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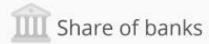
01 How are you Europe?

- Leading countries for banks, assets and employment
- Banking population by country
- European stress test results
- Non-performing loans



Europe's leading countries for banks, assets & employment

Countries with the largest share of banks, assets and employment in Europe in 2017





Share of total bank assets



Share of bank employment





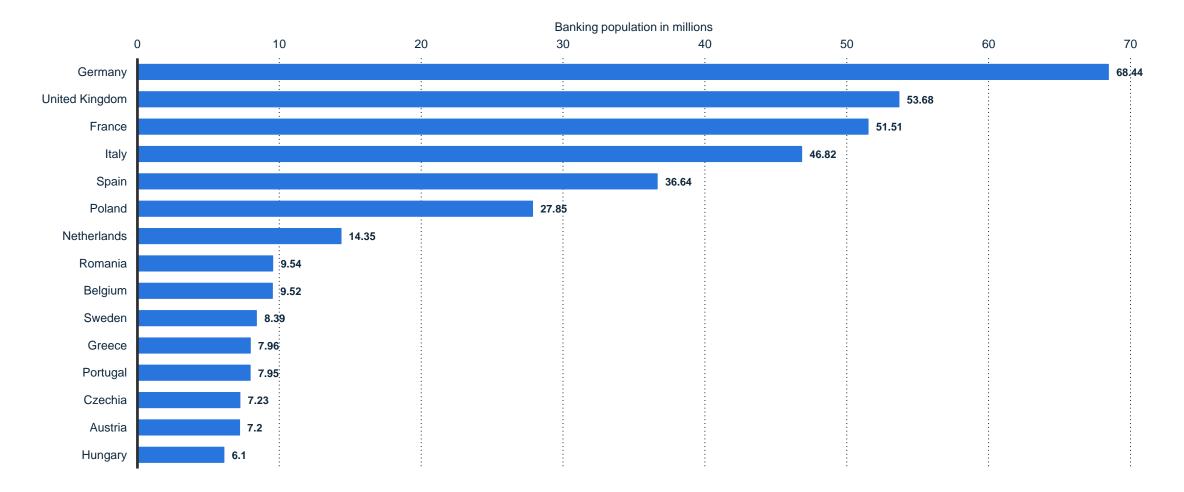


"The banking industry was built in the industrial revolution, and focused upon the physical distribution of paper in a localized network of buildings and humans. Now we're in a digital revolution where everything is becoming the distribution of data on a globalized network focused on software and servers, and banks have this physicality that's locking them into old ways of doing things. They're trying to break out of it, but it's difficult because it's a fundamental change of the bank structure."

Chris Skinner (Author & Financial commentator)

Banking population in Europe in 2017, by country (in millions)

Banking population in Europe 2017, by country



Note: FU: 2017

Source(s): World Bank; Statista; Statista estimates; EBF; Various sources

Executive Summary

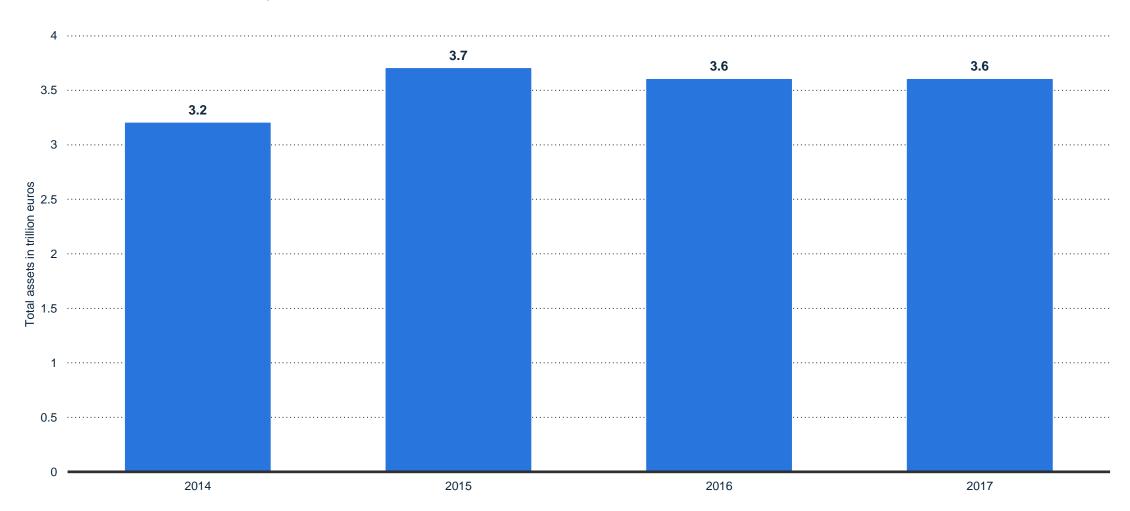
Traditional vs Challenger

The digital age has brought the financial sector kicking and screaming into the modern era. Although technology and customer participation were slow to catch on, things may finally be making headway. In December 2017, the London based NeoBank, Revolut, reportedly broke even, making it the first of its kind since challenger banks first broke onto the scene. Between 2010 and 2018, FinTech companies in Europe have seen venture capital investments of almost 92 billion U.S dollars alongside new regulations which have promised to open up competition and revolutionize the sector. With so much attention and capital being focused towards financial technology over the past years, it may come as no surprise that if we look at Europe's brick and mortar banks in pure numbers things do not look good. The number of banks, branches and employment have all been falling as people move away from the traditional in search of something cheaper and more convenient.

The question posed, though, would be whether the downfall of the high-street bank is down to (a) the rise of online only banks or (b) the institutions we all grew up with simply adapting to the larger economical picture. Are banks simply reducing unnecessary overheads and streamlining their business models in search of better end of year figures? The most likely answer would be.....well (a), (b) as well as the rest of the alphabet. The tightening of regulations since the financial crisis and the need for banks to secure enough capital in case of a 2008 repeat, as well as the opening-up of the market has meant that while new players such as N26 have been eating up investments, the banks have had to tighten their belts. As of yet, there is still a huge size difference between the high-street institutions and the digital newcomers, but for any Goliath it is always wise to look out for a David. Across the EU5 alone, 141 million individuals use online banking regularly. This report will explore key figures of the traditional banking industry, whether the banks have deleveraged since the crisis, the types of traditional banks as well as the key performance indicators (KPIs) that illustrate the true size of Europe's largest banks. It will also look at the rise of direct banks (online only banks) as well as how some of the biggest banks are moving into an ever more digital world. The market is opening up and the game is on.

Assets of banks in Europe from 2014 to 2017 (in trillion euros)

Total assets of banks Europe 2014-2017



Note: Europe, EU; 2014 to 2017 Source(s): EBF

How are you Europe?

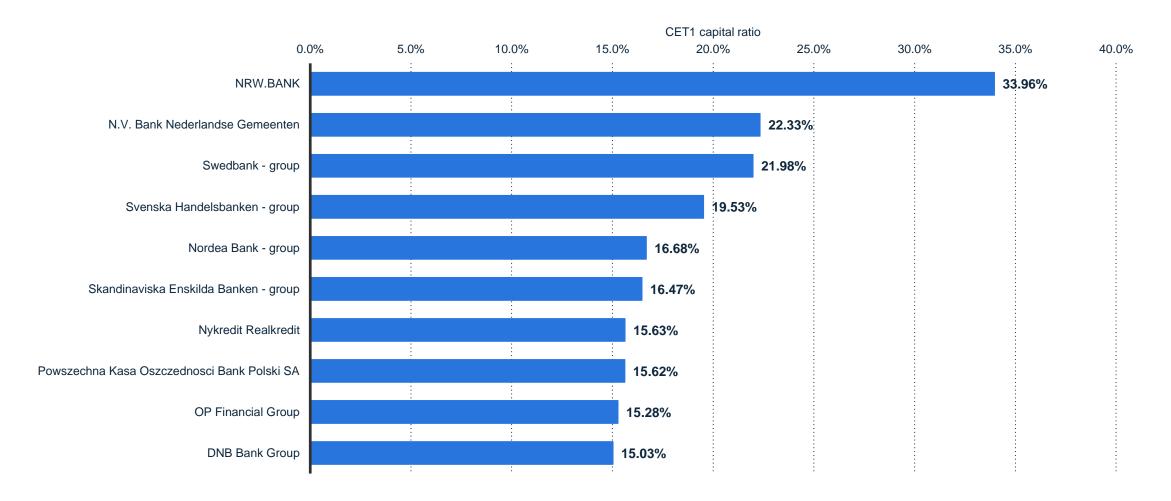
Recapitalization of Europe's banking sector and EU stress test results

Recapitalization of Europe - Ever since the global financial crisis of 2008, Europe's banks have had a slow and strained journey towards obtaining enough capital to withstand a repeat in the future. As of June 2017, the positioning of Europe's banks was in a far better place with all banks meeting the liquidity coverage ratio above the minimum required amount. Capital has continued to increase, core equity Tier 1 ratio stood at 13.8% and total capital shortfall was reduced by more than 500 billion euros since 2011. In fact, 2017 saw the shortfall on all capital categories fall to around zero for the first time.

2018 EU-wide stress test - With the implications of Brexit weighing heavily on the minds of the European financial sector, the European Banking Authority's (EBA) 2018 EU-wide stress test could not come too soon. Although some banks did not do as well as was hoped (British banks in particular), in general everyone did 'ok'. All top 48 banks in the EU had enough capital to withstand a worst-case Brexit scenario. Barclay's, which had the lowest CET1 capital ratio of any bank included, still managed well above the 5.5 percent level that analysts use as the rate of crisis. One of the key findings of the report was that banks in general were struggling with profitability as well as some countries still having non-performing loans ratios far higher than what is deemed acceptable.

European stress test results: best performing banks for fully loaded CET1 capital ratios (adverse scenario) 2020

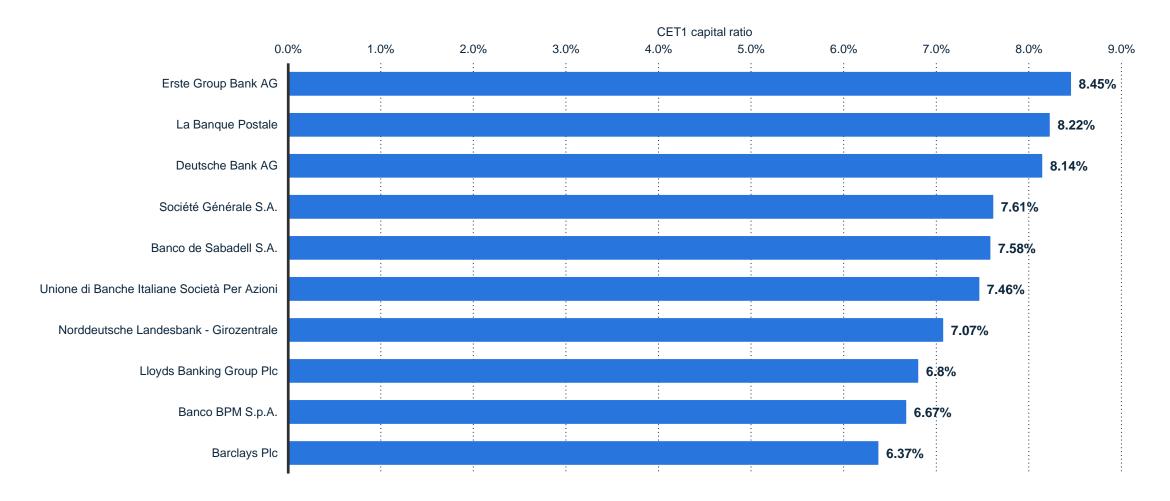
Stress test results: Europe's best performing banks CET1 capital ratios 2020



Note: Europe; 2018 Source(s): EBA

European stress test results: worst performing banks for fully loaded CET1 capital ratios (adverse scenario) 2020

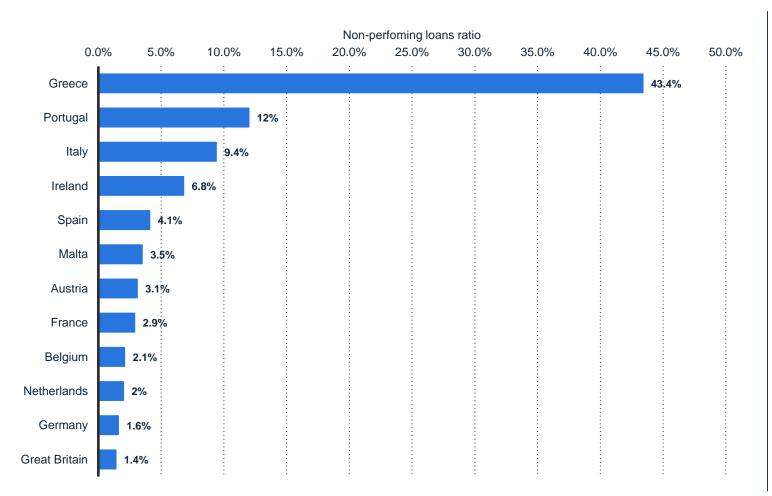
Stress test results: Europe's worst performing banks CET1 capital ratios 2020



Note: Europe; 2018 Source(s): EBA

Ratio of non-performing loans and advances (NPLs) in Western Europe as of September 2018, by country

Non-performing loans ratio in western Europe Q3 2018, by country



Non-performing loans continue to be a problem for many

Although improvement in capital levels has been seen across Europe, bank profitability as well as high levels of non-performing loans across some countries continue to plague Europe. In today's competitive environment, questions are being asked over cost-efficiency and business model sustainability in several countries.

Note: Europe; September 2018 **Source(s):** EBA



02 Banking in Numbers

- Number of banks
- Average number of customers per bank
- Number of bank branches
- Employment numbers
- ATM numbers



Banking in numbers

Overview of banks, branches and employment in Europe's banking sector

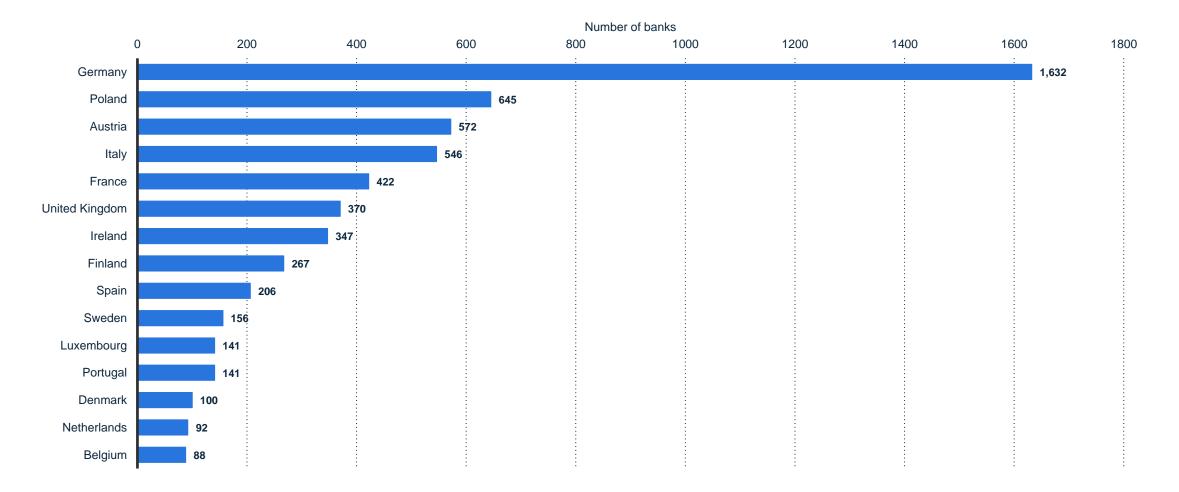
As of December 31, 2017, there were 6,250 banks and 182.4 thousand branches employing almost 2.74 million people across the 28 countries making up the European Union. Collectively, these banks distributed over 24.6 trillion euros in loans and took almost 22.9 trillion euros in deposits. Total assets of these banks totaled approximately 42.9 trillion and capital and reserves amounted to nearly 3.58 trillion euros.

Across Europe, just under 400 million individuals have a bank account, amounting to approximately 91 percent of the entire adult population as of 2017. Despite Europe's healthy customer base, the number of bank branches and employees have seen a continuous fall over the previous years. One banking trend that has risen is the adoption of online banking by European customers which, as of 2017, sits at 61 percent.

A robust capital position for the banking sector in Europe has been strengthening since 2011. Despite the good news for Europe's banks in terms of strength, the fall of branch banking continues to weigh heavily on the sector. It could be hypothesized that Europe's new-found stability alongside the rise of online banking has come at the cost of employees and local branches.

Number of banks in Europe (EU28) in 2017, by country

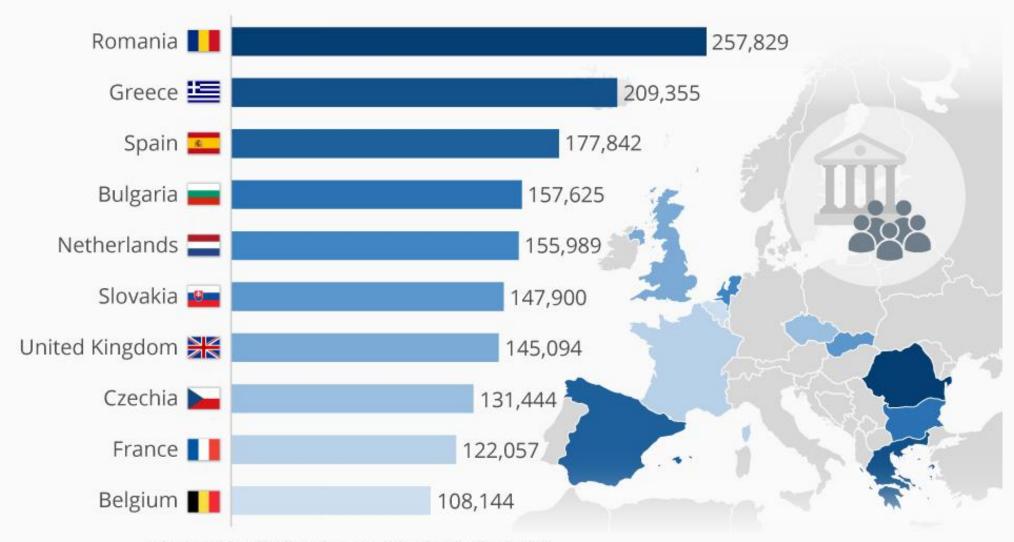
Number of banks in Europe 2017, by country



Note: Europe, EU; December 31, 2017 Source(s): EBF

Where European Banks Have the Most Customers

European countries with the highest average number of customers per bank in 2017





Calculated by dividing the number of individuals that have accounts by the number of banks in the country Sources: EBF, Statista research and calculations



Are banks disappearing?

Consolidation of Europe's banks and the call for cross-border mergers

With bank branches, employment and even ATM numbers falling year-on-year, it would be a fair assumption that banks themselves are also closing. Although the number of banks has indeed decreased, it is not as simple as thinking that they have simply closed shop. Due to the sector being regulated and protected, it is nearly impossible for a bank to exit the market. So why has the number of financial institutions fallen so heavily?

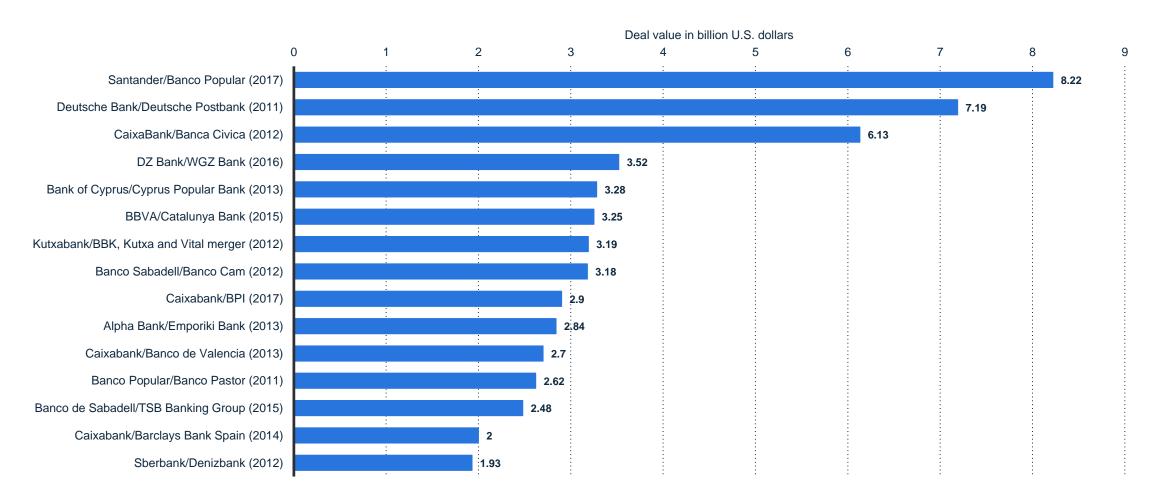
The key is, in fact, to not think in terms of closures but in mergers and acquisitions. Banks have been consolidating to reduce overcapacity and financial risks through unified strength. Europe has been trying to complete a eurozone banking union and many at the top believe that consolidation is the key to building strength. In simple terms, banks are not closing, they are 'merging'.

While bank mergers up until now have been domestic, more and more key figureheads have been calling for a reduction in regulatory hurdles for banks to merge across borders. In early November 2018, the French central bank governor François Villeroy de Galhau told journalists in Paris: "In 2018, we should continue our efforts to encourage consolidation in the European financial sector."

The idea behind cross-border bank mergers is to increase and encourage financial integration, synergy in credit risk diversification as well as a reduction in default risks. However, maybe the biggest cry for cross-border mergers is technological innovation. ING Bank, Santander and BNP Paribas are all investing heavily (through internal and the buying of FinTech) in new technology. Cross-border mergers allow such innovators to roll out new technology across both domestic and international customers creating a higher return through economies of scale.

Value of the largest bank merger and acquisition (M&A) deals in Europe between 2011 and 2017 (in billion U.S. dollars)

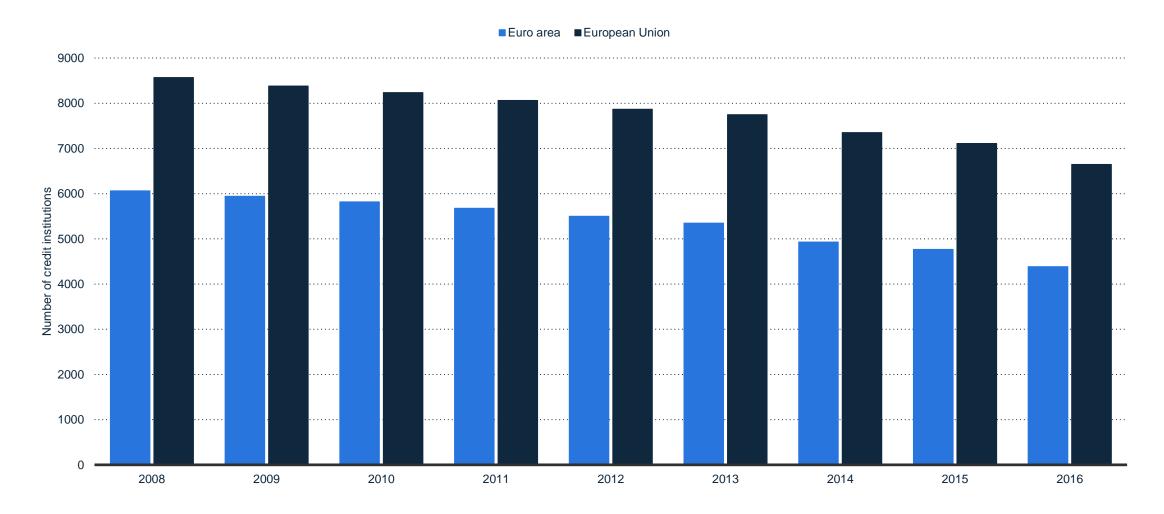
M&A - European largest deals in banking sector 2011-2017, by value



Note: Europe; 2011 to 2017 **Source(s):** The Banker; Dealogic

Number of credit institutions in the European Union (EU) and in Eurozone countries from 2008 to 2016

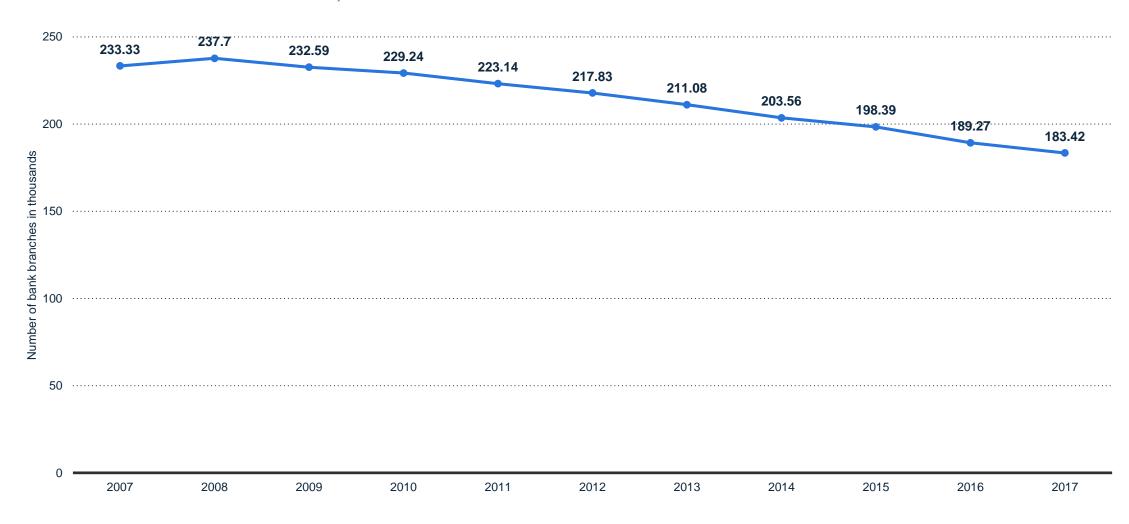
Eurozone and EU: number of credit institutions 2008-2016



Note: EU; 2008 to 2016 **Source(s):** ECB

Number of bank branches in the European Union from 2007 to 2017 (in 1,000s)

Number of bank branches in Europe 2007-2017



Note: Europe, EU; 2007 to 2017 Source(s): EBF

The branch has finally snapped

European-wide closure of bank branches

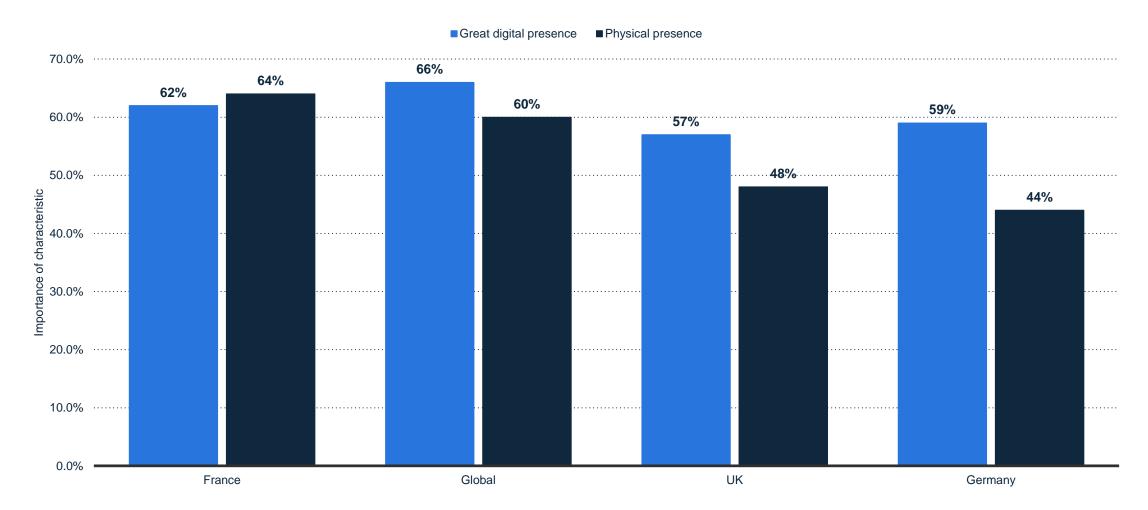
The number of bank branches across the EU is plummeting. Between 2008 and 2017, approximately 54.3 thousand have disappeared. According to CACI, in the United Kingdom (UK) alone, banking transactions using apps is set to increase by 121% between 2017 and 2022, which in turn will see the average number of branch visits per year fall from eight to four. An alarming figure seeing as the UK is only seventh in terms of online banking penetration.

Bank branches will always play an important role, although on a far smaller scale than in the past. Nationwide UK's Group Distribution Director Graeme Hughes suggested that approximately 600 branches was the right number for any of the big banks, data that was supported by CACI's own finding of between 600 and 650. If this is true, then the fall in bank branches is set to continue for some time.

It appears that the decrease in number of physical bank branches was the biggest knock-on effect of the rise of mobile banking, which in turn had a direct effect on the number of employees. Although people seem to need physical branches less, there is still a necessity to have some presence.

Importance of digital and physical presence of banks according to customers in selected European countries in 2016

Importance of banks' digital and physical presence in Europe 2016



European Banks Getting the Most out of Their Employees

Average revenue per employee of selected leading banks in Europe in 2017*





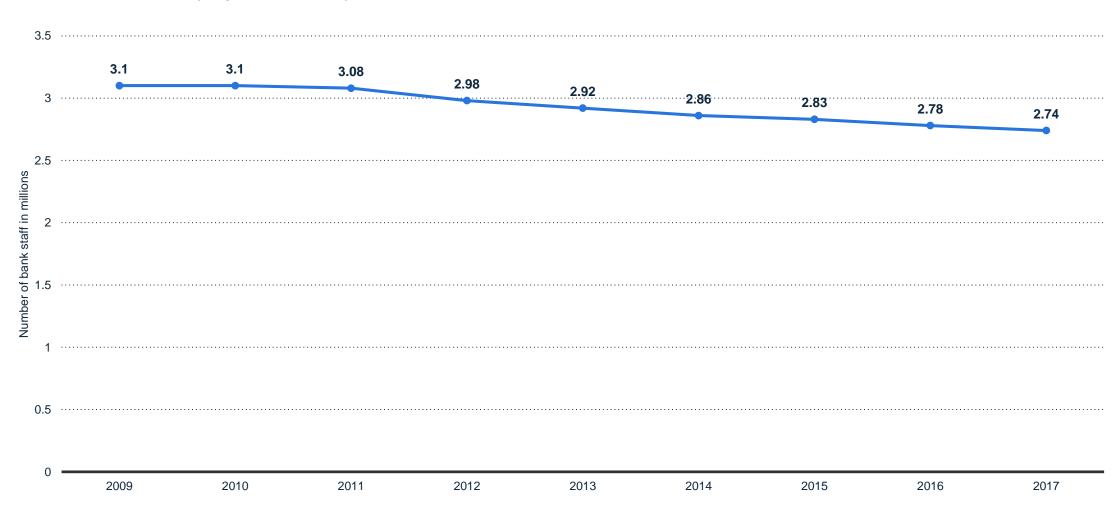
^{*} Calculated by dividing the bank's 2017 revenue by the number of employees in the same period.

@StatistaCharts Source: Company reports



Number of individuals employed by credit institutions in Europe (EU28) from 2009 to 2017 (in millions)

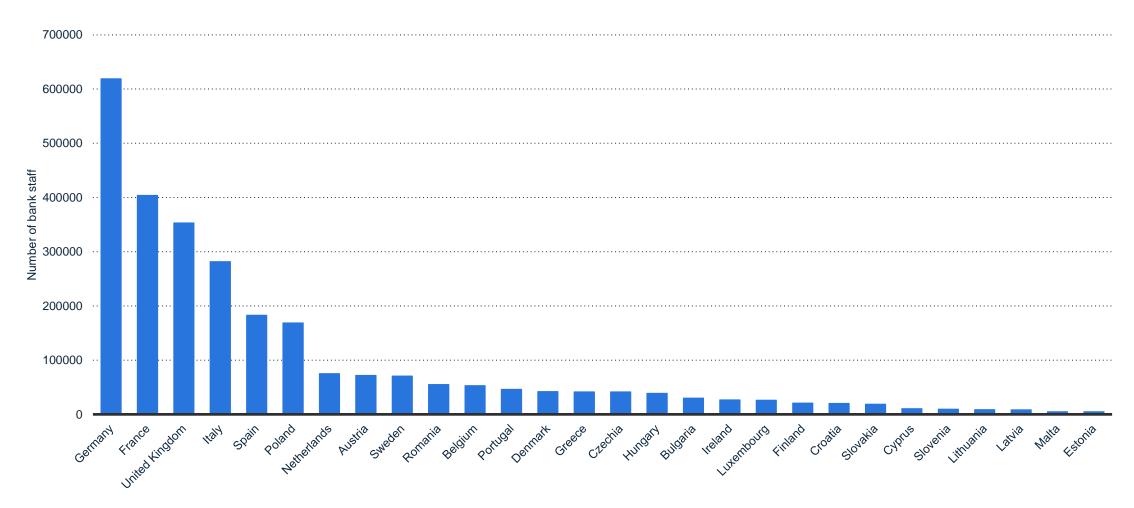
Number of bank employees in Europe 2009-2017



Note: Europe, EU; 2009 to 2017 Source(s): EBF

Number of individuals employed in the banking sector in Europe (EU28) in 2017, by country

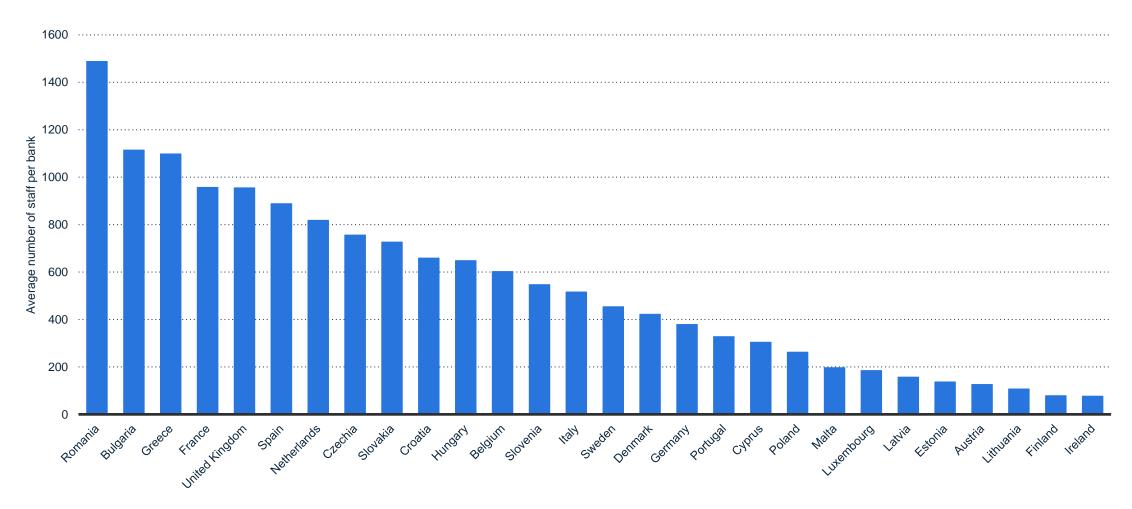
Number of bank employees in Europe 2017, by country



Note: Europe, EU; December 31st, 2017 Source(s): EBF

Average number of individuals employed per bank in Europe (EU28) in 2017, by country

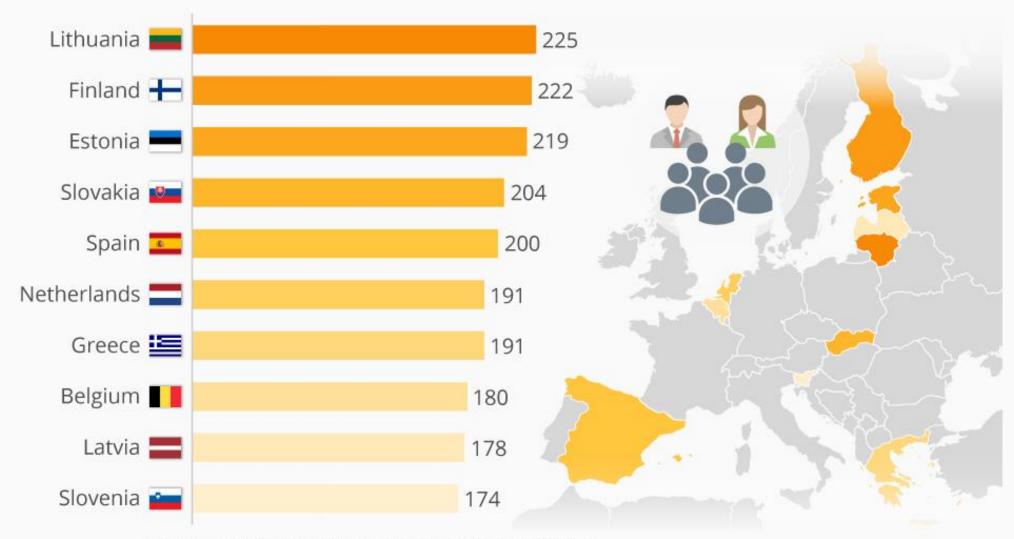
Average number of employees per bank in Europe 2017, by country



Note: Europe, EU; December 31st, 2017 Source(s): EBF; Statista estimates

Where Banks Have the Highest Customer/Employee Ratio

European countries with the highest average number of bank customers per employee in 2017





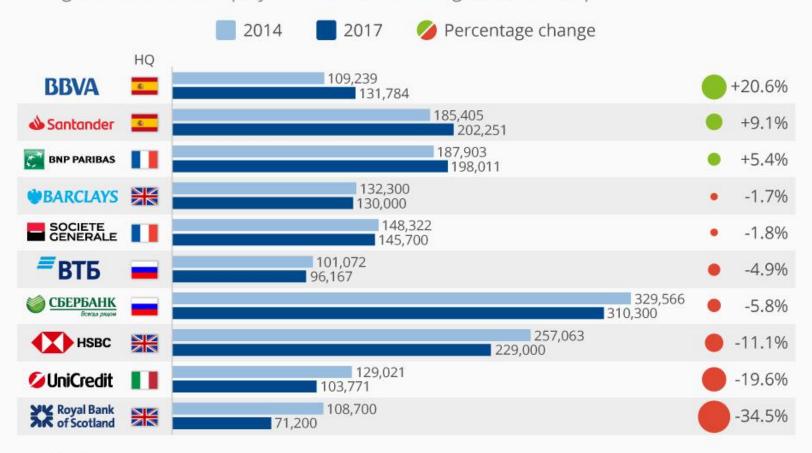
Calculated by dividing the number of individuals that have accounts by the number of bank employees in the country.

Sources: EBF, Statista research and calculations



European Banks: Hiring or Firing?

Change in number of employees of selected leading banks in Europe



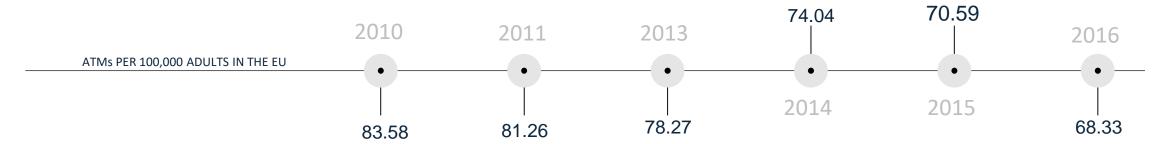




ATMs on the up (technically)

Bank ATMs close while third-party operators fill in the gaps

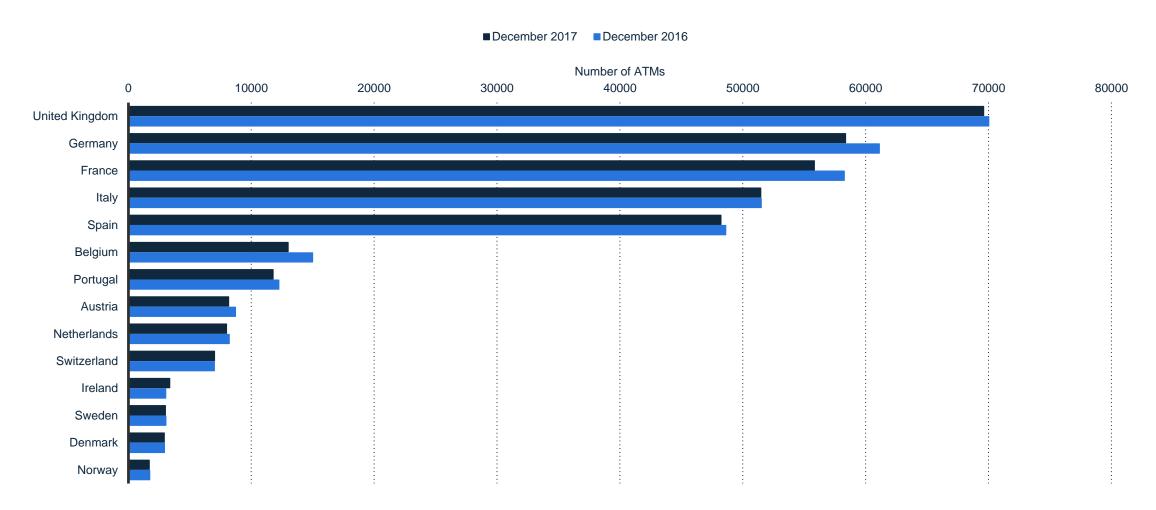
While technically speaking the number of automated teller machines (ATMs) in Europe has increased by 0.2% between 2017 and the first half of 2018, these figures do not actually tell the whole story. According to the European Association for Secure Transactions (EAST), there were a total of 414,167 ATMs active in Europe as of H1 2018.



As non-cash payments continue to rise, the need for ATMs is dwindling, especially when it comes to Europe's larger countries. The UK, Germany, France, Italy and Spain all saw ATM numbers decrease between December 2016 and December 2017. In fact, according to EAST, it is only the increase of non-bank ATMs in other countries that has kept the overall figures for Europe stable.

ATM numbers in selected Western European countries in December 2016 and December 2017

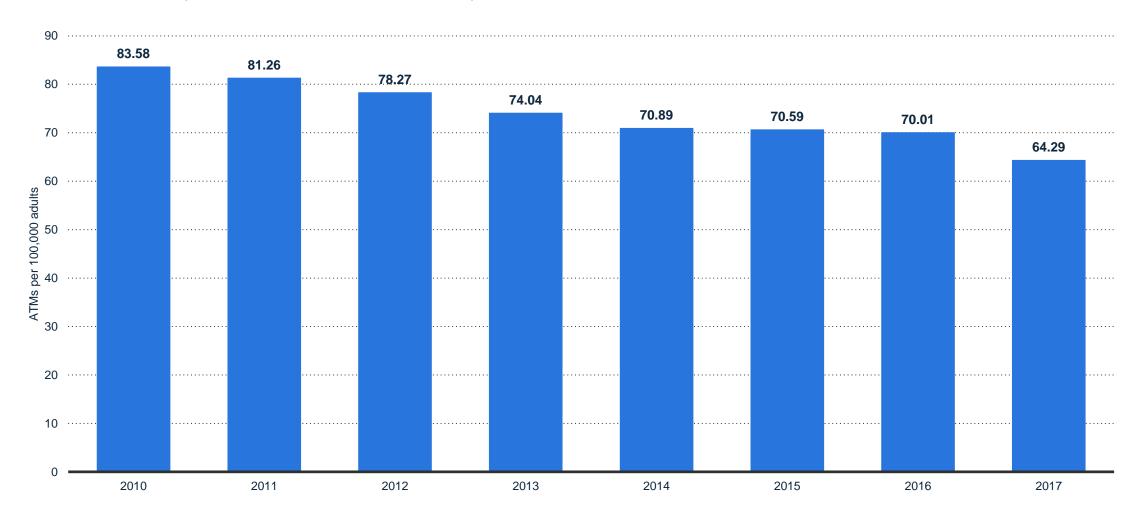
ATMs in selected Western European countries 2016-2017



Note: Europe; December 31st, 2016 and December 31st, 2017 Source(s): European ATM Security Team

Total automated teller machines (ATMs) per 100,000 adults in the European Union from 2010 to 2017

Number of ATMs per 100,000 adults in the European Union from 2010-2017





03 Key Performance Indicators (KPIs)

- Market capitalization
- Total assets
- Total revenues
- Equity capital
- Risk-weighted assets



Key Performance Indicators (KPIs)

When the word challenger bank is thrown around, it often emotes the idea that new online only banks are racing towards toppling the leading European banks off their top spots. But things are always clearer when put into perspective.

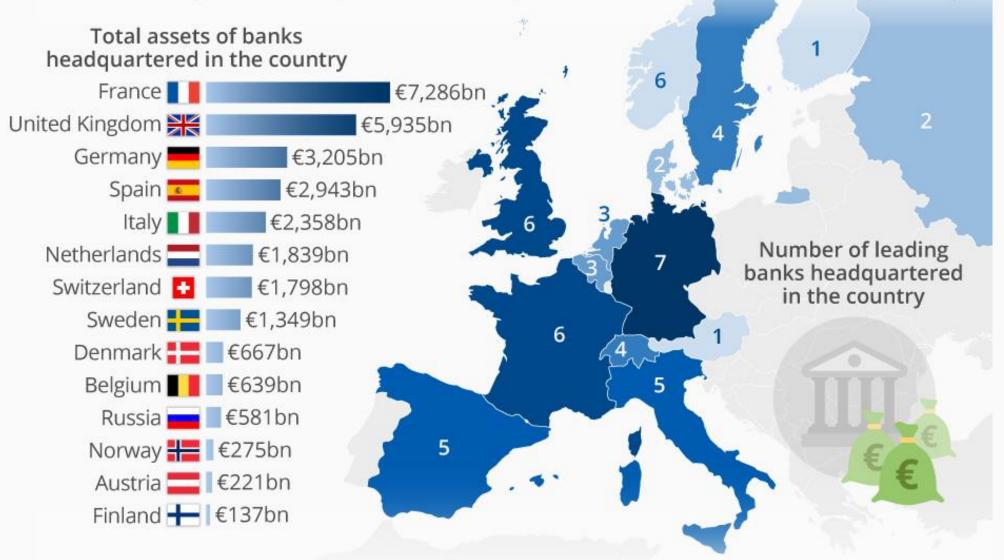
The first NeoBank (online only) to be valued at over one billion USD came in 2018, whereas HSBC had a brand value estimated at 18.31 billion USD. Not such a large gap seeing as Revolut was founded 150 years after HSBC. If brand value was all that analysts, investors and banks took into account, the race would be truly on – but it is not. That is why specific industries use KPIs to help gauge not only the size of a company but also its performance.

KPIs for banks have both strengths and weaknesses when it comes to true representation. Market capitalization, for example, is a great and simplistic indicator of a bank's 'true value' in the eyes of independent investors and one that can be measured daily. Its downside, for one, is that it is only available for those on the stock market, meaning co-operative banks cannot be measured in such terms. Market capitalization is also prone to exaggeration and valuation volatility, meaning figures can be prone to manipulation and herd-like behavior of investors.

All of the KPIs included in the following chapter are important indications of a bank's size, but all are subject to strengths and weaknesses in what they depict. No KPI on its own can give a full overview of a bank's size and performance, although they are most probably the best way of tracking a company's strategic and operational goals.

The Countries Home to the Most Leading Banks

Number of leading banks headquartered in Europe and their total assets in 2017, by country







Source: Business Insider

KPIs Breakdown

Market capitalization is a great indicator of a bank's size in the eyes of investors because it measures the 'true' value of a company at any given state. One of the reasons 'market cap' is used so often as an indicator of size and strength, is due to its simplicity. Market capitalization is calculated by multiplying a company's shares outstanding by the current market price of one share. For example, if Company A has 100 shares at a price of one euro per share the market capitalization value of Company A is 100 euros. It really is that simple.

Total assets, or the balance sheet total, are taken from a bank's consolidated financial statement and are under requirement both regularly published and audited as well as being easily attainable for outside sources. The balance sheet total gages the gross volume of a bank's exposures from loans to securities holdings and derivatives and is unweighted by their risk. Unlike market capitalization, total assets are reported by banks not participating in the stock market.

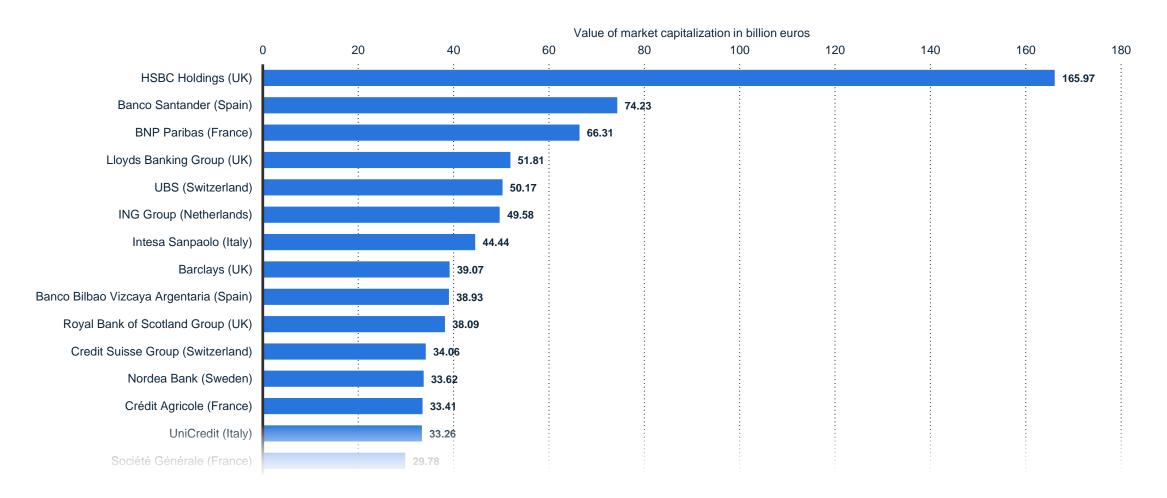
Total revenues, or otherwise stated as total income, gross earnings or the sum of net interest income, fee and commission income, trading income and other income, displays a bank's gross revenues minus interest expenses. Also comparable to turnover or sales volume, total revenues find their distinction in the fact that only the interest payment and fees associated of a bank loan show up in the profit and loss (P&L) sheet. This is different to a normal enterprise which would include the purchase price of an item sold as revenue.

Equity capital, like total assets, is a balance sheet figure easily found through annual financial reports of almost all financial institutes. Like market capital, it gives an estimation of a company's worth and is seen as a relevant value indicator, like that of total assets. In simple terms, total equity is the sum of capital raised from a bank's owners and of profits retained from its operations over the entire lifetime of the business.

Risk-weighted assets (RWA) measure the risks involved in each position a bank holds and sum these up into an overall figure. The calculation of each asset is based on the risk it poses. For example, an unsecured loan poses a larger risk of repayment than that secured with collateral.

Leading banks in Europe as of May 2018, by market capitalization (in billion euros)

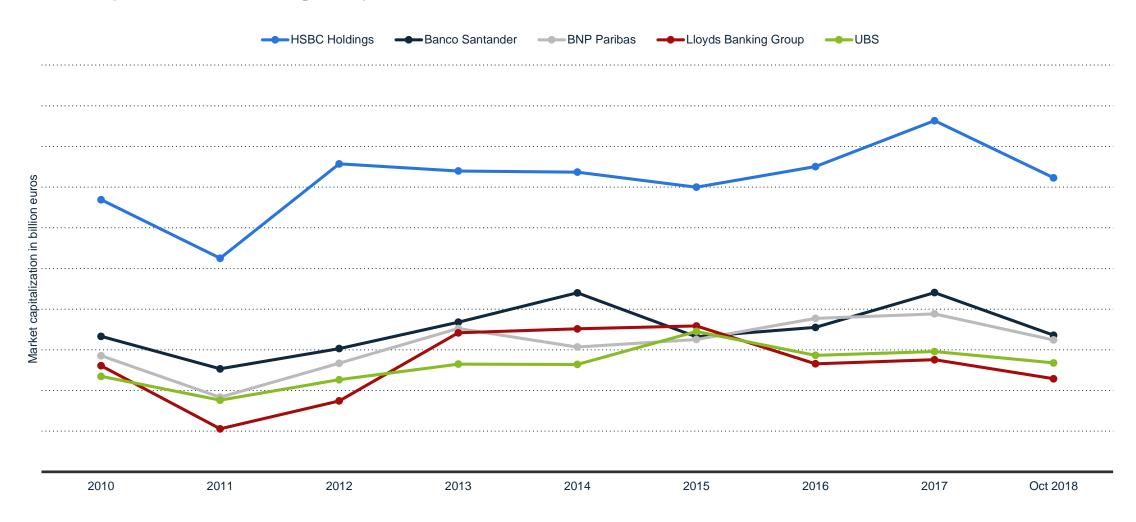
Leading banks in Europe as of 2018, by market capitalization



Note: Europe; May 31st 2017 Source(s): BanksDaily.com

Leading banks in Europe from 2010 to 2018, by Market capitalization (in billion euros)

Market capitalization of leading European banks 2010-2018

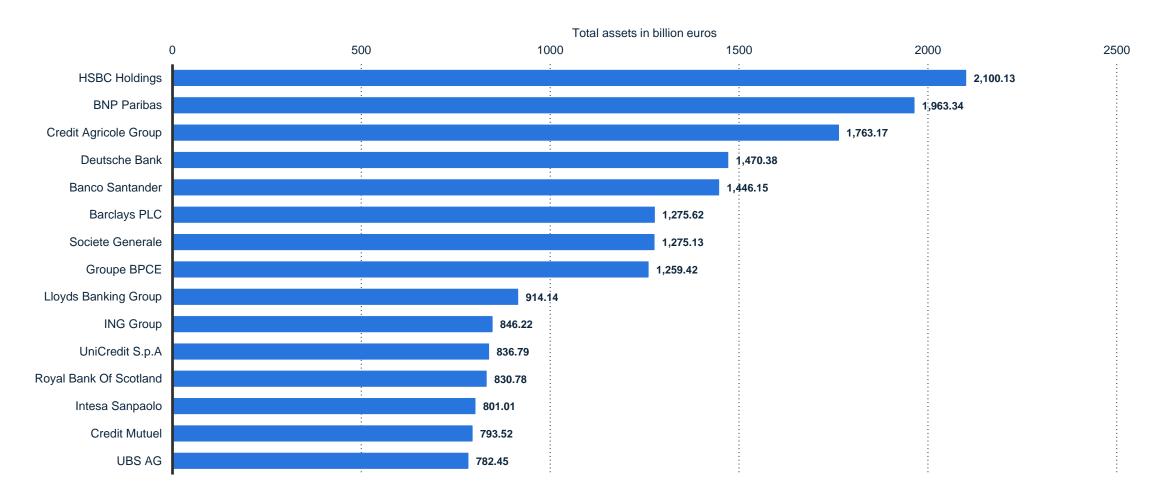


Note: Europe; 2010 to 2018

Source(s): Various sources; Statista estimates; YCharts; London Stock Exchange

Leading banks in Europe 2017, by total assets (in billion euros)

Largest European banks in 2017, by assets

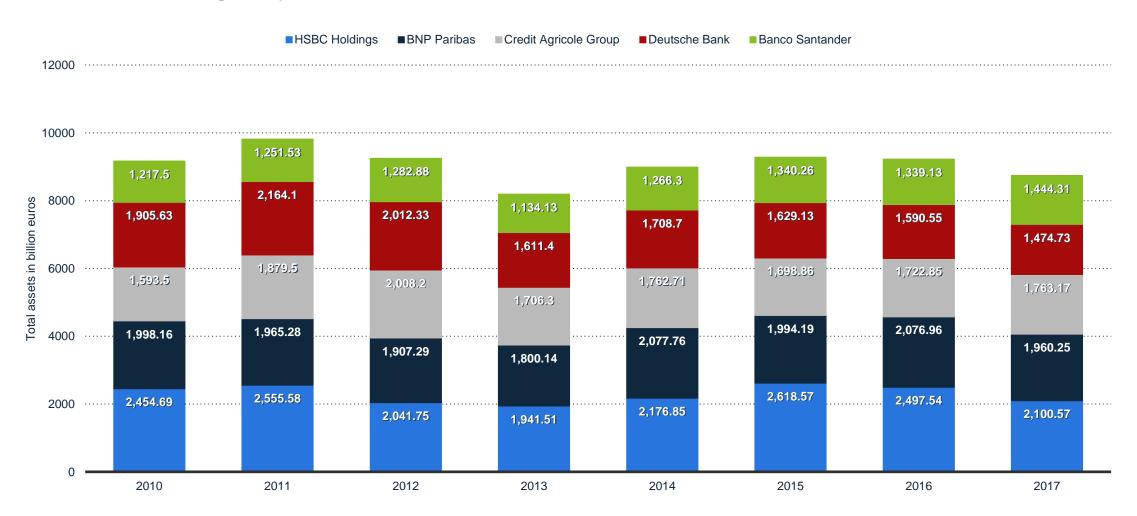


Note: Europe; 2017

Source(s): S&P Global Market Intelligence

Leading banks in Europe from 2010 to 2017, by total assets (in billion euros)

Total assets of leading European banks 2010-2017

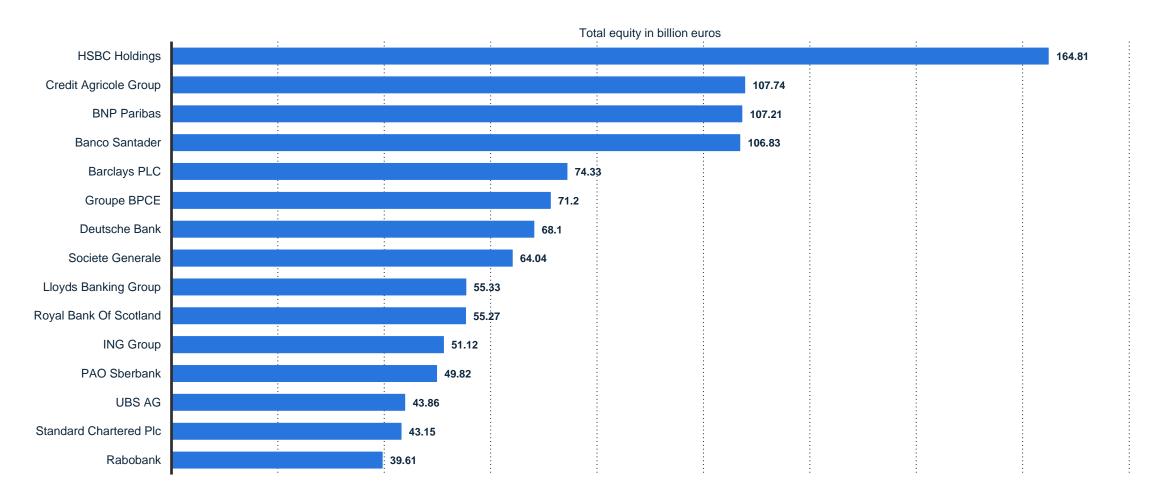


Note: Europe; 2010 to 2017

Source(s): Various sources; Statista estimates

Total equity of leading banks in Europe in 2017 (in billion euros)

Total equity of leading European banks 2017

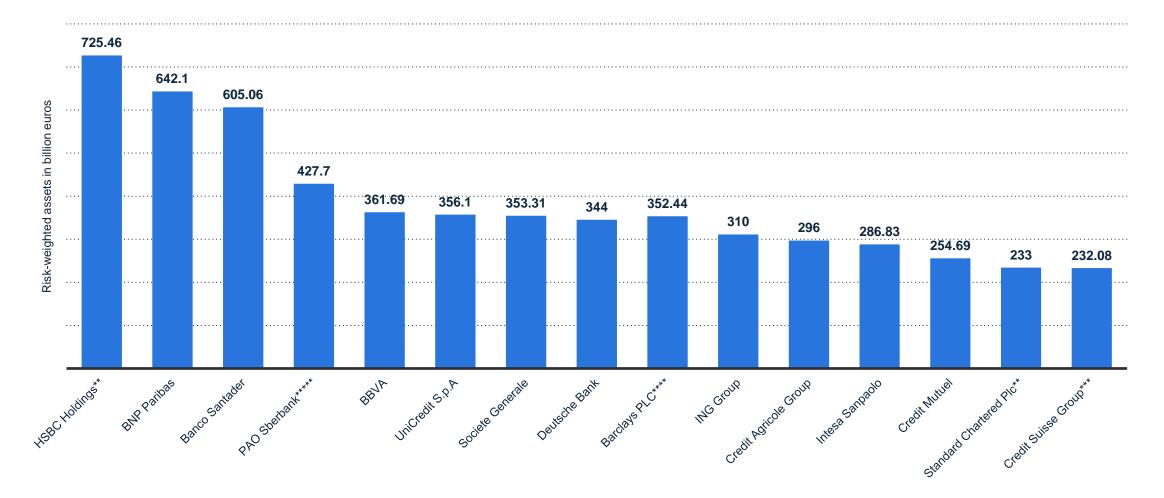


Note: Europe; 2017

Source(s): Various sources; Statista estimates; YCharts; London Stock Exchange

Risk-weighted assets (RWA) of leading banks in Europe in 2017 (in billion euros)

Risk-weighted assets of leading European banks 2017



Note: Europe: 2017*

Source(s): Various sources; Statista estimates; YCharts; London Stock Exchange



04 Banking business models

- UK Retail and commercial banks
- Germany Co-operative, savings and private banks
- Russia State-owned banks



The United Kingdom: Retail & Commercial Banks

Retail Banks – when most people visualize a bank and its key areas of business, they most likely think of a retail bank. Retail banks are based around fulfilling the financial needs of the general public as well as small and medium enterprises (SMEs). They base their business around providing bank accounts, loans, credit cards and insurance to individuals.

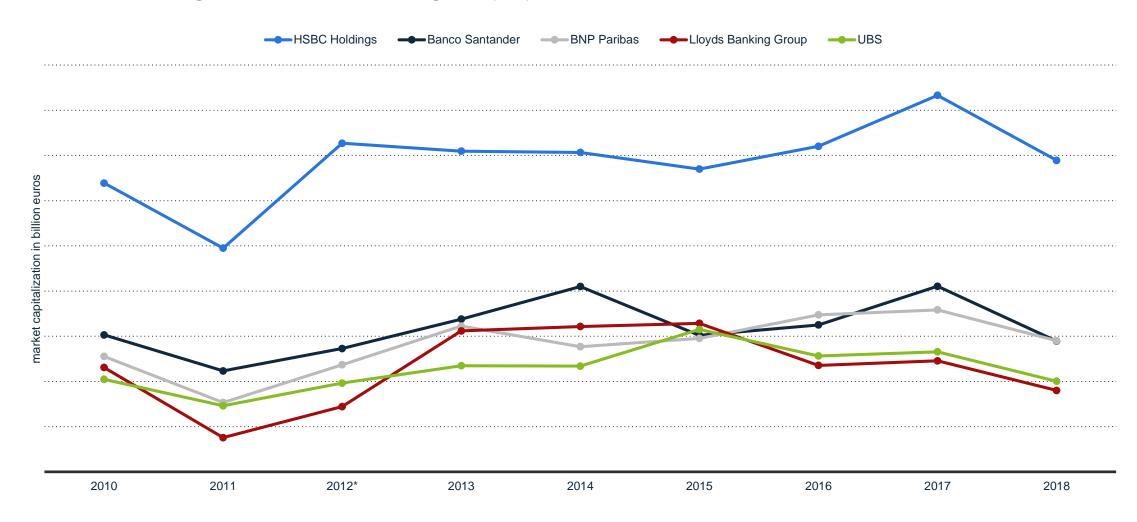
Commercial - or corporate banks are a type of financial institution that accepts deposits, offers checking account services, makes business, personal and mortgage loans, and offers basic financial products. The difference between retail and commercial is that the first deals with people and the second with enterprises. In the UK, almost all retail banks offer commercial services as well.

The United Kingdom's banking industry is driven by a select few retail/commercial banks with 49.1 million individuals owning a current account as of 2017. The UK's top four banks are all retail/commercial banks. They had over 4.8 trillion euros in total assets and boasted approximately 78 million customer accounts between them.

Although the UK's banking market is dominated and controlled by a select few, there are still openings for new arrivals. With the drive of online banking (especially with the younger audience), as well the UK's growing FinTech industry, windows of opportunity have been cracked open. This is especially true with the arrival of challenger banks. The question is whether they will open up the market fully or whether the banking giants swing them shut again through direct competition or mergers and acquisitions.

Leading banks in the United Kingdom (UK) from 2010 to 2018, by revenue (in billion euros)

Revenue of leading banks in the United Kingdom (UK) 2010-2018



Note: United Kingdom; 2010 to 2018

Source(s): Various sources; Statista estimates; YCharts; London Stock Exchange

Leading banks ranked by total assets in the United Kingdom (UK) from 2012 to 2018 (in trillion GBP)

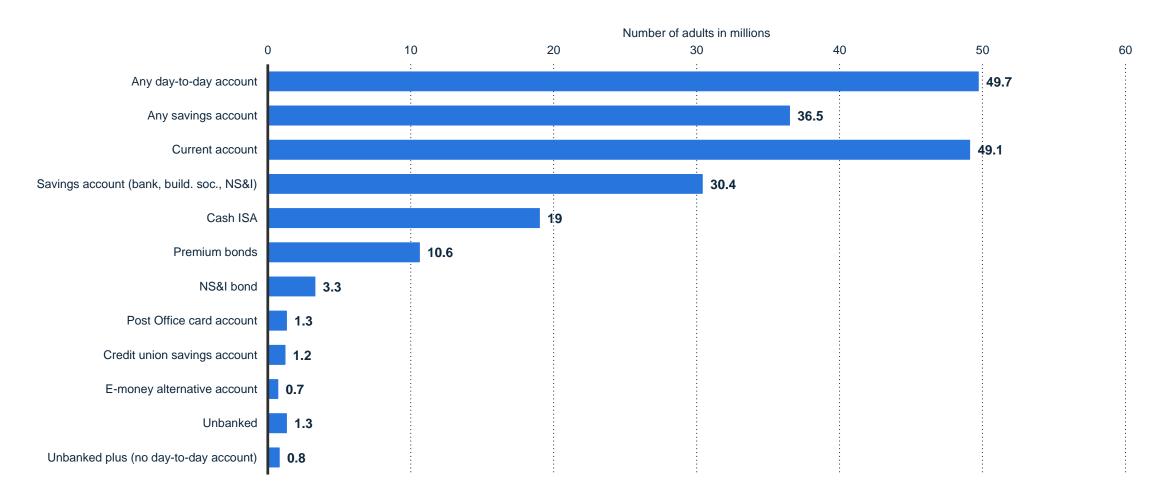
UK banks assets expressed in trillion British pounds 2012-2018



Note: United Kingdom; 2012 to 2018** **Source(s):** relbanks.com

Number of adults with retail banking or savings accounts in the United Kingdom (UK) as of October 2017, by type (in millions)

Number of adults with retail banking or savings accounts in the UK 2017, by type



Germany: Co-operative Banks

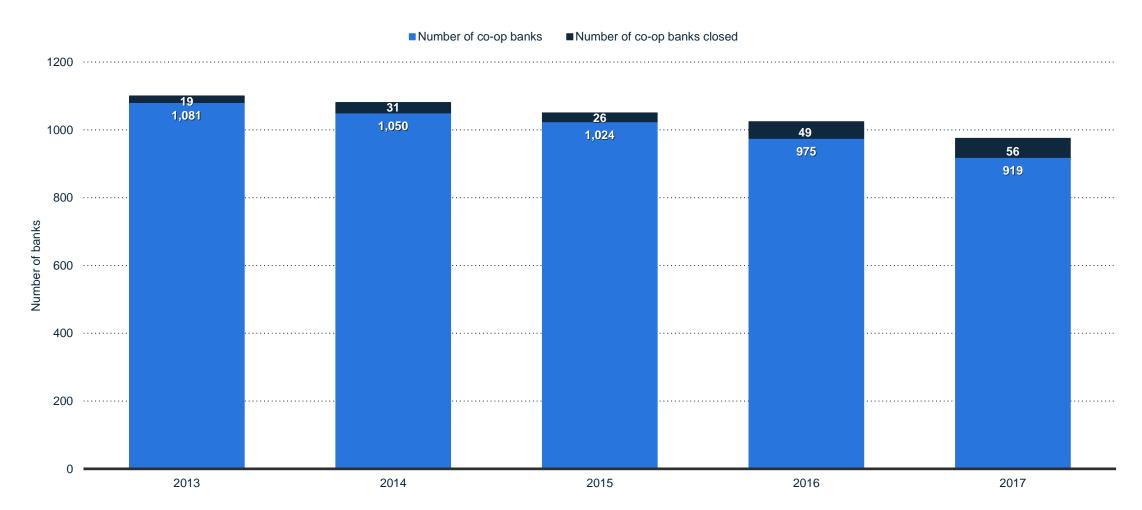
As of the end of 2017, Germany had 1,823 credit institutions, far higher than any other country inside Europe. Structurally, Germany's banking sector is made up of three main components. Commercial, savings and co-operative banks make up for the vast majority of banks competing, with 93% of all banks falling under these categories in 2017.

Despite leading Europe in terms of numbers, these figures have seen a continued decline over the previous years – a trend that is not likely to slow anytime soon. Compared to 2016 alone, the industry saw a fall of 3.4%. An increasingly competitive environment, and above all a spell of low interest rates, have forced financial institutes to make large spending cuts. Joachim Wuermeling, an executive board member for the Bundesbank, said, "The pressure is therefore mounting for smaller and medium-sized banks, in particular, to pool their resources and enter into mergers."

Co-operative banks, which operate as universal banks, are owned through shares by their customers. They focus their business model on providing retail banking products to individuals, the self-employed and SMEs. In Germany, co-operative banks consist of local co-ops (Volksbanken & Raiffeisenbanken), PSD-Banks, Sparda Banks, Credit institutions for churches and the central credit institution (DZ-Bank). Their business model, due to its localized nature, is maybe the reason why, in an evermore globalized world, they are struggling.

Number of cooperative banks in operation and closed in Germany from 2013 to 2017

Number of cooperative banks in Germany 2013-2017



Note: Germany; 2013 to 2017 Source(s): TheBanks.eu

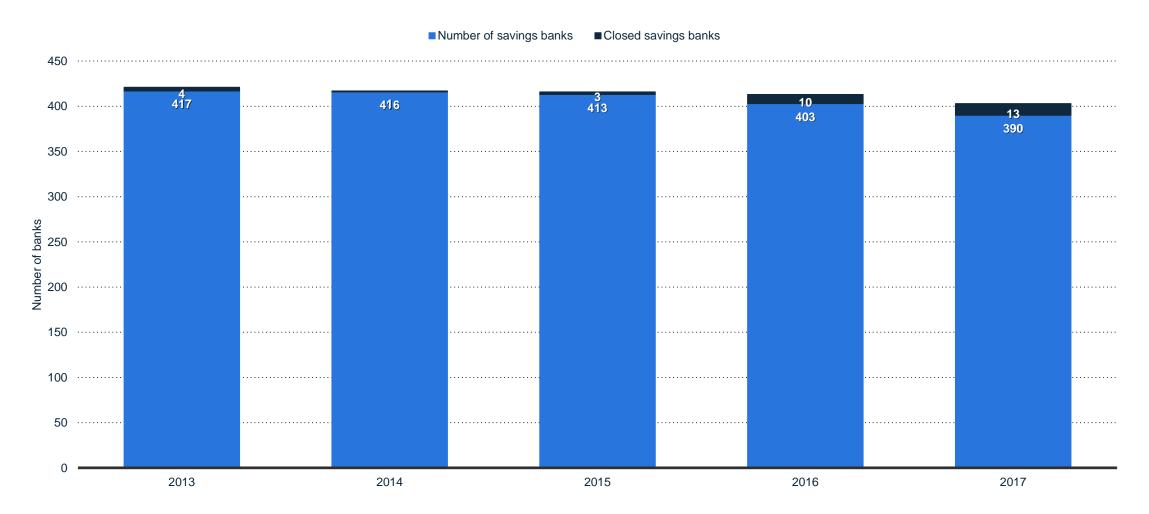
Savings and private banks

Savings Banks or Sparkassen conduct essentially the same role as any typical retail bank, providing basic financial services and personalized advice to customers across the country. The difference is that savings banks, although members of the Savings Banks Finance Group (Sparkassen-Finanzgruppe), operate as independent and decentralized banks. Like co-operative banks, they have seen a continued decline in numbers over the last several years.

Private Banks are non-incorporated banks that are owned by either an individual or a general partner(s) with limited partners. Although not specific to, private banks are often aimed at high-net-worth-individuals (HNWI) and the management of assets and investments of the wealthy. As of the end of 2017, Germany had approximately 200 private banks in operation.

Number of saving banks in operation and closed savings banks in Germany from 2013 to 2017

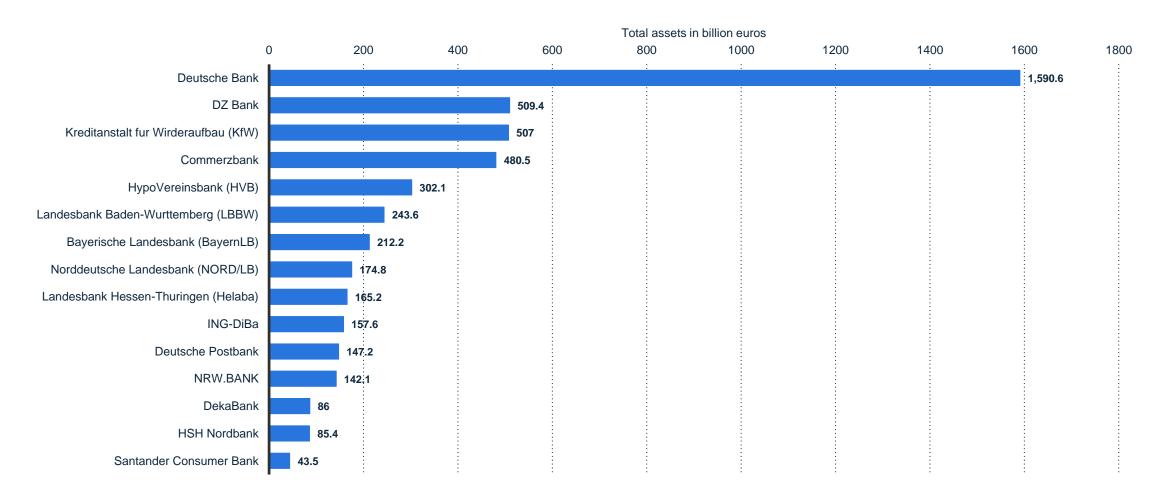
Number of savings banks in operation and closed in Germany 2013-2017



Note: Germany; 2013 to 2017 Source(s): TheBanks.eu

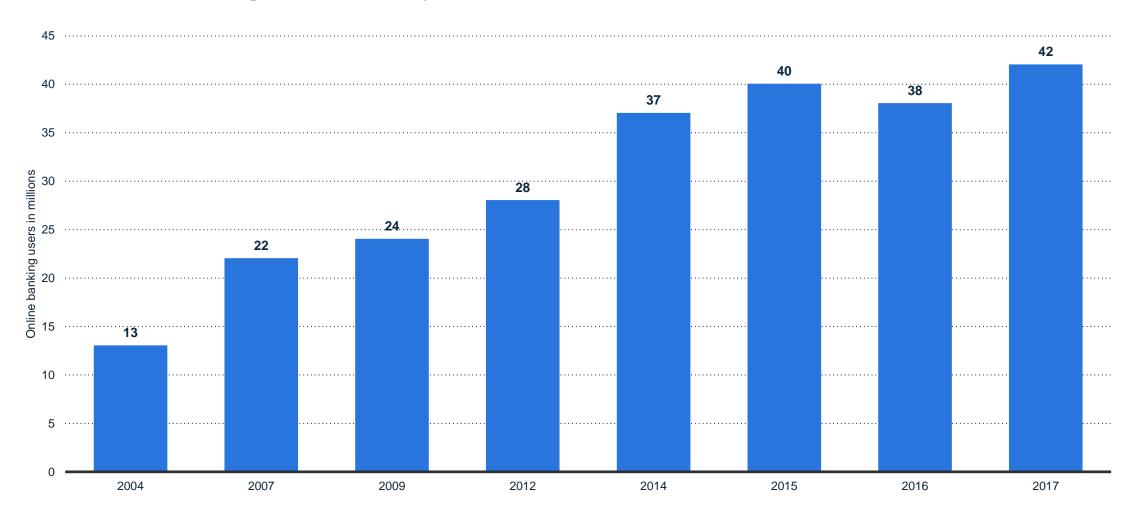
Leading German-owned banks in 2016, by total assets (in billion euros)

Leading German banks in 2016, by total assets (in billion euros)



Number of online banking users in Germany from 2004 to 2017 (in millions)

Number of online banking users in Germany 2004-2017



Russia: State-owned banks

Though it is not a part of the European Union, Russia is a great example of a state-owned banking structure. Russia's banking sector has been going through drastic restructuring and consolidating over the last five years or so. Since 2013, Russia's central bank has begun a national clean-up, re-claiming banking licenses without warning. Between January 2013 and November 2018, over 450 banks have closed across Russia. Customers at those banks were insured up to 1.4 million rubles by the state, which left many spreading their funds over a number of different banks.

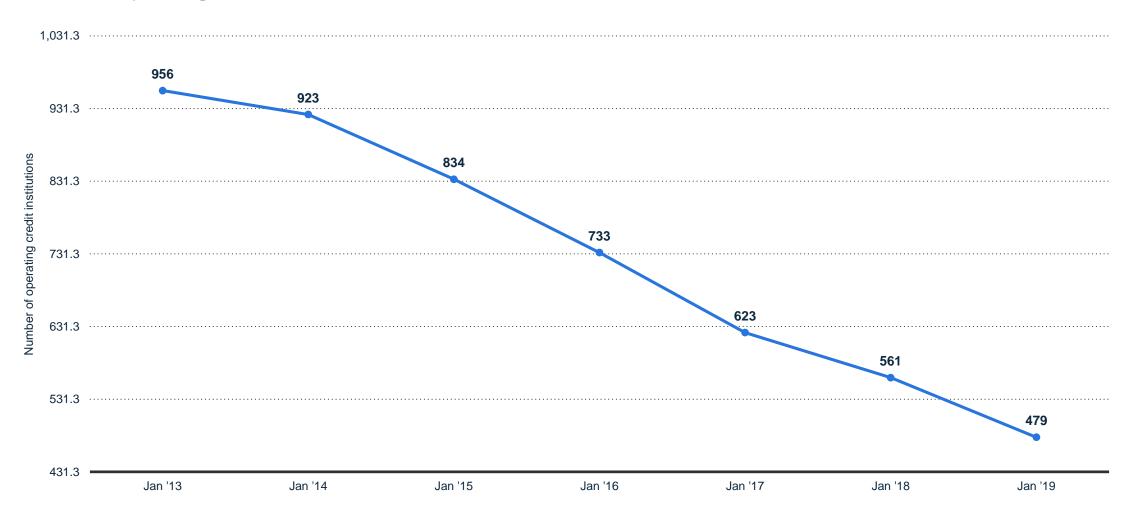
Russia's aggressive closure of private banks was created in an effort to eradicate financial fraud and other crimes within the sector, although some have argued it conveniently strengthens Russia's state-owned banks (SOB) positioning while weakening (if not destroying) competition from private banks.

State-owned banks are banks that are owned by the government – and Russia's SOB control everything (figuratively). As of Q2 2017, Russia's top five banks (all state-owned) accounted for 56% of total assets in the banking industry. Only one private bank, Alfa-Bank, is currently in Russia's top 10 banks.

With that in mind, it may seem justifiable to believe that Russia's move into the digital future may be lagging, seeing as its financial sector is not driven by profit hungry corporations. That assumption may be somewhat correct in terms of an open market but it does not mean that it is stagnant. It appears that Sberbank, Russia's largest state-owned bank, is a FinTech leader for the country, developing technologies and services to an already huge online customer base. For Russia's online only banks, the issue may be that that ladder is simply too tall to climb when up against the likes of Sberbank.

Number of operating credit institutions in the Russian Federation from January 2013 to January 2019

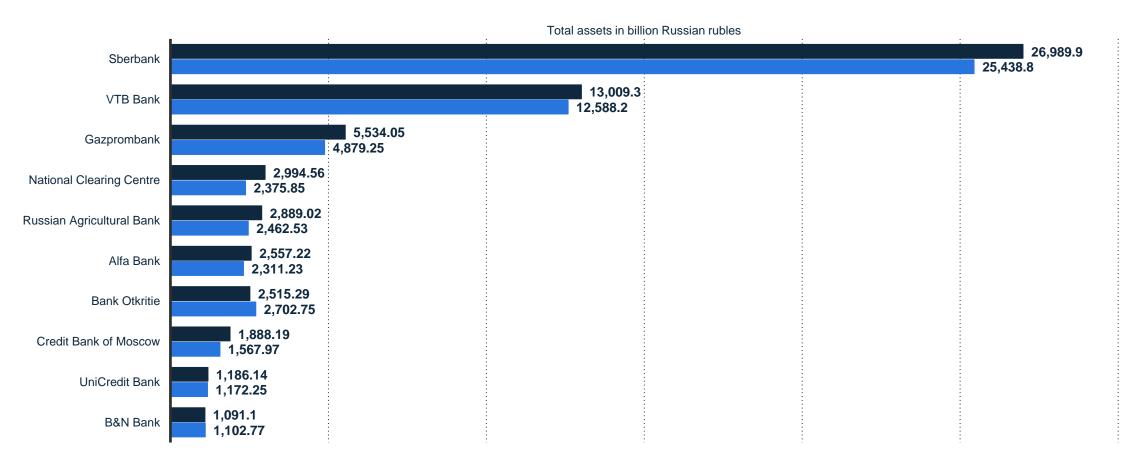
Number of operating credit institutions in the Russian Federation 2013-2019



Total assets of leading banks in Russia from 2016 to 2017 (in billion Russian rubles)

Leading banks in Russia 2016-2017, by total assets





Note: Russia; 2016 to 2017

Source(s): Various sources; Statista estimates

Go it alone or play nice?

Banking digitalization based on customer base and business model

In terms of structuring, business is likely to continue as usual for the majority of banks. The way in which banks approach customer retention and attraction as well as embracing technological advances, on the other hand, are likely to see dramatic advances over the coming years.

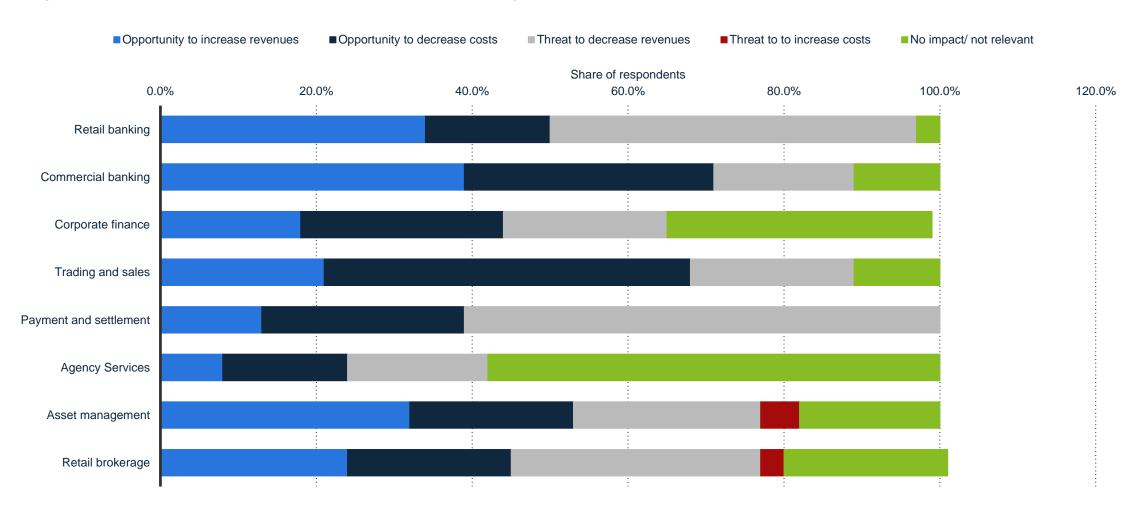
Many of Europe's leading banks have been preparing themselves for a digital revolution for many years and the customer base of banks will dictate how much a bank must remodel and adapt to face the needs of those customers. Those that are in the retail and commercial banking market should see the great potential for revenue growth in the future through co-operation and acquiring of FinTech firms for better customer experience. Corporate banks, on the other hand, alongside private banks concentrating on high-networth-individuals, have far higher rates of face-to-face interaction with their customers and therefore may be less inclined to invest so heavily into digital centric products.

For the average consumer, the future of banking in Europe is certainly an exciting one. The way we bank now relies less on the physical and more on the digital. Customers want to see their banks less but interact more. Banks have been notoriously singular in their business approach, but it appears that now is the time to share the toys if they want to be able to continue to play.

It seems that there are now two main ways forward for banks. The first, which the likes of Santander are pioneering, is through acquisition, investment and partnership of FinTech companies. This is an approach of opportunity, an embracing of potential to use technology experts to enhance their own business. The other approach taken by some giants would be that of HSBC and the Royal Bank of Scotland, which are choosing to face challenger banks face on by investing internally to offer their own online only brands.

How do you see FinTech firms affecting the current business model (business lines) of your bank?

Impact of fintech on bank's business models in Europe H2 2017



Note: Europe; October to December 2017; 18 years and older; 37 European banks; 15 EU Credit Institutions Source(s): EBA



05 Online banking penetration and traffic

- Number of online banking customers
- Online banking penetration
- Most popular mobile banking apps
- Most popular desktop banking websites



Even Grandma banks online

Online banking customer expectations

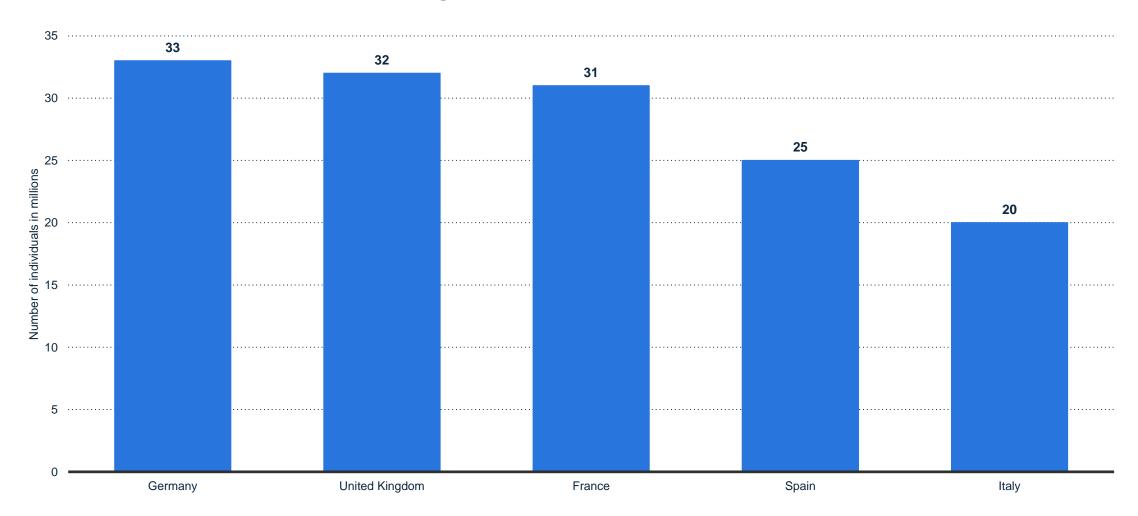
Whether your great auntie wants to admit it or not, online banking is here and it's growing. In a mere 10 years, the share of adults in the EU that have used online banking regularly has grown by nearly 20 percent. As of 2017, countries such as Finland, Denmark and the Netherlands had an online banking penetration rate of approximately 90%.

With online only banks such as Revolut reporting between six and eight thousand new customers per day, the need for traditional banks to adapt their approach to digital banking could not be more apparent.

Customer expectations and behavior is one of the key drivers behind the need for banks to incorporate and improve online banking services. Consumers now demand easy access, intuitive, fast and user-friendly interfaces. 24/7 access and customer support are essential to maintaining customer loyalty in an ever more competitive environment. Essentially, consumers demand all of their financial needs under one roof.

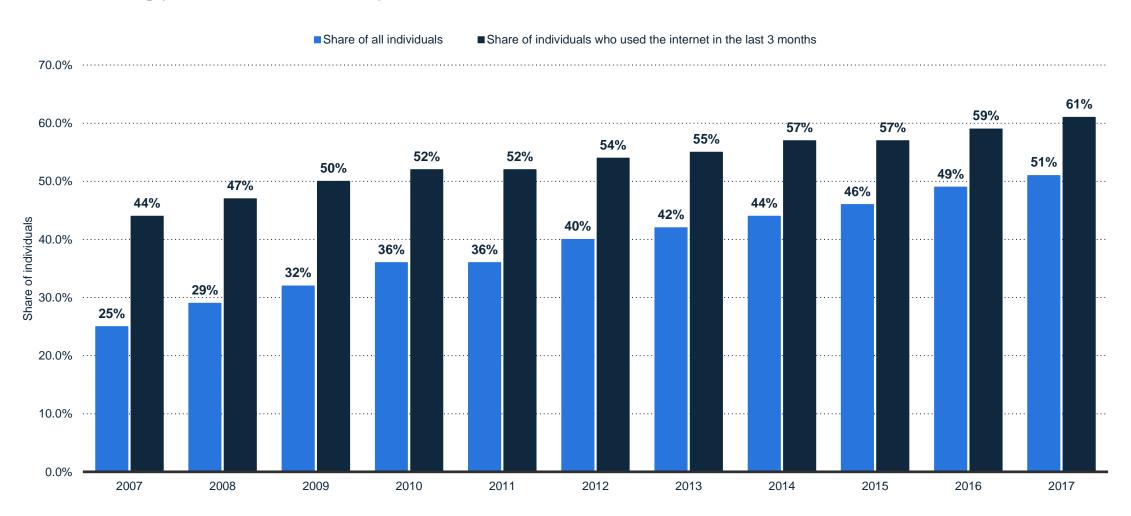
Number of individuals that use online banking services in select European countries as of March 2018 (in millions)

Number of individuals that use online banking in the EU-5 countries 2018



Online banking penetration in the European Union (EU28) from 2007 to 2017

Online banking penetration in the European Union 2007-2017

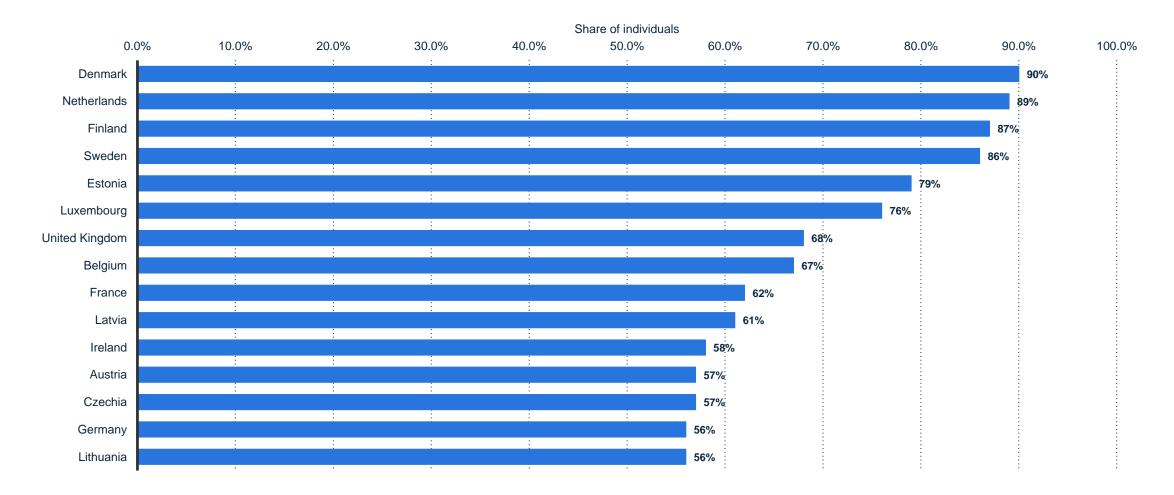


Note: EU; 2007 to 2017; 16 to 74 years

Source(s): Eurostat

Online banking penetration in the European Union (EU28) in 2017, by country

Online banking penetration in countries of the European Union 2017

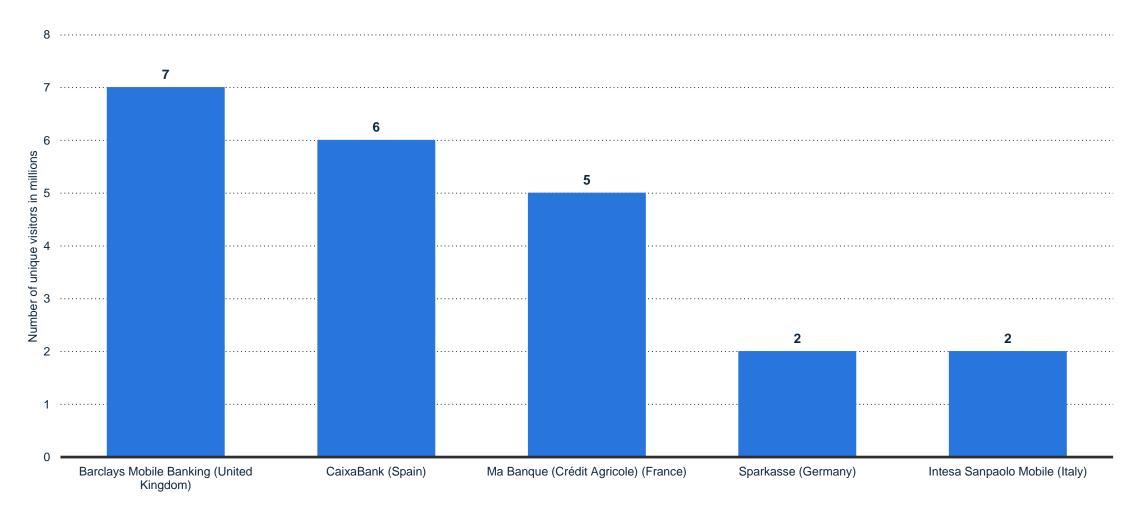


Note: EU; 2017; 16 to 74 years

Source(s): Eurostat

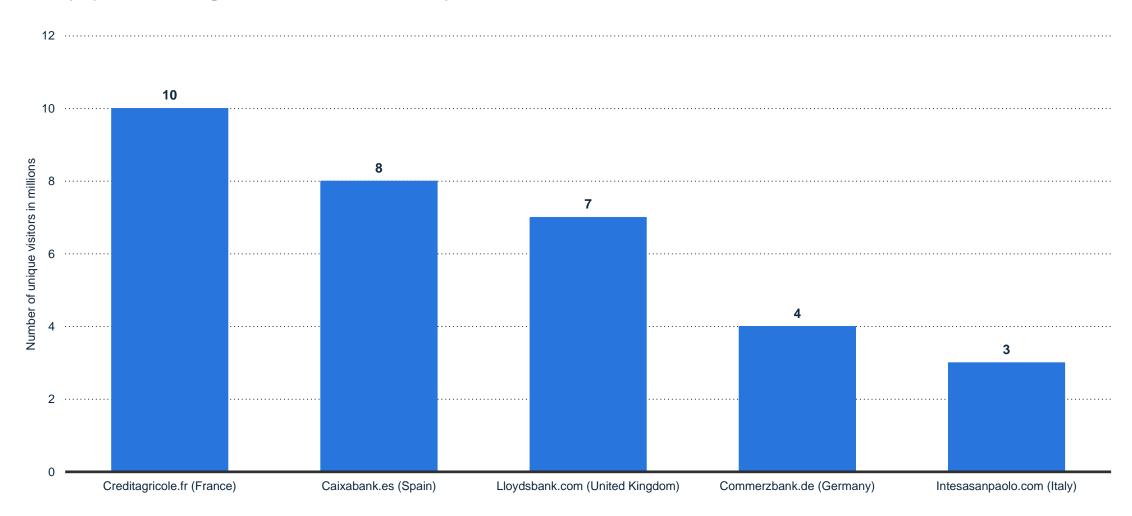
Mobile banking apps with the most traffic in select European countries as of March 2018 (in millions)

Most popular mobile banking apps in select European countries 2018



Desktop banking websites with the most traffic in select European countries as of March 2018 (in millions)

Most popular banking websites in select European countries 2018





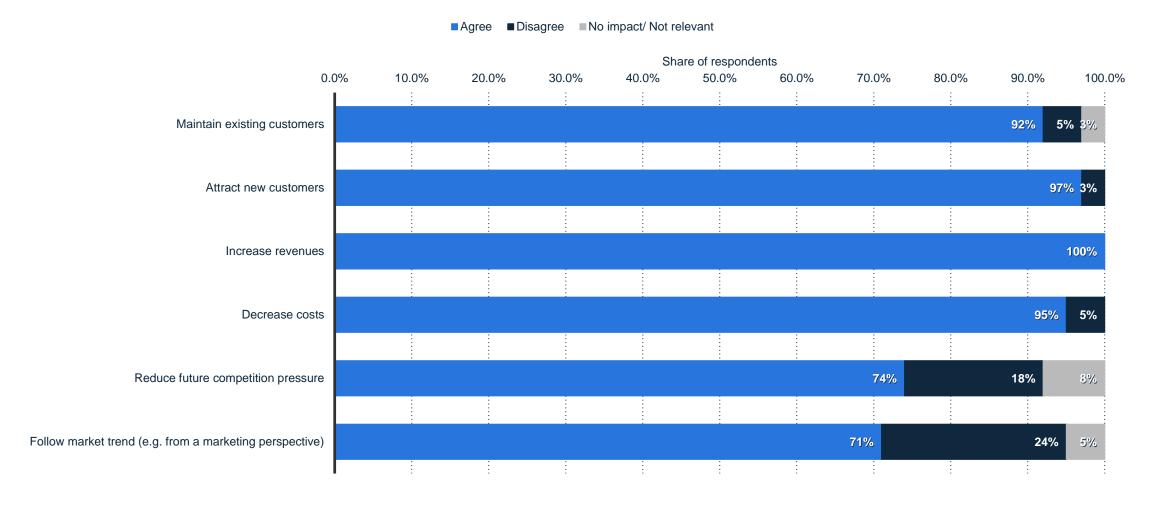
06 Embracing the change

- Main reasons for relationships with FinTech's
- Leading banks for Fintech portfolios
- N26 and Revolut timelines



Main reasons for European financial institutions and FinTech companies to have a relationship in 2017

Main reasons behind bank and FinTech relationships in Europe 2017



The game is on but are banks playing?

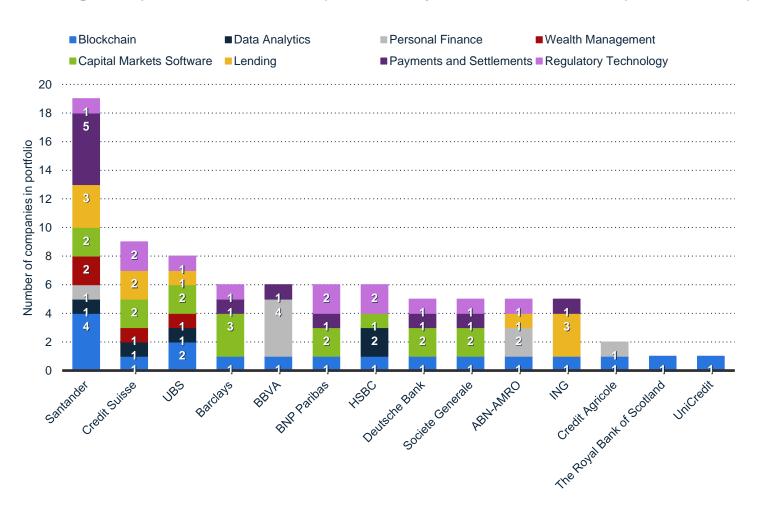
Across Europe's EU5 countries, a total of 141 million individuals use online banking services. Due to their customer base, the top 5 most used banking apps via desktop and mobile are still all traditional brick and mortar banks. That being said, Europe's largest banks have been looking over their shoulders for some time now, aware that challenger banks are beginning to bite at their heels. Revolut reportedly takes between six and eight thousand new customers per day. If this is true, traditional banks should be quaking in their boots.

To fight off the advance of the newcomers, the wisest banks in Europe were early to invest in FinTech partners, creating business affiliations and implementing services from tech experts into their online banking sites and apps. Opening the doors to FinTech companies is a step towards better innovation. Banks that open up to third parties and embrace open API banking will have end products that are far more engaging and give a much richer customer experience. Banks that manage to create a single interface which meets all of their customers needs are likely to create a home for the financial needs of their customers, instead of simply being an aspect of it.

"Some banks embrace innovation.....while other banks have a department called Innovation." – Christian Ball, Head of retail banking GFT Group

Number of FinTech companies in portfolios of select European banks as of 2nd quarter 2018, by FinTech Sector

Leading European banks in Europe 2018, by number of FinTech portfolio companies



If you can't beat them, invest.

Spain headquartered Santander (Santander InnoVentures) have proven themselves leaders in FinTech investment. Their portfolio now ranges from blockchain to payments and settlements. Santander has taken an approach of adoption towards FinTech companies, using their knowledge and technology to improve and expand their customers' online banking experience.

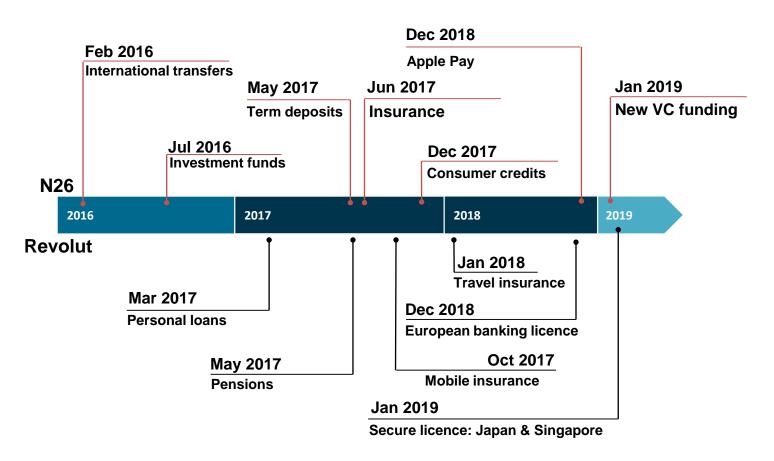
Note: Europe; 2012 and the 2nd quarter 2018 **Source(s):** CB Insights

Supply and demand

Timeline - Revolut and N26 implementation of new products

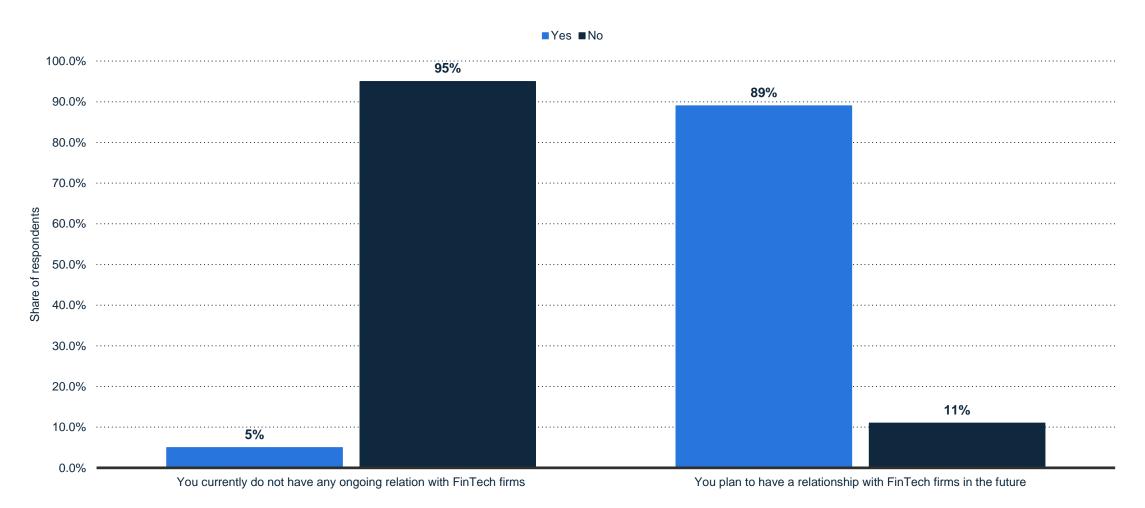
There is a clear supply and demand in the argument of banks vs FinTechs. Banks have the customers, capital and financial regulatory experience and FinTechs have the tools and technology to face a digital future. There have been, and will continue to be, partnerships between the two. The question is whether the traditional banks can implement technology quick enough to keep up with the threat of challenger banks.

Online banks can roll out new products to their single interface across whole markets with break-neck speed whereas a traditional bank needs far longer due to the institutionalized nature in which they conduct their business. Online only banks N26 and Revolut have partnered up and implemented new products at a speed that the big banks simply cannot match. Now that online only banks such as Revolut have secured a banking license it appears the game is well and truly on.



Share of financial institutions that either have or plan to have a partnership with FinTech firms in Europe as of 2nd half 2017

Partnership between banks and new entrant FinTech firms in Europe H2 2017



Information is power

Consumer data as a key to future success

Banks have had the upper hand when it comes to embracing the changes needed for the banking future and it may come as a surprise in its form. Of course, having access to vast amounts of capital is definitely a positive but the upper hand that we are speaking of here is something that banks have been sitting on for a long time, have vast amounts of and most likely undervalued its importance for far too long.

This treasure trove is, in fact, customer data. Banks have been collecting and storing our financial history from the day we open an account with them. Our payment, investment, savings and loan behavior gives unbelievable insight into the kinds of lives we lead and is the key to offering new tools and platforms that will keep customers loyal. Being able to tailor products based on an individual's payment behavior will allow banks to personalize the customer experience, warming up an otherwise notoriously cold industry.



07 PSD2 and the opening of banks

- PSD2 explained
- Total value of investment in FinTechs

Payments Services Directive (PSD2)

Implementation of new regulations to increase competition in the banking sector

On the January 13, 2018, the new EU Payments Services Directive (PSD2) came into effect, creating new laws to improve on consumer rights initially set out in 2007 with the introduction of PSD. These new laws built on the previous legislation in three areas. Whereas the first two build on customer rights and enhanced security, the third new implementation is the most interesting in terms of retail vs challenger banks. In essence, it forces Europe's big banks into releasing account information to third-party enterprises, providing the framework for new payment and account services. The customer data that banks have been collecting and storing so long without really exploiting it, might well be their downfall as third-party companies and FinTech newcomers can now analyze and mine this data to enhance the consumer experience and create intuitive platforms that work for the digital age customer.

PSD2 has promised to revolutionize the banking industry in Europe and change the sector forever. Some would be forgiven in thinking the change and effects would be instantaneous although things have gotten off to a slow start on the side of some established banks. Although there is so much potential behind the changes for established banks, there are a number of reasons why banks are hesitant to 'open up' and share their data.

Reasons for doubt

Main reasons behind banks being unresponsive to PSD2

Lack of incentive for banks

Implementation costs, overhauling of technology and long-standing practices are seeing many of the larger banks merely meeting the minimum requirements rather than embracing them.



Fear of market share loss

Many banks believe their bottom lines could be negatively affected by the new regulations.





Traditions

Change is something that is not easily met when you have been working a specific way as long as most large banks have.



A change in business modeling

Banks now have to make the choice whether they will offer banking as a platform or as a service. Will they invest and join with FinTech companies or weather the storm with their own products?



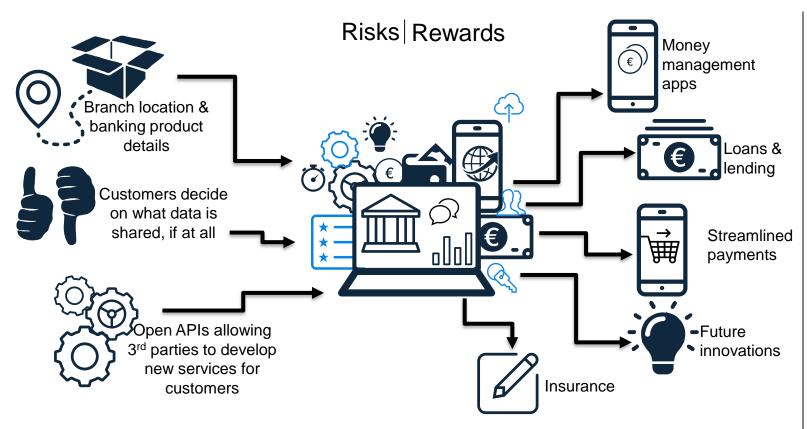


Security

Many banks are worried about open APIs being a security risk to their organization.

Some risks are worth the rewards

PSD2 (Europe) AKA CMA Open Banking (UK)

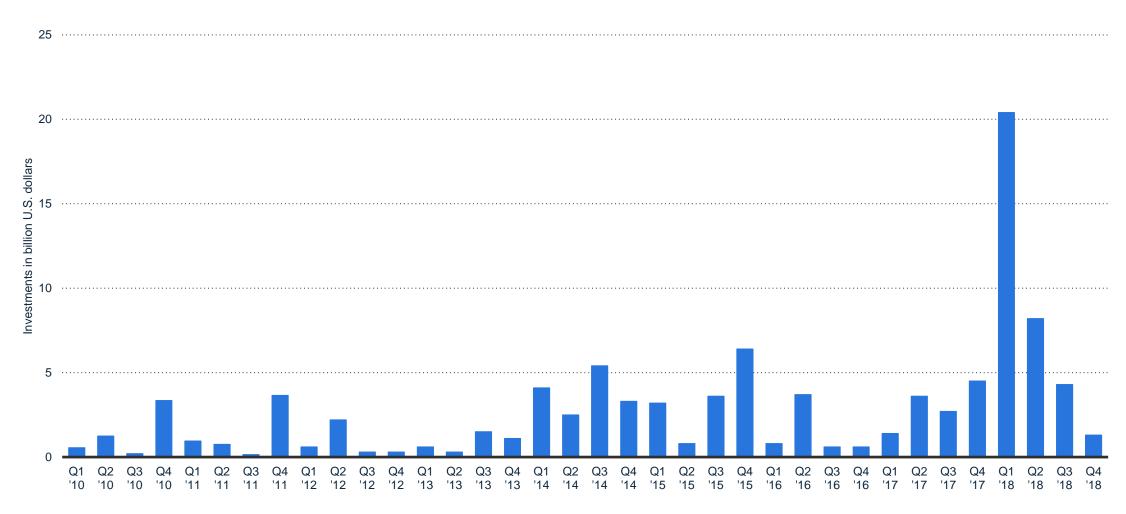


PSD2/open banking sees banks share information with third parties through API's including branch and ATM locations as well as product details. The new additions to regulations are to increase competition in the finance sector, increase security and making ensure customers are at the heart of the industry.

The new regulations are already seeing a surge in innovation in key financial areas such as payment integration, money management, consumer lending and insurance. Banking apps are now becoming a one stop shop for all a customer's financial needs.

Total value of investments into Fintech companies in Europe from 1st quarter 2010 to 4th quarter 2018 (in billion U.S. dollars)

Total investments into Fintech companies in Europe Q1 2010-Q2 2018





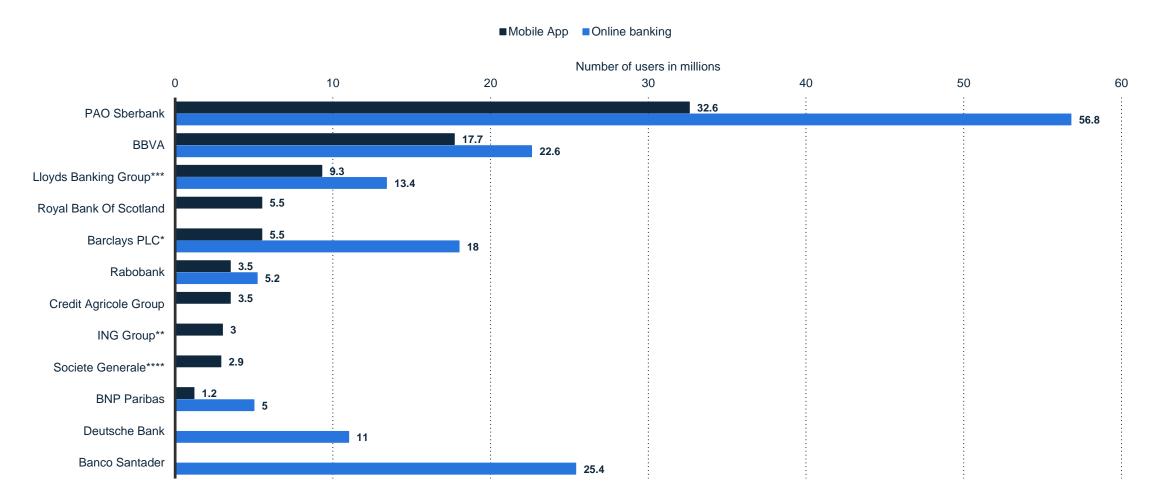
08 Brick and mortar vs challengers in figures

- Number of mobile banking users
- Forecasted growth of select NeoBanks
- Customer numbers
- Venture capital funding
- Brand value of banks



Number of individuals that use online and or mobile banking in Europe in 2017, by bank (in millions)

Number of digital and mobile app users in select European banks 2017

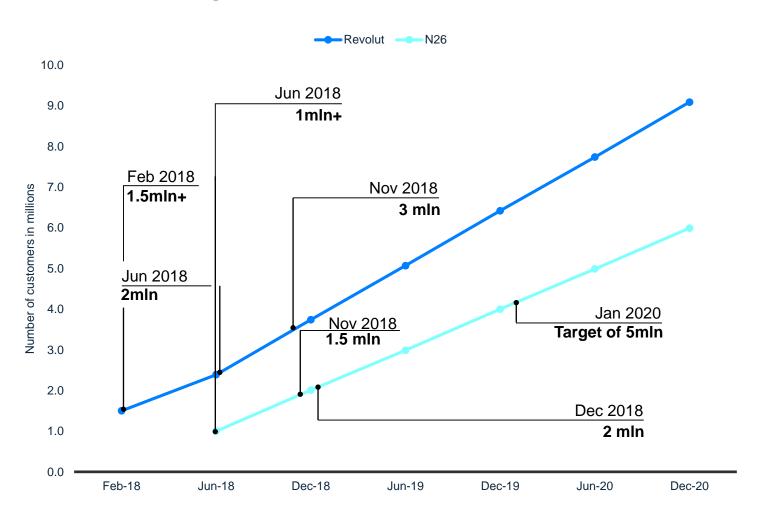


Note: Europe; 2018

Source(s): Various sources; Statista estimates

Forecasted growth in customers of online only banks Revolut and N26 from 2018 to 2020 (in millions)

Estimated customer growth of Revolut and N26 2018-2020



Although estimations based on current customer growth show N26 will not meet their target of five million customers by 2020, both companies are launching soon in the United States and other global markets, which would significantly affect the figures displayed. New funding generated by the Berlin based N26 in January 2019 will likely help towards there 2020 five million customer goal.

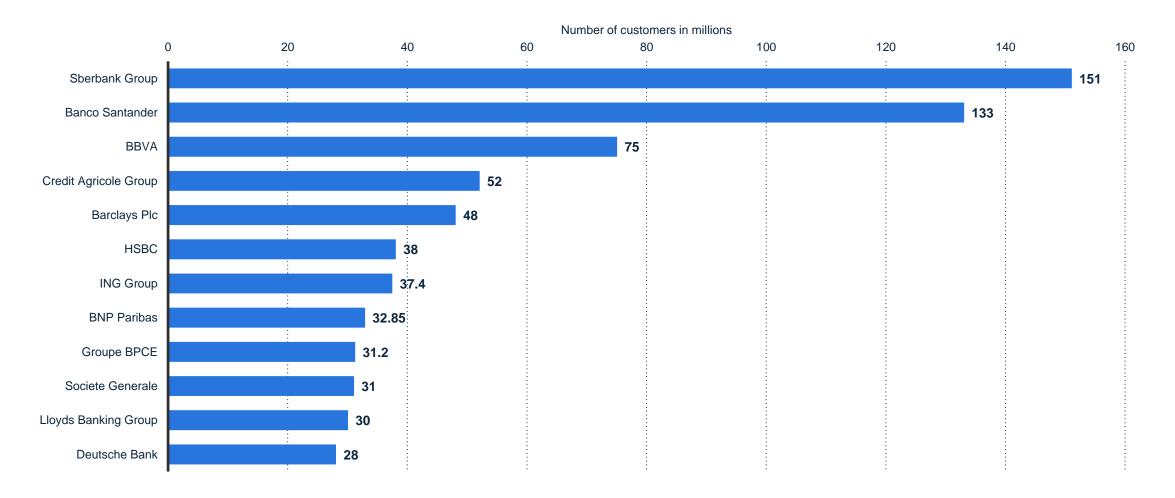
UK-based Revolut currently operate in 32 countries in Europe and are planning expansion into the United States, Canada, Australia and Singapore. With Revolut announcing 3 million customers as of November 14, 2018 it appears there is no slowing their growth.

Note: Europe; 2018

Source(s): Statista estimates: Various sources

Number of customers worldwide of Europe's largest banks in 2017 (in millions)

Leading banks in Europe 2017, by global number of customers

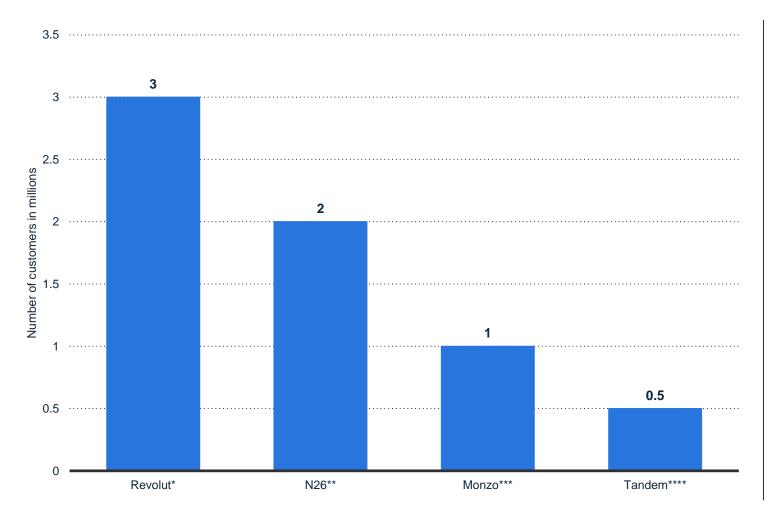


Note: Europe; 2017

Source(s): Various sources; Statista estimates

Number of customers at select online only banks in Europe in 2018 (in millions)

Number of customers at European online banks in 2018



"Whilst it is encouraging to see that our business model is working, becoming a profitable business is not our priority right now. We are completely focused on expanding Revolut to as many countries around the world as possible, with the United States, Singapore and Australia almost ready to go."

 Nikolay Storonsky, founder and CEO of Revolut

"We believe that N26 is a role model for the bank of the future. Customers around the globe are looking for a new banking experience, as user behavior among millennials has shifted dramatically towards a mobile experience."

- Valentin Stalf, founder & CEO of N26

Note: Europe

Source(s): Various sources; Statista estimates

Ad-Venture capital

Venture capitalist investment in online only banks

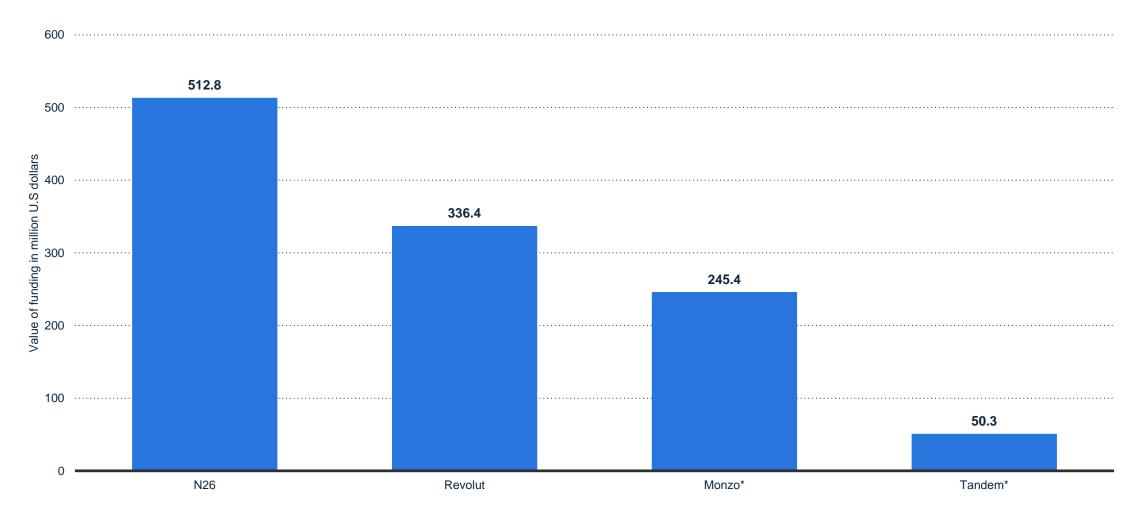
Venture capital (VC) has become the main way that challenger banks compete and flourish on the market. Investors globally are placing their bets on these newcomers to come in and take a piece of the banking pie. Revolut and N26 alone have managed to raise almost 550 million U.S dollars in VC funding to date.

Having the funds needed to challenge the big banks allows these companies to concentrate on innovation and quick infiltration into new markets without having to worry about profits. This is a fine concept to begin with as expansion is likely to lead to more customers which (in concept) will lead to larger revenue and finally profits after time. What is happening, at least in several other industries, is something that challenger banks should be wary of. Venture capital investment is exactly what it sounds like, an investment. Investors expect a return at some point and the balance between using investment to grow fast and concentrating on returning a profit is something that needs to be played carefully. At some point, if a VC-backed bank cannot gain enough customers or falls behind others in the market, the funding will run dry as investors cut their losses and move on to more fruitful opportunities.

As for now, it does appear that venture capital funding has almost a direct effect on how specific online banks are performing, especially in terms of customer numbers. Whether or not this can be sustained is something to be seen, as traditional banks increasingly spend more on improving their own online banking presence.

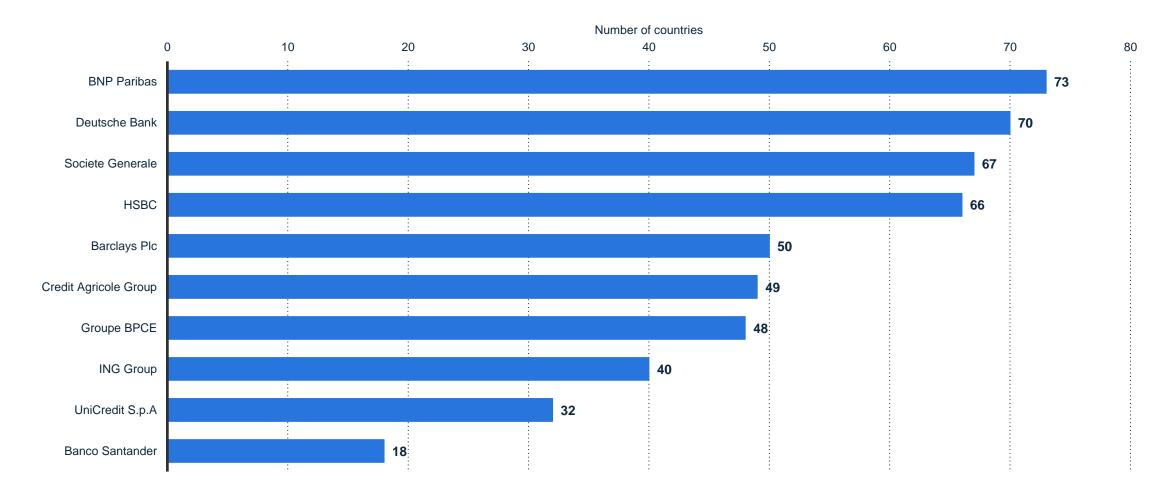
Value of funding at select online only banks in Europe as of January 2019 (in million U.S dollars)

European online banks 2019, by funding amount



Number of countries of operation worldwide of Europe's largest banks in 2018

Leading banks in Europe 2017, by number of countries of operation

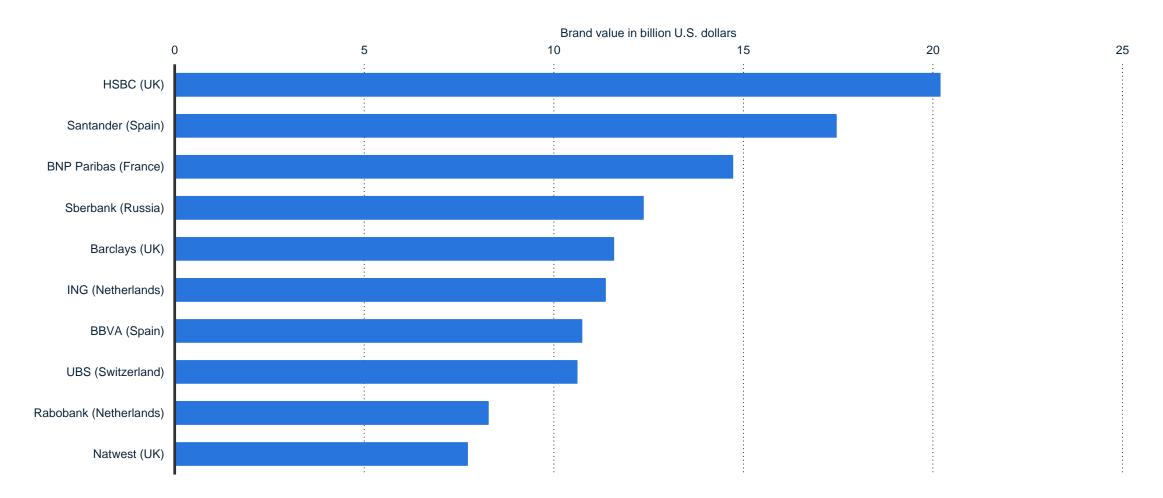


Note: Europe; 2018

Source(s): Various sources; Statista estimates

Most valuable banking brands in Europe as of January 2019 (in billion U.S. dollars)

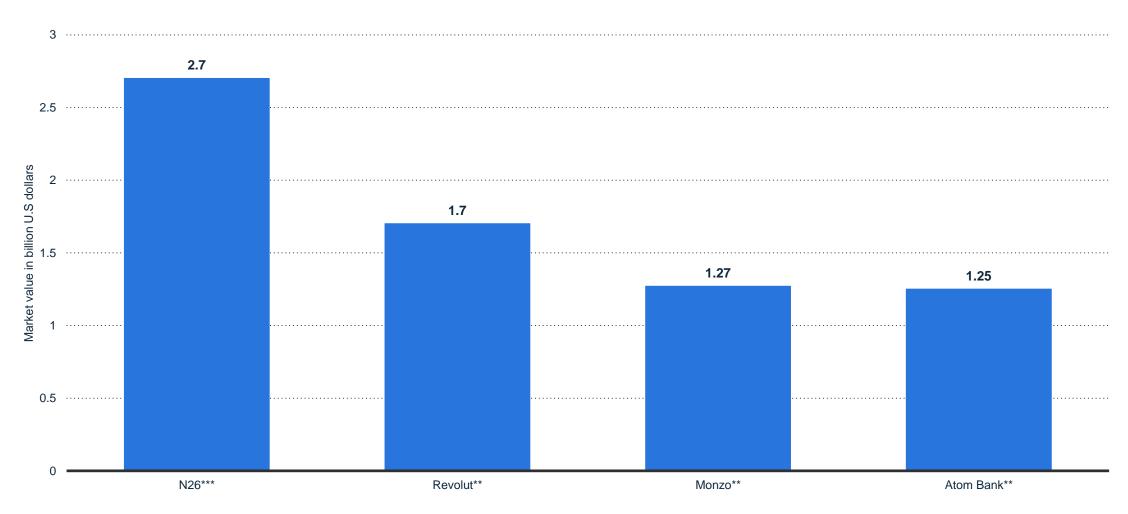
Leading banks in Europe 2019, by brand value



Note: Europe; January 2019 Source(s): Brand Finance

Largest venture capital-backed unicorn* Online banks in Europe as of January 2019, by market value (in billion U.S dollars)

Leading venture capital-backed online bank unicorns in Europe 2019



The future of banking

Adoption and adaptation key to a successful future

With the opening-up of regulations the future of institutional banks as we know them will never be the same. Large players will have to come to terms with the fact that the market is now more open than ever and that there are more players fighting for a place at the table. Whereas most saw the inception of open banking as a threat to their market share and profit margins, those that are willing to adapt will find new opportunities at their doors.

Banks will have to become a one stop shop for customers financial needs, providing advice and access to both internal and external opportunities to help individuals and businesses manage their money.

Banks will not only collect data but use it to provide a better experience to its customers, offering real time opportunities based on interactions their customers make. It is likely that banks will have to adopt a more brand centric way of doing business, seeing themselves more like google or amazon than a financial institute. Banks will have to leverage APIs and work alongside third-parties to enable customized banking to each of its customers. Consumers can no longer been seen as merely a number, but as an individual as it becomes ever easier for the disgruntled customer to move their money elsewhere. Mobile only challenger banks are set to continue aggressive expansion in a bid to compete and hope for investment capital to endure so that they can concentrate on customer numbers rather than breaking even.

It is both an uneasy and exciting time for Europe's banks, one which could see giants fall and new ones created. However it turns out, it is likely that the customer will receive a better experience.

API – Application programming interface

Asset management – The direction of cash or securities of a client by a financial services company, usually an investment bank.

NS&I account – A national savings and investment account is a government backed form of savings account.

Blockchain technology - A digital ledger in which transactions made in bitcoin or another cryptocurrency are recorded chronologically and publicly.

Cash ISA account – An individual savings account that pays tax free interest. Compared to other savings accounts there is a limit to how much can be deposited annually into a cash ISA account.

Challenger bank – A relatively small retail bank set up with the intention of competing for business with large, long-established national banks.

Checking account – A checking account is a deposit account held at a financial institution that allows withdrawals and deposits. Also called demand accounts or transactional accounts, checking accounts are very liquid and can be accessed using checks, automated teller machines and electronic debits, among other methods.

CMA – The Competition and Markets Authority is a non-ministerial government department in the United Kingdom, responsible for strengthening business competition and preventing and reducing anti-competitive activities.

Commercial banks – A bank that offers services to the general public and to companies.

Co-op banks – Retail and commercial banks that are owned by customers on the basis that every individual gets one vote.

Core equity Tier 1 ratio – The Tier 1 capital ratio is the ratio of a bank's core equity capital to its total risk-weighted assets (RWA).

Credit risk diversification – The potential benefit of a reduction in total credit risk, achieved by holding a well-diversified portfolio of

loans or other assets. Credit risk diversification is one of the economic functions of banks and other financial intermediaries.

Credit union savings account – In credit unions, members pool their savings and lend to one another. Members have something in common, such as the same employer, trade union, attending a specific place of worship or living in the same area. Credit unions use the money they earn to improve services and reward their members.

Deposits – A sum of money paid into a bank or building society account.

Economies of scale – A proportionate saving in costs gained by an increased level of production, i.e. a merger of two companies may lead to economies of scale.

Equity capital – Funds contributed by the owners of a business.

FinTech – Computer programs and other technology used to support or enable banking and financial services.

Foreign bank – A foreign bank is a bank with a head office outside the country in which it is located.

Interest rate – The proportion of a loan that is charged as interest to the borrower, typically expressed as an annual percentage of the loan outstanding.

FinTech – Computer programs and other technology used to support or enable banking and financial services

Foreign bank – A foreign bank is a bank with a head office outside the country in which it is located.

Interest rate – The proportion of a loan that is charged as interest to the borrower, typically expressed as an annual percentage of the loan outstanding.

Investment banks – A financial services company or corporate division that engages in advisory-based financial transactions on behalf of individuals, corporations, and governments.

Investment funds – An investment fund is a supply of capital belonging to numerous investors used to collectively purchase securities while each investor retains ownership and control of his own shares.

Liquidity coverage ratio – The liquidity coverage ratio (LCR) refers to highly liquid assets held by financial institutions to meet short-term obligations.

Market capitalization – The value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price.

Mergers and acquisitions (M&A) – Mergers and acquisitions is a general term that refers to the consolidation of companies or assets through various types of financial transactions.

NeoBank – An institution that provides some combination of checking accounts, savings accounts and debit cards via digital channels – primarily mobile – without any physical bank branches.

Non-performing loans (NPLs) – A sum of borrowed money upon which the debtor has not made the scheduled payments for a period of usually at least 90 days for commercial banking loans and 180 days for consumer loans.

Open banking – Open banking regulations require banks to publish, both online and inside their branches, accurate and unbiased information that lets consumers evaluate their service quality, a move towards transparency designed to motivate banks to provide the best possible customer experience.

Payments Services Directive (PSD2) – An EU directive, administered by the European Commission (Directorate General Internal Market) to regulate payment services and payment service providers throughout the European Union (EU) and European Economic Area (EEA). The Directive's purpose was to increase pan-European competition and participation in the payments industry also from non-banks, and to provide for a level playing field by harmonizing consumer protection and the rights and obligations for payment providers and users.

Personal loans – Unsecured loans (called signature loans) are advanced on the basis of the borrower's credit history and ability to repay the loan from personal income. Repayment is usually through fixed amount installments over a fixed term. Also called consumer loan.

Private banks – Private banking is banking, investment and other financial services provided by banks to high-net-worth individuals (HNWIs) with high levels of income or sizable assets.

Recapitalization – A type of corporate reorganization involving substantial change in a company's capital structure.

Reserves – Liquid assets held by a bank, company or government in order to meet expected future payments and/or emergency needs.

Retail banking – Also known as consumer banking, is the provision of services by a bank to the general public, rather than to companies, corporations or other banks.

Risk-weighted assets – Risk-weighted assets (RWA) are used to determine the minimum amount of capital that must be held by banks and other institutions to reduce the risk of insolvency.

Savings banks – A savings bank is a financial institution whose primary purpose is accepting savings deposits and paying interest on those deposits.

Total Assets – The sum of all current and noncurrent assets that must equal the sum of total liabilities and stockholders' equity combined.

Total Revenues – Refers to the total receipts from sales of a given quantity of goods or services. It is the total income of a business and is calculated by multiplying the quantity of goods sold by the price of the goods.

Venture capital – Capital invested in a project in which there is a substantial element of risk, typically a new or expanding business.

Recommendations for further reading on Statista

Dossiers

Banking & Finance - global 2018

Fintech in the UK 2017

Challenger banks in the United Kingdom (UK)

European banking: structure and development

European Central Bank

Mobile banking

Blockchain

Outlook Reports

FinTech Report 2018

FinTech Report 2018 - Digital Payments

FinTech Report 2018 - Alternative Lending

FinTech Report 2018 - Alternative Financing

FinTech Report 2018 - Personal Finance

Mobile Payments: Growth, Country Comparison

Toplists

Top 100 Banking & Finance Companies (Global)

Surveys

Fintech in the UK 2017



Sources and relevant research reports

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The Banks.eu Barclaycard

BBVA

Business Insider

CACI

Capgemini

CB Insights

ComScore

Crunchbase

Deloitte

Deutsche Bundesbank

Dictionary.com

Ernst & Young (EY)

European Banking Authority (EBA)

European Banking Federation (EBF)

Europol

Eurostat

Export.gov

Forbes

Financial Times

Finextra

Fintech Weekly

Gartner

Goode intelligence

The Guardian

Greenwich

Handelsblatt Global

IBM

International Data Corporation (IDC)

Investopedia

London Stock Exchange

McKinsey & Company

Monese

Monzo

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Parliament UK

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Revolut

Science Direct

Sky News

South China Morning Post

Statista

Tech Crunch

Threat Metrix

Top Differences

VoxEU

Wired

The World Bank

World Finance

Annual Reports 2010-2017

ABN AMRO Group

Banco de Sabadell

Banco Santander

Barclays PLC

BBVA

BNP Paribas

CaixaBank SA

Cassa Depositi e Prestiti Spa

Commerzbank AG

Credit Agricole Group

Credit Mutuel

Credit Suisse Group

Danske Bank

Deutsche Bank

DNB ASA

DZ Bank AG

Sources and relevant research reports

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ING Group

Intesa Sanpaolo

KBC Group NV

La Banque Postale Sa

Landesbank Baden-Württemberg

Lloyds Banking Group

Nationwide Building Society

Nordea Bank AB

PAO Sberbank

Rabobank

Royal Bank of Scotland

Skandinaviska Enskilda Banken AB

Societe Generale

Standard Chartered Plc

Svenska Handelbanken AB

UBS AG

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