

SITTING ON TOP OF A MOUNTAIN

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With the growing likelihood of the resources sector adding to Australian wealth indefinitely, portfolio investors are being pressured to participate in the sector's good fortune. However, in doing so, they confront a unique set of risks. One risk often cited is the impact of a fall in commodity prices on equity values. This paper brings together up to 120 years of monthly equity market and commodity price data to help quantify the relationship between commodity prices and equity values, measure the extent of the risk and, in doing so, draw some inferences about how to structure a resources portfolio to take account of the market's cyclical position.

Commodity prices are weakening; sell your resources equities! The majority of this paper analyses the relationship implied in that advice before discussing the appropriate role for commodity price forecasts in resources sector portfolio construction.

Scaling the peak

The impact of Australia's resources industry on the national economy is now widely documented. Much of the daily policy debate, for example, centres on the distribution of the gains, the adjustment burden being placed on non-resource sectors, the impact on labour market conditions and, consequently, the interest rate and fiscal policy implications.

Despite some of the policy dilemmas, there is little doubt that Australia is sitting on top of a mountain of increasingly valuable natural resources with the fast growing countries of the Asian region clamouring for access¹.

We have also scaled other peaks over the past six years. According to the Australian Bureau of Statistics², mining industry profitability in March 2008 was 238% higher than in the first quarter of 2004 when the current profit cycle was beginning to gather momentum.

From the trough of the cycle in 2002, coal and iron ore prices have risen by up to 450% following completion of the most recent rounds of contract negotiations. Measured by the price index compiled by the International Monetary Fund (IMF), metal prices rose 300% from the last trough in October 2001 to its most recent peak in May 2007.

These conditions have created a renewed interest in resources sector investment, in marked contrast to the pessimism which had surrounded the industry barely six years ago³.

Through the 1990s and into the early 2000s, resources companies were overtaken in stock market prominence by companies in financial services, information technology and telecommunications and a plethora of new style investment opportunities all promising significantly greater returns than the resources industry seemed capable of generating. Resources had retreated to 17% of the value of the Australian market by the end of December 2003, after having accounted for approximately 62% in 1980⁴, and became a peripheral (even nonexistent) part of many portfolios.

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Today, when resources stocks account for 39% of total ASX domestic market capitalisation and 43% of the number of listed companies⁵, investors are looking afresh at ways in which they can access the sector. In part they are motivated, for good or ill, by the usual market herding pressures. In part, and more importantly, they recognize that if they are to maintain their shares of Australian wealth (no matter how tiny those shares may be) somehow they need to gain exposure to a sector which seems set to account for a growing proportion of Australian output⁶.

Coping with the risks

That said, investment in the sector continues to carry a peculiar combination of risks which need to be evaluated, measured and, ultimately, managed in the context of any resources equity portfolio.

- The geological risks are some of the best known. Is there something in the ground that can be mined? Exactly where is it? How big is the deposit? These are all critically important questions which have led the industry and regulatory authorities to put in place standards⁷ for how geological conditions must be reported so as to minimise some of these risks for investors.
- Execution risk cannot be underestimated. All resources companies adding genuine value must develop new projects or achieve substantial expansions of existing operations. And, yet, not all companies have the necessary skills. Some are managed by explorationists with little background in mine development. Other companies might have access to experienced mine developers but, as in all professions, there are different levels of competence.
- Metallurgical recoveries can make or break a project. Even within the same commodity grouping, not all orebodies are identical. Small differences in mineral composition can greatly affect whether existing technologies can deliver the targeted financial outcomes.
- Governance risks loom large. Overall governance standards among Australia's mid size resources companies are relatively poor⁸. Many of today's company chief executives have never had prior experience managing a public company. Lack of familiarity with capital market arrangements and how they should communicate with investors can damage investment returns.
- Infrastructure availability and its operational efficiency is an industry bugbear that can impose costs through delays or penalties imposed by customers. Limitations on rail access, inadequate port loading facilities and power supply shortages have all detrimentally affected mine development and production recently

Getting all of these (and much more) right might still not deliver a suitable investment return if commodity prices are not sufficiently high to cover operational and capital costs. However, commodity prices are just one part of the complex mix which determines the financial and stock market fortunes of a resources company.

This complexity is not always reflected in investment recommendations. Basing a view about an equity investment on what is going to happen to commodity prices is done so frequently that the implied connection between commodity prices and equity values goes largely untested.

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Even if it holds more often than not, we need to have some understanding of the extent of any deviations so that we can know, firstly, the magnitude of the risk we are incurring in taking a particular course of action and, secondly, how much emphasis we should put on possible commodity price movements versus the other influences which might have an effect on the investment returns from resource sector equities.

Commodities and equities – prior research

If anything, prior work in this area has already thrown some doubt on the connection between commodity price movements and movements in the stock prices of commodity producers.

A paper by Gary Gorton and K. Geert Rouwenhorst (G&R) entitled “Facts and Fantasies about Commodity Futures”⁹ touches on this topic. The analysis by G&R was primarily concerned with the characteristics of commodity futures as an asset class¹⁰. They found that the risk premium on commodity futures was essentially the same as for equities but that commodity futures returns were negatively correlated with equity returns and bond returns.

From that point, they considered whether producers of commodities could act as a proxy for these effects. They were able to match 17 commodities with companies having publicly traded stock. Their coverage went well beyond just the metal and mineral commodities which are of primary interest in the Australian investment context.

G&R found that the cumulative performance of futures exceeded the cumulative performance of the matching equities between 1962 and 2003. They also found that the correlation was only 0.40 while the correlation between commodity company stocks and the S&P 500 was 0.57.

Apparently, the share price performance of commodity producers is more likely to adopt the characteristics of the relevant equity market than the qualities of the markets of the underlying commodities which they produce. G&R concluded that “an investment in commodity company stocks has not been a close substitute for an investment in commodity futures”.

History matters

In trying to forecast anything, we usually look to history for our guideposts. Unfortunately, forecasters are prone too often to put a heavy emphasis on the most recent conditions in drawing conclusions about future outcomes. Consequently, high oil prices, for example, lead to forecasts of more high oil prices just as very low oil prices had once led to forecasts of them being low indefinitely¹¹. A recent independent expert report from one of Australia’s leading valuation firms is also illustrative of this common trap¹². In an equity market context, there is evidence that personal biases can influence the assimilation of relevant investment information¹³. Another form of bias is reported by Hubbard and Vetter¹⁴.

The tendency to heavily weight the most recent experiences at the expense of events which might have occurred 10, 20 or even 100 years ago is analytically flawed insofar as selective use of data can impose a personal bias on any inferences that are drawn from their study. That could leave us unsure about whether a different sample might have given us a different set of conclusions.

Data choice tends to be less rigorous in economic and business analysis than in medical research, for example. In the latter context, the number of experiments and associated samples can often be repeated until there is sufficient confidence in the inferences which are drawn about the

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phenomenon under study. Chatfield¹⁵ has observed that “the idea of taking one or more confirmatory samples is a basic feature of the hard sciences” and while it might not always be possible to collect more data “in many other situations it is possible to collect more data and this generally seems wise”.

The approach adopted here follows this advice and benefits from the example of Thomas Cooley¹⁶ in the accumulation of historical data as well as the writings of other analysts concerned with the methodology of data investigation¹⁷.

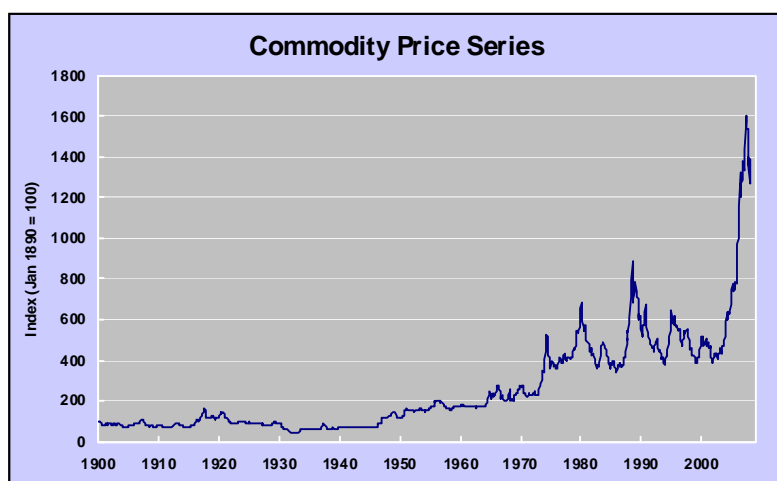
Underpinning the approach in this initial review of the data is a view that the longer the history to which we have access the better. Conclusions drawn from analysing the maximum possible number of cycles should add rigour to our eventual investment conclusions about the characteristics of cycles at least until there is compelling evidence that some part of the available dataset is no longer relevant to future conditions.

Data preparation

For purposes of this paper, two monthly time series have been constructed, one series of commodity prices and one series of Australian equity values, each ending in December 2007.

The commodity price series (shown in Chart A) containing 1,416 data points commences in January 1890. It has been compiled by linking¹⁸ three separate data sets:

- an index of wholesale prices of metal and metal products compiled by the U.S. Bureau of Labor Statistics (BLS) with monthly coverage between January 1890 and December 1951;
- an index of nonferrous metal prices prepared by the BLS and available monthly from January 1926 to May 2008; and,
- the IMF metal price index available for the period January 1960 to May 2008.

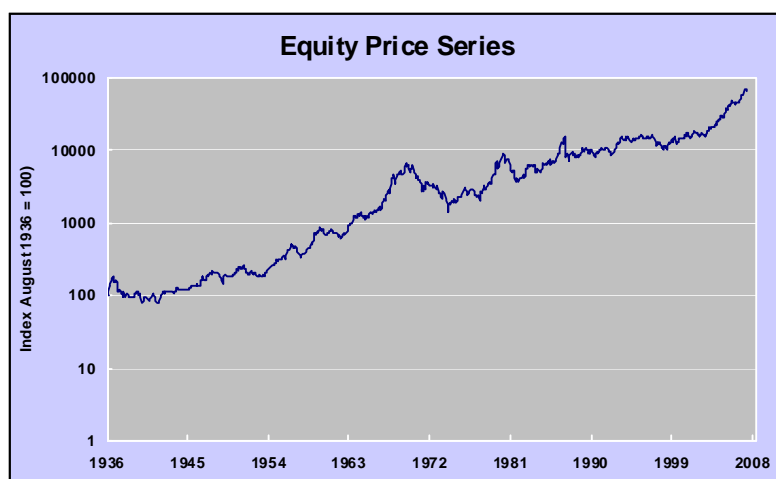


The commodity price series have been linked at February 1926 and February 1960. Summary statistics for the rolling 12 month returns analysis based on these linked series are shown in Table A.

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The equity price series (shown in Chart B on a logarithmic scale) containing 857 data points has been compiled by linking three series:

- the All Mining index produced by the Sydney stock exchange and the ASX between August 1936 and July 2002;



- the All Resources share price index produced by the ASX from December 1979 to April 2000; and
- the S&P/ASX 200 resources index produced by Standard and Poor's from ASX price data for the period since April 2000.

The equity price series have been linked at January 1980 and April 2000. Summary statistics for the rolling 12 month returns analysis based on these linked series are shown in Table A.

Table A: Rolling 12-month return analysis

	Commodities (%)	Equities (%)
Mean	3.94%	4.15%
Standard deviation	19.13%	17.5%
Median	0.28%	1.49%
Kurtosis	2.29	0.72
Skewness	1.22	0.61

What do we know about commodity price movements?

Based on the commodity price series described above, the following information could be proffered about commodity price behaviour.

- Since January 1890, the average annual rate of increase in nominal prices has been 2.2%. Since 1960, the average increase has been 4.2% and, since 1980, the average rise has been 2.8%. Price rises in both periods were much higher than prior to 1960 when the average increase was just 0.8%¹⁹.

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- Volatility has been rising. The standard deviation in returns has gone from 16.8% prior to 1960 to 21.8% since 1960 and 23.6% since 1980.
- Prices rose in 45.9% of the months covered and fell 45.0% of the time. Since 1960, price falls have occurred 44.6% of the time and, since 1980, 48.8% of the monthly changes have been negative; the proportion of rises has been 52.8% and 51.2%, respectively.
- There have been 21 periods over 118 years in which commodity prices have fallen for six consecutive months or more. Twelve of these happened before 1930²⁰.
- There have been 20 periods over 118 years in which commodity prices have risen for six consecutive months or more. Twelve of these occurred prior to 1930 and 11 since 1980²¹.
- The series contains 12 price peaks (including the most recent dated May 2007) and 11 price troughs.
- The average duration from trough to peak has been 68 months.
- The average duration from the peak to a new trough has been 57 months.
- The average time between price peaks is 126 months.
- The average price fall from the peak of a cycle to a trough is 37.6%. The average increase from the trough to the next peak is 109.7%.
- There is some evidence that the duration of the cycles has tended lower. Based on the last five price peaks (i.e. since April 1974), the average duration from trough to peak has been 64 months, the time from peak to trough has been 41 months and the duration of the cycle from peak to peak has been 99 months.

The current cycle, starting from a May 2007 price peak, is approximately 14 months into an adjustment, at July 2008, with an average duration of 57 months between the peak of a cycle and a trough (or 41 months based on a comparison with the more recent cycles).

What do we know about equity price movements?

The following points summarize some of the key features of the equity price series.

- Since 1937, the average annual rate of increase in the equity price indicator has been 9.5%. Since 1960, it has been slightly stronger than average (10.0%) but weaker (9.3%) since 1980.
- Volatility has been higher since 1960 than before. The standard deviation in annual returns has gone up from 21.9% over the period prior to 1960 to 31.6% since 1960 (and 30.2% since 1980).
- Equity prices rose in 472 out of 856 months or 55.1% of the time; 55.4% since 1960 and 54.8% since 1980.
- Equity prices dropped in 44.9% of the 856 months of data. As with the commodity price series, this has not changed much over time. Since 1960, price falls have occurred 44.6% of the time and, since 1980, 45.2% of the time.
- There have been nine periods over 71 years in which equity values have risen for six consecutive months or more²².

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- There have been six periods in which equity values have declined for six consecutive months or more²³.
- The equity price series contains 11 price peaks (compared with eight in the commodity series over the same period of time).
- The average duration from trough to peak is 56 months, 12 months shorter than for the commodity cycle.
- The average duration from peak to trough is 24 months, nearly three years shorter than for a commodity price cycle.
- The average time between price peaks is 79 months, nearly four years short of the cycle duration in the commodity markets.
- The average price decline from peak market values to the trough price is 44.1%. The average increase from the trough to the next price peak is 280%.
- There is some suggestion in the equity market series that market falls are becoming speedier and upcycles longer²⁴. Based on the last five price peaks (i.e. since July 1976), the average duration from trough to peak has been 66 months, the time from peak to trough has been 17 months and the duration of the cycle from peak to peak has been 91 months.

The current market cycle which reached a peak value in October 2007 is nine months into a cyclical adjustment which, on average, has taken 24 months to reach a trough (or 17 months based on a comparison with the more recent cycles).

Measuring the Relationship

Analysis of the relationship between the two series is based on the data between 1937 and the end of 2007. Chart C summarises the characteristics of the 12 month rolling returns over this period.

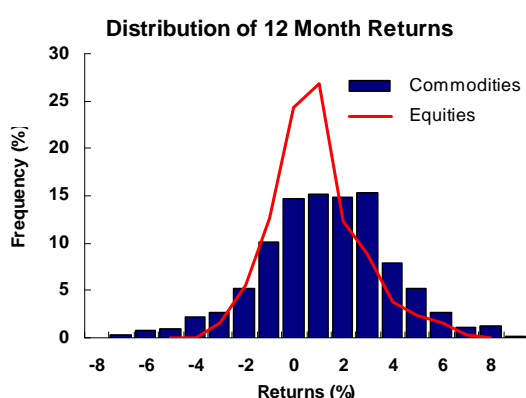


Table A shows correlation coefficients between rates of return in the two series over rolling one month, three month, 12 month and 36 month periods. These correlation coefficients – ranging between 0.17 and 0.24 – are too low to be the basis for any firm investment recommendations and, like the G&R analysis, throw doubt on using the prices of commodity producing companies as proxies for commodity prices.

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However, seeking to base a judgement on statistical correlations is probably too harsh a test. The correlation statistic fails to take into account the possibility that share prices and commodity prices might move in the same direction but that one may change disproportionately to a change in the other. A small commodity price rise could be associated with a much stronger equity market response if the commodity price change was taken as a harbinger of future improvements in business conditions, for example. The important question in an investment context is not so much the precision of the correlation as whether a move in one contributes to a move in the same direction in the other.

Commodity and equity return correlations 1937 to 2007

3 months	0.24
12 months	0.24
36 months	0.21

Table B reports on a less stringent test, again over 1937 to 2007. It shows, in the second column, the historical likelihood, again using one month, three month, 12 month and 36 month rolling returns, that the two series moved in the same direction (i.e. commodity prices and equities both rose or both fell). In approximately 60% of instances over all four investment horizons, commodity and stock prices moved together.

Commodity & equity return correlations

	Same Direction?	Commodities down & equities rose?
1 month	60.7%	44.4%
3 months	63.6%	45.9%
12 months	63.7%	49.3%
36 months	60.3%	67.1%

Over shorter periods of time (i.e. since 1960 and since 1980), the proportions have not changed significantly. They continued to fall within three percentage points of those shown in Table B.

While, in most instances, commodity prices and equity values moved in the same direction, there are a sufficient number of instances in which this does not occur to make us cautious about the inferences we might draw. A 40% failure rate is, quite simply, too high to ignore.

The third column in Table B isolates and quantifies the equity reaction on those occasions when commodity prices were falling. Equity values actually rose in 44.4% of the instances in which commodity prices fell over one month. As time passed, any negative impact of lower commodity prices on equity values seems to diminish. We find that, by the time the investment horizon is extended to 36 months, equity prices were higher in 67% of the instances in which commodity prices had fallen.

Given a reasonable equity investment horizon (i.e. three years or longer), this evidence suggests that even a firm belief that commodity prices will be lower should not lead to a “sell equities” recommendation.

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In reality, a commodity price forecast will always be uncertain. Even if the probability of a correct three year commodity price forecast is as high as 70%, the chance of getting both the commodity call right (i.e. lower prices) and accurately predicting the direction of the targeted equity outcome based on the anticipated direction of commodity prices could be less than 50/50.

Two additional considerations

The primary aim of this paper was to throw some light on the connection between commodity price movements and equity price movements to put us on firmer ground in framing portfolio construction decisions.

Before proceeding to construct a resources portfolio, it is also helpful to distinguish among three broad categories of resources companies in which we can invest. These distinctions are based on the principle value drivers in each case.

- **Exploration success.** Companies depending on exploration success can sometimes add significant value in even the most arduous commodity price environments. However, these investments are at the highest risk end of the resources sector spectrum.
- **Growth through new projects.** For this second group of companies, value is driven by successfully executing a development plan. While commodity price support is beneficial, it is not crucial. A rising rate of return on funds invested, as production expands, will support a higher share price.
- **Higher commodity prices.** The common feature of this third group of companies is that they no longer have significant organic growth opportunities. They are reliant on favourable commodity prices for earnings growth and, correspondingly, are at the greatest risk to a downswing in the commodity price cycle²⁵.

A third element of the portfolio construction process that should be addressed is valuation. A consistently applied valuation methodology that fixes clear investment benchmarks is a critical ingredient in portfolio structuring but is beyond the scope of this paper.

Portfolio construction conclusions

Given the increasing size of the resources sector within Australia's macroeconomic and market contexts, the pressure to consider a permanent allocation to resources in an Australian equity portfolio has been growing.

As with other market segments, the size of that allocation should vary depending on sectoral valuation measures, including the extent to which the existing and prospective profitability of the industry has already been factored into share prices. The analysis in this paper suggests that getting the commodity price forecast right might not matter as much as we are often led to believe. Simply translating the commodity price "call" into an equity allocation recommendation might be little better (and perhaps worse) than tossing a coin.

Having to discount the importance of commodity price movements leaves us having to place more emphasis on the other factors that affect resource sector company valuations and that may drive share price performance. To do that, an investor needs a coherent analytical framework which goes beyond a reliance on commodity price forecasting and within which he or she can assemble the complex combination of factors that influence resources share price performance.

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In this context, investors should be taking an explicit decision about the primary value drivers of the companies in which they are investing, as a first stage in constructing a portfolio.

- Companies creating value through new projects are likely to stand the greatest chance of achieving relatively high returns during periods of commodity price weakness²⁶.

The correlations in returns between stocks in this group also tend to be low since share price movements are more likely to be driven by meeting development milestones peculiar to each company and less likely to be driven by macroeconomic influences which affect flows of funds to the sector.

- Companies reliant on commodity price fluctuations for their value impetus are the ones which will be likely to perform most strongly in the upswing of a commodity price cycle but which will be most at risk in the downswing.

These distinctions imply that, in a cyclical downswing, consideration should be given to some reweighting of portfolios away from the second category of stocks (i.e. those whose earnings are the most sensitive to commodity price movements) in favour of the first category (i.e. those creating value through new projects).

This reweighting would be done with a view to investing in companies with strong organic growth profiles based on their project development activities. Companies can add fundamental value through these activities²⁷ without having to rely on favourable commodity price movements to support share prices. The existence of companies with these characteristics is one of the reasons for the loose connection shown in this paper between weakening commodity prices and the share prices of commodity producers.

ENDNOTES

¹ Hon. Wayne Swan, Commonwealth Treasurer, "Australia, China and this Asian Century", Speech to the Australia-China Business Council, 4 July 2008. Malcolm Cook and Mark Thirlwell, "The Changing Global Financial Environment: Implications for Foreign Investment in Australia and China", Lowy Institute for Public Policy, July 2008.

² Business Indicators (Cat. No. 5676.0), March quarter 2008, Australian Bureau of Statistics.

³ A selection of newspaper headlines from 2002 conveys some of the prevailing sentiment. "Union City Unifies to Survive", The Australian, 26 April 2002; "Low Prices to Slash Rio Half", The Courier Mail, 22 July 2002; "Tin Miners Canned as Prices Dive", Weekend Australian, 28 September 2002; "MIM View Dims as Zinc Sinks", 1 November 2002.

⁴ Standard & Poor's, Understanding Indices, May 2004.

⁵ S&P/ASX Metals & Mining and Gold Indices, ASX, June 2008.

⁶ Australian Bureau of Agricultural and Resource Economics, Australian Commodities, March quarter 2008. Access Economics, Infrastructure 2020 – Can the domestic supply chain match global demand?", Report for Minerals Council of Australia, May 2008.

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⁷ The Code for Reporting of Mineral Resources and Ore Reserves of the Australasian Joint Ore Reserves Committee (the JORC Code) sponsored by the Minerals Council of Australia, The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists has been incorporated into the listing rules of the ASX since 1989.

⁸ BDO Kendalls, "Mid-Cap Corporate Governance Report", November 2007. Of the 27 resources companies among the 150 stocks covered by the report, 22 (or 81%) ranked 75 or lower (i.e. below average) based on the standards set by the University of Newcastle research team.

⁹ Yale International Center for Finance, Working Paper No. 04-20, February 2005.

¹⁰ The analysis was based on prices from US and UK futures markets drawn from the US Commodities Research Bureau database and the London Metal Exchange. The data set covered 36 commodities drawn from industrial metals, grains, softs, animal products, precious metals and energy.

¹¹ "The Suffering Gulf", *Economist*, 24 Oct 1998, p.85-6.

¹² Report by KPMG Corporate Finance Pty Ltd, 28 March 2008, on the merger of CopperCo Limited and Mineral Securities Limited. The expert had to prepare commodity price projections to value a mining property with a 15 year mine life. The historical analysis from which inferences about future prices were drawn only covered the period 2006-08 notwithstanding such a short period of time coinciding with a highly unusual set of market circumstances.

¹³ Da, Zhi and Warachka, Mitch, Analyst Forecast Biases and Stock Returns (March 2008), available at SSRN: <http://ssrn.com/abstract=1107637>, observe a tendency for pessimism and optimism among analysts to result from an underreaction in long term analyst forecasts to new information.

¹⁴ Raymond Hubbard, Daniel E. Vetter, "An empirical comparison of published replication research in accounting, economics, finance, management, and marketing", *Journal of Business Research*, Volume 35, Issue 2, February 1996, Pages 153-164. In their study of replication research in accounting, economics, finance, management and marketing published during 1970-91, Hubbard and Vetter discovered that out of 51 replications involving authors replicating their own work only five reported findings that conflicted with earlier results. Of the 215 replications carried out by independent researchers, 116 conflicted with earlier results.

¹⁵ Chris Chatfield, "Model Uncertainty, Data Mining and Statistical Inference", *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, Vol. 158, No. 3, (1995), pp. 419-466.

¹⁶ Thomas F Cooley, Stephen J DeCanio and M Scott Matthews, "An Agricultural Time Series-Cross Section Dataset", Working Paper No. 197, National Bureau of Economic Research.

¹⁷ David J. Hand, Gordon Blunt, Mark G. Kelly, Niall M. Adams, "Data Mining for Fun and Profit", *Statistical Science*, Vol. 15, No. 2, (May, 2000), pp. 111-126. C. Chatfield, "The Initial Examination of Data", *Journal of the Royal Statistical Society. Series A (General)*, Vol. 148, No. 3, (1985), pp. 214-253.

¹⁸ Using standard methodology. See, for example, Antony Selvanathan et al, *Australian Business Statistics*, Thomson 2004, p614ff.

¹⁹ The choice of these time periods is somewhat arbitrary insofar as other periods of time may also be relevant for comparative purposes. However, the 1960 and 1980 sub period starting points have been chosen in this context to coincide with timeframes often adopted within shorter term analyses of price movements. The beginning of the 1960s is a cut off point for a great deal of Australian Bureau of Statistics time series data and represents a transition from the immediate post world war two economic environment. The late 1970s to early 1980s is also regarded as a transition phase with 1980 often used as a starting point. Many Reserve Bank data series, for example, begin around 1979-80. The choice of these time periods is intended to facilitate comparison with other analyses covering similar subject matter.

²⁰ The largest unbroken sequence of monthly price falls occurred over eighteen months during 1891-1892. Since then, there has not been any similarly lengthy period of falling prices. Prices fell for 10 consecutive months starting in June 1907 and, again, from April 1970. The next most prolonged period of falling prices was over the nine months beginning in October 1990.

²¹ There have been three periods with 11 consecutive monthly price rises (1898-89, 1950-51 and 2003-04) and another two in which there were 10 consecutive monthly rises (1912 and 1964).

²² The market rose over 13 consecutive months between March 1963 and March 1964. There was another period of 12 consecutive monthly rises leading to February 1955. There were nine months of positive returns to December 1942 and, most recently, there were nine months of positive returns leading to October 2007.

²³ The longest sequence of falling prices occurred over the eight months to April 1958. Prices fell over seven consecutive months to May 1952. The next longest sequence of monthly price falls occurred on four occasions (over the six months to March 1942, September 1971, January 1991 and November 1992).

²⁴ There are analytical dangers in inferring too much from this information. Over the 71 years of history, there are only 11 cycles on which to base a conclusion. We only have five cycles in the past 30 years from which to draw any conclusions.

²⁵ This group includes many well known and profitable companies. For example, BHP-Billiton's doubling in earnings before interest and tax between 2004/05 and 2006/07 was wholly attributable to higher commodity prices, according to the analysis presented at its investor earnings presentations in August 2006 and August 2007.

²⁶ Research by E.I.M. Capital Managers has shown that this group of companies can achieve superior returns in the trough of a commodities cycle. Between January 1998 and December 2002, the ASX 300 Resources index delivered an annualised return of 10.1% while the IMF metal price index returned -1.0% and E.I.M.'s model portfolio of stocks drawn from this group averaged a 31.2% return.

²⁷ Subject to operating costs remaining below prevailing commodity prices.