Payment Systems Regulator

Working paper

Market review of scheme and processing fees

Approach to profitability analysis

February 2023

MR22/1.5

We welcome your views on this working paper. If you would like to provide comments, please send these to us by **5pm on 6th April 2023**.

You can email your comments to cardfees@psr.org.uk or write to us at:

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We will consider your comments when preparing our response to this working paper.

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1 Executive summary

1.1 We are conducting a market review[1] of the scheme and processing fees associated with Mastercard and Visa, the two largest card payment system operators in the UK.

1.2 We want to understand whether the supply of scheme and processing services is working well, taking into account our competition, innovation and protection of service-users objectives.

1.3 This paper sets out our thinking on analysing Mastercard and Visa's profitability in the UK, and provides some initial analysis of their European and global profits, based on published financial statements. We will estimate Mastercard and Visa profits from scheme and processing fees in the UK and assess whether they are too high. Along with the outputs of other workstreams this will help us decide whether we need to take action to promote our statutory objectives.

Our approach to measuring profitability

1.4 Any approach to estimate Mastercard and Visa's UK profits will face challenges, as these are global businesses that offer multiple services and do not report UK or product line profitability.

1.5 We plan to do a margin-based assessment of their operating profits. We will first assess the four-year period 2017/18 to 2020/21, then assess 2021/22 when that information becomes available.

1.6 We considered a margin-based approach and an asset-based approach. We reject for now the asset-based approach, return on capital employed (ROCE), as there is a risk it may be an unreliable metric for the card schemes, due to their low asset bases, the number of assumptions needed on intangibles and cash, and the sensitivity of the results to those assumptions. In addition, we are not confident we can obtain robust UK asset information for Mastercard. If we can, we will consider using an asset-based approach at a later stage of the market review.

1.7 There are still challenges with a margin-based approach. The main one is identifying comparators to allow us to assess the level of profitability objectively.

1 MR 22/1.2, *Market review of card scheme and processing fees: Final terms of reference* (October 2022)

Regulatory financial reporting

1.8 It took longer than we expected to collect UK financial reporting evidence, as Mastercard and Visa's international commercial and accounting structures do not report UK-specific information. If they did, we could have started our profitability analysis earlier.

1.9 Separately from our market review, we are considering requiring the card schemes to provide us with their UK financial information on an ongoing basis to help us better understand these businesses and ensure we deliver against our strategic priorities as they relate to card payments. If we were to do this, the purpose and objectives may be wider than the scope of this market review.

Our initial findings on the card schemes' European and global operating profits

1.10 We calculate that in the period 2016/17 to 2021/22[2], Mastercard has made an average adjusted European operating profit of 44%. For Visa the figure was 60%. These figures are in line with their relevant group companies, Mastercard Inc and Visa Inc, which are both listed in the New York Stock Exchange (NYSE).

1.11 We benchmarked Mastercard Inc and Visa Inc to the information technology sector and the credit services sector of the NYSE[3] in which they are listed. They are at the top end of the range.

Table 1: Average operating profit % 2016/17 to 2021/22

	Mastercard	Visa
Europe	44	60
Global	53	65

Source: PSR analysis of Mastercard and Visa financial statements

2 We have used the latest financial information available in this paper. Mastercard Inc and Mastercard Europe SA's 2022 financial statements have yet to be published. The latest financial statements for them are to December 2021. In respect of our initial benchmarking in Chapter 4 and Annex 3, S&P Capital IQ have published financial information in respect of December 2022, which has been used in our analysis.

3 As well as NASDAQ if applicable.

2 Introduction

2.1 Our card-acquiring market review[4] found that scheme and processing fees paid by card-acquirers increased significantly over the period 2014 to 2018. A substantial proportion of these increases could not be explained by changes in the volume, value or mix of transactions.[5] A number of stakeholders have also raised concerns with us about further increases since 2018.

2.2 As part of our market review of scheme and processing fees, we are investigating the profitability of Mastercard and Visa's UK businesses. This will cast light on whether their fees increases may have resulted in high profits. This paper explains how we intend to estimate and assess their profitability.

Objectives of this working paper

2.3 As part of our market review, we will examine the profitability of Mastercard and Visa's UK card businesses, and how these have changed over time.

2.4 With this working paper, we invite stakeholder feedback on our thinking and preferred approach so far. Feedback to this paper will represent one piece of evidence we will consider when we take a view on whether the supply of scheme and processing services is working well.

Structure of the working paper

2.5 The remainder of this document is set out as follows:

- In **Chapter 3** we explain our proposed approach to assessing the profitability of Mastercard and Visa.
- In **Chapter 4** we set out Mastercard and Visa's European and global profits, based on their published financial statements.
- In **Annex 1** we describe margin analysis.
- In **Annex 2** we set out the use of the margin-based approach.
- In **Annex 3** we provide information on US benchmarks.

4 MR18/1.8, *Market review into card-acquiring services: Final report* (November 2021)

5 MR18/1.8 paragraph 1.16, Figure 11 and paragraph 5.13

3 Our proposed approach to analysing Mastercard and Visa's UK profitability

The purpose of measuring profitability

3.1 Analysing profitability is a way of understanding the outcomes in a market, including whether the prices that companies charge are in line with their costs. This can therefore help us understand whether prices are consistent with the levels that we might expect in a competitive market.

3.2 High profits are not necessarily an issue for regulation (see paragraph 3.10) in themselves. However, combined with other evidence we will gather in this market review[6], persistently high profits may indicate that a firm faces weak competitive constraints and benefits from market power. We will assess the results from our profitability analysis alongside other evidence.

The challenges in calculating the card schemes' profits

3.3 Before we can assess the profitability of Mastercard and Visa's services related to scheme and processing activities in the UK, we need to obtain their profit figures. However, this will be difficult for several reasons:

- Mastercard and Visa's UK card schemes are part of global businesses. They do not report profits on a UK basis externally. Current internal reporting for both schemes for the UK is based on revenues and direct costs only.
- Mastercard and Visa's businesses in the UK include services unrelated to the scheme and processing transactions which are therefore out of the scope of our market review. These services may use shared functions, platforms and costs. Revenues and costs from those services need to be excluded from the UK scheme and processing profits, but there are challenges in separating out this information.
- The majority of the UK card schemes' costs are common costs relating to the global platform. The card schemes do not currently attribute these costs to the UK for internal reporting.
- There are different ways that costs can be attributed to the UK card schemes, which means a number of reasonable approaches could be used.

6 As set out in MR22/1.2, we will be looking at the services the card schemes provide over time, how they are structured, how the prices are set and how they are used by their customers.

- We have not previously reviewed cost information in relation to the card schemes, and have yet to develop an understanding of the card schemes' cost drivers. There may not be a clear relationship between the scale of common costs and underlying drivers or there may be challenges in measuring cost drivers using common metrics. In preparing this information for the first time for this market review, the card schemes may have to make arbitrary choices of allocation methods.
- The revenue and cost information for our analysis will be based on accounting data. While this is a useful starting point for analysis, interpreting and understanding it requires care. For example, the attribution of value to goodwill[7] and intangibles such as brands can be problematic when trying to compare assets, as the differences in the companies' methods of growth (organic versus acquisition) and accounting policies can affect the reporting of costs and asset values.

3.4 We face all of these challenges in the context of Mastercard and Visa in relation to scheme and processing fees in their UK operations. These challenges do not undermine the validity and importance of profitability analysis. We have kept these issues in mind when choosing an analytical approach, and we will remain cautious when interpreting the results.

Analytical choices available

3.5 Profitability can be measured in a number of ways. In this section we set out the two main analytical approaches that might be used to measure the profitability of Mastercard and Visa – an asset-based approach and a margin-based approach.

Asset-based approach

3.6 This approach calculates a return on assets, expressed as a percentage of the value of assets used to generate that return.

3.7 The approach typically preferred in regulatory and competition analysis[8] is ROCE.[9] ROCE can be compared to a hurdle rate (i.e. the percentage that needs to be met in order for the investment to proceed), which allows us to consider the opportunity cost.

3.8 This is the approach to assessing profitability that the Competition and Markets Authority (CMA) and sectoral regulators usually take, where the data exists, as it allows a focus on both the levels of investment in a business (through asset valuation analysis) in estimating the net capital employed, and the returns on an investment (through cash flow analysis).

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7 Goodwill is an intangible asset that is associated with the purchase of one company by another. It is the portion of the purchase price that is higher than the sum of the net fair value of all of the net assets of the company being purchased.

8 There are also alternative ways of applying an asset-based approach such as a truncated IRR. But a large number of past competition investigations in the UK have relied on ROCE. See: Office of Fair Trade (OFT) and Oxera, *Assessing profitability in competition analysis* (2003), paragraph 1.30: https://www.oxera.com/wp-content/uploads/2018/03/OFT-Assessing-profitability-1.pdf

9 ROCE = Earnings before interest and tax (EBIT) / Total assets less current liabilities. This is effectively the profits divided by the assets employed to earn those profits – the higher the percentage, the higher the return.

3.9 ROCE is widely used because it can be directly compared to the calculated weighted average cost of capital (WACC).[10] A ROCE that is persistently above the WACC (after margins of error have been accounted for) indicates a level of return above the normal rate of return[11] and could (along with other evidence), suggest that competition is not working effectively.

3.10 While this might suggest ineffective competition (for example, due to barriers to entry), over shorter time periods, a firm's profits can diverge from the cost of capital for a variety of reasons, not all of which are necessarily related to overcharging customers. These include:

a. economic cycles (higher profits to offset earlier losses)
b. windfall gains which are not related to a company's main operations (for example, sale of a subsidiary)
c. temporarily high profits in dynamic, innovative markets (where competition has yet to establish itself)

3.11 The CMA's guidelines state[12] 'In measuring profitability the CC's [Competition Commission's] approach will often be to start with accounting profit produced in line with UK Generally Accepted Accounting Principles (GAAP) and then to make adjustments to arrive at an economically meaningful measure of profitability, usually in terms of *rates of return on capital*.' (emphasis added)

3.12 In order to calculate the ROCE, two components are needed – **returns to investors** and **capital employed**. A high-level methodology is shown here:

$$\textbf{Step 1}: Revenue\ (£) - Operating\ expenses\ (£) = Returns\ (£)$$

$$\textbf{Step 2}: \frac{Returns\ (£)}{Capital\ employed\ (£)} = ROCE\ (\%)$$

3.13 For returns to investors, there are various measures – gross profit, earnings before interest, depreciation and amortisation (EBITDA), earnings before interest and taxation (EBIT)/operating profit, profit before tax and profit after tax. We consider operating profit the best measure of underlying profit that a company delivers to its investors excluding outside factors, as it represents the net amount of profit remaining after all expenses and costs are subtracted from revenue. It excludes:

- interest and dividends, which are dependent on the company's capital structure, prevailing interest rates, and dividend policy
- taxation, which is outside of the company's control
- one-off exceptional items, which may distort the performance of the company due to their unlikely reoccurrence

10 The WACC is related to the concept of 'cost' of capital, i.e. what percentage of a return does an individual investor expect from their investment. Whilst the cost of capital is based on an individual investor, the WACC is the weighted average cost of capital to all potential investors. It is the average percentage return that a company is expected to pay the providers of its finance based on its capital structure – weighted between debt and equity.

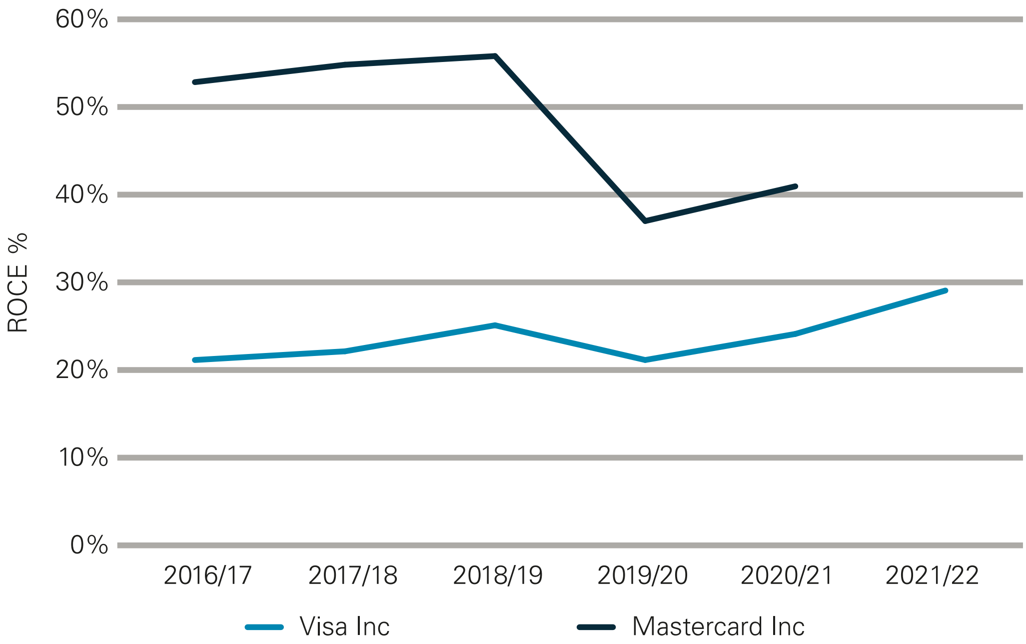
11 The 'normal' rate of return is the rate equal to the 'cost' of capital. The rationale being that, in a competitive market, if firms were earning over and above the 'cost' of capital then this would induce entry/expansion from other firms to compete away profits.

12 The Competition Commission, *Guidelines for market investigations* (April 2013) (CC3 Revised). See Annex A, Paragraph 9. The Competition Commission was the CMA predecessor organisation.

3.14 This facilitates comparison between firms' ongoing operating performance that is within their control. As set out in Annex 1 (on margin analysis), there was little difference between the various types of profit margin on the card schemes.

3.15 Figure 1 shows our estimate of the global ROCEs for Mastercard Inc and Visa Inc based on their published financial statements. The companies have quite different ROCEs. Mastercard's in particular changes significantly between 2018/19 and 2019/2020 whilst Visa's is more stable. Mastercard's estimated ROCE is significantly higher than Visa's, in contrast to their operating profits (see Tables 6 and 10).

Figure 1: Estimated unadjusted ROCE for Mastercard Inc and Visa Inc (2016/17 to 2021/22)



Source: PSR analysis of Visa Inc and Mastercard Inc financial statements

Determining the asset base

3.16 The starting point for capital employed is typically to look at the accounting net assets of the firm:

- What should be in the asset base?
- How should assets be attributed to the UK?

3.17 We explore the feasibility of trying to answer these questions for Mastercard and Visa in paragraphs 3.26 to 3.44.

Margin-based approach

3.18 The CMA guidelines state that '*In situations where capital employed cannot be reliably valued the CC may consider alternative measures, such as the return on sales or other relevant financial ratios.*'[13]

3.19 A margin-based approach[14], which measures profitability as a percentage of revenue (income), is simpler than an asset-based approach. It also uses returns, usually operating profits, as the numerator, in step 2, but revenue is the denominator instead of capital employed. This approach does not require information on capital employed or information on the assets that comprise it.

$$\textbf{Step 1}: Revenue\ (£) - Operating\ expenses\ (£) = Returns\ (£)$$

$$\textbf{Step 2}: \frac{Returns\ (£)}{Revenue\ (£)} = Operating\ profit\ (\%)$$

3.20 Having estimated a robust operating profit percentage, we then need to identify benchmark companies to compare it against to understand whether the metric is above a level you would expect under competitive conditions. This allows us to put our estimated operating profit percentage into context to help inform our wider assessment of competition in the market. Benchmark companies must share characteristics with Mastercard and Visa, particularly around business risk.

3.21 While competition or regulatory authorities typically use an asset-based approach when assessing profitability in market studies or reviews, margin-based approaches are used[15] where an asset-based approach would be less reliable, particularly in relation to asset-light businesses. We set out a summary of recent examples in Annex 2.

3.22 There are practical challenges in applying margin-based approaches to UK scheme and processing fees due to the requirements to allocate costs to card schemes' UK operations for scheme and processing activities. However, the same issue applies to an asset-based approach.

Our approach

Appropriateness

3.23 In theory, both the asset-based and margin-based approaches are suitable for analysing the profitability of Mastercard and Visa's UK card schemes. Asset-based approaches are typically preferred in competition analysis as explained in paragraphs 3.7 and 3.8.

3.24 Benchmarking against the WACC isn't possible under a margin-based approach. The operating profit does not provide direct comparability between different companies' profitability, as it doesn't account for differences in risk and financing approaches between them. Care therefore needs to be taken when selecting benchmarks for the margin-based approach as these can vary across industries.

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13 CC3 Revised – Annex A Para 15.

14 Also referred to as 'returns on sales.'

15 An 'asset-light' business would be one where net assets/revenue ratio is comparatively low, whereas 'asset-heavy' businesses, such as utilities/telecoms, would have higher ratios.

3.25 A margin-based approach does not account for past investment, but this has less impact on the analysis of businesses that do not use significant levels of fixed assets and is potentially more stable. However, the fact that operating profits can vary significantly across sectors and over time presents a notable challenge. It is not possible to benchmark margins through a standardised 'risk adjustment' mechanism – such as the well-defined WACC framework, which is typically used to compare economic profitability in more asset-intensive sectors. There is no similar standard framework for comparing and benchmarking operating profits across industries.

Feasibility

3.26 An asset-based approach requires asset information. As noted above, in relation to Mastercard and Visa, this creates two issues: what should be in the asset base and how should those assets be attributed to the UK.

What should be in the asset base

3.27 As noted in paragraph 3.3, accounting policies help to determine what assets are included in the base. For example, if a business reports low levels of assets on its balance sheet relative to the revenues it generates[16], its asset valuation may not be a true reflection of past investments developing the business. There are likely to have been investments in 'intangible assets' such as brand value or research and development.

3.28 Additionally, assets in the asset base are stated on an accounting value rather than economic value. This is because the accounting value is the historic cost paid and the depreciation charged. It does not reflect the revenue generating ability of the asset nor the net savings that could be made by replacing it with a modern equivalent asset. However, obtaining an economic valuation of the assets is unlikely to be feasible.

3.29 We believe it is likely that the value of Mastercard and Visa's assets reported in financial statements may not reflect the true economic value, as a robust estimate for the appropriate level of intangible assets would be challenging, if not impossible.[17]

3.30 The nature of the assets that the two card schemes report also presents several comparability issues. These may affect the robustness of ROCE or other equivalent calculations under an asset-based approach, making an asset-based approach less appropriate in this case. These issues cover the treatment of:

- intangible assets (including goodwill)
- cash balances

16 For example, Apple Inc in 2021 had product sales of $297 billion and a fixed asset base (excluding securities) of $88 billion. Over a long period, Apple Inc's investment in its products and marketing likely resulted in it having a very strong brand, leading to consistent sales growth and profitability. Apple's fixed asset base is largely irrelevant in producing its products as 98% of its spend manufacturing its products is through suppliers: Apple Inc Supplier list.

17 A valuation of certain intangibles, such as brand value for example, may be too subjective.

Intangible assets (including goodwill)

3.31 A high proportion of total assets reported globally by Visa Inc and Mastercard Inc are intangible, mainly goodwill. However, the card schemes report considerably different levels over the period 2016/17 to 2020/21:

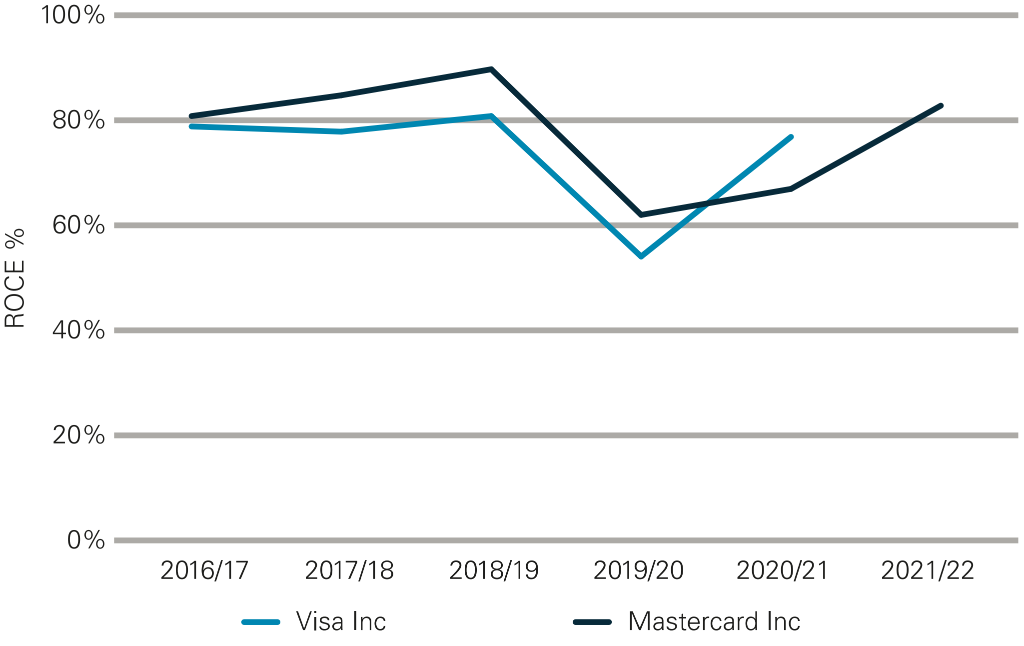
- Visa Inc attributed 52-63% of its total assets to intangibles.
- Mastercard Inc attributed 16-30% of its total assets to intangibles.

3.32 Mastercard Inc's higher ROCE (see Figure 1) could be due to the way it treats intangibles.

3.33 Intangible assets, such as goodwill, are commonly disregarded or materially adjusted when evaluating underlying economic profitability. This is because goodwill may reflect significant value attributable to prospective supernormal profits or acquisition premia underpinned by the expectation of such profits. It is unclear what level of adjustment we would need to make to the level of intangible assets to account for the earnings of supernormal profits.

3.34 Whilst a significant proportion of Mastercard Inc and Visa Inc's reported assets are in the form of intangible assets, the reported accounting value may not reflect the true economic value. The accounting values will exclude any internally generated goodwill relating to the brand, relationships with customers, etc. Generally accepted accounting principles (GAAP) do not allow recognition of these amounts due to the difficulty in measuring them. Even if they could be measured accurately, as with reported assets, any value could include an element of future supernormal profit which would need to be adjusted. Excluding intangibles from the asset margin calculation does improve comparability between the card schemes but the resulting asset returns average over 70%.

Figure 2: Estimated ROCE, excluding intangibles, for Mastercard Inc and Visa Inc (2016/17 to 2021/22)



Source: PSR analysis of Visa Inc and Mastercard Inc financial statements

3.35 There is some correlation between how Mastercard and Visa compare to the benchmarks when comparing margin measures to asset measures.[18]

Cash balances

3.36 Globally the two card schemes report relatively high cash balances. Visa Inc and Mastercard Inc respectively attributed 17-25% and 21-36% of total assets to cash, cash equivalents and investment security current assets over the period from 2016/17 to 2020/21.[19] To an extent, the two card schemes may use high cash balances as liquidity for payment settlement or for other day-to-day card scheme operations. Cash balances considerably higher than that required for day-to-day operations should be used to invest in new projects or expand the business, particularly where the interest that can be earned on that cash is below the companies' WACC.

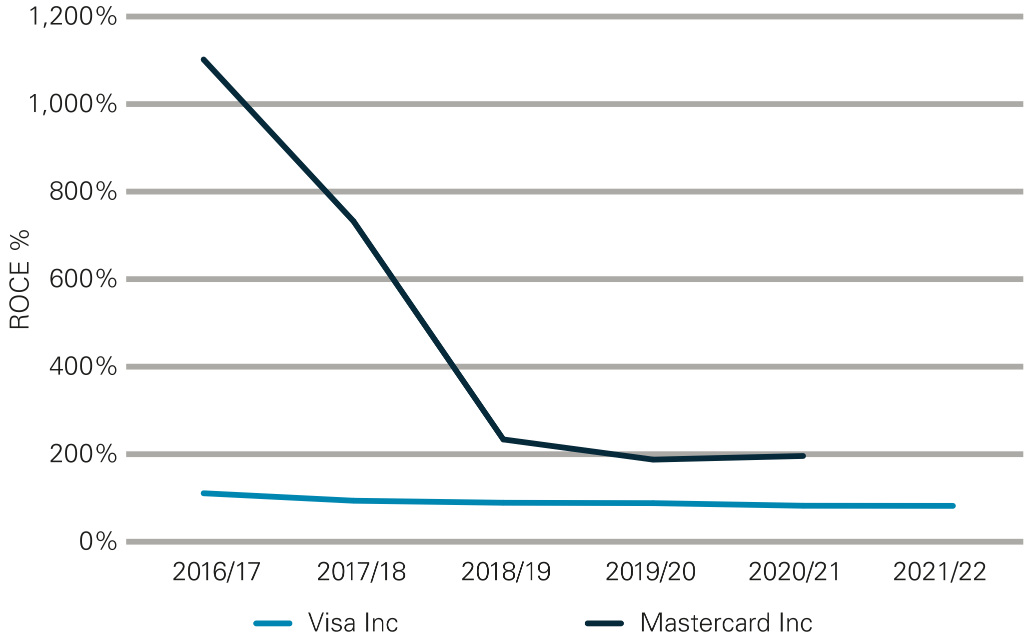
3.37 Large movements in cash balances can however cause volatility in the ROCEs. For example in 2020 Mastercard Europe SA had net assets of €2.6bn and unadjusted operating profits of €1.1bn, giving an estimated ROCE of 42%. That year, in addition to a €1.5bn profit share it paid a dividend of €1.7bn to its parent company compared to €400m in 2019. The higher dividend increased ROCE by 14%.

3.38 It is unclear what adjustment we would need to make to estimate efficient cash balances. However, without a suitable adjustment we risk overestimating the level of capital employed for the two card schemes.

18 See Annex C. For large IT companies the correlation was 0.309841 and for credit services the correlation was 0.5989.

19 Figure 3 shows the estimated ROCE after the assets described as 'cash and cash equivalents' and 'investments/securities' under current assets were excluded from the calculation. Both Mastercard and Visa reported high amounts under another heading described as 'restricted cash for litigation settlement/escrow' and 'restricted security deposits held for customers/customer collateral/client incentives'. Had these amounts also been excluded the estimated ROCE's would have been higher.

Figure 3: Estimated ROCE, excluding intangibles and cash (including investment security current assets), for Mastercard Inc and Visa Inc (2016/17 to 2021/22)



Source: PSR analysis of Visa Inc and Mastercard Inc financial statements

3.39 Small changes in the low levels of assets may be caused by one-off events rather than the true accumulation or decumulation of capital employed, producing unusual and unhelpful results.[20] This is illustrated by the fluctuations in ROCE calculated based on capital employed that excludes intangibles and cash in Figure 3, where the estimated ROCE for Mastercard Inc fell from over 1,000% in 2016/17 to below 200% in 2020.

3.40 In summary, the low asset base, the number of assumptions needed on intangibles and cash, and the sensitivity of the results to those assumptions, suggests the estimated ROCE may be an unreliable metric.

How should assets be attributed to the UK card schemes

3.41 We have identified practical challenges in applying asset-based approaches to UK scheme and processing fees. This is due to:

- the difficulty of allocating assets and costs to card schemes' UK operations for scheme and processing activities
- the requirement to make potential adjustments to UK allocated assets to achieve a robust assessment of profitability
- the complexity of obtaining an economic value for Mastercard and Visa's UK assets

20 When looking at Apple Inc's ROCE, the CMA found that changes in working capital saw the ROCE rise from 407% in 2014 to 1,728% in 2015. *Mobile Ecosystems Market Study* (10 June 2022), Appendix C, page 13

3.42 The next consideration is how goodwill, cash and the remaining assets are allocated to the UK card schemes. In the case of both card schemes, the lowest level which they financially report is Europe-wide. This means that most operating costs and virtually all asset costs are not ordinarily reported on a UK-specific basis. To produce UK-specific cost and asset information, the card schemes would have to create attribution rules specific to the UK and then implement them in their accounting systems.[21] They may also need to do this including and excluding goodwill and non-reported intangible assets from the asset base. The value of these assets may need to be estimated and will need to be attributed to the UK. The results will be highly sensitive to the assumptions made.

3.43 While attribution of costs to the UK card schemes is an issue common to both approaches, it is more pronounced with an asset-based approach as nearly all the asset information would need to be attributed in this way. It is possible that some pieces of asset information simply cannot be extracted from the card schemes' European or global accounts with any robustness, and we may need to use accounting assumptions or estimates. On the other hand, our engagement with the card schemes to date suggests that they can provide robust revenue figures and operating costs. This makes the margin approach less sensitive to assumptions.

3.44 While both approaches are feasible, the asset-based approach may be less robust than the margin-based approach due to the nature of the card schemes assets. It may require more assumptions or estimates than the margin-based approach and would be more burdensome and time consuming to produce.

Choice of approach

Requirement for detailed data on assets

3.45 An asset-based approach requires an assessment to be made of the value of a company's assets. The considerations are:

- A large proportion of assets are likely to be distributed between the UK and other geographies and there is not a clear, economically unambiguous way of allocating them. In the context of a low asset base, small changes in attribution could lead to large movements in resultant asset margin results.
- Global intangible assets are likely to be substantial and may be difficult to reliably value and attribute to the UK.
- The data challenges are larger for an asset approach where assumptions will need to be made.

3.46 Whilst it would require a time and effort for the card schemes to provide full robust UK asset information, it would be worthwhile if it provided information for more insightful analysis.

21 For example, IT services relating to Mastercard and Visa's UK card scheme activities (potentially along with other jurisdictions) are likely to be provided outside the UK, with no requirement to account for them on a UK basis.

3.47 The case for making economic adjustments to those assets is also not strong. Besides being very difficult, it is only likely to be relevant for large amounts of assets. This is because the opportunity cost of those assets would need to be reflected in the economic value of those assets – a lesser consideration for the card schemes. These reasons also informed the PSR's choice not to use an asset-based approach to assess profitability in its previous market review on card-acquiring services.[22]

3.48 A **margin-based approach** based on accounting rather than economic profits is likely to be more reliable for asset-light businesses, as in the case of Mastercard and Visa's low level of tangible fixed assets. Alongside difficulties in defining and attributing other assets (especially intangible assets) this means that an asset approach is likely to provide unhelpfully volatile results. We therefore plan to assess profitability using operating profit margins and benchmark this analysis against suitable comparators.

Question

3.49 For the reasons set out in paragraphs 3.45 to 3.48, we think a margin-based approach to calculating profitability is the appropriate approach for this market review. Do you agree? Please provide reasons for your answer.

The information we need

Information requests to Mastercard and Visa

3.50 In order to estimate the operating profits of Mastercard and Visa's UK card schemes using a margin based approach, we have asked both to provide estimates of UK financial information from their European financial systems.

3.51 We have also requested further detailed data to help support our analysis, specifically:

- detailed explanation of how the information has been prepared, particularly how European or global costs have been attributed to the UK (see common costs below)
- detailed fee information, including volume as well as revenue information
- reconciliations to European statutory (i.e. published) or management accounts

3.52 We are requesting this information for the four financial years 2017/18 to 2020/21. We will expand this to five years once 2021/22 information becomes available. We explain in paragraphs 3.57 to 3.61 the rationale behind this time frame.

22 MR18/1.7, *Annex 3 CAMR Interim Report* (September 2020), paragraphs 1.7 to 1.22.

Common costs

3.53 In producing the UK information, the card schemes need to disaggregate and attribute global, European and UK costs, and separate total card scheme costs into scheme and processing activities. There is no unique correct way to do this. The information we have requested includes descriptions of individual costs and how they have been attributed. This will help us identify which costs are genuinely fully fixed and/or common across jurisdictions, business lines or customer groups. As well as the total European aggregate cost, we will obtain total European attribution drivers and the UK-specific driver values and allocations. We will check sensitivities by changing cost attribution drivers, which will reveal the impact of attribution choices and provide a range of plausible scenarios.

3.54 By reconciling the information to European accounts, we can also see how the attribution of costs to the UK compares with Mastercard and Visa's published financial statements.

3.55 If the card schemes are unable to provide disaggregated data (although they have indicated that they can) or if the data is unduly detailed, implausibly constructed, or presents other difficulties (which we do not expect), we may consider using common costs as a percentage of revenue observed at the EU level as an appropriate proxy for estimating an allocation of such costs to the UK business. We would also consider the full European profit and loss accounts an appropriate proxy for UK scheme and processing fees.

Other sources of information

3.56 We have also asked for information from third parties. We may use this information to complement and corroborate information and data provided by the card schemes in combination with other publicly available information and fill any gaps in our financial modelling. As with the information from Mastercard and Visa, we will need to scrutinise the information from third parties to ensure that it is appropriate for us to use.

Time frame

3.57 We conducted our initial analysis of European and global profit margins in this working paper using Mastercard and Visa's latest five-annual reports for the period, 2017 to 2021.[23] Mastercard's operating profits were reasonably consistent in this period, with the exception of Europe in 2019. Visa's operating profits were also broadly consistent across the period, with a fall in 2020 put down to COVID-19.[24]

3.58 There are two conflicting considerations in choosing a time period for our analysis of the UK scheme and processing fees. A short time period reduces the number of observations over time and may not account for a full business cycle. In addition, any time period that did not start at least a year before March 2020 would not show the 'normal' commercial activities before the period of COVID-19 restrictions.

3.59 On the other hand, too long a time period creates excessive regulatory burden. Both Mastercard and Visa have highlighted the increasing difficulties they faced in retrieving detailed historical information.

3.60 Both card schemes also present specific issues.

Visa Europe

- In 2015, the EU Interchange Fee Regulation (IFR)[25] prompted Visa to change financial systems in order to separate the reporting of processing fees from other fees.
- In 2016, Visa Inc acquired Visa's operations in the UK and Europe, previously owned by a consortium of banks who operated the card scheme on a 'cost-plus' basis. From this date, Visa changed the business model from a cost recovery model to a commercial basis.
- In 2017 Visa completed re-organising its European entities to align with its global corporate structure.
- Visa has used different operational structures and systems since changing from a membership organisation to a commercial entity in 2016.

Mastercard Europe

- Prior to its initial public offering (IPO) in May 2006, Mastercard globally operated as a cooperative owned by a consortium of banks, which operated the card scheme on a 'cost-plus' basis.
- In 2015 Mastercard also changed its financial systems in order to separate the reporting of processing fees from other fees in response to the IFR.
- Mastercard also changed its business structures so obtaining financial information pre-IFR or beyond five years (pre-2017) would result in inconsistent approaches to data collection.

23 In the case of Visa Inc, as they have published their 2022 financial statements we included these.
24 Visa Europe Limited Financial Statements 2020, page 19
25 EU IFR legislation

3.61 Taking account of the above, we have decided on an initial period of four years from 2017/18 to 2020/21. We will extend this to five years when 2021/22 data becomes available.[26] We will analyse this in time for our final report in Q2 2024.

Benchmark comparators

3.62 We need benchmarks to provide a measure of whether Mastercard and Visa’s operating profits are appropriate for their level of risk. Comparing Mastercard and Visa’s operating profits against a range of comparators will help answer this question. As noted, the lack of one standard framework for comparing and benchmarking operating profits across industries means that careful comparators selection is crucial (see paragraph 3.25).[27]

3.63 We will seek suitable comparators or groups of comparators and consider the appropriate weight to place on each of them in light of our analysis. Suitable comparators may include businesses operating in competitive markets with similarities to Mastercard and Visa in appropriate key areas.[28]

3.64 This approach has the following caveats:

- Not all comparators have the same business model as Mastercard and Visa. For example, comparators such as PayPal may derive more revenues outside their payment activities, while American Express is a three-party card scheme as it doesn’t use third party acquirers and issuers, as it fulfils those roles itself.[29]
- Not all comparators operate under a global business model.
- Not all comparators are at the same stage of growth.

Question

3.65 Please provide details of any comparator companies that we should use as benchmarks for Mastercard and Visa, including the characteristics that make them suitable candidates, particularly the business risks they face.

26 Mastercard Europe published its 2021 financial statements in July 2022. We would expect a similar time frame in respect of the 2022 financial statements. Visa Europe published its 2022 financial statements in February 2023.

27 Suitable comparator firms would ideally be other card scheme operators; however, they are likely not to a have the scale of Mastercard and Visa. The nearest comparators are likely to be companies that use information technology to provide services to their wholesale customers, which they charge on a transactional basis.

28 E.g., Size, risk profile, UK operations, level of assets, relationship with end users etc.

29 As set out in Annex 1 of the final ToR, Mastercard and Visa operate four-party card payment systems. The other parties are 1) the card issuers (banks or other organisations licensed by card payment system operators to provide cards to their customers to use on the card payment system, 2) the cardholders, the issuers customers to hold the cards3) Acquirers (banks or other organisations) licensed by card payment system operators to recruit merchants to accept card payments and 4) Merchants, organisations that accept payment by card. American Express in contrast does not use third party acquirers and contracts directly with merchants (it also issues the majority of American Express cards itself).

Regulatory financial reporting

3.66 Currently Mastercard and Visa[30] have no regulatory financial reporting requirements that require them to provide UK specific information. Collecting this information, involved a process of finding out what information the card schemes hold and constructing a data collection framework around it. Had this information been available, we would have been able to conduct this market review at a faster pace.

3.67 As part of a separate project, we are considering whether to require Mastercard and Visa to provide UK-specific financial information to us on a regular basis through regulatory financial reporting requirements. This would allow us to regulate in a more effective manner.

3.68 While the scope and requirements of any regulatory financial reporting regime are outside the scope of this market review, the knowledge gained from it will be fed into any separate regulatory financial reporting PSR project.

Conclusion

3.69 While both the asset and margin based approaches are applicable, for asset-light companies such as Mastercard and Visa, a margin-based approach is more likely to give a more meaningful result. The challenges in estimating Mastercard and Visa's asset base and allocating assets to services related to UK scheme and processing make an asset approach less feasible.

3.70 While margin-based approaches are not commonly used in competition assessments, they have been used by other regulators in industries where companies report low levels of fixed assets and have difficult-to-estimate asset bases. Given the practical difficulties in valuing Mastercard and Visa's assets, we consider a margin-based approach a more suitable method in this context.

3.71 While a margin-based profitability assessment requires less information than an asset-based approach, there remains a risk, albeit a smaller risk than with an asset-based approach, that we are unable to obtain the information we need to do this. We rely on both card schemes constructing bespoke models of UK profitability with the associated risks.

3.72 We will also collect data from publicly available sources and from third parties. Taken together with information we receive from Mastercard and Visa, this data should inform our estimate of UK card scheme profitability.

3.73 We plan to benchmark our estimated operating profits against suitable benchmark companies.

3.74 The absence of any current regulatory financial reporting requirements on the card schemes has slowed down the pace of this market review. We are considering how regulatory financial reporting might help us be more efficient in achieving the PSR's regulatory objectives in the future.

30 Visa Europe Ltd has informed us that it will be publishing 2021/22 European IFR financial statements that will include reporting some UK specific information. It expects to publish these in March 2023.

4 Our initial analysis of Mastercard and Visa's profitability

4.1 Mastercard and Visa do not report UK level profitability in their financial statements, so the analysis presented below has been carried out using the European and global financial statements that they do publish.

4.2 We set out below profit figures for both card schemes, based on published financial statements for the following companies:

a. Mastercard Europe SA (Mastercard Europe), registered in Belgium, company number 0448.038.446
b. Mastercard Europe Services Limited (MES), registered in England and Wales, company number 09210818
c. Mastercard Inc, registered in Delaware, listed on the NYSE (trading symbol – MA)
d. Visa Europe Limited (Visa Europe), registered in England and Wales, company number 053139966
e. Visa Inc, registered in Delaware, listed on the NYSE (trading symbol – V)

Mastercard

Mastercard Europe

4.3 Mastercard Europe is the main trading company for Mastercard in Europe. Its financial year runs from 1 January to 31 December. It is registered in Belgium.

4.4 Our starting point in calculating Mastercard Europe's operating profit was its published financial statements, summarised in Table 2, as published before our adjustments.

4.5 The financial statements show that Mastercard Europe paid a profit share to another Mastercard company, Mastercard Europe Services (MES). We calculated an adjustment to add back the profit share after taking account of costs incurred with it (see paragraph 4.8). We set out our calculation of Mastercard Europe's profitability in Tables 2 to 5.

Table 2: Mastercard Europe SA operating profit %

	2017 €m	2018 €m	2019 €m	2020 €m	2021 €m	% Growth 2017-2021
Income[31]	3,610	4,604	4,753	4,353	5,335	47.8
Operating costs	(2,756)	(3,807)	(3,468)	(3,249)	(3,950)	43.3
Operating profits	854	797	1,285	1,104	1,385	62.2
Operating profit %	23.7	17.3[32]	27.0	25.4	26.0	

Source: Mastercard Europe SA financial statements[33]

4.6 Operating costs include a payment to MES, a subsidiary company, and are shown below in Table 3. Notes to MES's financial statements describe this payment as 'Profit share from Mastercard Europe SA'.[34]

Table 3: Mastercard Europe intercompany charges

	2017 €m	2018 €m	2019 €m	2020 €m	2021 €m	% Growth 2017-2021
MES	963	889	1,533	1,348	1,616	67.8
% of Mastercard Europe SA income (Table 2)	26.7	19.3	32.3	31.0	30.3	

Source: Mastercard Europe SA financial statements

4.7 MES's sole income is its profit share from its parent company, Mastercard Europe. MES holds the Mastercard intellectual property in Europe. MES's operating profits are summarised below in Table 4.

31 Income is gross fee income less incentives and rebates. This is how income is presented in Mastercard's financial statements in line with IFRS 15 (International Financial Reporting Standard 15 (IFRS 15) which has been effective since 1st January 2018. It sets out the framework on how revenue should be recognised and reported). We set out in Annex 1 why using gross income is not appropriate.

32 A €589m provision was made in 2018. Adding this back results in a 30% margin. consistent with those of its parent company, Mastercard Inc.

33 Mastercard Europe SA recently filed financial statements

34 Note 3, MES 2021 Financial Statements

Table 4: MES operating profits

	2017 €m	2018 €m	2019 €m	2020 €m	2021 €m	% Growth 2017-2021
Revenue	963	889	1,533	1,348	1,616	67.8
Employee costs	(87)	(136)	(139)	(147)	(176)	102.3
Intangible amortisation	(151)	(151)	(150)	(149)	(124)	(17.9)
Other costs	(43)	(56)	(109)	(118)	(63)	46.5
Operating profits	682	546	1,135	934	1,253	83.7

Source: MES Ltd financial statements[35]

4.8 In Table 5 below we make an adjustment to add back the operating profit figure (i.e. after subtracting MES's own costs) to Mastercard Europe. We have added the profit share back because it is more akin to a financing cost rather than an operating cost to Mastercard Europe.

Table 5: Mastercard Europe adjusted operating profit %

	2017 €m	2018 €m	2019 €m	2020 €m	2021 €m	% Growth 2017-2021
Income	3,610	4,604	4,753	4,353	5,335	47.8
Operating costs	(2,756)	(3,807)	(3,468)	(3,249)	(3,950)	43.3
Add back MES 'profits'	682	546	1,135	934	1,253	83.7
Adjusted operating profits	1,536	1,343	2,420	2,038	2,638	71.7
Operating profit %	**42.5**	**29.3**	**50.9**	**46.8**	**49.4**	

Source: PSR analysis of Mastercard Europe SA and MES Ltd financial statements

4.9 Adding back the operating profits of MES to Mastercard Europe profits in Table 2 results in the adjusted operating profits in Table 5.

35 MES filing history Mastercard Europe Services is registered in England and Wales, company number 09210818.

Mastercard Inc

4.10 Mastercard Inc's principal business is to process worldwide payments between merchants' banks (card-acquirers) and purchasers' banks or credit unions which issue Mastercard-branded debit, credit and prepaid cards (card-issuers) to enable cardholders to make purchases.

4.11 Mastercard has been publicly traded on the NYSE since 2006. Prior to its IPO, Mastercard Worldwide was a cooperative owned by more than 25,000 financial institutions that issued its branded cards.

4.12 Mastercard (originally Interbank then Master Charge) was created by an alliance of several banks and regional bankcard associations in response to the BankAmericard issued by Bank of America, which later became Visa.

4.13 Mastercard Inc's operating margins, as shown in Table 6 are between 49% and 53% over the period from 2017 to 2021. Apart from 2018[36], they are between 4 and 11 percentage points higher than Mastercard Europe's operating margins over the same period (see Table 7).

Table 6: Mastercard Inc operating profit %

	2017 \$m	2018 \$m	2019 \$m	2020 €m	2021 €m	% Growth 2017-2021
Income	12,497	14,950	16,883	15,301	18,884	51.1
Operating costs	(5,875)	(7,668)	(7,219)	(7,220)	(8,802)	49.8
Operating profits	6,622	7,282	9,664	8,081	10,082	52.3
Operating profit %	**53.0**	**48.7**	**57.2**	**52.8**	**53.4**	

Source: Mastercard Inc financial statements[37]

Table 7: Comparison of Mastercard Europe SA versus Mastercard Inc operating profit %

	2017 %	2018 %	2019 %	2020 %	2021 %
Europe (adjusted)	42.5	29.3	50.9	46.8	49.4
Global	53.0	48.7	57.2	52.8	53.4

Source: PSR analysis of Mastercard Inc and Mastercard Europe SA financial statements

36 When we have calculated an adjusted operating margin that is considerably lower (29%) than other years in the period.

37 Mastercard Inc Investor Relations page

4.14 We conclude that these operating profits, with the exception of 2018[38], are consistent with those of its parent company, Mastercard Inc.

Visa

Visa Europe

4.15 Visa Europe Ltd is the Visa entity that reports Visa's results in Europe and the UK. Table 8 summarises its financial performance. Its financial year runs to 30 September. It is registered in England and Wales.

Table 8: Visa Europe operating profit %

	2017/18 €m	2018/19 €m	2019/20 $m	2020/21 $m	2021/22 $m	% Growth 2017/18-2021/22
Income[39]	2,870	3,328	3,055	3,544	5,252	83.0
Operating costs	(1,220)	(1,308)	(1,397)	(1,379)	(1,712)	40.3
Operating profits	1,650	2,020	1,658	2,165	3,540	114.5
Operating profit %	**57.5**	**60.7**	**54.3**	**61.1**	**67.4**	

Source: Visa Europe Ltd financial statements

38 Mastercard Europe SA made a €589m provision for litigation. Reversing the provision in 2018 would increase the Operating profit by 12.8% to 41.9%.

39 Income is gross fee income less incentives and rebates. This is how revenue is presented in Visa financial statements in line with IFRS 15.

4.16 Operating costs include charges to other Visa group companies. Table 9 below shows the charges paid by Visa Europe to other Visa companies.

Table 9: Visa Europe intercompany charges

	2017/18 €m	2018/19 €m	2019/20 €m	2020/21 €m	2021/22 €m
Visa Inc[40]	217	261	396	392	490
Visa Europe Management Services Ltd	49	80	94	123	168
Visa Europe Services LLC	385	36	33	62	40
Total	651	377	523	577	698

Source: Visa Europe Ltd financial statements

4.17 The largest charge in Table 9 above is to Visa Inc, its US parent company. There is no explicit mention whether this charge includes any profit share element payments to Visa Inc. Without further information on how any fees or royalties are calculated, it is not appropriate to produce an estimate of operating costs that are adjusted down – where we may in effect ultimately choose to apply a similar adjustment to the operating profit as applied above in respect of Mastercard Europe.

4.18 Visa Europe's operating profit is similar to that of its US parent company Visa Inc except for the year 2019/20 (as can be seen in Table 11).

Visa Inc

4.19 Visa facilitates electronic funds transfers throughout the world, most commonly through Visa-branded credit cards, debit cards and prepaid cards.

4.20 Visa was founded in 1958 by Bank of America (BofA) as the BankAmericard credit card program. In response to competitor Master Charge (now Mastercard), BofA began to license the BankAmericard program to other financial institutions in 1966. By 1970, BofA gave up direct control of the BankAmericard program, forming a consortium with the other various BankAmericard issuer banks to take over its management. It was then renamed Visa in 1976.

4.21 In 2006, Visa became a publicly traded company, Visa Inc, following an IPO and restructuring, which was completed in 2008.

4.22 Visa Inc operating profits are set out in Table 10 and are between 63% and 66% over the period from 2016/17 to 2021/22.[41] These profit margins are between 3% lower and 10% higher than Visa Europe operating profits over the same period (see Table 11).

40 This is a net figure – included in these figures are amounts paid by Visa Europe to Visa Inc for similar services (typically around the €10m level).

41 In respect of Visa Inc, they have filed the September 2022 financial statements.

Table 10: Visa Inc operating profit %

	2017/18 $m	2018/19 $m	2019/20 $m	2020/21 $m	2021/22 $m	% Growth 2017/18-2021/22
Income	20,609	22,977	21,846	24,105	29,310	42.2%
Operating costs	(7,655)	(7,976)	(7,765)	(8,301)	(10,497)	37.1%
Operating profits	12,954	15,001	14,081	15,804	18,813	45.2%
Operating profit %	**62.9%**	**65.3%**	**64.5%**	**65.6%**	**64.2%**	

Source: Visa Inc financial statements

Table 11: Visa Europe versus Visa Inc operating profit %

	2017/18 %	2018/19 %	2019/20 %	2020/21 %	2021/22 %
Europe	57.5	60.7	54.3	61.1	67.4
Global	62.9	65.3	64.5	65.6	64.2

Source Visa Inc and Visa Europe Ltd financial statements

4.23 Table 11 shows that Visa Europe’s operating profit is similar to that of its US parent company Visa Inc except for the year 2019/20.

Benchmarking Mastercard Inc and Visa Inc in the US

4.24 We have benchmarked Mastercard Inc and Visa Inc profits[42] against two groups of US-listed companies, under the informational technology (IT) and credit services sectors of the NYSE. We chose these two groups as we consider they comprise companies with similar business models[43] to Mastercard and Visa. Benchmarking is important as a margin-based approach, when viewed in isolation, does not provide an objective measure of profitability (unlike the asset-based approach, see paragraph 3.9). The companies we have used for benchmarking present good proxies for the types of services, and therefore the risk, that Mastercard and Visa undertake.

Benchmarking against companies in the IT sector

4.25 The first benchmarking exercise was against other companies listed in the IT sector in the NYSE (see Annex 3). This is the sector in which both Mastercard and Visa have been classified in the NYSE using the Global Industry Classification Standard (GICS) index by MSCI and S&P.[44] We looked at 68[45] other companies in this sector for the years 2016/17 to 2022/23[46], obtained the earnings before interest and tax (EBIT) from S&P Capital IQ, then calculated an average over the last five-year period. When we ranked the average EBIT percentage (see table 13), Visa ranked first and Mastercard second. The average EBIT percentage across the sector over the five years was 21%, compared to Visa's 66% and Mastercard's 56%.

4.26 There are a number of caveats with this analysis

a. Companies within the sector carry out a wide range of activities, operate in different types of markets and face different levels of risk. Besides payment system operators, technology platforms and fintech companies, the sector also includes hardware manufacturers (for example, Intel).

b. The companies varied in size. The biggest by market cap was Apple Inc, which averaged annual revenues of over $300bn with an average margin of 27%. The smallest by market cap was DXC Technology, with average revenues over $19bn and an average margin of around 7%. There were 70 companies in total; Figure 4 shows the results for the companies who had a market capital in excess of $100bn[47] (as of 26 January 2023).

42 Earnings before interest and Tax % (EBIT) for IT and Net Income % for credit services.

43 Many companies within these groups serve multiple distinct customer groups (which constitute different sides of a market).

44 MSCI (who provide equity portfolio analysis tools amongst other services) and Standard and Poor (the credit ratings agency) are responsible for the GIGS used by the NYSE.

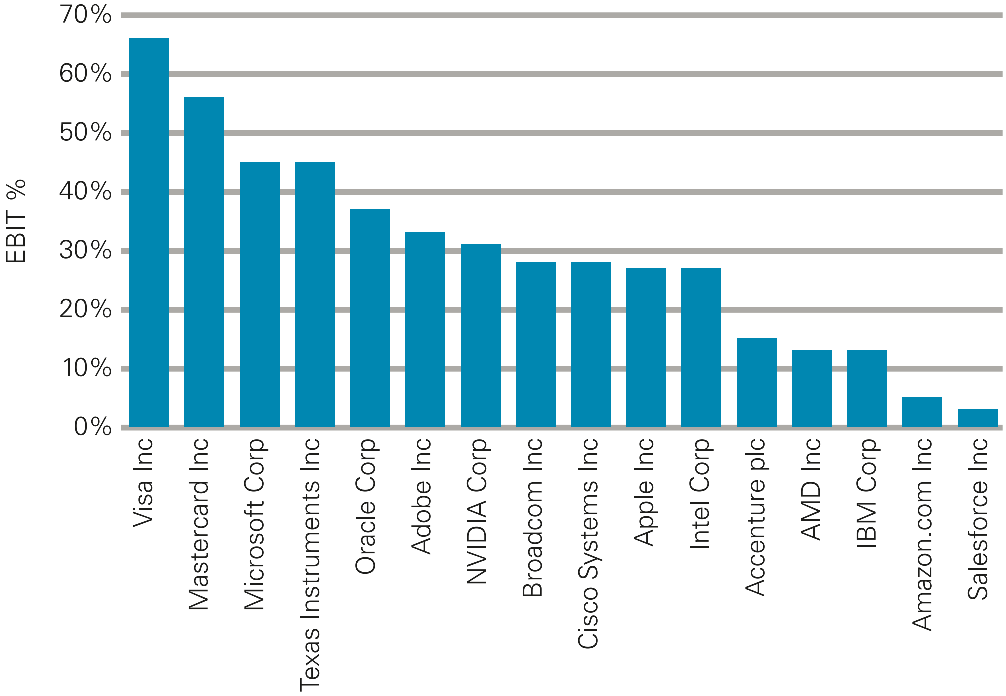
There are proposals to move both Mastercard and Visa into the Financials sector ([Consultation on potential changes to the GICS structure in 2022]).

45 We excluded American Express as S&P Capital IQ do not report an EBIT % over the period. We excluded any companies that did not have a full five year period.

46 For companies that had published 2022 results, we used 2017/18 to 2021/22. One company, S&P Capital had information for their year to January 2023.

47 This excludes American Express, where S&P Capital do not report an EBIT %. American Expresses five year average Earnings Before Tax (EBT), excluding unusual items was 22% between 2016/17 and 2020/21.

Figure 4: IT sector average 5-year EBIT % (companies with market capital >€100bn)



Source S&P Capital IQ/PSR analysis

Benchmarking against companies in the credit services sector

4.27 The second benchmarking exercise was against companies listed in the credit services sector in the NYSE (see Annex 3). This is the sector in which both Mastercard and Visa have been classified in the NYSE using the Morningstar index.[48] We looked at the 31[49] other companies in this sector for the years 2016/17 to 2021/22, obtained their net income (as opposed to EBIT)[50] from S&P Capital IQ and calculated an average net income percent over the five-year period. When we ranked the EBIT percentage of the 33 companies (see Table 14), Visa ranked third whilst Mastercard ranked fifth. The average net margin percentage for the companies in this sector over five years was 18%.

4.28 As with the first benchmarking exercise, there are similar caveats:

a. Companies within this sector carry out a wide range of activities. As well as payment system operators, technology platforms and financial intermediaries, it also includes companies with substantial interest income (for example, Capital One Corporation).

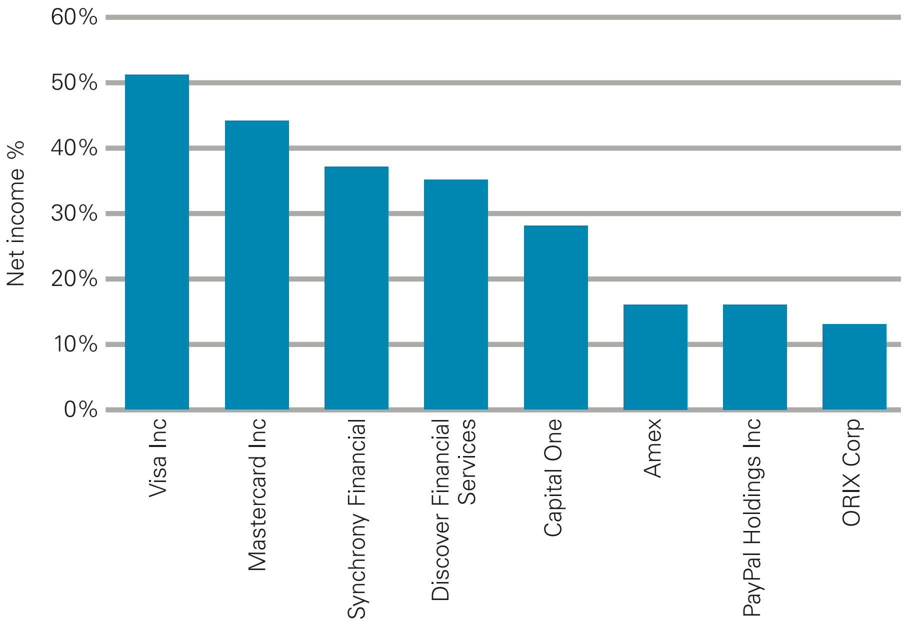
48 Morningstar, Inc is an American financial services firm that provides investment research and investment management services.

49 The original list comprised 54 companies, however 20 of these had a market capital of less than 0.001% of Mastercard Inc as of 23rd January 2023, which we considered too small to affect the average results of the sector. We also excluded any companies that did not have five years net income information.

50 Because a large proportion of these companies, by virtue of the fact they had significant interest income and expenses S&P Capital IQ do not report EBIT, the common measure of profit for companies in this sector is net income, which is EBIT less interest and taxation.

b. The companies varied in size, although they were all smaller than Mastercard and Visa. The smallest company was Atlanticus[51], with average revenues over $160m and an average net income percentage of 8%. There were 33 companies in total; Figure 5 below shows the results for the companies who had a market capital above $10bn (as of 26 January 2023).

Figure 5: Credit services sector average 5-year net income % (market capital > €10bn)



Source S&P Capital IQ/PSR analysis

51 This was the smallest company we obtained financial information for (see footnote 49).

Annex 1
Margin analysis

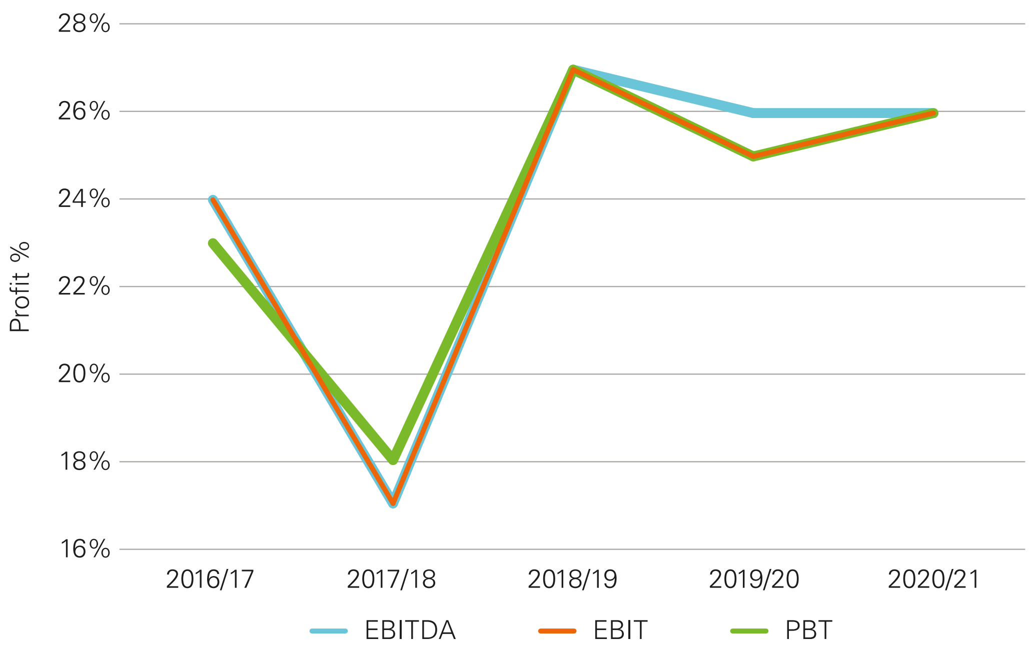
Profit margins

1.1 There are several ways a profit margin can be stated.

- **Gross margin:** The gross profit, which is revenue less the (usually variable) cost of sales, divided by revenue. Due to the nature of their operations, neither card scheme reports cost of sales, so this measure is irrelevant.
- **Earnings before interest, taxation, depreciation and amortisation (EBITDA):** This is defined as the gross profit less all administrative expenses but before interest, taxation, depreciation and amortisation, divided by revenue.
- **Earnings before interest and taxation (EBIT):** EBITDA including depreciation and amortisation costs. It is usually the same as operating profit, however it includes profits and losses made on non-operating activities, for example the sale of fixed assets (if that is not the company's usual business activity).
- **Profit before tax (PBT):** EBIT but including interest and financing charges, divided by revenue.

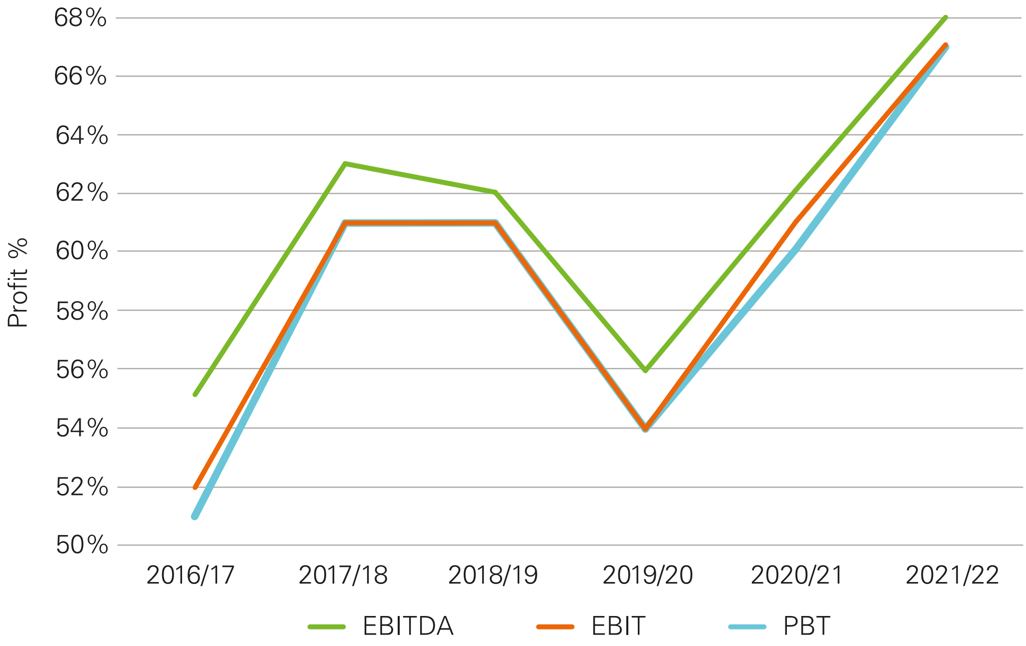
1.2 As shown in Figures 6 and 7, there is not much difference between the three selected measures for both card schemes' European accounts, and variations are consistent, because reported depreciation, amortisation and interest costs are relatively low compared to other operating costs.

Figure 6: Mastercard Europe profit margin %



Source: Mastercard Europe SA financial statements

Figure 7: Visa Europe profit margin %



Source: Visa Europe Ltd financial statements

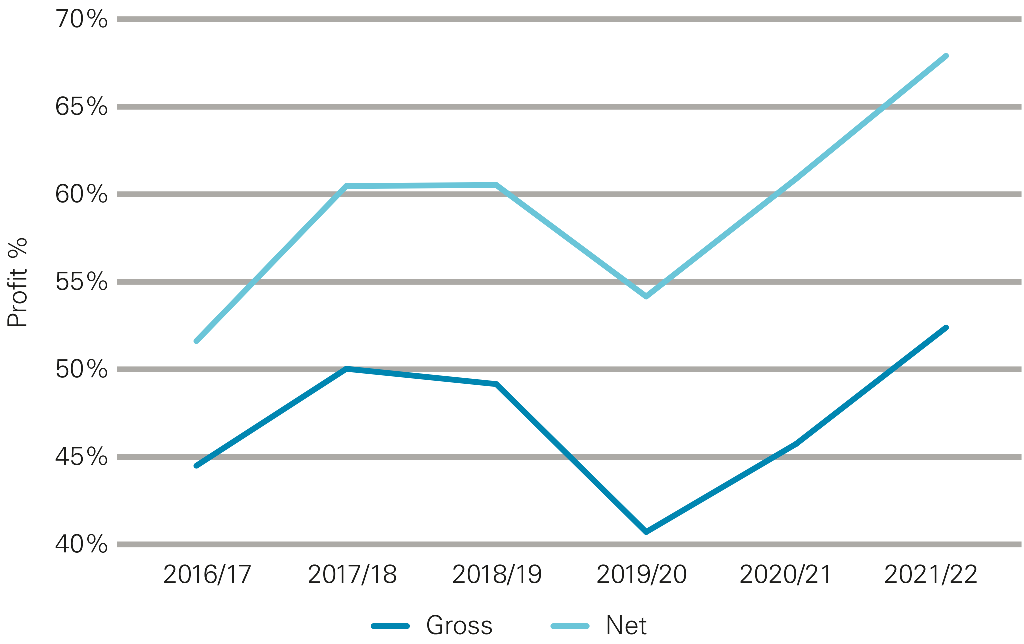
Gross versus net revenue

1.3 We have presented all the analysis in this paper using revenue recorded on an IFRS 15 basis. Where the revenue from the services provided by the card schemes is reduced through discounts, incentive payments or rebates, then the revenue is recorded at the net value, i.e. the amount after accounting for reductions.

1.4 If however the card scheme issued a rebate or incentive that was connected to a service it provided (for example if the card scheme provided specific money to an issuer to spend on marketing the scheme brand) then the rebate provided to the issuer would be a cost to the card scheme.

1.5 Visa's financial statements includes a note disclosing the level of revenue before rebates and incentives. Figure 8 shows the EBIT margin on both a gross and net revenue basis.

Figure 8: Visa Europe EBIT margin % (gross versus net revenue)



Source: Visa Europe financial statements

1.6 As Figure 8 shows, the rebates and incentives are significant, having around a 7% point impact on the EBIT margin in 2016/17, rising to 16% points in 2021/22.

1.7 Like most, if not all potential comparator companies, the card schemes prepare their financial statements on an IFRS 15 basis. Gross revenue numbers may not be available (such as for Mastercard Europe). These numbers are interesting but not suitable for comparison purposes.

Annex 2
Using a margin-based approach

2.1 **Table 12: Examples where regulators have used a margin-based approach to assess profitability**

Regulator	Sector	When / What	Context
CMA	Investment consulting	2010 to 2016 operating profit[52] (2016 was only comparative year)	The CMA found the operating profit of investment consultancy and fiduciary management was 20-30%. This was lower than margins the FCA found for asset managers but higher than the FTSE All Share Index.
FCA	Asset management	2010 to 2015 operating profit[53]	The FCA compared operating profits of a sample of firms and found an average of 36%, higher than the FTSE All Share Index (16%).[54]
CMA	Private motor insurance (PMI) investigation	2012 operating profit[55]	The CMA used EBIT to assess different parts of the sector and value chain – for example, the large PMI companies, price comparison websites[56], core PMI activities versus other activities and PMI in Great Britain versus Northern Ireland. In respect of large PMIs companies, the CMA found that they had not earned excessive profits.[57]

52 CMA, *Investment Consultants Market Investigation* (December 2018) Appendix A7

53 FCA, MS15/2.3, *Asset Management Market Study* (June 2017)

54 FCA, MS15/2.2, *Asset Management Market Study Interim Report* Annex 8 – Profitability Analysis (November 2016), paragraph 38

55 CMA, *Private Motor Insurance Market Investigation* (September 2014) (PMIMI) Appendix

56 PMIMI Final Report, paragraph 5.36: top 4 PCWs account for 95% of the market with 'high' profitability – average operating profits around 25%

57 PMIMI Final Report, para 6.66

Regulator	Sector	When / What	Context
CMA	Heat networks	2014 to 2016 EBIT[58]	CMA found levels of profitability for companies it analysed were neither excessively high or low, and that most, but not all, companies had been profitable. The average EBIT margin generated by these companies was 7%, although there was a wide range from -20% to +30%.
Ofcom	BT	2007/08 – 2015/16 EBIT margins[59]	Ofcom found EBIT margins per voice only telephone line increased to 34-42% in the period (£8-10)
Ofcom	Royal Mail	2022 EBIT margins[60]	Ofcom is required to regulate Royal Mail's financial sustainability. It considers an EBIT margin of 5-10%[61] provides medium to long-term financial sustainability.

58 CMA, *Heat networks Market Study* (23 July 2018)

59 Ofcom, 2017 *Review of standalone telephone services - consultation - Annex 5* (28 February 2017)

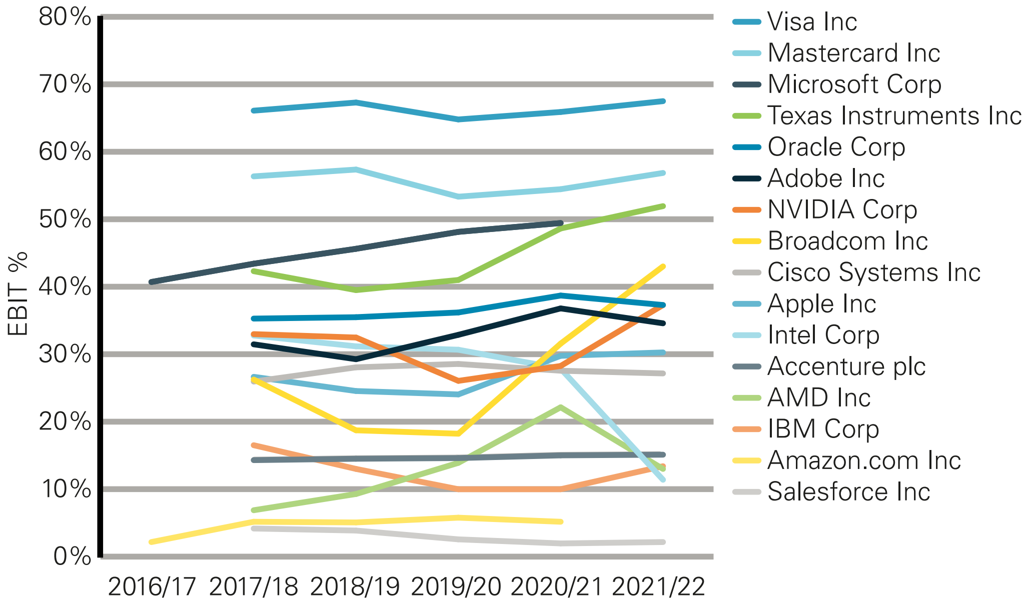
60 Ofcom, 2022 *Review of Postal Regulation – Statement* (18 July 2022) para 3.33

61 Ofcom consider this to be consistent with a commercial rate of return for this business.

Annex 3
US benchmarks

Information technology (IT)

Figure 9: EBIT[62] for major NYSE IT sector companies 2016/17 to 2021/22

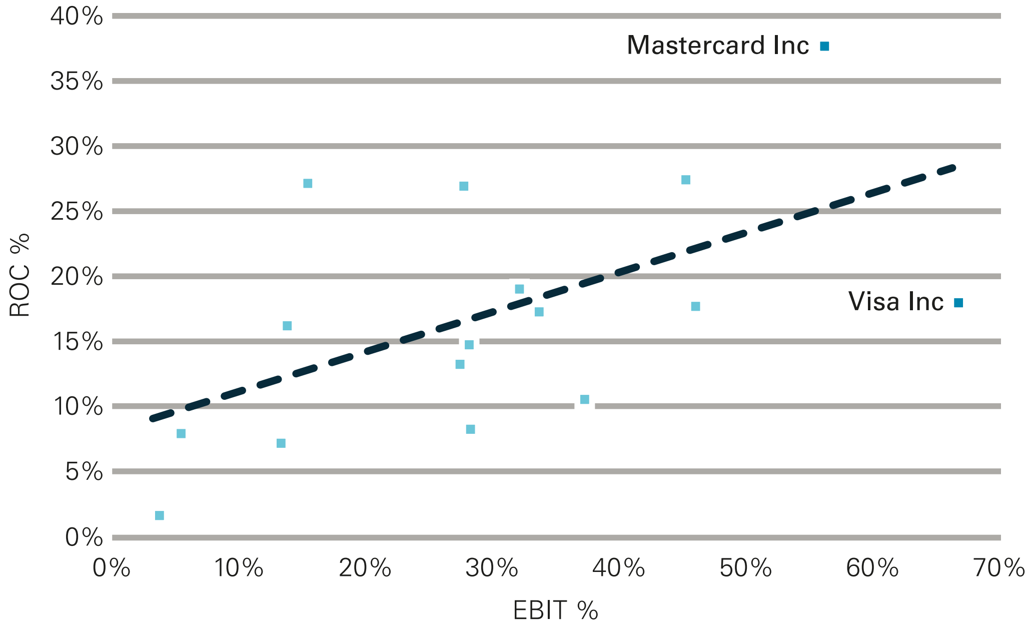


Source: S&P Capital IQ/PSR analysis

3.1 Mastercard and Visa have consistently higher EBIT percentages than other companies in this sector.

62 This chart excludes American Express, where S&P Capital IQ do not report an EBIT %. S&P Capital IQ report five year average Earnings Before Tax (EBT), excluding unusual items to be 22% between 2016/17 and 2020/21.

Figure 10: EBIT versus ROC % for major NYSE IT sector companies 2016/17 to 2021/22



Source: S&P Capital IQ/PSR analysis

3.2 Figure 10 shows there appears to be some correlation between EBIT and ROCE percentage.

Table 13: EBIT % for NYSE IT sector 2016/17 to 2022/23

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	5 year average
Visa Inc		66%	67%	65%	66%	67%		66%
Mastercard Inc		56%	57%	53%	54%	57%[63]		56%
Microsoft Corp	41%	43%	46%	48%	49%			45%
Texas Instruments Inc		42%	40%	41%	49%	52%		45%
FLEETCOR Tech Inc	39%	45%	47%	45%	44%			44%
Paychex Inc		38%	37%	36%	36%	40%		37%
Oracle Corp		35%	36%	36%	39%	37%		37%
KLA Corp		38%	30%	30%	36%	40%		35%
Adobe Inc		32%	29%	33%	37%	35%		33%
NVIDIA Corp		33%	33%	26%	28%	37%		31%
Skyworks Solutions Inc	34%	34%	28%	27%	33%			31%
Arista Networks Inc	29%	32%	33%	31%	31%			31%
Micron Tech Inc		49%	32%	14%	25%	32%		30%
Analogue Devices Inc		32%	30%	28%	29%	32%		30%
LAM Research Corp		29%	26%	27%	31%	31%		29%
Qualcomm Inc		17%	33%	27%	29%	36%		28%

63 Whilst Mastercard Inc have yet to publish their financial statements for 2022, their quarterly statements for December 2022 included information that enabled S&P Capital IQ to provide EBIT information for the year to December 2022.

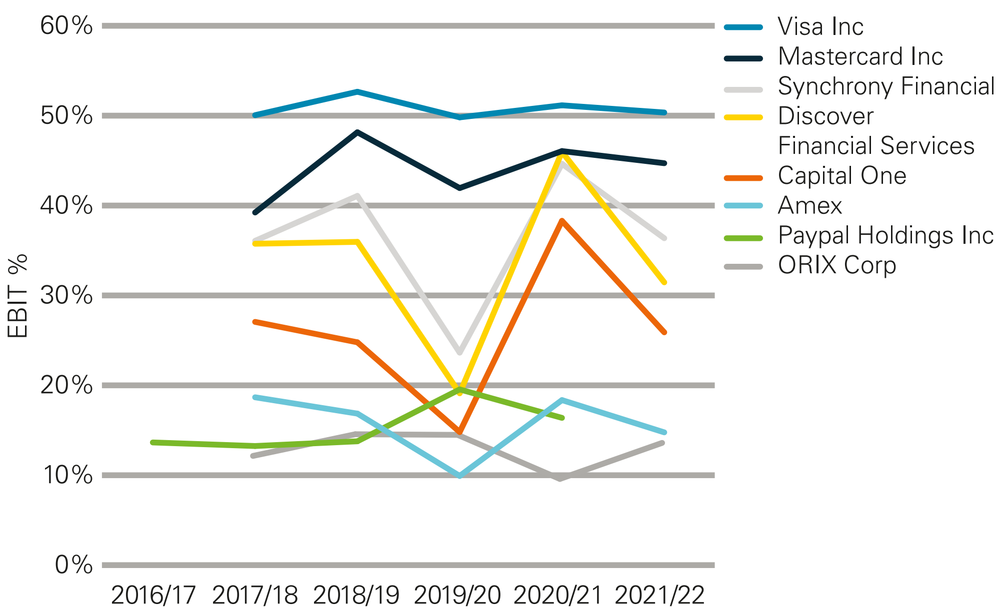
	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	5 year average
Broadcom Inc		26%	19%	18%	32%	43%		28%
Applied Materials Inc		27%	23%	26%	32%	30%		28%
Cisco Systems Inc		26%	28%	29%	28%	27%		28%
Roper Tech Inc		27%	28%	27%	27%	28%		27%
Apple Inc		27%	25%	24%	30%	30%		27%
Teradyne Inc		23%	23%	29%	32%	28%		27%
Intel Corp		33%	31%	31%	28%	12%		27%
Jack Henry & Associates Inc		24%	22%	22%	23%	24%		23%
ADP Inc		20%	22%	22%	22%	23%		22%
Cadence Design Systems Inc	17%	19%	21%	24%	26%			22%
Motorola Solutions Inc	21%	20%	22%	21%	23%			21%
F5 Inc		28%	23%	18%	17%	16%		20%
Amphenol Corp		21%	20%	19%	20%	21%		20%
Akamai Tech Inc	16%	15%	20%	23%	23%			19%
Microchip Tech Inc		24%	14%	13%	18%	28%		19%
Monolithic Power Systems	17%	20%	17%	20%	22%			19%
Keysight Tech Inc		11%	18%	18%	22%	26%		19%
Fiserv Inc	27%	26%	17%	10%	14%			19%
Global Payments Inc	14%	24%	16%	16%	21%			18%
Synopsys Inc		13%	17%	18%	18%	23%		18%
NetApp Inc		16%	19%	17%	16%	19%		18%
TE Connectivity Ltd		18%	17%	14%	18%	18%		17%
Cognizant Tech Solutions Corp	17%	18%	17%	14%	15%			16%
PTC Inc		6%	9%	17%	22%	26%		16%
PayPal Holdings Inc	17%	14%	16%	16%	17%			16%
Teledyne Tech Inc			15%	16%	17%	14%	18%	16%
Qorvo Inc		5%	9%	15%	23%	28%		16%
Tyler Tech Inc	19%	16%	14%	16%	13%			16%
Fortinet Inc	7%	13%	16%	19%	19%			15%
Zebra Tech Corp	10%	15%	16%	15%	18%			15%
Accenture Plc		14%	15%	15%	15%	15%		15%
Seagate Tech Holdings Plc		16%	14%	13%	14%	17%		15%
Corning Inc		14%	14%	12%	16%	13%		14%
Broadridge Financial Solutions		14%	15%	14%	14%	13%		14%
ON Semiconductor Corp	13%	15%	11%	8%	21%			13%
EPAM Systems Inc	12%	13%	13%	14%	15%			13%
AMD Inc		7%	9%	14%	22%	13%		13%
Trimble Inc	10%	12%	13%	15%	16%			13%
SolarEdge Tech Inc	15%	15%	16%	10%	11%			13%
IBM Corp		17%	13%	10%	10%	14%		13%
Fidelity Inc	17%	18%	10%	6%	9%			12%

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	5 year average
Gartner Inc	5%	9%	9%	12%	21%			11%
Juniper Networks Inc		13%	11%	10%	9%	10%		11%
NXP Semiconductors N.V.	6%	8%	7%	5%	24%			10%
Western Digital Corp		19%	1%	2%	7%	13%		8%
HP Inc		7%	7%	7%	9%	8%		8%
DXC Tech		10%	10%	7%	0%	10%		7%
Hewlett Packard Enterprise		4%	10%	6%	8%	8%		7%
CDW Corp	6%	6%	6%	6%	7%			6%
Autodesk Inc	-19%	1%	11%	17%	17%			5%
Ceridian HCM Holding Inc	9%	8%	8%	5%	-3%			5%
Amazon.com Inc	2%	5%	5%	6%	5%			5%
Salesforce Inc		4%	4%	3%	2%	2%		3%
ServiceNow Inc		-2%	1%	4%	4%	5%		3%

Source: S&P Capital IQ/PSR analysis

Credit services

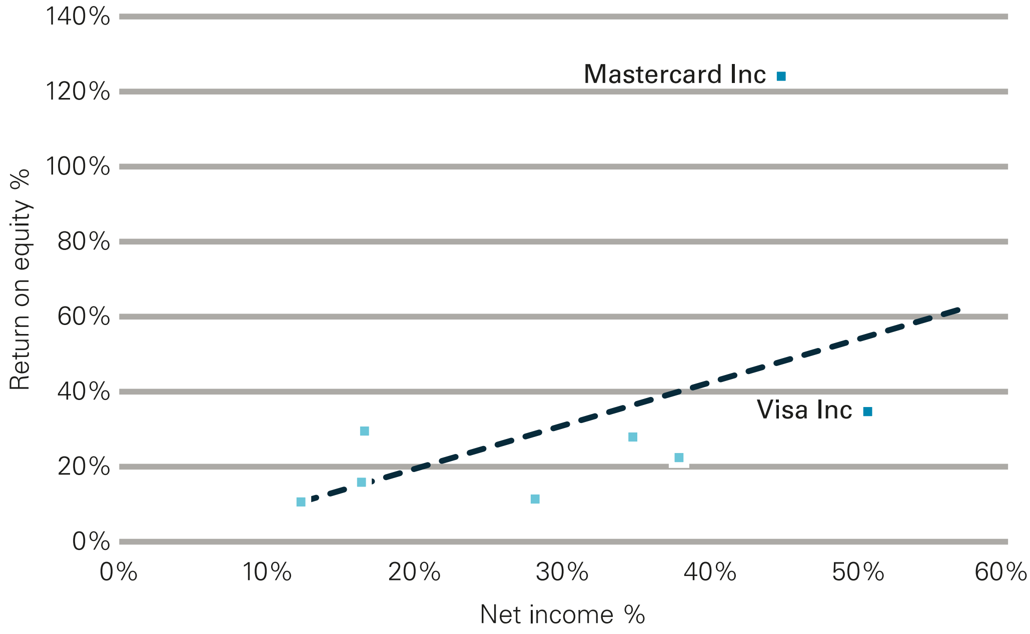
Figure 11: Net Income % for major NYSE credit services sector companies 2016/17 to 2021/22



Source: S&P Capital IQ/PSR analysis

3.3 Mastercard and Visa have consistently higher net income percentages than other companies in this sector. The impact of the COVID-19 pandemic in 2020 appeared less pronounced for them than for others.

Figure 12: Net income versus ROE % for major NYSE credit services companies 2016/17 to 2021/22



Source: S&P Capital IQ/PSR analysis

3.4 With the exception of Mastercard which is a clear outlier, there appears to be a good correlation between net income percentage and ROE percentage.

Table 14: NYSE credit services sector net income margin % 2016/17 to 2021/2022

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	5yr Average
Federal Agricultural Mortgage Corp	50%	59%	58%	56%	56%		55%
Credit Acceptance Corp		54%	54%	46%	57%	45%	51%
Visa Inc		50%	53%	50%	51%	51%	51%
SLM Corp	31%	44%	44%	52%	56%		45%
Mastercard Inc		39%	48%	42%	46%	45%[64]	44%
Synchrony Financial		36%	41%	24%	45%	36%	36%
FinVolution Group	27%	54%	38%	25%	26%		34%
Discover Financial Services		36%	36%	19%	46%	31%	34%
Navient Corp		38%	24%	47%	28%	0%	27%
360 DigiTech Inc	21%	27%	27%	26%	35%		27%
Capital One		27%	25%	15%	38%	26%	26%
OneMain Holdings Inc	9%	19%	32%	28%	38%		25%
Ally Financial		21%	27%	18%	35%	22%	25%
Lufax Holding Ltd	17%	30%	27%	22%	24%		24%
Nelnet Inc	22%	22%	14%	32%	29%		24%
Enova International Inc	4%	8%	3%	63%	27%		21%
Bread Financial Inc		23%	10%	11%	29%	10%	17%
Amex		19%	17%	10%	18%	15%	16%
LexinFintech Holdings Ltd	4%	26%	22%	5%	21%		16%
PayPal Holdings Inc	14%	13%	14%	20%	16%		15%
ORIX Corp		12%	15%	15%	10%	14%	13%
Western Union	-10%	15%	20%	15%	16%		11%
Atlanticus Holdings Corp	-107%	14%	57%	37%	41%		8%
World Acceptance Corp		7%	5%	15%	10%	0%	8%
Green Dot Corp	10%	11%	9%	2%	3%		7%
FirstCash Holdings Inc	0%	9%	9%	7%	7%		6%
ProAssurance Corp	12%	5%	0%	-20%	13%		2%
Ezcorp Inc		4%	0%	-8%	1%	6%	1%
Paya Holdings Inc	5%	-2%	-4%	0%	0%		0%
Upstart Holdings Inc	-12%	-10%	0%	2%	16%		-1%
MoneyGram International Inc	-2%	-2%	-5%	-1%	-3%		-2%
LendingClub Corp		-12%	-3%	-41%	2%	23%	-6%
SoFi Tech		-94%	-54%	-40%	-50%	-21%	-52%

64 While Mastercard Inc have yet to publish their financial statements for 2022, their quarterly statements for December 2022 included information that enables S&P Capital IQ to publish net income information for the year to December 2022.

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