FCA FINANCIAL CONDUCT AUTHORITY

Strategic Review of Retail Banking Business Models

Annexes to the Final Report

December 2018

Contents

Strategic Review of Retail Banking Business Models Final Report

How to navigate this document onscreen

☰ returns you to the contents list

Annex 1
Impact of Retail Bank Branch Closures

1   Approach

Introduction

1.1   This document summarises our research on the changing coverage of retail bank branch networks in the UK, with a focus on the needs and changing usage patterns of consumers. Our analysis set out to answer three questions:

1. Where are branches opening and closing?

2. Who is affected by branch closures?

3. How does consumer behaviour change after a branch closure?

1.2   In our Financial Lives publication earlier this year (on 2017 data), we reported that 61% of adults reported having used a bank branch in the last 12 months. This percentage was higher in rural areas, where consumers were also more likely to say that accessing the branch they used most often is inconvenient.[1] These findings indicate that, even though regular branch usage has declined in recent years, many consumers continue to rely on branches for their banking needs. They also highlight the importance of bank branches to consumers who may suffer from reduced mobility, or a physical or a mental health condition.

1.3   Given the importance of physical access, bank branch closures continue to be a cause for public concern. Although branch closure programmes are often reported in the media, individual closure programmes are only a part of the wider closures that have occurred in the sector. And, although aggregate statistics over longer periods are available, detailed representative estimates of the impact on consumers across the UK are hard to obtain. The analysis presented here therefore focuses on providing detailed insights into closures across the sector, with a particular focus on the consumers affected and their banking habits.

1.4   We are mostly interested in developments in recent years, particularly given that the rate of branch closures is reported to have increased since 2014 (House of Commons Library, 2018a). However, focusing on too short a time period would have biased our results as banks typically carry out closure programmes in 'waves'. We therefore decided to focus on the most recent 5-year period for which data was available: 2012 to 2017.

1.5   We obtained a dataset of retail location data from Experian (Shop*Point) for this period, which allowed us to track branch numbers and identify openings and closures over time. To allow for a more precise estimate of the effect of branch closures on consumer behaviour, we additionally obtained a list of branch opening and closure dates for 2015 and 2016 from 6 major retail banks.

1.6   Our main consumer behaviour data source is the FCA's Personal Current Account dataset (henceforth PCA dataset), which includes detailed data on 1.5m customers of the UK's

---

1   In our sample of PCA holders for 2016, we actually find a slightly higher figure for contact and counter visits to branches in the past year (74%).

6 biggest PCA providers in terms of market share.[2] The dataset contains a random sample of the adult customers of 9 retail brands offered by these firms. To maintain firm anonymity, we refer neither to firms nor to brands by name in this report. Because the PCA dataset contains residential postcodes, it allows us to compute a precise estimate of each consumer's travel distance to the nearest branch of the brand they bank with.

Levels of geographical aggregation

1.7   In this document, we estimate and report statistics at various levels of UK geographical aggregation. These are:

- *Regions*, which comprise multiple Local Authority Districts (LADs). Northern Ireland, Scotland and Wales each count as a region. England is divided into 9 regions.

- *Local Authority Districts (LADs)*, based on local government boundaries (London Boroughs, Metropolitan Districts, Non-Metropolitan Districts, Unitary Authorities, Council Areas and District Council Areas). We map locations of bank branches and consumers to LADs at the postcode level, although some postcodes cross LAD boundaries. Where a postcode is part of multiple LADs we map the postcode to the LAD to which the majority of postcode residents belong.

- *Postcode areas* (e.g. E). There are currently 121 postcode areas in the UK.

- *Postcodes* (e.g. E20 1JN). There are approximately 1.7 million postcodes in the UK, with an average population of 38 inhabitants.

1.8   Two important sources of local socio-economic data are the Census and Indices of Deprivation. Variables derived from these data sources are provided for LADs or for Lower Layer Super Output Areas (LSOAs). We use the most recent (May 2018) ONS-provided mapping of postcodes to LADs and LSOAs to map residential postcodes to these levels of aggregation. Since deprivation indices are relative and produced separately by the different nations that make up the UK, for comparability our analysis uses data for England only. Census data are from 2011 and deprivation data are from 2015. To get a more complete picture of local conditions, we also complement the latter with official ONS statistics on median incomes and unemployment rates.

Population-weighted statistics

1.9   All our population-weighted statistics, such as the number of bank branches per 100,000 inhabitants, are based on ONS mid-year estimates of the UK population for the relevant regional (UK region) or local (LAD) level.

Document structure

1.10   The following sections cover the three questions outlined at the start of the document. Section 2 shows where branches have been opening and closing, unpicking trends at the national, regional and local level. Section 3 describes the changes in travel distances over our sample period and describes the population of consumers affected by branch closures. Section 4 presents our econometric estimates of changes to consumer behaviour for those affected by a local branch closure.

---

2   The combined market share of these 6 firms in PCA numbers is estimated at more than 90% of the market (CMA, 2016).

2 Where are branches opening and closing?

National trends in branch numbers

2.1 As widely reported, the number of retail bank branches in the UK is on the decrease. According to industry figures published by the House of Commons Library (2018a), the total number of bank branches has been falling steadily from over 20,000 in the late 1980s to around half that in recent years.

2.2 Figure 1 shows the downward trend from 2012 to 2017, based on Experian retail location data for all bank and building society branches. The colours in the graph represent the different brands of the biggest 6 PCA providers in the UK by market share; the remaining providers are grouped together as banks or building societies. These figures indicate that the total number of branches has gone down by 24.1% in this 5-year period.

Figure 1: Branch numbers over time, 2012 to 2017
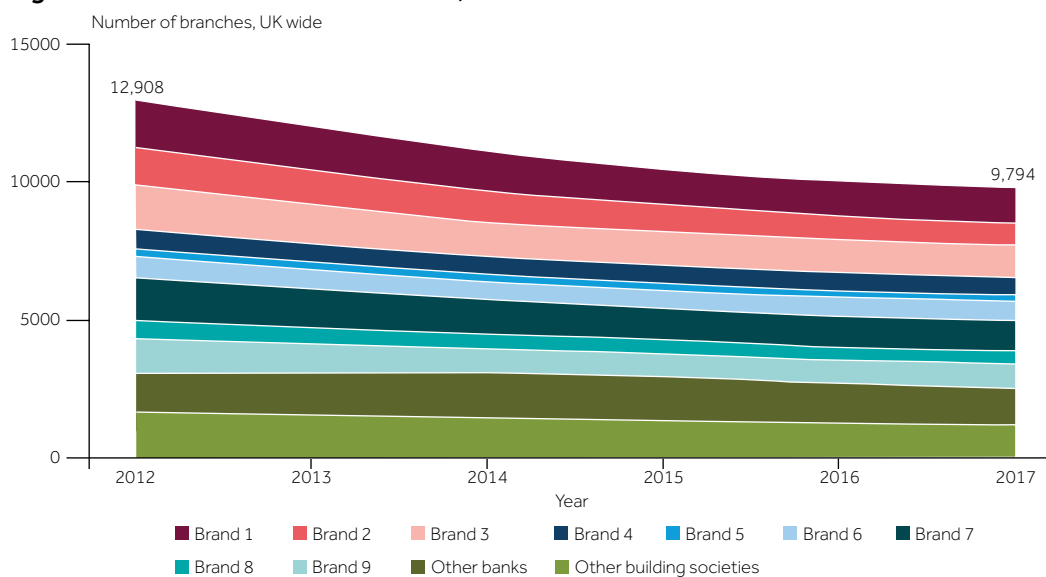
Regional and local trends

2.3 We next look at regional patterns in branch numbers. Table 1 shows the number of bank branches by UK region in 2012 and 2017, as totals and on a per capita basis. The decreasing trend at the national level is apparent in all regions of the UK. In the 5-year period we cover, Northern Ireland seems to have seen the highest proportion of branches close, with most regions having experienced closure rates between 20 and 30 percent. However, these figures should be interpreted with caution as they reflect a relatively short period in a process with a longer timespan; the differences in net closures between regions will undoubtedly be affected by the interplay of the timing of closures and regional market shares of the major banks and building societies.

2.4 Table 1 also reveals some differences in current (as of 2017) branch coverage across regions. Most of the regions have similar amounts of coverage (between 13 and 15 branches per 100,000 inhabitants), but Scotland and Wales stand out as having relatively high coverage. Of course, coverage on a per capita basis is only a proxy for access to branches, as travel distances to branch will play an important role too.

Table 1: Bank branch numbers by UK region, 2012 and 2017

Region	Number of branches			Number of branches per 100,000 inhabitants		
	2012	**2017**	**Change**	**2012**	**2017**	**Change**
East Midlands	884	633	-215 -25.3%	18.6	13.3	-5.3 -28.5%
East of England	1044	846	-198 -19.0%	17.7	13.7	-4.0 -22.4%
London	1695	1297	-398 -23.5%	20.4	14.7	-5.7 -28.0%
North East	469	370	-99 -21.1%	18.0	14.0	-4.0 -22.4%
North West	1414	1064	-350 -24.8%	20.0	14.7	-5.3 -26.6%
Northern Ireland	412	267	-145 -35.2%	22.6	14.3	-8.3 -36.8%
Scotland	1314	931	-383 -29.1%	24.7	17.2	-7.6 -30.6%
South East	1730	1317	-413 -23.9%	19.8	14.5	-5.3 -26.9%
South West	1184	869	-315 -26.6%	22.2	15.6	-6.5 -29.5%
Wales	729	581	-148 -20.3%	23.7	18.6	-5.1 -21.6%
West Midlands	1035	788	-247 -23.9%	18.3	13.4	-4.9 -26.7%
Yorkshire and The Humber	1034	766	-268 -25.9%	19.4	14.1	-5.4 -27.7%

Notes: Totals reported are for all UK bank and building societies, based on Experian retail location data.

Branches per capita

In 2012, UK regions had between 18 and 25 branches per 100k inhabitants. Five years later, this had decreased to between 13 and 18 branches per 100k inhabitants.
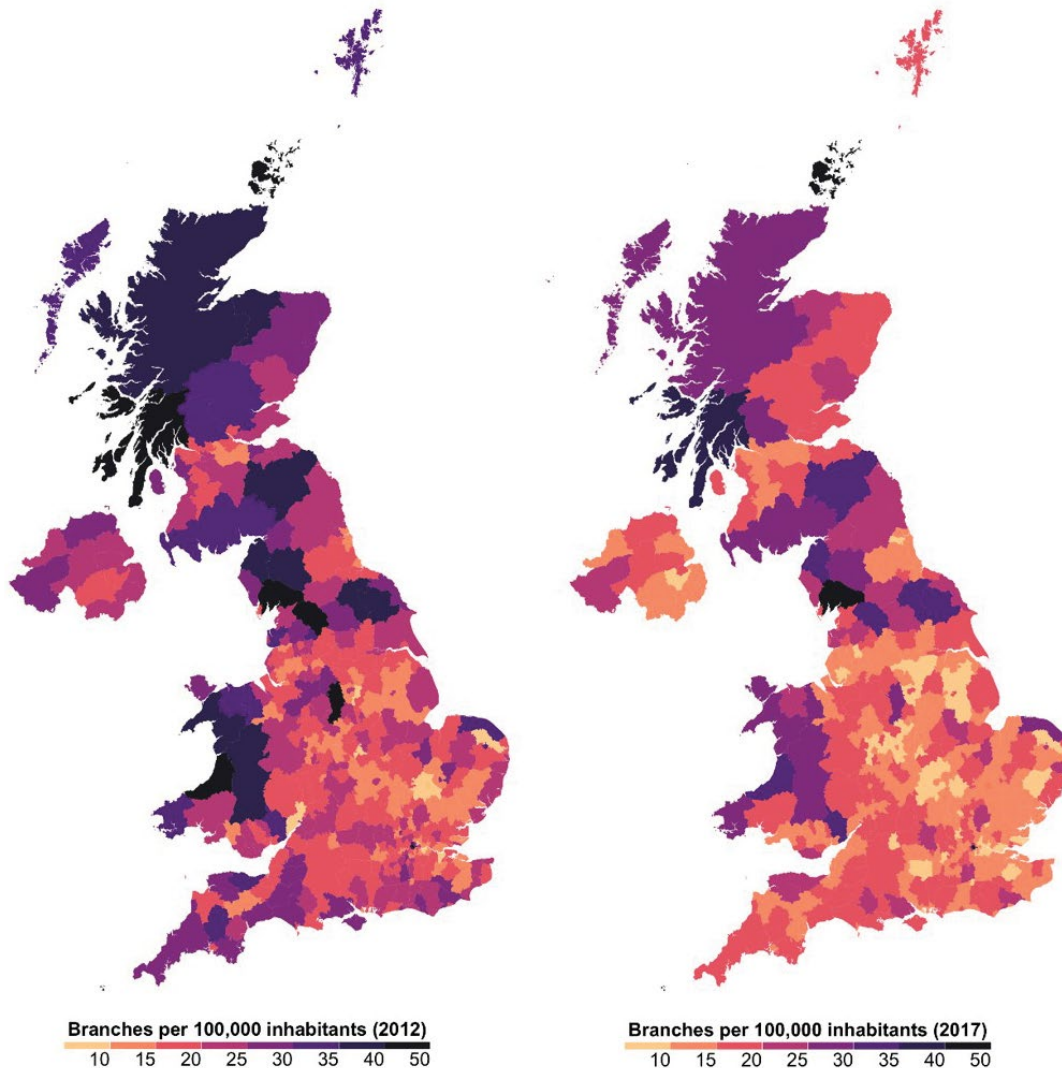
Local branch coverage

2.5 Arguably the most relevant measure of access to banking services is branch coverage in consumers' local areas. This is especially important for consumers who conduct most of their business locally, e.g. those with reduced mobility.[3] The FCA's Financial Lives survey (2017) specifically identifies the following consumer groups which are more dependent on branch banking for support: those who do not use the internet frequently, the elderly and those with an illness or disability. The survey also found that consumers in rural areas are more likely to report difficulties with accessing physical banking services.

---

3   We recognise the importance of branch access to small businesses, but note that this analysis focusses on consumers.

2.6 To more precisely measure physical access to nearby branches, we computed local coverage as the number of branches per 100,000 inhabitants at the Local Authority District (LAD) level in 2012 and 2017. Figure 2 shows a map representing the change in local branch coverage between 2012 and 2017 (on the left) alongside the most recent coverage figures for 2017 (on the right).

Figure 2: Branch coverage by Local Authority District, in 2012 and 2017

Branches per 100,000 inhabitants (2012)
10 15 20 25 30 35 40 50

Branches per 100,000 inhabitants (2017)
10 15 20 25 30 35 40 50

2.7 As can be seen in Figure 2, most LADs in the UK have seen branch coverage go down. There are no obvious regional trends, although in line with our earlier observation Northern Ireland seems to have been more affected in this particular 5-year window. The right panel of Figure 2 shows coverage in 2017. The first thing to note is that coverage varies widely, mostly between 10 and 40 branches per 100,000 inhabitants (darker colours indicate higher coverage). Major urban areas do not stand out as having systematically higher coverage. Areas in Scotland have more coverage than other parts of the UK, although branches per capita may be a poor proxy for physical access when distances are larger.

2.8 The downward trend at the national and regional level is often said to reflect a gradual move from a regionally dispersed network to a more concentrated network of branches situated mostly in busier retail areas. Our retail location data are consistent with such a pattern. In 2012, 76.4% of branches were located in postcodes classed as

urban; in 2017, this figure had risen to 78.2%. We do not see a similar shift at a higher level of aggregation: in 2012, 77.3% of branches were located in mostly urban LADs and in 2017 this figure had dropped to 76.2%. This is despite greater population growth in urban LADs. It seems that therefore that the overall trend is consolidation within localities, rather than shifts of branch networks towards more urban localities.

Socio-economic conditions in affected local areas

2.9 Given the heterogeneity in (changes in) branch coverage between areas, we next investigate whether there are any differences between areas more or less affected by branch closures. We again opt for LADs as our unit of analysis, since this is the lowest level of geographical aggregation for which there exist comprehensive socio-economic indicators and population estimates over time. In Table 2, we group LADs by the percentage change in branches per capita between 2012 and 2017 and show key economic statistics for each grouping.

Table 2: Economic indicators for Local Authority Districts, grouped by 2012-2017 per capita change in branch numbers

Percentage change in branch numbers per capita/ Indicator	Household Income Median LAD median gross disposable annual income	Unemployment Median LAD unemployment rate	IMD Median LAD % of population living in most deprived areas nationally*	Rural/Urban Median LAD % of population living in rural areas*
No change/some openings (n=8)	£23,250	4.0%	1.5%	94.0%
Less than 10% (n=35)	£23,300	3.8%	4.6%	27.0%
10-20% (n=89)	£23,100	3.8%	5.8%	28.1%
20-30% (n=127)	£22,500	4.2%	11.2%	20.6%
More than 30% (n=132)	£22,800	4.2%	10.4%	8.0%

Notes: Household income data are for 2016; unemployment rate data are for 2017; Index of Multiple Deprivation (IMD) data are for 2015; rural urban classification of LADs from Department for the Environment, Food and Rural Affairs (DEFRA) follows the 2011 Census definition. * = Computed based on LADs in England (n=326) only, due to data availability.

2.10 Table 2 shows that LADs most affected by branch closures (more than 20% decrease in branches per capita – the last two rows in Table 2) have slightly higher unemployment rates than those LADs less affected. The relationship of percentage change with income and the Index of Multiple of Deprivation (IMD) is similar, although LADs in the most affected category (more than 30% reduction in branches – the last row in Table 2) do not have the lowest incomes or the highest levels of deprivation. Finally, LADs with greater proportions of their population living in rural areas have been less affected by reductions in branch numbers per capita.

2.11 Another key insight from Table 2 is that very few LADs were unaffected (or little affected) by branch closures: 89% percent of LADs in the UK have seen their branch numbers per capita decrease by at least 10%. It should be noted that the LADs with higher rates of reductions had slightly higher branch coverage to begin with, so comparisons between LADs in different categories in Table 2 should not

be overinterpreted.[4] We especially urge caution in making comparisons with LADs unaffected by branch closures, as this category contains only 8 observations.

2.12 Although changes in branch numbers allow us to identify the LADs most affected by recent closures, a better measure of physical branch availability is the actual per capita figure. We computed the number of branches per 100,000 inhabitants for each LAD in both 2012 and 2017.[5] We then group LADs in four quartiles by level of per capita coverage, allowing us to compare characteristics of LADs with different levels of coverage at these two points in time. To illustrate: Q1 is the quartile for the lowest 25% of LADs when ranked by number of branches per capita, whereas Q4 is the quartile for the highest 25%. These characteristics are shown in Table 3.

2.13 As the bottom half of Table 3 shows, in 2017 there did not appear to be a relationship between a LAD's per capita branch coverage and median household income. There is a relationship with unemployment and IMD: LADs with more branches per capita have lower unemployment rates and lower levels of deprivation. Finally, LADs in the upper quartile of branch coverage have a much higher percentage of their population living in rural localities.

2.14 A comparison of the top and bottom half of Table 3 shows that the relationships between branch coverage and economic indicators are not a product of the changes in the past five years. In 2012, we observe similar differences in unemployment rate, IMD and rural populations between LADs with different levels of branch coverage. Note also that the comparisons in Table 3 do not control for other variables that may differ between areas with different levels of coverage, such as the number of small businesses or local demography.

Rural and urban areas

The Local Authority Districts that have seen the biggest decreases in branches per capita (from 2012 to 2017) have smaller percentages of their population living in rural areas.

---

4   In order of appearance in Table 2, the categories of LADs have median coverage of 2.9, 9.4, 12.5, 12.1 and 11.6 branches per 100,000 inhabitants.

5   Due to its exceptionally high number of branches, we excluded the City of London from these calculations.

Table 3: Economic indicators for Local Authority Districts, grouped by 2012 and 2017 branch numbers per 100,000 inhabitants

Year – Quartile/ Indicator	**Household Income** Median LAD median gross disposable annual income	**Unemployment** Median LAD unemployment rate	**IMD** Median LAD % of population living in most deprived areas nationally*	**Rural/Urban** Median LAD % of population living in rural areas*
2012				
Q1 [2.4 to 15.9] (n=98)	£20,200	7.4%	13.0%	15.4%
Q2 [15.9 to 19.6] (n=98)	£20,200	7.9%	13.7%	15.2%
Q3 [19.6 to 23.5] (n=97)	£19,700	7.1%	10.2%	5.5%
Q4 [23.5 to 87.8] (n=97)	£20,000	6.0%	4.2%	52.3%
2017				
Q1 [4.7 to 11.8] (n=97)	£23,200	4.3%	13.2%	13.8%
Q2 [11.8 to 14.4] (n=97)	£22,700	4.6%	18.1%	5.9%
Q3 [14.4 to 17.7] (n=98)	£22,750	4.1%	8.9%	30.2%
Q4 [17.7 to 53.8] (n=98)	£22,800	3.6%	2.5%	52.3%

Notes: Household income data are for 2012 and 2016; unemployment rate data are for 2012 and 2017; Index of Multiple Deprivation (IMD) data are for 2011 and 2015; Rural Urban classification of LADs from Department for the Environment, Food and Rural Affairs (DEFRA) follows the 2011 Census definition. * = Computed based on LADs in England (n=326) only, due to data availability.

Trends in branch visits

2.15 In our PCA dataset, which includes a representative sample of the adult customers of 9 retail brands of the UK's 6 biggest PCA providers in terms of market share, we can observe how often customers interact with their bank. Over the 2-year period that we have data for (2015-2016), we see branch visits decrease significantly. Whereas 26.3% of customers visited a branch at least once in the month of January 2015, this had decreased to 18.8% in December 2016. The average number of branch visits per consumer decreased over the same period from 0.5 to 0.3 per month. We find that 74% of all consumers visited a branch at least once in 2016.

2.16 Of course, the decreasing trend in branch visits will both be cause and effect of the branch closures across the country. In section 4 of this Annex, we attempt to answer the question to what extent branch visits are reduced as an immediate result of a local branch closure. The decreasing trends in branch visits should also be seen in the context of an increasing usage of digital channels, particularly mobile banking.

3   Who is affected?

3.1   The most immediate effect of a branch closure is an increase in the distance that local customers have to travel to their nearest branch. Especially for consumers with reduced mobility, or those who live in remote areas, these increases can be substantial.

3.2   The bank with which consumers hold a PCA tends to be their main calling point for banking services because most day-to-day banking revolves around transactions on a consumer's PCA and a large share of UK consumers also hold other financial products (e.g. personal loans, mortgages and credit cards) with their PCA provider.[6] Our analysis therefore focuses on the distance to the nearest branch with which a consumer holds a PCA.

Travel distance measure

3.3   To measure travel distances, we combined our Experian retail location data with the PCA dataset, which includes a representative sample of the adult customers of 9 retail brands of the UK's 6 biggest PCA providers in terms of market share. Because the PCA dataset contains consumers' residential postcode, we can combine it with our retail location data. We calculate distances between consumers' residential postcode and their nearest branch as travel distances using OpenStreetMap data.[7] Much of our analysis is done separately for rural and urban areas – we define a consumer as living in a rural (urban) area if their postcode was within a rural (urban) lower super output area in the most recent UK Census (2011). According to this definition, 27% of the consumers in our sample lived in a rural area.

3.4   Since consumers may have easy access to branches outside their local area – for example, near their workplace – we appreciate that our distance measure is an imperfect proxy. However, for many groups of potentially vulnerable consumers (e.g. the elderly, those living in more remote areas), the distance from their house to the nearest branch is the most important determinant of physical branch access.

3.5   Since the PCA dataset only covers 2015 and 2016, we restrict ourselves in the rest of the analysis to this 2-year period. Closures in 2015 and 2016, both in number and in terms of the areas affected, do not appear different from the pattern of closures seen between 2012 and 2017.

3.6   Our approach will clearly over-estimate the distance to travel to a nearest branch of any provider – a consumer can always switch to an alternative provider (who may have a branch that is closer) or use alternative provision through, for example, the post office, if branch access is crucial for them. We think our approach is right for the question we have posed because it is designed to give an estimate of how consumers are affected when a bank closes a branch which they have already been using for their PCA banking

---

6   Strategic Review of Retail Banking Business Models Progress Report, 2018, page 7, FCA.

7   To be precise, we use OpenStreetMap data (hosted by an Open Source Route Machine backend – see http://project-osrm.org) to obtain the driving distance from the centroid of the consumer's postcode sector (e.g. E20 1) to the postcode of the nearest branch of their brand. Although not every consumer will drive to a branch, driving distances are highly correlated with travel distances using other means of transport.

services and they are required to travel to a different branch of that bank. But the distances presented should not be taken as the distance to a bank branch of any type, as these are likely to be much lower. Later in this section, we relax our definition of nearest branch to also include post offices.

Changes to travel distances and consumers affected

3.7   In January 2015, the average consumer in our dataset had to travel 2.5 miles to their nearest branch (4.8 for those living in rural areas, 1.8 in urban areas). By December 2016, this had increased to 2.6 miles (5.1 in rural areas, 1.9 in urban areas).

3.8   Figure 3 shows for each month in 2015-2016 the proportion of consumers that live within a mile, between 1 and 3 miles, between 3 and 5 miles, between 5 and 10 miles and more than 10 miles from their nearest branch. In rural areas, around half of consumers live within 5 miles of their nearest branch; in urban areas, about 9 out of 10 consumers do. The figure also shows how consumers' distance to branch has been increasing in both rural and urban areas, with a more pronounced pattern for rural areas.

Figure 3: Travel distance to nearest branch by month, 2015-2016
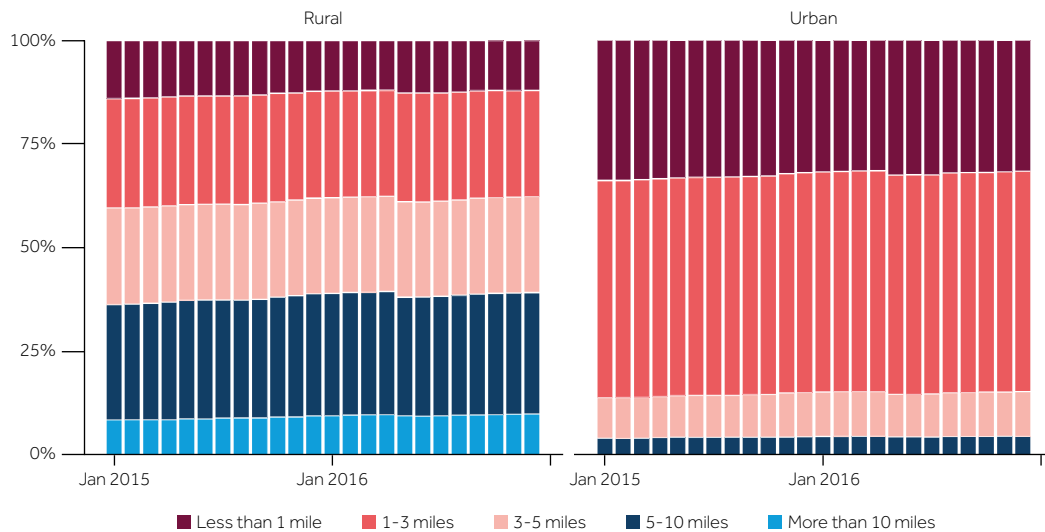
Consumers affected by branch closures

3.9   The changes to travel distances we observe are the product of various events: not only branches opening and closing, but also people moving house and consumers switching between PCA providers. To get a clear measure of who is directly affected by a branch closure, we define an affected consumer as someone whose distance to the nearest branch of their brand increased substantially (defined as more than 1 mile), without this increase being due to them moving house or switching brand.

3.10   Over the two years we observe, we find that 9.1% of consumers in rural areas and 6.8% of consumers in urban areas were affected by closures. When a branch closes in a rural area, the median increase in distance to nearest branch for affected consumers is 3.7 miles; in urban areas the median increase is 1.9 miles.

Table 4: Proportion of PCA customers affected by closure of the nearest branch in 2015 or 2016, by age group and rural/urban split

Sample/Age group	18-29 (19%)	30-39 (18%)	40-49 (17%)	50-59 (17%)	60-69 (14%)	70+ (14%)
Entire sample	8.3%	7.4%	6.8%	6.8%	7.1%	7.9%
In rural areas (27% of sample)	10.3%	8.9%	8.4%	8.4%	8.7%	10.1%
In urban areas (73%)	7.7%	7.1%	6.3%	6.2%	6.4%	6.9%

Notes: All rural/urban specific percentages calculated based on consumer location (residential postcode) in January 2015.

3.11 We also look at how the proportion of affected consumers varies with age. Table 4 shows the percentage of affected consumers in different age brackets – in our entire sample, as well as separately for rural and urban areas. The relationship between age and being affected is U-shaped in both rural and urban areas, albeit slightly more pronounced in rural areas. In other words: the youngest consumers and oldest consumers are most likely to be affected by a local branch closure, whereas consumers between the ages of 40 and 59 are least likely to be affected. Across our sample, consumers aged between 18 and 29 are most likely to be affected (8.3%), followed by consumers over 70 (7.9%).

3.12 The first row of Table 5 shows that affected consumers lived, before the closure of their local branch, closer to their nearest branch than unaffected consumers. This is not surprising, as banks are more likely to close branches in areas with greater branch coverage (as we found for LADs in Section 2 above). By the end of our sample period (December 2016), the average distance to the nearest branch for affected consumers was significantly higher than for unaffected consumers (4.0 miles versus 2.6 miles).

3.13 Overall, there are few differences between affected consumers and unaffected consumers. On demographic characteristics, the samples are very similar – although affected consumers tend to have slightly longer tenures. Those affected have slightly lower savings with their PCA provider and also hold lower balances in their PCAs. The proportion of affected consumers with basic bank accounts, which have limited borrowing facilities and are typically offered to those with lower credit scores, is lower. Affected consumers are more likely to have an arranged overdraft facility and use it, although this does not translate into a meaningful difference in total overdraft charges (due to lower unarranged overdraft and unpaid items charges).

3.14 Affected consumers are more likely to be internet and mobile banking users, and they pay in fewer cheques. They also make slightly more branch visits and ATM withdrawals than unaffected consumers. These differences are not large, and the overall picture that emerges is that the affected consumer is not a very different type of consumer to the unaffected consumer.

3.15 Some of the differences that we see in Table 5 may be correlated with the U-shaped age profile of affected consumers (Table 4). Younger consumers are more likely to use digital banking, for example, and older consumers are more likely to have an arranged overdraft facility and use branches more frequently. Since the comparisons presented in Table 5 are univariate (other variables are not kept constant), correlations between variables may explain some of the patterns of results.

Table 5: Percentages and means for demographic, account and account usage characteristics, by consumer affected status

Variable/Sample	Entire sample		Rural areas		Urban areas	
	Affected	Not Aff.	Affected	Not Aff.	Affected	Not Aff.
Distance to branch (miles)	2.1	2.5	3.4	4.9	1.4	1.8
Age	47.2	47.6	50.0	50.2	45.9	46.8
Tenure (years)	12.5	11.3	13.5	11.9	12.1	11.1
Gender (Female %)	51.0%	50.6%	51.8%	50.8%	50.6%	50.6%
Savings with provider (£)	7,992	8,499	9,762	10,090	7,131	8,013
PCA balance (£)	3,460	3,759	3,870	4,404	3,261	3,562
Basic bank account %	7.5%	9.1%	6.3%	7.4%	8.1%	9.7%
AOD facility %	58.9%	55.7%	63.9%	60.0%	56.4%	54.4%
AOD usage (£)	245.4	209.1	264.6	227.2	236.1	203.6
AOD charges (£)	2.7	2.4	2.9	2.4	2.6	2.4
UOD & UI charges (£)	1.5	1.8	1.3	1.6	1.7	1.8
Internet banking user %	33.6%	28.0%	32.2%	28.4%	34.2%	27.9%
Log-ins	2.4	2.1	2.4	2.2	2.4	2.1
Mobile banking user %	20.3%	18.2%	17.4%	15.5%	21.8%	19.0%
Log-ins	5.0	4.3	4.1	3.5	5.3	4.5
Phone banking user %	8.4%	8.2%	7.5%	7.6%	8.8%	8.4%
Log-ins	0.2	0.2	0.1	0.2	0.2	0.2
Branch visits	0.6	0.6	0.5	0.5	0.6	0.6
Cheques paid in	0.1	0.1	0.1	0.1	0.0	0.1
ATM withdrawals	3.6	3.4	3.3	3.2	3.7	3.5
Observations	93153	1090371	30,484	255,363	62,669	835,018

Notes: All figures are arithmetic means or proportions calculated based on consumer/account characteristics and usage data over January 2015. Log-ins and branch visits are unconditional means. Rural/urban specific figures based on consumer location (residential postcode) in January 2015.

Access to counter services at post offices

3.16 Since 2015, many banks have had in place agreements with the UK Post Office to enable consumers to use a range of branch banking services, such as checking balances, paying in cheques and withdrawing and paying in cash.[8] If these are the main services that consumers rely on their local bank branch for, then the availability of local post offices may lessen the impact that branch closures are having on consumers' access to banking.

3.17 We obtained a dataset of the location of all post office branches in UK as of 2018.[9] Since few post offices branches have closed since 2012 (House of Commons Library, 2018b), we consider this data a good representation of the post office network during our sample period. We then re-calculated the proportion of affected consumers in our sample period, effectively assuming that a post office branch can act as a substitute for a branch of the consumer's own brand.

3.18 When we take into account post office locations and consider them as access points to banking services, distances to the nearest access point are shorter. At the end of our sample period (December 2016), the mean distance to the nearest access point is 0.7 miles (compared to 2.6 miles to the nearest branch of one's brand). Due to the

---

8   In January 2017, these individual agreements were replaced by a cross-industry agreement (covering 99% of UK PCA holders) that standardised the banking services that consumers were able to access at post offices.

9   We are grateful to Robert Mathmos for making this data available on his site (https://osm.mathmos.net/postoffice/data/). The data contains public sector information licensed under the Open Government Licence v3.0.

continued density of the post office network, this figure also does not change over time, in contrast to the distance to the nearest bank branch.

3.19   Our measure of affected consumers also drops dramatically when we consider post offices as access points. Re-defining an affected consumer as someone whose access to their nearest access points increased by at least a mile during our sample period, we find that only 0.2% of our sample was affected in this way. In rural areas, 0.3% of consumers are affected and in urban areas, 0.1% of consumers are affected if we consider the location of post offices. This means that, for the vast majority of people, when a local branch closes there exists a local post office that is not more than a mile further from their house than the closed branch.

3.20   Note that our analysis is strictly based on location. We do not take into account the opening hours of post offices, nor did we compare levels of access between bank branches and post offices.

Distance to nearest branch
In our dataset for 2015 and 2016, 9.1% of consumers in rural areas see their distance to their nearest branch increase by more than a mile, compared to 6.8% of consumers in urban areas.

4 How does consumer behaviour change after a branch closure?

4.1   In this section, we estimate changes in consumer behaviour after their local branch closes. We do so by comparing behaviour of affected consumers (defined, again, as those who saw an increase of at least 1 mile to their nearest branch in our sample period) with consumers in a control group. Our regression analysis takes into account time-invariant differences between individuals and brands, as well as differences in outcome variable trends between postcode areas. Note that all our regression tables are printed in the Appendix.

4.2   Our main outcomes of interest are how consumers interact with their PCAs, by visiting branches, using ATMs and/or using digital services. We also look at the number of transactions in and out of the account. Finally, we estimate the effect of branch closure on a direct measure of PCA switching (using the CASS service) and an indirect measure – the consumer becoming inactive after the branch closes. Consumers are defined as inactive when their three-month rolling average of their monthly credit turnover falls lower than £500 and their three-month rolling average of their monthly number of transactions drops below 2. A consumer becoming inactive is likely to signify a 'soft switch' to a competing brand.

All consumers

4.3   To evaluate the impact of branch closures on consumers' branch visits (to any branch), we estimate the following regression model:

$$Branch\ Visits_{ibgt} = \sum_{\tau} \delta_\tau (D^\tau_{bgt} \times Affected_{ibg}) + \alpha_i + \gamma_t \times \sigma_g + \gamma_t \times \eta_b + \varepsilon_{ibgt} \quad (1)$$

where $Branch\ Visits_{ibgt}$ is a measure of branch visits for consumer i with an account with brand b in postcode area g in month t; α_i are individual fixed effects; η_b are brand fixed effects; $(\gamma_t \times \sigma_g)$ are postcode-area-by-month fixed effects; D^τ_{bgt} is a dummy equal to 1 if month t is τ months after a branch of brand b closes in postcode area g; and $Affected_{ibg}$ is a dummy equal to 1 if consumer i is an affected consumer, meaning that the distance to his nearest branch increased by more than one mile at month t.[10] The range of τ goes from -6 to 6, and standard errors are clustered at the consumer level. The coefficient of interest, δ_τ, measures the difference, conditional on controls, in branch visits between affected and control individuals τ months after branch closure.

4.4   Figure 4 plots the coefficients for δ_τ estimated from Equation (1). The left panel of the figure considers as a dependent variable the total number of branch visits of consumer i with an account with brand b in postcode area g in month t. The bars show the 95% confidence intervals and the line at $\tau = 0$ denotes the month in which the branch closed. If δ_τ is positive, then Affected consumers visited branches more often relative

---

10   A fixed effect variable makes use of the fact that we have multiple observations for certain units (brands, postcode areas, etcetera) by filtering out any systematic differences between these units. For example, customers of a particular brand may be systematically more likely to use mobile banking (than customers of other brands) because the brand has a better-functioning mobile banking application. Fixed effects allow us to rule out that our results are due to these systematic differences.

to the Control. The right panel of the figure uses as dependent variable a dummy equal to one if consumer *i* with an account with brand *b* in postcode area *g* in month *t* goes to a branch at least once during that month.

Figure 4: Changes in branch visits before and after branch closure
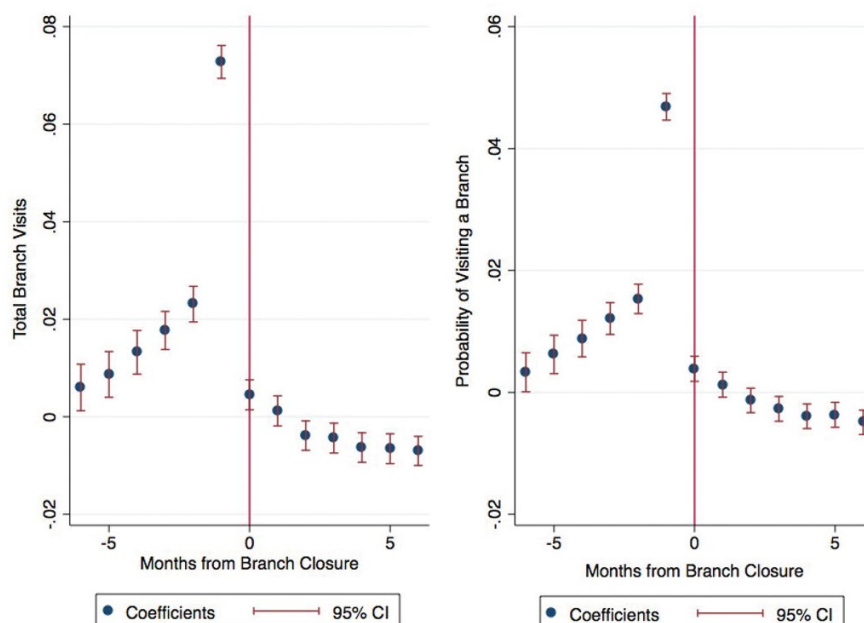
4.5   The left panel in Figure 4 thus illustrates the extensive margin, while the right panel shows the intensive margin. In both cases we observe an anticipation effect, with branch visits increasing by 5 percentage points before closure (a 16% increase relative to the baseline). We find that this behaviour starts six months before closure, which usually coincides with the time most lenders announce the closing of a branch. The temporary increase in branch visits may be due to consumers going to their local branch to ask questions or conduct some business that they prefer to do locally while still possible; it may also reflect some 'trial visits' of other branches in the vicinity. We also find that after the branch closing, affected consumers are less likely to visit branches in the future.

4.6   Besides branch visits, we also analyse whether there were other changes in consumer behaviour after a branch closed. For these purposes, we consider the following regression:

$$y_{ibgt} = \delta_{POST}(Post_{bgt} \times Affected_{ibg}) + \alpha_i + \gamma_t \times \sigma_g + \gamma_t \times \eta_b + \varepsilon_{ibgt}$$

where y_{ibgt} is an outcome for consumer *i* with an account with brand *b* in postcode area *g* in month *t*; α_i are individual fixed effects; η_b are brand fixed effects; ($\gamma_t \times \sigma_g$) are postcode-area-by-month fixed effects; $Post_{bgt}$ is a dummy equal to 1 if month *t* is after a branch of brand *b* closes in postcode area *g*; and $Affected_{ibg}$ is a dummy equal to 1 if consumer *i* is an affected consumer, meaning that the distance to his nearest branch increased by more than one mile at month *t*. The coefficient of interest, δ_{POST}, measures the post-closure mean shift in the level of outcome y_{ibgt}.

4.7   Table 6 in the Appendix shows consumer behaviour for mobile banking and switching. The dependent variable in Column (1) is the total number of mobile logins. Affected consumers log in 6% more often than the control group. Column (2) looks at the proportion of mobile users and may be considered as a proxy for the adoption of

mobile banking technology. Affected consumers are, on average, 7% more likely to start using mobile banking relative to the baseline. Finally, Columns (3) and (4) show that after a closure, there is no economically significant change in switching likelihood (either through CASS or by inactivity) of affected consumers.

4.8   Columns (1) and (2) of Table 7 report estimates for number of transactions in and out of the account, respectively. Estimates show that, in the months following a branch closure, affected consumers perform, on average, 1% more transactions into the account and 4% more transactions out of the account compared to the baseline.

4.9   Columns (3) and (4) of Table 7 consider changes in ATM usage. There seems to be no significant change in behaviour of ATM usage for money out. However, after a closure, affected consumers reduce deposits of money into their account by ATM by 7%.

Rural and urban areas
*Figure 5: Changes in visits before and after branch closure, urban areas*
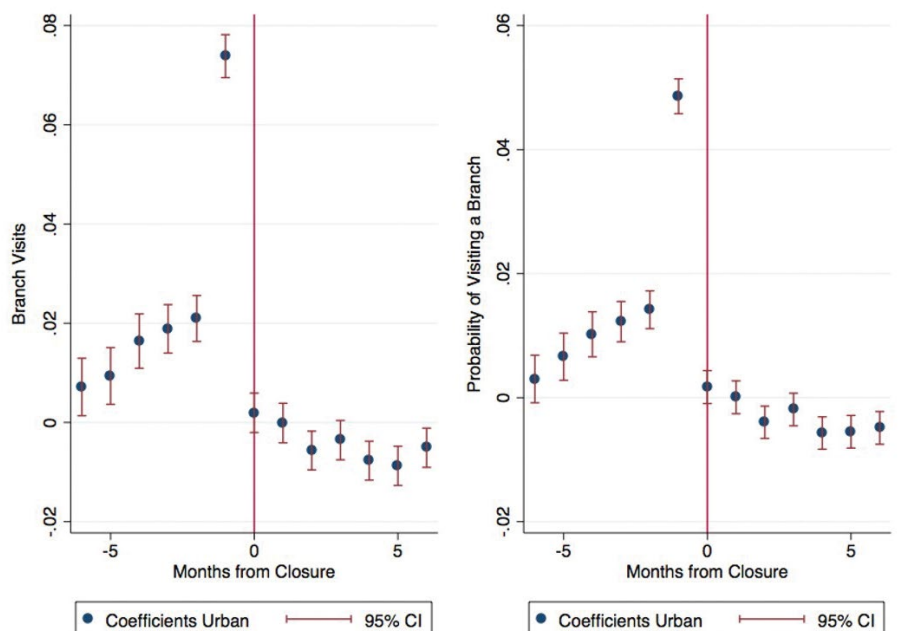
4.10   In this section, we repeat the analysis of consumer behaviour above separately for rural and urban areas, starting with branch visits. In fact, Figures 5 and 6 show that branch visit behaviour before and after a closure is very similar across urban and rural areas. We find evidence of the anticipation effect and a rise in branch visits before closure, and then a drop in both total visits and the probability of going to a branch after closure. Note that the baseline probability to visit a branch at least once is 32% in urban areas and 30% in rural areas.

4.11   Table 8 reports mobile logins separately for rural and urban areas. We find that most of the effect on mobile logins and the adoption of mobile banking is driven by urban areas (a 5% increase in both log-ins and usage). We find no significant effect of branch closure on mobile banking patterns in rural areas. Consumers affected by a branch closure in rural areas therefore do not seem to react by adopting mobile banking or increasing their usage of it.

Figure 6: Changes in visits before and after branch closure, rural areas
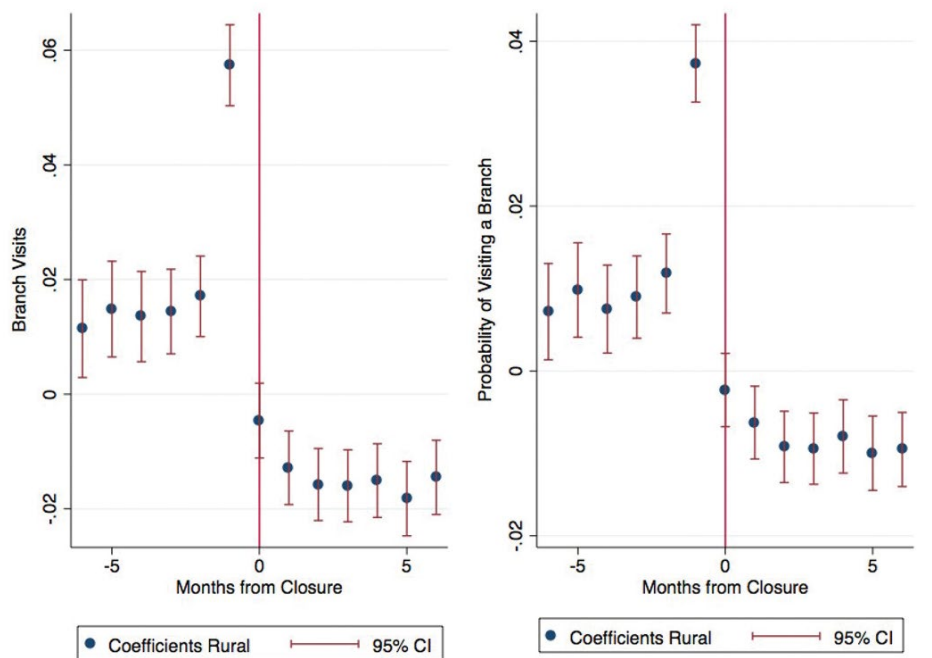
4.12   Table 9 reports our estimates on PCA switching. We find evidence that consumers are less likely to switch to other providers via CASS in the months following a branch closure, both in urban and rural areas. We also find a slight decrease in activity in rural areas. However, the magnitude of these coefficients are very small. Our estimates also provide no evidence supporting a change in inactivity.

4.13   As shown in Table 10, We find evidence of consumers exhibiting different behaviour in their transaction patterns across urban and rural areas. Following closure of their local branch, affected consumers in urban areas are more likely to increase the number of transactions out of their accounts (2.7% increase with respect to the baseline), while consumers affected by a branch closure in rural areas increase the number of transactions into their accounts (a 3.1% increase with respect to the baseline). Finally, as shown in Table 11, when considering changes in ATM usage we do not find economically meaningful differences between rural and urban areas.

Older consumers

4.14   We also repeated our analysis separately for customers over 60 years old, for both urban and rural areas. As these consumers may find it more difficult to access banking services after a local closure, especially in rural areas, it is important to consider the effect of a closure on these consumers separately.

4.15   Tables 12 and 14 show that among older consumers there is no increase in the probability of adopting mobile banking after a branch closure. This result holds both for urban and rural areas, and contrasts with the wider growth of mobile banking usage in the market. It appears that older consumers are therefore unlikely to switch to digital banking channels when their local branch closes.

4.16   In both rural and urban areas, older consumers are less likely to switch (Tables 12 and 14) and more likely to increase their number of transactions (Tables 13 and 15) into the account after being affected by a branch closure.

5   Abbreviations used in this document

AOD	Authorised Overdraft
CMA	Competition and Markets Authority
LAD	Local Authority District
IMD	Index of Multiple Deprivation
PCA	Personal Current Account
UI Charges	Unpaid Item Charges
UOD	Unauthorised Overdraft

6   Appendix: Regression tables

Table 6: Mobile logins and switching, all consumers

	Mobile (logins)	Mobile (user)	CASS Switching	Soft Switching/ Inactivity
$Post_t$ x $Affected_i$	0.228***	0.0137***	-0.00120***	-0.00707***
	(0.037)	(0.00216)	(0.000321)	(0.00139)
Observations	26,698,584	26,698,584	33,881,408	33,881,408
R-squared	0.734	0.729	0.645	0.614
Baseline	4.17	0.188	0.011	0.188

Notes: Standard errors in parentheses, clustered at the individual level.

Table 7: Transactions and ATM usage, all consumers

	IN Transactions	OUT Transactions	IN ATM	OUT ATM
$Post_t$ x $Affected_i$	0.0688***	0.861***	-0.00816***	-0.00433
	(0.0175)	(0.0931)	(0.00163)	(0.0145)
Observations	33,881,408	33,881,408	33,881,408	33,881,408
R-squared	0.51	0.542	0.395	0.524
Baseline	4.93	25.4	0.121	3.12

Notes: Standard errors in parentheses, clustered at the individual level.

Table 8: Mobile logins and usage, rural and urban areas

	Mobile (logins)		Mobile (user)	
	Urban	Rural	Urban	Rural
$Post_t$ x $Affected_i$	0.217***	0.0362	0.0140***	0.00836
	0.0456	0.0933	0.00258	0.0063
Observations	20,162,462	6,534,643	20,162,462	6,534,643
R-squared	0.745	0.823	0.743	0.826
Baseline Average	4.45	3.25	0.286	0.243

Table 9: CASS Switching and inactivity, rural and urban areas

	CASS Switching		Soft Switching/Inactivity	
	Urban	**Rural**	**Urban**	**Rural**
$Post_t$ x $Affected_i$	-0.00230***	-0.00416***	-0.00482***	-0.00561
	0.000403	0.00112	0.00174	0.005
Observations	25,483,580	8,396,076	25,483,580	8,396,076
R-squared	0.678	0.833	0.649	0.751
Baseline Average	0.011	0.011	0.194	0.171

Notes: Standard errors in parentheses, clustered at the individual level.

Table 10: Transactions in and out, in rural and urban areas

	IN Transactions		OUT Transactions	
	Urban	**Rural**	**Urban**	**Rural**
$Post_t$ x $Affected_i$	0.0563***	0.152***	0.694***	0.293
	0.0187	0.0492	0.104	0.287
Observations	25,483,580	8,396,076	25,483,580	8,396,076
R-squared	0.528	0.621	0.566	0.664
Baseline Average	4.95	4.88	25.6	25.6

Notes: Standard errors in parentheses, clustered at the individual level.

Table 11: ATM usage, in rural and urban areas

	ATM IN		ATM OUT	
	Urban	**Rural**	**Urban**	**Rural**
$Post_t$ x $Affected_i$	-0.00400**	0.00267	0.00944	0.00441
	0.00177	0.00435	0.016	0.0387
Observations	25,483,580	8,396,076	25,483,580	8,396,076
R-squared	0.404	0.492	0.537	0.65
Baseline Average	0.129	0.098	3.17	2.94

Notes: Standard errors in parentheses, clustered at the individual level.

Table 12: Switching and mobile usage, over 60 years old in rural areas

	CASS Switching	Soft Switching/ Inactivity	Mobile (user)
$Post_t$ x $Affected_i$	-0.0117***	-0.00634	0.00475
	0.00397	0.0159	0.00815
Observations	2,766,806	2,766,806	2,116,544
R-squared	0.885	0.807	0.806
Baseline Average	0.010	0.158	0.053

Notes: Standard errors in parentheses, clustered at the individual level.

Table 13: Transactions and ATM usage, over 60 years old in rural areas

	IN Transactions	OUT Transactions	IN ATM	OUT ATM
$Post_t$ x $Affected_i$	0.321**	0.856	-0.000723	0.0796
	0.146	0.651	0.0117	0.105
Observations	2,766,806	2,766,806	2,766,806	2,766,806
R-squared	0.716	0.751	0.538	0.719
Baseline Average	4.91	17.19	0.082	2.25

Notes: Standard errors in parentheses, clustered at the individual level.

Table 14: Switching and mobile usage, over 60 years old in urban areas

	CASS Switching	Soft Switching/ Inactivity	Mobile (user)
$Post_t$ x $Affected_i$	-0.00346*	-0.0213***	-0.00980**
	0.00183	0.00734	0.00477
Observations	6,436,085	6,436,085	4,899,085
R-squared	0.842	0.789	0.794
Baseline Average	0.011	0.169	0.054

Notes: Standard errors in parentheses, clustered at the individual level.

Table 15: Transactions and ATM usage, over 60 years old in urban areas

	IN Transactions	OUT Transactions	IN ATM	OUT ATM
$Post_t$ x $Affected_i$	0.164***	0.565**	-0.00639	0.0248
	0.0595	0.267	0.00544	0.0473
Observations	6,436,085	6,436,085	6,436,085	6,436,085
R-squared	0.701	0.736	0.526	0.694
Baseline Average	4.84	16.7	0.101	2.38

Notes: Standard errors in parentheses, clustered at the individual level.

7 References

Competition and Markets Authority (2016). Retail Banking Market Investigation, Final Report.

Financial Conduct Authority (2018). The financial lives of consumers across the UK: Key findings from the FCA's Financial Lives Survey 2017.

Financial Conduct Authority (2018). Strategic Review of Business Banking Models Progress Report.

House of Commons Library (2018a). Bank branch closures. Briefing paper no. 385.

House of Commons Library (2018b). Post office numbers. Briefing paper no. 2585.

Annex 2
PCA Distributional Analysis

1   Summary

1.1   Around three-fifths of UK consumers held a free-if-in-credit (FIIC) personal current account in 2016. FIIC accounts do not charge regular fees for core transaction services and continue to spark debate about how they are paid for and who is paying. There has been public concern that provision of these accounts is primarily paid for through overdraft charges incurred by vulnerable consumers, covering losses generated by other FIIC users.

1.2   These concerns are largely unfounded. Funding benefit, not overdrafts, is the main source of revenues that banks earn on FIIC accounts. Funding benefit makes up almost half of FIIC revenues. It is earned by banks being able to fund their lending through consumers' deposits, since the interest that banks pay on these deposits is less than what it would have cost them to raise the same funds from the wholesale market. Overdraft charges are significant at around a third of revenues but not the main driver. Overdraft charges are also not specific to FIIC – they are important sources of revenues for packaged bank accounts (PBAs) and reward accounts as well.

1.3   No particular group of consumers pays for losses generated by others. On the vast majority (around 80%) of FIIC accounts – which are held by a wide range of consumers with different levels of overdraft use, PCA balances and potential vulnerability – banks earn enough revenues to cover the extra cost of providing each account. Only 9% of FIIC accounts made a loss of more than £10 a year, and while the largest losses are incurred on consumers charged off for bad overdraft debt, these consumers are likely to have made a substantial positive contribution in previous years.

1.4   This also means that FIIC is a misnomer. The vast majority of consumers paid something for using their FIIC account. This could be through lost interest on deposits (which we do not explicitly calculate, but is implied in the funding benefit that banks earn), overdrafts or other fees. This fact is not currently transparent to consumers.

1.5   The funding benefit that banks earn from FIIC consumers is likely to be larger than we calculate because consumers who leave larger deposits in their FIIC accounts also tend to hold higher savings balances with the same bank (with over £15,000 in average savings for the 10% of FIIC customers who generate the highest funding benefit for their banks).

1.6   Consumers in more deprived areas tend to pay higher unarranged overdraft (UOD) and refused payment charges. We are looking to protect these consumers through our proposed overdraft remedies.

1.7   Our proposed overdraft remedies are unlikely to end the provision of FIIC accounts because overdraft revenues are not the main driver of FIIC revenues. Banks predict losses in overdraft revenues of at most 11% from pricing structures proposed by them under which UODs are no higher than arranged overdrafts (AODs), and the scenario modelling for the proposed overdraft remedies suggests a revenue loss of 20%.[1] At the extreme, FIIC accounts would still on average make a positive contribution

---

1   See CP18/42 Technical Annex: Chapter 8 - Profitability, Sections 2 and 6.

to banks' profits even if there were no overdraft revenues, given the significance of funding benefit (and assuming no other changes).

1.8   While unlikely, banks could seek to recover any lost overdraft revenues by increasing other types of existing current account fees (such as monthly account fees and foreign exchange fees). We looked at who tends to pay these fees, and find that increases should not particularly affect consumers in more deprived areas.

1.9   Consumers in more deprived areas also tend to use ATMs and branches more frequently, which we found as part of looking at banks' costs. Such consumers would therefore be more affected by any ATM and branch closures in their area. See Annex 1 for further details on our branch analysis.

1.10   In the future, the most significant pressure on FIIC accounts is likely to come from significant consumer behaviour changes, particularly if many consumers with large balances or heavy overdraft use decide to switch away from the large incumbent banks, for example through Open Banking. This could be accelerated by significant interest rate rises, if those interest rate rises are passed through to a lesser extent in FIIC accounts than in other savings and investment options.

1.11   If FIIC accounts become significantly less profitable, banks may choose to stop offering these and focus on other types of PCAs. Our analysis shows that the proportions of consumers who contribute the most and the least to their accounts are relatively similar between FIIC accounts and other types of PCAs such as reward accounts and PBAs. However, if banks decide to introduce new transaction and monthly account fees, we would look to understand whether vulnerable consumers might be disproportionately impacted.

2 Introduction

Context for this analysis

2.1   59% of UK consumers held a 'free-if-in-credit' (FIIC) account in 2016.[2] These are personal current accounts (PCAs) that do not charge regular fees for core transaction services, but do charge for other services such as overdrafts and pay no or minimal interest on credit balances.

2.2   FIIC accounts continue to spark debate about how they are paid for and who is paying. There has been public concern that these accounts are only profitable for banks through overdraft charges, and that these charges mainly fall on vulnerable consumers, so that banks are relying on these vulnerable consumers to cover the losses incurred when serving other users of FIIC accounts.

2.3   We provided an update in June on our distributional analysis of PCAs.[3] This Annex contains more detailed analysis, including analysis specifically on FIIC accounts.

2.4   The Competition and Markets Authority (CMA) has previously looked at the distribution of revenues across PCA customers. As also set out in our June progress report, the CMA did not find strong evidence that banks are cross-subsidising across customers, or that poorer customers may be paying more for PCAs.[4]

2.5   We have built on the CMA's work, looking at revenues from FIIC accounts in more detail, considering the cost to banks of serving different consumers and focusing more on the charges that potentially vulnerable consumers pay.

2.6   This work also provides context for our work on overdraft remedies conducted as part of our High-cost Credit Review, including providing insight into how proposed overdraft remedies may affect FIIC accounts. More broadly, as part of our Approach to Consumers, we will be consulting on guidance for vulnerable consumers early next year.[5]

Our approach

2.7   The analysis in this Annex focuses on revenues from FIIC accounts and other types of PCAs, as well as estimates of each consumer's contribution to their banks' profits.

2.8   We analyse transaction-level data for 2016, building on the dataset first collected by the FCA in 2017, covering over 1 million customers randomly sampled from the six largest banks.[6] We combine this with financial data from these banks, including on

---

2   Of those who hold a PCA. Estimated from our customer-level data.
3   FCA Strategic Review of Retail Banking Business Models: Progress Report, June 2018, chapter 5.
4   FCA Strategic Review of Retail Banking Business Models: Progress Report, June 2018, paragraph 5.2.
5   FCA Approach to Consumers, 2017.
6   Barclays, HSBC, LBG, Nationwide, RBS, and Santander UK.

funds transfer prices and costs, as well as with deprivation data by geography. This is the same approach to that taken in our June update.

2.9   Our analysis looks to evaluate which types of PCA consumers are more or less profitable for banks to serve, because we are looking to understand whether:

- FIIC accounts rely heavily on certain groups of consumers to generate banks' income

- there is any particular group of FIIC (and more generally PCA) consumers who are loss-making, i.e. the revenues that banks generate from these consumers are not enough to cover their costs of serving these consumers

2.10   Trying to evaluate the profitability of different PCA consumers is complex. Most PCA costs are shared or common between many different banking products (as set out in more detail in the body of this report), and may be difficult to separate out or allocate meaningfully between these products, let alone the individual consumers of these products. For example, a bank branch may be used by the same consumers to deposit cash into their PCAs, buy mortgages and obtain investment advice, so it is difficult to disentangle meaningfully which infrastructure and staff costs should be allocated to which of these products and to which consumers.

2.11   Given this, we estimate the contribution that consumers make to their banks' shared/common costs. This looks at the extent to which revenues from each consumer cover their *marginal cost* to serve, i.e. the additional cost incurred by the bank to serve that consumer, with any revenues in excess of marginal cost being a contribution to shared/common costs across different consumers and products. This is a helpful analytical approach, since it captures banks' incentives to serve different types of consumers. Banks have an incentive to serve an additional consumer if that consumer generates a zero or positive contribution, i.e. the additional revenues from that consumer equal or exceed the additional cost incurred to serve them – at least in the short run.[7]

2.12   All references to 'revenues' in this analysis include an estimate of funding benefit. Funding benefit is the value from the banks' perspective of being able to fund their lending through consumers' deposits, so it is a monetary benefit that banks receive from providing PCAs. In simple terms, funding benefit is the difference between the cost to banks of having to raise the same funds on the wholesale market, and the cost of interest that banks pay consumers for their PCA deposits. We have done our analysis from this supply side perspective in order to work out each consumer's contribution to banks' profits. A further explanation of funding benefit can be found in the body of this report.

2.13   Funding benefit is not the same as foregone interest, which is the opportunity cost from the consumer's perspective of being able to move their funds into a higher-yielding account. However, the two concepts are related – where consumers leave deposits in FIIC accounts, banks generate funding benefit and consumers lose out on foregone interest from these deposits, so the existence of funding benefit in FIIC accounts indicates that consumers are also 'paying' in foregone interest.

2.14   We include marginal PCA costs based on those we have identified as relevant and banks' submissions on appropriate costs to include, and whether they can provide data

---

7   In the long term, prices would need to account for necessary investment to be sustainable, but this is beyond the scope of this analysis and the data available.

on these. We refine our analysis with additional cost estimates compared with that in our June update, including for holding capital against overdraft lending.

2.15   We rely on firms' cost estimates, which in some cases are not complete, and there are some one-off costs (e.g. switching rewards) we have not included since doing so would require spurious assumptions about how these are recovered over consumers' tenure with the bank.

2.16   We focus on the relative profitability between different types of accounts and consumers, rather than absolute profits per consumer or the reasonableness of any contribution estimates.

2.17   In our current analysis, we have split our data based on different types of PCAs:[8]

- FIIC accounts, as defined above.

- Reward accounts (making up 16% of the PCAs in our sample). Reward accounts pay interest on credit balances (and sometimes also offer other rewards such as cashback on certain types of payments), subject to paying a monthly account fee and/or other eligibility requirements such as maintaining a minimum credit balance or otherwise demonstrating a 'main banking' relationship (such as having salary paid in).

- Packaged bank accounts (PBAs) (14%). PBAs offer additional services, such as travel and mobile insurance, typically for a monthly account fee and/or eligibility criteria (such as minimum balances). We have included in this category accounts which are effectively FIIC but where the customer has been sold at least one added service, typically insurance (which we discuss further in the next section).

- Basic bank accounts (6%). Basic bank accounts are similar to FIIC accounts, but are required not to charge any fees for standard operations including a refused payment, and so do not offer an overdraft facility. The relevant legislation[9] and voluntary agreement under which banks offered these accounts came into force during 2016, the period of our analysis. We have endeavoured to include only basic accounts that fit the definition above, re-categorising others as FIIC accounts.

- Student / young person accounts (4%), aimed at younger consumers and/or graduates. Not all banks in our dataset offered these.

2.18   A more detailed explanation of the data and methodology we use in this analysis, as well as data issues to be aware of, can be found in the Appendix to this section.

Structure of this Annex

2.19   The rest of this Annex is structured as follows:

- Section 3 covers how is FIIC paid for, including a more detailed breakdown of FIIC revenues compared to revenues from other types of PCAs.

---

8   These mirror account types used by the CMA. It is worth noting there are many subcategories across these, for example premier accounts targeted specifically at affluent consumers.

9   Payment Accounts Regulations 2015.

- Section 4 covers who pays for FIIC, particularly in relation to vulnerable consumers.

- Section 5 provides brief forward-looking commentary on FIIC accounts.

- The Appendix contains a more detailed explanation of the data used, methodology, and any further data issues to be aware of.

3 How FIIC is paid for

- Funding benefit, not overdrafts, is the largest source of revenues that banks earn on FIIC accounts (at almost half). Overdrafts are significant at around a third of revenues but not the main driver.

- Overdrafts are also not specific to FIIC – they are important sources of revenues for packaged bank accounts (PBAs) and reward accounts as well.

- Our proposed overdraft remedies are unlikely to change banks' incentives to provide FIIC accounts if implemented, given overdraft revenues are not the main driver of FIIC revenues.

- Customers who are charged off for bad overdraft debt are likely to have been profitable in previous years.

- Consumers who leave larger deposits in their FIIC accounts also tend to hold higher savings balances with the same bank so the amount of funding benefit that banks earn from the same consumers through cross-holdings is likely to be larger than we calculate.

3.1 This section covers:

- a more detailed breakdown of FIIC revenues and costs, compared to other types of PCAs, and what this means for average contribution per customer; and

- the relationship between FIIC accounts and cross-holdings, in particular savings balances with the same bank

Revenues and costs of different types of PCAs

Revenues

3.2 The types of PCA revenues that FIIC accounts bring in for banks, as compared with other types of accounts, are summarised in the figure below. We have identified the following main categories of PCA revenues:

- Funding benefit, as already explained in the previous section.

- Arranged overdraft (AOD) and unarranged overdraft (UOD) charges.

- Charges for refused payments.

- Monthly account fees, which are charged on 78% of PBAs, 61% of reward accounts and 16% of student/young person accounts.

- Fees for foreign transactions, for example when using a debit card abroad.

- Interchange fees, which are the revenues that banks receive for handling a card transaction, paid by other firms such as retailers.

- Other PCA fees, such as a bank reference or stopping a cheque.

Figure 1: Split of revenues and funding benefit by PCA type, 2016
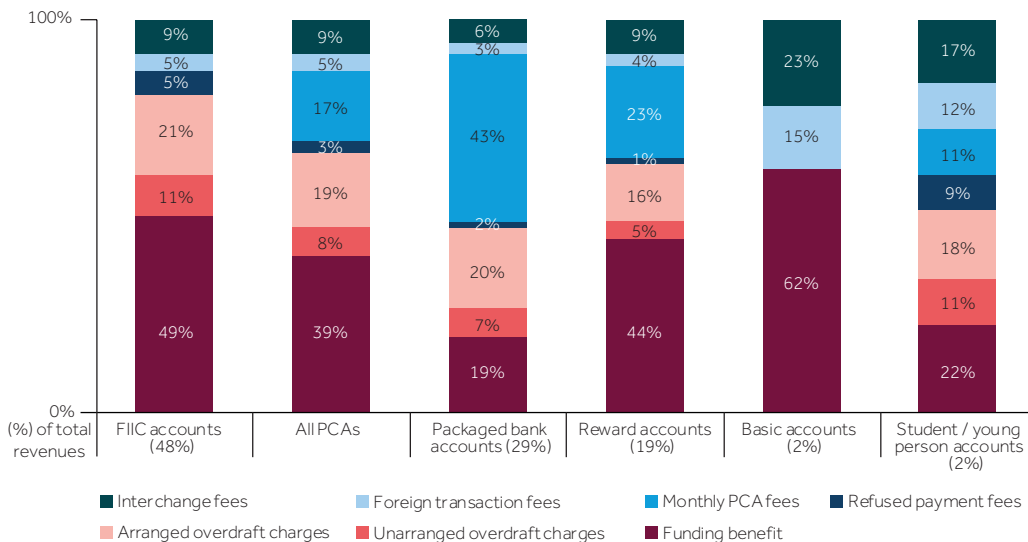
Source: Banks' customer-level data, FCA analysis. Note: Percentages may not sum to 100% due to rounding.

3.3 Funding benefit is the main driver of PCA revenues that banks derive from FIIC accounts, making up around half of FIIC PCA revenues. This is higher than for PBAs, where monthly fees are a significant proportion of revenues, and higher than reward accounts, which pay a higher level of interest to consumers.

3.4 AOD and UOD fees are significant (at around a third), but not the main driver of revenues from FIIC accounts. These fees make up a similar proportion of revenues and benefit for PBAs (at 29%), and a smaller proportion for reward accounts (at 22%).

3.5 Banks' incentives to provide FIIC accounts are unlikely to be affected significantly by the proposed overdraft remedies as set out in our High-cost Credit Review consultation paper.[10] Banks have predicted changes in overdraft revenues from pricing structures proposed by them under which UODs are no higher than UODs to be at most a loss of 11%, as set out in our [consultation paper X], which would reduce total FIIC revenues by around 4%. Our scenario modelling for the proposed overdraft remedies suggests an overdraft revenue loss of 20%,[11] which would reduce total FIIC revenues by around 6%. At the extreme, FIIC accounts would still on average make a positive contribution to banks' profits even if there were no overdraft revenues, given the significance of funding benefit (and assuming no other changes).

3.6 However, our proposed overdraft remedies aim to and are likely to change the distribution of contribution between PCA consumers. We comment on this further in section 4.

---

10   High-cost Credit Review: Overdrafts (CP 18/42)

11   CP18/42 Technical Annex: Chapter 8 - Profitability, Sections 2 and 6

Costs

3.7 The PCA costs included in our analysis are also summarised below for FIIC and other types of accounts. To understand each customer's contribution to their bank's profit, and to avoid complex cost allocations, we include only costs to the bank that are marginal to serving each customer, i.e. costs that would only be incurred if that customer were served.[12] The marginal PCA costs we have included are:

- ATM cash withdrawal and balance enquiry costs,

- Cost of the regulatory capital requirements for overdraft lending and operational risk,

- Cashback and rewards, where cashback is on certain transactions and rewards are other monetary benefits,

- Cost of sending out paper communications, including statements and letters,

- Cost of the insurance and other added services, provided mostly in PBAs but also some reward and student/youth accounts,

- Charge-offs of bad debt on overdraft lending (more on this below),

- Cost of processing cheques, BACS payments, and Faster Payments (FPS),

- Refunded charges, where banks have refunded fees to consumers,[13]

- Cost of the compensation costs component of the Financial Service Compensation Scheme (FSCS) levy.

Interest costs are not included here, since these are already netted off the funding benefit included in the revenues. See Methodology Appendix below for further detail on how we estimate the marginal costs listed above.

Figure 2: Split of marginal costs per customer by PCA type, 2016
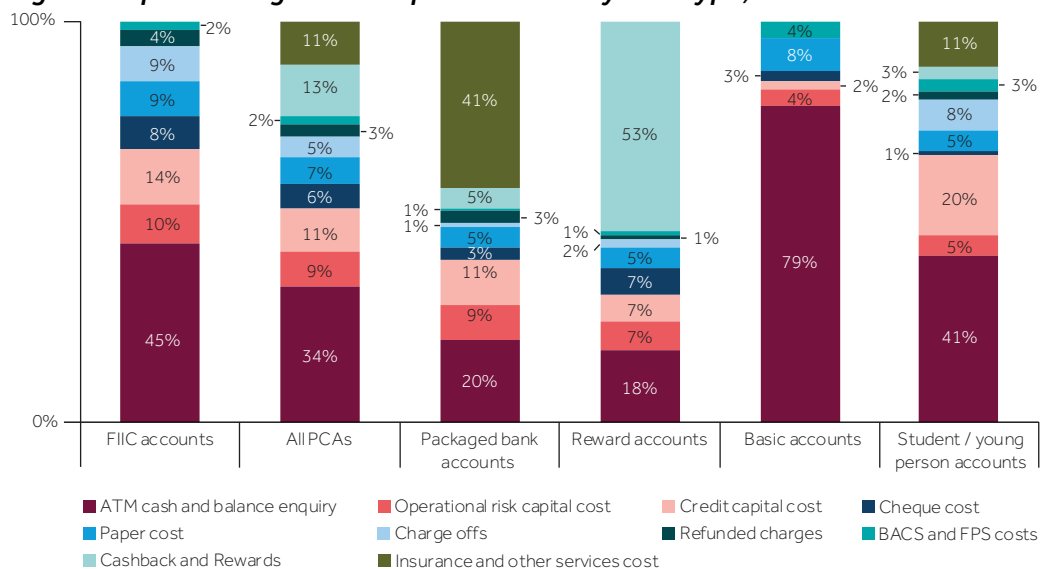
Source: Banks' customer-level data, FCA analysis.

---

12   We estimate this as 'avoidable' costs, i.e. what costs could be saved if that customer were no longer served.

13   We have not netted these directly off fees since most banks have provided us with an aggregate number rather than split out by type of fee.

3.8   The largest cost item for FIIC accounts is ATM costs (as is the case for basic accounts and student / young person accounts). These are the per-customer fees that banks are charged each time their customer uses another bank/provider's ATM, and so are arguably marginal. However, the way banks set these fees is based on the total cost of providing ATMs, which include an element of fixed costs and partly explains why the per-customer fees are larger than some of the other marginal costs we have included (see the Appendix below for more details). Given this, consumers who use ATMs more frequently appear significantly more costly to serve.

3.9   The cost of providing insurance and other services is the largest marginal cost category for PBAs, while the cost of cashback and rewards is the largest marginal cost category for reward accounts.[14]

3.10   We are also aware that our marginal cost approach does not include many sizeable fixed costs that banks may choose to allocate across PCA consumers. One such cost is branch costs, where branches are used by consumers of different retail banking products for each bank and different consumers will differ by how much they visit their branch.

3.11   As a sense check, we have looked at whether there is a relationship between branch visits and contribution. The figure below shows how the number of branch visits vary by consumers who make different levels of contribution, where 10 denotes the lowest 10% of consumers by contribution and 90 denotes the highest 10%. This figure indicates that consumers who contribute more visit branches less. This suggests that these consumers are potentially even more profitable to the bank than their calculated contribution.[15]

Figure 3: Branch visits and contribution, 2016
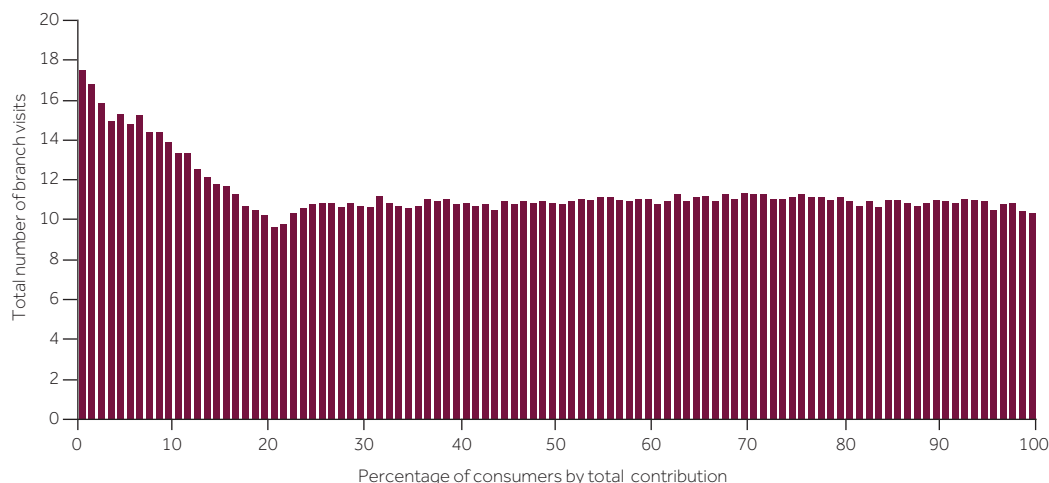
Source: Banks' customer-level data, FCA analysis.

Relative contribution of different types of PCAs

3.12   We also set out the average contribution of FIIC accounts below, as compared with other types of PCAs. As stated above, findings on the absolute levels of contribution

---

14   To note, interest payments are not shown here since they already netted off in funding benefit.

15   Within the limitations of our data – we are unable to separate out ATM cash withdrawals from our branch visit data. However, we have also included the cost of ATM cash withdrawals in our estimate of each consumer's contribution. This cost is estimated based on the number of times that a consumer uses the ATM, including where the ATM is in a branch, which could make the relationship between branch visits and contribution appear stronger than it is.

should be treated with more caution due to the quality of cost data we received and have included in this analysis. These findings also do not include shared and common costs, as outlined before. We have therefore focused on the relative average contribution of different types of PCA.

Figure 4: Split of average contribution before deducting shared and common costs by PCA type, 2016
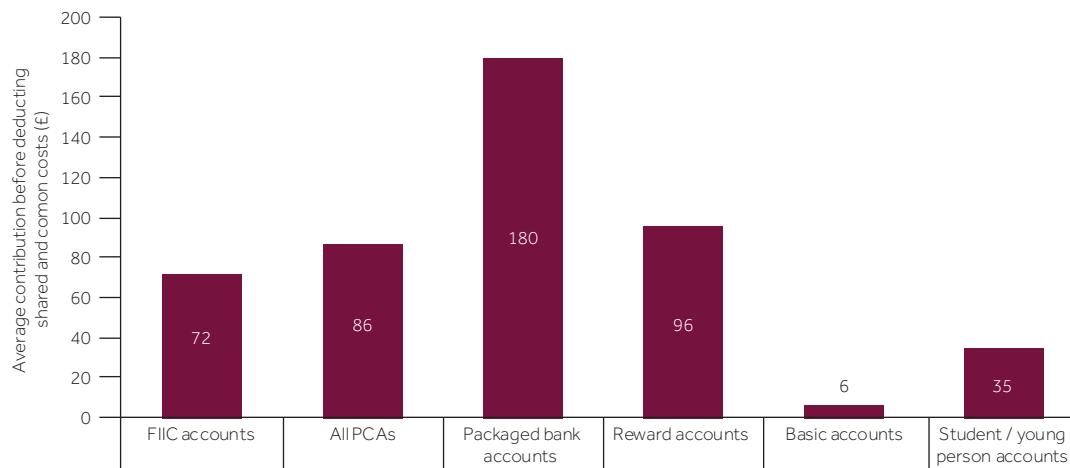
Source: Banks' customer-level data, FCA analysis.

3.13 FIIC accounts generate around £72 per customer in contribution, somewhat lower than reward accounts (£96).

3.14 PBAs appear to generate the highest contribution by far at almost £180 per customer. The analysis includes older and off-sale PBA products, many sold before 2013, and could reflect historic practices in how PBAs were designed and sold.

3.15 Since 2013 we have carried out extensive supervisory work on PBAs. We implemented packaged bank account rules[16] requiring firms to work out and record whether consumers are eligible to claim on the insurance in their PBAs, and to send out an annual prompt to consumers to review whether they are eligible. We have conducted two thematic reviews (in 2016 and 2017) on how firms are complying with these rules and how they are handling complaints,[17] and will continue to monitor PBAs as part of our regular activities.

3.16 Basic bank accounts generate the lowest contribution at £6 per customer.

FIIC accounts and cross-holdings

3.17 Our analysis above under-estimates the contribution PCA customers make to banks' profitability for two reasons:

3.18 First, many consumers turn to their PCA provider for a personal loan, mortgage or credit card and in doing so generate further contribution to banks' profitability. Our

---

16   In the Insurance: Conduct of Business Sourcebook (ICOBS) in 2013.

17   FCA Packaged bank accounts: TR16/8, October 2016 and FCA Review of firms' handling of complaints about packaged bank accounts, July 2017.

analysis above does not include these additional contributions that banks earn from PCA customers.

3.19 Second, consumers who have larger deposits in their PCAs also tend to have higher balances in savings accounts with the same bank. This is shown in the figure below, where consumers who generate higher funding benefit in their FIIC accounts (the right-hand side of the figure) also keep higher savings balances in their savings accounts. So, we underestimate the funding benefit generated from these consumers in our analysis, since we do not capture the funding benefit that their banks generate from their savings balances.

Figure 5: Savings balance by amount of funding benefit generated in FIIC accounts, 2016
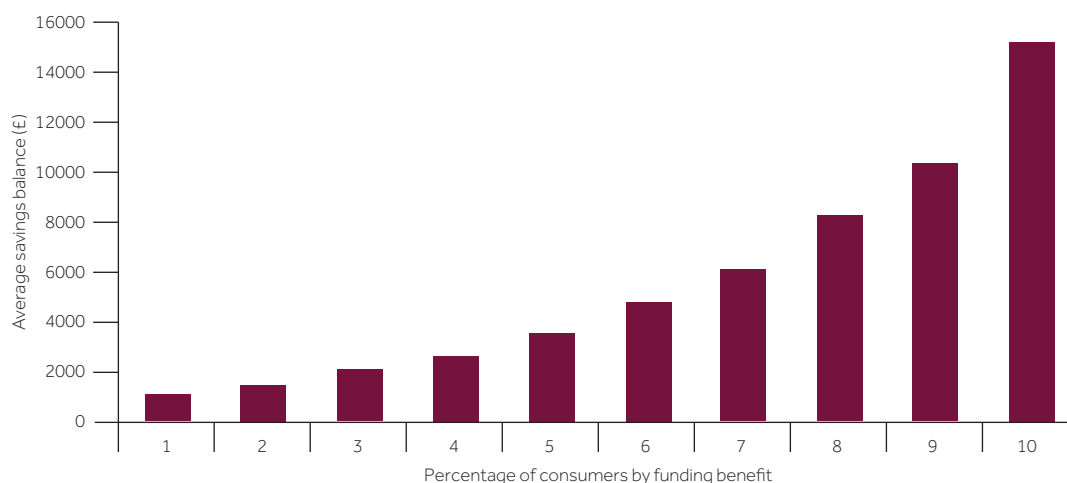
Source: Banks' customer-level data, FCA analysis.

4   Who pays for FIIC

FIIC is a misnomer:

- Over 80% of all FIIC account consumers make a positive contribution to their bank's profits, indicating that these consumers all 'pay' something to use their FIIC account, including foregone interest.

- 10% of FIIC consumers make over 62% of the contribution for FIIC accounts.

- More funding benefit is generated from consumers in less deprived areas.

- We are highly concerned that consumers in more deprived areas tend to pay higher UOD and refused payment charges, and this is a focus of our proposed overdraft remedies.

- Consumers in more deprived areas use ATMs and branches more frequently, so ATM and branch closures would affect them more.

4.1   This section covers:

- an overview of who pays for FIIC, particularly how contribution is distributed for FIIC compared with other types of PCAs and the types of consumers who are in the highest 10% by contribution

- consumers' vulnerability (proxied by the relative deprivation of the area they live in) and how this relates to PCA and FIIC revenues, costs and contribution, by type of account

Overview of who pays for FIIC

4.2   There has been much public debate over whether there is only one group of FIIC account consumers who are profitable for banks and who cover the losses of all other FIIC account consumers, as outlined above.

4.3   We find this is not the case, and that FIIC is a misnomer. 80% of all FIIC account consumers cover their own marginal cost to serve and make a positive contribution to their bank's profits. This includes consumers who incur overdraft charges as well as those who mainly generate funding benefit for their bank.

4.4   Banks generate most of the contribution on FIIC accounts from a small proportion of FIIC consumers (10% of FIIC consumers generate 62% of the contribution on FIIC accounts).

4.5   This is not a pattern unique to FIIC. Our analysis shows that PBAs and reward accounts have a relatively similar distribution of contribution across consumers, as summarised in the figure below, although the tails of the distribution are less extreme for PBAs because many of these accounts charge a monthly fee. 7% of PBA consumers and 13% of reward account consumers generate a small loss (of more than £10 a year), while 10% of consumers contribute 39% and 57% of total contribution for PBA and reward accounts, respectively.

4.6   Where the figures below refer to 'percentage of consumers by contribution', this shows consumers who make different levels of contribution, where 10 denotes the lowest 10% of consumers by contribution and 90 denotes the highest 10%.

*Figure 6: Distribution of contribution for FIIC, PBA, reward and all accounts, 2016*
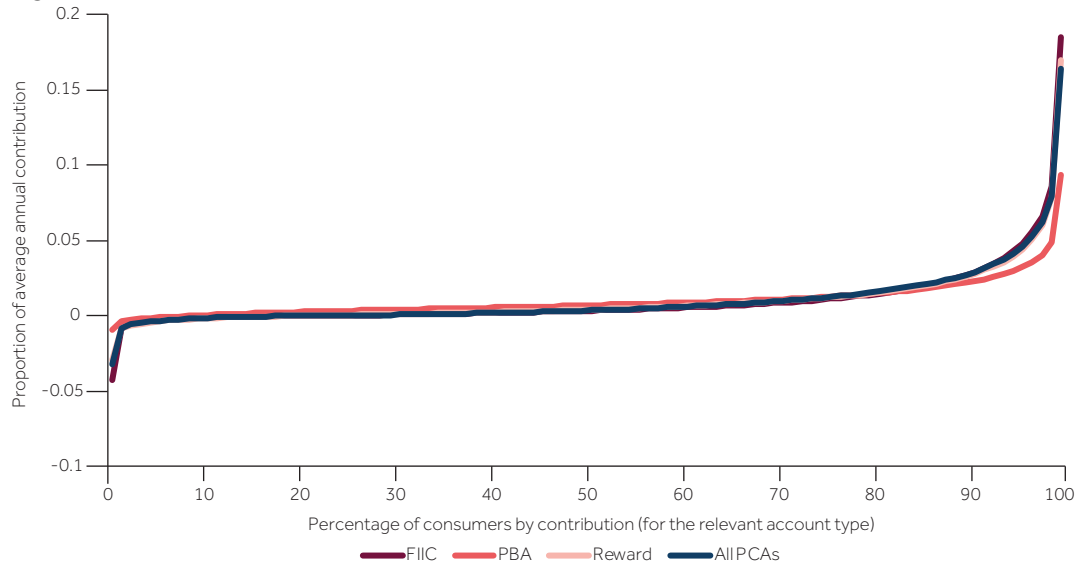
Source: Banks' customer-level data, FCA analysis.

4.7   Only 9% of FIIC consumers generate a small loss for their bank (of more than £10 a year). The largest losses made by the 1% most loss-making consumers mainly stem from bad overdraft debt being charged off.

4.8   These contribution estimates show one snapshot in time, and do not reflect contribution over any one consumer's lifetime with that bank over many years. For example, consumers who are charged off in 2016 will look loss-making in 2016, but are likely to have made a positive contribution to their banks' profits in previous years.

4.9   Longer-term charge-off data (shown in Figure 7) from one bank up until August 2018 suggest that consumers who are charged off in 2018 made a positive contribution back in 2016, and even contributed more in 2016 than consumers who have never been charged off. It is therefore important to bear in mind that loss-making consumers are unlikely to be the same individuals from year to year, and many charged-off consumers are likely to make a positive contribution over their time with their bank.

*Figure 7: Contribution by year of charge-off (data from one firm only)*
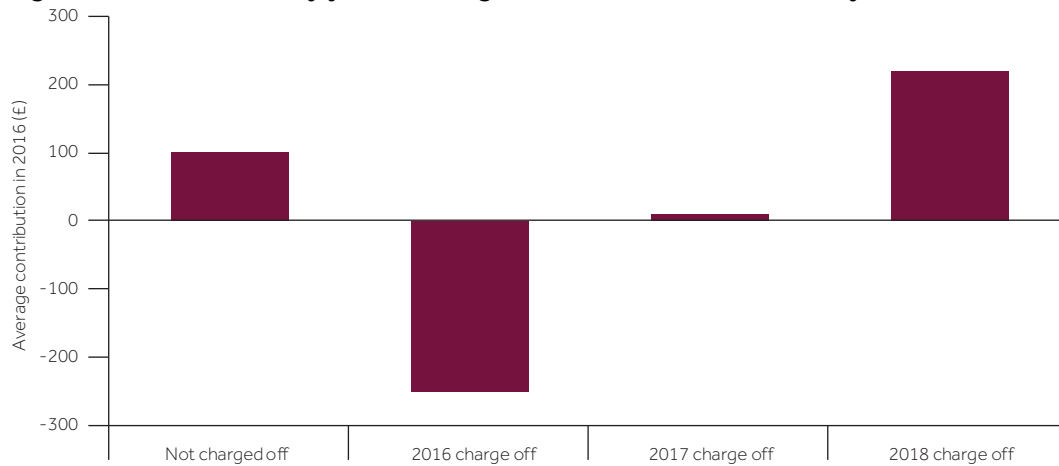
Source: Banks' customer-level data, FCA analysis.

4.10   We also look at contribution made by consumers based on whether they are mainly overdraft users or leave larger balances in their PCAs (where 'mainly' is defined as over 50% of that consumer's revenues being made up of overdraft charges or funding benefit).[18]

4.11   The 10% of FIIC consumers who contribute the most are roughly evenly split between those who contribute mainly through funding benefit, and those who contribute through overdrafts and refused payment charges (47% and 46% respectively). Those who mainly contribute through funding benefit tend to be older than those who contribute mainly through overdrafts (on average 61 versus 39 years old), and have much higher PCA and savings deposits (on average £33k in PCA deposits and £17k in savings, versus a negative PCA balance of around £685 and around £720 in savings for those who contribute mainly through overdrafts).

4.12   For reward accounts, the 10% of consumers who contribute the most are mainly made up of consumers who contribute through funding benefit (55%), who are similar in characteristics to those who mainly contribute through funding benefit on FIIC accounts (with an average age of 60 and leaving on average £41k in their PCA and £18k in their savings account). For PBAs, the 10% of consumers who contribute the most are mainly made up of consumers who contribute through overdrafts (with an average age of 42 and on average a negative balance in their PCA).

4.13   The exception to this is basic bank accounts, where the distribution of contribution is very different, as shown in the figure below. Around a third of basic bank account consumers are loss-making (making a loss of more than £10 a year), and only a quarter of consumers contribute more than £10 for their bank (compared with, for example, 64% for FIIC accounts). The largest costs for loss-making consumers are ATM and balance enquiry costs.

---

18   Consumers can generate different types of revenues (for example both funding benefit and overdraft charges) in any given month, e.g. if they dip into their overdraft some days of the month, but maintain a positive balance after being paid.

Figure 8: Distribution of basic bank accounts, 2016
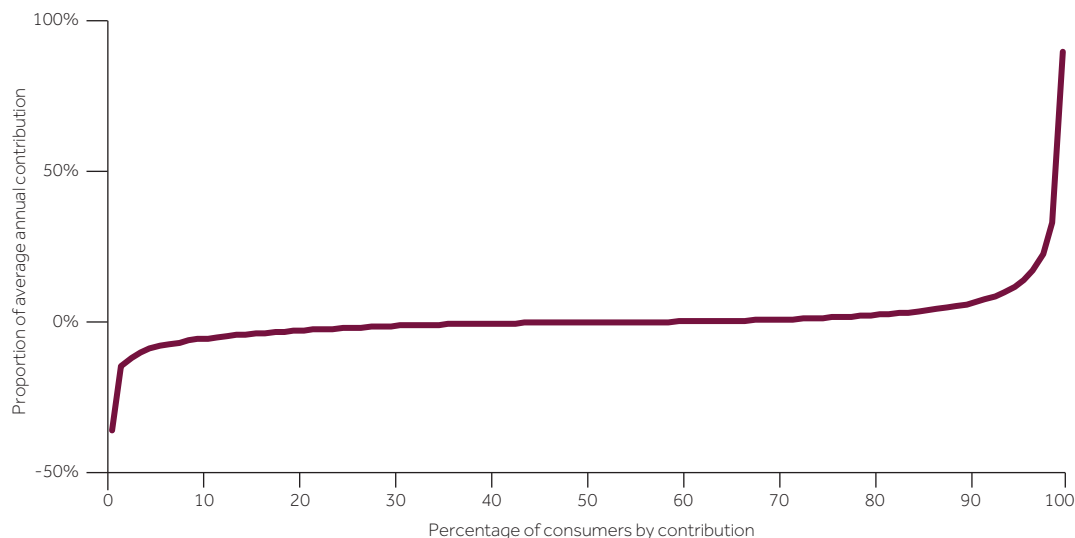
Source: Banks' customer-level data, FCA analysis.

PCAs, FIIC and vulnerability

PCA revenues and vulnerability

4.14   There has also been much public concern that FIIC makes its profits from the most vulnerable consumers. We find a more nuanced picture, depending on the type of revenues generated.

4.15   We have proxied vulnerability in this analysis mainly through the deprivation of the areas that consumers live in, using the Index of Multiple Deprivation for England to do so. This index is compiled by the Ministry of Housing, Communities and Local Government (MHCLG), and incorporates many dimensions of vulnerability for small geographical areas.[19] The FCA defines a vulnerable consumer as 'someone who, due to their personal circumstances, is especially susceptible to detriment, particularly when a firm is not acting with appropriate levels of care', [20] so the use of an index with multiple dimensions of potential vulnerability makes sense in this case. We will be consulting on guidance for vulnerable consumers early next year.[21]

4.16   Lower absolute revenues are generated from consumers in more deprived areas. This is mainly driven by lower funding benefit from these consumers. These revenues would however be a higher proportion of these consumers' incomes.[22] The figure below summarises the types of revenues generated by all PCA consumers living in areas with different levels of deprivation. For all figures, a higher number for degree of deprivation represents consumers in a more deprived area (1 is least deprived and 10 is most deprived).

---

19   The data are for small geographical areas called lower-layer super output areas (LSOAs). There are 32,844 LSOAs with an average of 1,500 residents each, used by the ONS for relatively detailed geographical statistics.

20   Approach to Consumers and Occasional Paper No 8., 2017, FCA.

21   Approach to Consumers, 2017, FCA.

22   [See Data Annex of the CP X for an explanation of why we are unable to estimate each consumer's income accurately.]

*Figure 9: Revenues by vulnerability for all PCAs, 2016*
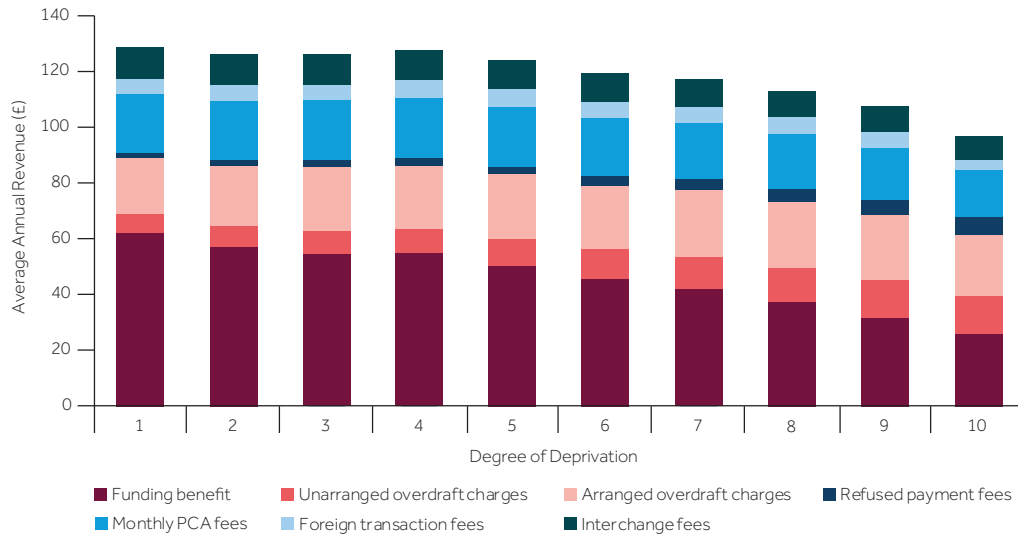
Source: Banks' customer-level data, FCA analysis.

4.17 Consumers in more deprived areas pay at least as much (if not slightly higher) PCA fees and charges as those in less deprived areas. This is highlighted in the figure below. We are concerned that consumers in more deprived areas also tend to pay higher UOD and refused payment charges, and this is the focus of our proposed overdraft remedies, as set out before in our High-cost Credit Review consultation paper.[23] These trends are very similar for FIIC accounts.

Figure 10: Revenues excluding funding benefit and interchange fees by vulnerability for all PCAs, 2016
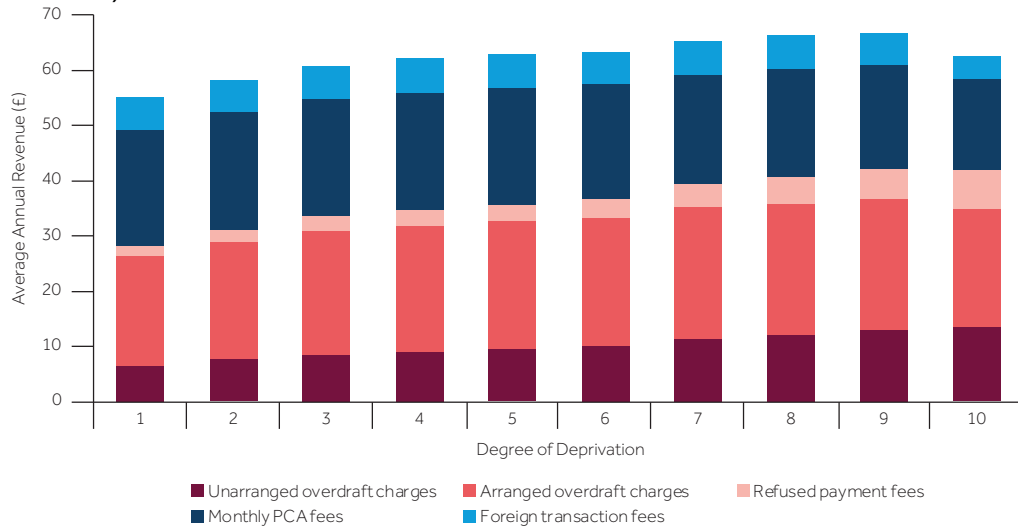
Source: Banks' customer-level data, FCA analysis.

4.18 Our proposed overdraft remedies look to change this distribution of contribution between consumers. Banks could seek to recover any lost overdraft revenues through raising existing PCA fees. The main types of existing PCA fees are reward account fees, PBA fees, and foreign transactions fees. Banks could also try to increase the funding benefit earned on different types of PCAs, for example reducing the amount of interest paid on certain accounts. We look at who tends to pay these fees below, and find that if banks do seek to

23   [A more detailed explanation can be found in our High-cost Credit Review consultation paper X.]

recover any lost overdraft revenues through raising existing PCA fees, these should not particularly disproportionately affect consumers living in more deprived areas.

4.19   As the figures below show, consumers in more deprived areas tend to generate less funding benefit and pay lower amounts of reward account fees. Consumers in the most deprived areas also incur lower foreign transactions fees.
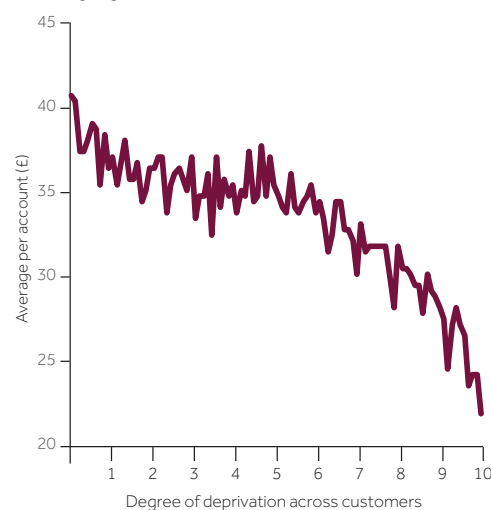
4.20   With PBA monthly account fees, consumers in less deprived areas tend to pay slightly[24] lower amounts than those in more deprived areas (see Figure 11c). This appears to be driven by consumers in less deprived areas buying a particular PBA account with lower than average PBA fees, which provides rewards for keeping higher balances in that account. The trend is relatively flat if these accounts are removed.

Figure 11: Annual non-overdraft PCA fees and vulnerability, 2016
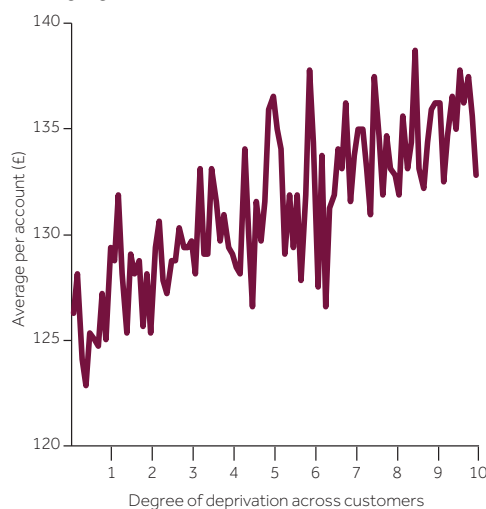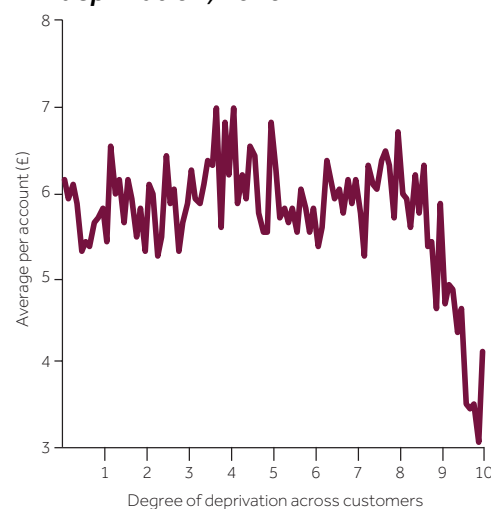
a) Funding benefit and deprivation, 2016
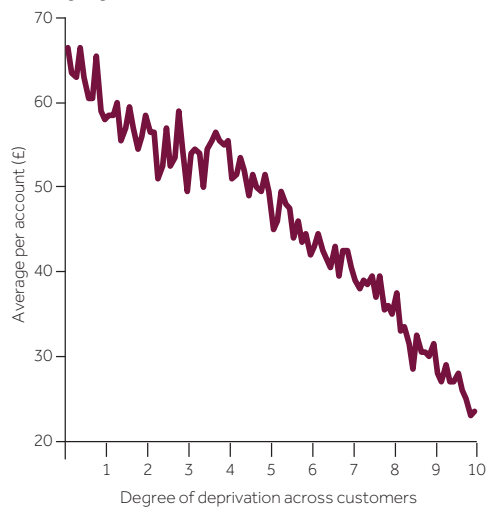
b) Reward account fees and deprivation, 2016

c) PBA fees and deprivation, 2016

*d) Foreign transactions fees and deprivation, 2016*

Source: Banks' customer-level data, FCA analysis. Note: Figure 11c) includes only consumers who pay a PBA monthly account fee.

24   This is based on looking only at PBA consumers who do actually pay a monthly fee. The effect is larger if we looked at all PBA consumers, because some premium accounts do not require paying a monthly fee for additional services such as insurance, but may require certain eligibility criteria instead, e.g. minimum payments into the account.

Contribution and vulnerability

4.21 Consumers in more deprived areas who use a FIIC account therefore contribute less, as shown below, since they tend to contribute lower funding benefit and use ATMs more than consumers in less deprived areas.

Figure 12: Contribution and vulnerability for FIIC accounts, 2016
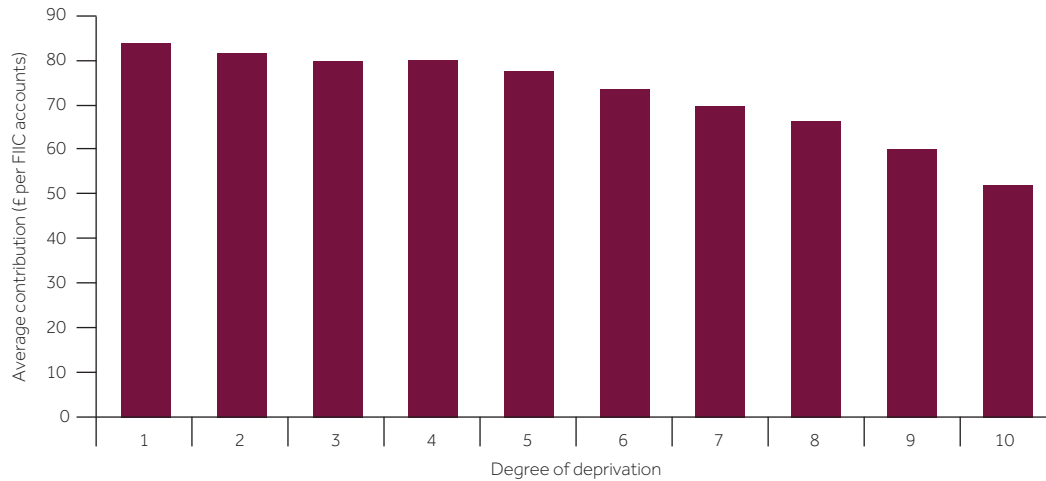
Source: Banks' customer-level data, FCA analysis.

4.22 This is because FIIC consumers in more deprived areas seem to cost banks more to serve. ATM costs are the largest category of FIIC account marginal costs included in our analysis, and all PCA consumers (not just for FIIC accounts) in more deprived areas seem to use ATMs more. This is shown in the figure below. Higher ATM use in more deprived areas could be linked to patterns of bank branch usage and availability in these areas. It also indicates that consumers in more deprived areas would be more affected by ATM closures.

Figure 13: ATM usage and vulnerability, 2016
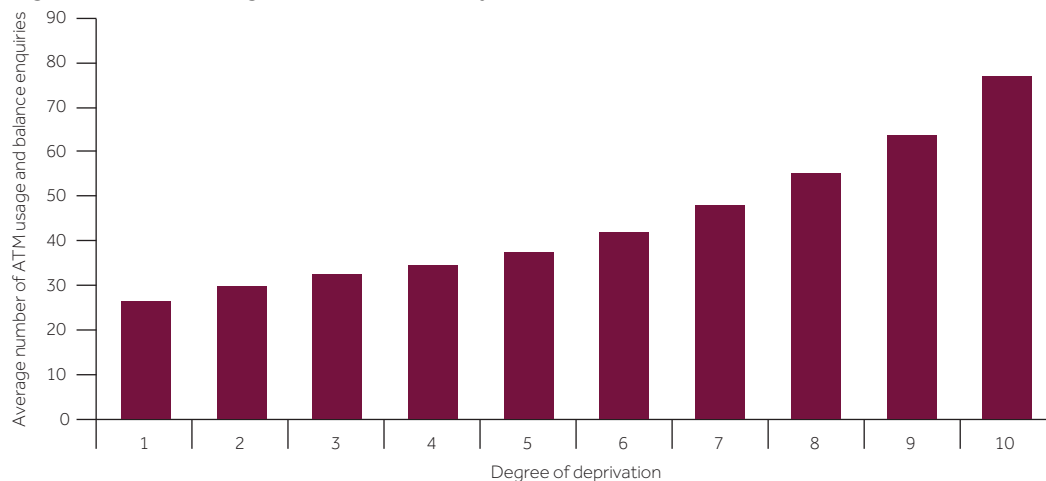
Source: Banks' customer-level data, FCA analysis.

5   Forward-looking view

- In the future, the most significant pressure on FIIC accounts is likely to come from significant consumer behaviour changes, particularly if many consumers with large balances or heavy overdraft use decide to switch away from the large incumbent banks, for example through Open Banking. Under the 'Banks as Utilities' scenario in the body of this report, we also discuss some services such as payments being provided separately.

- If FIIC accounts become significantly less profitable, banks may choose to stop offering these and focus on other types of PCAs. Our analysis shows that the proportions of consumers who contribute the most and the least to their accounts are relatively similar between FIIC accounts and other types of PCAs such as reward accounts and PBAs. However, if banks decide to introduce new transaction and monthly account fees, we would look to understand whether vulnerable consumers might be disproportionately impacted.

5.1   FIIC accounts appear to be unique to the UK. No other country in the EU operates these on a market-wide basis, and the CMA has cited firm research that no other country seems to do so either.[25] So we have no other reference points for how FIIC accounts in the UK may evolve in the future.

5.2   FIIC accounts have so far remained popular since they first emerged in the mid-1980s. FIIC accounts still make up around three-fifths of PCAs in 2016, although reward accounts increased their share of PCAs in recent years, rising from 8% in 2011[26] to around 16% in 2016,[27] while FIIC accounts have been falling as a proportion of new PCAs.[28]

5.3   The main driver of FIIC account revenues[29] is funding benefit, with overdraft revenues making up a significant (but not the largest) proportion of FIIC revenues, as we set out above.

5.4   The main foreseeable stresses on these sources of revenues are therefore significant changes in consumer behaviour which would lead to removal of these balances from FIIC accounts. This could occur, for example, as a result of Open Banking and new fintech entrants, as set out in the body of this report. Such changes could cause significant proportions of consumers with large PCA deposits and/or heavy overdraft users to switch away from their current banks, particularly from incumbent banks to new challengers, resulting in less stable and/or lower FIIC funding benefits and overdraft revenues for incumbent banks.

5.5   Macroeconomic changes, particularly significant increases in interest rates, could accelerate changes in consumer behaviour. This is more likely if Bank Rate increases are passed on to a lesser extent to PCA consumers, so that other savings and

---

25   Retail Banking Market Investigation Final Report, 2016, paragraph 6.186, CMA.
26   Retail Banking Market Investigation Final Report, 2016, paragraph 38, CMA.
27   Based on our dataset.
28   Retail Banking Market Investigation Final Report, 2016, paragraph 37, CMA.
29   As in previous sections, we include funding benefit in our measure of PCA revenues.

investment products look more attractive to consumers with large balances. However, we note that FIIC accounts have persisted in much higher interest rate environments, so macroeconomic changes alone are unlikely to stress FIIC revenues.

5.6   If FIIC accounts become significantly less profitable, banks may choose to promote alternative PCA products. Our analysis in section 3 suggests that the proportion of consumers who pay more or less for their PCA is fairly similar between FIIC, PBA and reward accounts, with contribution being slightly more evenly spread for PBA and reward accounts through monthly account fees.

5.7   Banks may also look to introduce new transaction and monthly account fees if FIIC accounts become significantly less profitable, at least on new accounts. In such a scenario, we would look to understand whether vulnerable consumers might be impacted. This is particularly the case for ATM fees, which might tend to fall on consumers in more deprived areas since they use ATMs more frequently, and monthly account fees, which are likely to make up a greater proportion of income for consumers in more deprived areas.

6   Appendix: Methodology – PCA distributional analysis

6.1   In this Appendix we provide further details on our PCA distributional analysis. We describe the methodology we used to estimate costumer contribution to banks' profits, to define their profile, and to identify the type of PCA product(s) they held over the period of our analysis.

6.2   We use the same data employed for the analysis on overdrafts outlined in *High-cost Credit Review : Overdrafts consultation paper and competition remedies policy statement* and namely:

- transaction-level data for over 1.5 million randomly sampled PCAs, in addition to customer and account level characteristics for all customers and accounts included in the sample

- data on population demographics, including deprivation measures such as the Index of Multiple Deprivation (IMD)

6.3   For a full description of the data used in our analysis we refer to the Data Annex to High-cost Credit Review – Overdrafts.[30]

Customer contribution to banks' profits

6.4   To estimate customers' contribution to banks' profits and how this changes across individuals (please see paragraph 2.9) we use relevant information on revenues, costs, and customer characteristics.

PCA revenues and benefits

6.5   As explained in paragraph 3.2, PCAs can bring in for banks a variety of revenues and benefits, such as: funding benefit, arranged and unarranged overdraft charges, refused payment fees, monthly PCA fees, interchange fees, and other PCA fees.

6.6   To calculate these we use the transaction-level data provided by the banks (please see Data Annex to High-cost Credit Review – Overdrafts, paragraph 4). Funding benefit estimations are based on firms' gross fund transfer pricings (FTPs) multiplied by each consumer's deposit, net of any interest paid on each customer's account for credit balances.[31]

PCA costs

6.7   In some cases we estimated banks' cost to serve different customers and different PCA products (please see paragraph 2.7) by identifying relevant transactions at account-level and by multiplying these by the corresponding unit costs.[32] This

---

30   Data Annex to High-cost Credit Review: Overdrafts.

31   As such, these are sensitive to firms' own assessments of their FTPs.

32   Unit costs are based on firms' cost estimates.

applies not only to various payment transactions (i.e. BACS, FPS, cheques, ATM cash withdrawals and balance inquiries), but also to paper and SMS communication costs.[33]

6.8 We derived other relevant costs by using additional information we collected to augment existing account-level and transaction-level data (please see Data Annex to High-cost Credit Review – Overdrafts, paragraph 7), and namely:

- the cost to provide insurance and other added-services which is product specific information provided by the banks [34]

- cashback and monetary rewards based on ad hoc transaction-level information

- charge-offs for bad debt on overdrafts, calculated as the amount of outstanding debt for accounts placed in default, as reported by the banks[35,36]

6.9 Remaining costs listed in paragraph 2.7 were estimated based on the combination of i) transactional data (i.e. average debit balances, average credit balances and measures of account activity levels), ii) relevant financial information (i.e. cost of equity, and FSCS costs), and iii) relevant information on liquidity and capital requirements. These are:

- cost of the regulatory capital requirements for overdraft lending[37]

- FCSC cost, that is the account level cost incurred by a bank to participate to the compensation Scheme which protects deposits of customers of authorised firms (up to a certain level)[38]

- operational risk capital cost, that is the cost of funds that a PCA provider needs to set aside to cover risks involved in the provision of current account services[39,40]

Customer profile

6.10 We use the IMD as a proxy for a consumer's potential vulnerability, including their financial resilience. Unlike all other measures we also considered, the IMD – and specifically its income component – proxies the prevalence of extremely low incomes in a given area. As such, the IMD represents the most relevant proxy for customer financial resilience among those available to us.

---

33   Not all banks provided information on cheque costs.

34   Not all banks provided information on all types of costs for the provision of additional services (e.g. marketing costs). To be consistent across banks, we only include the supplier cost of the insurance and/or other additional services.

35   An account is placed in default when the outstanding overdraft debt is deemed unlikely to be collected.

36   Charge-off estimates for two banks in our sample are likely to be underestimated due to the sampling approach adopted. However, this does not alter our findings significantly.

37   Calculated as follows: Cost of equity x Bank Risk-Weighted Assets Density x Average Debit Balance x Common Equity Tier 1 ratio. For more details please see Technical Annex 8 to High-cost Credit Review – Overdrafts – Profitability Analysis, Chapter 2.

38   The relevant cost is calculated based on the average credit balance of each individual account included in our data and considers that the limit (i.e. the maximum compensation) was £75,000 in 2016.

39   It is based on estimating each bank's relevant RWAs using revenues (as in the Standardised Approach), and CET1. We calculate this as follows: ((0.18 x Interchange Fees + 0.12 x (Funds Value + UOD Charges + AOD Charges + Refused Payment Charges + Monthly PCA Fees + Foreign Transaction Fees + Other PCA Fees))) x 12.5 x Cost of equity x Common Equity Tier 1 ratio.

40   See, e.g. Basel II: International Convergence of Capital Measurement and Capital Standards: a Revised Framework (2004), part VII) on the Standardised Approach, which was applicable for 2016.

6.11 In addition, the wider IMD measure proxies vulnerability more broadly as it includes other relevant dimensions of potential deprivation, e.g. measures for consumers' health and education by area.

6.12 To identify how the profile of consumers changes for different levels of contributions we consider other consumer characteristics such as age (included in the customer level characteristics provided by the banks), and level of savings.[41]

6.13 We also profiled individuals in our sample based on their PCA usage and in particular based on whether they mainly contribute through overdraft charges, funding benefit, or other charges,[42] and considering how frequently they tend to access ATMs and bank branches. These were estimated on the basis of transaction level data provided by the banks.

PCA types and categorisation

6.14 To perform analysis specific to different account types including FIIC accounts (please see paragraph 2.17), we undertook thorough desktop research aimed at categorising all personal current account products included in our sample.[43] Our categorisation is based on product names and observed account features.[44]

6.15 Some customers changed PCA type while remaining with the same bank over the reference period (including 2016). In this case we only considered the PCA product used by the customer for the longest time in that year. To address issues related to resulting incomplete time series we used the same approach as described in paragraph 6.18.

Relevant remarks

6.16 Our analysis excludes inactive accounts included in the original sample.[45] The remaining sample of transaction-level data contains around 1.3m consumers.

6.17 We have estimated revenues and costs generated by individual consumers by dividing relevant data for their joint accounts by half, and summing these with relevant data from their single accounts.

6.18 As explained in Data Annex to High-cost Credit Review – Overdrafts, while in general our dataset is based on complete time series, for some accounts the time series is not complete. Our calculations take this into account. To give an example, if in general the 2016 annual average balance for accounts with complete time series is calculated considering 12 months, the same average balance for accounts with incomplete time

---

41   Our estimates of customer savings are only partial as limited to savings held by customers with their PCA provider.

42   For example, we considered that a consumer is mainly contributing through overdraft charges if at least 50% of her revenues are made up of overdraft charges.

43   The dataset includes information on virtually all personal current account propositions used by customers of the 6 largest banks during the reference period.

44   Close to publication of this report, we discovered that one of the firms in our data made a mistake in reporting product code information for a number of sampled accounts. On reviewing the potential impact of the error, bearing in mind that accounts with different product codes are often the same type of account (e.g. FIIC, basic), and taking into account the size of the firm in relation to the overall market, we consider that correcting this error would be very unlikely to alter our conclusions.

45   We only consider customers with balances that are more / less than + / -£10 throughout 2016.

series is based on a lower number of months, and namely the number of months the account was open that year.

6.19   All our results are weighted by banks' market shares as at December 2015 in England and Wales.[46]

---

46   GfK Financial Research Survey. Market shares used cover all current accounts in England and Wales (i.e. Scotland and Northern Ireland excluded) and are based on 3 months data ending December 2015.

Annex 3
Analysis of Switchers' Characteristics

Introduction

1. Switching levels in Retail Banking are low. In its 2016 study, the CMA found that only 3% of personal customers switch to a different bank in any year.[1] One of the key remedies proposed by the CMA was the introduction of Open Banking, which aims to encourage innovation and improve competition by making it easier for consumers to hold multiple accounts and compare or switch financial products.

2. In this Annex, we set out the analysis we have conducted of the profile of those customers who switch. This is so we can use this evidence in thinking about the potential implications of some of our business model analysis and future scenario analysis.

3. Our descriptive analysis focuses on characteristics of consumers who switched their current account in the past (or were otherwise active, e.g. had a current account with multiple banks). We then compare these consumers against a more inert group. Our goal is to understand whether there are any differences, such as in demographics and account usage, between consumers who switched their accounts in the past from those who were more inert.

4. Our key findings are that:

    *   **Switchers** are younger, more digitally active and have lower PCA and savings balances than non-switchers. They are lighter users of arranged overdraft, but pay higher fees for unarranged overdraft and unpaid items. Switchers hold fewer credit products with their PCA provider than non-switchers. For example, they are less likely to hold a mortgage.

    *   **Long tenure consumers** are very different to the rest of consumers – they are much older, have much higher balances and are not digitally active. Higher balances suggest that long tenure customers are valuable to banks (for funding benefit), but they are the least likely to switch, particularly under Open Banking.

    *   There are a significant proportion of active **multi-bankers**, i.e. consumers who use multiple PCAs with different providers. A higher proportion of switchers multi-banked before using the CASS service (20% of switchers compared with 15% of non-switchers).

5. It is not yet clear whether Open Banking will result in higher switching levels among consumers similar to those who switched their PCA before, or whether it will create a new type of switchers. Our analysis provides an important baseline that will enable us to monitor the effects of Open Banking and its impact on firms' business models and revenues.

CMA's findings[2]

6. The CMA found that only 3% of customers switch their current account in any year. The overall annual switching level through CASS was around 2% of all UK main current

---

1   https://www.gov.uk/government/news/cma-paves-the-way-for-open-banking-revolution

2   See Appendix 6.1 of the CMA's Retail banking market investigation final report: https://assets.publishing.service.gov.uk/media/57a9c57a40f0b608ab00000c/retail-banking-final-report-appendices-1.1-to-6.9.pdf

accounts (or 1.3% as a proportion of all current accounts). When considering other indicators of consumer's engagement, such as long tenure and multi-banking, the CMA found that over a half of its survey respondents had been with their main current account provider for more than ten years. The survey also found that a considerable proportion of UK customers (22%) held more than one current account with different providers and actively used them.

7. The report suggested that switchers were more likely to have higher income, higher balances and higher education levels than non-switchers. In addition, internet banking and/or having confidence in the use of the internet was found to increase the probability of searching and switching. Customers who held financial products at other banks were found more likely to search and switch PCAs.

8. The CMA further found that customers who use unarranged overdraft facilities were less likely to switch than customers who only use an arranged overdraft facility. Heavier overdraft users were found to be less likely to switch than lighter overdraft users, and the heaviest unarranged overdraft users are least likely to switch compared to other customer groups including non-overdraft users.

9. According to the CMA, many PCA customers could make substantial financial gains from switching, where overdraft users have potentially the most to gain from switching.[3]

10. We built our analysis on the CMA's work. We used a more up-to-date dataset and looked at similar statistics, as well as adding new variables of interest, such as product holdings with customer's PCA provider and other banks. We describe our data and methodology below.

Data and methodology

11. Our analysis is based on data for six largest banks, covering a two-year period from January 2015 to December 2016. The description of transaction-level data used in this analysis can be found in Data Annex to High-cost Credit Review – Overdrafts. For the purpose of this analysis, we matched the transaction-level data with the data provided by the credit reference agency (CRA), covering the same time period. This dataset included information on customers' product holdings and balances with any bank or provider.[4] It included data for approximately 90,000 customers.

12. We used transaction-level data in some parts of our analysis, where the credit file information was not required. We used transaction-level data matched with the CRA data in other parts, in particular when analysing multi-bankers and product holdings.

Switching indicators

13. In order to make our analysis more robust, we looked at various indicators of consumer engagement or inertia. Note that these definitions are not mutually exclusive.

---

3 In Great Britain for customers on standard or reward accounts CMA found that around 90% would gain financially from switching to a cheaper product. The average gain from switching for these customers to one of the five cheapest products was around £92 per year. Overdraft users in Great Britain who were in overdraft for 8 to 14 days a month would gain approximately £180 per year.

4 We dropped observations where a customer's age minus tenure was lower than 11, assuming that only consumers who are 11+ years old can have a current account. We also dropped consumers who were older than 100 years. We dropped observations where the average current account balance was equal to 0 over a two-year time period. We removed some outliers in variables such as logins and average balances.

- We analysed characteristics of customers who switched their current account using CASS between 2015 and 2016. That is 2.4% of all customers. This is consistent with the CMA finding that found that the overall annual switching level through CASS was around 1.3% as a proportion of all current accounts. We call these consumers **switchers** and compare them to all other consumers, whom we call **non-switchers**.

- As a proxy for consumer engagement, we also considered customers who held current accounts with other providers. According to our data, 52% of customers were in this category. This figure drops to 15% if only positive balances are counted. We use the latter in our analysis and call these consumers **multi-bankers**.

- As a proxy for consumer inertia, we looked at customers with longest tenure (10th percentile of tenure). We found that the average tenure in this category was 33 years. We call these **long-tenure customers**.

Data caveats

14. Given our limited data, we were only able to observe switchers who used CASS, meaning that customers who switched their current account manually were not caught by our definition.[5]

15. We used CRA data to identify multi-bankers. One limitation of this dataset is that only customers who hold overdraft facilities alongside their current account are picked up by current account flag. This means that consumers who hold current accounts with other providers but do not have overdraft facilities with these providers are not part of our multi-banking category.

16. In addition, using the CRA data to identify consumers who multi-bank might skew the results for this group if consumers are trying to get access to credit. This is demonstrated by lower PCA balances and higher overdraft balances within this group – we discuss this below, in the Findings section.

17. Our transaction-level data covers six largest banks only, so we were unable to see characteristics of consumers who bank with smaller providers.

Our findings

18. We present median results below, unless stated otherwise. When analysing product holdings and overdrafts, we only consider customers who have positive balances on those products.

Switching indicators

19. We found that 2.4% of customers of six largest banks **switched** their current account between 2015 and 2016 using CASS. The switching rate ranged from 1.57% to 3.11%. This is consistent with the CMA's findings, who found the overall annual switching level through CASS to be around 2% of all UK main accounts, and 1.3% as a proportion of all accounts.

---

5   By manual switchers we mean consumers who open a new bank account, transfer their money from the old to new bank account, set up automated transactions such as direct debits, and subsequently close their old bank account without using Current Account Switching Service. In some cases, consumers will not close their old bank account, which will become a dormant account. We also note that consumers who actively use multiple current accounts at the same time are referred to as multi-bankers.

20.   We found that 90% of customers who used CASS switched to another Big-6 bank rather than choosing to switch to a challenger bank.

21.   According to our data, the average median **tenure** of a current account is 9.5 years. This varied by bank, with median tenure ranging from 3 to 14 years. This again is consistent with the CMA's findings, which noted that over a half of survey respondents had been with their main PCA provider for more than ten years.

22.   We found that 52% of consumers hold current accounts with multiple providers. This figure drops to 15% if only positive balances are counted. The CMA found that a considerable proportion of UK customers (22%) hold more than one PCA with different providers and actively use them.

Profile of an average switcher
23.   An average switcher is 43 years old. Their average monthly PCA balance is £722 and savings balance is £1,209. An average switcher makes 4.2 monthly logins.[6] Their overdraft balances are £18 for arranged overdraft and £0.55 for unarranged overdraft. They pay £3.10 in overdraft charges and unpaid item fees. They hold, on average, 0.43 credit products with their current account provider and 1.61 credit products with other providers. 33% of switchers hold a credit card with their PCA provider, while 7% and 6% hold mortgage and personal loan, respectively.

Comparing switchers with non-switchers
24.   Given caveats in the definitions of multi-bankers and long tenure consumers, we first present our comparison of switchers and non-switchers (see Table 1). We present the statistics on other switching indicators later in this paper (see Table 2).

25.   We found the following:

- **Age**. Switchers are, on average, younger than non-switchers.

- **Tenure**. Non-switchers tend to stay with their current provider for longer than switchers, i.e. 9.6 years compared with 8.8 years.

- **Balances**. Switchers have lower PCA and savings balances than non-switchers. This is contrary to our initial hypothesis and the CMA's finding. However, we note that this observation might be due to the fact that switchers are younger.

- **Digital activity**. We found that switchers logged in almost twice as often as non-switchers – 4.2 times compared with 2.3 times.

- **Overdrafts**. Switchers have significantly lower arranged overdraft balances than non-switchers – £18 compared with £47. They have identical unarranged overdraft balances. However, switchers pay higher unpaid item fees – 35% higher than non-switchers.

- **Product holdings**. We found that non-switchers are more likely to hold other credit products with their PCA provider. The average number of products held by non-switcher is 0.51, while switchers held 0.43 products, on average. However, the combinations of product holdings are identical – see Figure 1. We also found that

---

6   The number of total logins is a sum of mobile logins (made via mobile app) and logins to Internet banking.
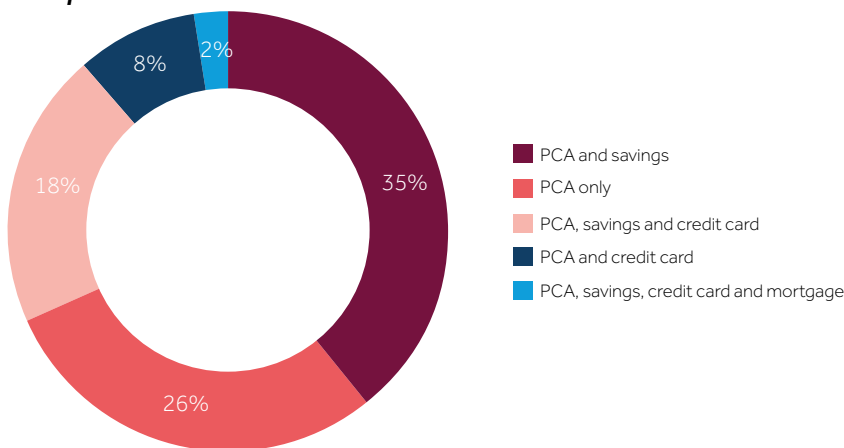
switchers are less likely than non-switchers to hold a mortgage or a personal loan with their current account provider.

- **Multi-banking** (not presented below). We found that higher proportion of switchers multi-banked, i.e. had a PCA with another provider, before using the CASS service (20% of switchers compared with 15% of non-switchers).

Table 1: A comparison of switchers and non-switchers

	Switchers	Non-switchers
Age	43	47
Tenure	8.8	9.6
Savings balance	£1,209	£1,662
PCA balance	£722	£767
Logins (all)	4.2	2.3
Arranged overdraft balance	£18	£47
Unarranged overdraft balance	£0.55	£0.53
Arranged overdraft charges	£0.49	£0.77
Unarranged overdraft charges	£0.94	£0.83
Unpaid items fees	£1.67	£1.25
Deprivation (1 = least deprived)	15.06	16.45
Number of credit products held with PCA provider[7]	0.43	0.51
Number of credit products held with other providers[8]	1.61	1.34
% of customers holding a credit card with their PCA provider	33%	32%
% of customers holding a mortgage with their PCA provider	7%	11%
% of customers holding a personal loan with their PCA provider	6%	9%

Figure 1: Most common combinations of products held by switchers with their PCA provider

- PCA and savings — 35%
- PCA only — 26%
- PCA, savings and credit card — 18%
- PCA and credit card — 8%
- PCA, savings, credit card and mortgage — 2%

Note: Product combinations held by non-switchers are identical to those held by switchers. 32% of non-switchers held PCA and savings, 25% – PCA only, 16% – PCA, savings, and credit card, 6% held PCA and credit card, and 3% held PCA, savings, credit card and personal loan. Only the 5 most common product combinations are presented here. As such, the numbers do not sum to 100%.

---

7   This includes credit cards, mortgages, and personal loans. We present mean rather than median here.

8   This includes credit cards, mortgages, and personal loans. We present mean rather than median here.

Comparing switchers and multi-bankers with non-switchers and long tenure customers

26. As explained in our Methodology section, we also considered multi-bankers and long tenure customers as a proxy for consumer engagement and inertia, respectively. We found the following:

- There are 15% of **multi-bankers** in our dataset, i.e. customers who have positive PCA balances with an alternative provider. These consumers have significantly lower PCA and savings balances than other consumers. They also have higher overdraft balances, both arranged and unarranged. This finding indicates that multi-bankers identified in our dataset might indeed be trying to get access to credit. Consumers in this category were also found to be the most deprived when compared to switchers, non-switchers and long tenure customers.

- **Long tenure consumers** are very different to other consumers. They are much older, have much higher balances and they are digitally inactive with almost no logins. They are also more likely than other groups to have a mortgage with their PCA provider. Higher balances suggest long tenure customers are valuable to banks (for funding benefit), yet they are the least likely to switch, particularly under Open Banking. This might confirm that there are some valuable consumers that new entrants cannot reach, at least in the short term.

Table 2: A comparison of all switching indicators

	Switchers	Multi-bankers	Non-switchers	Long tenure
Age	43	47	47	64
Savings balance	£1,209	£180	£1,662	£6,396
PCA balance	£722	£206	£767	£1,778
Logins (all)	4.2	3.7	2.3	0.1
Arranged overdraft balance	£18	£102	£47	£24
Unarranged overdraft balance	£0.55	£0.74	£0.53	£0.57
Arranged overdraft charges	£0.49	£1.69	£0.77	£0.85
Unarranged overdraft charges	£0.94	£0.88	£0.83	£0.77
Unpaid items fees	£1.67	£1.50	£1.25	£1.00
Deprivation (1 = least deprived)	15.06	18.15	16.45	12.90
Number of credit products held with PCA provider[9]	0.43	0.44	0.51	0.62
Number of credit products held with other providers[10]	1.61	2.12	1.34	1.58
% of customers holding a credit card with their PCA provider	33%	27%	32%	36%
% of customers holding a mortgage with their PCA provider	7%	10%	11%	12%
% of customers holding a personal loan with their PCA provider	6%	8%	9%	11%

---

9   This includes credit cards, mortgages, and personal loans. We present mean rather than median here.

10   This includes credit cards, mortgages, and personal loans. We present mean rather than median here.

FCA

**FINANCIAL
CONDUCT
AUTHORITY**