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Return Relationships between Big Four Australian Bank Stocks and the S&P/ASX 200

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Abstract: ***This study examines the relationship between the monthly stock returns of four major Australian banks and the S&P/ASX 200 and evaluates the usefulness of historical market information for return analysis. Monthly observations covering June 2021 to May 2026 are analyzed for Australia and New Zealand Banking Group, Commonwealth Bank of Australia, National Australia Bank, and Westpac Banking Corporation. Risk-return measures, correlation analysis, and regression analysis are used to assess the behavior of bank returns relative to the market index. The results indicate positive relationships between the selected bank stocks and market returns, although the strength of these relationships and stock volatility differ across banks. Commonwealth Bank exhibits comparatively high volatility, whereas Australia and New Zealand Banking Group shows lower volatility within the selected sample. The findings demonstrate how historical return analysis can support the assessment of market relationships and investment risk. The results may assist investors in making informed investment decisions while recognizing that historical relationships do not guarantee future returns.***

Keywords: S&P/ASX 200; Australian banks; stock returns; technical analysis; correlation; regression analysis

1. Introduction

The Capital market acts as a place for investors to competently distribute capital to entrepreneurs and businesses so that they can commendably provide their services to society. For this progression to perform best, the market needs to be both liquid and proficient. It means that an investor can buy or dispose of a considerable quantity at a reasonable price. There are two main schools of thought in the capital markets, namely fundamental analysis and technical analysis. Fundamental analysis attempts to determine a stock's return by focusing on primary factors that affect a company's actual business and its prospects. Fundamental analysis can be performed on an industry or the company as a whole, using fundamental information like financial and non-financial aspects of the company. The fundamental school of thought appraised the intrinsic value of shares through economic analysis, Industry Analysis, and Company Analysis.

Economic Analysis
The level of economic activity has an impact on investment in many ways. When the level of economic activity is low, stock prices are low, and when the level of economic activity is high, stock prices are high, reflecting the prosperous outlook for sales and profit of the firm.

Industry Analysis
An industry is a group of firms with similar production technologies and related products. Each industry is entirely different from other industries. Stock prices in the market are based on factors like: Growth of Industry, Cost Structure and Profitability, Nature of the Product, Competition, Government Policy, Labour, and Research and Development.

Company Analysis
Investors assimilate several bits of information related to the company and evaluate the present and future value of stock. The risk and return associated with the purchase of the stock are analyzed to make better investment decisions. The valuation process depends upon the investors' ability to elicit information from the relationship and inter-relationship among the company-related variables.

An alternative approach to predicting stock price behavior is called technical analysis. Technical analysis is frequently used as a supplement to fundamental analysis rather than an auxiliary for it. People have many intentions for investing. Some people invest to gain a sense of power or prestige. Often, the control of corporate empires is a driving motive. For most investors, however, their investment interest is largely pecuniary, to earn a return on their money. However, selecting stock exclusively based on maximization of returns is not enough.

The fact that most investors do not place available funds into the one, two, or even three stocks promising the greatest returns suggests that other factors must be considered besides return in the selection process. Investors not only like return, but they dislike risk. Here, in our job of analyzing securities within a return – risk context, we must begin with a clear understanding of what risk and return are, what creates them, and how they should be measured.

The technical analyst assumes that it is ninety percent psychological and ten percent logical. Technical analysis is a method of evaluating securities by analyzing statistics generated by market activity, such as price, return, and volume. It looks at the return movement of a stock and uses this data to predict its future performance. The time frame in which technical analysis is applied may range from intraday 5 minutes, 10 minutes, 30 minutes, or hourly, daily, weekly, or monthly returns data, and even to many years.

2. Assumptions of Technical Analysis

1) Market Fluctuations Discount Everything Else.
Technical analysts believe that changes in a security's price and how well it trades in the market embody all available information about that security from everyone involved with it and therefore represent its fair value. Sudden changes in how a stock trades often precede major news about the company that issued the stock. Technical analysts don't concern themselves with the price-to-earnings ratio, shareholder equity, return on equity, or other factors that fundamental analysts do.

2) Price Movements can often be charted and predicted.
Technical analysts acknowledge that there are periods when prices move randomly, but there are also times when they move in an identifiable trend. Once a trend is identified, it is possible to make money from it, either by buying low and selling high during an upward trend (bull market) or by selling short during a downward trend (bear market). By adjusting the length of time the market is being analyzed, it is possible to spot both short- and long-term trends.

3) History Repeats Itself.
People don't change their motivations overnight; therefore, traders will react the same way to conditions as they did in the past when those conditions repeat themselves. Because people react the same way, technical analysts can use the knowledge of how other traders reacted in the past to profit each time those conditions repeat themselves.

4) A&P/ASX 200 & Big Four Banks
This study attempts to predict the big four banks' returns based on their historical data in the S&P / ASX 200. The S&P/ASX 200 is recognized as the institutional investable benchmark in Australia. Index constituents are drawn from eligible companies listed on the Australian Securities Exchange. The S&P/ASX 200 is designed to measure the performance of the 200 largest index-eligible stocks listed on the ASX by float-adjusted market capitalization. Representative, liquid, and tradable, it is widely considered Australia's preeminent benchmark index.

The first bank in Australia was the Bank of New South Wales, established in Sydney in 1817. During the 19th and early 20th centuries, the Bank of New South Wales opened branches throughout Australia and Oceania at Moreton Bay (Brisbane 1850), then in Victoria (1851), New Zealand (1861), South Australia (1877), Western Australia (1883), Fiji (1901), Papua (1910) and Tasmania (1910).

In 1835, a London-based bank called the Bank of Australia was formed that would eventually become the ANZ Bank. In 1951, it merged with the Union Bank of Australia, another London-based bank, which had been formed in 1837. In 1970, it merged with the English, Scottish and Australian Bank Limited, another London-based bank formed in 1852. It is the largest merger in Australian Banking history, forming the Australia and New Zealand Banking Group Limited. The federal government-owned Commonwealth Bank was established in 1911 and by 1913 had branches in all six states. In 1912, it took over the State Savings Bank of Tasmania and did the same in 1920 with the State Savings Bank of Queensland. As with many other countries, the great depression of the 1930's brought a string of bank failures. In 1931, the Commonwealth Bank took over faltering state savings banks. Currently, banking in Australia is dominated by four major banks: Australia and New Zealand Banking Group, Commonwealth Bank of Australia, National Australia Bank and Westpac Banking Corporation.

In 1990, the Australian Government adopted a "Four Pillars Policy" in relation to banking in Australia and announced that it would reject any mergers between the four banks. These are the top four banking groups in Australia, ranked by ASX market caps as of 13th July 2026.

3. Literature Review

Das and Pattanayak (2009) examined 30 shares constituting the Bombay Stock Exchange (BSE) sensitivity index in order to study the factors affecting stock price movements. The analysis revealed that higher earnings, return on investment, growth potential, and favorable valuation have positive impacts on the market price of shares, while higher risk and volatility have inverse impacts.

Nirmala, Sanju and Ramachandran M (2011) examined three sectors, namely auto, healthcare and public sector undertakings, over the period 2000-2009 in order to infer the main factors affecting share price in India. The study employed the fully modified ordinary least squares method, and the results revealed that dividend, price-earnings (PE) ratio, and leverage are the major determinants of share price.

Another significant and positive determinant of stock price, which emerged in the studies conducted by Balakrishnan (1984), Zahir and Khanna (1982), and Sharma (2011), was book value per share, which depicts a sound financial performance of the company, as book value is a major representation of owners' funds. This, in turn, affects the stock prices in a positive way.

4. Objectives of the Study

- To study the relevance of technical analysis in the Australian Capital Market
- To analyze the performance of selected Banks in the Australian Stock Market and to predict the future trend in share returns through technical analysis.
- To find out the risk and return for selected securities.
- Analysis of selected stocks and interpretation on whether to buy or sell.

5. Research Methodology

The technical analysis and market (Secondary) data on the monthly share return movements of the selected banks in the S&P/ASX 200 were observed for the five years, i.e., June 2021 – May 2026. The monthly closing prices of the shares were taken, and the future return movement was analyzed using tools. Data were gathered from trading in the equity market in the S&P/ASX 200. All listed banks on the Australian Stock Exchange that are actively traded in the S&P/ASX 200 were selected.

The selected banks are listed below:

- Australia and New Zealand Banking Group (ANZ.AX)
- Commonwealth Bank of Australia (CBA.AX)
- National Australia Bank (NAB.AX)
- Westpac Banking Corporation (WBC.AX)

Period of the Study:
The period of five years from June 2021 to May 2026 has been used to carry out the present study.

Secondary Data:
The Secondary Data were collected from the stock market indices, journals, and websites.

6. Limitations of the Study

- Technical analysis is undertaken only for five years; from this data, we are unable to predict returns accurately.
- Technical indicators' mixed signals.
- Biased opinion.
- This study can be used only for short-term decision-making.

Table 1: Returns of S&P/ASX 200 and Big Four Banks' Equity 2021 – 2026

Date	S&P ASX 200	Returns	ANZ.AX Returns	CBA.AX Returns	NAB.AX Returns	WBC.AX Returns
31/05/2026	8625.1	-1.22%	-1.69%	-5.21%	-2.35%	0.31%
30/04/2026	8731.7	0.76%	-3.94%	-4.98%	-6.38%	-6.49%
31/03/2026	8665.8	2.17%	1.88%	3.55%	-3.77%	-2.45%
28/02/2026	8481.8	-7.79%	-10.17%	-2.68%	-15.46%	-7.22%
31/01/2026	9198.6	3.72%	9.12%	16.91%	13.03%	9.59%
31/12/2025	8869.1	1.78%	0.99%	-6.98%	2.51%	0.58%
30/11/2025	8714.3	1.16%	7.18%	5.28%	7.61%	4.67%
31/10/2025	8614.1	-3.02%	-5.48%	-11.14%	-8.07%	-2.95%
30/09/2025	8881.9	0.37%	10.36%	2.84%	-1.18%	-0.61%
31/08/2025	8848.8	-1.39%	-1.37%	-0.48%	3.17%	0.94%
31/07/2025	8973.1	2.63%	9.60%	-4.27%	9.96%	14.18%
30/06/2025	8742.8	2.35%	5.38%	-3.70%	-1.14%	-0.12%
31/05/2025	8542.3	1.28%	3.33%	5.00%	6.07%	6.54%
30/04/2025	8434.7	3.80%	-2.74%	5.61%	5.17%	-0.88%
31/03/2025	8126.2	3.61%	2.63%	10.38%	6.21%	4.05%
28/02/2025	7843.4	-4.03%	-2.35%	-2.36%	-3.63%	-0.77%
31/01/2025	8172.4	-4.22%	-2.71%	-2.38%	-12.07%	-5.69%
31/12/2024	8532.3	4.57%	7.32%	4.77%	8.20%	4.35%
30/11/2024	8159.1	-3.28%	-6.06%	-3.36%	-3.07%	-0.78%
31/10/2024	8436.2	3.38%	0.07%	11.10%	0.79%	3.87%
30/09/2024	8160.0	-1.33%	2.17%	5.43%	3.88%	1.27%
31/08/2024	8269.8	2.20%	0.29%	-1.18%	-2.14%	1.54%
31/07/2024	8091.9	0.00%	4.64%	1.47%	-1.07%	4.83%
30/06/2024	8092.3	4.18%	2.85%	7.93%	6.50%	9.42%
31/05/2024	7767.5	0.85%	2.90%	6.56%	9.49%	8.33%
30/04/2024	7701.7	0.49%	0.32%	4.37%	0.33%	0.04%
31/03/2024	7664.1	-2.95%	-4.21%	-4.82%	-2.42%	-0.52%
29/02/2024	7896.9	2.57%	3.36%	5.31%	2.34%	-0.94%
31/01/2024	7698.7	0.23%	4.60%	-0.95%	3.80%	8.95%
31/12/2023	7680.7	1.18%	4.91%	5.12%	6.19%	5.61%
30/11/2023	7590.8	7.10%	10.51%	6.83%	11.35%	10.86%
31/10/2023	7087.3	4.52%	-1.39%	8.38%	1.23%	3.74%
30/09/2023	6780.7	-3.80%	-3.68%	-3.41%	-3.48%	-2.65%
31/08/2023	7048.6	-3.51%	1.31%	0.16%	0.36%	-3.61%
31/07/2023	7305.3	-1.42%	-1.61%	-3.34%	1.90%	-1.77%
30/06/2023	7410.4	2.88%	8.57%	5.43%	7.77%	4.70%
31/05/2023	7203.3	1.58%	6.98%	3.61%	4.75%	6.64%
30/04/2023	7091.3	-2.98%	-5.87%	-2.60%	-9.96%	-7.99%
31/03/2023	7309.2	1.83%	6.23%	1.06%	4.02%	3.78%
28/02/2023	7177.8	-1.11%	-6.99%	-0.29%	-7.59%	-3.90%
31/01/2023	7258.4	-2.92%	-1.75%	-8.51%	-5.64%	-4.98%
31/12/2022	7476.7	6.22%	6.04%	7.27%	5.76%	1.55%
30/11/2022	7038.7	-3.37%	-1.53%	-4.88%	-2.24%	0.94%
31/10/2022	7284.2	6.13%	-3.20%	3.04%	-2.74%	-1.39%
30/09/2022	6863.5	6.01%	12.08%	15.42%	12.55%	16.80%
31/08/2022	6474.2	-7.34%	-0.11%	-4.98%	-5.81%	-4.47%
31/07/2022	6986.8	0.60%	-0.33%	-3.28%	-0.04%	0.46%
30/06/2022	6945.2	5.74%	4.78%	11.51%	11.68%	10.29%
31/05/2022	6568.1	-8.92%	-9.57%	-13.40%	-10.28%	-16.18%
30/04/2022	7211.2	-3.01%	-8.26%	0.46%	-4.20%	0.00%
31/03/2022	7435.0	-0.86%	-1.09%	-1.78%	0.85%	-1.57%

28/02/2022	7499.6	6.39%	6.11%	15.19%	11.80%	6.29%
31/01/2022	7049.1	1.11%	-1.96%	-0.30%	6.66%	12.39%
31/12/2021	6971.6	-6.35%	-3.55%	-7.18%	-5.92%	-4.94%
30/11/2021	7444.6	2.60%	5.66%	8.39%	8.08%	6.80%
31/10/2021	7256.0	-0.92%	-5.13%	-10.99%	-4.93%	-20.06%
30/09/2021	7323.7	-0.12%	-0.05%	0.34%	3.16%	-1.25%
31/08/2021	7332.2	-2.69%	1.10%	6.28%	0.37%	0.71%
31/07/2021	7534.9	1.92%	0.48%	0.47%	6.93%	5.26%
30/06/2021	7392.6	1.09%	-1.57%	-0.22%	-1.12%	-5.00%
31/05/2021	7313.0					

Source: Yahoo Finance

Table 2: Table Showing Correlation between S&P/ASX 200 and ANZ.AX

Particulars	S&P/ASX 200		ANZ.AX
Average Returns	0.34%		0.92%
Variance	0.001309		0.002647
Standard Deviation	3.62%		5.14%
Covariation		0.001255	
Correlation		.6745	

From Table No. 2, it can be inferred that the Australia and New Zealand Banking Group (ANZ.AX) Security has higher volatility than the market returns. Also, the coefficient is a statistical measure that reflects the correlation between securities and the market or between two securities. On the other hand, this statistic tells us how closely a security is related to others. The calculated correlation coefficient is between the S&P/ASX 200 and ANZ.AX has a positive, and moves in the same direction, but it has a linear relationship.

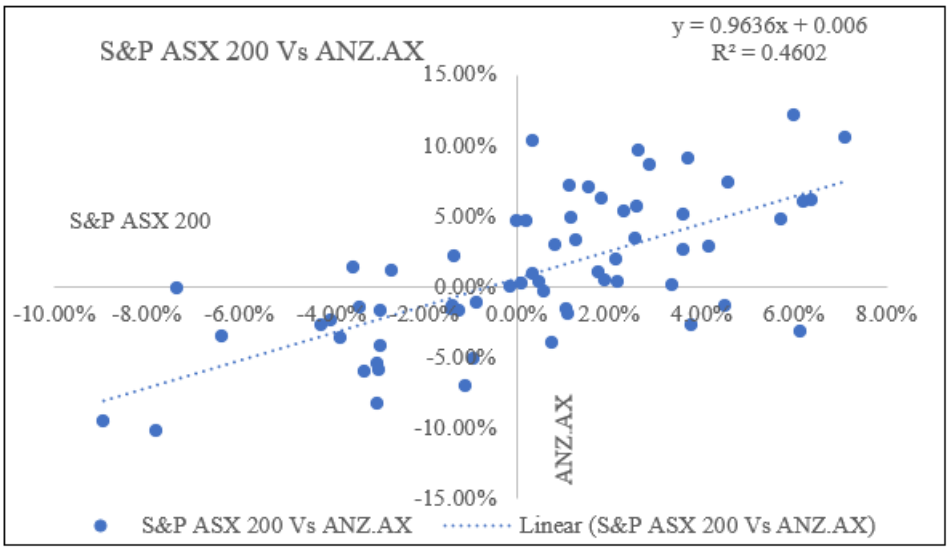

Chart 1: Chart Showing Regression of S&P/ASX 200 and ANZ.AX

The regression indicates that how ANZ.AX varies with S&P/ASX 200 returns; visually, there is an upward slope, so that tells us that as S&P/ASX 200 returns increase along the 'X' axis, ANZ.AX returns also tend to increase along the 'Y' axis. Considerable dispersion is observed among the data points around the regression line: some points are far away, and other points are really close to the line; it tells us that ANZAX varies for reasons other than just the S&P 200's variation. The equation tells us here that for every increase of 1 % point of S&P/ASX 200 returns, there is just a 0.9636% increase in ANZ.AX returns. If the S&P/ASX 200 were 0 and stayed completely flat between any two months, then ANZ.AX would get a positive 0.006 and would increase by 0.60%.

Finally, R^2 is 0.4602, about 46 % of the variation in ANZ.AX is explained by the S&P/ASX 200. The fact that ANZ.AX stock is fluctuating is partly explained because the S&P/ASX 200 itself is fluctuating and partly because there may be specific things happening within ANZ.AX and other factors.

Table 3: Table Showing Correlation between S&P/ASX 200 and CBA.AX

Particulars	S&P/ASX 200		CBA.AX
Average Returns	0.34%		1.26%
Variance	0.001309		0.004205
Standard Deviation	3.62%		6.48%
Covariation		0.00168	
Correlation		.7162	

From Table No. 3, it could be interpreted that the Commonwealth Bank of Australia (CBA.AX) security are volatility than the market returns. The calculated correlation coefficient between S&P/ASX 200 and CBA.AX is positive and moves in the same direction, but it is a strong linear relationship

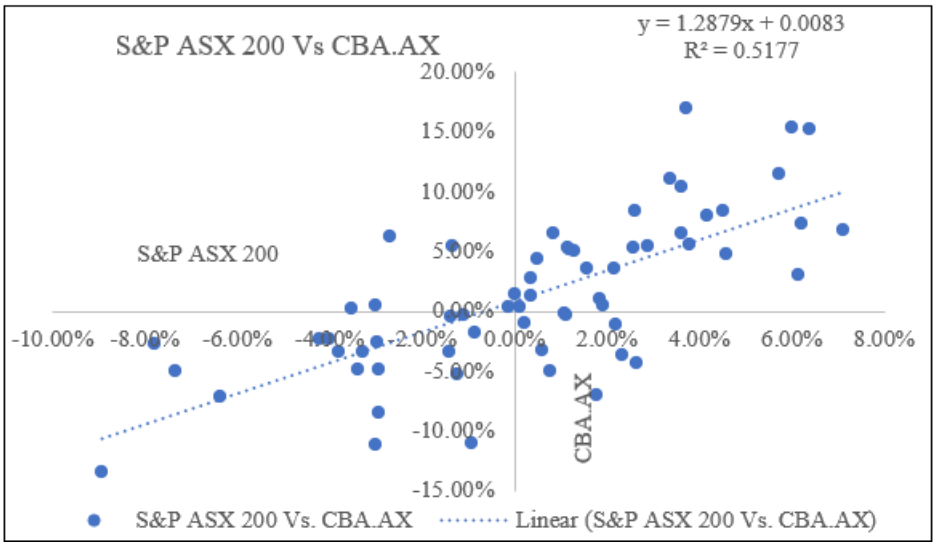

Chart 2: Chart Showing Regression of S&P/ASX 200 and CBA.AX

The regression indicates how CBA.AX varies with S&P/ASX 200 returns; visually, there is an upward slope, so that tells us that as S&P/ASX 200 returns increase along the 'X' axis, CBA.AX returns also appear to increase along the 'Y' axis. Considerable dispersion is observed among the data points around the regression line: some points are far away, and others are really close to the line; this tells us that CBA.AX varies for reasons other than just the S&P 200's variation. The equation tells us here that for every increase of 1 % point of S&P/ASX 200 returns, there is a 1.2879% increase in CBA.AX returns. If the S&P/ASX 200 were 0 and stayed completely flat between any two months, then CBA.AX gets a positive 0.0083 and would increase by 0.83%.

Finally, R^2 is 0.5177, about 51 % of the variation in CBA.AX is explained by the S&P/ASX 200. The fact that CBA.AX stock is fluctuating is partly explained because the S&P/ASX 200 itself is fluctuating and partly because there may be specific things happening within CBA.AX and other factors.

Table 4: Table Showing Correlation between S&P/ASX 200 and NAB.AX

Particulars	S&P/ASX 200		NAB.AX
Average Returns	0.34%		1.13%
Variance	0.00131		0.00415
Standard Deviation	3.62%		6.44%
Covariation		0.00177	
Correlation		.7609	

From Table 4, it could be concluded that NAB.AX security is more volatile than the market returns, and the calculated correlation coefficient between S&P /ASX 500 and NAB.AX has a positive and moves in the same direction, but it also has a strong linear relationship.

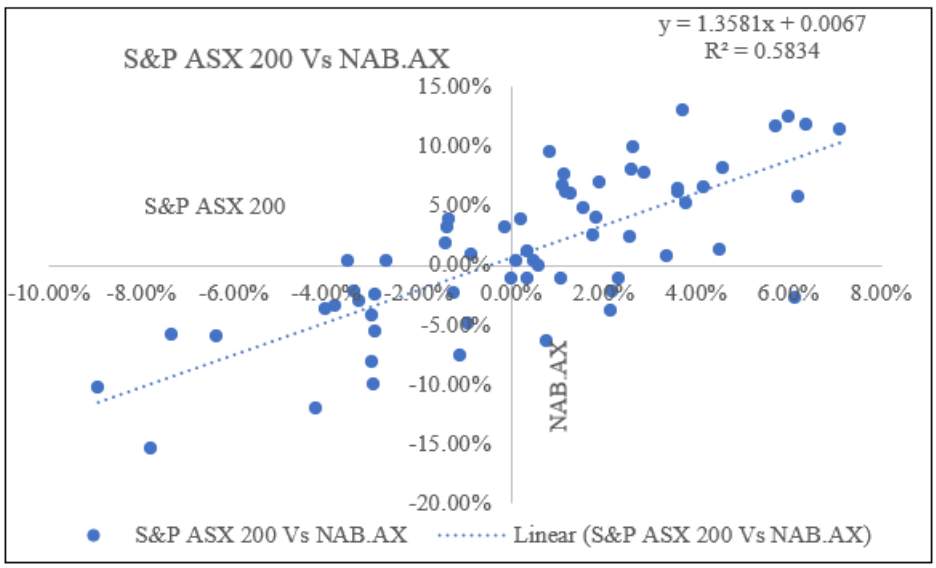

Chart 3: Chart showing the regression of S&P/ASX 200 and NAB.AX

The regression indicates how NAB.AX varies with S&P/ASX 200 returns; visually, there is an upward slope, so that tells us that as S&P/ASX 200 returns increase along the 'X' axis, NAB.AX returns also tend to increase along the 'Y' axis. Considerable dispersion is observed among the data points around the regression line: some points are far away, and other points are really close to the line; it tells us that NAB.AX varies for reasons other than just the S&P/ASX 200's variation. The equation tells us here that for every 1 % point of S&P/ASX 200 returns, there is a 1.3581 % increase

in NAB.AX returns. If S&P/ASX 200 were 0 and stayed completely flat between any two months, then NAB.AX gets a positive 0.0067 and would increase by 0.67%.

Finally, R^2 is 0.5834, about 58 % of the variation in NAB.AX is explained by the S&P/ASX 200. The fact that NAB.AX stock is fluctuating is partly explained because the S&P/ASX 200 itself is fluctuating and partly because there may be specific things happening within NAB.AX and other factors.

Table 5: Table Showing Correlation between S&P/ASX 200 and WBC.AX

Particulars	S&P/ASX 200		WBC.AX
Average Returns	0.34%		1.19%
Variance	0.00131		0.00417
Standard Deviation	3.62%		6.46%
Covariation		0.0015	
Correlation		.6419	

From Table 5, it could be concluded that WBC's stock is more volatile than the market index, and the correlation coefficient between S&P/ASX500 and WBC.AX has a positive, and moves in the same direction, but it also has a strong linear relationship.

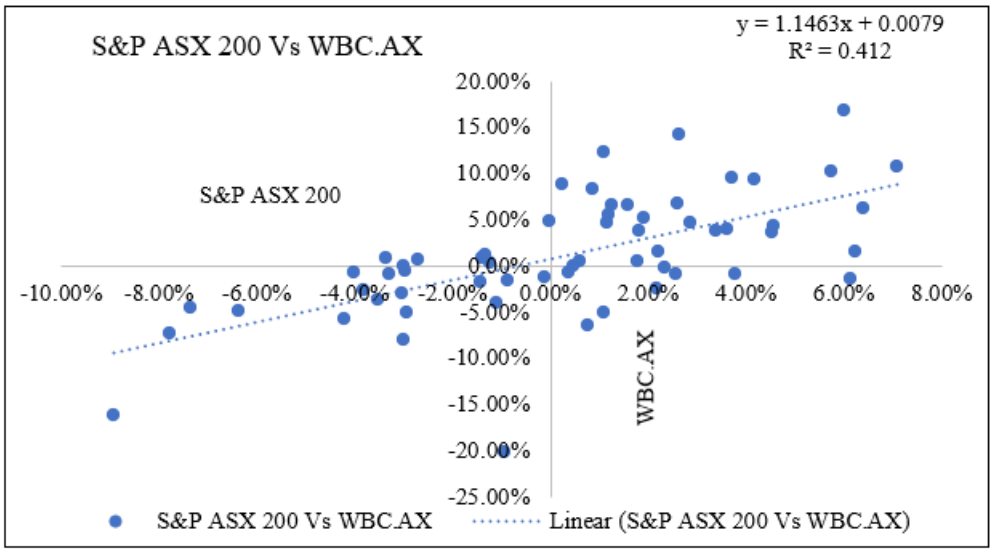

Chart 4: Chart Showing Regression of S&P/ASX 200 and WBC.AX

The regression indicates that how WBC.AX varies with S&P/ASX 200 returns; visually, there is an upward slope, so that tells us that as S&P 200 returns increase along the 'X' axis, WBC.AX returns also tend to increase along the 'Y' axis. Considerable dispersion is observed among the data points around the regression line: some points are away, and other points are really close to the line; it tells us that WBC.AX varies for reasons other than just S&P/ASX 200 variation. The equation tells us here that for every 1 % point of S&P/ASX 200 returns, there is a 1.1463 % increase in WBC.AX returns. If S&P/ASX 200 were 0 and stayed completely flat between any two months, then WBC.AX gets a positive 0.0079 and would increase by 0.79%.

Finally, R^2 is 0.412, about 41% of the variation in WBC.AX is explained by the S&P/ASX 200. The fact that WBC.AX stock is fluctuating is partly explained because the S&P/ASX 200 itself is fluctuating and partly because there may be specific things happening within WBC.AX and other factors.

7. Conclusion

The study examined the relationship between the monthly returns of four major Australian bank stocks and the S&P/ASX 200 over the period June 2021 to May 2026. The findings show that the selected bank stocks have positive relationships with movements in the broader market, although the strength of association and volatility differ across banks. Commonwealth Bank exhibits comparatively high volatility, while Australia and New Zealand Banking Group shows lower volatility within the selected sample. The regression results further indicate that market movements explain part, but not all, of the variation in individual bank returns, suggesting that bank-specific and other factors also influence performance. Historical return, correlation, and regression analysis can therefore provide useful information for evaluating risk and market sensitivity. However, historical relationships should be interpreted cautiously and should be considered together with fundamental and other relevant information when making investment decisions.

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