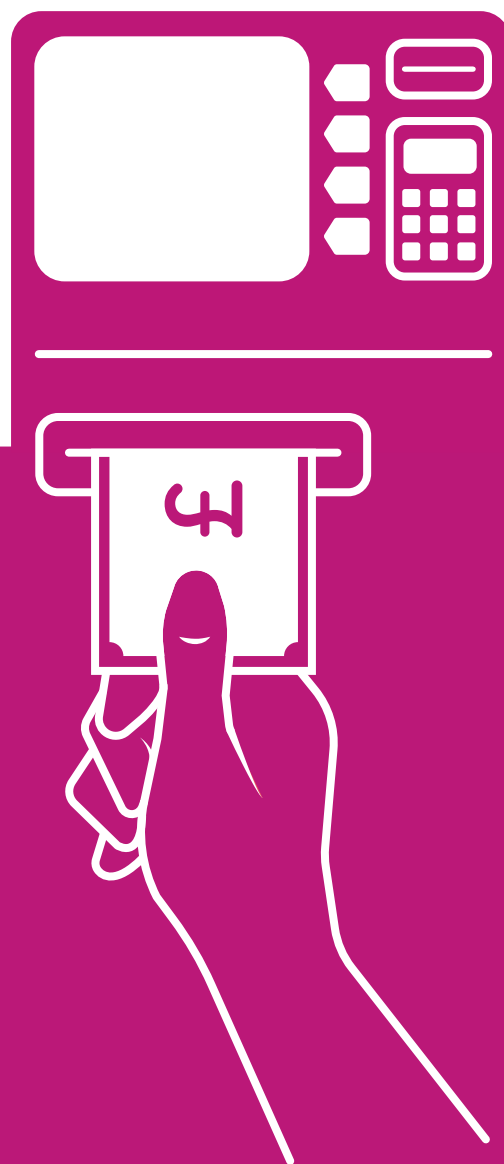# WHERE TO WITHDRAW?

MAPPING ACCESS TO CASH ACROSS THE UK

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BRISTOL

ABOUT THIS REPORT

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EXECUTIVE SUMMARY

The context of access to cash in the UK

In recent years the UK, along with many other countries, has seen a move away from cash payments to other methods of payment, whether using debit cards, mobile payment technology, or online payments. The most recent UK Finance figures show that card payments in 2019 accounted for over half of all UK payments by volume (51%).[1] Although cash remains the second most frequently used payment method, it accounted for only 23% of payments in 2019 compared to 48% in 2014. Cash payments are likely to continue on this downward trend. UK Finance forecasts that by 2028 only 9% of payments will be made in cash.[2]

Despite the overall decline in the use of cash, there are still many people across the country who continue to use cash and to rely on it to make payments. The 2019 Access to Cash Review estimated that 17% of the UK population, over 8 million adults, would struggle in a cashless society, while an estimated 2.1 million consumers rely mainly on cash for their day-to-day spending.[3,4] Some of the key reasons for their continuing reliance on cash include for budgeting purposes, a lack of digital skills, and concerns about the security of other payment methods.[5]

We cannot, however, take the continued availability of cash for granted. As the use of cash declines, so too does the economic viability of the places it can be accessed, including bank branches and free-to-use cash machines. Recent years have seen bank and building society branch closures – Which? estimate that 3,770 banks and building society branches closed between January 2015 and October 2020[6] – and ATMs either close or convert from free-to-use to charging a withdrawal fee. The Coronavirus (Covid-19) pandemic has further highlighted the importance of cash access to those who rely on it, but also the pressures on the cash system. Reduced branch opening hours, combined with lower usage and acceptance of cash, not least because of concerns about transmissions of Covid-19, have also highlighted the vulnerability of groups that want or need to make cash payments.

Government, regulators, and industry have recognised this challenge. In the March 2020 Budget, the government committed to bring forward legislation to protect access to cash for those who need it.[7] The Government also issued a Call for Evidence on access to cash in October 2020.[8] The body that manages the ATM network, LINK, has also introduced initiatives

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[1] UK Finance (2020) UK Payment Markets 2020
[2] UK Finance (2019) UK Payments Market Summary 2019
[3] Access to Cash Review (2019) Access to Cash Review Final Report
[4] UK Finance (2020) UK Payment Markets 2020
[5] BritainThinks (2019) Access to cash research with consumers and small businesses – commissioned by the PSR
[6] Which ? (2020) Bank branch closures: is your local bank closing?
[7] HM Treasury (2020) Budget 2020 Policy Paper
[8] HM Treasury (2020) Access to Cash: Call for Evidence – October 2020

to maintain the coverage of free-to-use ATMs and for additional ATMs to be requested in communities.

Research objectives

Our focus is to examine the overall coverage of cash access points based on geographical location. This includes bank and building society branches, Post Office branches, free-to-use (FTU) and pay-to-use (PTU) ATMs, and cashback locations. Through this, we identify the current availability of cash in different areas such as high streets and neighbourhoods, and also the different types of cash access points available in these areas.

We present here a discussion on trends in cash access in the UK, current gaps in the coverage of the cash network, and the changing nature of cash access points. This research does not seek to identify consumers' need for cash, or their behaviour when determining what type of cash access point to use. Therefore, we have not established whether these cash access points meet the needs of consumers. However, we acknowledge that cash access points are not always comparable in their basic functions or other factors such as accessibility.

Methods used

This report uses data from multiple industry sources to, for the first time, provide a comprehensive map of cash access points across the UK. Our dataset contains over 110,000 cash access points in total.

We have used these data to build a nationwide map of cash access points in the UK and analysed the data to identify variations in access to cash across the country. In our analysis, we explore the distance to cash access points from places of economic activity such as retail centres, supermarkets and high streets, but also from local neighbourhoods. We also analyse the different types of cash access point to show the relative importance of certain channels of cash access for people in different geographical settings, noting that not all services are equal. This is important to examine not only the coverage, or 'breadth', of cash access throughout the UK, but also the 'depth' of the service provided – i.e. do consumers have a choice of different types of cash access points? – for the population in those areas.

Key national findings

The national picture of access to cash – At an aggregate level most UK consumers do not have to travel large distances to access cash, though there are important differences between areas that should not be ignored. We find that when measuring from larger places of economic activity (retail centres, high streets and supermarkets) approximately 90% of such locations have either an FTU ATM, bank branch or Post Office – all of which provide free access to cash – within 250m. Expanding the definition of free access to include cashback, this figure

rises to approximately 95% of locations, showing that there are widespread nearby options for cash access in these places.

For neighbourhoods, the corresponding figures show that cash coverage is not as extensive. This is something we would expect when comparing to centres of economic activity, which are closer to where cash is likely to be used. Around 30% of neighbourhoods have free access to cash within 250m, rising to 90% within 1km. Again, when including cashback, these figures increase to 42% and 93% respectively.

Free access point (inc. cashback) within 250m:
- 95% of high street segments
- 42% of neighbourhoods

Free access point (inc. cashback) within 1km:
- ~100% of high street segments
- 93% of neighbourhoods

It should be noted that while distance-based methods are useful for assessing the broad scope of access to cash, this does not mean that this access is uniform for all people in those areas. For example, some may be unable to travel any distance to access cash, or may rely on a particular channel (such as a bank branch) that is located further away to access cash in a way that meets their needs. It is important therefore for policy-makers to also consider individual consumer needs and outcomes, in addition to access to cash at an area-level.

The rural-urban divide – Unsurprisingly, the most urban areas such as London have the lowest mean distance to a free access point (excl. cashback) at 326m. As we move to more rural regions such as Scotland, the South West and Wales, this is more than 600m, with some remote areas having much higher distances to travel. For those in rural settings, Post Office branches are shown to play an important role in providing access to cash: in over 51% of neighbourhoods classified as 'rural', Post Office branches are the nearest cash access point. Bank branches meanwhile are concentrated in urban areas.

Mean average distance (in metres) to nearest **free access point (excl. cashback):**

London	326
Scotland	614
Wales	661
Northern Ireland	678
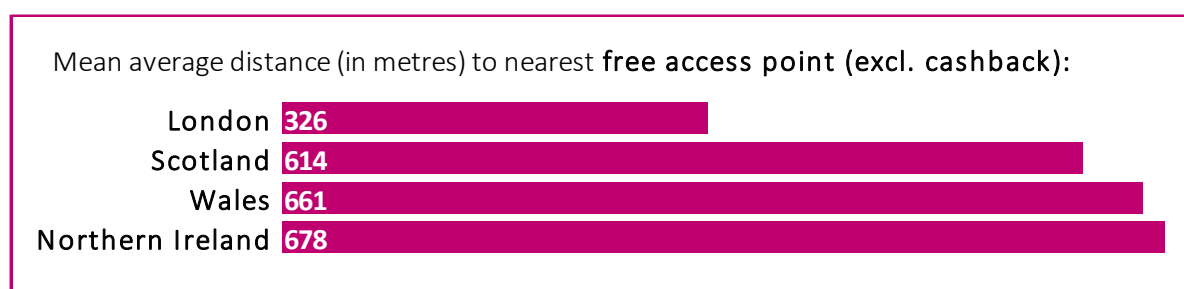
The role of cashback – Cashback is shown to increase the number and choice of cash access points in many areas and could be an increasingly important factor in providing cash access. However, there are some drawbacks with the current system. These include large variation in the number of cashback transactions conducted by different types of merchants, and the lower average value per transaction compared to other types of access points. The type of venue where cashback is found must also be considered. Generally, accessible cashback vendors such as supermarkets do account for the largest share of locations (49%), but less

accessible venues such as pubs (14%), restaurants (10%) and gambling establishments (12%) account for over a third of locations.

PTU ATMs in deprived areas – The issue of how deprivation is related to access to cash is an important ongoing strand of research. Our analysis shows that 91% of the most deprived neighbourhoods have some form of free access to cash within 500m. However, PTU ATMs are more likely to be the nearest source of cash in these areas when compared with less deprived places, and the most deprived decile have seen a 23% increase in the number of PTU ATMs since 2018 and a 19% decline in FTU ATMs. We do not have detailed figures on the use of individual ATMs, which makes it difficult to assess the impact these developments have on communities.

Use and availability of different channels – Our analysis of cash withdrawal data shows that consumers appear to use different cash access channels in different ways. The average value of withdrawals made by consumers from each type of access point varies substantially. The average withdrawal from an ATM was £60 in the year to March 2020, this falls to £20 for cashback merchants, rising to £90 for Post Office counters and to £220 for counters in bank or building society branches.[9]

Average value of withdrawals (year to March 2020)

Bank or building society branch counters	£220
Post Office branch counters	£90
ATM	£60
Cashback merchant	£20
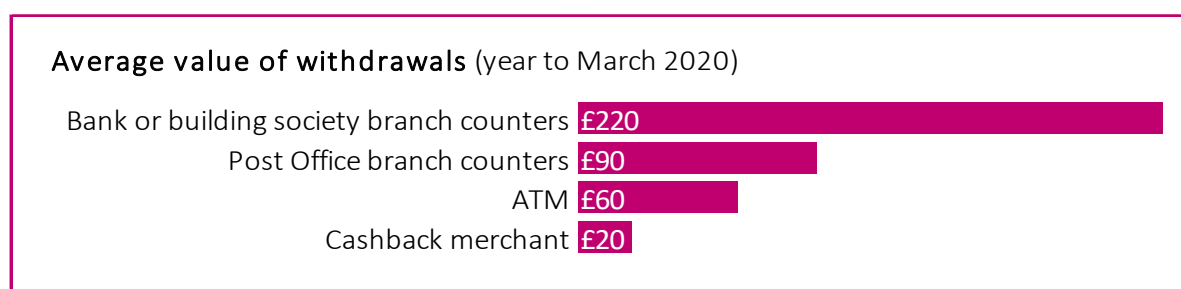
The availability of different channels varies greatly across the country. FTU ATMs represent 39% of all access points but account for over 90% of cash withdrawal volumes. Alongside cashback, FTU ATMs are more likely to be closest to centres of economic activity and neighbourhoods and are often strongly geographically clustered. Post Offices meanwhile are more geographically spread out and are therefore the nearest cash access point in 53% of neighbourhoods that only have one nearby access point.

Change over time – From March 2018 to March 2020, our data show that there was a 15% reduction in the number of free cash access points across the UK. The largest contributor to this decline was from FTU ATMs which fell by approximately 19% over this period. The 15% reduction is on par with the fall in cash withdrawals (-15%) but well below reductions in cash payments (-29%) between 2017 and 2019 (year-end).

> Free cash access points:
> **15% decrease**
> (March 2018 to March 2020)

> Cash withdrawals:
> **15% decrease**
> (Year-end 2017 to 2019)

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[9] This figure refers to 'median' figures provided by 4 firms.

1.

INTRODUCTION

1   INTRODUCTION

Despite a decline in overall use, cash remains important to some segments of the UK population

Cash use has been declining steadily for some years as people switch to alternative electronic or digital payments. In 2017, debit cards overtook cash as the most frequently used payment method in the UK.[10] This downward trend of cash use seems likely to continue in the future.

Amid the overall decline in cash use, previous research by the Access to Cash Review (ATCR)[11] and the Payment Systems Regulator (PSR)[12] has indicated reasons for a persistence of cash as a medium of exchange, particularly among some segments of the population. These include those who rely on cash to help them budget and those who do not have access to alternative forms of payment, such as debit cards. The ATCR raised the concern that some consumers who rely on cash – such as the elderly and those on lower incomes – might be left behind as the UK becomes increasingly cashless. It said that these consumers could face increased costs, exploitation, debt and financial exclusion.[13]

The number of bank branch and ATM closures do not tell the full story

As aggregate cash usage has declined and digital banking has increased, bank branches have closed and ATMs – the main means by which people withdraw cash – have also closed or converted from free-to-use to pay-to-use.[14] These developments may have implications for the ability of some consumers to access cash, and the cost to them of doing so.

Earlier this year, the Access to Cash Review[15] and LINK issued warnings about the consequences of current trends and that 'without government support, the infrastructure will start to fall apart' within a matter of years. The UK Government has subsequently announced legislation to safeguard access to cash for those who need it. [16] The Covid-19 health crisis has accelerated the decline of cash use – both as a percentage of cash payments[17] and in terms

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[10] UK Finance (2019) UK Payment Markets Summary 2019
[11] Access to Cash Review (2019) Access to Cash Review – Final Report
[12] Payment Systems Regulator (2019) PSR publishes detailed research into how people and business access cash
[13] Access to Cash Review (2019) Access to Cash Review – Final Report
[14] ATMs are dependent on income from cash withdrawals to cover their largely fixed costs. A reduction in withdrawal volumes, combined with a fall in the interchange fee paid to ATM owners for cash withdrawals, has contributed to changes in the economic viability of many ATMs which have either closed or converted to pay-to-use.
[15] Access to Cash Review (2020) Access to Cash Review : Cash system reaching a 'tipping-point' – it will collapse without legislation
[16] HM Treasury (2020) Budget 2020 – Delivering on our Promises to the British People
[17] UK Finance (2020) UK Payment Markets 2020

of withdrawal volumes[18] – although the long-term consequences for access to cash are difficult to estimate until economic activity returns to normal levels.[19]

In recent years, the public debate around access to cash and the possibility of a cashless society has often focused simply on the number of bank branch and ATM closures and conversions. However, this is not the whole story and cannot be the only measure considered by industry and policy-makers. For example, banks may have two nearby branches that can be consolidated into one without loss of access, and the removal of one ATM from a location where there are multiple others may equally have little impact on access to cash. A fuller understanding of the picture of access to cash needs to go beyond just how many branches or ATMs there are, and consider the crucial question of where these or alternative means of accessing cash are situated.[20]

Scope of this project

This report summarises the findings of research to map access to cash across the UK. It uses data provided by industry to measure the distances 'as the crow flies' that consumers may be required to travel to access cash. This assessment of the geographical footprint of the UK's cash infrastructure can start to provide a more nuanced view of communities' experiences of access to cash services. The outputs of this research can be used to inform future policy options and inform debate in the area.

The analysis – explained in more detail in Box 1.1 – looks at how access to cash varies across the UK. This includes proximity to the nearest cash access points from high streets, larger retail centres, neighbourhoods and supermarkets. It also examines whether the nearest source of cash is a free-to-use (FTU) ATM, a pay-to-use (PTU) ATM, Post Office, bank or building society, or cashback, and the distances to each of these different sources of cash. This is important because these different sources of cash have characteristics that may, or may not, meet the needs of individual users.

Much of our research has focused on differences in access to cash across neighbourhoods. This includes rural areas, more deprived neighbourhoods, urban centres and neighbourhoods with characteristics that may indicate a greater reliance on cash by the local population. This analysis is to help inform understanding of access to cash for those who are most likely to depend on it. However, our assessment is primarily on the supply-side of the cash system, which may only provide a partial understanding of consumers' needs and preferences for cash in different areas.

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[18] LINK (2020) Use of cash during lockdown
[19] HM Treasury (2020) Access to Cash : Call for Evidence – October 2020
[20] Tischer, Evans and Davies (2020) *Cash*. In Parker, Martin (ed.) Life After Covid-19: The other side of Crisis. "This work builds upon previous research which attempted to map access to cash and other forms of financial exclusion. This includes our previous pilot studies of access to cash in Bristol and South Wales, Leyshon et al. (2008), Sonea et al (2019), Which?."

The impact of the coronavirus pandemic on access to cash is beyond the scope of this project but is being considered as part of other work led by the Financial Conduct Authority.[21] This project is therefore based predominantly on data from the beginning of March 2020, prior to the UK's nationwide lockdown. The longer-term consequences of the pandemic for access to cash are difficult to estimate while the economic landscape remains so uncertain.[22] However, this work may provide a useful baseline for such future analysis.

The cash industry has provided valuable input to the research

The analysis underpinning this report has been informed by many different stakeholders. The research has been principally undertaken by the University of Bristol (funded by LINK), supported by the Financial Conduct Authority (FCA) and the Payment Systems Regulator (PSR). Data and additional input were provided by LINK, banks via UK Finance, the Post Office, Visa and Mastercard. Individual banks, independent ATM deployers (IADs), consumer and SME representatives and other stakeholders in the cash industry also contributed to the analysis and interpretation of the results at a roundtable event held in October 2020. We are grateful to all of these organisations for their input throughout this project.

The findings and interpretations in this report represent the views of the research team at the University of Bristol, Financial Conduct Authority and Payment Systems Regulator, and not necessarily those of the organisations to which the authors belong.

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[21] Financial Conduct Authority (2020) Cash and Covid : identifying gaps in provision during Covid-19
[22] HM Treasury (2020) Access to Cash : Call for Evidence – October 2020

Several types or 'channels' of cash access point were included in our analysis:
- Free-to-use (FTU) and pay-to-use (PTU) ATMs – data provided by LINK
- Post Office branches (including mobile branch stopping points) – data provided by the Post Office
- Bank, building society and credit union branches (including mobile branch stopping points) – data provided by individual banks through UK Finance
- Cashback merchants – data provided by Visa and Mastercard on merchants where consumers had withdrawn cashback in the previous 12 months.

The main focus of our analysis was the year to March 2020, but data were also provided for the year to March 2018 for comparison purposes (see part 4 of this report).

We have measured the straight-line distance to the nearest of these access points from:
- Centres of economic activity, including:
  - High streets (62,915 segments of high streets across Great Britain, each high street comprising 15 or more retail premises – based on analysis from Ordnance Survey)
  - Retail centres (3,110 major retail centres across Great Britain, obtained from the Consumer Data Research Centre (CDRC))
  - Supermarkets (14,180 food stores and supermarkets across the UK, obtained from Geolytix)
- Local neighbourhoods – based on the population-weighted centre of Census 'Output Areas' for Great Britain and 'Small Areas' in Northern Ireland (232,296 neighbourhoods across the UK in total).

We have analysed data on the characteristics of different cash access points, as well as data on cash withdrawals:
- Data on characteristics included: the location of the cash access point (e.g. internal or external; or type of merchant); opening hours for branches; available information on accessibility for disabled users or those with certain health conditions.
- We also obtained data on the value and volume of cash withdrawals from different types of cash access point (ATMs at bank branches; over-the-counter withdrawals at branches; cashback transactions). It was not possible to obtain data for all ATMs or all banks, but LINK have provided some additional insights at aggregate level.

Readers should be aware that the research has the following limitations:
- Distances used in the analysis are straight-line ('as the crow flies') distances. In reality, travel distance for consumers will be further due to the road or footpath network and any obstacles, like rivers, physical terrain or major roads.
- This research mainly focuses on geographical proximity to access to cash, but proximity does not necessarily equate to having 'good' access to cash. A variety of factors may affect consumers' ability to access cash in an area (such as the perceived security of an access point or its reliability).
- While most of our results are presented at neighbourhood level, there will be variation *within* neighbourhoods in ability to access cash, because of both the geography of the neighbourhood and the fact that individuals within the area may have their own specific access needs and levels of ability to travel.
- This research includes data on cashback locations and these locations are for merchants where consumers actually withdrew cashback in the 12 months prior to March 2020, rather than the merchants that *offer* cashback.

2.
OVERVIEW OF THE CASH SYSTEM

2 OVERVIEW OF THE CASH SYSTEM

This section sets out an overview of the number of different types of cash access points in our dataset and provides evidence on cash withdrawal patterns.

Cash can be accessed from a range of different access points. We have identified over 110,000 points where cash can be accessed across the UK. These figures count adjacent cash access points located on the same premises or site individually (e.g. an ATM inside a bank branch is counted as an FTU ATM in addition to the branch), so the total number of individual *locations* at which cash can be accessed will be lower.

ATMs are the most common cash access point in our dataset (51% of the total, of which 39% of the total are free-to-use (FTU) and 12% are pay-to-use (PTU) ATMs), followed by retailers offering cashback (around 33%). Figure 2.1 presents the total number of each type of cash access point.

Figure 2.1 – Number of cash access points in our dataset, March 2020
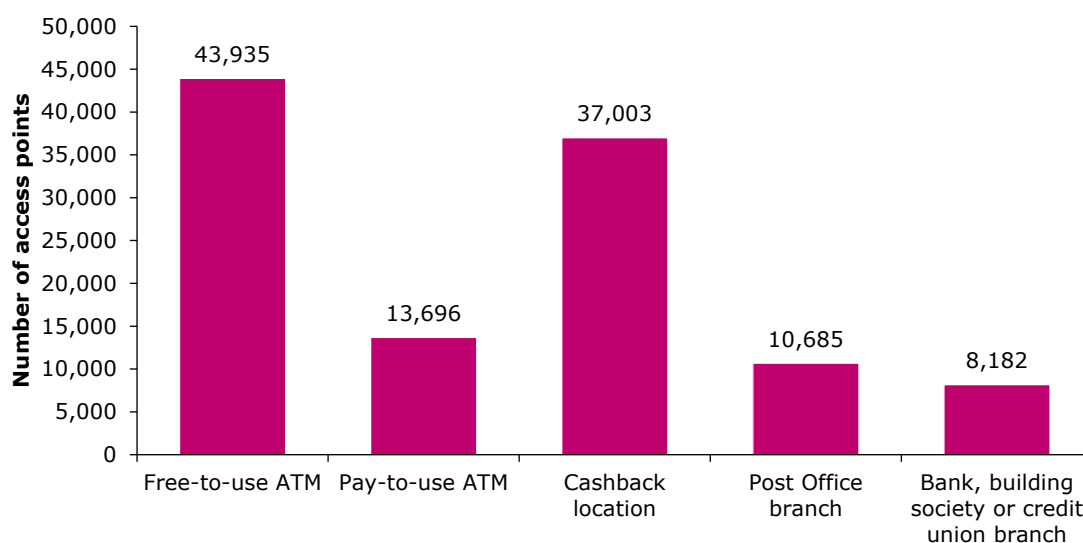
Notes: Figure for ATMs includes ATMs in bank branches. Access points are counted individually (i.e. adjacent machines in the same branch are counted separately). A 'cashback location' is a place where a cashback transaction has taken place in the last 12 months through either Visa or Mastercard. Cashback locations are estimated by taking a maximum of 1 merchant per postcode and per merchant category – see Appendix A for further detail.

A significant proportion of cash access points do not charge a withdrawal fee or require a purchase, including FTU ATMs, Post Offices, and bank and building society branches (though accessing cash via the counter requires being a customer of that bank or building society). Together, these account for 55% of all cash access points. Including cashback, for which there is no charge to the consumer but which currently requires the consumer to make a purchase, within the definition of free access points increases the proportion to 87%.

2.1 Average withdrawal patterns

The data allow some indicative exploration of average withdrawal volumes and amounts. This tells us about the relative use of different types of cash access points, although the picture is incomplete as we do not have the complete data on total withdrawal volumes or values (see Appendix A for a discussion of caveats with withdrawal data).

Free-to-use ATMs have the highest average volume of withdrawals. The average FTU ATM has around 48,000 withdrawals per year (Table 2.1). This is substantially higher than pay-to-use ATMs, which have an average of around 5,000 withdrawals each year. The average bank or building society branch for which we have data conducts around 13,000 cash withdrawals per year at counters, for its customers only. The average Post Office has around 9,000 cash withdrawals a year.

The average number of cash withdrawals through cashback is heavily skewed – a relatively small proportion of cashback merchants (such as supermarkets) account for a large proportion of withdrawals. By contrast, 42% of cashback providers facilitate less than 1 transaction per day.

Table 2.1 – Average number of cash withdrawals and distribution by type of cash access point, 12 months to March 2020

	Mean	Median	25th percentile	75th percentile
Free-to-use ATMs	48,500			
Bank/building society branches (counter)	12,800	10,900	6,200	17,600
Post Office (counter)	8,700	6,800	3,800	11,300
Pay-to-use ATMs	5,300			
Cashback	2,800	600	100	2,600

Notes: Figures are rounded to the nearest hundred and ordered by mean withdrawal amount. Figures for the Post Office and ATMs are from 2019. Banks and building society data are based on firms for which we have data. ATM data based on 2019 data from https://www.link.co.uk/about/statistics-and-trends/ - only means are available.

The majority of cash withdrawals are from free-to-use ATMs. In our dataset, we estimate that roughly 88% of withdrawals in the year to March 2020 were from FTU and PTU ATMs (Figure 2.2). This could reflect a number of factors including location, availability and consumer preferences for ATMs. However, ATMs may not meet the need of every customer and our analysis shows there are a sizeable minority of users who for various reasons withdraw cash from branch counters.

Figure 2.2 – Indicative estimates of the number of total withdrawals per type of access point in millions of transactions, 12 months to March 2020
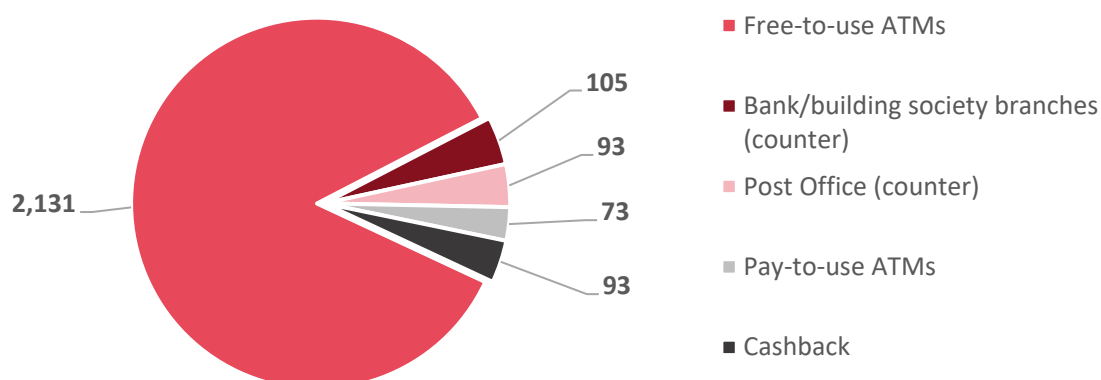
Note: Transaction data for ATMs are in part based on https://www.link.co.uk/about/statistics-and-trends/. Assumes that locations with non-missing data are representative of those with missing data.

The withdrawal patterns identified above are consistent with our analysis of co-located branches and ATMs. We find that ATMs located inside or outside of branches experience much higher numbers of withdrawals than counters at the same branch. Among banks and building societies for which we have data, the average number of withdrawals from a branch's ATMs (all combined) is approximately 5 times the average number of withdrawals from that branch's counters. This may, in part, potentially reflect the usability of ATMs among a wider group of consumers that do not hold accounts with that particular bank or building society brand (84% of cash machine withdrawals in 2018 were estimated to be from card issuers that were not the same company operating the cash machine[23]).

2.2 Average withdrawal amounts

Customers tend to make larger withdrawals at bank and building society counters than at any other type of cash access point. The average of annual branch-level mean withdrawal values at the counter for the banks and building societies for which we have data is £780, and the average of branch-level median withdrawals is £220 (Table 2.2).[24] This compares with slightly under £100 at Post Office counters, just over £60 at ATMs and just over £20 at cashback locations.[25]

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[23] UK Finance (2019) UK Cash and Cash Machines Summary 2019

[24] These figures refer to two different sets of banks and building societies, depending on the format of their data submission. The median figure corresponds more closely to the evidence presented in UK Finance Cash and Cash Machines 2019 (average withdrawal amounts in 2018 of around £220 for counter withdrawals using cards, and around £420 using passbooks).

[25] These figures are average of mean withdrawals provided for individual branches.

Table 2.2 – Indicative average annual cash withdrawals by type of cash access point, 12 months to March 2020

	Mean	Median	25th percentile	75th percentile
Bank/building society branches counter (means)	£780	£630	£480	£850
Bank/building society branches counter (medians)	£220	£200	£150	£250
Post Office counter	£90	£90	£80	£110
ATMs*	£60	-	-	-
Cashback	£20	£20	£20	£30

Notes: Figures are rounded to the nearest £10. The data are average of averages – we take the mean withdrawal for each individual location, and then present the mean, median and percentiles across all locations of the same type. For branches, we report average of medians separately. Means cover 3 banks and building societies, and medians 4 different firms. Figures for the Post Office are 2019. ATM data gathered separately from LINK. LINK data refer to the average of January and February 2020 only.

These differences in withdrawal values likely reflect a number of factors. For instance, customers might use bank and building society branches, and to a lesser extent Post Office branches, when they want to withdraw a large amount of cash in excess of ATM or daily card withdrawal limits.[26] They may also be more likely to use branches to withdraw pensions or other income as a weekly lump sum, or to close an account.

The figures potentially indicate that consumers use different types of cash access point for different purposes and that some access points are not currently substitutable for one another.

2.3   Cash withdrawal by area characteristics

Relative to population, more deprived and more urban neighbourhoods are associated with higher total numbers of cash withdrawals. Figure 2.3 aggregates the total estimated value of cash withdrawals across all types of cash access points according to neighbourhoods' decile of the ONS Indices of Multiple Deprivation (IMD) and whether it is in an urban or rural area. Estimated total withdrawals are then expressed as an index relative to urban neighbourhoods in the 10th IMD decile. The lower the IMD decile, the higher total withdrawals per capita.

These associations are not necessarily causal—there could be other demographic or geographic drivers behind total values. The figures presented could also reflect movement of people in and out of neighbourhoods. However, the correlations also hold, albeit less strongly, when expressed relative to daytime population, which includes those who work or are full-time students in an area (see Appendix B). Nevertheless, the analysis suggests there is potentially greater use of cash by people living in more deprived areas, which would be consistent with previous market research.[27]

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[26] BritainThinks (2019) Access to cash research with consumers and small businesses – Commissioned by the PSR
[27] Which? (2019) Cash-strapped communities: the loss of free access to cash in Britain
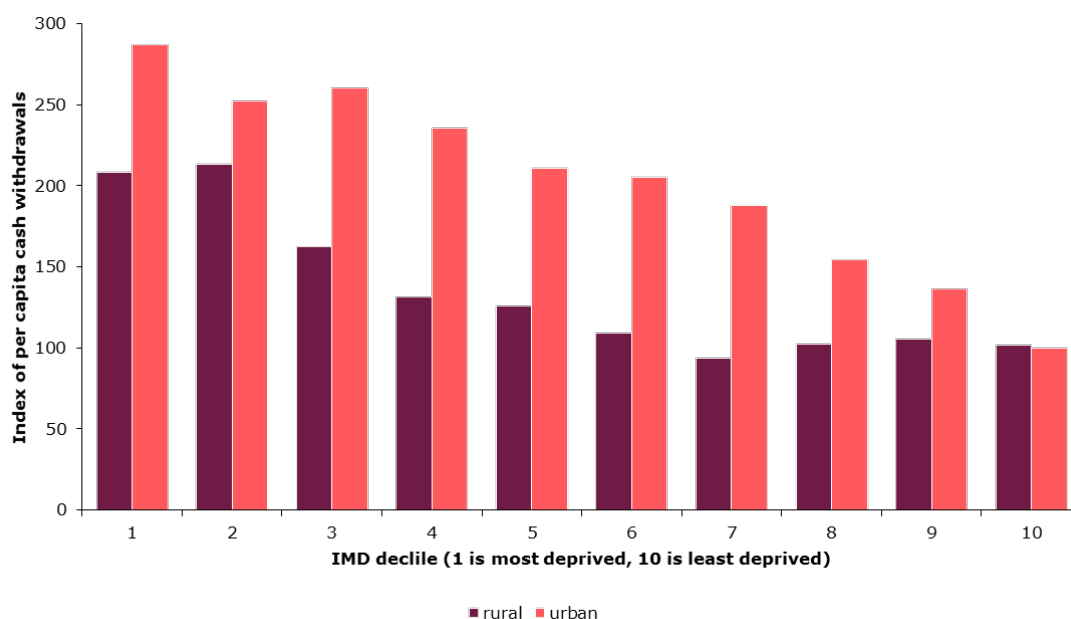
Notes: All figures are expressed relative to urban neighbourhoods in the 10th decile of IMD score, which is given a baseline index of 100. IMD scores and urban/rural classification is pooled across UK nations. Population is Census 2011 residential population (with daytime population presented in Appendix B). Total withdrawal volumes are indicative and data are not available for some access points, particularly some banks and building society branches. Data are 2019/2020 or nearest equivalent. Link data gathered separately.

2.4   Deposit volumes

We have more limited data on deposit volumes and so cannot compare the relative importance of different cash access points. Only a subset of cash access points – essentially bank, building society and Post Office branches – accept deposits. Firms that accept cash payments and do not use wholesale cash collection services, especially SMEs in certain sectors, are likely to use branch deposit facilities. In areas with higher cash use among consumers, there is likely to be a knock-on impact on the demand for deposit facilities among SMEs.

Physical counters currently play an important role in cash deposits. For banks and building societies, the volume of cash deposits at counters is around 34% higher than the volume of counter withdrawals across all branches for which we have data (Table 2.3). In-branch machines capable of accepting cash deposits meanwhile account for around the same volume of deposits at branch counters (among branches that offer both routes).

Table 2.3 – Ratio of bank/building society branch counter deposit to counter withdrawal volumes, and counter deposit to deposit machine withdrawal volumes, 12 months to March 2020

	Ratio
Ratio of bank/building society branch counter deposit to counter withdrawal volumes	1.34
Ratio of counter deposit to deposit machine withdrawal volumes	1.04

Notes: Covers banks and building society branches reporting positive deposit/withdrawal volumes (row 1) or positive counter deposit and deposit machine volumes (row 2).

3.
THE GEOGRAPHY OF ACCESS TO CASH IN THE UK

3   THE GEOGRAPHY OF ACCESS TO CASH IN THE UK

3.1   Introduction

In this section, we explore the geography of cash access points in the UK. In doing so, we aim to understand how geographically proximate different parts of the UK are to different channels of accessing cash.

We have conducted analyses using a range of approaches to build as comprehensive a picture of the geography of cash access points as possible. Each approach takes a slightly different view of: 1) what counts as a cash access point, and 2) where consumers might expect to be able to access such services.

In terms of what counts as a cash access point, we define *free* access to cash as withdrawals from: FTU ATMs, bank, building society or credit union branches, and Post Office branches. We then conduct a separate analysis which includes cashback withdrawals in this category, as there is some debate whether cashback should be considered as 'free' to the consumer or not. Lastly, we examine access to *any* form of cash access point, by including PTU ATMs in the analysis.

Collectively, these approaches provide a useful starting point for understanding current access to cash across the UK. However, caution should be used when interpreting the results:

- First, this analysis does not resolve the question of what counts as a 'reasonable' distance for consumers to travel in order to access cash. Instead, the analysis has been undertaken using a range of distances, from 500m to 10km and over.
- Second, geographical proximity to access to cash (however defined) does not necessarily equate to 'good' access to cash. For example, a cash access point may not meet the needs of the local community for a range of reasons, such as security concerns.
- Third, this analysis cannot include an assessment of individual needs. Conclusions drawn at a neighbourhood level may not apply to all users of cash in that neighbourhood. Individual factors may act as a barrier to cash access despite the proximity of cash access points. Likewise, not all consumers in an area are the same. Not everyone in an affluent neighbourhood is well-off, for example.
- Fourth, straight-line distances or 'as the crow flies' are not the same as travel distances. Travel distances may be longer owing to the geographic terrain (hills, rivers, islands) or human physical infrastructure (layout of the road network, motorways and train lines).
- Fifth, the analysis of access to cash from centres of economic activity is of course dependent on how such places are defined – and this is the reason for using multiple datasets in the analysis. Some smaller retail centres or high streets may, however, be missing from these datasets and therefore not included within our analysis (for example, 'high streets' with fewer than 15 retail premises).

3.2   The overall picture of access to cash in the UK

Access to cash from centres of economic activity

Table 3.1 shows that nearly 90% of larger retail centres, high streets[28], and supermarkets have free access to cash within 250m (approximately a three-minute walk[29]). For example, 87% per cent of high streets have at least one FTU ATM within 250m, rising to 97% per cent if the radius is expanded to 500m. Including bank, building society, credit union and Post Office branches in the analysis increases the coverage to 89% and 98% respectively. Summary statistics for distances to the nearest type of cash access point can be found in Appendix B.

Table 3.1 – Percentage of places with at least one cash access point within a given distance

Measuring from…	Type of cash access	Cumulative percentage of places with at least one cash access point within…							
		250m	500m	1km	1 mile	3km	5km	5 miles	10km
Retail centres	FTU ATM	87.0	96.5	99.9	~100				
	Free access	89.2	97.6	~100					
	Free access (inc. cashback)	95.6	99.4	~100					
	Any access	98.2	99.8	~100					
High street segments	FTU ATM	86.8	97.4	99.5	99.7	99.9	~100		
	Free access	89.4	98.3	99.9	~100				
	Free access (inc. cashback)	95.3	99.4	99.9	~100				
	Any access	97.3	99.7	99.9	~100				
Super-markets	FTU ATM	89.0	95.0	98.6	99.2	99.6	99.8	99.9	~100
	Free access	90.7	96.4	99.3	99.7	99.9			
	Free access (inc. cashback)	95.3	98.9	99.8	99.9	~100			
	Any access	97.0	99.3	99.9	~100				
Neigh-bourhood	FTU ATM	26.2	60.2	85.2	90.1	94.2	97.4	99.3	99.6
	Free access	31.2	67.5	90.3	94.2	97.5	99.4	99.9	~100
	Free access (inc. cashback)	42.0	77.2	92.8	95.5	98.3	99.6	99.9	~100
	Any access	47.7	80.9	93.2	95.6	98.4	99.6	99.9	~100

Notes: All percentages are cumulative row percentages. Figures are rounded to one decimal place. This means that some instances shown as 100.0% are not equivalent to 100% (i.e. <u>all</u> cases).

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[28] As explained in Section 1, by 'high streets' we mean 62,915 segments of high streets across Great Britain, each comprising of 15 or more retail premises. These segments comprise approximately 7,000 high streets in total, each of which are made up of an average of 9 segments. The results presented give the distance from individual high street segments, rather than from the 'centre' of an overall high street.

[29] Based on a walking speed of three miles per hour. For comparison, 5km would take approximately 6 minutes to drive if travelling at 30 miles per hour.

A small number of supermarkets, high streets and retail centres lack access to a nearby cash access point. For example, 0.1% of high street segments and 0.2% of supermarkets have no free cash access point within 1km.[30] This may mean that consumers have to travel a greater distance to the nearest free cash access point (inc. cashback).

Access to cash from local neighbourhoods

Compared to centres of economic activity (retail centres, high streets and supermarkets), a lower proportion of neighbourhoods are as geographically near to cash access points. As shown previously in Table 3.1, 26% of neighbourhoods have an FTU ATM within 250m, rising to 60% within 500m and 85% per cent within 1km. These percentages increase if we widen the definition of access to cash to include other ways of accessing cash. For example, 42% of neighbourhoods have access to cash within 250m if Post Office, bank and building societies branches, and cashback are included in the analysis.

In population terms, the percentages are similar (as shown in Table 3.2): 60% of the UK population – equivalent to 38 million people – live in a neighbourhood that is within 500m of an FTU ATM.[31] This rises to 67% if branches are included and 77% if cashback is also included.

Table 3.2 – Percentage of population in a neighbourhood with a cash access point within different distances, by different definitions of cash access point

Distance to nearest access point	FTU ATM	Free access	Free access (inc. cashback)	Any access
Within 250m	25.4	30.2	41.2	47.0
Within 500m	59.6	66.9	77.1	80.8
Within 1km	85.2	90.5	93.1	93.5
Within 1 mile	90.3	94.4	95.8	95.9
Within 3km	94.5	97.8	98.6	98.6
Within 5km	97.7	99.6	99.8	99.8
Within 5 miles	99.5	~100	~100	~100
Within 10km	99.8	~100	~100	~100
Total (Pop. = 63,182,178)	100	100	100	100

Notes: Based on data from the 2011 Census.

While the majority of the population is in relative proximity to a cash access point, a number of people have to travel further to access cash. In total, 1.4 million people do not have access to an FTU ATM within 5km of their neighbourhood and 137,000 lack access within 10km

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[30] Please note that while the table indicates, for example, that 100% of high streets have free access within 1 mile, this 100% is rounded to the nearest one decimal place. There are therefore a very small number of high streets (less than 0.05%) in which the nearest free access is more than 1 mile away.

[31] This does not necessarily mean that all of these people live within 500m of an FTU ATM; rather that the population-weighted centre of the neighbourhood in which they live is within 500m of one. While the median neighbourhood size in the UK is 0.059 square kilometres, the largest neighbourhood or 'output area' (in Scotland) covers 798 square kilometres. However, it should be noted that the population density of such areas is generally very low: this area of Scotland contained just 135 people at the 2011 Census.

(based on summing Census population estimates in relevant neighbourhoods). These numbers drop substantially though once branch-based channels (most notably Post Office branches) are taken into account, falling to 273,000 and 9,900 respectively.

We find considerable regional variation in distances from neighbourhoods to the nearest cash access point (as can be seen in Tables 3.3 and 3.4). This largely appears to be driven by differences in rurality across the UK and the type of cash access point being measured. For example, neighbourhoods in London tend to be the nearest to a free cash access point, being just 345 metres from the nearest FTU ATM and 326 metres from the nearest free cash access point (excluding cashback). Conversely, neighbourhoods in the (more rural) East of England, Scotland, the South West and Wales are over 1km away from an FTU ATM on average, though these decline somewhat if other access points are included.

Table 3.3 – Distance (in metres) to the nearest FTU ATM, by UK region

Region	Mean	Median	75th Percentile	95th Percentile	99th Percentile
London	345	300	461	754	1,030
North West	594	399	635	1,689	4,389
North East	632	399	632	1,766	6,292
Yorkshire and The Humber	755	416	686	2,867	6,854
West Midlands	769	427	676	3,226	6,742
South East	803	463	787	3,198	5,455
East Midlands	851	432	729	3,717	6,554
Northern Ireland	989	471	954	4,148	6,144
East of England	1,009	485	864	4,360	7,059
Scotland	1,010	390	662	4,465	12,258
South West	1,084	483	941	4,682	7,409
Wales	1,110	503	968	4,894	8,792
UK Average	819	412	689	3,378	7,232

Table 3.4 – Distance (in metres) to the nearest free cash access point (exc. cashback), by UK region

Region	Mean	Median	75th Percentile	95th Percentile	99th Percentile
London	326	286	438	709	956
North East	478	359	549	1084	3154
North West	488	360	556	1236	3085
Yorkshire and The Humber	555	370	582	1671	4050
West Midlands	556	379	584	1761	3966
South East	580	403	649	1835	3518
Scotland	614	343	567	2230	5839
East Midlands	616	378	604	2389	4509
East of England	642	406	660	2413	4064
Wales	661	390	666	2455	4860
South West	678	396	660	2706	4580
Northern Ireland	800	414	803	3042	4855
UK Average	565	363	582	1866	4230

Median distances to the nearest free access point are well below 1km and relatively stable across UK regions; however, mean distances tend to increase as population density falls. After London, the North West is the second-most densely populated UK region and has a lower mean distance compared to Northern Ireland with a lower population density. Scotland, in particular, is skewed by a small number of very large distances as shown by the fact that neighbourhoods at the 99th percentile are almost 6km from a free cash access point. The regional variation is illustrated in Figure 3.1, which gives distances (colour coded) to the nearest free cash access point for each neighbourhood across the UK. As can be seen, the picture changes substantially depending on whether the focus of the analysis is the nearest FTU ATM or whether it incorporates branches and cashback as well.

Figure 3.1 – Distance from neighbourhood centre to the nearest cash access point, by neighbourhood.

Nearest FTU ATM

Nearest free access point
(including FTU ATMs, bank, building society, credit union and Post Office branches and cashback)

Distance to nearest access point
- Less than 500m
- 500m - 1km
- 1km - 3km
- 3km - 5km
- 5km - 10km
- More than 10km
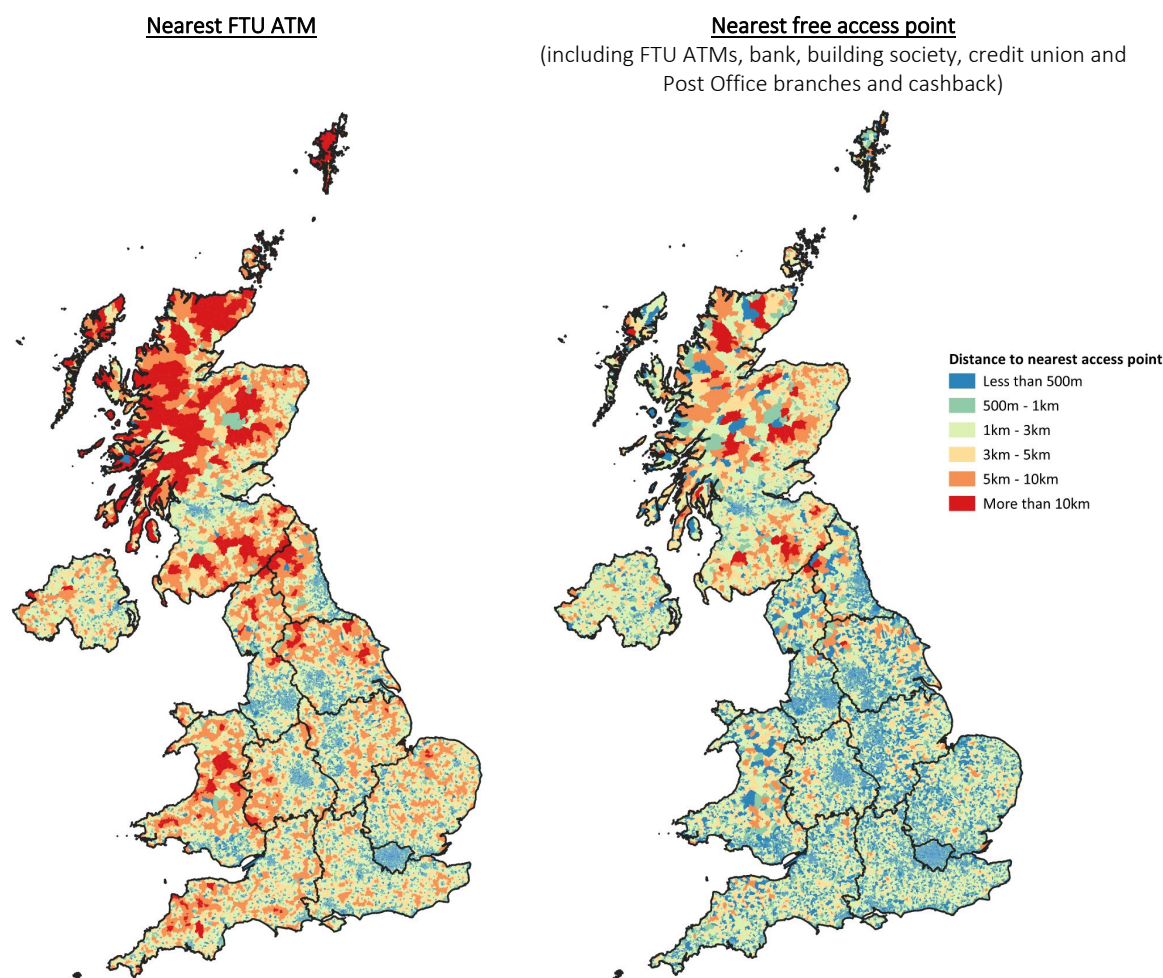
Notes: Black lines indicate regional boundaries. Contains National Statistics data © Crown copyright and database right 2020. Contains OS data © Crown copyright and database right 2020.

3.3 To what extent does access to cash meet the need for it?

It was beyond the scope of this research to fully assess how need for cash varies across communities and what their precise needs are. We have, however, conducted analysis to begin to understand how well current access to cash correlates with possible indicators of need for cash at the neighbourhood-level.

Various previous research has identified that deprivation, digital exclusion[32], certain health conditions, older age and inability to travel could be associated with increased use of, preference for or need for cash. Not everyone within these groups will have the same need for cash; and it may be the case that the relationship between some factors, such as age, and need for cash is actually caused by other factors, such as digital exclusion.[33,34] In section 2 of this report, we also established that a higher volume of cash withdrawals per capita appear to occur in more deprived areas, supporting these earlier research findings.

Table 3.5 shows how these and other neighbourhood-level characteristics (which might indicate increased need for cash) are correlated with different measures of access to cash. Negative correlation coefficients indicate that as the neighbourhood characteristic increases (for example, the population density), the distance to the nearest access point *decreases,* while positive coefficients indicate the opposite.

As expected, characteristics generally associated with urban environments or economic activity have closer access to cash on average. The factor most strongly correlated with nearby access to cash is daytime population density[35], while the higher an area's deprivation ranking the closer it is on average to a source of free access to cash. Areas with characteristics associated with ruralness, such as poor digital connectivity and lack of public transport, are correlated with greater distances to the nearest cash access point.

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[32] Digital exclusion: the lack of connectivity in a rural location or an individual's inability or unwillingness to use digital devices

[33] Access to Cash Review (2019) Access to Cash Review – Final Report

[34] Evans, J, Tischer, D & Davies, S (2020) Geographies of access to cash : identifying vulnerable communities in a case study of South Wales

[35] This is a measure of population density in which the working population is redistributed to the area in which they work. Please note that this is based on 2011 Census data; time and, in particular, the coronavirus pandemic may have changed people's working patterns.

Table 3.5 – Correlations between neighbourhood characteristics and distance to nearest access to cash (measured in different ways).

Reason for need	Neighbourhood characteristic	FTU ATM	Free (exc. Cashback)	Free (inc. cashback)	Any access
High footfall	Daytime pop. density	-0.55	-0.47	-0.47	-0.51
	Population Density	-0.46	-0.38	-0.37	-0.41
	Retail employment (at LSOA[36] level)	-0.25	-0.25	-0.26	-0.24
	Total number of premises	-0.03	-0.05	-0.07	-0.07
Financial vulnerability	Deprivation rank (higher value = more deprived)	-0.24	-0.22	-0.23	-0.29
	Post Office card account holders in MSOA	-0.09	-0.13	-0.12	-0.11
	Income at MSOA level	0.10	0.10	0.12	0.15
Transport difficulties	% of households without car access	-0.49	-0.45	-0.46	-0.50
	Distance to nearest bus/tram/metro stop or railway station	0.20	0.22	0.26	0.28
Age and health problems	% of pop. with health problem	-0.10	-0.12	-0.12	-0.14
	% of population aged over 75	0.09	0.05	0.05	0.08
	Median age	0.28	0.23	0.23	0.27
Limited digital access	% of premises unable to receive 2 Mbit/sec broadband	0.29	0.26	0.26	0.26
	% of premises unable to receive USO[37] level of broadband	0.32	0.28	0.27	0.27
	Number of 4G 'not spots' per square km within OA	0.38	0.30	0.28	0.29

Notes: Negative values indicate that access to cash is closer, while positive values indicate access to cash is further away. Figures represent Spearman's Rank Correlation coefficients. Values range from -1 to+1 with -1 indicating a perfectly negative correlation, +1 indicating a perfectly positive correlation and 0 indicating no association. Only statistically significant results shown. Base for analysis ranges from 181,408 neighbourhoods (missing income data for Northern Ireland and Scotland) to 232,296 (all neighbourhoods in UK).

What does this mean for access to cash in the neighbourhoods with the *highest* indicative need for cash based on these proxy measures? Figure 3.2 shows access to cash in these areas, based on the 20% of areas with the highest values for each of the above characteristics (for example, the 20% most deprived neighbourhoods or the 20% of areas with the 'worst' internet access). This reveals, for example, that 99.9% of the areas with the lowest level of car ownership have a free cash access point within 1km. This drops to 97% when looking at the areas with the highest level of health problems and disability, and falls to just 31% for those areas with poorest broadband access (see Appendix B for additional figures).

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[36] Lower Super Output Area.
[37] Universal Service Obligation.

Figure 3.2 – Percentage of neighbourhoods with 'potential indicators of need for cash' that have a free access point (including cashback) within different distances
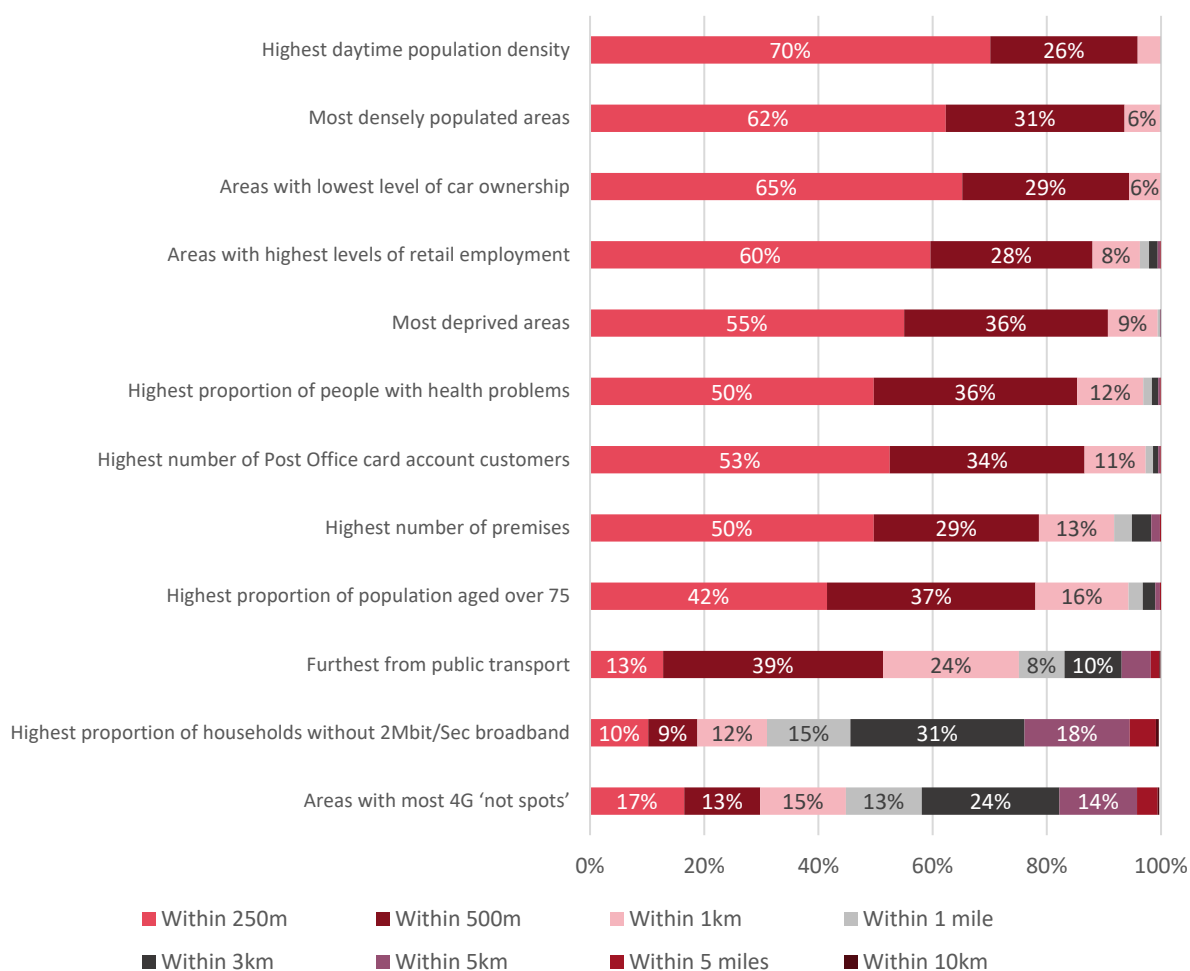
Notes: Each category down the left indicates the top quintile (top 20 per cent) of areas for that variable, e.g. the 20 per cent most deprived areas. The base for most variables is therefore around 46,000 neighbourhoods; however, it is considerably smaller for broadband (9,788) and 4G 'not spots' (18,672) due to the distribution of these variables.

Differences in access to cash across neighbourhood types

The ONS categorises neighbourhoods into one of eight types – or 'output area classifications' – based on the characteristics of households and the population that live within each area (for example, the age breakdown of the population and the percentage of people who rent or own their own home). Please see Appendix C for a description of each of these classifications.

Table 3.6 shows that the percentage of neighbourhoods with access to free cash access points differs across different types of area. Urban centres (such as 'cosmopolitans' and 'ethnicity central') have a considerably higher proportion of neighbourhoods with access to free cash access points within 500m. Distance to these urban centres appears to increase the distance to the nearest cash access point; for example, only 66% of 'suburbanites' have access within 500m. Still, free cash tends to be accessible for over 95% of all neighbourhood types within a 1km range.

The only exception to this is rural areas ('rural residents'), which are located further from cash access points. Only 37 % of these areas have access to cash within a 500m radius and only two-thirds have access within a 1-mile radius. 3% of 'rural residents' neighbourhoods are located more than 5km from a free cash access point.

Table 3.6 – Distance to nearest free cash access points (incl. cashback) output area classification (ONS), as cumulative percentage of neighbourhoods.

Output Area Classification	Within 500m	Within 1km	Within 1 mile	Within 3km	Within 5km	Within 5 miles	Within 10km
Rural residents	36.7	53.7	66	86.4	96.9	99.6	99.8
Cosmopolitans	96.4	99.9	~100				
Ethnicity central	95.5	~100					
Multicultural metropolitans	88.3	99.8	~100				
Urbanites	82.1	97.8	99.4	99.9	~100		
Suburbanites	66.2	95.1	98.6	99.7	~100		
Constrained city dwellers	91.2	99.6	99.9	~100			
Hard-pressed living	84.1	98.1	99.2	99.8	~100		
Total (all areas)	**77.1**	**92.8**	**95.5**	**98.3**	**99.6**	**99.9**	**~100**

Notes: Please see Appendix C for a description of the Output Area Classifications. All percentages are cumulative row percentages. Figures are rounded to one decimal place. This means that some instances shown as 100.0% are not equivalent to 100% (i.e. all cases).

We further examined what type of infrastructure is nearest as a proportion of each output area (Figure 3.3). We found that rural residents are much more likely to have a Post Office as their nearest cash access point than any other output area and much less likely to have PTU ATMs as their nearest type. However, output areas associated with higher levels of multiculturalism and ethnic diversity are most likely to have a PTU ATM as the nearest cash access point.

Figure 3.3 – Type of nearest cash access point by output area classification
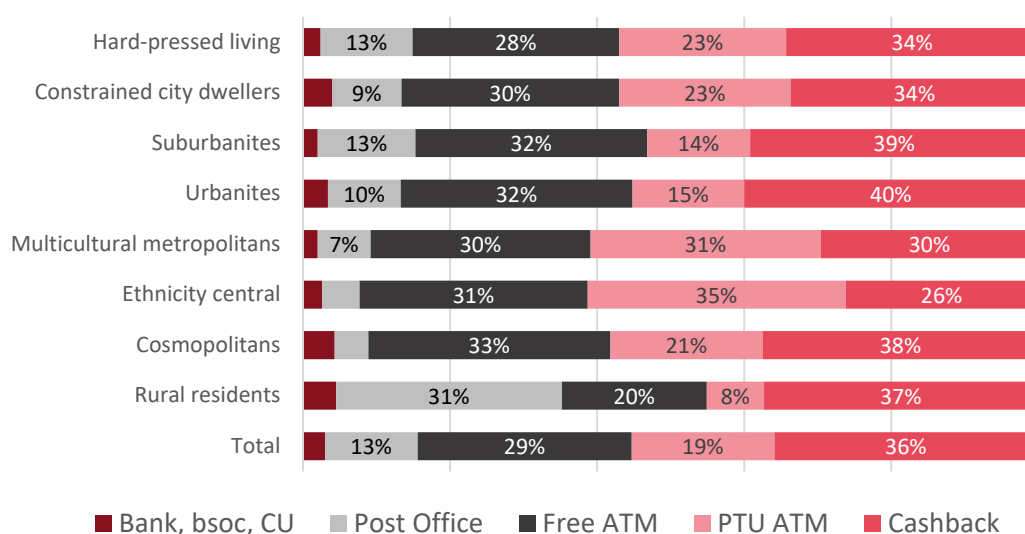
3.4 Consumer needs and access to cash in the UK

While the preceding sections give a broad overview of the geographical proximity of different areas of the UK to the nearest cash access point, it is not sufficient to allow us to draw conclusions about the state of access to cash in the UK.

A consumer in close proximity to a cash access point does not necessarily have access that meets their needs. There are a range of other factors that might affect their ability to access cash or overall experience.

In this section, we therefore explore the impact on access to cash of: the 'opening hours' of the cash access point, its precise location, and its ability to meet consumers' accessibility requirements. Other factors – such as the perceived security and privacy of a cash access point, and queuing times – may also be important in determining access to cash; however, we were unable to explore these within this report.

Opening hours

We have considered the impact of branch and Post Office opening hours on access to cash as a consumer cannot withdraw cash from a cash access point that is not open.

At this time, due to the unavailability of data, we are unable to assess the impact of merchant opening times, and therefore the availability of ATMs and cashback, on access to cash. Our analysis reveals that at least 34% of FTU ATMs are located internally.[38] FTU ATMs are more likely to be located internally in rural areas (43%), compared to those in urban areas (33%).

Figure 3.4 summarises the total weekly opening hours across all Post Office branches and all building society and bank branches (including mobile branches). Bank and building society branch opening hours appear to closely conform to a typical working week of 30-50 working hours. Post Office branches are more varied, with 22% open for 70 hours per week or more, equivalent to at least ten hours per day. Those with long opening hours appear more likely to be located within convenience stores or similar.

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[38] LINK do not have data on whether all FTU ATMs are located internally or externally. 18% of all FTU ATMs do not report whether they are internal or external.

Notes: Opening hours were unknown for an additional 2.7% of Post Office branches and 11.5% of bank/building society branches. Credit union branches are excluded from this analysis.

A difference between Post Office branches and those of banks or building societies, however, is that Post Office branches are less likely to have their own ATM. While just 20 per cent of Post Offices have an ATM (either internally or externally), we find that 88 per cent of bank/building society branches (for which data were available) had an ATM located externally and 42 per cent had one located internally.[39]

As shown in Box 3.1, to illustrate the potential impact of opening hours on access to cash across the UK, we measured access to cash across UK neighbourhoods as before, but excluding any Post Office or bank branch that is closed on a Sunday and any ATMs located internally within these branches.

While it is apparent that opening hours will to some extent impact on consumers' ability to access cash in certain parts of the UK, it is less clear the extent to which this poses a problem for consumers. It may, for example, be argued that consumers will simply change their behaviour in order to mitigate the effect of opening hours (i.e. by withdrawing money on a different day). Conversely, time-sensitive situations could exist in which cash is necessary but might not have been foreseen by the consumer and therefore could not have pre-prepared for such a scenario; issues with card payments might fall into this category, which means a consumer needs cash at short notice.

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[39] Please note that the base for this analysis is 4,109 (out of a possible total of 7,746) as data on ATM availability were not provided to the research team by all banks and building societies. If one were to assume that *none* of the branches for which we lack data have an external ATM then approximately 47 per cent of all banks/building society branches would still have an external ATM.

Box 3.1 – An example of the impact of opening hours on access to cash

We conducted an analysis in which we removed all Post Office and bank branches that are closed on a Sunday from our map of cash access points, as well as any ATMs located within these branches.

For the purposes of this analysis, all other types of cash access point remained the same (for example, ATMs located within shops that could also be closed). In reality, therefore, many more cash access points may be inaccessible on a Sunday, so this analysis will represent an under-estimate of the impact that opening hours can have on access to cash.

Overall we see that the total number of free cash access points (not including cashback) drops from 62,802 to 42,946 (a fall of 32%).

The table below shows the proportion of neighbourhoods in which the distance to the nearest free cash access point (including branches but not cashback) increases because of these branches not being open – and how this varies depending on whether an area is rural or urban:

Increase in distance to nearest free cash access point	Rural neighbourhoods	Urban neighbourhoods	All neighbourhoods
No change	45.5%	65.7%	61.9%
Less than 250m	27.8%	31.3%	30.6%
250m – 500m	2.8%	1.7%	1.9%
500m – 1km	3.3%	1.0%	1.5%
1km – 5km	16.2%	0.4%	3.4%
More than 5km	4.3%	0.0%	0.8%
Total	*44,040*	*188,256*	*232,296*

The analysis shows that 38% of neighbourhoods are further from a free cash access point on a Sunday. Most of these experience relatively small increases in distance. 4% of neighbourhoods are at least an additional 1km away. The difference is starker for rural neighbourhoods: 54% of rural neighbourhoods are further from a free cash access point, with 21% at least an extra 1km away. This result is driven by the greater prevalence of Post Office branches in rural areas relative to other types of cash access point – a finding that we explore in more detail later in this section.

Types of venue which offer cash access points

Our analysis has also examined the sites in which ATMs are placed, and the types of merchants that provide cashback services. This is important because, while a cash access point might well be located in a venue that the consumer already intended to visit (such as a supermarket or grocery store), it could alternatively be located somewhere that they had no intention of visiting, would struggle to physically get to or may struggle to (or be unwilling to) access.

This is arguably particularly problematic for cashback. Consumers currently have to make a purchase in order to withdraw cash through cashback, and may therefore be required to purchase something that they otherwise would not have wanted or needed.

Table 3.7 provides a summary of the types of merchant that provide cashback, broken down by neighbourhood deprivation decile. This shows that the most common cashback merchants are food or grocery stores (49%). More deprived neighbourhoods have a slightly higher proportion of food or grocery stores offering cashback, as well as a higher proportion of gambling establishments doing so.[40] Some of these locations may be less accessible to the general public, for example, because opening hours are restrictive (for example in bars and nightclubs) or because they require a purchase that may not be desired (for example certain types of restaurants).

Table 3.7 – Percentage of cashback merchants that fall into different 'merchant categories', by deprivation decile of neighbourhood.

	Grocery stores, supermarkets and other food stores	Bars, pubs and nightclubs	Gambling establishments	Eating places and restaurants	Other
1 (most deprived)	53	8	21	6	12
2	53	10	18	7	12
3	51	11	17	8	13
4	51	13	14	9	14
5	48	15	12	10	15
6	48	16	9	11	17
7	46	17	9	12	17
8	46	18	7	13	16
9	47	18	6	12	17
10 (least deprived)	49	17	5	13	15
Total	**49**	**14**	**12**	**10**	**15**

Notes: All percentages are row percentages. IMD scores and urban/rural classification is pooled across UK nations. Categories based on merchant category codes. 'Other' category includes fuel stations, department stores and many other types of merchants.

In this study, we opted to include all cashback locations with at least one transaction per year to demonstrate the footprint of consumers' ability to access cashback. However, as demonstrated in Table 3.8, if we change the inclusion criteria to, for example, one per day, some of the core statistics become more insightful. Whilst the number of locations reduces as low-volume cashback locations are removed, both mean and median transaction volumes increase considerably. Food or grocery stores make up two-thirds of the cashback locations if inclusion criteria are raised compared to roughly half previously.

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[40] Similar patterns are also identified based on whether the neighbourhood is rural or urban; however, binary logistic regression analysis was conducted to understand the odds of a cashback location being a gambling merchant, controlling for both deprivation and urban-ness. This confirmed that both deprivation and urban-ness are associated with increased odds of a cashback location being a gambling merchant.

Table 3.8 – Changes to the inclusion criterion for cashback locations [41]

	Number of locations	Transaction volume per location		"Food & Grocery" share of total
Inclusion criteria		Mean	Median	
One transaction per year	37,003	2,500	500	49%
One transaction per day	21,304	4,710	2,080	68%

Figure 3.5 summarises the locations of FTU ATMs and PTU ATMs, based on whether the neighbourhood is rural or urban and whether or not it falls into the 20% most deprived areas nationally. The table highlights the importance of bank and building society branches as a source of FTU ATMs but shows that this is predominantly the case for urban areas. Convenience stores meanwhile are the main site of PTU ATMs (68%) and this increases significantly in more deprived areas. 'Motoring', which is likely to include service and petrol stations, appears to be a particular source of both FTU and PTU ATMs in rural non-deprived areas.

Figure 3.5 – Location of ATMs by rural-urban deprivation and ATM type
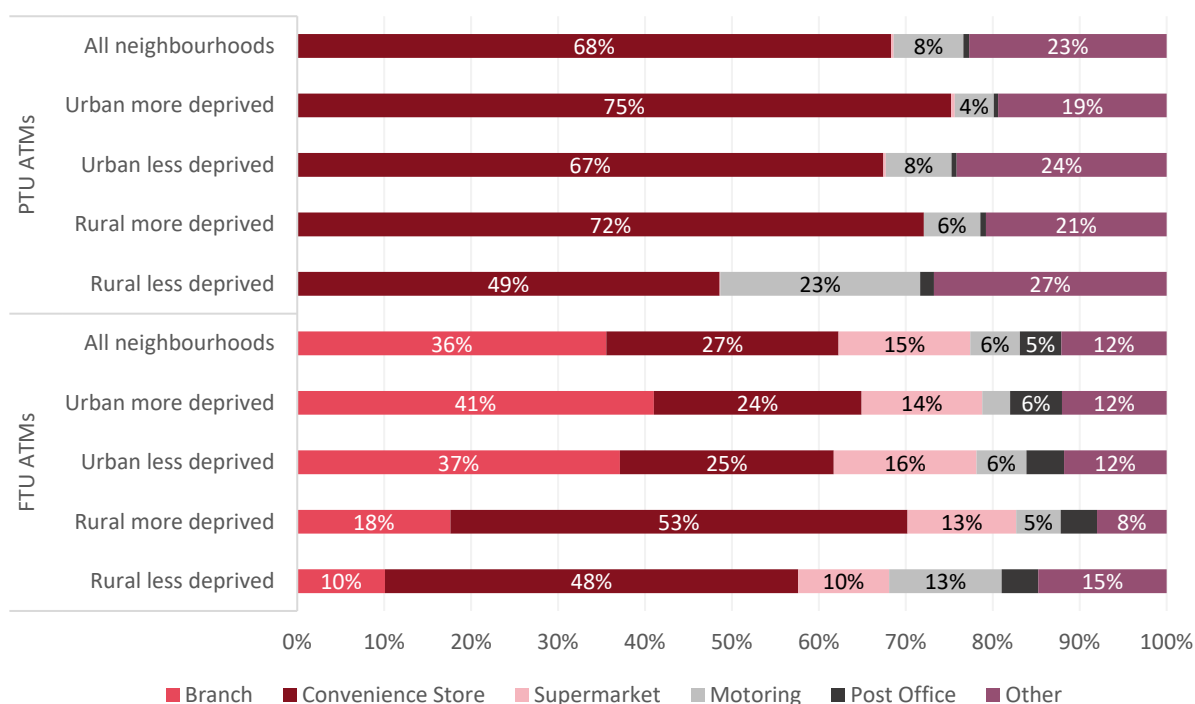
Notes: 'Other' category includes kiosks, leisure, mobile, public transport, services, social, transport, workplace, other retail and unclassified. Location type assigned by LINK based on visits to ATMs. IMD scores and urban/rural classification is pooled across UK nations. 'Less deprived' means that an area is within the 80% least deprived neighbourhoods in its country, while 'more deprived' means it is within the 20% most deprived areas.

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[41] Please note that this example is for illustration only. In this study we are working with all 37,003 cashback locations; however, a reduction of these locations would have impacted our findings.

Accessibility for those with health conditions

For some people with health conditions or disabilities, their ability to withdraw cash independently may be affected by the accessibility of cash access points. Limited data are available on the accessibility of many cash access points, but the data available show that, of the branches for which we have data, 93% have a wheelchair accessible ATM, and 90% have an ATM with a hearing or induction loop.[42]

3.5   Accessing cash via different channels

In this section, we focus on the types of channels available to access cash in different areas and their proximity to other cash access points. This is intended to inform discussion on whether alternatives are available if the nearest cash access point is unavailable (for example, if it has run out of cash, is malfunctioning or is closed).

As we have seen, there are nearly 100,000 free cash access points in the UK (if cashback is included, and 63,000 if it is not). These are spread out across the country, leaving nearly 93% of neighbourhoods with one of these points within 1km. On the surface this might appear to represent a 'reasonable' spread of cash access points; however, it is useful also to understand whether the system provides sufficient choice and alternatives to meet consumers' needs.

The availability of different channels for accessing cash

Different types of cash access point offer different benefits and disadvantages to individual consumers. For example, some consumers may value the speed and convenience of an ATM, while others place more emphasis on the perceived security of branch withdrawals.

Overall, FTU ATMs represent 39% of all access points, cashback 33%, PTU ATMs 12%, Post Offices 10%, and bank/building society/credit union branches 7%. FTU ATMs in particular are a key source of access to cash with almost 90% of all cash withdrawn coming from a free-to-use cash machine.[43]

Figure 3.6 shows the proximity of the different types of cash access points to high streets and neighbourhoods. It shows that bank, building society and credit union branches are less likely to be located close to centres of economic activity and local neighbourhoods – which in part reflects the fact that there are far fewer of these access points than the other available channels.

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[42] Data were provided for 4,804 branches on wheelchair accessibility and 4,496 on hearing/induction loop availability. It is unclear whether the remaining ATMs at branches are accessible or not.

[43] UK Finance (2019) UK Cash and Cash Machines 2019

Figure 3.6 – Percentage of places with at least one cash access point of different types within a given distance of high streets and neighbourhoods
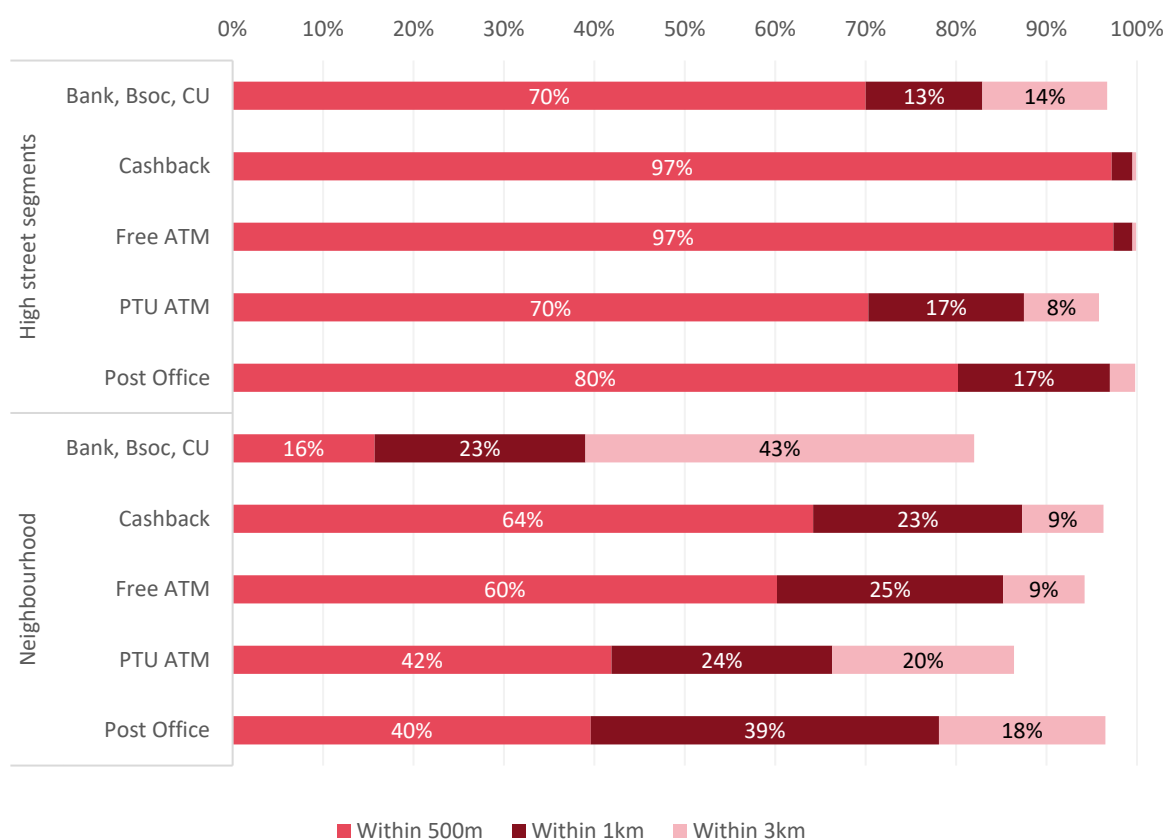
These results can also be explained by how spread out or clustered different types of cash access point tend to be. Using an analytical technique called 'nearest neighbour' analysis, we find that FTU ATMs tend to be most closely clustered together, with PTU ATMs, cashback and branches following closely behind (for full nearest neighbour analysis results, please see Appendix B). Post Offices, meanwhile, are more geographically spread out – more so even than neighbourhoods themselves, indicating essentially that Post Offices are actually more evenly distributed across the country than people are. This likely results from the network access criteria placed upon the Post Office that require it to have a branch within one mile of 90% of the UK population and 99% of people living in deprived communities.[44]

Such distributions affect the likelihood of an area's closest access point being of a particular type. As shown in Boxes 3.2 and 3.3, more remote areas tend to have greater proximity to a Post Office branch than other types of cash access in over 51% of cases. Meanwhile, compared with less deprived areas[45], more deprived neighbourhoods have a higher likelihood of being

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[44] Foley, N (2020) Post Office Numbers – House of Commons Library Briefing Paper No. 02585
[45] 'Less deprived' means that an area is within the 80% least deprived neighbourhoods in its country, while 'more deprived' means it is within the 20% most deprived areas.

closer to a PTU ATM than the nearest free alternative. This trend is particularly prominent in more deprived urban neighbourhoods with almost 30% having closer access to PTU machines. For rural areas – both more deprived and less deprived – this percentage share is smaller; however, where a PTU ATM is the nearest access point, consumers appear to have to travel larger distances to get to the next free alternative than they would in a more urban setting.

Box 3.2 – Remote areas more likely to be near to a Post Office

Overall, in 11% of neighbourhoods a Post Office branch is closer than the nearest FTU ATM by a distance of 250m or more. This falls to 5% when other free alternatives (cashback and bank/building society/credit union branches) are included in the analysis alongside FTU ATMs.

In rural areas these figures increase substantially. 35% of rural areas have a Post Office which is closer than an FTU ATM by 250m or more, and 17% have one which is more than 250m nearer than any other free alternative. It is notable the proportion of rural areas that are closer to a Post Office than an FTU ATM by larger distances (more than 1km). The proportion falls significantly, however, when branches and – to a greater extent – cashback are included in the analysis.

How much closer is a Post Office than the alternative?	Rural areas		Urban areas		All areas	
	FTU ATM	Free alt.	FTU ATM	Free alt.	FTU ATM	Free alt.
Alternative is closer	48.8%	69.0%	79.2%	89.0%	73.4%	85.2%
PO closer by up to 250m	16.5%	14.5%	15.5%	9.1%	15.7%	10.1%
PO closer by 250-500m	3.4%	2.1%	2.8%	1.1%	2.9%	1.3%
PO closer by 500-750m	2.3%	1.5%	1.3%	0.4%	1.5%	0.6%
PO closer by 750m-1km	2.1%	1.3%	0.5%	0.2%	0.8%	0.4%
PO closer by 1-3km	13.5%	7.7%	0.6%	0.2%	3.1%	1.6%
PO closer by 3-5km	7.6%	2.7%	0.0%	0.0%	1.4%	0.5%
PO closer by more than 5km	6.0%	1.1%	0.0%	0.0%	1.1%	0.2%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Notes: All percentages are column percentages. Free alternatives to the Post Office include: FTU ATMs, cashback, bank/building society/credit union branches.

Box 3.3 – More deprived areas more likely than less deprived areas to be closer to a PTU ATM than other access points

We have identified a pattern between neighbourhood deprivation and the likelihood of a PTU ATM being the closest option for accessing cash. While a free source of access to cash is the nearest option in 90% of the least deprived decile of areas, this falls to 70% in the most deprived areas (though, as shown in Section 3.3, it should be noted deprivation is generally associated with a decrease in distance to access to cash).

This leaves 6% of areas in the most deprived decile more than 250m closer to a PTU ATM than a free cash access point (inc. cashback), compared with 2% of areas in the least deprived decile. In the vast majority of deprived areas where this happens, the PTU ATM is closer by 1km or less. This partly reflects the fact that these areas are more urban, as also highlighted by the second graph below.

When this analysis is repeated for PTU and FTU ATMs (but excluding other forms of free cash access point), we find that a slightly higher proportion of neighbourhoods have a PTU ATM nearer than a FTU ATM – see Appendix B.

Percentage of neighbourhoods where a PTU ATM is closer than the nearest free alternative (inc. cashback), by 1) deprivation decile and 2) rural-urban status and whether in 20% most deprived neighbourhoods nationally
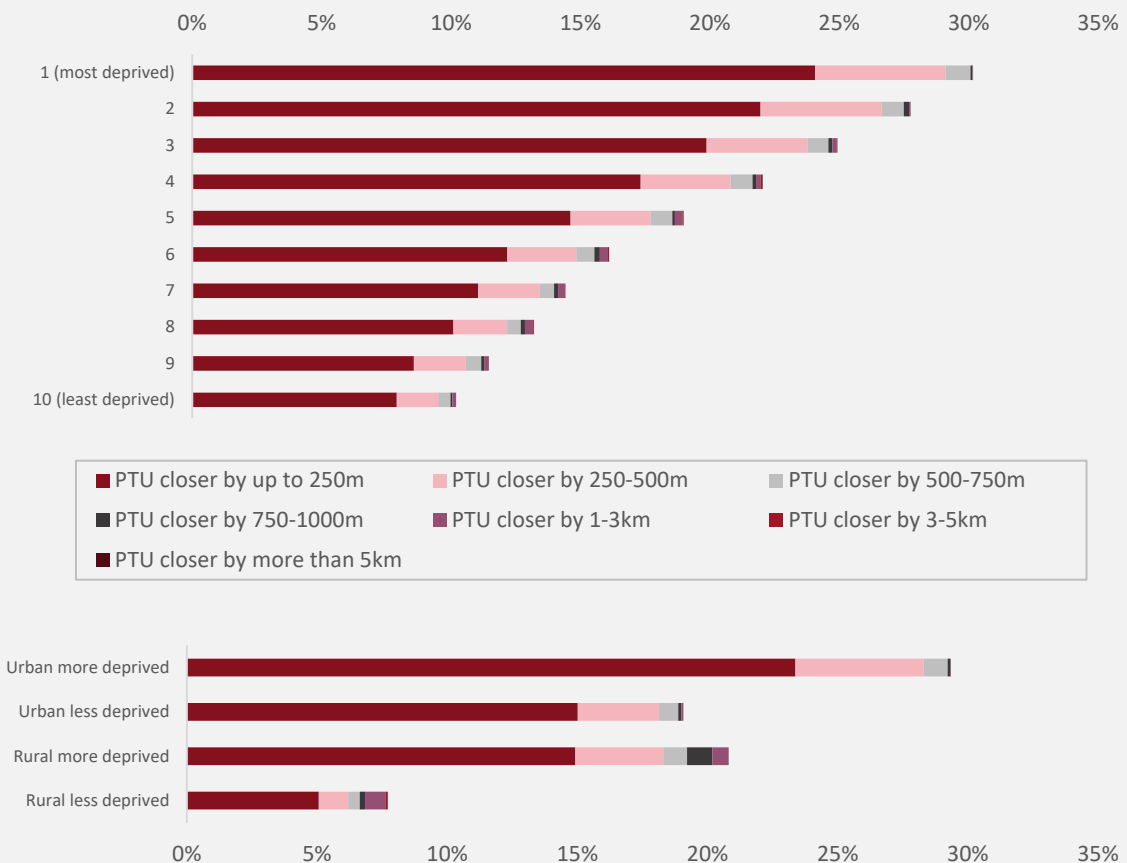
Note: IMD scores and urban/rural classification is pooled across UK nations. 'Less deprived' means that an area is within the 80% least deprived neighbourhoods in its country, while 'more deprived' means it is within the 20% most deprived areas.

Ability to access multiple cash access points

There may be situations where a cash access point is closed or not working, and consumers require an alternative. We have therefore considered how far consumers might have to travel not just to the nearest access point, but also to the second nearest.

Table 3.9 shows that, on average, when measuring from retail centres, high streets and supermarkets, there is not generally a substantial increase in distance to the second nearest free cash access point (including cashback) when compared with the first. For example, the average retail centre has one cash access point within a 78m radius and two within a 120m radius.[46] Median distances measured from a supermarket are lowest confirming that most supermarkets, whether located on local high streets or in more isolated locations away from other retail venues, tend to have a source to access cash nearby.

Measuring from neighbourhoods provides comparatively higher values. However, 75% of neighbourhoods have a second free cash access point within 633m.

Table 3.9 – Distance (in metres) to 1st, 2nd, and 5th nearest free cash access point (including cashback)

Measuring from…	Measuring to…	Mean Distance	Standard Deviation	25th percentile	Median distance	75th percentile	Maximum distance
Retail centres	Nearest access point	71	84	26	45	80	811
	2nd nearest access point	114	137	39	67	135	2,900
	5th nearest access point	250	298	76	150	356	8,604
High street segments	Nearest access point	78	101	14	51	105	4,071
	2nd nearest access point	120	143	42	84	159	9,596
	5th nearest access point	255	371	88	169	309	14,906
Super-markets	Nearest access point	53	121	7	16	53	3,190
	2nd nearest access point	140	265	25	60	147	6,640
	5th nearest access point	488	702	124	286	599	15,098
Neigh-bourhoods	Nearest access point	462	685	172	291	475	20,235
	2nd nearest access point	647	909	249	402	633	44,844
	5th nearest access point	1,080	1,364	439	659	1,021	48,288

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[46] This does not mean, however, that the distance from the nearest access point to the second access point is the difference between the two (42m), as both distances are calculated from the high street. The two cash access points could be up to 198m apart if, for example, the first cash access point was 78m due north of the high street, and the second was 120m due south.

Categorising neighbourhoods and identifying single access points

While we have previously categorised neighbourhoods on the basis of their nearest access point and by existing output area classifications, we can also use a data-driven approach to cluster neighbourhoods according to access to cash. Here we present a cluster analysis of cash access points grouped based on the distance to each of the nearest *ten* access points.[47] This allows us to understand the proportion of neighbourhoods that have a relative abundance of access to cash, compared with those which depend on a single access point, and those which have nothing at all.

Table 3.10 shows the eight categories that neighbourhoods in the UK fall into in terms of access to cash, while Figure 3.7 shows the geographical distribution of these across the UK. A notable feature of these clusters is the degree to which they correspond to rural and urban status. 'Close and abundant' and 'Edge of abundance' are defined largely as urban neighbourhoods, whereas others are dominated by rural neighbourhoods.

Table 3.10 – Percentage of neighbourhoods that fall into different clusters based on distance to nearest cash access points (excl. cashback)

Group	% of all areas in group	% of UK Population	% Urban	Average distance (in metres) to free access point within group		
				Nearest	2nd Nearest	Average of 3rd to 10th nearest
1) 'Close & abundant'	39	39	98	225	306	676
2) 'Edge of abundance'	32	33	94	431	614	1,182
3) 'Two nearby access points'	5	5	15	358	511	4,400
4) 'Somewhat distanced, but abundant'	12	13	86	796	1,012	1,596
5) 'Single access point'	2	2	1	480	3,581	5,864
6) 'Accessible, but remote'	4	4	22	1,222	1,964	3,108
7) 'Remote'	3	3	1	2,913	3,514	5,119
8) 'Very remote	1	1	0	4,621	6,405	9,628
Total	100	100	81	**565**	**834**	**1,637**

Note: While the '% of all areas in group' and '% of UK population' columns represent column percentages, the '% urban' gives the percentage of areas within that row's group that are urban. The names of the groups have been given by the research team based on the results within this table.

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[47] We do this using two-step cluster analysis, with three variables added: distance to the 1) first and 2) second nearest free access points (exc. cashback) and 3) the average distance of the third to tenth nearest free access points (exc. cashback). Cluster analysis identifies natural groupings within our data and assigns each neighbourhood to a given category.

Figure 3.7 – Geographical distribution of neighbourhood groupings across the UK (based on free access points (excl. cashback)

Neighbourhood Grouping
- "1 - Close & abundant"
- "2 - Edge of abundance"
- "3 - Two nearby access points"
- "4 - Somewhat distanced, but abundant"
- "5 - Single access point"
- "6 - Accessible but remote"
- "7 - Remote"
- "8 - Very remote"
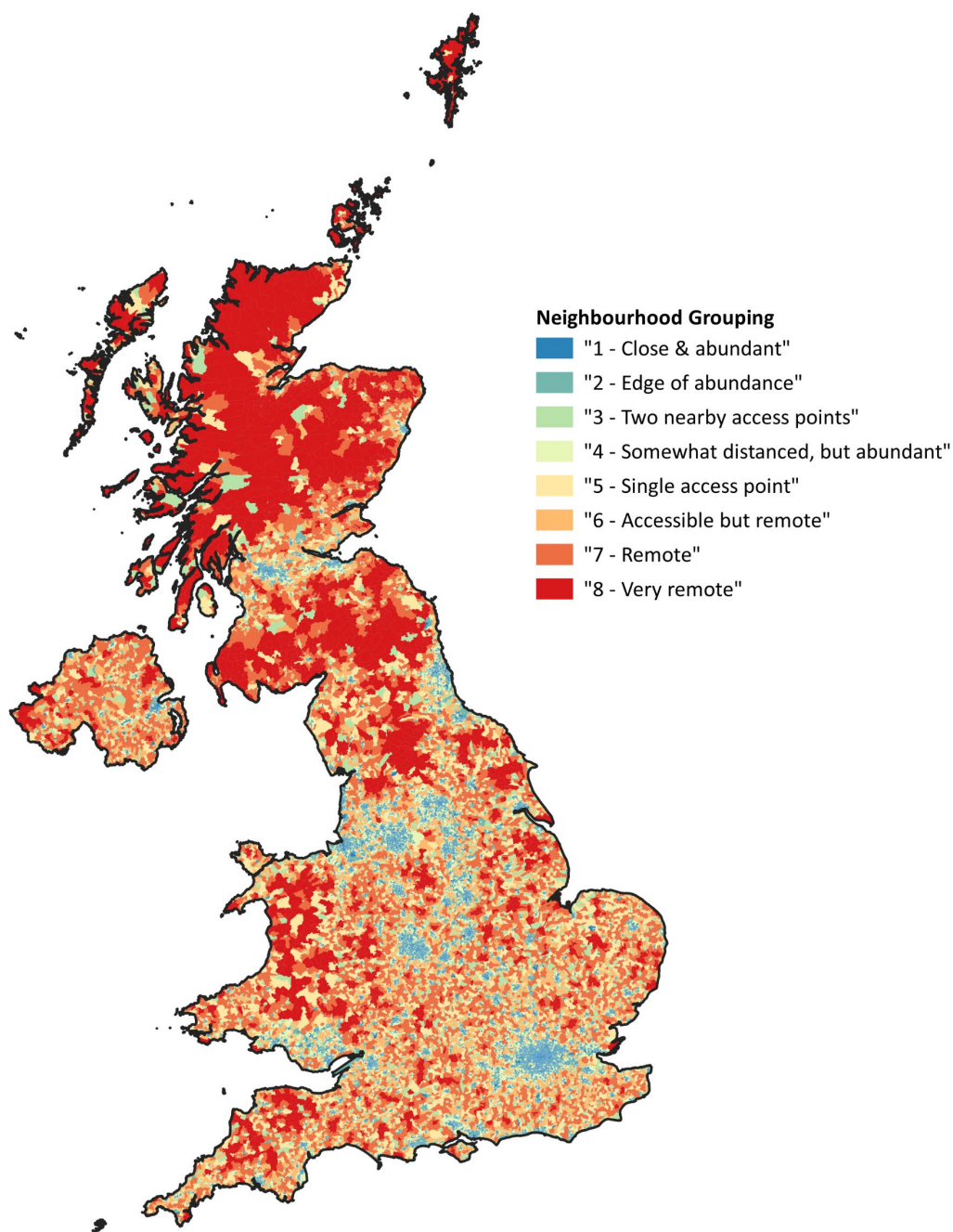
Notes: Contains National Statistics data © Crown copyright and database right 2020. Contains OS data © Crown
              copyright and database right 2020

The analysis also identifies the 'Single access point' (2%) cluster which is predominantly rural. This cluster is of note because it identifies neighbourhoods that are reliant on a single cash access point, with a substantial distance required to access the second and any subsequent access points.

Two of these clusters, however, contain both urban and rural neighbourhoods. The 'two nearby access' cluster is more likely to contain rural neighbourhoods and provides nearby access to cash for these rural communities. However, the 'somewhat distanced but abundant' cluster is more often found in urban settings than in rural ones. This cluster contains neighbourhoods that have access to multiple cash access points, but only at a distance of on average 796m.

The clusters also provide some interesting results in terms of their reliance on particular types of cash access points (Table 3.11). First, they confirm earlier findings that FTU ATMs are quite clustered and most prevalent in clusters associated with urban neighbourhoods. The one exception is the cluster for 'two nearby access points' mainly encompassing rural towns.[48] Areas that are more associated with 'urban-ness' (see Table 3.10) are more likely to feature PTU ATMs.[49]

We find that the Post Office serves as a key provider of access to cash for those neighbourhoods in the 'single access point' cluster largely found in rural towns and villages. This highlights the important role that Post Office branches play in providing access to cash to rural communities where other cash access points are missing.

Table 3.11 – In what percentage of neighbourhoods is the nearest cash access point a…?

Cluster given name	FTU ATM	PTU ATM	Bank, building society or credit union	Cashback	Post Office
1) 'Close & abundant'	37	17	5	32	9
2) 'Edge of abundance'	28	24	1	37	9
3) 'Two nearby access points'	29	7	8	32	25
4) 'Somewhat distanced, but abundant'	17	29	1	45	8
5) 'Single access point'	8	6	2	22	62
6) 'Accessible, but remote'	18	13	2	41	26
7) 'Remote'	15	10	3	47	26
8) 'Very remote	8	8	7	44	33
Total	**29**	**19**	**3**	**36**	**13**

Note: All percentages are row percentages.

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[48] For more information on key characteristics of these clusters see Appendix B.
[49] The lower value for PTU ATMs in cluster 'close & abundant' is linked to the large number of FTU ATMs in the locations.

4.
HOW HAS ACCESS TO CASH CHANGED OVER TIME?

4 HOW HAS ACCESS TO CASH CHANGED OVER TIME?

In addition to mapping access to cash as of March 2020, we have also conducted analysis to compare how the picture changed over the two preceding years (from March 2018). This analysis compares the number and locations of FTU ATMs, PTU ATMs bank, building society and credit union branches and cashback locations.[50,51]

4.1 Net changes in the number of cash access points

A comparison of data for March 2018 and March 2020 highlights considerable changes in the number and type of cash access points in the UK. Overall, we see a 9% reduction in the total number of cash access points over two years.

The direction and scale of change differs across different types of cash access points (as shown in Table 4.1). The number of FTU ATMs fell by 19% between 2018 and 2020 (equivalent to around 10,000 ATMs), while the number of branches declined by 9% (equivalent to around 1,000 branches). In contrast, the number of PTU ATMs increased by 6%, equivalent to around 800 PTU ATMs. While substantial, these figures are actually slightly lower than changes in ATM cash withdrawals volume and values (-16% for 2017-19) and well below the decline in cash payment volumes (-29% for 2017-19).[52]

Table 4.1 – Net change in number of cash access points between 2018 and 2020

Type of cash access point	Number of points in 2018	Number of points in 2020	Net % Change
Free ATM	54,155	43,935	-18.9
Pay-To-Use (PTU) ATM	12,910	13,696	6.1
Cashback location	38,538	37,003	-4.0
Bank, building society or credit union branch	9,007	8,182	-9.2
Free access (exc. cashback)	73,833	62,788	-15.0
Free access (inc. cashback)	112,371	99,791	-11.2
Any access point	125,281	113,487	-9.4

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[50] It should be noted that as our cashback data are based on merchants where at least one cashback transaction was made in the previous 12 months, results may in part reflect changes in demand for cash rather than changes in the ability of consumers to actually make withdrawals from a location (i.e. a merchant that offers cashback but had not had anyone make such a transaction would not be included in the data).

[51] Unfortunately, due to a lack of available data for Post Offices, some building societies and credit unions, we have had to assume the number and locations of these did not change over time. We use our 2020 data for these cash access points, which means that the analysis assumes that there has been no net change in numbers since 2018. This means that if there had, for example, been a net decrease in Post Office branch numbers over this two-year period then our results for 2018 would be an under-estimate of access to cash (i.e. 2018 would look 'worse' in our analysis than it actually was, so the difference between 2018 and 2020 would have been greater in reality).

[52] LINK and UK Finance data calculated from year end 2017, 2018 and 2019.

Based on our data, it is difficult to draw conclusions on why such changes have occurred; they could reflect declining volumes of cash withdrawals or wider decisions by access point operators. In Section 4.2, we consider how these net changes have actually impacted on access to cash at the neighbourhood-level.

Net changes, by neighbourhood deprivation

Different types of communities may have been differently affected by these net changes. In particular, previous research has identified a pattern in which more deprived areas have seen more ATMs converting from FTU to PTU in recent years than less deprived areas, although it should be noted that the numbers of FTU ATMs still remain higher in more deprived areas.[53,54,55] Table 4.2 highlights how the net change in ATM numbers, both FTU and PTU, between March 2018 and March 2020 differs according to the deprivation decile of the neighbourhood.

Table 4.2 – Net change in ATM numbers by deprivation decile and by rural-urban status, between March 2018 and March 2020

Deprivation decile	Free-to-use ATMs			Pay-to-use ATMs			Ratio of FTU to PTU ATMs	
	2018	2020	% change	2018	2020	% change	2018	2020
1 (most deprived)	8,054	6,376	-21	2,206	2,707	23	3.7	2.4
2	7,426	5,934	-20	1,876	2,219	18	4.0	2.7
3	7,378	6,001	-19	1,712	1,874	9	4.3	3.2
4	6,474	5,265	-19	1,531	1,651	8	4.2	3.2
5	5,494	4,405	-20	1,354	1,340	-1	4.1	3.3
6	5,112	4,115	-20	1,100	1,113	1	4.6	3.7
7	4,386	3,664	-16	992	981	-1	4.4	3.7
8	3,710	3,036	-18	873	756	-13	4.2	4.0
9	3,469	2,934	-15	733	589	-20	4.7	5.0
10 (least deprived)	2,636	2,184	-17	529	460	-13	5.0	4.7
Rural less deprived	4,885	4,042	-17	1,725	1,379	-20	2.8	2.9
Rural more deprived	354	312	-12	156	154	-1	2.3	2.0
Urban less deprived	33,774	27,562	-18	7,099	7,385	4	4.8	3.7
Urban more deprived	15,126	11,998	-21	3,926	4,772	22	3.9	2.5
Total	**54,139**	**43,914**	**-19**	**12,906**	**13,690**	**6**	**4.2**	**3.2**

Notes: IMD scores and urban/rural classification is pooled across UK nations. 'Less deprived' means that an area is within the 80% least deprived neighbourhoods in its country, while 'more deprived' means it is within the 20% most deprived areas.

[53] Tischer, D, Evans, J & Davies, S (2019) Mapping the availability of cash – a case study of Bristol's financial infrastructure
[54] Which? (2019) Cash-strapped communities : the loss of free access to cash in Britain
[55] National Audit Office (2020) The Production and Distribution of Cash

While more deprived areas started (and finished) with a greater number of FTU ATMs than less deprived areas, as a proportion these less affluent areas saw a slightly higher reduction in FTU ATMs and increase in PTU ATMs. When we compare the 20% deprived urban neighbourhoods with the 80% least deprived urban neighbourhoods, the former have seen the greatest gain in PTU machines.

Similarly, Table 4.2 also shows that the ratio of FTU ATMs to PTU ATMs has declined most in more deprived communities between 2018 and 2020. While nationwide in March 2020 there were 4.7 FTU ATMs for every PTU ATM in the least deprived areas (down from 5.0 in 2018), there are on average 2.4 FTU ATMs for each PTU ATM in the most deprived areas. These figures do not, however, tell us about the relative use of FTU and PTU ATMs in different areas.

The rising number of PTU ATMs may have limited impact on consumers as long as free alternatives are available nearby. However, where this is not the case, the cost of accessing cash does, at least in part, become individualised through a direct charge payable when withdrawing cash from these machines. It is difficult to ascertain the extent to which the local population is negatively impacted as we do not have access to withdrawal volumes for individual PTU ATMs. On aggregate PTU ATM withdrawal values are about 10% of those of FTU ATMs; however, we do not know if these are significantly higher, or lower, in deprived communities.

We do note though that from national figures, the average number of withdrawals per PTU ATM has been increasing in recent years – as shown by Table 4.3. This coincides with larger structural changes in the industry, most notably the transfer from FTU to PTU status.

Table 4.3 – Average annual withdrawal volumes for FTU and PTU ATMs

Year	Per FTU ATM	Per PTU ATM
2012	62,278	3,579
2013	59,352	3,387
2014	55,210	3,290
2015	51,892	3,310
2016	49,645	3,479
2017	46,668	3,569
2018	45,619	4,137
2019	46,941	4,769

Note: Calculated from LINK figures.[56]

Bank branch closures, however, exhibit a rather different pattern (see Appendix B). Between March 2018 and March 2020, 21% of branches in the least deprived areas were closed,

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[56] LINK (2020) Statistics and trends

compared with just 10% in the most deprived decile. 15% of branches in rural areas were closed, while urban areas lost 11% of their branches.[57]

4.2   How have these changes affected access to cash at the neighbourhood-level?

Despite a large net change in the number of cash access points between 2018 and 2020, the impact on neighbourhoods' access to cash has been less marked. As Figure 4.1 shows, the majority of neighbourhoods saw no change in the distance to the nearest cash access point between March 2018 and March 2020. Nearly three-quarters (73%) saw no increase or decrease in the distance to the nearest free access point (not including cashback), while 21% were up to 1km further away. Of these 21%, the vast majority of changes occur within 250m (17%) or 250-500m (3%). 1% of changes increases the distance by 500m or more, however, it is worth noting that this 1% is equivalent to 2,357 neighbourhoods. A slightly higher proportion of neighbourhoods were further away if only FTU ATMs are used in the analysis (26% further away overall, 66% no change, and 9% closer).

Figure 4.1 – What proportion of neighbourhoods were closer or further away from the nearest cash access point in 2020 than they had been in 2018?
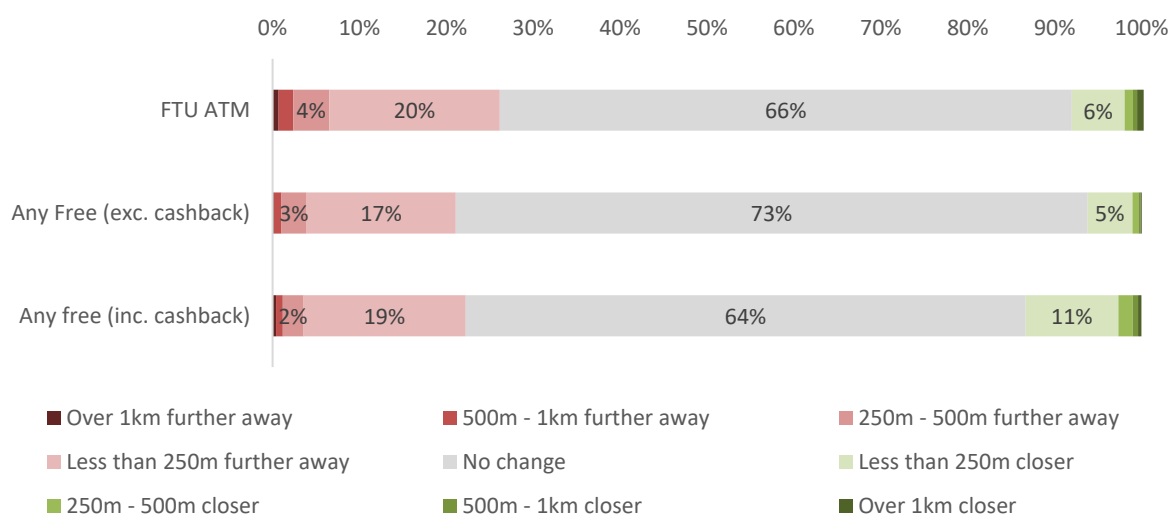
Figure 4.2 therefore shows how the overall proportion of neighbourhoods with access to an FTU ATM within a given distance did not change substantially over this period – and, where it did, this generally occurred within areas that were previously relatively close to free access. For example, in 2018, 30% of neighbourhoods had an FTU machine within 250m and this had dropped to 26% by 2020. This four percentage point reduction, however, is mostly accounted for by neighbourhoods moving from the 'within 250m' category to '250m - 500m' and to a smaller extent to the '500m - 1km' category.

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[57] While the closure rate was similar across rural deprived and non-deprived areas, branches were slightly more likely to be opened in rural non-deprived areas.

Figure 4.2 – Percentage of neighbourhoods with at least one FTU ATM within different distances, comparison between March 2018 and March 2020

March 2018

March 2020

Within 250m
30%

Within 250m
26%

250m - 500m
34%

250m - 500m
34%

500m - 1km
22%

500m - 1km
25%

1km - 3km
8%

1km - 3km
9%

3km - 5km - 3%

3km - 5km - 3%

5km plus - 2%

5km plus - 3%

Note: The figures at the left of the diagram indicate the percentage of all neighbourhoods with at least one FTU ATM within different distances in March 2018, while the figures at the right indicate this for March 2020. The lines in between indicate how this has changed between the two years, with thicker lines indicating a higher proportion of neighbourhoods.

Changes to the nearest available cash access point

While the overall distance to free cash access may not have changed substantially between 2018 and 2020, there have been changes in the likelihood of the *nearest* cash access point being of a particular type or channel. As shown in Table 4.4, while FTU ATMs were the nearest access for 35% of neighbourhoods in 2018, this had declined to 29% by 2020. PTU ATMs, cashback and Post Office branches had also become more likely to be a neighbourhood's nearest access point by 2-3% percentage points.

Table 4.4 – Percentage of neighbourhoods in 2018 and 2020 where the nearest available cash access point is of a given type

Nearest Type of Cash Access Point	2018	2020	Net Change
Bank, building society or credit union branch	3	3	-
Cashback	34	36	+ 2
FTU ATM	35	29	- 6
PTU ATM	16	19	+ 3
Post Office branch	11	13	+ 2

Note: 2018 and 2020 figures are column percentages. Figures may not add up to 100% due to rounding. Base for the analysis is all neighbourhoods (n=232,296). Net change is the change between March 2018 and 2020 in percentage points.

This has had the effect of making it more likely that a neighbourhood's nearest cash access point is a Post Office, cashback or PTU ATM. For example, whereas in 2018 73% of neighbourhoods were closer to an FTU ATM than a PTU one, this had decreased to 67% by 2020 (as shown in Table 4.5). Similar changes are evident when also including other channels of free cash access in the analysis, though it becomes less pronounced when cashback is taken into account.

Table 4.5 – Percentage of neighbourhoods where a PTU ATM is closer than the nearest free cash access point. Comparison of 2018 and 2020

How much closer is PTU ATM?	2018			2020		
	Free ATMs	Any free (exc. cashback)	Any free (inc. cashback)	Free ATMs	Any free (exc. cashback)	Any free (inc. cashback)
Free cash access point closer	73.4	77.7	83.9	67.3	72.6	81.0
PTU closer by up to 250m	13.9	14.3	12.1	18.2	18.0	14.8
PTU closer by 250-500m	6.4	5.3	2.8	8.0	6.4	3.1
PTU closer by 500-750m	2.5	1.6	0.7	3.2	2.0	0.7
PTU closer by 750-1000m	0.9	0.5	0.2	1.0	0.5	0.1
PTU closer by 1-3km	2.0	0.6	0.3	1.5	0.4	0.2
PTU closer by 3-5km	0.5	0.1	0.0	0.4	0.0	0.0
PTU closer by more than 5km	0.3	0.0	0.0	0.3	0.0	0.0

Note: Figures are column percentages.

The impact on deprived communities

Between 2018 and 2020, more deprived neighbourhoods (i.e. the 20% most deprived areas within their country) have been most likely to see an increase in distance to the nearest FTU ATM (and other free cash access points) but generally at relatively low distances. Looking at more deprived urban areas Figure 4.3), 27% were further away from the nearest free access

point (not including cashback) in 2020 than they had been in 2018, compared with 22% of less deprived urban areas. Rural areas saw even less change, though again there is a difference between more deprived and less deprived rural areas. As shown previously, where changes have occurred they have generally done so at relatively low distances.

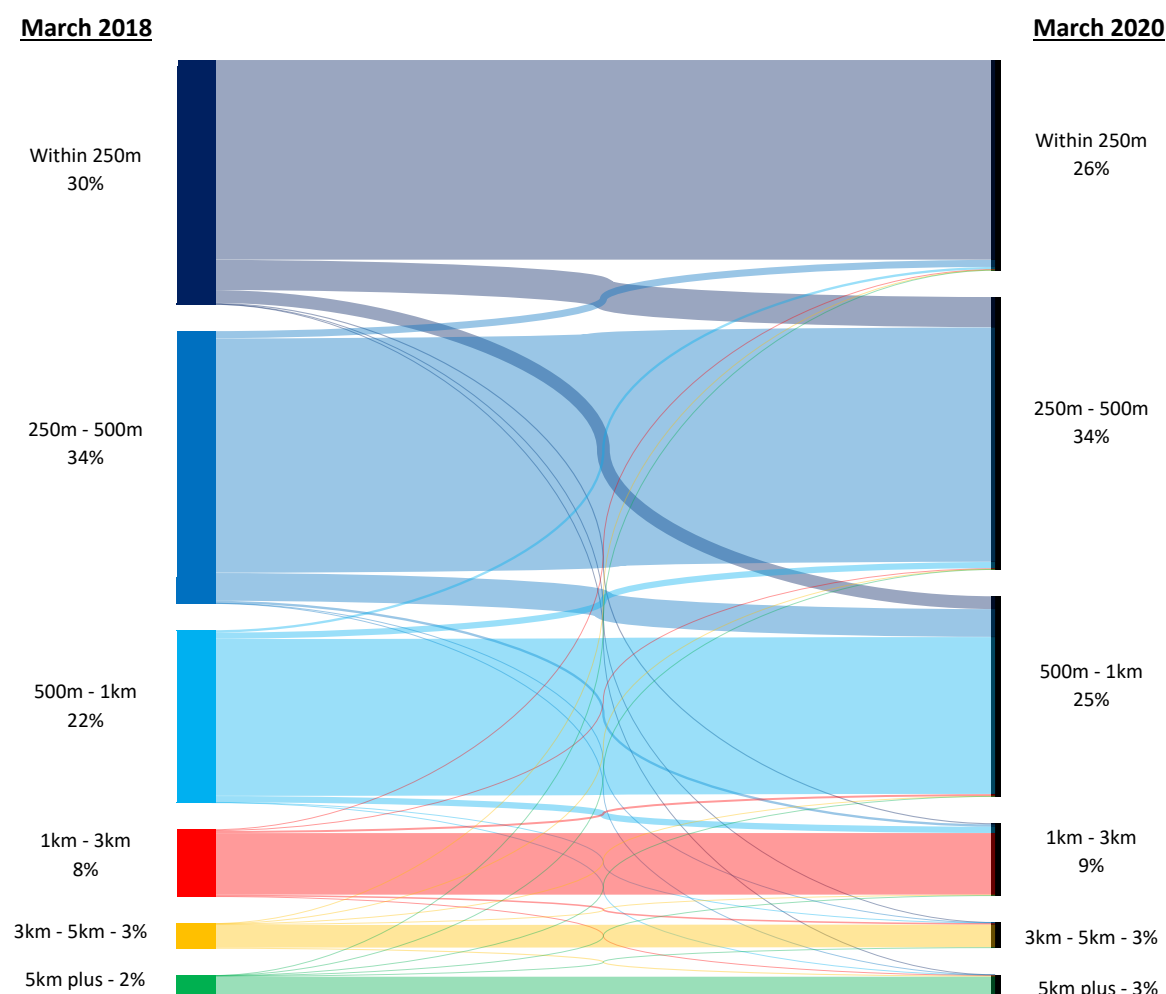*Figure 4.3 – What proportion of neighbourhoods were closer or further away from the nearest free cash access point (not including cashback) in 2020 than they had been in 2018, by urban-rural status and whether or not in 20% most deprived areas nationally?*
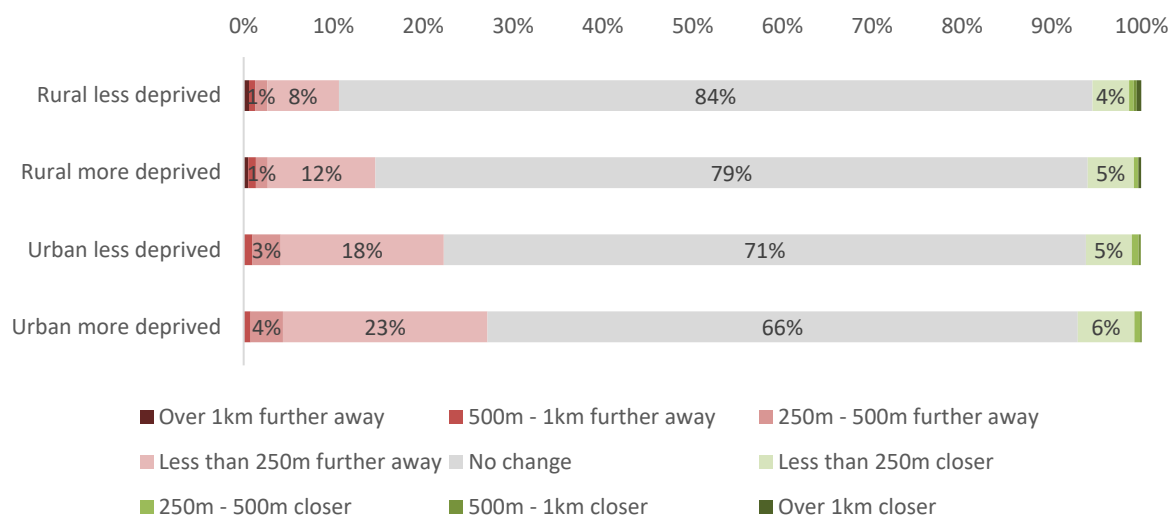
Notes: Bases for the analyses are as follows: rural less deprived = 42,287 neighbourhoods; rural more deprived = 1,749 neighbourhoods; urban less deprived = 143,330 neighbourhoods; urban more deprived = 44,672 neighbourhoods. IMD scores and urban/rural classification is pooled across UK nations. 'Less deprived' means that an area is within the 80% least deprived neighbourhoods in its country, while 'more deprived' means it is within the 20% most deprived areas.

4.3   The impact of the coronavirus pandemic

The Covid-19 pandemic led to a large and rapid reduction in the sources of cash across the UK, particularly between the end of March 2020 and beginning of June 2020. Social distancing requirements meant mobile bank branches had to be withdrawn from operation, staff illness, self-isolation requirements and general safety concerns also led to the temporary closures of 11% of bricks-and-mortar banks and Post Offices, while up to 12% of ATMs became unavailable due to business closures, access restrictions and maintenance staff shortages.

During this period, the FCA and PSR used real-time data to monitor access to cash across the UK. The analysis showed that the share of the UK population who lost access to a source of cash within 3 miles never exceeded 0.1% although this equates to 59,000 people (Figure 4.4). There were significant regional variations, however. Rural areas were most affected. 12% of the closures of cash sources in rural areas led to local residents losing access to cash within a 3-mile radius. This compares with 0.21% in large and medium urban areas. Mobile branch and

Post Office closures had the most pronounced impact on access to cash. Many of these are a key source of cash in rural areas.[58]
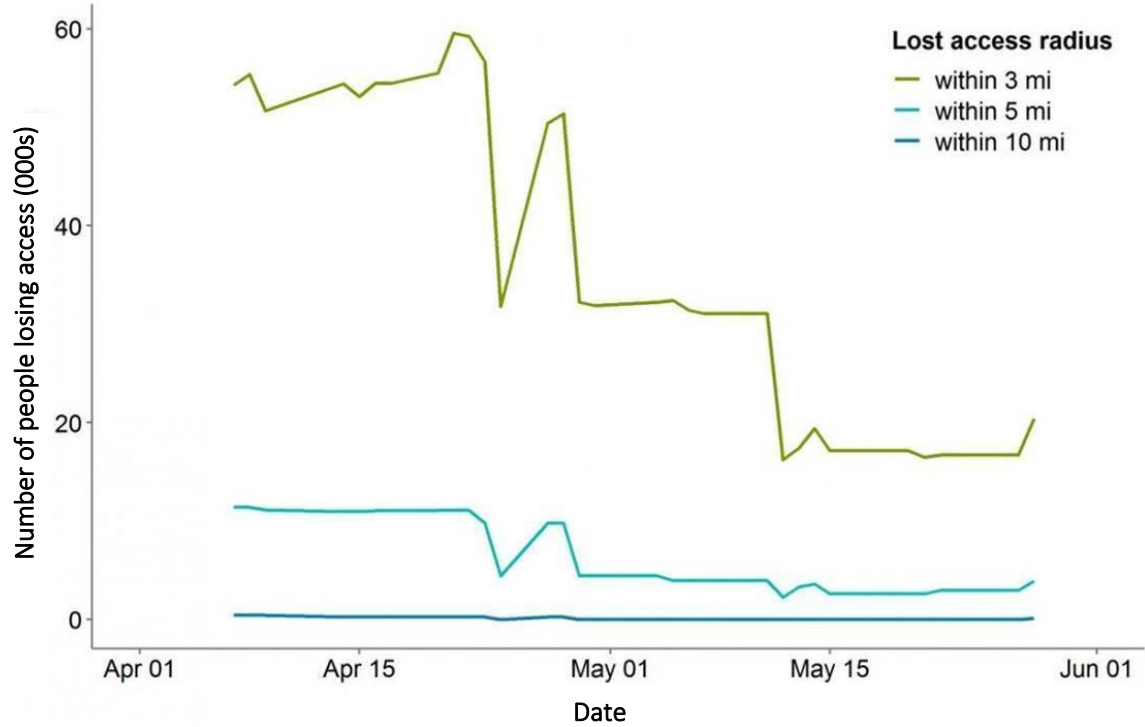
Source: FCA/PSR analysis

5.

DISCUSSION AND FUTURE WORK

5 DISCUSSION AND FUTURE WORK

5.1 The national picture

Preserving access to cash

Our analysis of national patterns of access to cash shows that, at an aggregate level, most of the UK has relatively nearby access to cash, but there are substantial differences, especially across the urban-rural divide and between the most-versus-least deprived neighbourhoods.

Some variation in access to cash across the country is of course to be expected and may in part reflect general differences across a wide range of services available to rural and urban populations. It is not necessarily desirable or realistic for every part of the country to have the same level of access. Our research findings should therefore not be understood as a need to level access to cash across all regions and neighbourhoods. Rather, access to cash should reflect the characteristics and needs of local populations and business.

A focus on consumer outcomes is therefore of utmost importance. This requires a shift in focus from a question of 'what is or was access to cash?' towards 'what do we need access to cash to be?'. While the former is useful for tracking developments over time and their possible impact, the latter forces us to think more about whether consumers are able to pay for goods and services in a way that meets their needs.

Research from the PSR in 2019 reported that 95% of consumers found it easy to withdraw or access cash.[59] The challenge, however, is in understanding how the other 5% are affected and the extent to which they experience detriment as a result – and in monitoring how this changes over time. Recent qualitative and quantitative research conducted by the FCA will shed some light on this. Initiatives such as LINK's 'Request an ATM' service and the Community Access to Cash pilots will also play an important role in identifying areas of need – but it is our hope that the mapping work conducted here could play a role in finding other communities in need that haven't yet put themselves forward or were not aware of these programmes.

Trends over time

Between 2018 and 2020, the number of cash access points in the UK decreased and more neighbourhoods found themselves further from free access to cash – though such increases generally occurred at relatively small distances.

While the full impact of the coronavirus pandemic is difficult to quantify, it is likely that the pre-2020 trends of increased digital payments and declining cash use will almost certainly continue – and this will result in additional pressures on the UK's cash infrastructure. Further removal of FTU ATMs, a growing presence of PTU ATMs (either by means of converting FTU ATMs or installing new PTU ATMs) and bank branch closures are all quite possible. How long

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[59] "Nearly all respondents found it easy to withdraw or access cash (95%)". Source : Payment Systems Regulator (2019) Insights from research into cash access, use and acceptance

the system can cope with such pressures is not known, but it is clear that the cash infrastructure will have to continue to adapt to the new reality of a cash-lite society.

5.2   Future Work

Our analysis has also identified possible need for additional analysis to further understand access to cash in the UK:

Mapping the need for access to cash: Our work focused largely on the supply of cash access points, and presented some initial analysis of how this supply might meet the demand or need for it; however, we do not know fully how the need for access to cash is distributed across communities. We found some evidence that more deprived communities tend to have twice the withdrawal volumes than the least deprived communities (Figure 2.3), but these figures do not provide sufficient evidence to assess whether the scale of access to cash in these areas reflects need. Moreover, whilst there may be a larger need for cash is some areas, this does not mean that other areas have no need for cash. Understanding the cash needs of local populations is crucial to ensure that demand and supply can be balanced in a future cash-lite society.

Type of cash access point: We did not differentiate between types of cash access points by attributing different qualities to them, although we have noted the cost of PTU ATMs and the low £20 average value of cashback transaction. Moreover, we provided analysis that includes and excludes these two sources of cash. However, it would be useful in future work to implement different qualities more directly. For example, should Post Office, bank and building society branches be all treated the same in this type of analysis and should all cashback locations be included, or should we only focus on those most likely frequented by all members of the public? Additional insights across the industry would provide us with a more detailed understanding of neighbourhoods' quality of access to cash.

The cost of access to cash: Having mapped access to cash, we do not yet necessarily understand how the costs are distributed across users and providers. Whilst there is some evidence that the cost of the infrastructure as a whole is paid for predominantly by retail banks it is also recognised that private consumers and retailers ultimately bear the cost[60] indirectly through bank account fees, loss of interest earned and account charges. The rise of PTU machines signals that access to cash in future may more frequently incur a direct charge payable when withdrawing cash from ATMs. If costs for withdrawing cash are increasingly borne by consumers, this cost may have a negative impact on those consumers who can least afford to pay for access to cash or those that lack access to or ability to use alternative means of payment.

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[60] Access to Cash Review (2019) Access to Cash Review – Final Report

Substitutability of types of cash access point: Our analysis has shown that different types of cash access points may exist in close proximity to each other. Whilst some of these could be removed without necessarily reducing access to cash, others may be required to maintain local access to cash. For example, bank branch closures may prompt local merchants to offer cashback as an alternative source of cash to avoid travelling further to deposit their cash. Research with consumers could provide a better understanding of these issues.

Merchant's willingness to offer cashback and cash acceptance: Future work should also consider merchants attitudes towards cash and cashback. Unless acceptance of cash is legislated for, some merchants may need to be incentivised to accept cash in a future cash-lite society. Such research is currently conducted by the FCA and seeks to understand the key factors that determine whether SMEs choose to accept cash. It will also explore, at a high level, retailer interest and perceptions around providing cashback. These results will add to the existing evidence base on the types of SMEs that provide cashback and why some SMEs choose not to provide this service.

Deposit-taking: We only speak briefly about deposit volumes due to limited data, but this area of research requires further attention. As bank branches close, new mechanisms are required for businesses to deposit cash during and outside branch opening hours. Post Offices and deposit machines may be solutions in future and the costs and convenience of depositing cash may also influence cash acceptance by merchants now and in future.

Other future work: Traditional and newly emerging commuter and consumption patterns – to and from work and to and from retail centres – may provide additional insights into how consumers access cash. They may also tell us to what extent consumers frequent different types of cash access points as part of everyday life or specifically to access cash, what distances they are prepared to travel and how this influences their withdrawal behaviour. The impact of opening hours requires further analysis. We show that Post Office and bank branch closure on Sundays increases the distance for rural neighbourhoods, but other providers of cash, for example cashback locations, may have more variation in opening hours.

APPENDICES

APPENDIX A: DATA SOURCES AND METHODS

Data on cash access points

Data were obtained about the following types of cash access point:

- **ATMs** – provided by LINK.
- **Post Office branches** – provided by the Post Office. An additional annually published dataset of mobile Post Office branch stopping points was also added.
- **Cashback access points** – provided by Mastercard and Visa.
- **Bank, building society and credit union branches** – provided by individual firms, contacted via UK Finance and the Building Societies Association. In some instances, branch location data were collected manually from firm websites.

This included location data (either postcodes or coordinates), unique identifiers and various characteristics of the access point. A number also provided opening hours and information on the value/volume of withdrawals through different access points.

The data were then cleaned, which involved removing cases that were missing key fields (such as a location, either in postcode or co-ordinate form), removing duplicates where relevant, removing any points that were not based within the UK (for example, those in the Channel Islands, Isle of Man and British overseas military bases), and lastly removing any cases that were deemed 'ineligible' (for example, branches that were no longer open but had been included within the raw dataset).

In terms of duplicates, it was necessary to take different approaches for different channels of access to cash:

- **ATMs**: we ensured that all ATMs represented a 'unique' device, based on their device identification number. For the final analysis, each individual ATM is counted separately, even where there are multiple ATMs in the same location and with the same provider.
- **Post Office branches:** we ensured that each point within our dataset represented a unique Post Office branch, based on an identification number, branch name and location. When combining data on main Post Office branches and mobile branch stopping points, it was necessary to remove some duplicates between the dataset. In order to do this, we identified any stopping points that were located within 250m of a Post Office branch already included in the dataset and removed these from the analysis.
- **Cashback:** our raw data contained potential duplicates relating to multiple different payment terminals within the same merchant. We therefore removed duplicates where there was more than one merchant of the same merchant category within a given postcode (regardless of whether a location was included in one or both of the Visa and Mastercard datasets). This is likely to under-estimate the number of cashback locations in places; for instance two adjacent newsagents sharing a postcode and offering cashback would be counted as one, rather than two, locations using our method. This does, however, still capture the geographical spread of cashback locations.
- **Bank branches:** we ensured that each point within our dataset represented a unique branch, based on an identification number, branch name and location.

Data on places that consumers might access cash

Our analysis considered how far consumers would have to travel from the following locations to the nearest cash access points:

- **Centres of economic activity**, including:
    - o High streets (62,915 segments of high streets across GB, each comprising 15 or more retail premises – based on analysis from Ordnance Survey)
    - o Retail centres (3,110 major retail centres across GB, obtained from the Consumer Data Research Centre (CDRC))
    - o Supermarkets (14,180 food stores and supermarkets across the UK, obtained from Geolytix)

- **Local neighbourhoods** – based on the population-weighted centre of Census 'Output Areas' for Great Britain and 'Small Areas' in Northern Ireland (232,296 neighbourhoods across the UK in total). Northern Irish data were shared with us via NISRA, while the English and Welsh and Scottish data were downloaded from respective websites from the ONS and National Records of Scotland.

Geographical analysis

Geographical Information Systems (GIS) were used to map the location of both the cash access points and the places that they might access cash from. This was conducted using the python coding language in software called QGIS (version 3.4.4). Where the latitude-longitude coordinates were known, these were plotted directly into QGIS; but where we had only received a postcode location, these first needed to be converted to coordinates. We did this using the National Statistics Postcode Lookup (May 2020) file (a record of over 5 million postcodes in the UK that enables users to match postcodes to other geographies; for example, their coordinates or output area). We produced a range of distance matrices, which captured the Euclidean ('straight-line' or 'as the crow flies') distance in metres between neighbourhoods, places of economic activity and the cash access points (grouped in various different ways; for example, all free access points (including and excluding cashback)). These captured the distance from each place to the nearest ten cash access points, with the results then restructured using python to give a dataset from which statistical analysis could be conducted.

A GIS technique called 'nearest neighbour analysis' was also used to identify how spread out or clustered each type of cash access points is.

Data on neighbourhood characteristics

Our neighbourhood-level data were joined to a range of other data about the characteristics of the neighbourhood and the local population. These were as follows:

Neighbourhood data	Definition	Data source
% of households without car access	Percentage of households in an output area that do not have access to a car or van.	2011 census
% of pop. with health problem	Percentage of population in an output area with a health condition/disability that limits them a lot.	2011 census
% of population aged over 75	Percentage of population in an output area aged over 75.	2011 census
% of premises unable to receive 2 Mbit/sec broadband	% of premises in an output area unable to receive 2 Mbit/sec broadband.	Ofcom
% of premises unable to receive USO level of broadband	% of premises in an output area unable to receive USO level (10 Mbit/sec) of broadband.	Ofcom
Daytime pop. density	Population per km2, where those in work are redistributed to their places of work and those not in work are recorded at their usual residence.	2011 census
Deprivation decile	Deprivation decile within each country, based on ranking of output areas.	IMD for each country of UK
Distance to nearest bus/tram/metro stop or railway station	Straight-line distance to the nearest bus/tram/metro stop or railway station from output area population weighted centroids, based on author analysis of NAPTAN and NI open data datasets.	NAPTAN dataset and NI open data
Income at MSOA level	Total annual household income by middle layer super output area (MSOA), England and Wales, financial year ending March 2018 (£)	ONS income estimates for small areas
Median age	Median age of population in an output area.	2011 census
Number of 4G 'not spots' per square km within OA	Author analysis of 5 million 100m2 'not spots' with poor indoor signal strength for 4G mobile coverage. Authors identified the	Ofcom – 4G mobile not spots data (2018)

	number of 100m squares with no coverage within a given output area and divided this number by the area (in km2) of the output area.	
Output area classification	The Output Area Classification (OAC) is created from 2011 census data and assigns output areas into one of several classifications, based on the characteristics of those who live in the area.	ONS / UCL – based on 2011 census
Population Density	Population per km2	2011 census
Post Office card account holders in MSOA	Estimated number of Post Office card account holders within middle layer super output areas – based on data on POCA withdrawals at individual Post Office branch level but aggregated to MSOA-level for geographical analysis.	Post Office (2019/20 financial year)
Retail employment (at LSOA level)	Number of jobs held by employees in the retail sector at lower super output area level.	ONS Business Register and Employment Survey (2018)
Total number of premises	Count of all premises in scope based on address-level data from Ordnance Survey.	Ofcom

Results on levels of access to cash at output area-level were analysed based on these neighbourhood characteristics. This analysis took the form of both the production of contingency tables (with statistical significance tested using chi-square and z-tests of column proportions) and correlations (Spearman's Rank test used to account for the positively skewed distribution of our distance measure, whereby many more neighbourhoods have relatively low values for distance to the nearest cash access point than would be the case in a normal distribution). Bespoke regression analyses (linear and binary logistic) were also conducted to explore the relationship between access to cash and the variables above while controlling for other variables in the above table.

Two-step cluster analysis was also conducted to assign output areas into one of several categories based on their ability to access cash (using purely distance-based measures). This was based on the distance from the output area's population weighted centre to free cash access points (including FTU ATMs and Post Office, bank, building society and credit union branches, but not cashback), taking into account three variables: the nearest point, the 2nd nearest point and the average distance to the third to tenth nearest points (the latter of these was intended to incorporate a measure of abundance into the modelling). Models were run with and without specifying the number of clusters to be identified. When the number was not specified, the model produced a two-cluster solution (which could broadly be interpreted as 'rural' and 'urban') – while this model fitted the data well, it was deemed of limited use to policy-makers. Models were therefore run with a greater number of clusters specified, with an eight-cluster solution being identified as the one that both fitted the data well and made intuitive sense for interpretation, rendering it the most useful model for presentation.

Data on the value and volume of withdrawals

We gathered data on cash withdrawal volumes and values for banks and building society branch counters, Post Office branch counters, and cashback locations, and cash deposit volumes for banks and building societies. Some data for ATMs were collected in aggregate form directly from LINK. Volumes refer to total transactions for each cash access point that involved cash withdrawal or deposit over a 12-month period. For each cash access point we also gathered the average amount per transaction (either mean or median depending on data availability). Since the mean withdrawal amount can be skewed by large withdrawals or outliers, we have reported the (average of) median withdrawal amount and mean withdrawal amount separately.

Not all banks and building societies were able to provide withdrawal and deposit information; we have data for around half of the branches in our dataset. Some banks and building societies provided data over a shorter period than 12 months – in these cases we approximated an annual withdrawal volume by scaling up to 12

months, which assumes that the data provided are representative of the annual period. We removed data for any branch with fewer than 50 counter withdrawals in the year as there appeared to be outliers affecting mean amounts. Where there were systematic issues with data that we could not resolve (for instance average withdrawal amounts that were implausible across an entire brand), we either sought to use data from a previous year or removed the information.

APPENDIX B: ADDITIONAL RESULTS

Appendix Figure 1 – Indexed per capita estimated volume of cash withdrawals by IMD decile and rural/urban classification relative to daytime population (Index: 10th IMD decile urban neighbourhoods = 100)
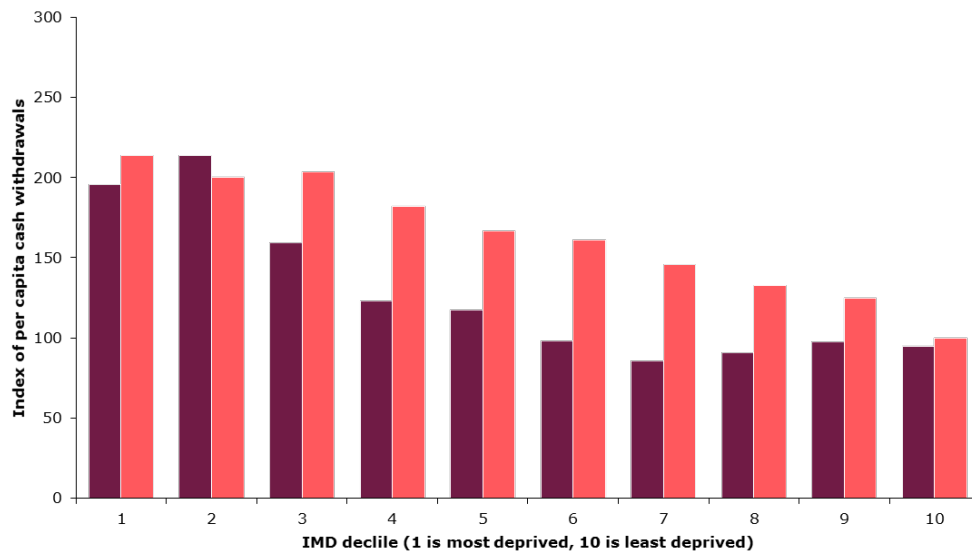
Source: Analysis of data submissions. Link data gathered separately.

Notes: All figures are expressed relative to urban neighbourhoods in the 10th decile of IMD score, which is given a baseline index of 100. IMD scores and urban/rural classification is pooled across UK nations. Daytime population is Census 2011 data defined as employees and students in the area plus residents not in employment or full-time education. Total withdrawal volumes are indicative and data are not available for some access points, particularly some banks and building society branches. Data are 2019/2020 or nearest equivalent.

Appendix Table 1 – Percentage of places with at least one cash access point of different types within a given distance

Measuring from…	Type of cash access	Cumulative percentage of places with at least one cash access point of this type within…							
		250m	500m	1km	1 mile	3km	5km	5 miles	10km
Retail centres	Bank, Bsoc, CU	44.4	56.0	75.6	87.8	96.6	98.8	99.6	99.8
	Cashback	88.0	97.3	99.6	99.9	99.9	~100		
	Free ATM	87.0	96.5	99.9	~100				
	PTU ATM	43.3	62.2	83.6	90.4	94.0	95.9	97.6	98.5
	Post Office	56.3	72.5	93.7	99.2	99.9	99.9	~100.0	
High street segments	Bank, Bsoc, CU	54.7	70.0	82.9	90.9	96.7	98.7	99.7	~100
	Cashback	87.0	97.2	99.5	99.8	99.9	~100		
	Free ATM	86.8	97.4	99.5	99.7	99.9	~100		
	PTU ATM	46.5	70.3	87.5	92.5	95.8	97.7	99.3	~100
	Post Office	50.1	80.2	97.0	99.4	99.8	99.9	~100	
Supermarkets	Bank, Bsoc, CU	30.0	41.3	56.8	72.1	89.8	96.0	98.8	99.5
	Cashback	84.1	92.5	97.6	98.9	99.6	99.9	~100	
	Free ATM	89.0	95.0	98.6	99.2	99.6	99.8	99.9	~100
	PTU ATM	26.4	47.8	73.9	84.2	91.5	94.9	97.5	98.5
	Post Office	38.7	60.1	86.4	96.4	99.3	99.9	~100	
Neighbourhood	Bank, Bsoc, CU	5.3	15.7	39.0	60.4	82.0	91.8	97.5	98.9
	Cashback	30.1	64.2	87.3	92.1	96.3	98.8	99.7	99.8
	Free ATM	26.2	60.2	85.2	90.1	94.2	97.4	99.3	99.6
	PTU ATM	18.5	41.9	66.3	77.5	86.4	92.2	96.5	97.8
	Post Office	13.3	39.6	78.1	90.7	96.5	99.1	99.8	99.9

Notes: All percentages are cumulative row percentages. Figures are rounded to one decimal place. This means that some instances shown as 100.0% are not equivalent to 100% (i.e. <u>all</u> cases).

Appendix Table 2 – Summary statistics for distance (in metres) to nearest of a range of types of cash access point

Measuring from…	Measuring to…	Mean Distance	Standard Deviation	25th percentile	Median distance	75th percentile	Maximum distance
Retail centres	Free access (exc. cashback)	107	129	32	58	123	1,128
	Free access (inc. cashback)	71	84	26	45	80	811
	Any access	58	61	24	41	68	811
	Bank, Bsoc, CU	735	1,161	68	358	969	17,570
	Cashback	121	166	43	72	131	4,518
	Free ATM	123	157	38	67	140	3,563
	PTU ATM	900	2,107	110	327	731	30,480
	Post Office	358	407	91	193	545	8,604
High street segments	Free access (exc. cashback)	113	131	35	75	150	4,517
	Free access (inc. cashback)	78	101	14	52	106	4,071
	Any access	67	86	11	47	91	3,854
	Bank, Bsoc, CU	627	1,233	76	208	668	17,781
	Cashback	135	208	44	90	169	14,906
	Free ATM	137	253	42	87	168	10,742
	PTU ATM	822	2,054	124	278	602	43,265
	Post Office	332	347	128	250	439	8,739
Supermarkets	Free access (exc. cashback)	91	206	8	22	86	5,030
	Free access (inc. cashback)	53	121	7	16	53	3,190
	Any access	47	90	7	16	51	2,679
	Bank, Bsoc, CU	1,292	1,654	185	787	1,740	17,582
	Cashback	171	400	28	68	159	15,098
	Free ATM	128	569	9	26	99	33,677
	PTU ATM	1,199	2,541	237	529	1,039	82,795
	Post Office	520	565	142	370	731	9,186

Appendix Table 3 – Percentage of neighbourhoods with 'potential indicators of need for cash' that have a free access point (including cashback) within different distances

Neighbourhood characteristic	Within 250m	Within 500m	Within 1km	Within 1 mile	Within 3km	Within 5km	Within 5 miles	Within 10km
Highest daytime population density	70.1	95.9	99.9	~100				
Most densely populated areas	62.3	93.6	99.8	~100				
Areas with lowest level of car ownership	65.2	94.4	99.9	~100				
Areas with highest levels of retail employment	59.6	88.0	96.3	97.9	99.4	99.9	~100	
Most deprived areas	55.0	90.7	99.4	99.8	99.9	~100		
Highest proportion of people with health problems	49.7	85.3	96.9	98.4	99.5	99.9	~100	
Highest number of Post Office card account customers	52.5	86.6	97.3	98.6	99.5	99.9	~100	
Highest number of premises	49.7	78.6	91.8	94.9	98.3	99.8	~100	
Highest proportion of population aged over 75	41.5	78.0	94.3	96.8	99.0	99.8	~100	
Furthest from public transport	12.8	51.3	75.1	83.1	93.1	98.2	99.7	99.9
Highest proportion of households without 2Mbit/Sec broadband	10.2	18.8	31.0	45.6	76.1	94.5	99.1	99.6
Areas with most 4G 'not spots'	16.5	29.8	44.8	58.1	82.2	95.8	99.4	99.7
Total	**42.0**	**77.1**	**92.8**	**95.5**	**98.3**	**99.6**	**99.9**	**~100**

Notes: Each 'neighbourhood characteristic' in the left-hand column indicates the top quintile (top 20 per cent) of areas for that variable, e.g. the 20 per cent most deprived areas. The base for most variables is therefore around 46,000 neighbourhoods; however, it is considerably smaller for broadband (9,788) and 4G not spots (18,672) due to the distribution of these variables.

Appendix Table 4 – Percentage of whether ATMs are located internally or externally, depending on rural-urban status and whether PTU or FTU

Type of ATM	Located internally or externally?	Rural or urban?		
		Rural	Urban	Total
FTU ATMs	External	44.5	47.7	47.3
	Internal	43.0	33.3	34.2
	Unknown	12.4	19.1	18.4
	Total	100	100	100
PTU ATMs	External	31.6	43.6	42.3
	Internal	60.9	50.5	51.7
	Unknown	7.5	5.8	6.0
	Total	100	100	100
All ATMs	External	41.2	46.7	46.1
	Internal	47.7	37.3	38.4
	Unknown	11.1	16.0	15.5
	Total	100	100	100

Appendix Table 5 - Cashback merchant type by rural-urban status

Rural or urban?	Merchant Category				
	Grocery stores, supermarkets and other food stores	Bars, pubs and nightclubs	Gambling establishments	Eating places and restaurants	Other
Rural	44.6%	18.6%	2.6%	10.7%	23.5%
Urban	49.6%	13.0%	14.0%	9.5%	13.9%
Total	**49.3%**	**13.8%**	**12.4%**	**9.8%**	**14.7%**

Appendix Table 6 – Nearest neighbour analysis of different types of cash access point in the UK, with neighbourhood centroids for reference

Type of point	Observed mean distance	Expected mean distance	Nearest neighbour index	Number of points	Z-Score
Bank, building society and credit union branches	736.8	4819.8	0.2	8166	-146.4
Cashback	482.5	2294.9	0.2	37003.0	-290.6
Free ATMs	292.6	2045.0	0.1	43935	-343.6
PTU ATMs	835.7	3696.7	0.2	13696	-173.3
Post Office branches	2082.9	4273.3	0.5	10685	-101.4
Neighbourhoods	259.9	918.6	0.3	232296	-661.1

Note: Nearest Neighbour Analysis gives a spectrum of '0' = clustered to '2.15' = uniform distribution

Appendix Table 7 – Characteristics of neighbourhoods within the different clusters

		Close & abundant	Edge of abundance	Two nearby access points	Somewhat distanced, but abundant	Single access point	Accessible, but remote	Remote	Very remote	Total
Percentage of all OAs in cluster		*39.0%*	*32.4%*	*5.4%*	*12.2%*	*2.2%*	*4.3%*	*3.3%*	*1.4%*	*100.0%*
Rural-Urban binary	Rural	1.9%	5.7%	85.2%	13.8%	99.3%	78.0%	98.9%	99.9%	19.0%
	Urban	98.1%	94.3%	14.8%	86.2%	0.7%	22.0%	1.1%	0.1%	81.0%
Detailed rural-urban classification	Accessible rural	0.0%	0.4%	13.2%	1.1%	11.6%	8.3%	11.8%	17.2%	2.2%
	Accessible small town	0.9%	2.0%	8.2%	2.5%	0.5%	1.6%	0.0%	0.0%	1.8%
	Large urban area	11.6%	6.4%	0.2%	4.2%	0.0%	0.6%	0.0%	0.0%	7.1%
	Mixed urban/rural	0.0%	0.0%	0.0%	0.3%	0.0%	0.5%	0.1%	0.0%	0.1%
	Other urban area	7.3%	8.9%	0.2%	8.7%	0.0%	1.7%	0.1%	0.0%	6.9%
	Remote rural	0.0%	0.0%	4.3%	0.1%	2.6%	0.8%	3.1%	14.0%	0.6%
	Remote small town	0.5%	0.4%	0.4%	0.7%	0.0%	0.2%	0.0%	0.0%	0.4%
	Rural	0.0%	0.1%	3.3%	0.2%	2.2%	2.4%	5.8%	2.3%	0.6%
	Rural hamlets and isolated dwellings	0.0%	0.1%	3.2%	2.1%	15.3%	17.5%	31.7%	25.3%	3.0%
	Rural town and fringe	1.7%	4.8%	50.4%	8.1%	20.1%	18.2%	3.6%	0.5%	7.3%
	Rural village	0.0%	0.2%	7.7%	1.8%	44.8%	29.8%	41.0%	22.2%	4.6%
	Urban	1.6%	1.4%	0.3%	1.3%	0.0%	0.1%	0.0%	0.0%	1.3%
	Urban city and town	36.7%	44.2%	5.4%	44.8%	0.2%	16.3%	0.9%	0.1%	35.1%
	Urban major conurbation	36.0%	27.4%	0.2%	21.0%	0.0%	1.1%	0.0%	0.0%	25.5%
	Urban minor conurbation	3.3%	3.4%	0.0%	2.4%	0.0%	0.1%	0.0%	0.0%	2.7%
	Very remote rural	0.0%	0.0%	3.0%	0.1%	2.6%	0.5%	1.9%	18.4%	0.6%
	Very remote small town	0.2%	0.3%	0.0%	0.5%	0.0%	0.3%	0.1%	0.0%	0.3%
Deprivation decile	1 (most deprived)	15.5%	10.1%	1.0%	5.0%	0.5%	0.4%	0.2%	0.3%	10.0%
	2	14.5%	10.2%	3.5%	6.1%	1.2%	1.6%	1.1%	0.5%	10.0%
	3	13.6%	10.0%	5.7%	6.6%	3.1%	3.4%	3.2%	3.2%	10.0%
	4	12.2%	9.4%	8.5%	6.6%	8.7%	6.9%	8.5%	11.5%	10.0%
	5	10.0%	9.3%	10.9%	7.9%	13.7%	9.8%	15.8%	21.8%	10.0%
	6	8.5%	8.8%	12.3%	9.1%	18.6%	13.8%	20.8%	26.2%	10.0%
	7	7.4%	9.0%	14.2%	10.6%	19.5%	16.4%	21.8%	22.5%	10.0%
	8	6.6%	10.0%	14.2%	13.3%	17.2%	17.2%	17.1%	11.2%	10.0%
	9	6.1%	11.1%	15.1%	15.7%	11.8%	17.0%	9.1%	2.4%	10.0%
	10 (least deprived)	5.6%	12.1%	14.6%	19.2%	5.8%	13.5%	2.3%	0.3%	10.0%
Output Area Classification	1: Rural residents	0.9%	3.1%	28.8%	9.2%	67.6%	50.8%	86.0%	92.1%	11.8%
	2: Cosmopolitans	12.5%	2.1%	0.0%	0.7%	0.0%	0.1%	0.0%	0.0%	5.6%
	3: Ethnicity central	10.8%	2.4%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	5.1%
	4: Multicultural metropolitans	15.3%	10.8%	0.1%	5.2%	0.1%	0.2%	0.1%	0.0%	10.1%
	5: Urbanites	17.6%	18.6%	16.4%	18.1%	6.1%	10.7%	2.7%	0.7%	16.7%
	6: Suburbanites	8.8%	27.5%	22.6%	41.3%	12.1%	25.1%	7.3%	2.5%	20.2%
	7: Constrained city dwellers	17.3%	11.4%	5.9%	6.2%	1.1%	1.3%	0.2%	0.4%	11.6%
	8: Hard-pressed living	16.6%	24.1%	26.1%	18.5%	12.9%	11.8%	3.7%	4.3%	18.9%
Urban or rural and deprived (bottom quintile)	Rural non-deprived	1.6%	5.1%	82.0%	12.9%	97.6%	76.6%	97.6%	99.0%	18.2%
	Rural deprived	0.3%	0.7%	3.2%	0.9%	1.7%	1.4%	1.3%	0.9%	0.8%
	Urban non-deprived	68.4%	74.6%	13.5%	76.0%	0.7%	21.4%	1.1%	0.1%	61.8%
	Urban deprived	29.7%	19.6%	1.3%	10.1%	0.0%	0.6%	0.0%	0.0%	19.3%

Note: All percentages apart from the '% of all OAs in cluster' row are column percentages.

Appendix Table 8 – Percentage of bank branches opened and closed between 2018 and 2020, by deprivation decile and rural-urban status

Deprivation decile	% of branches in these areas that were closed	% of branches in these areas that were opened
1 (most deprived)	10	1
2	10	1
3	9	1
4	13	1
5	12	2
6	11	2
7	11	2
8	14	2
9	15	2
10 (least deprived)	21	3
Rural non-deprived	15	5
Rural deprived	15	3
Urban non-deprived	12	1
Urban deprived	10	1
All areas	**12**	**2**

Appendix Box 1 – More deprived areas more likely than less deprived areas to be closer to a PTU ATM than other access points

We have identified a pattern between neighbourhood deprivation and the likelihood of a PTU ATM being the closest option for accessing cash. 19% of areas in the most deprived decile are more than 250m closer to a PTU ATM than an FTU machine. This compares with 10% of the least deprived decile. In the vast majority of deprived areas where this happens, the PTU ATM is closer by 1km or less. This partly reflects the fact that these areas are more urban; however, as shown by the second graph below there are considerable differences between deprived and non-deprived urban areas, as well as between deprived and non-deprived rural areas.

Percentage of neighbourhoods where a PTU ATM is closer than an FTU ATM, by 1) deprivation decile and 2) rural-urban status and whether in 20% most deprived neighbourhoods nationally
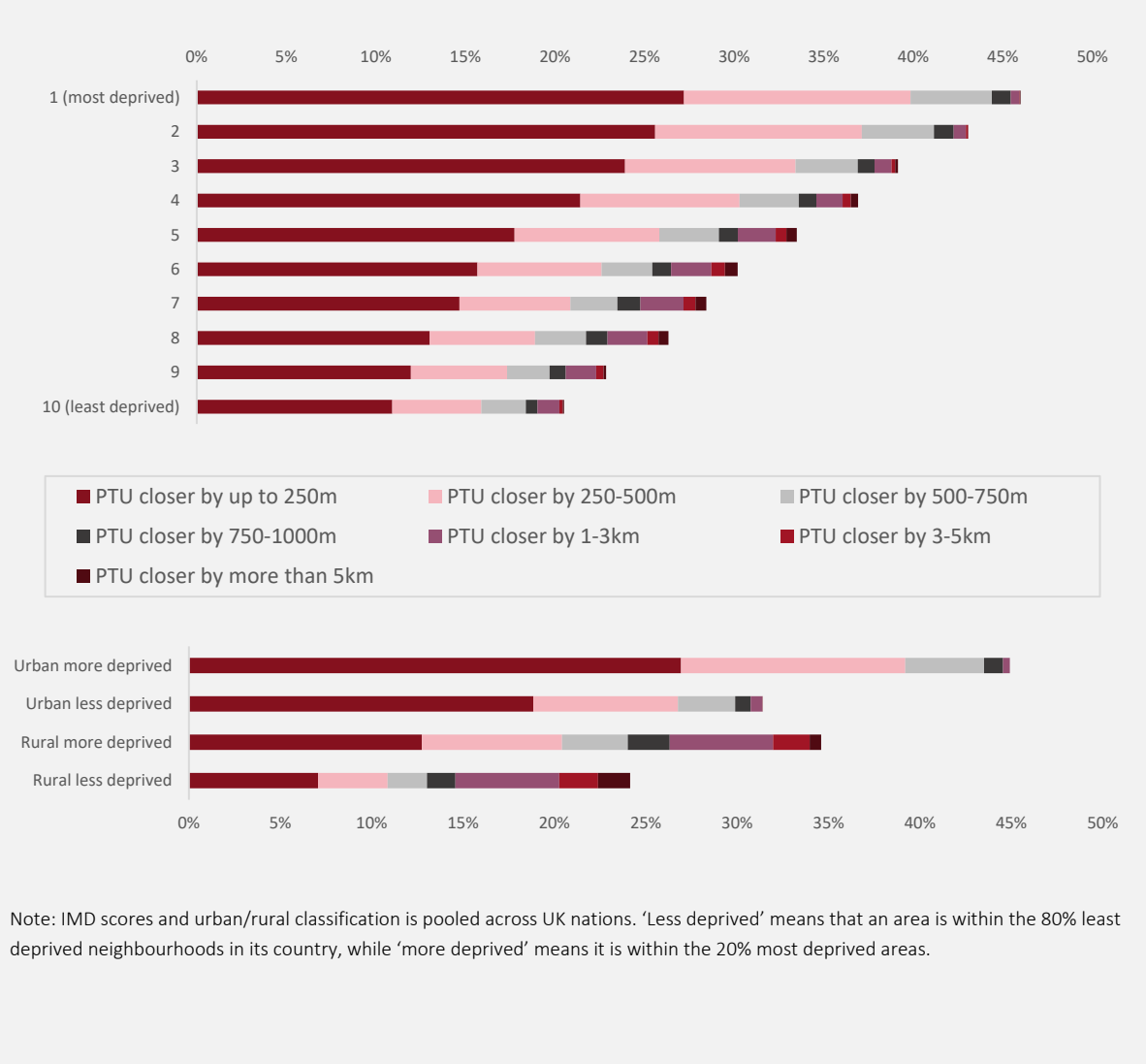
Note: IMD scores and urban/rural classification is pooled across UK nations. 'Less deprived' means that an area is within the 80% least deprived neighbourhoods in its country, while 'more deprived' means it is within the 20% most deprived areas.

APPENDIX C: OUTPUT AREA CLASSIFICATIONS

1 – Rural residents	The population of this supergroup live in rural areas that are far less densely populated compared with elsewhere in the country. They will tend to live in large detached properties which they own and work in the agriculture, forestry and fishing industries. The level of unemployment in these areas is below the national average. Each household is likely to have multiple motor vehicles, and these will be the preferred method of transport to their places of work. The population tends to be older, married and well educated. An above average proportion of the population in these areas provide unpaid care and an above average number of people live in communal establishments (most likely to be retirement homes). There is less ethnic integration in these areas and households tend to speak English or Welsh as their main language.
2 – Cosmopolitans	The majority of the population in this supergroup live in densely populated urban areas. They are more likely to live in flats and communal establishments, and private renting is more prevalent than nationally. The group has a high ethnic integration, with an above average number of residents from EU accession countries coinciding with a below average proportion of persons stating their country of birth as the UK or Ireland. A result of this is that households are less likely to speak English or Welsh as their main language. The population of the group is characterised by young adults, with a higher proportion of single adults and households without children than nationally. There are also higher proportions of full-time students. Workers are more likely to be employed in the accommodation, information and communication, and financial related industries, and using public transport, or walking or cycling to get to work.
3 – Ethnicity central	The population of this group is predominately located in the denser central areas of London, with other inner urban areas across the UK having smaller concentrations. All non-white ethnic groups have a higher representation than the UK average especially people of mixed ethnicity or who are Black, with an above average number of residents born in other EU countries. Residents are more likely to be young adults with slightly higher rates of divorce or separation than the national average, with a lower proportion of households having no children or non-dependent children. Residents are more likely to live in flats and more likely to rent. A higher proportion of people use public transport to get to work, with lower car ownership, and higher unemployment. Those in employment are more likely to work in the accommodation, information and communication, financial, and administrative related industries.
4 – Multicultural metropolitans	The population of this supergroup is concentrated in larger urban conurbations in the transitional areas between urban centres and suburbia. They are likely to live in terraced housing that is rented – both private and social. The group has a high ethnic mix, but a below average number of UK and Irish born residents. A result of this is that households are less likely to speak English or Welsh as their main language. Residents are likely to be below retirement age. There is likely to be an above average number of families with children who attend school or college, or who are currently too young to do so. The rates of marriage and divorce are broadly comparable with the national average. The level of qualifications is just under the national average with the rates of unemployment being above the national average. Residents who are employed are more likely to work in the transport and administrative related industries. Public transport is the most likely method for individuals to get to and from work, since households are less likely to have multiple motor vehicles available to them.
5 – Urbanites	The population of this group are most likely to be located in urban areas in southern England and in less dense concentrations in large urban areas elsewhere in the UK. They are more likely to live in either flats or terraces, and to privately rent their home. The supergroup has an average ethnic mix, with an above average number of residents from other EU countries. A result of this is households are less likely to speak English or Welsh as their main language. Those in employment are more likely to be working in the information and communication, financial, public administration and education related sectors. Compared with the UK, unemployment is lower.

6 – Suburbanites	The population of this supergroup is most likely to be located on the outskirts of urban areas. They are more likely to own their own home and to live in semi-detached or detached properties. The population tends to be a mixture of those above retirement age and middle-aged parents with school age children. The number of residents who are married or in civil-partnerships is above the national average. Individuals are likely to have higher-level qualifications than the national average, with the levels of unemployment in these areas being below the national average. All non-White ethnic groups have a lower representation when compared with the UK and the proportion of people born in the UK or Ireland is slightly higher. People are more likely to work in the information and communication, financial, public administration, and education sectors, and use private transport to get to work.
7 – Constrained city dwellers	This supergroup has a lower proportion of people aged 5 to 14 and a higher level aged 65 and over than nationally. It is more densely populated than the UK average. People are more likely to be single or divorced. There is a lower representation of all the non-White ethnic groups and of people who were born in other EU countries. There is a lower proportion of households with no children. Households are more likely to live in flats and to live in social rented accommodation, and there is a higher prevalence of overcrowding. There is a higher proportion of people whose day-to-day activities are limited, and lower qualification levels than nationally. There is a higher level of unemployment in the supergroup. There are no particular industries in which workers are most likely to be employed, but some industries such as information and communication, and the education sector are underrepresented.
8 – Hard-pressed living	The population of this group is most likely to be found in urban surroundings, predominately in northern England and southern Wales. There is less non-White ethnic group representation than elsewhere in the UK, and a higher than average proportion of residents born in the UK and Ireland. Rates of divorce and separation are above the national average. Households are more likely to have non-dependent children and are more likely to live in semi-detached or terraced properties, and to socially rent. There is a smaller proportion of people with higher level qualifications, with rates of unemployment above the national average. Those in employment are more likely to be employed in the mining, manufacturing, energy, wholesale and retail, and transport related industries.