting that the UK has a more labour-intensive economic model than other countries. The UK invests just 1.7% of GDP in R&D compared to 2.8% in the USA and 2.9% in Germany. This underinvestment is repeated among SMEs, with UK SMEs less likely to introduce new products or production processes than their European counterparts.

One possible explanation offered by Andy Haldane of the Bank of England is that the UK has a particularly pronounced long tail of low-productivity firms. This long tail is present in all countries but is particularly pronounced in the UK.

Source. PricewaterhouseCoopers (2019), 'The Productivity Puzzle revisited: why has UK productivity lagged behind other advanced economies?', UK Economic Outlook, November (accessed 8 February 2023). Haldane, A. (2018), 'The UK's productivity problem: Hub no spokes', Academy of Social Sciences Annual Lecture (accessed 8 February 2023). HM Government (2017), 'Industrial Strategy: building a Britain fit for the future', p. 61.

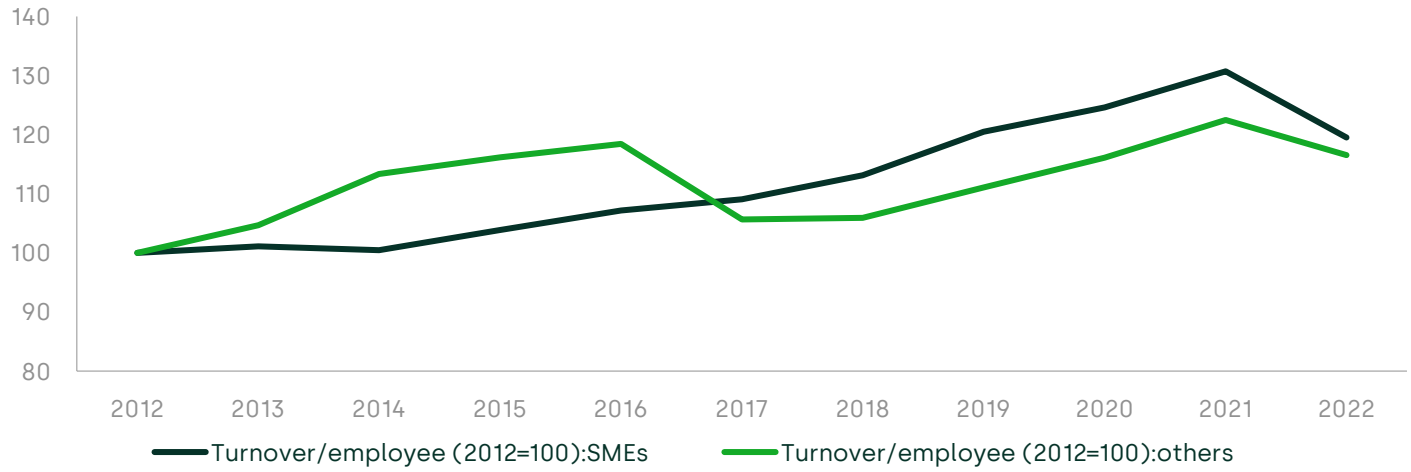
SMEs have been described as being central to the development of new ideas and investment in new technologies. Indeed this appears to be very important for the more successful high-growth SMEs. One report has found that a 10 percentage point increase in the share of a firm's sales that come from new products leads to a 0.7 percentage point

[66] See Romer, P. (1990), 'Endogenous Technological Change', *Journal of Political Economy*, 98:5. If one takes a broad view of the 'output' of an economy as being consumer satisfaction, then this definition of technological advance would include disruptive product innovation.

increase in the firm's employment growth rate.[67] Mole (2002) showed that SMEs can act as seedbeds for new innovations.[68]

Data from the BEIS does indeed confirm that, since 2012, the productivity of SMEs has grown faster than that for other firms—albeit from a lower base.

Figure 5.3 Indices of turnover per employee 2012–22 SMEs and non-SME firms in the UK



Note: This data has been calculated on the basis of turnover. Strictly speaking, to properly measure productivity, one should take account of the other input costs and so use a measure such as GVA per employee. However, we do not have access to such data and have therefore considered turnover instead. Also, as this data uses only employment headcount (of fewer than 250 employees) to define SMEs, some firms included here as SMEs would not qualify for the SME Support Factor.
Source: Oxera calculations on BEIS data.

This would appear to confirm that SMEs have been a driver of growth over the period. If nothing else, SMEs have remained broadly half of the UK economy and so have contributed roughly half of the economic growth to the country.

In addition to contributing to economic growth through their own efforts, some authors have highlighted the role of innovative SMEs in competing with more established firms and so driving others to be more innovative and grow via dynamic competition.

5.2 Access to finance is a key barrier to SME growth

SMEs face two important obstacles in terms of achieving growth:[69]

- poor management;
- access to finance.

[67] See Mason, G., Bishop, K. and Robinson, C. (2009), 'Business Growth and Innovation: The wider impact of rapidly-growing firms in UK city-regions', *NESTA research report*.
[68] Mole, K. (2002), 'Augmenting Productivity in SMEs', A Report for the Small Business Service, Centre for Small and Medium Sized Enterprises, Warwick Business School.
[69] Roland, I .(2020), 'Unlocking SME productivity: Review of recent evidence and implications for the UK's Industrial Strategy', Centre for Economic Performance, London School of Economics, January (accessed 8 February 2023).

A focus of industrial strategy has been to improve management by spreading best practices more widely throughout the economy.[70] Doing so is outside the remit of the Bank of England or the PRA; however, the decisions of the PRA affect the ease with which all firms, including SMEs, can access finance. This is particularly the case for SMEs because they are still reliant on bank lending for access to finance—bank lending makes up 85% of the stock of outstanding debts owed by SMEs.[71] While it has been an aim to reduce SME reliance on the banking sector for credit and to encourage other sources of finance such as venture capital, the expansion of alternative sources of finance has not yet been secured. So any reduction in the availability of bank finance is likely to make securing finance more difficult for SMEs.

5.2.1 SME finance is cut back during crises and recessions

During recessions, or times when banks are operating under stress, finance to SMEs may be one of the first areas where banks cut back. From a regulatory perspective, cutting back on SME finance is a quick way to de-risk the lending portfolio and cut back on risk-weighted assets. Bridges et al. (2014) show that, when banks are faced with higher capital requirements, they cut back on lending, and lending to 'other corporates' is one of the most affected lending sectors.[72] As a result, SME investment would fall.

Interestingly, the data in Figure 2.4 indicates that lending to SMEs from the large banks has barely grown since 2012. Over the entire period, the increase was only 26% (compared to 142% for smaller banks). There may also be a significant element of 'bank refusal' in the reduction in SME lending during recessions. For example, Dennis (2010) shows that in 2009 in the USA, 40% of small businesses attempting to borrow had all their credit needs met. This compares to 90% of small businesses in the mid-2000s having their most recent credit request approved in the USA.[73]

The SME Support Factor was introduced in 2014 to ensure that SMEs would have access to an adequate flow of credit as prudential rules were tightened. Given the forecasts for the performance of the macroeconomy over the next few years, the SME Support Factor is still likely to be needed.

[70] See, for example, HM Government (2017), 'Industrial Strategy: building a Britain fit for the future'.
[71] Bank of England(2020), 'Open data for SME finance: What we proposed and what we have learnt', March (accessed 8 February 2023).
[72] See Bridges, J., Gregory, D., Nielsen, M., Pezzini, S., Radia, A. and Spaltro, M. (2014), 'The impact of capital requirements on bank lending', Bank of England Working Paper No. 486.
[73] See Dennis W. (2010), 'Small Business Credit in a Deep Recession', NFIB Research Foundation.

5.2.2 Issues for SMEs to access finance

It has been established that SMEs find access to finance difficult. This has been a perennial problem for SMEs. in 2013, the (then) BIS reported that:[74]

> SMEs face obstacles to **obtaining finance**, and this has become more widespread during the downturn. On the supply side, market failures mainly relating to asymmetric information affect the supply of finance to SMEs. On the demand side, SMEs may not fully understand the potential benefits to their business of raising finance, or their likely chances of success in gaining finance.

The report goes on to state: 'Finance is a disproportionately important obstacle for high growth firms compared to other businesses.'[75]

The indications are that securing finance remains as an obstacle for SMEs. For example, Roland (2020) records that: 'Access to finance, especially long-term finance, remains a problem for innovating firms with the potential to grow.'[76] Furthermore, a Bank of England discussion paper on FinTech identifies a £22bn funding gap in terms of financing SMEs.[77] Another Bank of England paper on financial stability from 2021 observed that: 'In the UK, SMEs make an important contribution to the economy. But they experience more restricted access to finance.'[78]

SMEs tend to have a harder time accessing finance than larger firms for the textbook reasons concerning asymmetric information in credit markets. With more established firms, lenders can have greater confidence about their ability to repay their debts as there is a stronger track record of financial performance (in terms of audited financial statements) and there may be more accumulated assets against which credit can be secured. With SMEs, there is more room for doubt.

This may particularly affect the more innovative SMEs as their innovative business models and products may, as yet, be unproven. The difficulties stemming from asymmetric information can raise the costs to SMEs of shopping around for better credit terms. To approach another lender, they will typically have to provide extensive details of their transactions in order to prove their financial health. This can raise transaction costs in credit markets. In order to alleviate this problem, the Bank of England has promoted reforms to permit greater data

[74] See Department for Business Innovation & Skills (2013), 'SMEs: The Key Enablers of Business Success and the Economic Rationale for Government Intervention', BIS Analysis Paper Number 2, December, p. 7 (emphasis in original).
[75] See ibid., p. 32.
[76] Roland, I.(2020), 'Unlocking SME productivity: Review of recent evidence and implications for the UK's Industrial Strategy', Centre for Economic Performance, London School of Economics, January (accessed 8 February 2023), p. 1.
[77] Bank of England (2020), 'Open data for SME finance: What we proposed and what we have learnt', March, p. 3 (accessed 8 February 2023).
[78] Bank of England (2021), 'Financial Stability in Focus: The Corporate sector and UK Financial Stability' .

portability in order to reduce transaction costs for SMEs when shopping for credit finance.

5.2.3 SMEs use finance to fund high growth and productivity improvements

SMEs tend to use finance to fund investment projects that allow them to grow. As the (then) Department for Business Innovation and Skills put it:[79]

> Access to finance is an important part of the free market mechanism for efficiently allocating resources in the economy. A well-functioning financial system enables new businesses with innovative products or more efficient production processes to displace older less efficient businesses. This will contribute to improvements in productivity and initiates usage of underutilised resources within the economy.

This may be why, as noted above, it is high-growth firms that find securing finance to be a disproportionately important obstacle for their businesses. These firms and their growth plans are more likely to come up against finance as a binding constraint.

5.2.4 SME finance has grown in spite of the difficulties SMEs have in obtaining finance

Finally, in spite of all the difficulties in securing finance that have been highlighted above, we note that SME finance has been growing since 2014 (see section 2.2 and Figure 2.4). This appears to be due to a mix of factors including the SME Support Factor introduced at the start of 2014 which has directly lowered the funding cost for SME lending; and due to new entry as challenger banks have identified (under the current regulatory treatment) SME lending as a niche that they can profitably serve.

These gains would be put at risk if regulatory changes were to increase the funding cost faced by banks lending to SMEs. This would likely reduce the total amount banks would be willing to lend to SMEs, especially as a result of the direct increase in funding costs as a result of the removal of the SME Support Factor. Furthermore, the SME lending sector appears to be particularly vulnerable to reduced lending as a result of the reforms being proposed because of the sector's reliance on bank finance.

5.3 The impact of higher interest rates

Credit is much like any other good—when the total amount that is being supplied contracts but demand does not change, the price will increase in order to ration the good. To put this logic slightly differently, when the cost of supplying the good rises, so will the price at which it is sold. In the case of credit finance, the price is simply the interest rate at which SMEs can borrow.

If interest rates increase for those SMEs that are able to borrow, higher debt-service payments will represent a drag on the cash flows

[79] Department for Business Innovation & Skills (2013), 'SMEs: The Key Enablers of Business Success and the Economic Rationale for Government Intervention', BIS Analysis Paper Number 2, December, p. 29.

of otherwise financially healthy firms. For SMEs, this could be problematic. The Experian report has highlighted the importance of cash flows for SMEs: '[O]ne of the biggest reasons for business failure is poor cash-flow management'.[80] More recently, a report by Sage highlighted the historical problems that UK SMEs have with cash flow.[81]

Finally we note that higher interest rates can lead to a 'lemons problem' in credit markets. Essentially, as the offered interest rate increases, the proportion of borrowers willing to take out a loan who default will also increase—borrowers who know they will default on their obligations tend to be less discerning about the interest rate.[82] So, perversely, measures to improve credit quality, if they lead to higher interest rates, might actually lead to an increase in the riskiness of the loans made.

[80] Experian (2010), 'The Insight Report: Tomorrow's champions: finding the small business engines for economic growth', p. 17.
[81] Sage (2023), 'SMBs driving economic recovery', a Centre for Economics and Business Research report for Sage, p. 19.
[82] See, for example, Ausubel, L. (1999), 'Adverse Section in the credit card market', working paper, University of Maryland. The description of adverse selection as a 'lemons problem' comes from the original paper, which raised this issue describing the problem with reference to the used car market in the USA where poor quality used cars are known as 'lemons'. See Akerlof, G. (1970) , 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism', *The Quarterly Journal of Economics*, 84:3, pp. 488–500.

6 The context and the trade-offs

The PRA has conducted an aggregate cost–benefit analysis of its proposals, which for UK banks as a whole trades off the benefits and costs of higher prudential standards. The benefits consist of the economic costs of crises that are not experienced as a result of the higher standard of prudential regulation. The main costs of higher prudential standards come from lower short-term economic growth as a result of lower investment caused by the constraints put on the financial sector.

The next subsection outlines the importance of financial stability and the public policy need to consider the cost of incremental stability. Sub-section 6.2 then highlights that the PRA's cost–benefit analysis has been based on industry- and economy-wide data such that the analysis does not apply to the group of smaller banks primarily lending to SMEs.

6.1 Stability is important, but there is a need for proportionality

Stability, in terms of avoiding financial crises, is important and a major aim of banking regulation is to avoid financial crises originating in the banking sector. However, the methods used to achieve such aims should be proportionate.

Most readers will need no reminding that financial crises can be costly. In 2007/08, the GFC hit the financial sector. Several major banks went bust. Key results from the financial crisis were that banks were unsure of the soundness of counterparties and so became unwilling to lend to each other. Some of them, as a result, ceased to be solvent and had to be bailed out by various governments at great public expense.

The effects were not confined to the financial sector, with even healthy banks ceasing to be able to lend as the riskiness of their loan books increased, the value of their assets was written down, and these losses reduced the capital that banks retained in order to satisfy capital adequacy requirements. This in turn forced banks to reduce their lending (and attempt to raise capital).

However, proposals to reduce the chances of another financial crisis originating in the banking sector (or to reduce the cost of such a crisis should it occur) need to be proportionate. For example, crises could be avoided with near certainty by insisting that banks could only lend from their equity and permitting no other form of lending. If loans went bad, banks would then be able to absorb the losses and depositors would be safe. However, this would mean that, for example, individuals' savings or money borrowed from other banks in money markets could not be diverted to useful activities. Lending would fall sharply, and with it investment. The opportunity costs of such a fall in investment would outweigh the benefits of eliminating the expected costs of financial crises altogether; thus optimal prudential regulation has some limits.

6.2 The impact of small banks on financial stability is different from the impact of large banks

The PRA's cost–benefit analysis finds that the expected benefits of the proposed higher prudential standards outweigh the estimated costs, however. It is outside the scope of this report to fully assess the specific calibrations and policy changes adopted in the PRA's cost–benefit analysis, which deploys a general equilibrium model, for which we do not have the full calibration data. However, it is clear that economy-wide data will not capture the costs and benefits that apply in the particular sector of financial markets under consideration here—namely banks using the SA that are not systemic and focused on lending to SMEs. Importantly, the costs and benefits of the proposed tighter prudential regulation are materially different in this sector to the economy as a whole. As a result the PRA's *aggregate* cost–benefit analysis may not be relevant to the question of whether to apply tighter prudential standards to these banks making loans to SMEs.

First, the benefits of increasing prudential regulation for relatively small banks engaged in narrow lending to SMEs are unproven in relation to the current calibration of prudential standards for these banks. The banks in question are small, and already subject to far more complex and demanding prudential regulation than they were in the past. Therefore applying higher prudential standards to their loan books is very unlikely to lead to any significant reduction in the probability of a financial crisis. So there is unlikely to be any measurable benefit to these higher prudential standards.

Such small banks are not typically the cause of global financial crises and that is one reason why Basel 3 standards were never meant to be applied to small banks—they were focused on large internationally active banks. Moreover, the PRA has gone significantly beyond the international standards, with the 100% risk weight floor for business loans secured on property. Nominally there might remain reasons for national regulators to apply national regulations as stringent as the Basel standards to internationally active banks. They may still pose risks of triggering a national financial crisis. However, the banks we are considering in terms of supplying loans to SMEs do not appear large enough to pose national systemic risks given current standards of prudential supervision. Of the banks we have considered that are important for SME lending identified in Figure 2.3, the average overall credit exposure as of 2021 was £8bn and the largest was £25bn. This does not seem large enough for any of these banks to be posing a systemic risk when compared to the much larger exposures of high-street banks such as Virgin Money (£106bn) and LBG (£657bn).

Second, the costs of applying higher prudential standards in this sector are likely to be very large. SMEs form an important sector of the economy (as discussed in section 5). They have been described as engines of growth by the Bank of England; they employ the majority of private sector workers; and they contribute around half of the UK's GDP. Access to finance is one of the key obstacles to growth for the best SMEs. Making their access to finance more difficult could have serious consequences for economic growth. This should be an important consideration given the current forecasts for the

performance of the UK economy over the medium term. This point appears to have been acknowledged in a recent speech by Dr Victoria Saporta at the Bank of England:[83]

> … [A]n efficient market is one that allocates resources to their best use, including by ensuring that there aren't parts of the economy struggling to access finance that they should be able to secure.

This is especially pertinent for SMEs as they do not have access to the same alternative sources of finance that larger firms enjoy (see Figure 2.1). As a result, if lending by challenger banks to SMEs falls as a result of the tighter prudential regulations, SMEs will be unlikely to be able to substitute into other sources of finance. So the costs of reduced bank lending to SMEs are likely to be higher (relative to their collective contribution to GDP) than the costs of reduced bank lending to larger firms or consumers within the economy.

Overall, it would seem that when it comes to lending to SMEs, the benefits from tighter prudential regulation are negligible while the costs are likely to be substantial.

We recognise the importance of prudential regulation in protecting depositors. We note, however, that the PRA's cost–benefit analysis did not include any benefit in relation to depositor protection. We assume that this is because in light of the post-GFC reforms, the FSCS is required to pay out depositor protection very rapidly, which broadly prevents significant harm at the household level.

On this basis, it seems worthwhile to consider keeping the SME Support Factor. As noted above, this also seems to be the policy intention in other European countries. The evidence considered above suggests that the SME Support Factor has achieved its aims in terms of increasing lending to SMEs and is consistent with prudent capital requirements. Beyond that, the SME Support Factor has lowered funding costs in lending to SMEs. These lower funding costs may have been a key driver of the expansion of SME lending by specialist and challenger banks:

- at least nine such banks having entered the industry since 2014;
- collectively, such smaller banks have more than doubled their SME lending since the introduction of the SME Support Factor.

Indeed, in the same speech cited above, Dr Saporta goes on to say: [84]

> The importance of competition means that we need to act when rules that are proportionate for large firms are not proportionate for small ones. Doing so removes barriers to entry.

[83] Speech by Dr Victoria Saporta, Executive Director, Prudential Policy, Bank of England 'The regulatory foundations of international competitiveness and growth', 27 February 2023 (accessed 2 March 2023).
[84] Speech by Dr Victoria Saporta, Executive Director, Prudential Policy, Bank of England 'The regulatory foundations of international competitiveness and growth', 27 February 2023 (accessed 2 March 2023).

SME lending by challenger banks appears to be a case in point.

There also seem to be good arguments for reconsidering the 100% risk weight floor for secured lending to SMEs. It represents a material gold-plating of the international standards, and is not risk-sensitive. Such lending can be an important source of business finance for entrepreneurs and it is illogical to consider such lending to be more risky than an equivalent unsecured loan where no asset can be used to recover funds in the event of default.

6.3 Overall conclusion

Overall, the SME financing sector remains focused on bank lending. The sector has actually seen substantial growth over the last ten years, but that growth has not come from the large high-street banks, but rather from a group of specialist banks that have identified lending to SMEs in all sectors and geographies as a niche that they can profitably supply. These banks remain small enough to be of little systemic importance while lending to a macroeconomically significant sector with relatively few outside options in terms of finance; meaning that the benefits of tighter prudential regulation in terms of forgone systemic crises are lower and the costs in terms of forgone credit-financed investment by SMEs are higher than in the rest of the economy.

Contact

Helen Ralston-Smith

+44 (0) 20 7776 6623
Helen.Ralston-Smith@oxera.com