

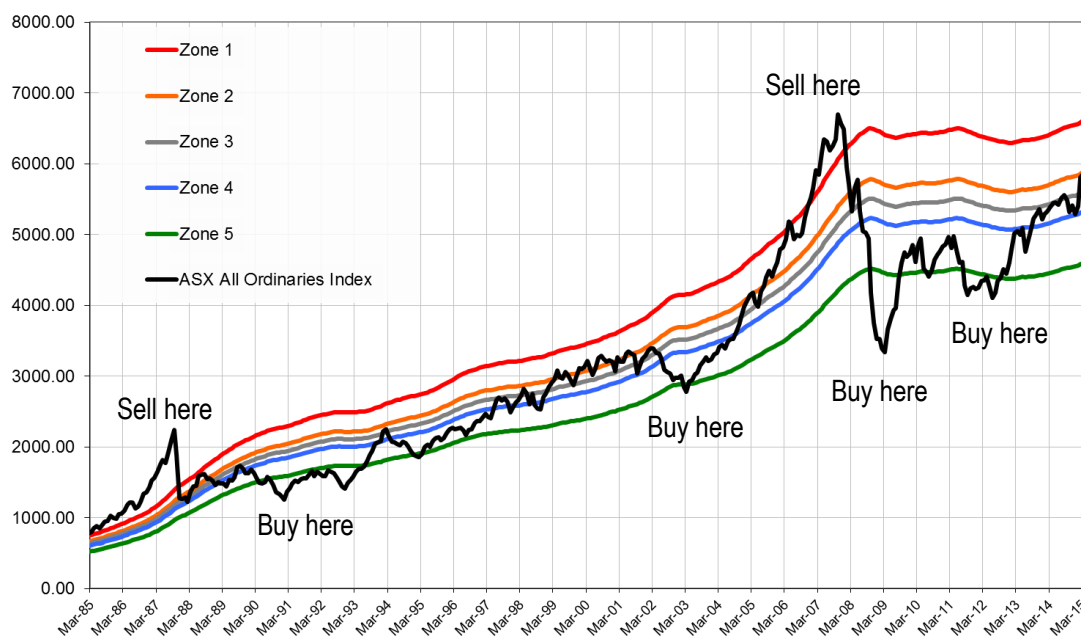
THE EVIDENCE BEHIND THE “ZONE SYSTEM”

The Zone System is known as one of the more reliable tools that share-market investors can use to make judgements on the future direction of share prices. It is held in close esteem to other more famous barometers such as the Robert Shiller PE ratio, Benjamin Graham Yield Gap and Warren Buffett's Market Cap/GDP ratio*.

The Zone System has been actively published since the 1990's and first came to prominence when it accurately picked the 1987 crash. Given the positive reaction, it was later validated by the Australian Centre of Financial Studies and appraised for its accurate identification of the 2007 peak and subsequent bust.

But the importance of the Zone System arguably differs to that of just picking market bubbles. In fact, it is the opposite effect that can add the most value to long-term investors: **picking the market bottom**.

By way of example, the Zone System identified the early 1990's, 2003, 2009 and 2012 as periods of significant undervaluations, which proved to be an accurate and successful prognosis. This research paper will take you through the important elements of this metric so you can make an educated judgement on its significance and value.



The Zone System uses five zoning formulas that helps identify when the share-market is significantly undervalued, undervalued, fair value, overvalued and significantly overvalued. In other words, it is one of few metrics that reliably help us to **buy low and sell high**.

Feedback or More Information

This document is provided with our compliments and you are welcome to use it for your benefit. If you have any feedback or questions after reading this document, please contact us on 1300 131 526 or via the website www.investingtimes.com.au.

You may also be interested to subscribe to The Investing Times for regular updates, including the Zone System updated in every edition for Australia, USA, Developed Markets (ex-USA) and Emerging Markets.

*The Shiller PE, Buffett's Market Cap/GDP and Graham's Yield Gap are all metrics tracked in the USA and have evidence of identifying outperformance.

**The Australian Centre for Financial Studies is a consortium of Monash University, the University of Melbourne, RMIT University and Finsia (Financial Services Institute of Australasia) specialising in leading edge finance and investment research.

WHAT IS IT AND HOW IS IT CALCULATED

A sensible investor will understand that the long-term value of the share-market is driven by a multitude of factors which are impossible to track in a single ratio. However with a preference for simplicity, the same sensible investor will comprehend that the long-term value will be derived by a combination of earnings growth and/or the change in the price people are willing to pay for those earnings (typically the Price/Earnings ratio).

Using this information, if an investor wants to successfully beat the market average they must be extraordinarily skilled at either knowing the future direction of earnings (which even the large broking institutions are notorious for struggling with) or understanding when the price people are paying is too much or too little. To quote the investing celebrity and guru Warren Buffett, "be fearful when others are greedy and be greedy when others are fearful".

In essence, the Zone System fully recognises and appreciates that the market rarely (if ever) trades at its 'fair value' and instead has a tendency to swing both above and below this point, sometimes wildly. As the founder Austin Donnelly suggested, "the market can at times be like an intoxicated driver trying to get from point A to point B".

In order to calculate fair value (or point B using the analogy above) the Zone System utilises the theory that the previous two business cycles are a good gauge of the next business cycle. Using this information, the Zone System delivers a "moving average" of sorts which depicts the approximate current fair value. Said simply, it theoretically works out how valuable the market is at any given point on a very long-term basis. This can be seen below under the column "Moving 15 Year Trend".

Observation Number	Date	ASX All Ordinaries	Zone	Moving 15 Year Trend	Zone 5	Zone 4	Zone 2	Zone1	Slope	Intercept	Index Rel to Trend
1664	31-Jul-13	4924.9	4	5370.6	4403.92	5102.10	5639.17	6337.35	1.0034	20.4	-8.3%
1665	31-Aug-13	5091.4	4	5374.2	4406.88	5105.53	5642.96	6341.61	1.0033	21.5	-5.3%
1666	30-Sep-13	5223.7	3	5379.1	4410.84	5110.12	5648.03	6347.31	1.0033	22.7	-2.9%
1667	31-Oct-13	5285.2	3	5384.4	4415.20	5115.17	5653.61	6353.58	1.0033	24.0	-1.8%
1668	30-Nov-13	5361.6	3	5394.6	4423.60	5124.90	5664.36	6365.67	1.0032	24.8	-0.6%
1669	31-Dec-13	5218.8	3	5401.8	4429.51	5131.74	5671.93	6374.17	1.0032	25.8	-3.4%
1670	31-Jan-14	5290.9	3	5412.2	4438.03	5141.63	5682.85	6386.44	1.0032	26.6	-2.2%
1671	28-Feb-14	5325.6	3	5423.9	4447.61	5152.72	5695.11	6400.22	1.0032	27.1	-1.8%
1672	31-Mar-14	5391.2	3	5437.6	4458.84	5165.73	5709.49	6416.38	1.0032	27.5	-0.9%
1673	30-Apr-14	5444.1	3	5454.5	4472.69	5181.77	5727.22	6436.30	1.0032	27.6	-0.2%
1674	31-May-14	5454.9	3	5469.1	4484.66	5195.65	5742.56	6453.54	1.0032	27.9	-0.3%
1675	30-Jun-14	5421.0	3	5482.0	4495.21	5207.87	5756.06	6468.72	1.0031	28.4	-1.1%
1676	31-Jul-14	5516.1	3	5498.4	4508.68	5223.47	5773.31	6488.10	1.0031	28.6	0.3%
1677	31-Aug-14	5560.2	3	5514.0	4521.50	5238.33	5789.73	6506.55	1.0031	28.9	0.8%
1678	30-Sep-14	5483.1	3	5526.2	4531.47	5249.87	5802.49	6520.89	1.0031	29.5	-0.8%
1679	31-Oct-14	5320.8	3	5532.5	4536.63	5255.85	5809.10	6528.32	1.0031	30.8	-3.8%
1680	30-Nov-14	5411.4	3	5542.8	4545.09	5265.66	5819.94	6540.50	1.0031	31.6	-2.4%
1681	31-Dec-14	5291.6	3	5552.3	4552.87	5274.66	5829.89	6551.69	1.0031	32.2	-4.7%
1682	31-Jan-15	5399.9	3	5563.4	4562.00	5285.25	5841.59	6564.83	1.0031	32.9	-2.9%
1683	28-Feb-15	5802.1	3	5583.4	4578.37	5304.21	5862.54	6588.38	1.0031	32.8	3.9%
1684	31-Mar-15	5856.6	3	5605.6	4596.59	5325.32	5885.88	6614.60	1.0031	32.4	4.5%

Understanding that the market zigzags based on investor sentiment is pivotal to the success of the Zone System. This is where the Zone System incorporates trading bands which are depicted above as "Zone 5" through to "Zone 1".

Across history, it has been observed that 13.5% of the time the market will become irrationally optimistic (above Zone 1) and 13.5% of the time it will become irrationally pessimistic (under Zone 5). The remaining 73% of the time, the market is within a fair trading range.

The success behind the Zone System is to identify these extremes and act in the opposing manner – i.e. buy in Zone 5 and sell in Zone 1.

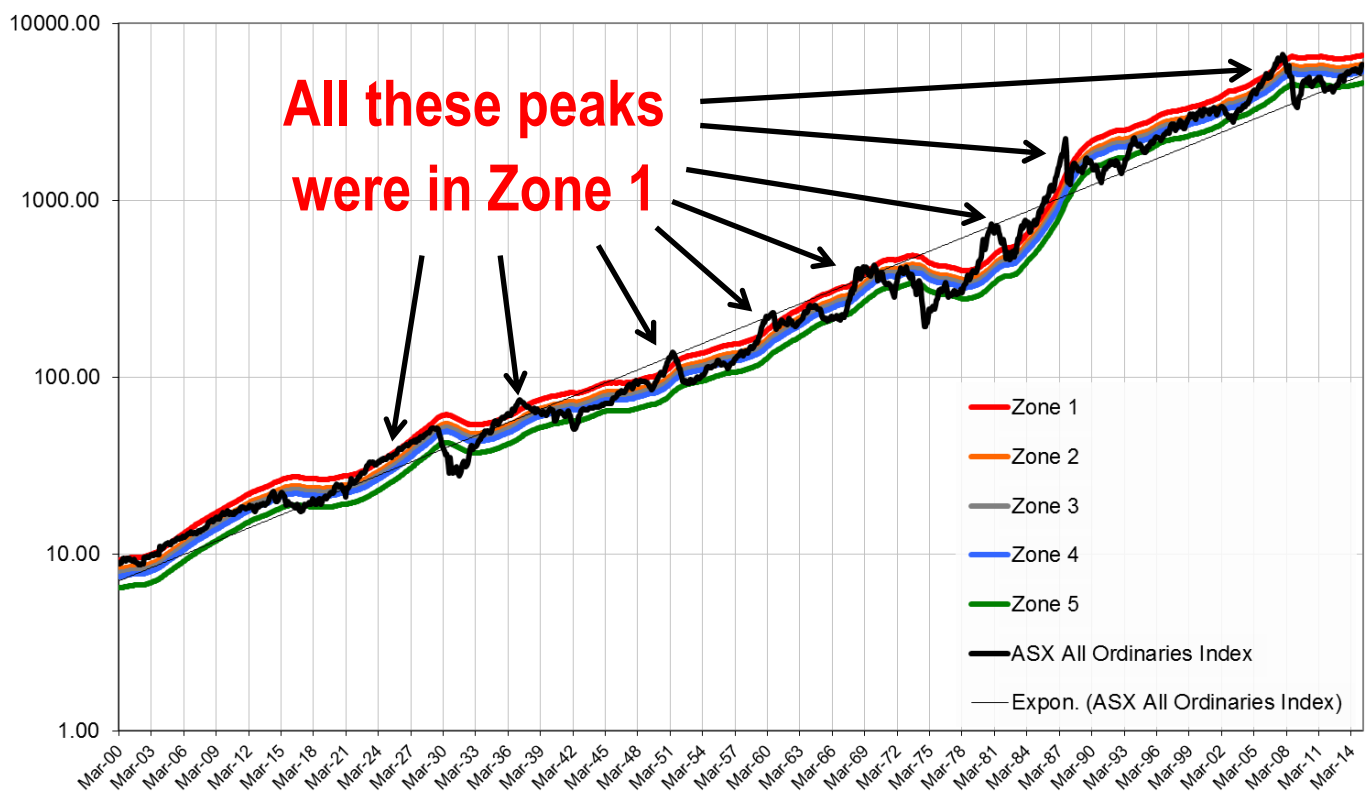
IDENTIFYING BUBBLES AND BUSTS – ZONE 1

In the past 115 years, Australia has experienced 14 bear markets and 4 resulting in near or above 50% falls in value. This clearly has a devastating impact on portfolios, especially for those at or nearing retirement.

This fear has led to a number of methods to identify such events, however many fail. The average bear market results in a 35% fall in market value, with the frequency of bear markets being approximately one in every 7.8 years.

So how do we reduce or avoid the impact that these events have on our portfolios? Of course, the simple answer is to sell out in the preceding bull market and buy back into the later stage of the bear market. However, doing so with foresight has proved to be one of the most challenging aspects to investing.

The Zone System is simply and reasonably reliable way of identifying when these points may occur, and whilst it does not guarantee the result, our research back to 1875 has found that it has picked the peaks with remarkable consistency.



Our research demonstrates that when the market is above Zone 1 it has a 37.12% chance of falling over a 5 year period. Therefore, it is reasonably accurate at identifying the next major bear market. To provide context, we can compare the result to Zone 5, which has a 3.14% chance of falling in a 5 year period.

The interrelated chart on page 5 will provide a greater insight into just how remarkable the Zone System has been at picking the market peak and trough.

THE IMPORTANCE OF BUYING IN ZONE 5

While identifying the market peaks is an important element to successful investing, one of the major reasons the Zone System excels is the critical recognition and outperformance of Zone 5.

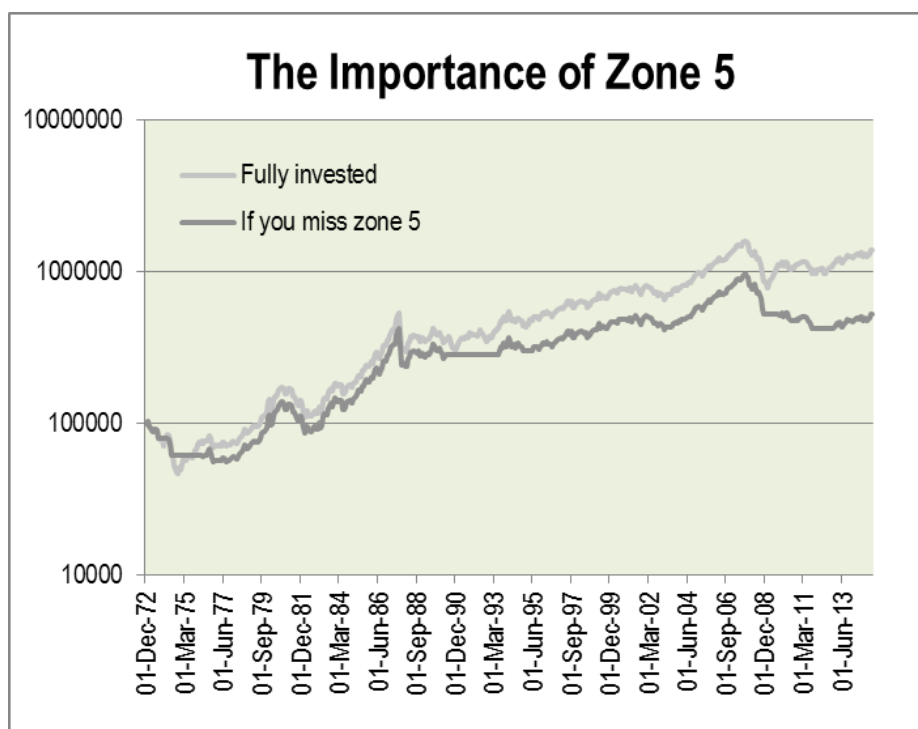
Careful analysis demonstrates that the timing of Zone 5 tends to occur at the bottom of the cycle and has featured in the early 1890's, 1916, early 1930's, 1942, 1966, 1971, 1974-5, early 1990's, 2003, 2009 and 2012. For those with an understanding of financial history, this encompasses the bottom of the gold rush, the World Wars, the great depression, the oil crisis, the GFC and most recently the Euro crisis.

In fact, there have only been 5 periods in the past 140 years that the market doubled within a 5 year period. The key entry points were in the early to mid 1930's, mid 1970's, 1978, early to mid 1980's and in 2002.

With the omission of the 1980's, the Zone System has accurately identified each of these great buying opportunities. And given the timeliness of such an indicator, it should be little surprise that the performance numbers are very impressive coming out of Zone 5.

In the 207 of 1504 observable rolling periods since 1875, Zone 5 has delivered an average capital gain of 58.4% over a 5 year period, equating to a healthy 10%+ return per annum with consistency. Conversely, the market average is just 36.4% over a rolling 5 year period and Zone 1 is far further behind at 29.3%.

Whilst the returns available are attractive, it is the added benefit of risk reduction that would appeal to many investors. Of the 207 observed rolling periods in Zone 5, a capital loss was only observed in six periods, marking Zone 5 as a bad investment decision only 3.14% of the time over a 5 year period.

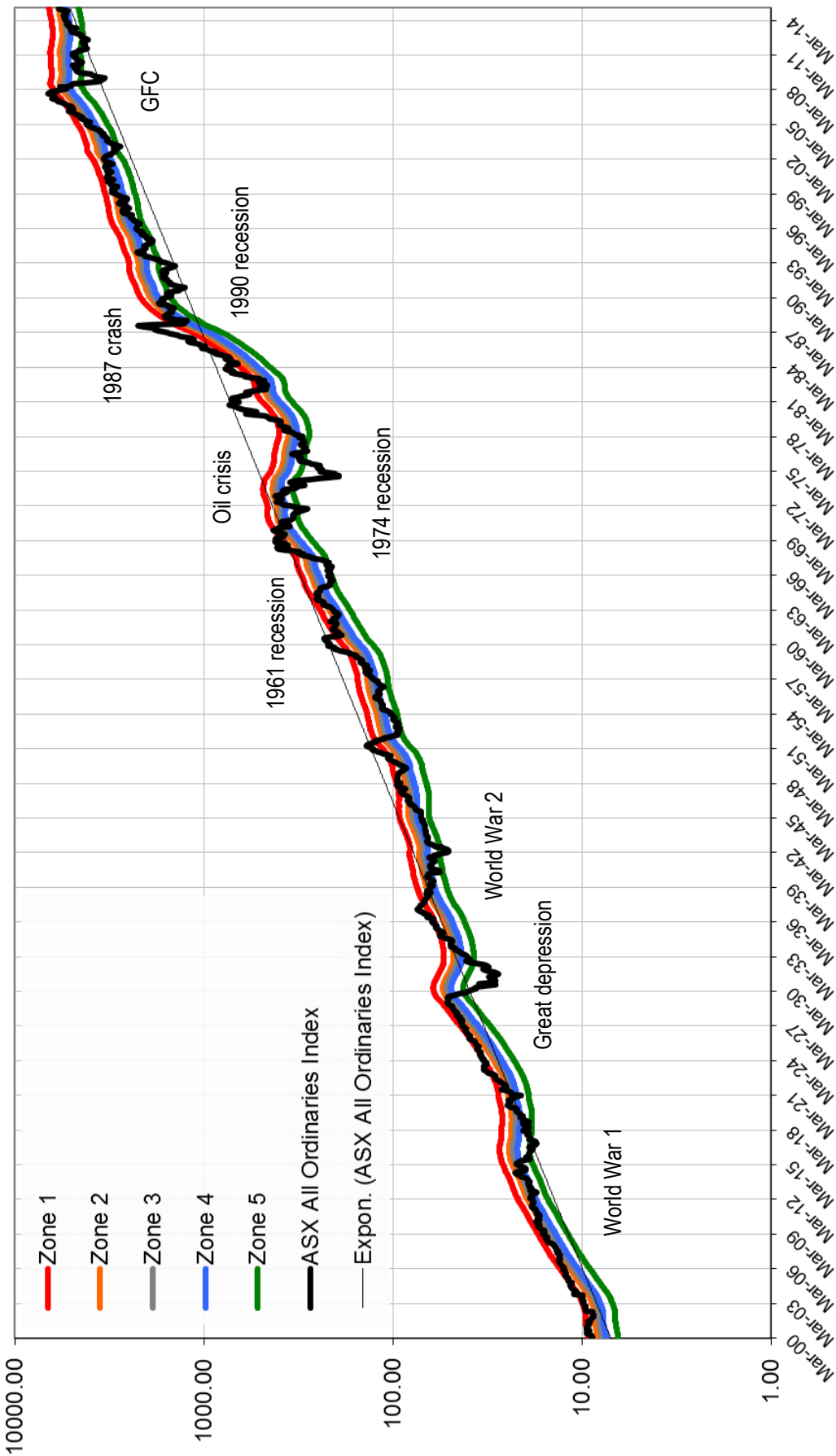


Below we present the results from our comprehensive analysis which dated from 1900 to 2012. As you can see, the outperformance of Zone 5 has been exceptional and there is every reason to believe this will continue.

Zone 5 - Performance Figures	3 mths	6 mths	1 year	3 years	5 years	7 years
Average Nominal Performance	3%	7%	15%	36%	64%	94%
Outperformance vs Market Average	1%	4%	8%	14%	27%	34%

THE 115 YEAR VIEW OF THE ZONE SYSTEM

The importance of the Zone System in helping investment decisions is most evident when observed across an extended time horizon. The chart below demonstrates the ability of the Zone System to identify the cyclical nature of shares and further inform investors when to increase or decrease exposure to the asset class.



THE ZONE SYSTEM EVALUATED GLOBALLY

We were probed in late 2010 as to whether the Zone System retained relevance on a global scale.

At the time, it makes intuitive sense that a system which works so well in Australia should also work globally, as long as the same market dynamics are actively present. This is therefore a relatively recent development of the Zone System, which is in its 5th year of coverage.

Across the globe, the investment universe consists of well over 50 active stock exchanges, but they can each be typically encompassed in three major sectors:

- USA
- Developed world ex-USA; and
- Emerging Markets

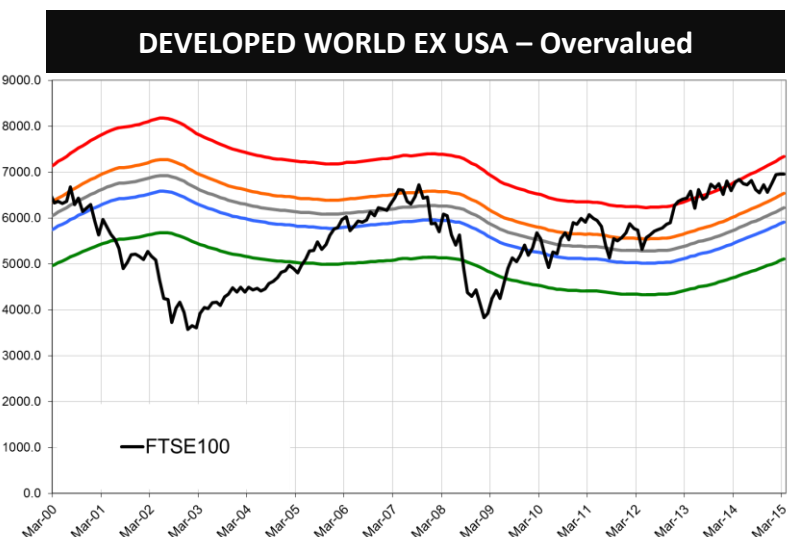
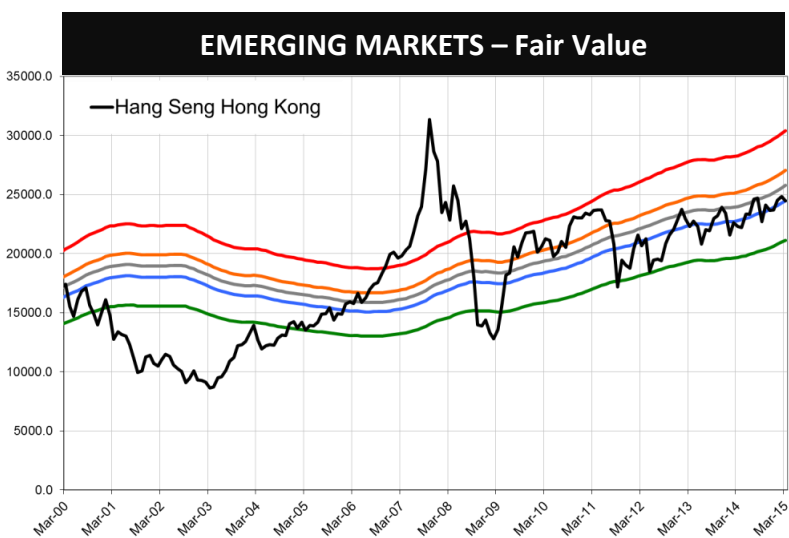
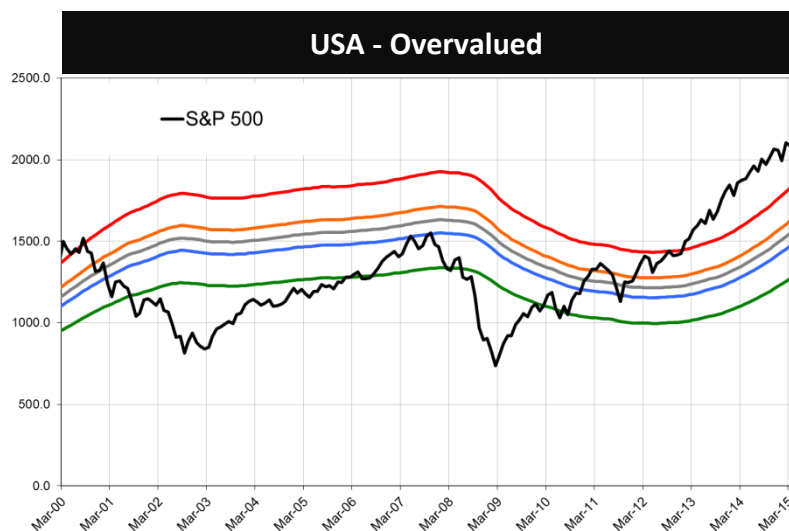
The original research comprised nine different stock exchanges and found that 9 of the 9 markets provided evidence that the Zone System added significant value.

As can be seen on page 8, the biggest outperformance came when we simulated a portfolio that only ever sourced Zone 5 indices.

This was enough to put the global zone system on the radar and to the right you can see the stance across the three major sectors as of March 2015.

It is also worth noting that we are reviewing the viability of industry based analysis, such as global healthcare or resources as well as small caps versus large caps.

We are also embarking on an investigation into other asset classes such as property, bonds, commodities and currency.



APPLICATIONS OF THE ZONE SYSTEM

The application of the Zone System on a high level is simple: become a net buyer when the market is oversold (below the Zone 5 line) and become a net seller when the market is overbought (above the red Zone 1 line).

This recognises that the risk of a downturn is greater as a market becomes overvalued and that the opportunity for future gains is greater as the market becomes undervalued.

The specific applications of the Zone System can take many forms, depending on what investors are trying to achieve with their portfolio. Below we illustrate a few viable options:

DYNAMIC ASSET ALLOCATION

An active application of the Zone System for long-term investors involves a staged dynamic asset allocation reflecting the current zone of the market. An example of such an application is provided to readers of the Investing Times as per the chart to the right.

This type of application incorporates the major principles behind the evidence of the Zone System (invest more when the market is undervalued and vice versa) but it does have major implications on an individual basis.

	Defensive Assets	Growth Assets
Zone 1	90%	10%
Zone 2	72%	28%
Zone 3	50%	50%
Zone 4	28%	72%
Zone 5	10%	90%

Primarily, the strict application of this staged approach requires investors to ignore their risk tolerance, which may not suit many conservative investors.

It also pays no consideration to the taxation considerations or the underlying holdings you may have. For example, you may have a diversified portfolio of blue-chip companies which you deem to be stable, high-dividend paying holdings. If the overall market trends from Zone 5 into Zone 1, should this warrant the sale of these holdings? And if so, do you sell a portion of them with equal weighting or selectively sell one parcel at a time? The Zone System doesn't tell you any of this information.

THE PASSIVE-ACTIVE APPROACH

This application involves the use of market indices such as those offered by Vanguard and use them to direct your exposure as per the Zone System. An example would be to hold two opposing investments such as a Treasury Bond index and the Share-market index, whereby you can make active asset allocation decisions based on your understanding of the economic cycle and current valuations.

The danger of such decisions is that the Zone System does not incorporate inflation or Treasury Bond yield returns into the equation, hence you are relying on potentially irrelevant information to direct your defensive asset selections. Having said that, the track-record of this application is sound.

THE ZONE SYSTEM

TOP-DOWN ANALYSIS TOOL

Another approach is to build it into your toolkit so you can make holistic decisions based on top-down analysis. This allows you to make an informed judgement on the broad market conditions, which you can then use to undertake industry based analysis and finally select your desired holdings. This will allow investors far greater flexibility which can be amended based on your individual needs and objectives.

ADDING MOMENTUM

The Australian Centre of Financial Studies report found that the Zone System results could be enhanced by adding a further layer of cyclical analysis. If you think about why the Zone System succeeds, it is due to the cyclical nature of the share-market. Therefore, it is somewhat intuitive that a model assuming cyclicity of the market would treat Zone 3 differently in a falling market to a rising market, and as such the results can be enhanced by factoring this in.

Specifically, investors may wish to consider the application of adding momentum to their analysis. I.e. if the market is trending upwards, retain a more aggressive asset allocation than the Zone System would otherwise suggest; and if the market is trending downwards, retain a more conservative asset allocation.

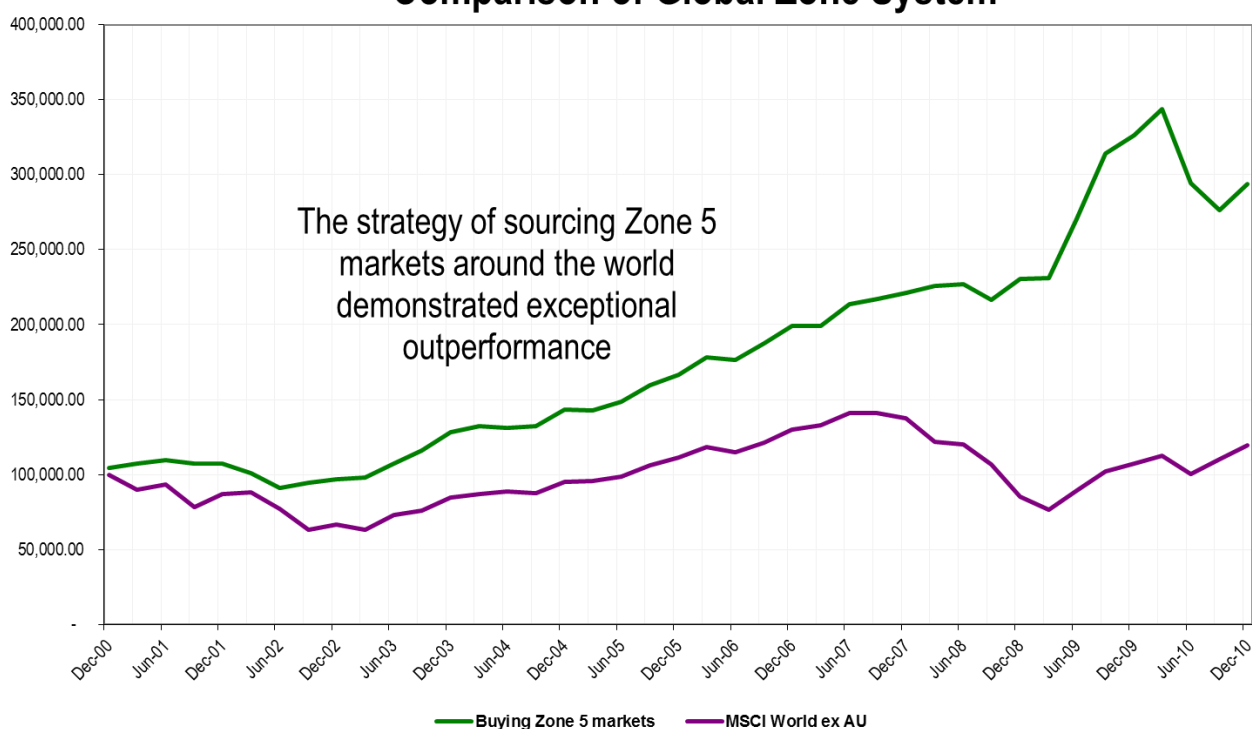
“This review has indicated that very significant gains appear to be available.”

- John Fowler, research fellow at the Australian Centre of Financial Studies

GLOBAL ZONE 5 APPROACH

Following the global research conducted in 2010, a sensible strategy and potential application of the Zone System involves investing heavily in the markets which represent 'Zone 5' value. This will leave an investor “fully invested” unless no zone 5 markets are apparent. We conducted a performance appraisal over a 10 year period, and while the reporting period is possible too short to gain absolute confidence the chart below demonstrated enormous outperformance potential.

Comparison of Global Zone System



THE PERFORMANCE FIGURES

In 2012, the Zone System was comprehensively back-tested all the way back to 1900 (encompassing 112 years of data). An extract of this analysis is shown below.

As already identified in parts of this paper, the performance of the Zone System has proven to be stellar and can help investors deliver returns that are significantly higher than market averages. However, a complete performance appraisal depends on the application intended. This has proven to be problematic as it is used more broadly as a conceptual system rather than a direct portfolio. Therefore, it is somewhat impossible to comprehend:

- which application style is most broadly used
- what benchmark to compare it against (eg. balanced or otherwise)
- which time period to test it against; and
- which investment selection do we use (eg. passive-active vs direct portfolio).

For the sake of simplicity, we have actively gauged the performance of the Zone System by undertaking an analysis of the following:

- The performance of the All Ords index based on the starting zone
- Tracking that performance over periods of from 3 months up to a 7 year period
- Illustrate the results based on return and risk (we use the probability of a positive outcome and the average expected return excluding dividends and franking credits)

As is seen to the right, the analysis proves that a "Zone 5" indicator leads to far superior returns when compared to the market average return or the "Zone 1" indicator returns. It also has significantly less risk of a negative return.

Zone System Results - incorporating 112 years of evidence			
3 Months			
	Zone 5	Market Average	Zone 1
Avg Expected Return	3%	2%	2%
Probability of Positive Return	71%	63%	59%
6 Months			
	Zone 5	Market Average	Zone 1
Avg Expected Return	7%	3%	3%
Probability of Positive Return	72%	69%	62%
1 Year			
	Zone 5	Market Average	Zone 1
Avg Expected Return	15%	7%	4%
Probability of Positive Return	82%	71%	53%
3 Years			
	Zone 5	Market Average	Zone 1
Avg Expected Return	36%	22%	16%
Probability of Positive Return	92%	76%	55%
5 Years			
	Zone 5	Market Average	Zone 1
Avg Expected Return	64%	37%	26%
Probability of Positive Return	94%	81%	60%
7 Years			
	Zone 5	Market Average	Zone 1
Avg Expected Return	94%	57%	50%
Probability of Positive Return	100%	91%	78%

WANT TO KNOW MORE?

The Investing Times is the exclusive source of the Zone System and is an indispensable guide to the best investments in the best asset classes with the confidence they will retain their significance in 3, 5, 10 or 15 years (as opposed to the short-termism of tomorrow).

The credibility of The Investing Times is evident as a household name in its 44th year of production. The basis of its success is that it advocates stable, conservative minded and sensible investing which is printed often enough to identify actionable opportunities but not too often that it becomes subjected to short-termism and market noise (8 publications per year).

A combination of this makes it the perfect companion for anyone involved in the supervision of an investment portfolio or self-managed super fund.



www.investingtimes.com.au

Disclaimer: The advice provided in this research paper is general advice only and therefore your particular objectives, needs and financial position have not been considered. Before making a decision on the basis of the advice, you need to consider, with or without the assistance of a financial advisor, whether the advice is appropriate in light of your particular needs, objectives and financial circumstances, and when applicable obtain a relevant Product Disclosure Statement and read it.

"The Investing Times" – Providing financial and investment wealth creation strategies since 1971.