

Performance Insights of Leading Card Issuers: An Analysis of Accounting Practices, Financial Metrics, and Corporate Responsibility Amid Economic Disruption

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This study provides a comparative analysis of the financial performance, operational efficiency, and sustainability practices of three leading payment card companies. The analysis spans the pre-COVID growth phase, the economic turmoil of 2020, and the recovery that followed in the post-pandemic period. The findings reveal that Visa and Mastercard, with their transaction-based, asset-light models, demonstrated superior resilience, financial stability, and adaptability. In contrast, American Express's diversified, credit-exposed model resulted in higher operational costs and liquidity constraints during periods of market stress. This study emphasizes how agile strategies support stability, advancing research on financial agility and crisis management in the financial sector.

Keywords: performance, financial metrics, sustainability

INTRODUCTION

The pandemic has profoundly disrupted communities and countries worldwide, leading to a staggering decline in global economic activity in 2020 (Chi and Ziebart, 2024; Gautam et al., 2022; Samitas et al., 2022). All economic stakeholders, including consumers, suppliers, and financial intermediaries, have navigated an unprecedented crisis due to the widespread transmission of the coronavirus (Elnahass et al., 2021). These disruptions further underscore the importance of understanding earnings quality and financial statement reporting (Chi, 2021) as firms and investors seek to adapt and respond to the ongoing economic volatility.

The ongoing turmoil has significantly impacted banking activities across numerous countries, triggering precautionary behaviors among depositors, such as increased withdrawal rates, as well as more cautious approaches from counterparties of financial intermediaries, like reduced market funding (Sharma et al., 2020). As a result, banks have faced operational challenges in maintaining cost-efficient financial operations while striving to uphold profitability and meet regulatory capital requirements (Elnahass et al., 2021).

This study shows that comparative assessment reveals that Visa's streamlined transaction-based business model underpins its operational efficiency, financial stability, and sustainability leadership. Mastercard's strong market resilience is evident, though its higher leverage and expenses slightly temper its stability. American Express, while maintaining notable revenue and income growth, is hindered by higher operational costs, liquidity concerns, and a more complex business structure that reduces its resilience to market fluctuations. Moving forward, the emphasis on digital transformation and responsible

practices will be crucial for maintaining competitive advantage and sustainability. Ultimately, Visa's integrated approach positions it as the most robust and sustainable entity within the global payments industry.

To evaluate a company's success in optimizing operational efficiency and generating profits, it is essential to consider a range of indicators, including net revenue (Investopedia, 2025), operating expenses (Werner, 2014; Kenton, 2024), net income (Chi and Ziebart, 2023; Jayathilaka, 2020), working capital (Aktas et al., 2015; Kim and Chung, 1990), current ratios (Chi and Ziebart, 2023; Barth and Landsman, 2010), and debt-to-assets ratios (Chi and Ziebart, 2023; Siahaan et al., 2016). These metrics provide a comprehensive framework for analyzing financial performance and strategic effectiveness within the organization.

The banking sector has been pivotal in supporting households and businesses by effectively channeling credit into the broader economy. However, during the COVID-19 pandemic, governments implemented numerous restrictions, including social distancing measures, border closures, travel bans, and the shutdown of non-essential businesses. These actions had a detrimental economic impact on firms and households, undermining business performance across all sectors while increasing operational costs (Duan et al., 2021).

As a result, many households faced job losses and reduced incomes, leading to difficulties in servicing debts (Demir and Danisman, 2021; Duan et al., 2021). This situation heightened the risk of defaults among both firms and households, which could have cascading effects on banks. The resulting increase in non-performing loans is likely to erode banks' capital, profits, and solvency, ultimately leading to lost revenue and further destabilizing the financial sector (Duan et al., 2021; Demir and Danisman, 2021). Consequently, banks may encounter heightened credit risks, which can increase systemic fragility and threaten the overall stability of the financial system.

Banks have been disproportionately affected by the rapid spread of COVID-19 compared to many other industries. It is primarily due to the inherent vulnerabilities that banks face during periods of economic turmoil (Goodell, 2020).

Motivated by the vulnerabilities faced by banks during crises, this paper examines how various bank-specific factors such as financial conditions and sustainability initiatives influence the performance reactions of the banking sector to the COVID-19 pandemic.

This paper investigates the performance of leading payment card companies—Visa, Mastercard, and American Express—during the pandemic, a period defined by unprecedented challenges and rapid shifts in consumer behavior. As the landscape of financial transactions evolved in response to social distancing measures and the surge in digital commerce, these organizations experienced significant fluctuations in key financial metrics, including net revenue, operating expenses, net income, working capital, current ratios, and debt-to-assets ratios.

Net revenue is a fundamental indicator of a company's sales performance and its ability to generate income from its core operations (Investopedia, 2025). Effective management of operating expenses in the industry requires thorough planning, as it significantly influences company performance and growth (Pehlivan, 2020). Managing operating expenses effectively is essential for maximizing profitability (Werner, 2014; Kenton, 2024). Net income is a key metric for evaluating a firm's financial health, representing the profit a company generates after all expenses and deductions have been accounted for against its total revenue (Jayathilaka, 2020).

Working capital management is crucial for the financial performance of companies, serving as a vital connection between liquidity and profitability (Aktas et al., 2015; Kim and Chung, 1990; Deloof, 2003). Companies with healthy Current ratio are better equipped to handle unexpected expenses or economic downturns, minimizing potential losses (Barth and Landsman, 2010). Managing debt levels is essential for maintaining financial stability and avoiding excessive interest expenses (Siahaan et al., 2016).

By analyzing essential financial indicators from 2017 to 2022, the study seeks to unveil how each company navigated the economic upheaval, highlighting their resilience and adaptability in response to changing market conditions. It evaluates operational efficiency and financial health using data from their 10-K annual reports, focusing on critical metrics to draw comparisons across these firms. Additionally, the paper explores their sustainability initiatives, recognizing the limitations of available data and making

necessary assumptions based on industry practices. Concluding with strategic recommendations, this research aims to enhance business performance and ensure long-term sustainability in the evolving economic landscape.

This study makes several important contributions to the fields of financial management, corporate strategy, and crisis response in the financial services sector. First, it provides a longitudinal, data-driven comparison of Visa, Mastercard, and American Express over a six-year period, encompassing the pre-pandemic, pandemic, and post-pandemic phases—an approach that enhances understanding of organizational resilience in times of economic disruption (Duan et al., 2021; Goodell, 2020). Second, the study highlights how agile operational models and adaptive strategies contribute to firm stability and performance during crises (Wenzel et al., 2020). This theoretical integration extends existing literature on strategic management and financial agility under pressure.

The remainder of this article is organized as follows: Section II contains a review of the pertinent literature; Section III describes the methodology; the results are presented in Section IV; and Section V provides a summary and discusses the implications of the results.

LITERATURE REVIEW

Impact of the COVID-19 Pandemic on the Banking Sector

Originating in Wuhan, China, in December 2019 (Gautam et al., 2022; Zhou et al., 2021), the COVID-19 outbreak triggered widespread industrial disruption (Song et al. 2021). The COVID-19 pandemic arrived suddenly, catching the world unprepared and leading to widespread disruption across all sectors (Duan et al., 2021). With countries forced to respond quickly, economies faced unprecedented challenges, including business closures, supply chain breakdowns, and significant shifts in consumer behavior (Wenzel et al., 2020; Albers and Rundshagen, 2020).

The economic fallout was severe, with losses surpassing those of the 2008 global financial crisis (Hanif et al., 2021). This crisis revealed the fragility of economic systems and the interconnectedness of global markets, prompting governments to reassess and adapt their strategies to address both financial damage and public health concerns (Feyen et al., 2021).

In particular, the financial markets have faced immense stress and volatility in response to the pandemic and the subsequent shutdowns linked to it (Samitas et al., 2022; Demir and Danisman, 2021). This turmoil has revealed vulnerabilities within the economic system, necessitating urgent adaptations from all participants to cope with the rapidly changing landscape.

Acharya and Steffen (2020) highlighted that the rapid acceleration of credit line drawdowns, particularly among riskier firms, can adversely affect bank balance sheets and weaken their capital adequacy ratios. This situation not only jeopardizes the stability of financial institutions but also constrains their ability to facilitate future intermediation, potentially triggering spillover effects on the real economy.

Net Revenue

Net revenue is the total revenue a company earns from its sales of goods or services, minus any discounts, returns, or allowances (Investopedia, 2025). It represents the amount of money a company actually keeps from its gross sales. High or growing net revenue signals strong sales and market demand, boosting investor confidence. However, if net revenue declines (e.g., due to returns or discounts), it may indicate pricing issues, customer dissatisfaction, or competitive pressure, potentially reducing profitability and affecting stock valuation.

Operational Expense

Operating expenses are the costs a company incurs during its normal business operations, excluding costs directly tied to production (like cost of goods sold). These include rent, utilities, salaries, and marketing expenses. Operating expenses refer to the costs associated with a company's day-to-day operational activities. These expenses encompass sales and administrative costs, depreciation, and repair and maintenance expenses (Werner, 2014).

High operating expenses can erode profitability, signaling inefficiency or over-spending, which may concern investors or lenders. Conversely, well-managed operating expenses can improve margins, making the firm more competitive and financially stable.

Net Income

Net income is the total profit of a company after all expenses, taxes, and costs (including operating expenses, interest, and depreciation) have been subtracted from total revenue.

Net income is a crucial indicator for assessing a firm's financial health, representing the profit a company earns after all deductions and expenses have been subtracted from total revenue. This figure reflects the core profitability of the enterprise, encapsulating the difference between the revenues generated by its activities and the costs incurred in earning those revenues.

It is often referred to as the "bottom line" (Hayes, 2023). Positive net income reflects financial health, enabling reinvestment, dividend payments, or debt reduction. Negative net income (losses) can signal operational or strategic issues, potentially lowering stock prices, deterring investors, or increasing borrowing costs.

Working Capital

Working capital is the difference between a company's current assets (e.g., cash, accounts receivable, inventory) and its current liabilities (e.g., accounts payable, short-term debt). It measures a company's short-term financial health and ability to cover operational expenses. Particularly during the critical period of the COVID-19 pandemic, effective working capital management has become essential. In times of crisis, even minor missteps in managing working capital can result in significant liquidity challenges for companies (Chang et al., 2019). Therefore, prioritizing meticulous oversight in this area is crucial to ensuring financial stability and resilience during such tumultuous times.

Positive working capital indicates liquidity to meet short-term obligations, supporting operational continuity. Negative working capital may suggest cash flow problems, risking supplier relations or operational disruptions, though some firms (e.g., retailers) operate effectively with negative working capital due to rapid inventory turnover.

Current Ratio

The current ratio is a liquidity ratio that measures a company's ability to pay its short-term obligations with its short-term assets. It is calculated as $\text{Current Assets} \div \text{Current Liabilities}$ (Barth and Landsman, 2010). A current ratio above 1 suggests financial stability, reassuring creditors and investors. A ratio below 1 may indicate liquidity risks, potentially leading to higher borrowing costs or difficulty securing credit. However, an excessively high ratio might imply underutilized assets, reducing efficiency.

According to Wardana (2015), a company with a low current ratio indicates that it lacks sufficient current assets to meet its short-term liabilities. However, it is important to note that a high current ratio does not inherently signify financial health. It may result from ineffective cash and inventory management practices. Thus, both low and high current ratios require careful analysis to understand the company's true financial position.

Debt-to-Assets Ratio

The debt-to-assets ratio measures the proportion of a company's assets that are financed by debt (Vatansever and Hepsen, 2013). It is calculated as $\text{Total Debt} \div \text{Total Assets}$. A high debt-to-assets ratio indicates heavy reliance on borrowed funds, increasing financial risk and interest expenses, which could strain cash flow during downturns. A low ratio suggests conservative financing, appealing to risk-averse investors but possibly limiting growth opportunities if debt isn't leveraged for expansion (PWC, 2017).

According to Siahaan et al. (2016), the debt ratio measures the proportion of a company's total debt to its total assets. A lower debt ratio indicates that the company relies less on debt financing, while a higher debt ratio suggests a greater reliance on borrowed funds. This ratio serves as a key indicator of financial leverage and risk in a company's capital structure.

METHODOLOGY

This study adopts a quantitative, qualitative, and comparative case study approach to analyze the financial and operational performance of three leading payment card companies—Visa, Mastercard, and American Express—over a six-year period from 2017 to 2022. The analysis spans the pre-pandemic expansion, the economic disruption of 2020, and the subsequent post-pandemic recovery phase.

Data were collected primarily from the firms' publicly available annual reports (Form 10-K filings) (Visa, 2023; Mastercard, 2023; American Express, 2023). Financial indicators analyzed include net revenue, operating expenses, net income, working capital, current ratio, and debt-to-assets ratio, consistent with standard measures used in corporate finance and accounting literature (Investopedia, 2025; Barth and Landsman, 2010; Siahaan et al., 2016).

Descriptive statistics and trend analysis were employed to assess and compare each company's performance over time. Changes in financial metrics were calculated in both absolute and percentage terms to evaluate growth, volatility, and operational efficiency. Visual representations (line graphs and tables) were used to illustrate trends and highlight key differences among the companies.

In addition to financial metrics, qualitative analysis was applied to evaluate each company's sustainability initiatives, based on disclosures in annual reports and publicly available ESG (Environmental, Social, and Governance) documentation. The interpretation of results emphasizes the importance of adaptability and resource reconfiguration in sustaining competitive advantage during turbulent periods.

This mixed-method design provides a comprehensive view of how each firm navigated pandemic-related disruptions and contributes both to academic understanding and practical strategy development in the financial services sector.

ANALYSIS OF VISA, MASTERCARD, AND AMERICAN EXPRESS

Operational Perspectives

Visa operates as an international payments technology company, facilitating global commerce across over 200 countries. Its operational model focuses on processing electronic transactions efficiently, leveraging a vast network of financial institutions, merchants, and consumers (Visa, 2023). Visa's emphasis on digital payment solutions and partnerships ensures scalability and adaptability, particularly during disruptions like the COVID-19 pandemic, where its infrastructure supported a shift to online transactions.

Mastercard, a technology company in the worldwide payments industry, connects consumers, businesses, and institutions through electronic payment solutions. Its operational strategy mirrors Visa's, with a focus on expanding its network and enhancing transaction security (Mastercard, 2023). Mastercard's investments in digital platforms and data analytics bolster its ability to meet evolving market demands, maintaining operational resilience despite economic challenges in 2020.

American Express operates as a global services company with four segments: U.S. Consumer Services, International Consumer and Network Services, Global Commercial Services, and Global Merchant Services (American Express, 2023). Unlike Visa and Mastercard, which focus solely on transaction processing, American Express issues cards and provides financial services, increasing operational complexity. This diversified model allows for direct customer engagement but also exposes the company to higher credit risk and operational costs.

Table 1 summarizes the key operational aspects of Visa, Mastercard, and American Express, highlighting their differences and similarities.

TABLE 1
COMPARATIVE OVERVIEW OF OPERATIONAL ASPECTS OF VISA, MASTERCARD, AND AMERICAN EXPRESS

Feature	Visa	Mastercard	American Express
Core Business	International payments technology company; processes electronic transactions.	Technology company in the global payments industry; connects consumers, businesses, and institutions.	Global services company; offers payment processing, card issuance, and financial services.
Operational Focus	Efficient processing of electronic transactions; leveraging a vast network.	Expanding network and enhancing transaction security; investing in digital platforms.	Diversified: card issuance, transaction processing, and financial services across four segments.
Network Reach	Operates in over 200 countries; extensive network of financial institutions, merchants, and consumers.	Global network of consumers, businesses, and institutions.	Global network, with direct customer relationships via card issuance.
Digital Strategy	Emphasis on digital payment solutions and partnerships for scalability and adaptability.	Investments in digital platforms and data analytics to meet evolving market demands.	Adapting digital services across all business segments.
Revenue Model	Primarily transaction processing fees.	Primarily transaction processing fees.	Transaction processing fees, interest income, and card membership fees.
Risk Profile	Lower credit risk due to focus on transaction processing.	Lower credit risk due to focus on transaction processing.	Higher credit risk due to card issuance and direct lending.
Operational Complexity	Relatively lower, focusing on core transaction processing.	Relatively lower, focusing on core transaction processing.	Higher, due to diversified services and direct customer relationships.
Adaptability During Disruptions (COVID-19)	Strong infrastructure supported a shift to online transactions, demonstrating resilience.	Investments in digital platforms and data analytics supported operational resilience.	Diversified model offered both challenges and opportunities, adapting across business segments.

Financial Perspectives

The financial performance of Visa, Mastercard, and American Express is assessed through net revenue, operating expenses, net income, working capital, current ratio, and debt-to-assets ratio, as detailed in the following tables and analysis.

In table 2, all three companies experienced revenue growth, with a dip in 2020 due to the COVID-19 pandemic. American Express consistently reports higher revenues due to its diversified services, but its 2020 decline (-17%) was more severe than Visa (-5%) and Mastercard's (-9%).

TABLE 2
NET REVENUE OF VISA, MASTERCARD, AND AMERICAN EXPRESS

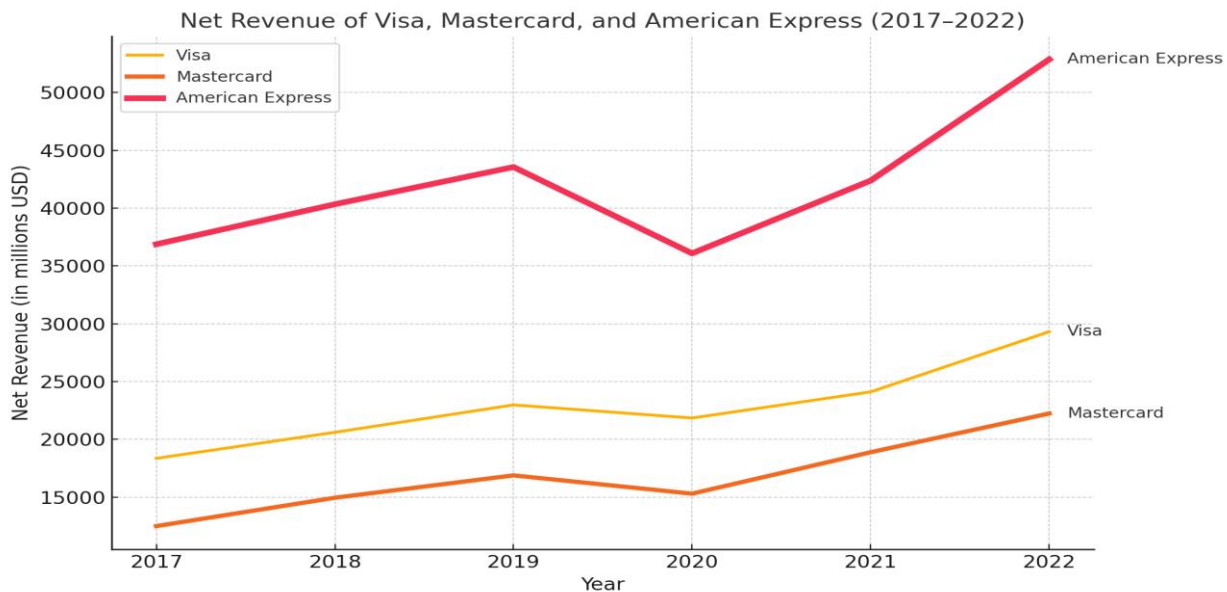
Year	Visa	Mastercard	American Express
2017	18,358	12,497	36,878
2018	20,609	14,950	40,338
2019	22,977	16,883	43,556
2020	21,846	15,301	36,087
2021	24,105	18,884	42,380
2022	29,310	22,237	52,862

All in millions USD

Overall, figure 1 reveals an upward trajectory in net revenue for all three financial service giants over the six-year span, signifying general business growth. Notably, American Express commenced with the highest revenue in 2017 but experienced a considerable decline in 2020, likely a consequence of the COVID-19 pandemic's economic repercussions, before demonstrating a robust recovery and substantial growth in 2021 and 2022, culminating in its peak revenue in the final year. Visa started with a net revenue lower than American Express but higher than Mastercard, exhibiting a consistent and steady growth pattern, with a marked increase in 2022. Mastercard began with the lowest net revenue among the three but also showed consistent growth, including a significant rise in 2022, although its overall revenue remained below that of Visa and American Express.

The impact of the 2020 economic downturn is evident across all three companies, each experiencing a revenue dip that year. However, the subsequent years show a strong rebound and significant growth, indicating a recovery in economic activity and consumer spending. In essence, the graph offers a comparative view of the net revenue performance of these major players, underscoring their growth patterns, the temporary setback of 2020, and their subsequent recovery and expansion, with American Express generally leading in net revenue throughout the period.

FIGURE 1
COMPARATIVE NET REVENUE OF VISA, MASTERCARD, AND AMERICAN EXPRESS (2017–2022)



In table 3, operating expenses increased across all companies, with American Express incurring significantly higher costs due to its card-issuing and lending activities. Visa and Mastercard maintained lower expenses, reflecting their transaction-focused models.

TABLE 3
OPERATING EXPENSES OF VISA, MASTERCARD, AND AMERICAN EXPRESS (2017–2022)

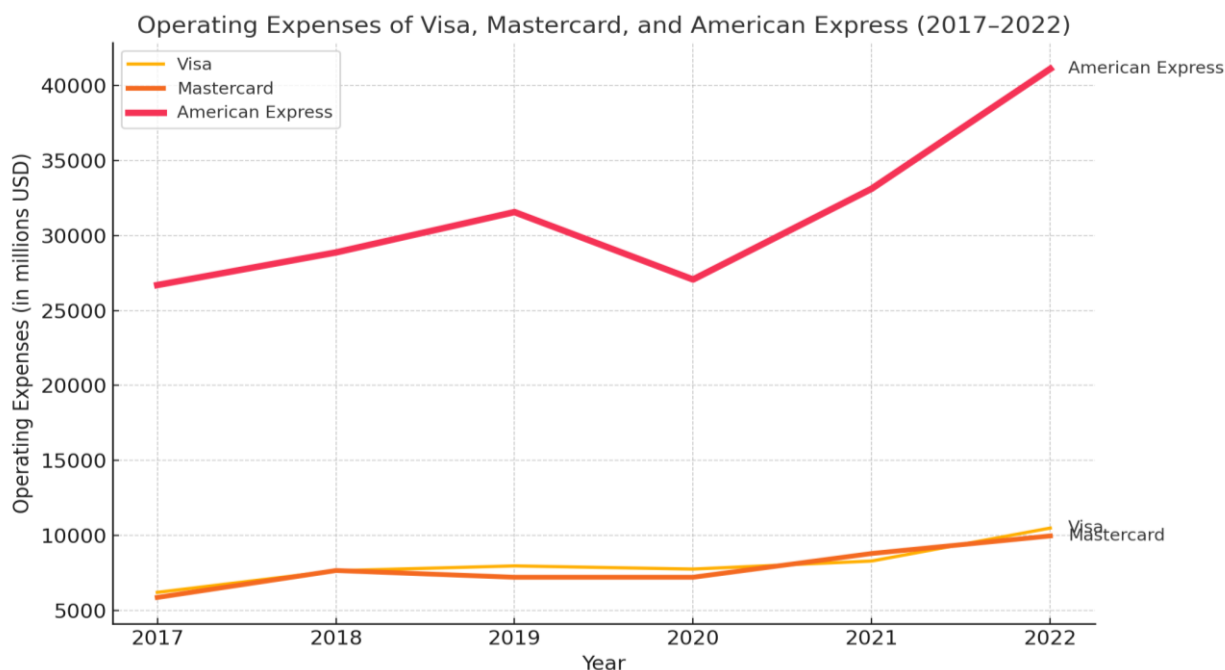
Year	Visa	Mastercard	American Express
2017	6,214	5,875	26,693
2018	7,655	7,668	28,864
2019	7,976	7,219	31,554
2020	7,765	7,220	27,061
2021	8,301	8,802	33,110
2022	10,497	9,973	41,095

All in millions USD

A key observation from the figure 2 is that American Express consistently exhibits the highest level of operating expenses throughout the entire timeframe. Furthermore, American Express's operating expenses demonstrate an overall upward trend, marked by a temporary decrease in 2020 followed by a substantial surge in 2022. In contrast, Visa generally maintains the lowest operating expenses among the three for the majority of the observed years, showing relative stability until 2021, after which a noticeable increase occurs in 2022. Mastercard's operating expenses typically fall between those of Visa and American Express, displaying a gradual increase over the years, with a slight dip in 2020 preceding a more pronounced rise in 2022.

Notably, all three companies experienced either a decrease or a flattening of their operating expenses in 2020, likely reflecting cost-saving measures or a slowdown in business activities during the initial phase of the COVID-19 pandemic. However, 2022 witnessed a significant increase in operating expenses for all three corporations, potentially driven by factors such as heightened investments in technology, marketing initiatives, or personnel expansion in response to economic recovery and increased business activity. In conclusion, the graph effectively illustrates the considerable disparity in operating expenses, with American Express consistently operating at a higher cost level compared to Visa and Mastercard, which maintain relatively lower and more comparable expense levels. The temporary moderation in expenses in 2020 followed by a significant increase in 2022 across all three companies provides valuable insights into their operational scaling and cost management strategies.

FIGURE 2
COMPARATIVE OF OPERATING EXPENSES OF VISA, MASTERCARD, AND AMERICAN EXPRESS (2017–2022)



In table 4, Visa led in net income growth, doubling from 2017 to 2022. Mastercard followed a similar trend but at lower levels. American Express experienced significant volatility, with a sharp drop in 2020 (-54%) and a decline in 2022 (-7% from 2021), unlike its peers.

TABLE 4
NET INCOME OF VISA, MASTERCARD, AND AMERICAN EXPRESS (2017–2022)

Year	Visa	Mastercard	American Express
2017	6,699	3,915	2,748
2018	10,301	5,859	6,921
2019	12,080	8,118	6,759
2020	10,866	6,411	3,135
2021	12,311	8,687	8,060
2022	14,957	9,930	7,514

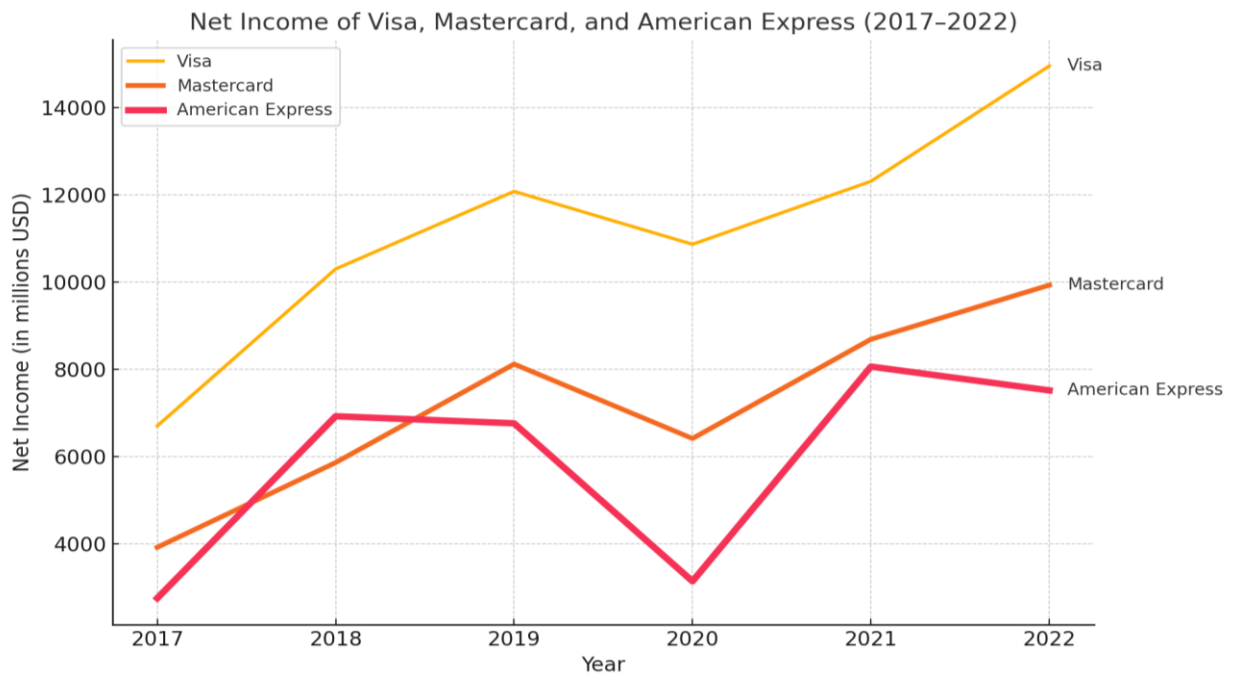
All in millions USD

A key observation in figure 3 is that Visa generally exhibits the highest net income among the three throughout the entire period, demonstrating a strong overall upward trend, punctuated by a slight dip in 2020 followed by substantial growth, culminating in its peak net income in 2022. Mastercard typically reports the second-highest net income, showcasing a fluctuating yet generally increasing trend, also experiencing a decrease in 2020 before a significant rise in 2022. In contrast, American Express displays a more volatile net income pattern compared to its counterparts, showing an initial increase from 2017 to 2018, followed by a minor decrease and then a more pronounced drop in 2020; while it recovers in 2021, its net income in 2022 remains below its 2019 peak.

Notably, all three companies experienced a decline in net income in 2020, likely attributable to the economic challenges stemming from the COVID-19 pandemic, which impacted both consumer spending and overall business activity. However, Visa and Mastercard demonstrated a robust recovery and significant growth in their net income in 2021 and 2022, surpassing their pre-pandemic levels. While American Express also showed recovery in 2021, its net income growth in 2022 did not match the levels achieved by Visa and Mastercard.

In summary, the graph highlights that despite a common downturn in net income in 2020, Visa and Mastercard exhibited stronger recovery and growth in the subsequent years, with Visa consistently leading in profitability. American Express, on the other hand, showed greater variability in its net income and a less pronounced growth trajectory in 2022 relative to its competitors. This visual representation offers valuable insights into the profitability dynamics within the financial services industry for these major players.

FIGURE 3
COMPARATIVE OF NET INCOME OF VISA, MASTERCARD, AND AMERICAN EXPRESS
(2017–2022)



In table 5, Visa maintained positive working capital and a strong current ratio, indicating robust liquidity. Mastercard’s working capital declined post-2020, with a low current ratio in 2022 (1.17), signaling potential short-term risks. American Express’s negative working capital since 2019 and current ratio below 1.0 reflect severe liquidity challenges. Debt-to-assets ratios show Visa as least leveraged (58% in 2022), followed by Mastercard (84%), and American Express (89%).

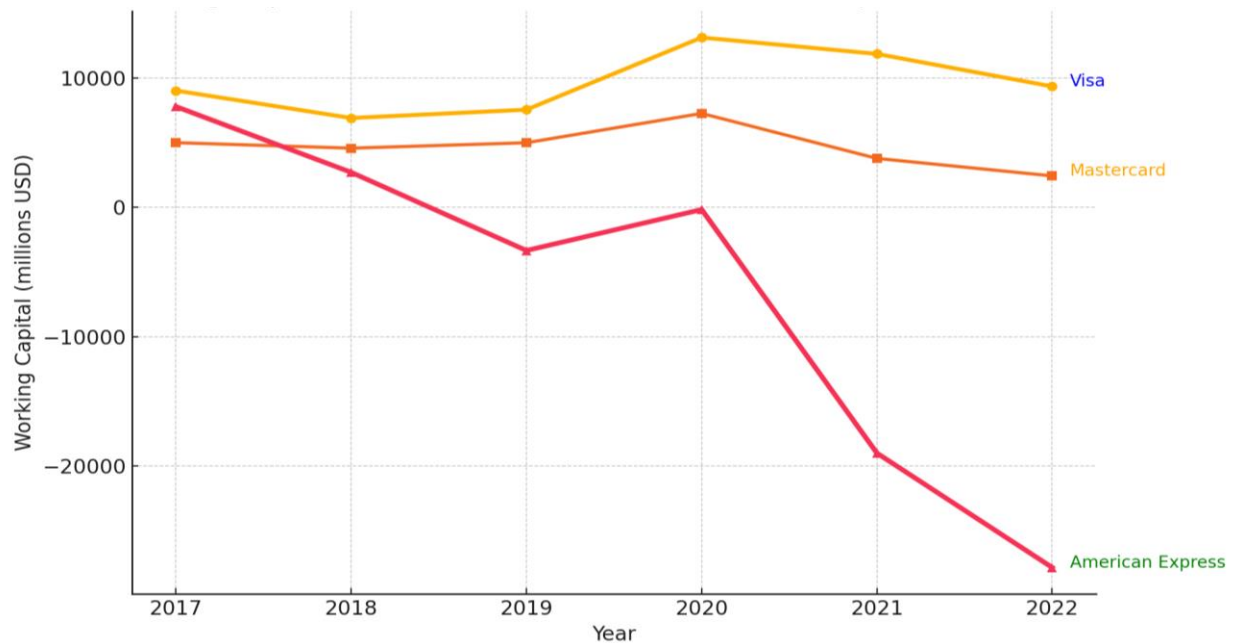
TABLE 5
FINANCIAL RATIOS AND WORKING CAPITAL OF VISA, MASTERCARD, AND
AMERICAN EXPRESS (2017–2022)

Metric	Company	2017	2018	2019	2020	2021	2022
Working Capital (millions USD)	Visa	9,029	6,911	7,555	13,135	11,868	9,352
	Mastercard	5,004	4,578	4,998	7,266	3,787	2,435
	American Express	7,795	2,709	-3,335	-167	-18,999	-27,844
Current Ratio	Visa	1.9	1.61	1.56	1.91	1.75	1.45
	Mastercard	1.57	1.39	1.42	1.61	1.29	1.17
	American Express	1.09	1.03	1.04	1.00	0.80	0.77
Debt-to-Assets Ratio (%)	Visa	52%	51%	52%	55%	55%	58%
	Mastercard	74%	78%	80%	81%	80%	84%
	American Express	90%	88%	88%	88%	88%	89%

Observing the trends in figure 4, Visa and Mastercard consistently maintained positive working capital throughout the entire period. Visa generally had the highest working capital among the three, although it showed a declining trend from 2020 to 2022. Mastercard's working capital remained relatively stable with some fluctuations, also showing a decrease in 2022. In stark contrast, American Express exhibited positive working capital in the initial years but experienced a significant drop into negative territory starting in 2020, with the negative working capital becoming more pronounced in subsequent years.

This suggests a notable shift in American Express's short-term liquidity position. The decrease in working capital for all three companies in the later years, particularly the sharp decline for American Express, warrants further investigation into the specific changes in their current assets and liabilities. Overall, the graph highlights the different approaches and outcomes in managing short-term liquidity among these major financial service corporations.

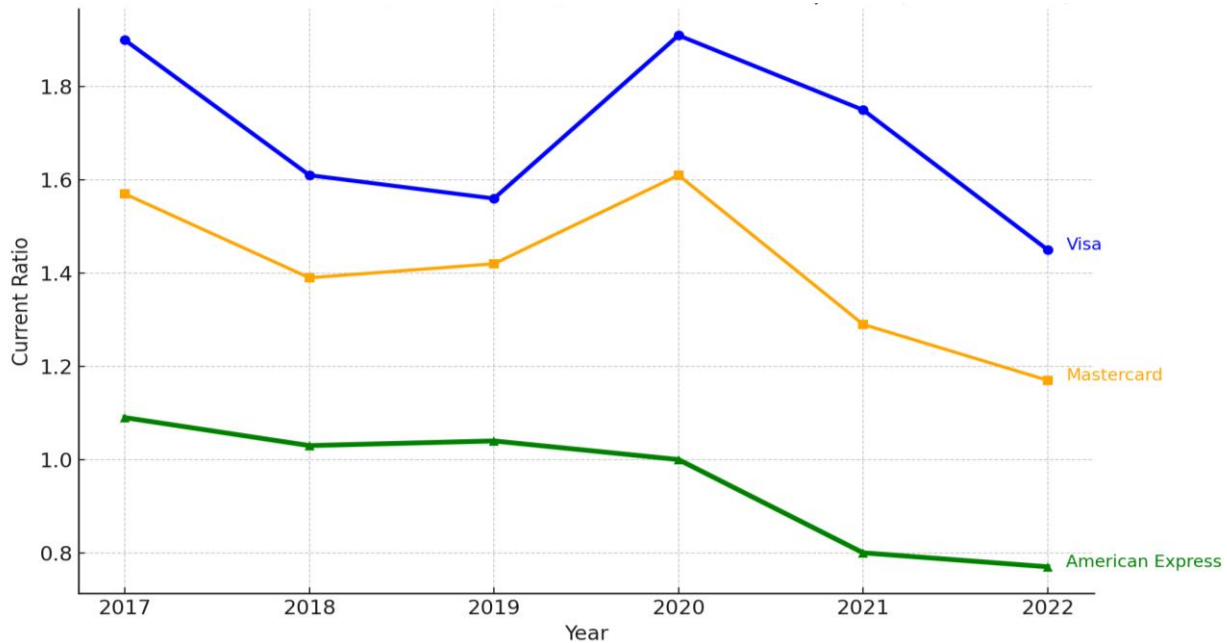
FIGURE 4
WORKING CAPITAL TRENDS OF VISA, MASTERCARD, AND AMERICAN EXPRESS
(2017–2022)



Looking at the trends in figure 5, Visa consistently maintained the highest current ratio among the three companies throughout the period, although it shows a declining trend from 2017 to 2022. Mastercard's current ratio was generally lower than Visa's but remained above 1 for most of the period, also exhibiting a downward trend in the later years. In contrast, American Express had a current ratio that hovered around or slightly above 1 for the initial years before declining below 1 starting in 2020 and continuing its downward trend through 2022.

A current ratio below 1 suggests that the company's current liabilities exceed its current assets, potentially indicating liquidity challenges in meeting its short-term obligations. The overall downward trend in the current ratio for all three companies in the latter part of the period could signal a strategic shift in managing current assets and liabilities or reflect broader economic conditions. The significantly lower current ratio for American Express in the later years suggests a different approach to liquidity management compared to Visa and Mastercard.

FIGURE 5
CURRENT RATIO TRENDS OF VISA, MASTERCARD, AND AMERICAN EXPRESS
(2017–2022)

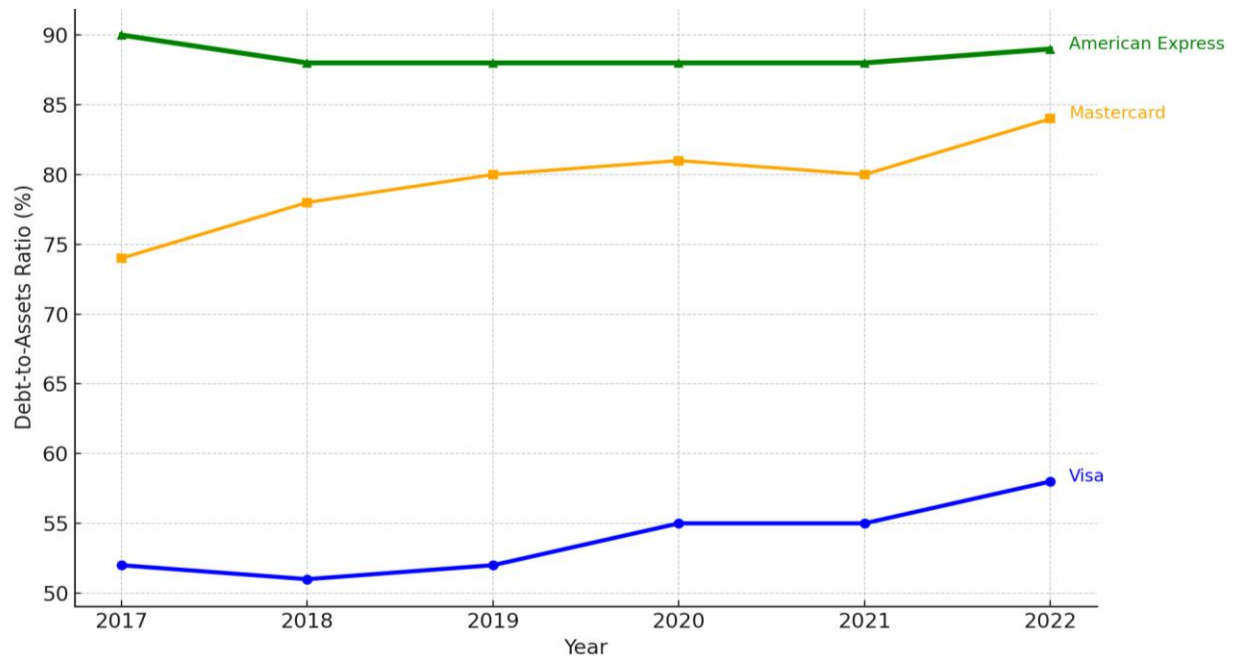


This debt-to-assets ratio indicates the proportion of a company's assets that are financed by debt. A higher ratio generally implies greater financial leverage and potentially higher financial risk.

Observing the trends in figure 6, American Express consistently exhibits the highest debt-to-assets ratio among the three companies throughout the entire period, remaining close to 90%. This suggests that a significant portion of American Express's assets is financed through debt. Mastercard's debt-to-assets ratio is notably lower than American Express's, generally fluctuating between 75% and 85% over the years, showing a gradual upward trend. Visa consistently maintains the lowest debt-to-assets ratio, staying below 60% throughout the observed period, indicating that it relies less on debt to finance its assets compared to Mastercard and especially American Express.

The relatively stable debt-to-assets ratio for American Express and the gradual increase for Mastercard, contrasted with the lower and more stable ratio for Visa, highlight different capital structures and financing strategies employed by these major financial service corporations. The consistently high leverage of American Express compared to its peers warrants consideration of its specific business model and risk management practices.

FIGURE 6
THE DEBT-TO-ASSETS RATIO TRENDS OF VISA, MASTERCARD, AND AMERICAN EXPRESS (2017–2022)



Financial comparison highlights that Visa demonstrates superior financial stability, with consistent revenue and income growth, low leverage, and strong liquidity. Mastercard follows closely but is hindered by higher debt levels. American Express, despite high revenues, faces significant challenges due to elevated expenses, volatile income, and poor liquidity, exacerbated by its card-issuing model during the 2020 pandemic.

Sustainability Perspectives

Visa has prioritized sustainability through initiatives like reducing carbon emissions and promoting financial inclusion. Its global network supports digital payments, which reduce the environmental impact of cash-based transactions. Visa's 10-K reports likely reference commitments to renewable energy and sustainable operations, aligning with industry trends toward eco-friendly practices (Visa, 2023).

Mastercard emphasizes sustainability through programs like the Priceless Planet Coalition, aiming to restore forests and reduce emissions. Its focus on digital transactions minimizes paper use, and investments in green technologies enhance operational efficiency (Mastercard, 2023). Mastercard's sustainability efforts are robust but slightly less extensive than Visa's due to its smaller scale.

American Express integrates sustainability into its operations through responsible lending practices and community engagement (American Express, 2023). Its card-issuing model involves higher physical card production, potentially increasing environmental impact compared to Visa and Mastercard. However, American Express likely pursues recycling programs and energy-efficient offices to mitigate these effects.

TABLE 6
SUSTAINABILITY INITIATIVES OF VISA, MASTERCARD, AND AMERICAN EXPRESS
(2017–2022)

Company	Sustainability Focus	Key Initiatives	Environmental Impact Goal	Challenges
Visa	Carbon reduction, financial inclusion	Renewable energy use, digital payment promotion	Achieve net-zero emissions by 2040	Scaling global sustainability efforts
Mastercard	Environmental restoration, green technology	Priceless Planet Coalition, emission reduction	Restore 100 million trees by 2030	Balancing growth with sustainability costs
American Express	Responsible lending, community engagement	Card recycling programs, energy-efficient offices	Reduce operational emissions	Higher environmental impact from card production

Sustainability comparison highlights that Visa leads in sustainability due to its extensive digital network and lower physical footprint. Mastercard follows closely with targeted environmental programs. American Express lags slightly due to its card-centric operations, though it mitigates this through responsible practices.

DISCUSSION

Operational Efficiency

Visa and Mastercard excel in operational efficiency, focusing on transaction processing with minimal physical infrastructure. Their low operating expenses (Visa: \$10,497M, Mastercard: \$9,973M in 2022) reflect streamlined models. American Express's diversified services lead to higher expenses (\$41,095M in 2022) and complexity, impacting efficiency during economic downturns.

Table 7 compares the operational models, efficiency, and resilience of Visa, Mastercard, and American Express, focusing on business structure, expense management, and adaptability to market changes.

The business models of Visa and Mastercard, which focus primarily on transaction processing, contribute to lower operational complexity compared to American Express, which operates through diversified segments including U.S. Consumer Services, International, Commercial, and Merchant Services, leading to increased costs and risk exposure. Operational efficiency, measured by operating expenses as a percentage of net revenue in 2022, highlights this difference; for instance, Visa's ratio was 35.8% ($\$10,497\text{M} / \$29,310\text{M}$), while American Express exhibited a significantly higher ratio of 77.7%, reflecting its more costly card-issuing and lending operations.

Examining the expense trend as a percentage change from 2017 to 2022, Visa's expenses increased by 68.9% ($(\$10,497\text{M} - \$6,214\text{M}) / \$6,214\text{M}$), while American Express's dip in expenses in 2020 aligns with reduced consumer activity during the pandemic. In terms of adaptability, Visa and Mastercard demonstrated a quicker recovery post-2020, exemplified by Visa's +10% revenue growth in 2021, contrasting with American Express's slower rebound, where its 2021 revenue remained below 2019 levels. Finally, regarding resilience, Visa and Mastercard benefit from lower direct consumer credit risk, whereas American Express's business model is more vulnerable to economic downturns, as evidenced by its performance in 2020.

TABLE 7
OPERATIONAL COMPARISON OF VISA, MASTERCARD, AND AMERICAN EXPRESS
(2017–2022)

Metric	Visa	Mastercard	American Express
Business Model	Transaction processing; global payment network across 200+ countries	Transaction processing; connects consumers and businesses globally	Card-issuing, lending, and merchant services; four operating segments
Operational Efficiency	High: Low operating expenses (\$10,497M in 2022, 35.8% of revenue)	High: Low operating expenses (\$9,973M in 2022, 44.8% of revenue)	Low: High operating expenses (\$41,095M in 2022, 77.7% of revenue)
Expense Trend (2017–2022)	+68.9% (from \$6,214M to \$10,497M); steady increase, slight 2020 dip (-3%)	+69.8% (from \$5,875M to \$9,973M); consistent rise, no 2020 dip	+54.0% (from \$26,693M to \$41,095M); volatile, significant 2020 dip (-14%)
Adaptability to Market Changes	High: Resilient to 2020 pandemic, quick revenue recovery (+10% in 2021)	High: Strong recovery post-2020, robust digital platform growth	Moderate: Slower recovery, impacted by cardholder spending declines
Operational Resilience	Strong: Scalable model, minimal consumer risk exposure	Strong: Similar to Visa, but slightly higher expense ratio	Moderate: Complex model increases costs, vulnerable to economic shifts

Financial Stability

Visa is the most financially stable, with the highest net income (\$14,957M in 2022), lowest debt-to-assets ratio (58%), and strong current ratio (1.45). Mastercard is stable but less sustainable due to higher leverage (84% debt-to-assets). American Express faces significant risks, with negative working capital (-\$27,844M in 2022), a current ratio of 0.77, and high leverage (89%), indicating potential long-term unsustainability.

Table 8 compares key financial metrics—net revenue growth, net income trends, current ratio, and debt-to-assets ratio—to evaluate the financial stability and performance of Visa, Mastercard, and American Express over the specified period.

Visa's substantial net revenue growth of 59.6% was calculated as $((\$29,310M - \$18,358M) / \$18,358M) * 100\%$. American Express experienced a notable dip in net revenue in 2020 and a slower recovery in 2021, reflecting its greater sensitivity to declines in consumer spending. In terms of net income, Visa showed consistent growth, contrasting with American Express's volatility, including a significant 54% decrease in 2020 and a 7% decline in 2022. Mastercard exhibited strong net income growth, although its progress is somewhat moderated by a higher debt burden.

Examining liquidity, Visa's average current ratio of 1.70 was computed as $(1.90 + 1.61 + 1.56 + 1.91 + 1.75 + 1.45) / 6$, indicating a healthy short-term financial position, whereas American Express's average current ratio falling below 1.0 since 2020 signals potential liquidity risks. Regarding financial leverage, Visa maintained a low average debt-to-assets ratio of 53.8%, calculated as $(52 + 51 + 52 + 55 + 55 + 58) / 6$, while American Express exhibited high leverage with a ratio consistently between 88% and 90%, indicating a significant reliance on debt financing. Based on these factors, the stability rating derived from the analysis positions Visa as the leader due to its low leverage and strong liquidity, Mastercard as moderate due to its higher debt, and American Express as having the lowest stability rating due to its liquidity and debt challenges.

TABLE 8
FINANCIAL COMPARISON OF VISA, MASTERCARD, AND AMERICAN EXPRESS
(2017–2022)

Metric	Visa	Mastercard	American Express
Net Revenue Growth	+59.6% (from \$18,358M to \$29,310M); steady increase, -5% dip in 2020	+78.0% (from \$12,497M to \$22,237M); strong growth, -9% dip in 2020	+43.4% (from \$36,878M to \$52,862M); volatile, -17% dip in 2020, slow 2021 recovery
Net Income Trend	+123.3% (from \$6,699M to \$14,957M); consistent growth, slight 2020 dip (-10%)	+153.6% (from \$3,915M to \$9,930M); robust growth, moderate 2020 dip (-21%)	+173.5% (from \$2,748M to \$7,514M); erratic, sharp 2020 drop (-54%), 2022 decline (-7%)
Average Current Ratio	1.70 (range: 1.45–1.91); strong liquidity, lowest in 2022	1.41 (range: 1.17–1.61); moderate liquidity, declining trend	0.96 (range: 0.77–1.09); poor liquidity, below 1.0 since 2020
Average Debt-to-Assets Ratio	53.8% (range: 51–58%); lowest leverage, stable with slight increase	79.5% (range: 74–84%); high leverage, increasing trend	88.5% (range: 88–90%); highest leverage, consistently elevated
Financial Stability Rating	High: Strong revenue/income growth, low debt, robust liquidity	Moderate: Solid growth, but high debt and declining liquidity	Low: High revenue but volatile income, poor liquidity, excessive debt

Sustainability Practices

Visa and Mastercard benefit from digital-focused operations, reducing environmental impact. Visa's broader reach gives it a slight edge in sustainability initiatives. American Express's card-issuing model increases its environmental footprint, though mitigated by community and operational efforts. All three companies align with industry sustainability trends, but Visa leads due to scale and efficiency.

Recommended Business Strategies

Recommended business strategies include focused debt reduction, where American Express should consolidate debt to achieve a debt-to-assets ratio below 85%, Mastercard aims for under 70% through investment streamlining and increased retained earnings, and Visa continues to maintain debt below 50% via prudent management. For operational cost optimization, American Express should streamline card issuing and expand digital platforms, while Mastercard and Visa should further invest in AI-driven transaction processing. Sustainability efforts should see American Express expanding recycling and using biodegradable materials, Mastercard scaling its Priceless Planet Coalition and integrating sustainability reporting, and Visa leading industry net-zero initiatives and standardizing sustainable practices. Finally, all three companies must prioritize digital transformation by enhancing cybersecurity and leveraging blockchain to secure transactions and attract tech-savvy consumers, ensuring long-term competitiveness.

IMPLICATION

Theoretical Implications

From a theoretical standpoint, the analysis contributes to crisis management theory by showing how operational agility and a lean cost structure can mitigate risk exposure during systemic disruptions (Wenzel et al., 2020). The research also contributes to the growing body of literature on corporate resilience, demonstrating that firms with simplified operating models and lower exposure to credit risk are better positioned to withstand economic shocks (Goodell, 2020; Samitas et al., 2022).

Practical Implications

Practically, the findings offer strategic insights for financial institutions navigating post-pandemic recovery. Companies are advised to enhance operational efficiency by adopting technology-driven transaction systems and minimizing exposure to consumer credit risk, as demonstrated by Visa and Mastercard. In contrast, American Express's model—while more diversified—suggests that high operational complexity and reliance on direct lending can exacerbate vulnerability during economic downturns. Additionally, the results underline the importance of liquidity and debt management: firms with strong current ratios and low debt-to-assets ratios (e.g., Visa) were more resilient, aligning with guidance from prior literature on financial health indicators (Barth and Landsman, 2010; Siahaan et al., 2016). Finally, the study highlights the strategic role of sustainability and digitalization, emphasizing the need for integrated ESG initiatives to improve long-term resilience and investor confidence.

CONCLUSION

This study evaluates the operational efficiency, financial stability, and sustainability practices of Visa, Mastercard, and American Express over the period 2017–2022. The period covers pre-pandemic growth, the disruptions of 2020, and the subsequent post-pandemic recovery. Visa and Mastercard demonstrate superior operational efficiency due to their transaction-focused business models, characterized by low operating expenses and rapid market adaptability. In contrast, American Express's diversified services result in higher expenses and greater complexity, impacting its resilience during economic downturns. Financially, Visa maintains the highest stability with strong revenue growth, low leverage, and robust liquidity, whereas American Express faces liquidity and debt challenges. In terms of sustainability, Visa and Mastercard leverage their digital infrastructure to minimize environmental impact, with Visa holding a slight advantage due to its broader reach. Overall, Visa emerges as the most resilient and sustainable among the three, supported by its efficient operations and solid financial health.

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