
PERFORMANCE OF AUSTRALIAN HIGH YIELD PORTFOLIOS

High yield Australian-listed stocks offer a long-term premium of 2.3 per cent but investors should be mindful of interest rate risk and industry concentration

We analysed the performance of high yield investing in Australian-listed stocks over 41 years from July 1982 to May 2023. We computed real pre-tax returns, including imputation credits, based upon the average returns from one to four high yield portfolios, contingent upon data availability. In aggregate, the high yield portfolio earned an annualised return of 2.3 per cent above the market. Imputation credits and a pure yield premium contribute approximately equal amounts to the total return premium.

High yield investments have below-average market risk but above-average interest rate risk: A one per cent increase in the 10 year bond yield is associated with a minus 0.6 per cent return to the high yield portfolio. Relative performance varies by time period. Across six economic regimes with spans of three to eleven years, relative performance to the high yield portfolio was as high as 4.7 per cent (from the introduction of the cash rebate for imputation credits on 1 July 2000 to the peak of the U.S housing market in July 2006), and as low as minus 2.3 per cent (from the end of June 2013 to the onset of the COVID-19 pandemic in January 2020). Since January 2020 the annualised yield premium has been 1.6 per cent.

Investors should be mindful of the growth characteristics and industry concentration of high yield portfolios. The highest yield quintile of Australian-listed companies are mature companies offering low earnings growth and are concentrated in Basic Materials, Financials and Energy. To mitigate risk, investors should consider forward-looking yield, imputation credits and industry in portfolio formation. Selecting the top quartile of stocks in each industry according to yield including imputation credits offers a 12 month prospective yield of 7.9 per cent, compared to 5.3 per cent for the broader market.

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Jason is the co-founder of Hamilton12 and lecturer in finance at the Ross School of Business, University of Michigan. Hamilton12 launched the Australian Diversified Yield Index in November 2020, computed by Standard & Poor's. Hamilton12 launched the Hamilton12 Australian Shares Income Fund in September 2022. The index and fund are designed to optimise the Australian equities allocation for Australian resident investors. Jason's research into value-based investing, analyst earnings forecasts, and the value of dividend imputation credits is the basis of stock selection for the portfolio. Over two decades, Jason has studied imputation credits using prices of ordinary shares, options and hybrid securities. In addition, he has derived expected share market returns from analyst earnings forecasts; measured analyst forecast accuracy; quantified the risk-reward implications of industry sector rotation; and modelled retirement income streams for superannuation investors. Jason completed his PhD in finance at The University of Queensland and is a CFA charterholder.

Performance of Australian high yield portfolios

Dividend yield premium: Risk or mispricing?

According to Standard and Poor's, \$3.6 billion is invested in Australian-listed exchange-traded funds with a yield strategy, a figure which has grown at an annual rate of 21 per cent over ten years.¹ Across countries there is a long history of high yield investments generating an annual return premium of about 1–3 per cent.² But there is disagreement amongst researchers on the underlying cause. Are high yield stocks just riskier than other stocks? Or are investors' decisions affected by a growth bias and career concerns (benchmark hugging) leaving returns on the table? High cash payouts act as a constraint on the tendency of executives to spend cash on acquisitions and other investments that increase company size but do not necessarily add value for shareholders.³ Perhaps investors persistently understate the discipline benefits of high payouts.

In Australia, dividend yields are double that of U.S.-listed companies, due to the imputation system encouraging high dividend payouts. What return can investors expect from high yield ETFs relative to the broader market once inflation and taxes are taken into account? Further, do fluctuations in economic conditions affect the performance of high yield strategies? As discussed below, high yield investing has generated an annual return premium of 2.3 per cent. Well-diversified portfolios are no riskier than broader market portfolios, but there are two offsetting risk impacts: Below-average market exposure is offset by above-average interest rate risk. Finally, investors should note that while any particular investment style may outperform the broader market on average, performance will vary over time. This remains true of high yield investing.

Performance of high yield Australian-listed stocks

We investigated the performance of portfolios that target yield with reference to Australian-listed companies over 41 years from July 1982 to May 2023. A number of indices are formed from high yield stocks, of which three appear in the table below. The table also makes reference to data compiled by Professor Ken French of Dartmouth College.⁴

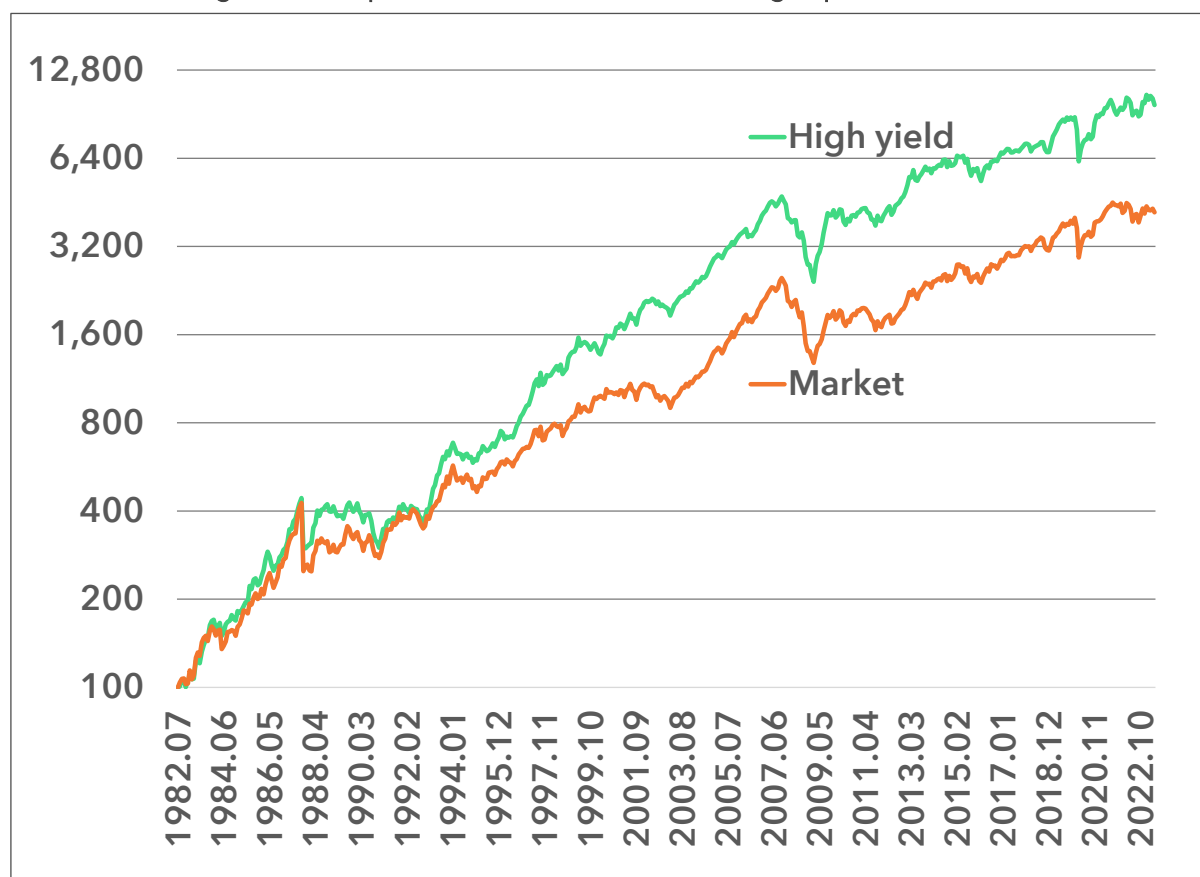
Table 1. High yield return indices

Index	Return months
MSCI Australia High Dividend Yield Index	January 1999 to May 2023
S&P/ASX Dividend Opportunities Index	August 2002 to May 2023
Hamilton 12 Australian Diversified Yield Index	October 2000 to May 2023
Ken French top 30 per cent, value weighted	August 1983 to December 2022

High yield indices are constructed in different ways by data providers. To smooth out the idiosyncratic contribution of each particular index's portfolios formation rules, thereby isolating the yield effect, we computed average monthly returns across one to four indices, depending upon data availability. Returns include the benefits of imputation credits, are adjusted for inflation and are before investor personal taxes. We compared returns to those of the broader market. From May 1992 the market index is the S&P/ASX 300 Index and in earlier months the market index is the MSCI Australia Index.⁵

Over 41 years, holding a portfolio of high yield stocks generated an annual real pre-tax return including imputation benefits of 11.9 per cent (Figure 1). This represents a 2.3 per cent premium over the 9.6 per cent return on the broader market. Imputation credits matter. The tax benefits of imputation contributed 1.2 per cent to the 2.3 per cent outperformance, with the remaining 1.0 per cent attributed to a pure yield premium.

Figure 1. Real pre-tax investment value including imputation benefits



However, the risk profile of high yield investing is different to that of the broader market, despite aggregate portfolio volatility being about the same. Consistent with U.S. evidence, returns are sensitive to interest rate movements. We considered four drivers of returns: aggregate market returns, changes in 10 year bond yields, the level of 10 year bond yields, and real percentage changes in the RBA commodity price index (given that a high yield portfolio will necessarily have exposure to large mature mining companies).

Returns to the high yield portfolio are defensive. Specifically, if the broader market fell 10 per cent investors should expect a high yield portfolio to lose just 8.5 per cent. However, high yield investments are sensitive to interest rate movements. A 1 per cent increase in the 10 year bond yield is associated with a minus 0.6 per cent return to a high yield portfolio. Morningstar reported consistent evidence for U.S.-listed stocks: high yield portfolios outperform during periods of falling interest rates and underperform during periods of rising interest rates.⁶ However, after controlling for market risk and interest rate risk, the monthly outperformance (the "alpha" investors are searching for) is 0.31 per cent, which represents annual outperformance of approximately 3.7 per cent.⁷

Does this mean investors should attempt to time their entry and exit to high yield portfolios on the basis of interest rate projections? Sure, if investors have the skill set to forecast interest rate movements, one of the most challenging portfolio formation tasks. And for the investor with the ability to forecast interest rates, the investor should be focused on the fixed income part of their portfolio. What the results for high yield investing imply is that high yield investments act somewhat like bonds. An investor with a high yield equity allocation should be aware there is interest rate risk in the investor's overall portfolio and take this into account when considering diversification across other asset classes.

Investors should also be aware that the relative performance of high yield investing varies over time. We split the 41 years of returns into six economic regimes of approximately three to eleven years based upon changes in economic regimes, tax law and the onset of the

pandemic (Table 2). In five of the six regimes, the high yield portfolio earned annual above-market returns of at least 1.5 per cent. But over almost seven years ending January 2020, the high yield portfolio underperformed the broader market by 2.3 per cent. The time periods could have been sliced in many ways which would have altered the returns series. But the key point would be unchanged. Investing on the basis of any one particular investment style will have sustained periods of underperformance, a problem which is acute when historical data plays an outsized role in the portfolio formation process. Many high yield investing strategies give undue weight to the prior year's dividend. Dividend yields are mean-reverting: high trailing dividends will, on average, trend towards medium dividend yields. So the more consideration given to analyst dividend forecasts over trailing dividends, and the more timely those forecasts, the better.

Table 2. Real after-tax returns in different economic regimes

Event	Start	End	10 yr bond start	10 yr bond end	Months	High yield	Market	High yield - Market
1 Pre inflation targeting	Jul 82	Mar 93	17.1%	8.0%	128	15.8%	14.2%	1.5%
2 RBA targets inflation	Mar 93	Jun 00	8.0%	6.3%	87	18.1%	13.6%	4.4%
3 Imputation cash rebate	Jun 00	Jul 06	6.3%	5.9%	73	13.7%	9.0%	4.7%
4 U.S. housing peak	Jul 06	Jun 13	5.9%	3.8%	83	6.5%	2.7%	3.8%
5 Mid-point of regime 4 & 6	Jun 13	Jan 20	3.8%	1.0%	79	7.9%	10.2%	-2.3%
6 Pandemic	Jan 20	May 23	1.0%	3.6%	40	2.9%	1.3%	1.6%
All	Jul 82	May 23	17.1%	3.6%	490	11.9%	9.6%	2.3%

Income, growth and industry concentration across high versus low yield stocks

Portfolios formed only with respect to yield including franking credits

With evidence of a long-term yield premium, we considered the characteristics of income, growth and industry concentration across high versus low yield stocks. We analysed 403 stocks in the All Ordinaries Index for which analyst dividend and earnings forecasts were available over 24 months from 30 June 2023. We split the sample into quartiles on the basis of 12 month forward dividend yield plus imputation credits, holding roughly the same market value in each quartile (about \$600 billion) and compiled market capitalisation-weighted dividend yields and price-earnings ratios (Table 3).

Table 3. Stock characteristics by dividend yield

Quartile	1	2	3	4	All
Stocks	49	93	102	159	403
Average mkt cap (\$b)	13.3	6.9	6.3	4.0	6.4
Median mkt cap (\$b)	0.6	2.1	2.4	0.7	1.3
12 mth yld incl credits	9.4%	6.6%	4.2%	1.1%	5.3%
24 mth yld incl credits	9.0%	6.9%	4.6%	1.4%	5.5%
Franking	96%	70%	53%	21%	74%
12-24 mth dividend gr	-4.8%	4.6%	9.7%	30.5%	3.3%
12-24 mth earnings gr	-9.1%	5.5%	5.9%	32.2%	3.2%
Price/12 month EPS	9.9	14.4	16.5	30.5	15.1
Price/24 month EPS	10.9	13.7	15.6	23.1	14.6
Industry 1	Basic Materials	Financials	Industrials	Health Care	Financials
Industry 2	Financials	Cons Disc	Financials	Industrials	Basic Materials
Industry 3	Energy	Basic Materials	Cons Staples	Basic Materials	Industrials
Industry 1 weight	46%	40%	22%	35%	25%
Industry 2 weight	38%	15%	19%	16%	21%
Industry 3 weight	12%	11%	15%	14%	11%
Total 1-3 industries	96%	66%	56%	66%	57%

A portfolio of the highest yield stocks has the following characteristics.

- High 12-month forward dividend yield including imputation credits of 9.4 per cent versus 5.3 per cent for the market; and
- Low 12-month price-earnings ratio of 10 versus 15 for the market; but
- 9 per cent decline in earnings per share over 12-24 months; and
- 96 per cent exposure to Basic Materials, Financials and Energy⁸ with the largest company exposures being BHP, National Australia Bank and Westpac.

The implication is that forming a portfolio purely on the basis of prospective yield provides a high degree of exposure to a small number of industries that have reached peak earnings. In contrast, the lowest yield quartile trades on a 12-month price-earnings ratio of 31 times, has prospective earnings growth of 32 per cent and has 35 per cent exposure to Health Care (including CSL).

Portfolios formed with respect to yield and imputation credits from within each industry

A more balanced portfolio across industry and growth can be formed by selecting the highest yield stocks from within each industry (Table 4). Again, approximately \$600 billion sits within each quartile. Under the more industry balanced approach, the high yield quintile has the following characteristics.

- 12-month forward dividend yield including imputation credits of 7.9 per cent (down from 9.4 per cent)
- 12-month price/earnings ratio of 12 (up from 10); but
- Only a 2 per cent prospective decline in earnings per share over 12-24 months (up from minus 9 per cent); and
- Just 54 per cent exposure to the top three industries - Financials, Basic Materials and Industrials - with the largest company exposures being Westpac, ANZ and Fortescue.

Table 4. Stock characteristics by dividend yield within industries

Quartile	1	2	3	4	All
Stocks	115	50	59	179	403
Average mkt cap (\$b)	4.8	14.2	9.9	4.0	6.4
Median mkt cap (\$b)	1.0	3.4	3.1	0.8	1.3
12 mth yld incl credits	7.9%	7.0%	4.8%	2.3%	5.3%
24 mth yld incl credits	7.9%	6.9%	5.0%	2.7%	5.5%
Franking	81%	79%	81%	36%	74%
12-24 mth dividend gr	0.8%	-0.9%	4.8%	17.9%	3.3%
12-24 mth earnings gr	-2.4%	-3.5%	3.2%	19.3%	3.2%
Price/12 month EPS	11.9	13.7	16.7	19.5	15.1
Price/24 month EPS	12.2	14.1	16.2	16.3	14.6
Industry 1	Financials	Basic Materials	Financials	Financials	Financials
Industry 2	Basic Materials	Financials	Basic Materials	Health Care	Basic Materials
Industry 3	Industrials	Industrials	Industrials	Basic Materials	Industrials
Industry 1 weight	29%	32%	29%	25%	25%
Industry 2 weight	13%	18%	19%	20%	21%
Industry 3 weight	11%	12%	11%	19%	11%
Total 1-3 industries	54%	62%	59%	64%	57%

Conclusion

High yield investments are associated with above-market returns in Australia, with imputation benefits and a pure yield premium contributing approximately equal amounts to a 2.3 per cent annual premium. High yield investments have below-average market risk exposure, which is offset by above-average exposure to interest rate risk. A 1 per cent increase in the 10 year bond yield is associated with a minus 0.6 per cent return to the high yield portfolio. High yield investments are not guaranteed to earn a premium, even over extended time periods. This is generally true of any style-based portfolio formation process. But the typical yield premium is positive and a high yield portfolio carries no incremental volatility relative to the market.

To mitigate risk, investors should consider industry diversification, rather than forming a portfolio purely on the basis of prospective dividend yield. High yield companies are mature, so in general have little earnings growth, and are concentrated in Basic Materials, Financials and Energy. The risk is that the portfolio becomes concentrated in a small number of industry sectors at their earnings peak. Selecting high yield stocks from within each industry is the simplest way to mitigate portfolio risk, while maintaining a prospective yield of 8 per cent including imputation credits. While not presented in the above tables, this approach leads to portfolio volatility much that same as that of the broader market.

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Endnotes

¹ Ye and Wang (2023)

² Conover, Jensen and Simpson (2016), Kang, Kim and Oh (2019), and Lemmon and Nguyen (2015), Walkshäusl (2016).

³ Clemens (2013)

⁴ http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#International accessed on 27 June 2023

⁵ S&P reports returns inclusive of the benefit of imputation tax credits from 1 July 2005 onwards for the S&P/ASX 300. Prior to 1 June 2005 we assume that dividends are franked at 77 per cent, which is the average franking from 1 July 2005 onwards. We incorporate time-varying Australian corporate tax rates.

⁶ Johnson (2022). Early research by Chance (1982) reached the opposite conclusion using data from January 1968 to February 1980.

⁷ $0.31 \text{ per cent} \times 12 = 3.7 \text{ per cent}$. The empirical regression is: Real pre-tax return including imputation benefits to the high yield portfolio = $0.31\% - 0.63 \times \text{change in the 10 year bond yield} + 0.85 \times \text{real pre-tax return including imputation benefits to the market} - 0.004 \times 10 \text{ year bond yield} - 0.06 \times \text{real percentage change in the RBA commodity price index}$. The R-squared is 80.1 per cent. In later years there is a positive correlation between the relative performance of the high yield portfolio and the market and the RBA commodity price index.

⁸ International Classification Benchmark (ICB) industries compiled by FTSE.

Appendix: Research summaries of selected papers in chronological order

Dividend yields and stock returns in Hong Kong by Lemmon and Nguyen (2015)

The researchers examined approximately 126,000 monthly returns on 1,100 Hong Kong-listed companies from July 1981 to December 2010. Each June the sample was split into dividend payers versus non-dividend payers, with the dividend paying companies split into ten deciles and value-weighted portfolio returns computed. The researchers then measured the relationship between dividend yield and excess returns relative to the returns on one-month U.S. Treasury bills after controlling for exposure to size, book-to-market and momentum factors. The results show a 0.51 per cent difference in average monthly abnormal returns to stocks in the top 30 per cent of dividend yield compared to those in the bottom 30 per cent of dividend which, which corresponds to a **6.1 per cent** average annual return premium. The results also show that a 1 per cent increase in the dividend yield is associated with a 0.76 per cent increase in abnormal returns when estimating using dividend-paying companies.

What difference do dividends make? by Conover, Jensen and Simpson (2016)

The researchers examined monthly returns on U.S.-listed companies over 51.5 years from July 1963 to December 2014. Each June the sample was split into dividend payers versus non-dividend payers. The dividend paying companies were split approximately into the lower 50 per cent, middle 45 per cent and upper 5 per cent on the basis of 12 month trailing dividend yield. The value-weighted geometric mean monthly return to the high dividend payers was 0.90 per cent versus 0.80 per cent for the low dividend payers, 0.85 per cent for the extreme dividend payers and 0.77 per cent for the non-dividend payers. This corresponds to an annual return premium for high (but not extreme) dividend payers of **1.3 per cent** over low dividend payers, and **1.7 per cent** over non-dividend payers. Higher returns do not come with excess risk. The standard deviation of monthly returns on the high dividend portfolio was 4.0 per cent, compared to 4.8 per cent for the low dividend portfolio, 7.0 per cent for the non-dividend portfolio and 5.0 per cent for the extreme dividend portfolio. When stocks were split into six styles on the basis of market capitalisation and book-to-market ratio, high dividend portfolios earned higher returns than low dividend portfolios for five of six styles. The exception was mid-cap value, which recorded a monthly return of 1.41 per cent for the low dividend portfolio and 1.38 per cent for the high dividend portfolio.

Net payout yields and the cross-section of international stock returns by Walkshäusl (2016)

The researcher examined approximately 105,000 monthly returns on 5,200 firms from 20 countries from July 1994 to June 2014. The objective was to measure the relationship between net payout yield and stock returns. The researcher forms equal-weighted quintile portfolios according to net payout yield, rebalanced annually. The analysis shows that the monthly returns difference between the top quintile and bottom quintile portfolios is **0.30 per cent** after controlling for characteristics commonly associated with stock returns (market capitalisation, book-to-market ratio, momentum, return on equity, asset growth, plus country indicator variables).

Dividend yields, stock returns and reputation by Kang, Kim and Oh (2019)

The researchers examined approximately 650,000 monthly returns on 3,800 U.S.-listed companies from January 1970 to December 2015. Their objective was to measure the relationship between dividend yield and stock returns and whether this relationship varied, contingent upon the length of time in which dividends in prior years had been maintained or increased. The researchers found a positive association between dividend yield and monthly stock returns, in which dividend yield was computed as the most recent quarterly dividend multiplied by four and divided by the stock price.

However, the magnitude of the relationship between dividend yield and stock returns was comparatively lower for observations in which the company had maintained or increased quarterly dividends for at least three consecutive years. The results imply that, all else equal, for a company with a track record of maintaining or increasing dividends, a 1 per cent increase in the dividend yield is associated with an increase in returns of approximately 2.3 per cent, a figure which increased to around 3.3 per cent for companies without a three-year track record. The implication is that when companies smooth dividend payments, dividend yields carry less information content about future returns because the most recent dividend is a less reliable information signal of profitability.

Dividend investors: Don't sweat rising interest rates by Johnson (2022)

The researcher examined the performance of non-dividend paying stocks and dividend paying stocks allocated to deciles on the basis of 12 month trailing dividend yield, formed annually and obtained from the website of Professor Ken French. Monthly returns from May 1953 to January 2022 were analysed. The researcher found that the average annualised return on the three high dividend yield portfolios was 12.5 per cent, which decreased to 11.8 per cent for the four middle dividend yield portfolios and 10.9 per cent for the three low dividend yield portfolios. Non-dividend paying stocks earned annualised returns of just 10.0 per cent. So, the dividend yield premium, based upon the top 30 per cent versus the bottom 30 per cent of dividend yield for dividend-paying stocks was **1.6 per cent**.

However, high dividend yield investing underperformed during periods of rising interest rates. The researcher split the sample into "up" periods on the basis of the top 25 per cent of months of rising interest rates, "down" periods on the basis of the top 25 per cent of months of falling interest rates and "steady" periods for the remaining months.

- During up periods, average annualised returns for the corresponding high, medium, low and zero dividend portfolios were 2.0 per cent, 5.2 per cent, 7.8 per cent and 9.7 per cent, and the dividend yield premium amongst dividend paying companies was **5.8 per cent**.
- In contrast, during down periods, returns across the high, medium, low and zero dividend portfolios were 21.2 per cent, 19.1 per cent, 14.0 per cent and 13.7 per cent, and the dividend yield premium amongst dividend paying companies was **7.1 per cent**.

- Finally, in the steady months, returns across the high, medium, low and zero dividend portfolios were 13.8 per cent, 11.7 per cent, 11.0 per cent and 8.3 per cent, and the dividend yield premium amongst dividend paying companies was **2.8 per cent**.

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