

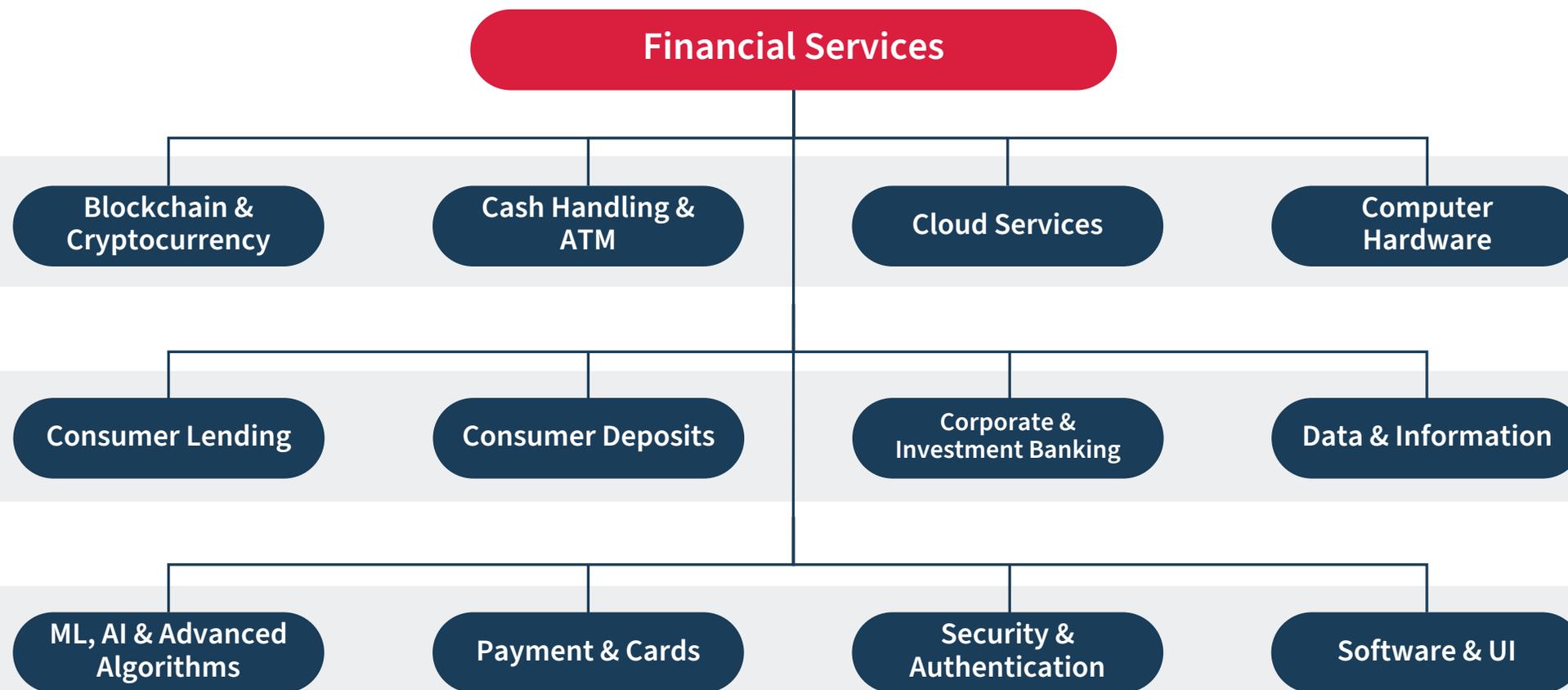
Cipher Solutions Benchmarking

Using Cipher for Benchmarking Analysis

Link to [Report](#)



CIPHER



Classifier Scopes

Financial Services is clearly a large area with a diverse range of products and services included.

We have covered the Financial Services sector comprehensively across these 12 broad classifiers to ensure coverage of the industry, ranging from the old to the new, including artificial intelligence, Blockchain & Cryptocurrency, to Payments & Cards.

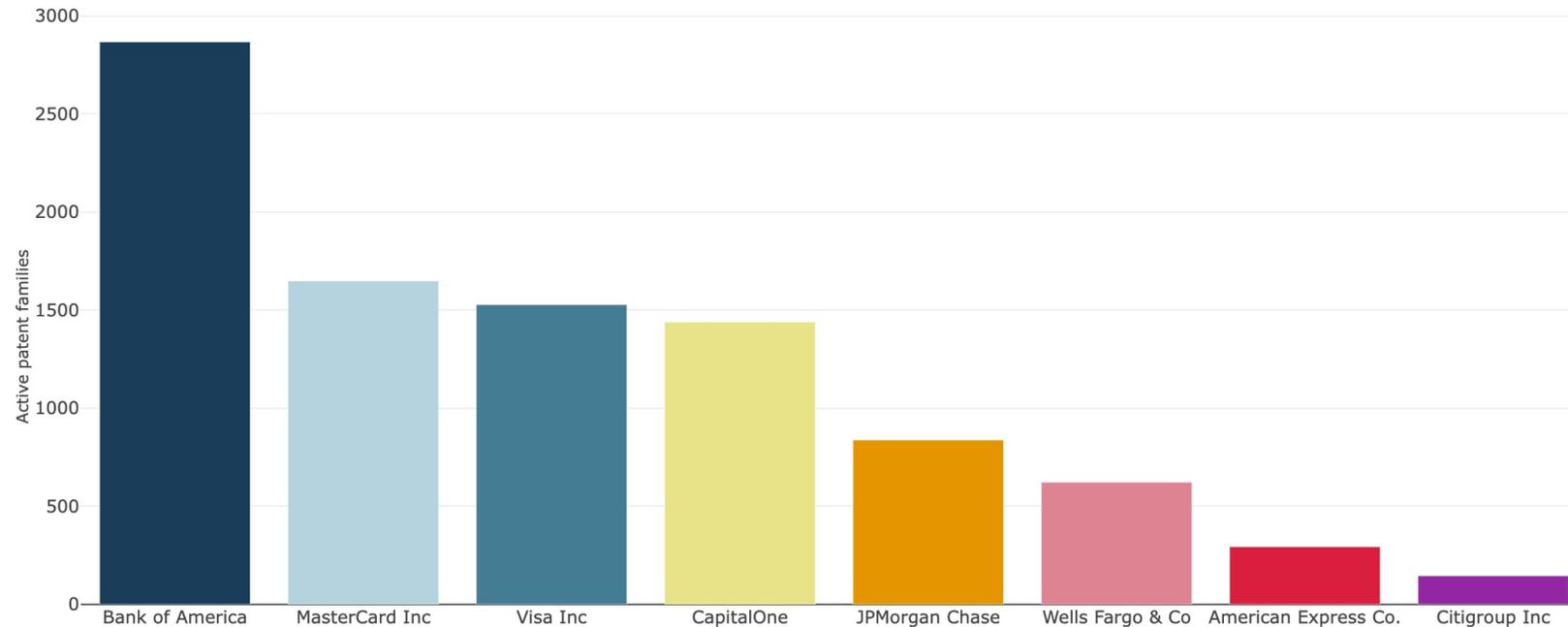
These broad classifiers encapsulate the industry as a whole from more traditional Financial tech, to more emerging disruptive technology within the space.

Benchmarking Introduction



Cipher provides an objective and repeatable way to benchmark patents in your portfolio against your known competitors, threats and new entrants. In these slides we review American Express against competitors, by applying the Financial Services classifiers.

SIZE | So who owns the most patent families?



[Click here to access this Cipher chart](#)

SIZE – Number of Active Families, By Organisation

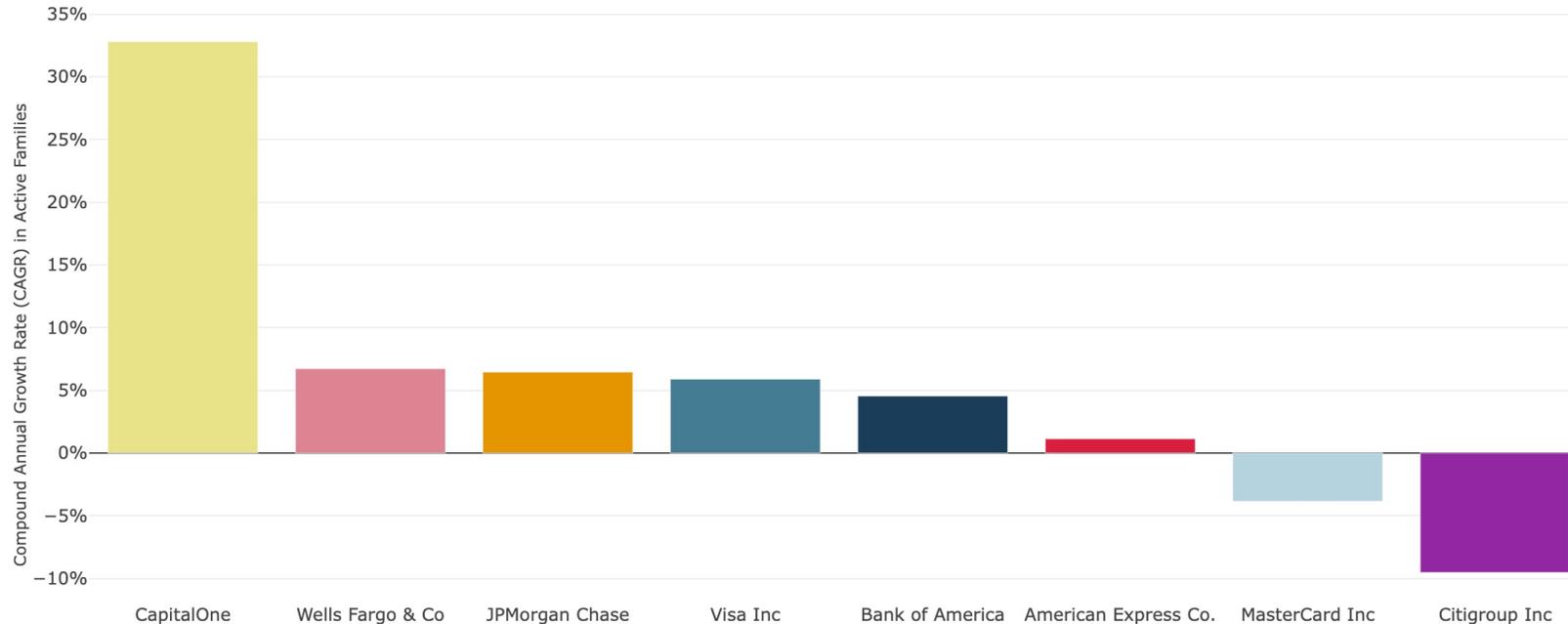
How many active (pending & granted) families do my competitors and I own, across all financial services technologies?

Are we where we expected to be?

As AMEX, my traditional competitors such as VISA, Mastercard & Capital One are way ahead owning around four times more active families across the Financial Services space. BOA are well out ahead of everyone owning almost twice as many as Mastercard.

It's worth using the technology filtering option to narrow down and see where these companies sit in my core technologies such as payments & cards.

ACTIVITY| Are portfolios growing or shrinking?



[Click here to access this Cipher chart](#)

ACTIVITY – Active Families CAGR, By Organisation

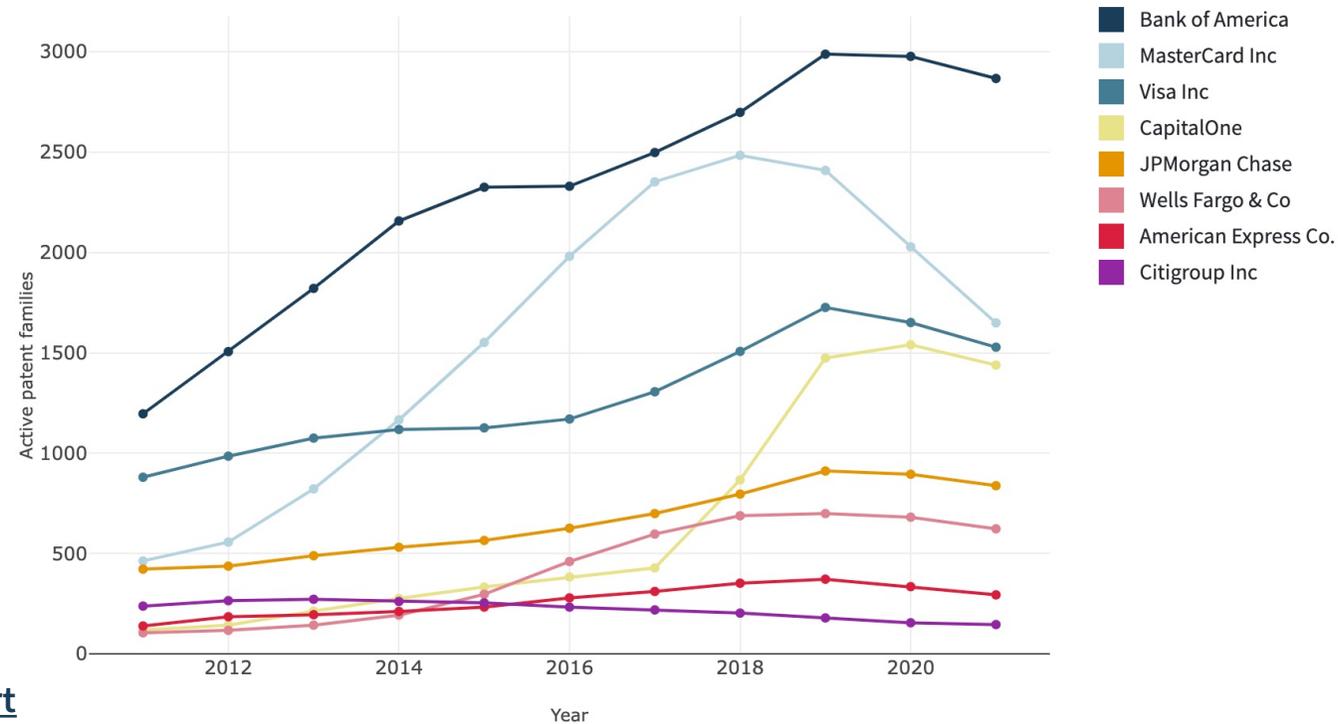
This chart allows us to easily determine the growth rate in percentage change in number of active families over a selected time period. What time period am I interested in? With CAGR I can easily calculate the % change between two dates.

What direction am I headed in? Should I speed up or slow down filing?

Capital One are way out in front with a growth rate 26% faster than the nearest competitor. We can also see that Mastercard and Citigroup are actively shedding assets (or choosing not to renew).

How does this match up with the previous chart? Our view on overall levels of ownership coupled with CAGR can give us an instant view on what our competitors think about the size of their own portfolio (and in selected tech areas). At my current rate of filing, how will overall levels of ownership look in 18 months?

TRENDS| How are portfolios changing year on year



[Click here to access this Cipher chart](#)

TRENDS – Active Families by organisation and year

This chart tells us whether the active portfolios (granted or pending) of the selected competitors, are growing or reducing each year.

How long have competitors been on this path? Is this clearly a long term strategy or do numbers change in an unpredictable fashion?

The previous CAGR chart tells us the percentage change between two dates, but this chart tracks the number of active families in each portfolio, each year. Between 2017-2019, Mastercard, Visa & BOA all began reducing the size of their portfolio. In Mastercard's case, we can see some dramatic portfolio pruning kicking off in 2018.

Over recent years, do filing trends suggest any shifts in the top owners? Is it also worth isolating to technology areas to see exactly where they are actively shedding / growing? Do the changing levels of filing relate to what we know about the products / services they offer?

GEOGRAPHY| So where are my competitors have protection?



	USA	Rest of World	Europe	China	Japan	Korea	TOTAL
Bank of America	2,454	7	4	3	0	1	2,469
Visa Inc	901	383	106	86	46	32	1,554
MasterCard Inc	1,080	188	59	37	58	23	1,445
CapitalOne	1,209	13	21	1	0	0	1,244
JPMorgan Chase	588	14	7	0	1	0	610
Wells Fargo & Co	591	2	2	1	0	0	596
American Express Co.	239	15	4	1	4	1	264
Citigroup Inc	139	15	3	1	3	3	164
TOTAL	7,201	637	206	130	112	60	8,346

[Click here to access this Cipher chart](#)

GEOGRAPHY – Families with grants, by region and organisation

This chart tells us the number of families with at least one current grant in the respective region of the selected competitors.

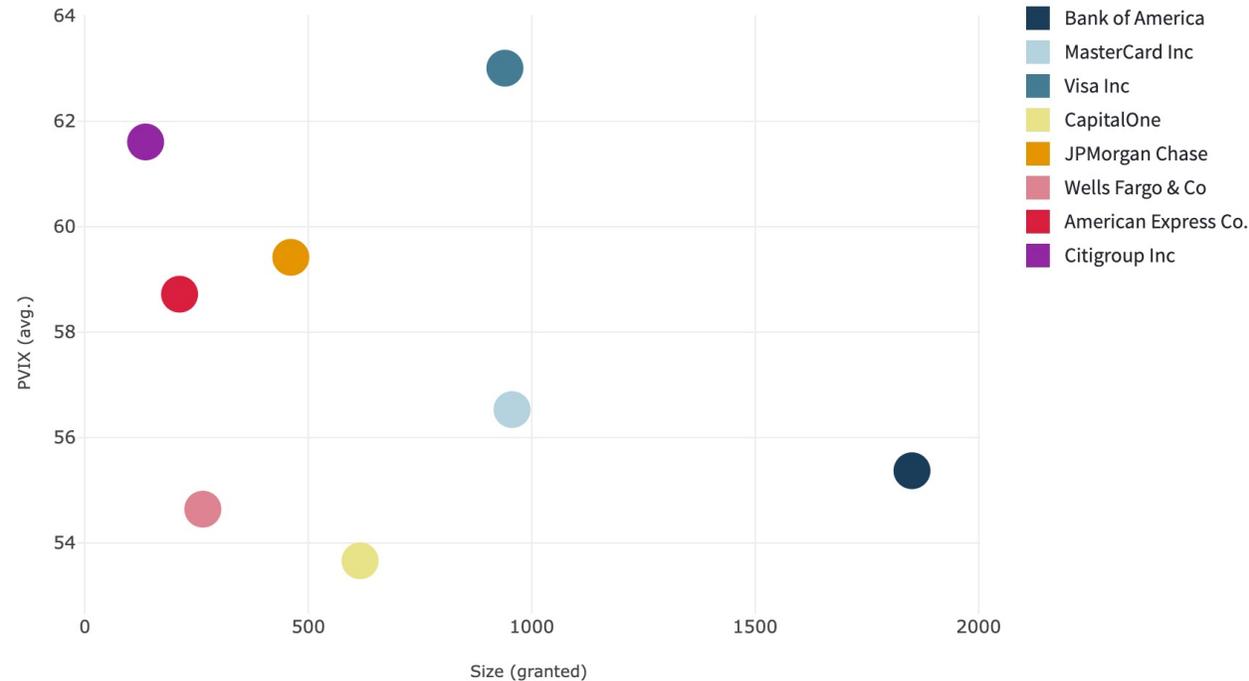
Is my filing strategy inline with that of my peers?

Are we aware of our competitor's moves into new markets or is this new information?

In this chart we can see that BOA and AMEX are more US centric, whereas VISA and Mastercard have a strategy which is much more diverse. We can also see that Capital one are fairly US centric too.

As AMEX, is it worth reassessing our place in these markets that we currently aren't competing in?

PVIX | How does the strength of my portfolio stack up?



[Click here to access this Cipher chart](#)

PVIX - Average PVIX, by organisation and size

This PVIX size comparison chart breaks apart the number of granted families an organisation has, and the strength (average PVIX score).

Can we report back to the organisation that the strategy that we have followed has yielded a high quality portfolio?

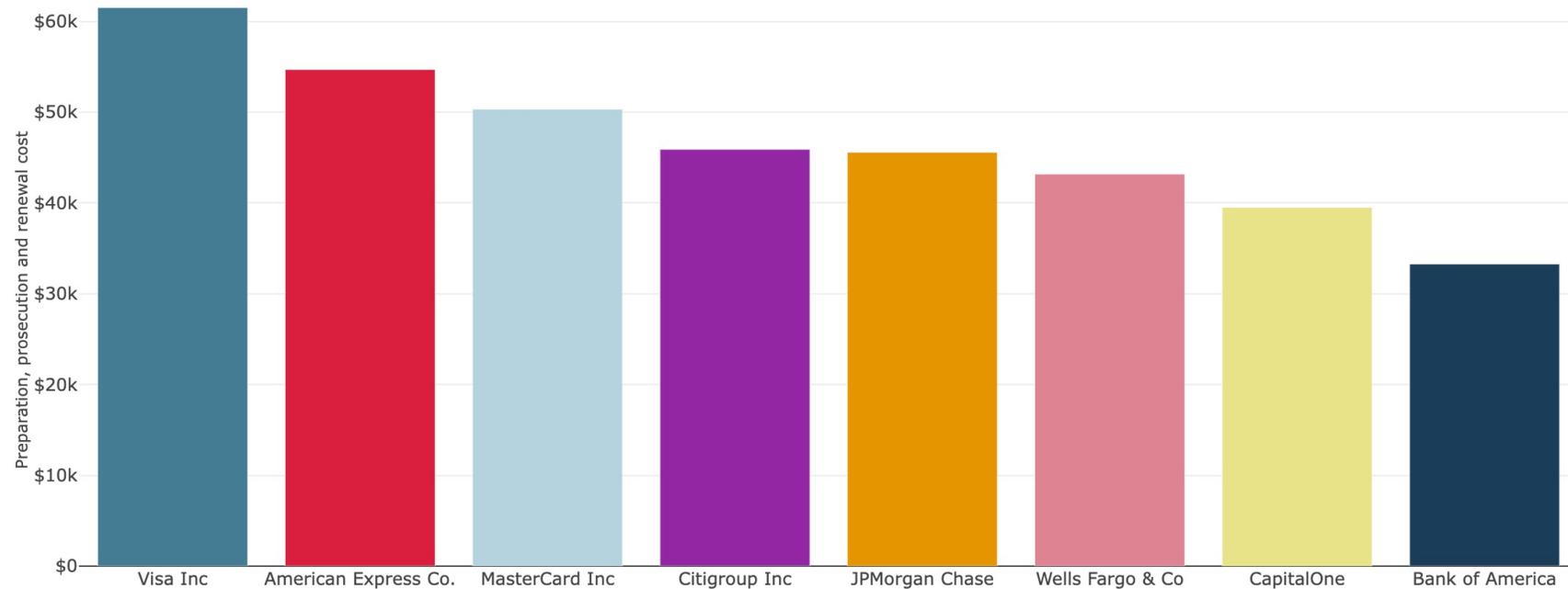
Does this strength make us less likely to be asserted against?

We can see here as AMEX, that despite being in the bottom two in terms of levels of ownership (Size), we are fourth in terms of average quality score (PVIX). Click [here](#) to learn more about PVIX as a measure of strength.

Is this our priority or do we need to now focus on numbers?

Visa's position is extremely strong here. Do we need to breakdown their portfolio by technology to find the particularly strong areas?

COST| How much are we spending?



[Click here to access this Cipher chart](#)

COST – Average cost per family, by organisation

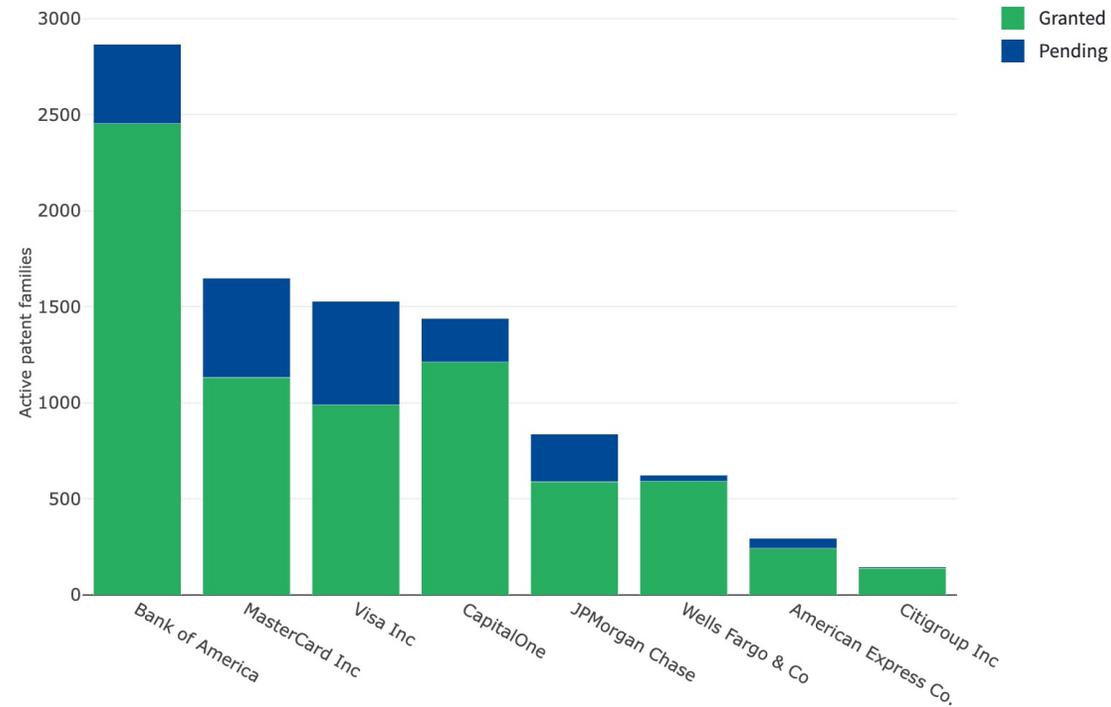
This chart shows average cost per family, by organisation and is calculated from priority year until today. Click [here](#) for information on Cipher cost metrics.

Based on this information, is my portfolio providing return on investment? Why is my average cost so high? Does it correlate to the higher strength of my assets?

As AMEX, should I be concerned about my high average spend per family? In the last chart looking at strength metrics, VISA had the strongest portfolio. Further investigation may prompt us to begin evaluating a portfolio pruning exercise, isolating the weakest and most costly assets.

Are we spending too much or are our competitors spending too little? For example BOA own by far the most but pay by far the least. Does this mean they are simply piling high or does it show something else? Our Cipher Portfolio Optimisation workflow could help in this analysis.

SIZE | So how many pending assets do we have?



[Click here to access this Cipher chart](#)

SIZE – Active Families, by organisation and status

This chart tells us the percentage of a portfolio that is pending vs granted, by organisation.

In what tech areas are most of these pending assets?

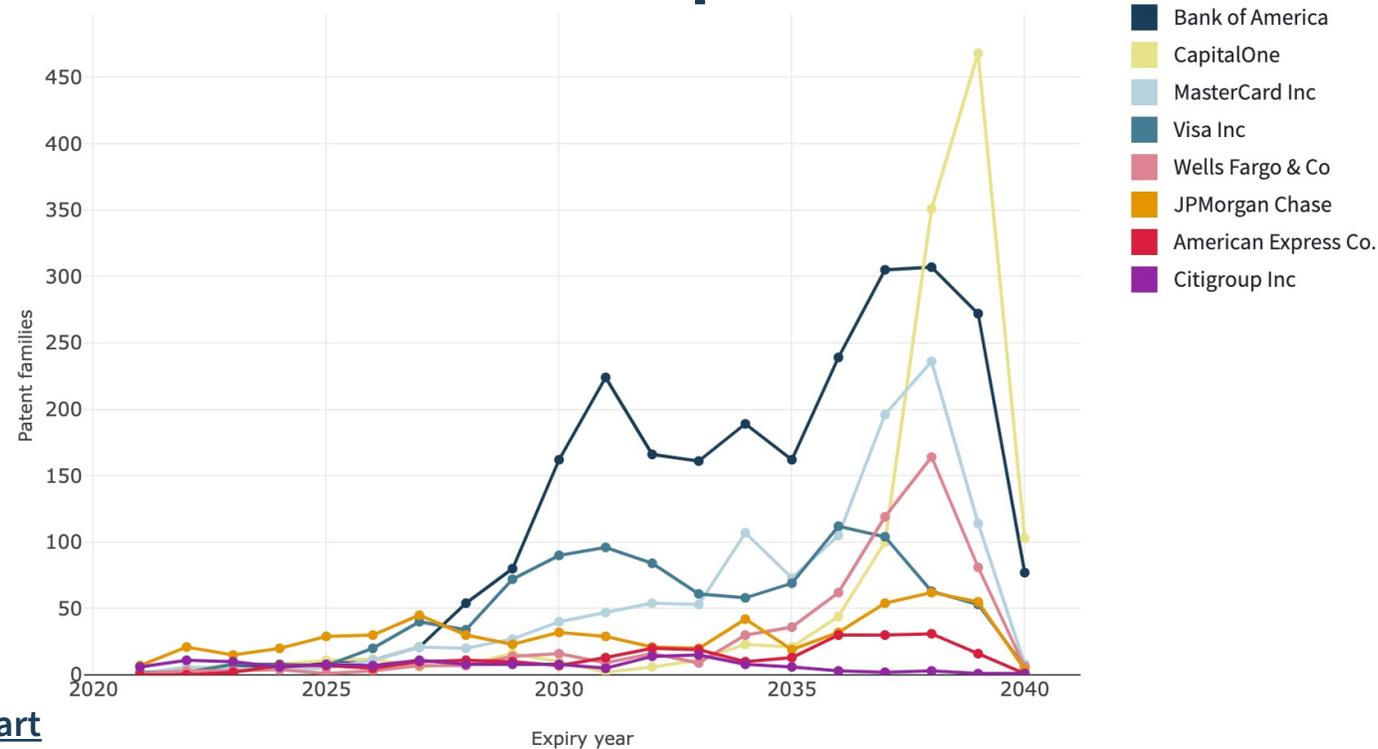
Are companies getting into new tech areas?

We can see here that Mastercard and Visa have a lot of patents waiting to be granted, whereas Citigroup has minimal that are pending.

As AMEX, it looks as if I have minimal pending assets. Is this what I expected to see or are we set to shrink the size of our portfolio overall?

Which tech areas have no pending families? Is it worth evaluating licensing options in the areas we're lagging behind in?

AGE | So when are our assets due to expire?



[Click here to access this Cipher chart](#)

AGE – Future projected expiry age, by organisation

This chart shows the projected number of families expiring each year, only considering granted families and assuming a maximum age of 20 years.

What will the shape of my portfolio be in 5 or 10 years without investment?

Are all of our competitors deserting a tech area? If so why?

Capital One have the most patents expiring in 2039, and so we can safely say they have the youngest portfolio. Bank of America have a more steady expiry.

If we filter to specific technologies, we can see when assets expire in certain areas against our competitor for example.

If we are continuing to file in areas where others aren't, are we perhaps missing a new disruptive technology where others are?

SIZE| So what is the tech breakdown of what my competitors own?



	Bank of America	MasterCard	Visa	CapitalOne	JPMorgan Chase	Wells Fargo	American Express	Citigroup	TOTAL
Payments and cards	134	765	554	272	161	98	78	33	2,095
Security and authentication	669	314	444	256	138	170	39	30	2,060
Software and UI	764	164	210	239	106	128	59	9	1,679
Data and information	504	184	108	150	168	63	53	16	1,246
ML, AI and advanced algorithms	278	45	96	297	44	19	9	1	789
Blockchain and cryptocurrency	61	84	56	43	19	18	17	0	298
Corporate and investment banking	101	7	9	17	87	35	13	25	294
Cash handling and ATM	110	32	3	70	23	26	1	5	270
Consumer deposits	95	29	26	25	23	41	4	10	253
Computing hardware	77	18	12	17	31	11	6	6	178
Next 2	74	7	10	53	38	14	15	11	222
TOTAL	2,867	1,649	1,528	1,439	838	623	294	146	9,384

[Click here to access this Cipher chart](#)

SIZE – Active families, by organisation and technology

This chart shows us the number of active families (granted and pending) split by individual tech areas.

What do our competitors own across the areas that mean the most to us?

Does our current list of competitors and threats make sense to us?

As AMEX, I can see my top technologies as payments & cards, and software & UI. I can directly see how my competitors stack up against me.

Do the businesses' priorities match up with our patent portfolio I.e. as a world leader across payments and cards, are we content in owning less than seven of our rivals? Do we have areas of our portfolio we don't utilise?

You may wish to run a further global landscape to access your current competitors, threats and new entrants to each tech space.

Cipher Help Centre information and useful links

- [How to run a landscape report](#)
- [How to run a Benchmarking report of selected organisations and classifiers](#)
- [How to interpret Cipher Datasets](#)
- [Data Sources](#)
- [Cipher Cost Data](#)
- [Cipher PVIX Strength metrics](#)

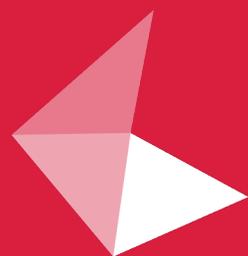
Cipher Report:

<https://app.cipher.ai/goto/f577d/selected>

Prepared by:

Laura Smith, Customer Experience Lead,
laura.smith@cipher.ai

Patrick Curry, Customer Experience Manager,
Patrick.curry@cipher.ai



CIPHER