

THE FINE ART OF STOCK TRADING

Four things every investor needs to know

INVESTMENT IS CHANGING

Introduction

Just as the rise of the Internet has fundamentally changed every aspect of our personal lives, so too have financial markets been forced to reckon with what the digital revolution means for its own future.

The first 16 years of this century alone have seen the continual rise of new and exciting instruments, business models and innovations. Exchange-Traded Funds (ETFs), the hybrid power of the financial and technology industries, along with sophisticated online trading solutions have not only created multiple new opportunities – they've also made entering the market easier than ever for new investors.

This, surely, is a positive change. Empowering investors through technology ensures tighter control over their funds, more accurate information with which to direct those funds, and cheaper access to that information.

Importantly, these innovations have allowed users to track their assets. Online trading solutions allowing real-time oversight means investors are more connected to their money than ever before. That can only be a good thing.

But there is more that can be done.

We've only scraped the surface of what access to the Internet can do for the future of investment – and what problems still remain to be solved.

The Internet hasn't been able to eradicate one of the most persistent problems plaguing the investment community: exorbitant fees.

As more technological solutions are created to combat the traditional problems of access and oversight, the industry still clings on to the idea of a percentage-based fee for performance – a fee that doesn't necessarily correlate with the amount of work being done to manage a fund or portfolio.

Which, thanks to the amount of efficiencies contained in online solutions, is now far, far less than it used to be.

It's also curious that while new technology developments such as peer-to-peer lending and social networking have been adopted in some circles, the overall investment community has left these to the side.

The result is an industry working at two speeds. At one speed, investment is easier than ever thanks to the Internet, with access to high-quality products that allow investors to trade whenever they like, with access to products they've never had before.

Some of these products, such as Exchange-Traded Funds (ETFs), (traditionally index funds that are available on a stock exchange) have provided a larger range of options than ever before.

Yet at another speed, the industry is still suffering from outdated principles such as percentage-based fees, which erode investors' returns. The market has also failed to bring the benefits of social networking and collective wisdom into investment. There is literally a wealth of information left sitting untapped in investors' minds, just waiting to be shared. It's now time to change the market's trajectory.

Social networking and the "wisdom of crowds" represent a significant opportunity for investors.

By removing the "noise" and harnessing the collective wisdom of a huge range of investors, individuals can access better, more accurate information than ever before.

Better information means better decisions, which means better outcomes.

By combining existing technologies with the wisdom of the investment crowd, there is an opportunity to create technology that doesn't just value individual stocks, but values portfolios in a way that increases investment standards and delivers better returns.

This publication contains a clear argument for not only why the investment community must increasingly adopt this technology – but also proof that it works.

As SelfWealth has shown through our own solution, peer-to-peer investing technology combined with other modern financial elements, such as equally-weighted funds, produce better returns for investors without increasing the complexity of actually trading stocks.

This publication is designed to describe and provide evidence for how this is achieved.

The SelfWealth solution is based on four "pillars", or principles:

- Equally-weighted portfolios are superior to portfolios weighted by capitalisation
- Investors gain more accurate knowledge when their decisions are collectively organised, analysed and distributed as crowdsourced knowledge
- Investments should be rebalanced on a regular basis in order to achieve the best returns
- Portfolios should be fully, or appropriately diversified in order to realise the most of the first three benefits.

The following paper will analyse in detail each of these key pillars and examine their relationship overall to the SelfWealth technology solution. It is not in only one of these pillars that true innovation can be found, but by combining all four together.

This analysis exists not just to validate the SelfWealth approach, but also to encourage and push the investment community in new ways – to embrace peer-to-peer portfolio validation and reject outdated forms of management that result in disappointing performance for investors.

SelfWealth is a solution, built on technology designed for investors to gain accurate information about their performance through like for like benchmarking. SelfWealth analyses the performance and diversification of a portfolio through a series of advanced algorithms and returns a rating for each of these key performance indicators along with suggestions on how to increase performance through diversification and equal weighting.

The proof of this approach is in the results – the SelfWealth 200 (SW200), an index of top stocks chosen by the highest performing investors in the SelfWealth solution, outperformed the ASX200 in the 2015-16 financial year by 14.13% (or 9.24% on an annualised basis)*

In the 21st century, investment must be coupled with a new strategy – knowledge. By obtaining clear and transparent information, investors can make better decisions than ever before.

* Annualised returns are calculated from January 1, 2014.

EXECUTIVE SUMMARY



Since the middle of the 20th century, the investment market has turned to index funds as a cheap, cost-effective way of performing alongside the market. These have returned significant benefits for individual investors, but still have flaws.

By combining a range of technologies and principles, including equally-weighted investments, crowd-sourcing information, diversification and carefully-considered rebalancing strategies, investors are able to access superior results.

Equally-weighted index funds are a superior method of investment. These eradicate the negative effects of index funds, which are weighted against the capitalisation of the companies in them; equally-weighted index funds instead treat every company in the portfolio as an equal part.

Additionally, online investment has increasingly ignored certain aspects of technology, while embracing others. Allowing users to trade stocks online has become ubiquitous, but so far the “wisdom of the crowd” has not been.

This is a mistake. Research shows decisions regarding investments made within the context of a crowd can benefit the crowd as a whole. Incorporating the information of high performing investors and providing clear diagnostics to interpret that information will help bring investment into the 21st century.

These diagnostics are a crucial part of any crowd-based investment system. Being able to interpret crowd data, filtering it per se and comparing it against market performance, is imperative.

Additionally, this information shouldn't just be applied to individual stocks. It must be applied instead to entire portfolios. Only then can investors gain the full benefit of such a strategy.

Furthermore, investors must be able to continually rebalance their investments, whilst also maintaining a significantly diversified portfolio in order to realise the benefits of the aforementioned strategies.

All of these strategies together form the basis of the SelfWealth solution, designed for investors to manage their entire portfolios with input from a range of information sources. Together, applied with careful diagnostics, investors are able to harness more information than they ever thought possible.

This strategy extends beyond a single solution. Instead, the investment community as a whole must take up the advantages of equal weighting and the knowledge provided by diagnostics of the investment “crowd” – only then will investors be able to take full advantage of the digital revolution.

THE WISDOM OF EQUAL WEIGHTING

"An investment operation is one which, upon thorough analysis, promises safety of principal and an adequate return. Operations not meeting these requirements are speculative."

– Benjamin Graham.





Investment isn't easy – or at least it hasn't been. For those hoping to make money in the stock market, too often one thing holds them back: fear.

Fear, though, is just an aversion to risk. Investment decisions boil down to this simplest component: any attempt to make money is judged on a scale of that risk against a possible reward.

The savvy investor will attempt to minimise risk, while achieving the maximum possible reward. This is one of the most basic principles of investing.

Risk, then, is necessary and factored into the most basic investment decisions. The most profitable piece of advice we can learn from investment history is that, "since risk and return are just different sides of the same coin, it cannot be any other way."¹

The modern investment community has attempted to eradicate risk. Over the past half century this strategy has found a home in the creation of low-cost cap-weighted index funds. These funds are an attempt to track the overall stock market, by buying shares in each stock represented in that market, according to their size. These are traditionally extremely safe investments, providing a modest rate of return over time.

Yet even these investments may carry more risk than necessary.

Consider this point: it is virtually impossible for investors to consistently outperform the market average.

This principle, known as the "Efficient Market Hypothesis", has ancient and modern roots. In 1937, economist Eugen Slutsky demonstrated that "random" inputs might be the cause of cyclic processes.² Alfred Cowles and Herbert E. Jones found evidence of correlation in averaged time series indices³, while Cowles also demonstrated investment professionals almost never beat the market.⁴

The bottom line? No matter what stocks you pick, you're more likely to underperform the market average over the long-term.

Economist Burton Malkiel demonstrated that the price of a stock, or the market itself, can't be used to predict any further movement

beyond the present. Prices are independent, and fluctuate accordingly. Malkiel argued that a “buy and hold” strategy works best, for most, arguing that the investment world needs a no-load, minimum management-fee mutual fund, “that simply buys the hundreds of stocks making up the broad stock-market averages”.⁵

Jack Bogle (founder of Vanguard) created such a product. In the 1970s, this up-and-coming investment guru showed that in a 16-year period investors kept only 47% of the cumulative return of the average actively managed fund, (that is, a fund in which an “expert” picks stocks for the investor), as opposed to 87% in a market index fund.⁶

The benefits of the index fund are numerous, highly detailed in modern literature and rarely argued against: low costs, simplification, lower turnover. These truths are evidenced in popularity the US in 2014, of households that owned mutual funds, 31% owned at least one equity-based index mutual fund.

When 2014 came to a close, 382 index funds managed total net assets of \$2.1 trillion – and another \$148 billion was added in net new cash flow to those funds. Stock indexes tracking the markets of the countries in which they are based were the most popular funds, holding 41% of funds.

\$2.1 TRILLION
total net assets of 382 index funds managed in 2014.

97.2%
CORRELATION

between ASX200 and ASX20.

Despite their ability to outperform most managed funds, index funds have unnecessarily exposed themselves to higher risks. This is significant when the amount of equity tied up in domestic stock market-based mutual fund assets is considered.

That risk is primarily associated with their structure – most index funds are weighted to market capitalisation. While this has resulted in the ability to track an index accurately and provide better performance than active funds, it also heightens exposure to bubbles and other abnormal events.

Perhaps most alarmingly, the liquidity of businesses within any one particular index can be extremely volatile.

This is especially true in some market sectors more than others. Specifically, the Australian market.

The top 10 businesses listed on the ASX make up 70% of the total value of the ASX200 index, highly skewing the market towards mining and finance-related stocks. ***Established research has shown there is no significant difference between the ASX200 and the ASX20, with a correlation of 97.2%.***

This is just too much risk, and there is a better way: equally-weighted indexes. They provide a better return for investors while reducing the unnecessary risk attached to cap-weighted indexes.

70%
TOTAL VALUE
of the ASX200 is made up of 10 businesses.

43

YEARS

In short, index funds based on equal weighting treat each stock equally, rather than proportionately based on how big a market capitalisation any one stock might have. Small companies are given just as much importance as larger companies.

Equal weighting is only one example of a “smart beta” strategy, a direction continually being adapted by investment markets. The term “smart beta” refers to a strategy by which an index takes into account more specific information about a stock rather than simply the stock’s proportion to the overall index.

For instance, an equally-weighted index may take into account metrics such as revenue, earnings per share, profit margins, and other financial information which a cap-weighted index by its nature ignores.

400

TOTAL

‘smart beta’ funds operating in the US as of 2015.

Equally-weighted indexes are no fad. There are now 400 “smart beta” funds operating in the United States as of 2015.⁷ Their growing popularity is evidenced in investments such as the WisdomTree Europe Hedged Equity Fund, which by February 2016 had taken in more money than any other ETF at \$4.3 billion.⁸

However, risk and return are two sides of the same coin. Not only do equally-weighted funds carry less risk, they also provide greater returns.

Research conducted in 2005 argued clearly an equally-weighted strategy outperformed the S&P500 by an average of 1.97% a year over a 43-year span. Importantly, this performance proved itself both during downturns and bull markets. Ultimately, it found “indexes constructed using Main Street measures of company size are significantly better than the cap-weighted Wall Street indexes.”⁹

an equally-weighted strategy outperformed the S&P500 by an average of 1.97% per year.

Among the core benefits of an equally-weighted strategy is its simplicity. Unlike traditionally market capitalisation-weighted (cap-weighted) index funds, equally-weighted funds take unnecessary complications out of investment decisions. Their costs are lower, and turnover is generally far less.

More importantly, questions traditionally associated in managing a cap-weighted strategy, such as how many stocks to buy at which time, are no longer relevant in an equally-weighted index. Instead, a range of much more tangible criteria is used, including book value, revenue and so on.¹⁰

The power of increased diversification in this strategy shouldn’t be underestimated.

As Nobel-winning economist Harry Markowitz explained in his treatise, “Modern Portfolio Theory”: “To reduce risk it is necessary to avoid a portfolio whose securities are all highly correlated with each other. One hundred securities whose returns rise and fall in near unison afford little protection than the uncertain return of a single security.”¹¹

This is not just theory. Equally-weighted funds are proven to outperform traditionally cap-weighted funds.

The VanEck Australia Equal Weight Index has recorded higher returns than the standard benchmark, the S&P/ASX200 Accumulation Index.¹² The outperformance is 23.95% of the starting point with the VanEck index outperforming in nine out of the last 12 years.

Additionally, the research found the better returns found weren't the result of greater risk-taking. Instead, the equally-weighted index recorded higher Sharpe Ratios. "Equal weight delivers better returns without excessive risk."¹³

SHARPE RATIO EXPLAINED

The Sharpe Ratio is used to calculate the amount of risk measured in an investment according to its return. Created by William Sharpe, the formula is well-known for its relative simplicity. In its most basic format, the formula measures return measured against "units" of risk.

The ratio examines returns over a set period, and then subtracts what that investment could have provided in a risk-free space. (A popular example might be government treasury bills). This is divided against the investment's standard deviation.

A higher ratio results in better risk-adjusted returns.

Sharpe himself was awarded the 1990 Nobel Prize for unrelated work in economics.

It is crucial to note that outperformance of equal weighting isn't attributed just to market timing, but also to greater exposure to smaller and value stocks. This is demonstrated through a number of studies.^{14,15} Additionally, S&P Dow Jones found equal weight indexing demonstrated outperformance.¹⁶

SelfWealth's own research has shown its equally-weighted funds have outperformed the averages; the SW200 has outperformed the ASX200 by 14.13% over the 12 months to June 2016 and 9.24% on an annualised basis.



Kerr's lament

Top investor calls top of market for houses

News p3

Office wars

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Stockland

Prodigy return

Daniel Petre's \$60m tech start-up fund

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again



Moreover, equally-weighted portfolios within the SelfWealth solution overwhelmingly outperform their cap-weighted counterparts.

Of the top 50 indexes in the SelfWealth solution filtered by performance, 48 are equally-weighted (on an annualised basis). It is crucial to note SelfWealth investors also have access to these same portfolios in a cap-weighted format – therefore the equally-weighted outperformance is clearly significant.

The highest performing portfolio, the SelfWealth 30 (rebalanced on a quarterly basis), achieved a performance of 8.88% in the year to June 30, 2016.* This is compared with a performance of -0.28% on the ASX200.

* This takes into account \$9.50 brokerage per stock on a \$100,000 portfolio.

Of the equally-weighted funds represented in the top 50 SelfWealth indexes, the average performance was 8.51% during the same time period. This is a clear outperformance of the -0.28%% represented by the ASX, and also the cap-weighted alternatives of those same equally-weighted funds.

Equally-weighted portfolios in the SelfWealth solution are clearly outperforming their counterparts.

There are, of course, risks to an equally-weighted strategy which any savvy investor should consider.

The first major consideration is that market cap-weighted indexes are focused on statistical significance. This produces a larger, and perhaps more accurate snapshot of the index as an overall representation of economic significance.



48/50

TOP INDEXES

in the SelfWealth Solution are equally-weighted

(This, of course, relates only to economics and is not a part of any considered investment theory.)

There is also an argument to be considered that ignoring market value is a mistake. As Morningstar argues,¹⁷ a stock's fair value by definition reflects the market's assessment of its risk and future growth prospects – these should be taken into account just as any other metric in portfolio construction, as an objective “fair value” is not easily obtained, or indeed, impossible to measure.

Creating a portfolio then relies on either ignoring those factors, or by taking them into account using proxies. As the research argues, market-cap weighting inherently takes risk and expected growth into account by using the market values of stocks as proxies for unobservable fair values.

If cap-weighted indexes contain errors, then equally-weighted indexes simply contain valuation errors or noise of a different type.

This argument is disputed by some aspects of the investment community. *Vanguard holds an alternative view that although a stock price may contain “collective wisdom” of the market, assuming that price holds intrinsic value is flawed.* Indeed, as the ASX200 shows, stock markets are liable to bubbles, over-exposure and other abnormal events.

*As history outlines, stocks, sectors, styles markets and countries can experience booms and busts. The difficulty for investors is determining “true, intrinsic” value – which can never be known beforehand. “Only after the fact can we look back and identify a stock as over- or undervalued.”*¹⁸

8.51%

AVG. PERFORMANCE

of equally-weighted funds in top 50 SelfWealth indexes.

It's true that fundamental indexing can't justify itself as a completely new way of thinking – it has been discussed for decades. But as Vanguard argues, it does “introduce worthwhile ideas”. It is also possible that combining both the advantages of traditional indexes and equally-weighted strategies can result in significantly better results overall.

In this context, then, it is also crucial to note that equally-weighted funds do not claim to provide better performance in all circumstances. Like any investment based on reducing risk, potential returns are limited in certain circumstances. But it is the management of that risk while providing similar or better returns to cap-weighted indexes which provides a greater overall return.

The world of investment is changing. Active fund managers are not obsolete, but are losing their traditional presence as market gatekeepers.¹⁹ The creation of the first indexes provided a better, safer method of investment. We are now at a point where equally-weighted indexes can do the same.

When designed appropriately, and understood in their proper context, equally-weighted funds are not just a separate vehicle for investment, they are a path to a brighter, more intelligent, and far more prosperous future.

THE POWER OF COLLECTIVE KNOWLEDGE

“...if you can assemble a diverse group of people who possess varying degrees of knowledge and insight, you're better off entrusting it with major decisions rather than leaving them in the hands of one or two people, no matter how smart those people are.”

- James Surowiecki



In 1968, the US submarine “Scorpion” disappeared. The United States’ Navy had relatively little idea where it could be, with a search area 20 miles wide, and thousands of feet deep.

The task seemed a hopeless one. Until an officer, John Craven, was able to gather a group of men with detailed knowledge of the task at hand, including submarine specialists, salvagers and even mathematicians. All came up with an individual estimate of where the submarine might be.

Craven took the answers, ran them through a formula called Bayes’ theorem – an equation used to determine probability - and came up with a targeted search area no one individual man had picked. The submarine was only 220 yards away from that area.

This success is not the first instance of collective wisdom at work, but it became more well-known after the 2004 publication of James Surowiecki’s book, “The Wisdom of Crowds”. Filled with anecdotes about how groups of informed people working together can create more accurate results than on their own, Surowiecki’s work demonstrates how collective wisdom can produce extraordinary results.

Until SelfWealth, this theory has not yet been applied to investment theory in any significant way. By combining the power of crowd wisdom, (building on findings from the previous chapter), to the traditional practice of portfolio construction, investors have the opportunity to make more informed decisions that generate more wealth for all.

Why are many greater than the few?

Collective wisdom is not foolproof, but it is best suited to three types of problems. The first is problems wherein an answer is distinct and final, but can only be guessed. E.g. “How much does this cow weigh?”

The second is coordination problems, such as organising traffic. The third is cooperation problems, where selfish people must work together against their self-interests.

THE WISDOM OF CROWDS

The wisdom of crowds also only applies where there are certain conditions applied to the crowd itself. These are:

- A true diversity of opinion.
- Independence of opinion.
(No correlation between opinions).
- A centralisation of experience
- Suitable mechanisms of aggregation.



Yet not all crowds are wise (a fact Surowiecki admits plainly). The sharemarket is one such place where, it is said, only two emotions rule – greed and fear. Businesses are bought and sold not necessarily by their inherent value but as part of market swings and random bouts of activity.

The “flash crash” of 2010 is a perfect example. On May 6, the Dow Jones Industrial Average suffered its largest intraday trading loss of 998 points, but went on to recover most of the loss during the rest of the day. It was one of the most volatile periods of modern financial history.

The cause of the crash? A mutual fund’s automated processed approved an unusually large futures trade based on trading volume, and not on price – as a result, the sales were made in a period of about 20 minutes, instead of spread out over a longer period of time.

Yet, the collective wisdom of crowds holds true with investment circles. According to research conducted on articles published on the SeekingAlpha website, large crowds were able to accurately determine the direction of stock market value.²⁰

So far the wisdom of crowds has not had much influence on the direction of modern investment theory.

The arrival of financial-based technology groups has ensured some progress, but the vast majority of this space is focused on peer-to-peer lending, or other emulators of classical banking products. ***Some social trading solutions exist, allowing users to pool their knowledge and identify better stock picks than they could on their own, but they are reliant on either picking single stocks, or ignore the fundamental benefits of creating a diversified portfolio.***

There is opportunity here. Just as social networks provide intelligence for stock direction, so too can this theory be applied to the much broader art of portfolio construction.

This opportunity is fuelled by a growing aversion to active funds management. Equally, there is a clear trend towards businesses that are more prone to sharing and transparency. One particular study has found collaboration within corporations is now becoming “more critical to survival”.²¹

Just as the sharing economy has shown consumers are willing to share, or rent, instead of buying, so too do consumers opt for organisations and products that fulfill 21st century common principles of information transparency. The same study found that within sharing economics, consumers who abandon a category of sharing don’t do so because of unhappiness or a bad experience.

As a result, consumers aren’t likely to abandon sharing just because of a few bad experiences. More than six in 10 Americans will be using sharing services in 2016, and by 2017, eight in 10 Americans will be part of the collaboration economy.²²

This message is made clear: all businesses, including trading solutions, need to understand how collaboration and sharing can be baked into their business models.

The benefit for investors is enormous. Traditionally, portfolio construction has been a closed activity, managed by individuals or paid advisors.

But if that information can be crowdsourced, and if that information is made more accurate purely by the number of people participating, then the opportunity for the wisdom of crowds to be combined with portfolio construction will yield countless benefits.

Although established banking solutions have had the ability to create large, crowd-based investment communities, they have not done so. Yet there is growing evidence such a social structure can deliver more value for its users.

In one experiment conducted by MIT researchers, coupons were distributed to 500 active financial traders on the eToro platform. Matches between traders and recommendations were filtered through an algorithm designed to enhance the quality of information provided – and the entire trading community saw a rise in return.

The experiment's subsequent report found how an efficient collaborative trading community could be formed by balancing a mixture of "trend setters", and "bellwethers" who govern the behavior of the crowd.²³

This point is crucial. In order for an informed network of individuals sharing critical investment information to benefit the group as a whole, it must differ from the problems which plague the larger stock market. Fundamentally, stocks chosen by network participants must be filtered through a process in order to determine their value against both the other portfolios in the network and the inherent value of the stocks within that portfolio.

DIAGNOSTICS AS A TOOL FOR OUTPERFORMANCE

Diagnostics, then, is what separates the untamed market from the crowd-based, intelligent network. Algorithms and intelligent benchmarks create that desperately needed separation.

As ExtractAlpha CEO Vinesh Jha explained in 2014 to a Macquarie conference in Hong Kong, there are keys necessary to ensuring a "smart alpha" system such as the aforementioned system, ("alpha" being the performance of an investment measured against a benchmark, like an index), is performing at its peak.²⁴

These traits are:

- A diversity of opinions or knowledge within the system. This also applies to groups of experts, who tend to verge towards one particular approach to a problem over another.
- A way to measure skill.
- An objective.
- A system that is appropriate to the task, and manages expectations.
- An incentive to forecast well, not just to forecast.
- Leaderboards, monetary incentives, track records and marketing.

Additionally, research from Microsoft²⁵ demonstrates crowdsourcing comes with its own risks due to the tendency to form groups who complete tasks with varying levels of attention and success. This increases the need for tasks that attract "the right crowd".

The principles behind these warnings are at the heart of the SelfWealth solution.

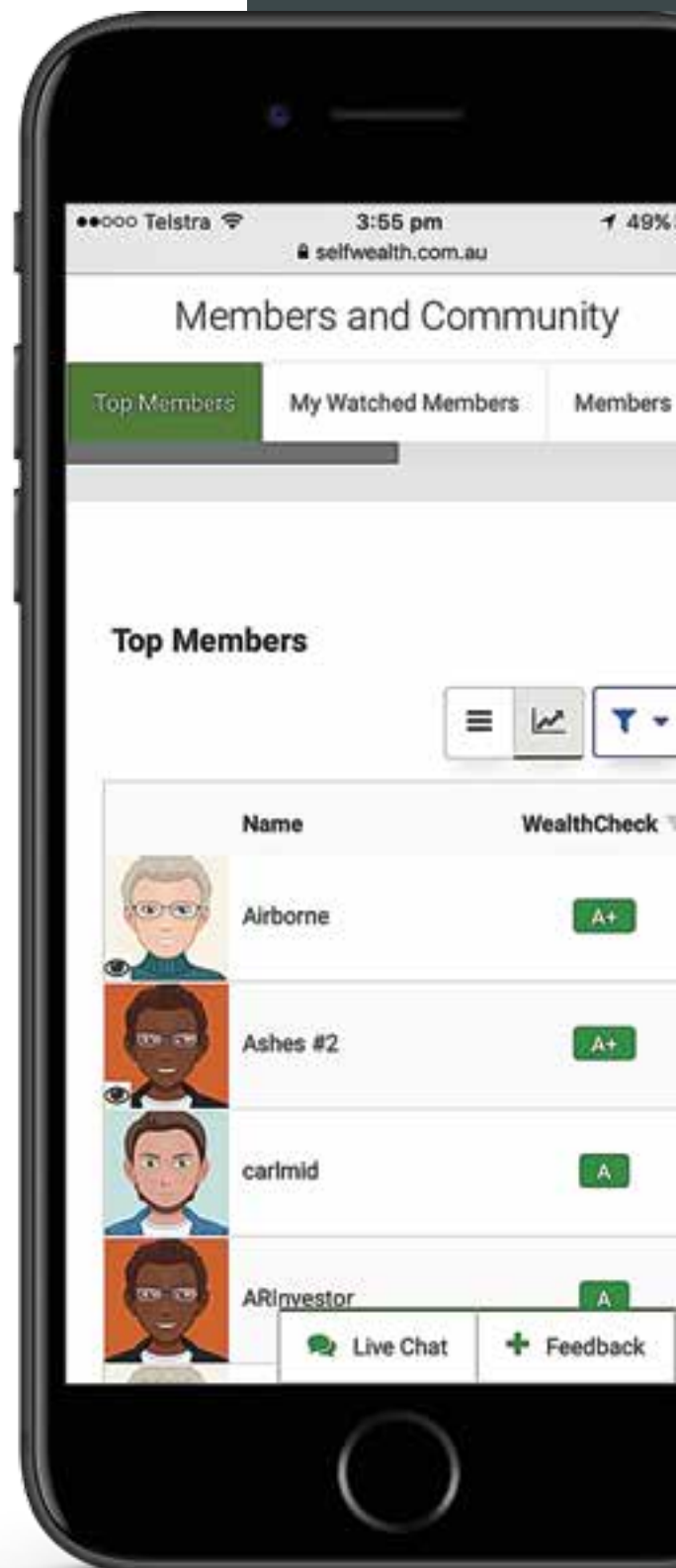
THE SELFWEALTH SOLUTION

The SelfWealth Solution, which combines the aforementioned benefits of the wisdom of crowds, along with parameters, diagnostics and a sophisticated algorithm base, is able to combine the social function of investment with portfolio creation.

Crucially, the SelfWealth Solution is designed to provide actual results. Members of the SelfWealth Community are able to make investment decisions based on fact by comparing objective performance among members. They are able to see both their individual performance, and this performance within the context of a group.

This is the very core of informed decision-making. Armed with this data, investors are able to explore alternative investment decisions – which, if successful, help other Members of the Community. Based on these parameters, Members of the SelfWealth Community can construct their own portfolios with ease, or have SelfWealth assist based on pre-determined and proven crowd metrics.

An investment group or network on its own is nothing, and is subject to the movements of the herd. Diagnostics enable it to reach its true potential. With sound and proven diagnostics, the greater the crowd, the smarter it becomes. The SW200 is proof of this, as more Members have joined the Community the greater it's performance compared to it's benchmark – the ASX200.



THE WEALTHCHECK SCORE

At the heart of SelfWealth's diagnostic strategy, is the WealthCheck score, used to measure the health of investments held by individual investors against others.

The WealthCheck score is divided into three parts:

PEER-TO-PEER-PERFORMANCE

The first section of the score is measured through peer-to-peer performance. Members are awarded a grade of 0-100, (represented to the user on a scale from F to A+), measuring their portfolio performance against the community. This score is time-weighted.

SAFETY RATING

The second component of the WealthCheck score is the Safety Rating, made up of four distinct criteria:

- How many asset classes are included in the portfolio?
- Is the portfolio overly weighted towards particular stocks?
- Of what quality are the individual stocks? (For instance, is a stock diversified in itself – such as an ETF?)
- How many stocks are in the portfolio overall?

VALUATION

The final component of the score itself is provided through market valuation.





It is important to note that social tracking and collaboration online cannot result in higher quality stock picks alone.

However, the power of the SelfWealth Solution enables people to gauge and measure based on key metrics to construct higher performing portfolios.

This is evidenced through objective performance. The SW200, the SW50 and the SW20, all indexes created by amassing stocks owned by the most successful investors in the Solution, have all outperformed their ASX counterparts.

Like any investment, there are risks to this solution.

Among them is the possibility that individual investors will not follow the guidelines put in place by SelfWealth to maximise their returns. As is the case with the stock market, bubbles can form when herd mentality takes hold. This is exactly why the WealthCheck score exists – to counter these possibilities.

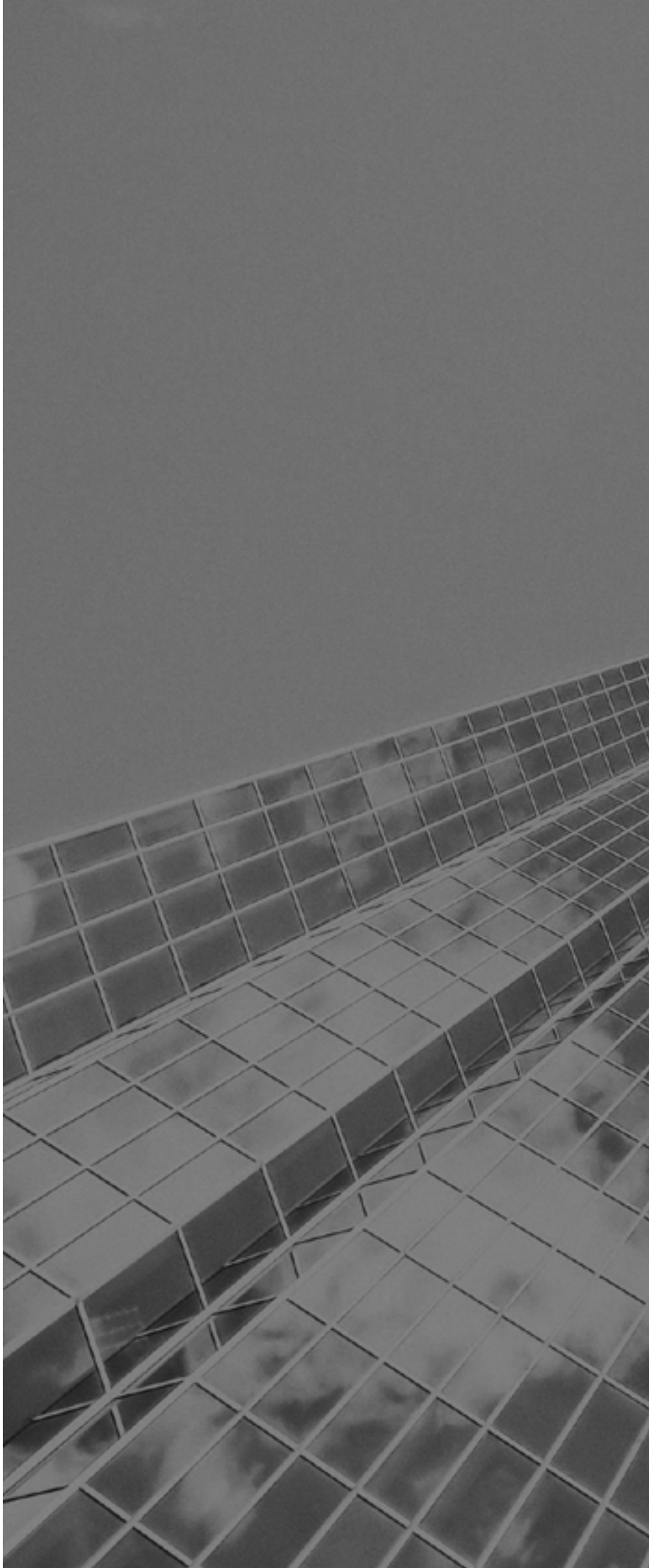
Another risk is that investors do not engage and rebalance their portfolios accordingly. (The details of which will be described in subsequent chapters.)

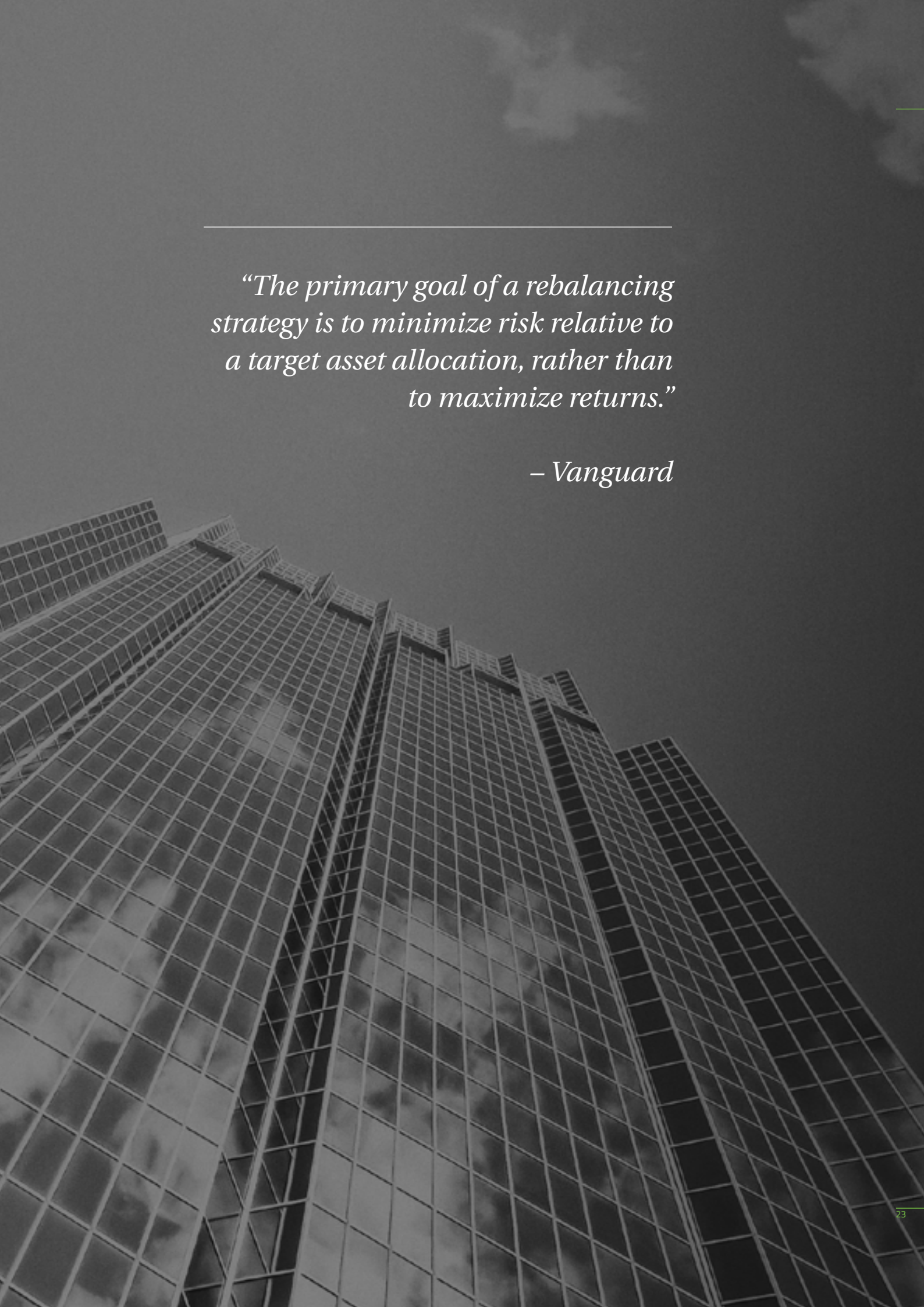
However, the results of the SelfWealth Solution speak for themselves. By investing with intelligence, SelfWealth is able to create a line for outperformance – not just providing an online solution for Members to trade.

Traditional investment principles have been structured to always emphasise the secrecy of the portfolio. While this may be advantageous in certain situations, it is growing increasingly important for investment managers to prove their worth.

Creating open networks for investors to judge and benchmark their performance in combination with metrics to determine the inherent value of those investments, will lead to greater wealth overall.

CHOOSING AN OPTIMAL REBALANCING STRATEGY





“The primary goal of a rebalancing strategy is to minimize risk relative to a target asset allocation, rather than to maximize returns.”

– Vanguard

We have clearly demonstrated through the previous chapters that both equally weighted indexes, along with peer-to-peer technology, provide superior returns for investors.

This isn't just theory – it is demonstrated in performance. Equally weighted indexes have performed better through both “bull” and “bear” markets, while the introduction of peer-to-peer and social technology within the investment space has shown portfolio construction can thrive based on the “wisdom of crowds”.

But these two elements alone aren't enough to deliver better returns for investors.

Another “pillar” of wisdom should be considered: when to rebalance a portfolio in order to achieve the greatest return.

Rebalancing is necessary to ensure the original allocation of assets within the portfolio does not become lopsided. For instance, consider a portfolio comprised of 50% stocks, and 50% bonds, at an allocation of \$10,000 each. Should the stocks return a significant amount of 10% in one year, while the bonds return only 4%, the new balances are as follows:

Stocks: \$11,000
Bonds: \$10,400

Overall, the portfolio has returned 7%. But the weighting has been changed – stocks now comprise 51.4% of the portfolio, instead of the simple 50%. While not a significant risk to the investor at that point, rebalancing back to 50% - by selling off and buying more of each asset according to its proportion – is simply prudent to ensure risk and reward are equally balanced.

Orchestrating a rebalancing strategy without thought or consideration to the optimal time for doing so, erode returns by a significant amount, purely through transaction costs. Consider a portfolio of 20 stocks, with a transaction cost of \$20. Rebalancing this portfolio weekly would cost more than \$20,000 a year.

However, doing so quarterly would only cost \$1,600 a year. Assuming the fund returns the same amount in each circumstance, the investor has extended his or her returns simply by choosing an adequate and appropriate rebalancing time.

Portfolio 20 stocks		Portfolio 20 stocks
Transaction Cost \$20		Transaction Cost \$20
Rebalance Rate Weekly		Rebalance Rate Quarterly
TOTAL \$20,000 a year		TOTAL \$1,600 a year

The debate over the specifics will continue, but one thing is clear: the importance of rebalancing at all is scarcely debated.

For instance, Vanguard argues that despite debate over whether investors should adopt a “time” or a “threshold” based approach, (more on this later), it’s simply important to rebalance at all. As part of the portfolio-construction process, it argues, it’s important for investors to develop a rebalancing strategy that addresses “how often, how far, and how much”. In other words, how often the portfolio should be monitored, how far an asset should be able to deviate from its target before rebalancing, and how much rebalancing is appropriate to “restore” an asset to its premium point.²⁶

There are certain theories that suggest investors may not always have to revert their portfolios back to their original allocations, and can adjust to different allocations every so often.²⁷ Another states rebalancing only performs best in volatile markets.²⁸ They all have the same underlying point: rebalancing is critical.

There are two major methods by which portfolios are balanced.

METHOD 01

The first is a time-based method. This is the method by which assets are reallocated at the end of a specific time period, whether that be monthly, quarterly, semi-annually or annually. This approach doesn’t take into account how much an asset has moved before rebalancing – it simply rebalances along the same schedule, according to the portfolio’s own strategy.

METHOD 02

The second is a method by which portfolios are rebalanced based on thresholds. So, for instance, if a portfolio made up of 50% bonds, and 50% stocks grows to a proportion of 60% bonds, that would trigger a rebalancing act. (Depending, of course, on what that “trigger” level may be.)

Research has demonstrated either method as having positive results in a given set of circumstances. But each strategy has pros, and cons.

For instance, rebalancing based on timing relies on the idea that on average, portfolio allocations become worse as time goes on. But that isn't necessarily true, as a portfolio could have even better performance as time goes on based on those new allocations.

On the other hand, setting targets for reallocation based on outperformance or underperformance becomes a problem when those portfolios are filled with smaller investments.

For instance, say a portfolio is made up of 10 different stocks (this would be considered on the lower side of the amount needed for a fully-diversified portfolio). The amount of changes in those stocks necessary to trigger a rebalance would be quite significant.

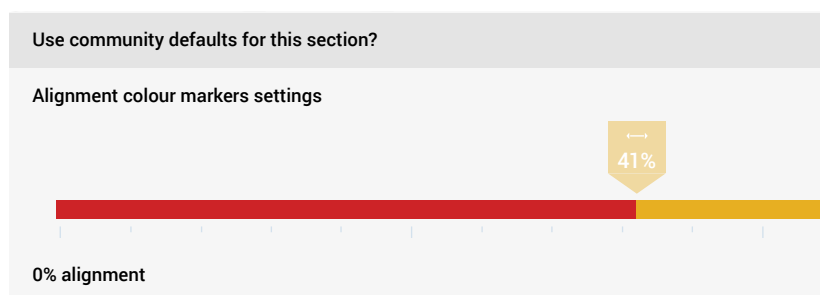
The decision on when to rebalance a portfolio can result in larger returns over time, even though some studies have shown there is relatively little difference in the impacts of those frequencies.

However, given SelfWealth is able to determine the health of its investments and the portfolios of our Members, we have spent considerable time investigating the optimal rebalancing times for portfolios.

After careful consideration and monitoring a range of investments, SelfWealth has been able to determine the optimal rebalancing times for portfolios across a range of risk levels.

SelfWealth provides tools for investors to ensure their rebalancing is conducted via both the "threshold" and "timing" methods discussed above.

As depicted in the visuals below, colour-coded guides are provided for investors to show when a portfolio's performances drifts away from where it should be.



Once a portfolio goes beyond a certain threshold, (the "yellow zone"), or below, (the "red zone"), investors can clearly see this event occurring. It is crucial for investors to see this plainly; rebalancing keeps a portfolio on track for outperformance – we know this based on the data measured by SelfWealth for several years, (another reason why collecting data and information from a group helps individual members).

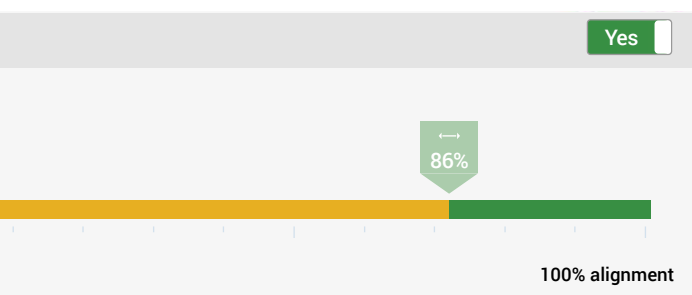
14.13%

PERFORMANCE

of the SW200 over the ASX200 in the year to June 30, 2016.

So, what of rebalancing times?

The overall performance of the SelfWealth community is reflected by the SW200 index, a collection of the 200 most popular stocks within SelfWealth portfolios. Compared against the benchmark ASX200 index, the SW200 outperformed by 14.13% in the year to June 30 2016, or 9.24% annualised.



While there is little difference between the gross returns of portfolios adjusted on a monthly or quarterly basis, the transaction costs reveal a very different story.

For instance, the SW30 equal-weight index rebalanced on a quarterly basis returned 10.02%, whilst its monthly cousin returned 7.14%. However when re-balancing costs are taken into account, the performance returns tell a starker story.

As depicted in the table below, investments on a quarterly rebalancing schedule outperform those on a monthly schedule. It is clear the main driver of this is the costs associated with re-balancing.

8.88%

RETURN

after rebalancing costs of
SW30 Qtrly Equal Weight.

9.24%

PERFORMANCE

of the SW200 over the ASX200 annually.

Rebalancing on a quarterly basis has resulted in higher performance for SelfWealth customers, while still managing their risk.

Combined with a proper theory of diversification applied to portfolios, (explained in the following chapter), adopting a methodology and philosophy of regular rebalancing will only lead to more benefits for the individual investor.

3.72%

RETURN

after rebalancing costs of
SW30 Monthly Equal Weight.

THE FINE ART OF DIVERSIFICATION

There is an ancient quote often attributed to Rabbi Isaac Bar Aha, from the fourth century AD:



ONE SHOULD ALWAYS DIVIDE HIS WEALTH INTO THREE PARTS: A THIRD IN LAND, A THIRD IN MERCHANDISE, AND A THIRD READY TO HAND.



Now, the ancient rules of asset allocation are not totally applicable today, but the principle of the comment remains the same: diversification is the key to ensuring your wealth grows beyond your initial investments.

So far in this publication, we have examined three of the four pillars of the SelfWealth solution: equal weighting, peer to peer investing, and optimal rebalancing times. All of these are underlined by the idea that through constant analysis and diagnostics, investors can achieve overall better performance.

The fourth and final pillar complements and completes the four pillars: diversification.

There are two questions at the heart of the diversification discussion:

1. Is diversification necessary to achieve higher performance?

2. What level of diversification is necessary in order to achieve that performance?

On the first question, there isn't much debate. In order for investors to truly achieve higher performance, a combination of asset classes is necessary. This, of course, is highly correlated with the first pillar of equal-weighting - the same principle of risk versus reward applies. In order to achieve greater reward, and lower risk, a higher number of stocks is necessary.

Although the concept of diversification itself is ancient, the modern application of the concept came to the market with a bang in the 1950s. Economist Harry Markowitz defined the concept of modern portfolio theory, or what he called "mean-variance analysis", in a famous 1952 paper.



“

If you have your wealth in one company, unexpected troubles may cause a serious loss; but if you own the stocks of 12 companies in different industries, the one which turns out badly will probably be offset by some other which turns out better than expected.”

- John Templeton



Modern portfolio theory assumes a number of principles. First, it assumes that investors want to avoid risk. So, if you offer an investor two portfolios, that investor will generally choose the one which carries less risk – and only take on higher risk with the prospect of greater reward.

Markowitz argued that an investor can reduce portfolio risk by combining different asset classes that aren't necessarily connected in any way. Through this theory, an investor can avoid catastrophe in one sector by having invested in several others.

A downturn in international stocks won't necessarily impact the performance of other markets such as domestic government bonds or small-caps, (excluding the possibility of a global economic event in which case few diversification options will help anyone!)

Put simply? Combine different financial products, and you'll reduce your risk exposure.

The best part of this strategy is that a respectable and even admirable return can be gained from diversified portfolios. (Obviously, this return is not as extreme as some other more concentrated portfolios may be, but those portfolios usually involve taking on more risk – and are not suited for longer-term, safer investments.)

This, of course, depends on the nature of those investments and each portfolio will be different. But Markowitz proved his point – a solid return within diversification is possible.

Clearly, one investor's risk appetite will be different from another's, and this is why portfolios must be adapted individually. A younger investor who is able to withstand years of market fluctuations will be more comfortable putting a majority of their portfolios in stocks, whereas an older investor approaching retirement will favour safer instruments such as government bonds.

So, that covers the first debate. But what of the second – what level of diversification is necessary in order to achieve optimal market performance?

This question is slightly more complicated. A significant amount of time and effort has been spent on determining what the optimal number of stocks in a portfolio could be. This is no simple venture: too few stocks and a portfolio takes on unnecessary risk, while too many stocks may lead to unnecessary costs.

For instance, a diversified portfolio that achieves a "maximum" benefit of diversification at 30 stocks, is unnecessarily incurring transaction costs for stocks above that number. While those stocks may bring some benefit, the portfolio is simply unnecessarily large.

There is much debate over the point at which this maximum diversification benefit is achieved.

Even among seasoned and tested investment groups, the "tipping point" for diversification – or, the point at which more stocks added to a portfolio no longer produce diversification but instead only add more costs due to rebalancing and transaction fees – seems to fluctuate between 20 to 30 stocks.

In 1968, one significant piece of research argued that portfolios with as few as 10 assets carried as much risk as the overall market did at the time.

Another piece of research, by the economists Elton and Gruber, found the first 10 stocks of a portfolio eliminate 51% of standard deviation (volatility) – adding another 10 only reduces the standard deviation by another 5%. Most of the work is done in the first 10, they argued.

Yet again, economist Burton Malkiel argued in "A Random Walk Down Wall Street" – the publication which also argued for the creation of index-based mutual funds – that 20 stocks would be fine, saying the standard deviation of the portfolio is reduced by 70% in those first 20 stocks.

Some analysis argues that a portfolio should include at least 30 stocks for a borrowing investor, and 40 for a lending investor.

Which strategy should be believed? How can investors reach the optimal diversification point?

This publication can only speak to the performance within the SelfWealth Solution, and not the performance of the overall market. It should also be noted that there is no specific number for how many stocks should be in a fully diversified portfolio.

However, careful analysis shows a number of key principles.

For instance, 10 stocks does not provide enough diversification for consistent, annualised performance. Additionally, there is no difference between 40 stocks and 50 stocks when it comes to avoiding volatility – therefore, no more than 40 stocks is ideal for a portfolio.

According to SelfWealth portfolio performance, on the whole, the SW40 and SW30 portfolios are superior to the SW20. Annualised performance found the SW40 equally-weighted portfolio, rebalanced quarterly, returned 9.05%, against the ASX200's -0.28%.

6.01%

RETURN

of SW30 equally-weighted portfolio rebalanced quarterly.

The SW30 equally-weighted portfolio, also rebalanced quarterly, returned 6.01%. The highest instance of the SW20 appearing on the highest-performing portfolio list is the SW20, equally-weighted and rebalanced monthly. This portfolio returned 7.62%, however because it is re-balanced monthly, the actual return is much lower and therefore ranks below its 30 and 40 stock counterparts.

Together and taking into account transaction costs this information suggests the optimal number of stocks to be contained in a portfolio should be more than 30, but no more than 40.

This advice should not be taken as gospel for investment as a whole, but instead as a guidance for how stocks perform from within the confines of the SelfWealth Solution. However, our optimal performance being between 30-40 stocks is clearly in line with the popular discussion on the subject.



7.62%

RETURN

of SW20 equally-weighted portfolio rebalanced monthly.



SELFWEALTH OVERVIEW

SelfWealth Ltd is an Australian owned and operated company established in 2012.

SelfWealth originated from the belief that Australia's current investment model is flawed with financial planners, fund managers and administration solutions each demanding a share of fees from the investor.

We believe paying higher fees and commissions just because you have more to invest and to receive the same level of service is an unfortunate legacy in the Australian Financial system. SelfWealth using past experience in the industry has created a unique solution which empowers investors.

For the first time in Australia, investors can now access an online tool, which compares their portfolio's performance against like-minded investors and the market.

Members of the SelfWealth community can make investment decisions based on fact, not opinion. They can see how people like them are investing and what returns they are achieving. Members can trial different strategies and based on their experiences make informed decisions on how to invest their money.

In addition to connecting and empowering investors, Members of the community can access flat fee brokerage, just \$9.50 per trade, regardless of the trade size.

SelfWealth is an online community for investors, partnering to achieve the common purpose of better returns using the wisdom of the crowd. It is a brand new solution for an age-old investment problem.

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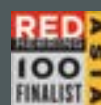
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