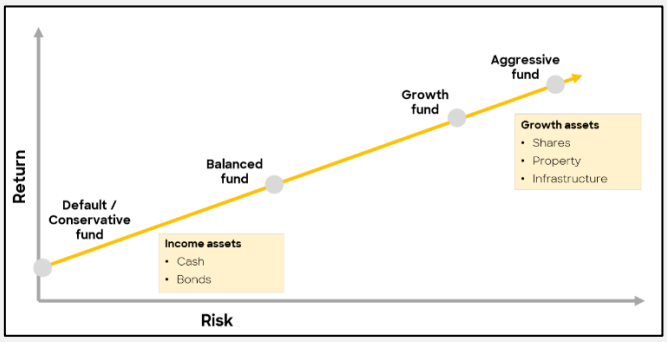
Investment Foundation Series III

Managed Fund Investing



One of the tactics with investing in shares is a Managed Fund. A managed fund is an investment that pools your money with other investors. The fund holds different asset classes - divided into shares, property (growth assets), bonds, cash & term deposits (fixed interest). This investment is called a 'portfolio' with the proportion of each asset called "asset allocation". One example can be your Kiwisaver.

The advantage of a managed fund is that it provides the investor with a cost-effective method to invest in a diversified portfolio instantly, with a minimal amount of investment. The diversification created in different asset classes and subclasses means less short term volatility, as the underperforming asset class will balance out the overperforming asset class (see Diversification in Series II paper). Asness, Israelov & Liew*(2011)* illustrated that global diversification[1] does not help in the short term (e.g. market crashes), yet it does protect the investor in the long term.

The managed fund also regularly realigns the portfolio allocations when they become out of proportion (called rebalancing). This process means the fund evens out future volatility and, in some cases, improves returns. A majority of New Zealanders are in a managed fund via their Kiwisaver. Managed funds have two components: Type of Fund and Strategy of Fund.

Type of fund-

The Individual risk profile combined with the general risk understanding matches the investor to the type of fund. The type of fund is determined by the proportion/weightings of Growth assets (shares, property) relative to Fixed Interest/Income assets (cash, bond & term deposits).

[1] Diversification by investing in different countries shares.

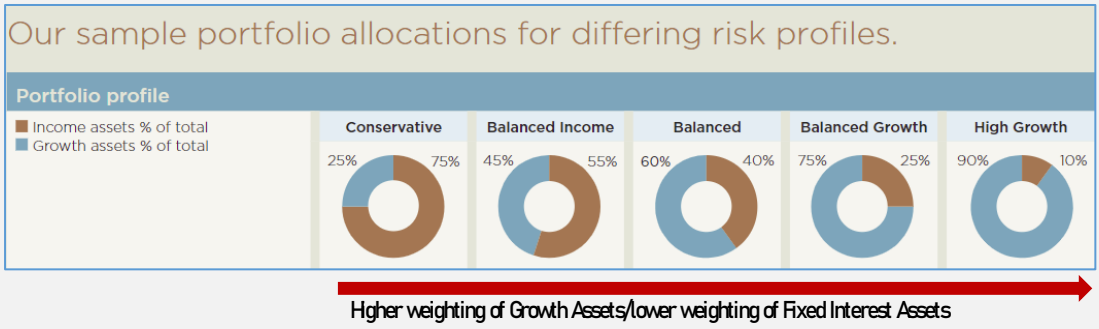
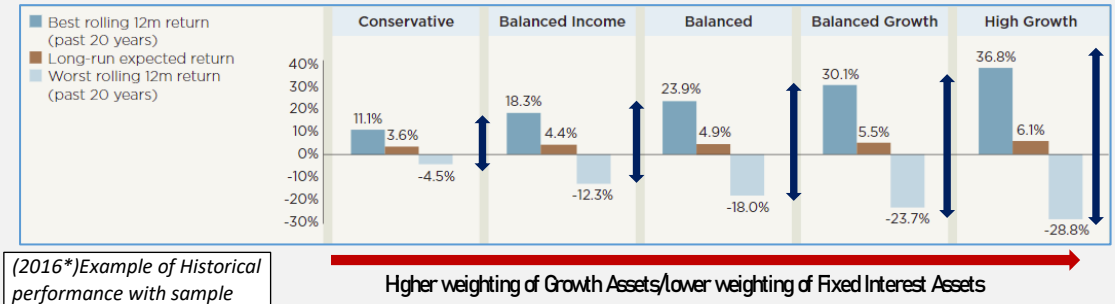


FIGURE 8

The different proportions of assets will change the amount of risk in the fund. The "Conservative Fund" has 75% Fixed Interest (Income) assets and 25% in Growth assets, where the "Growth Fund" is the reverse[2] (Figure 8). However, as the fund title suggests, it is riskier with higher growth assets due to the wide range of short term returns.



(2016)Example of Historical performance with sample fund and should not be taken as future performance.*

FIGURE 9

Figure 9 illustrates that going from a Conservative fund to a Growth fund has higher expected returns; however, it comes with more volatile annual returns. For example, the Balanced fund over twenty years has average returns of 4.9%; but the annual returns ranged from 24% to -18%. It is crucial to differentiate between the value of fund and losses/gains. The fund's value could increase or decrease; however, these gains or losses do not occur until you sell out of the fund.

[2] Specific fund providers will have different names and proportions. Eg one provider may say "Growth fund" which can be similar to another provider's "Aggressive fund" or providers may have the same name but can have different proportions.

This type of fund is linked to your time horizon ie the Growth funds require longer time to recover from short time “losses”, to give the investor the highest “gains”

The advantage of a managed fund is that it reduces the risk compared to investing in the sharemarket solely.

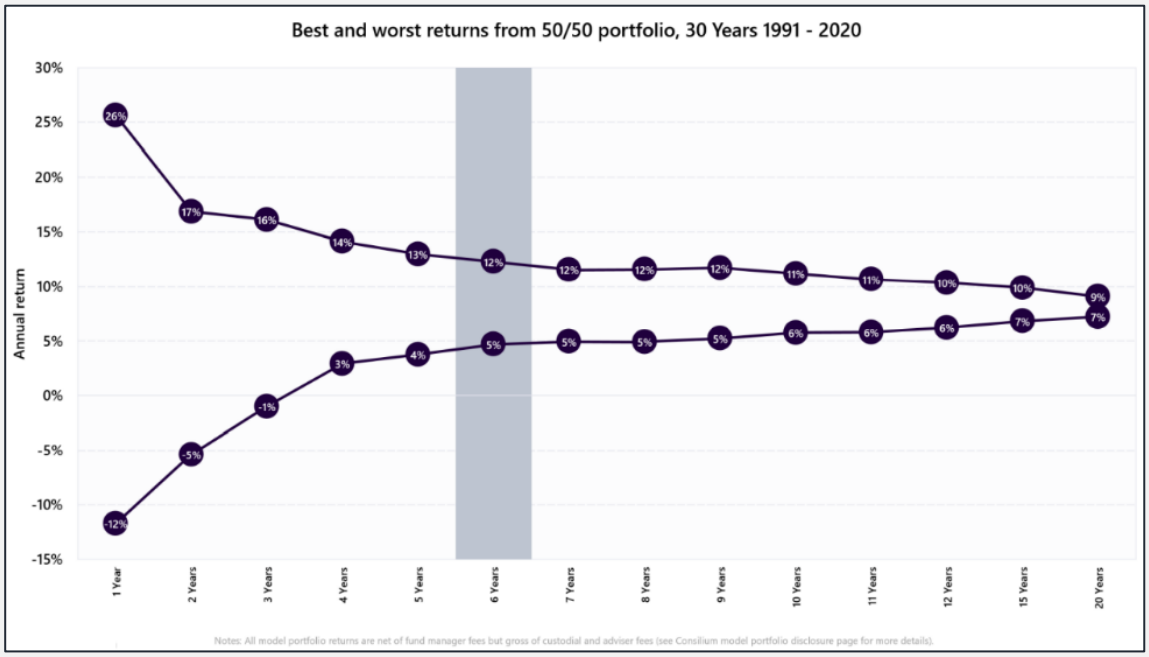
Chances of your account balance falling

Investment period	Investing in 100% share fund	Investing in fund holding 50% shares, 50% bonds
1 year	1 in 3 (25%)	1 in 4 (20%)
3 years	1 in 5 (17%)	1 in 8 (11%)
5 years	1 in 9 (10%)	1 in 17 (6%)
10 years	1 in 48 (2%)	1 in 169 (0.6%)

Source: MCA. Returns are before tax. Based on New Zealand and international data. If you spread your money across even just two asset types, shares and bonds, the chances that your balance will fall are much lower than if you stay 100 percent with shares(2012)

Exhibit 3

Exhibit 3 shows how a 50/50 portfolio (e.g. Balanced fund) has less volatility than investing in the sharemarket. As mentioned above, this is due to the fund being more diversified and rebalancing of the portfolio.



Historical performance so not an indication of future performance

FIGURE 10

Here are some more recent historical performances (Figure 10) over the last 30 years of a balanced fund. As you can see, initially, the returns are vast (-12% to 26%), yet as time goes by (after year six), they become more narrow and tend to be positive (5 to12%).

Each type of fund depends on your risk assessment, which considers the time horizon and goals. Exhibit 4 shows a generalised overview of each fund type incorporating risk tolerance, volatility, time horizon, and investor's goal (sorted.org.nz)

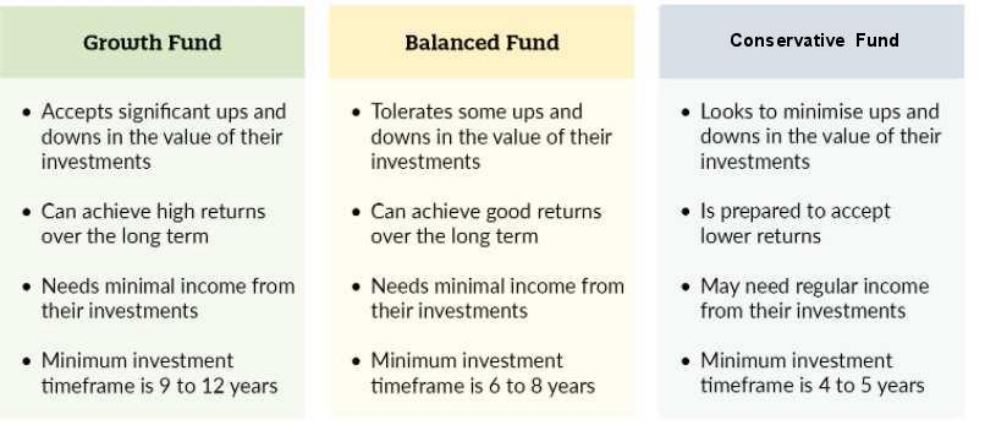


Exhibit 4

The strategy of the fund

There are two types of fund approaches called active and passive fund strategies. Active managers "actively choose" a strategy to outperform the sharemarket with their fund, e.g. share picking or timing the market. A "passive" manager follows the market, such as the U.S. or N.Z. sharemarkets like the NZ50(top 50 N.Z. companies) or S&P 500. These are also called index funds. Active funds require more analysis, so the fees(expenses) of the fund are higher than the passive index fund.

The evidence shows that most active managers underperform passive fund managers (SPIVA 2021). Exhibit 5 demonstrates Morningstar U.S. research (Active Passive Barometer 2021). On the US Large Blend(Majority of U.S. companies) row, Active manager success rates are 30% in 3 years and 17% in 5 years, 11% in 15 years compared to Passive funds.

Active Funds' Success Rate by Category (%)

Category	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year	10-Year (Lowest Cost) *	10-Year (Highest Cost)
U.S. Large Blend	31.1	30.0	16.5	8.4	11.2	12.8	17.2	4.1
U.S. Large Value	52.1	35.6	20.3	14.0	15.4	16.8	26.2	9.2
U.S. Large Growth	34.4	37.0	20.6	9.3	10.9	11.3	17.6	6.6
U.S. Mid Blend	21.6	23.8	13.4	11.9	6.3	8.7	29.6	7.4
U.S. Mid Value	76.8	49.6	44.2	12.5	30.8	—	16.7	8.3
U.S. Mid Growth	42.6	59.5	54.6	40.7	30.5	—	47.8	33.3
U.S. Small Blend	29.4	19.5	16.8	12.7	10.0	29.6	27.0	11.1
U.S. Small Value	46.2	27.4	23.1	29.3	31.3	—	35.0	15.0
U.S. Small Growth	60.1	55.2	54.0	41.2	28.4	—	46.7	36.4
Foreign Large Blend	56.0	41.5	26.7	20.0	14.0	14.6	35.9	17.9
Foreign Large Value	80.2	41.3	24.2	31.7	—	—	42.9	23.8
Foreign Small-Mid Blend	25.0	11.8	11.5	22.2	—	—	25.0	0.0
World Large Stock	53.3	42.0	30.8	30.4	32.0	—	34.8	21.7
Diversified Emerging Markets	69.6	59.6	48.1	45.4	35.7	—	58.3	33.3
Europe Stock	73.7	48.1	37.5	32.4	30.6	—	42.9	0.0
U.S. Real Estate	71.1	67.5	53.2	45.0	27.5	28.6	62.5	25.0
Global Real Estate	75.0	60.3	38.5	48.1	—	—	45.5	45.5
Intermediate Core Bond	53.7	38.5	34.5	27.9	15.9	9.7	47.4	11.1
Corporate Bond	48.4	35.5	49.1	40.5	—	—	37.5	25.0
High-Yield Bond	54.8	46.2	59.0	42.3	—	—	59.5	40.5

Source: Morningstar. Data and calcuations as of Dec. 31, 2020. *Green/red shading indicates that active funds in this fee quintile had above/below average success rates .

Exhibit.5

This difference is due to high management fees with active funds, inconsistent active fund performance, and identifying skilled active managers.

- Fees: On average, higher fees are negatively correlated to fund performance, and lower-fee funds outperformed high fee funds (*Carhart (1997); O'Neal & Livingston (1998); Fama& French (2008); Halem, Baker & Smith(2008) & Oil-Bazo & Ruiz Verdue (2009); Russell Kinnel (2016 Morningstar), Rowley, Walker & Ning (Vanguard 2018)).* The N.Z. Financial Market Authority (2021) reviewed managed funds and fees[3] and found no relationship between the fees charged and the returns received, i.e. higher fees did not mean higher returns. Exhibit 1 compares the lowest to the highest fund fees. Thus active managers' success rates increased with lower fees(green colour) and decreased(pink colour) with higher fees(17.1% success rate with low-cost funds compared to 4.1% with high-cost funds)
- Fund performance consistency- Previous active fund (manager) over performance does not indicate future performance. So a fund manager doing well in the past does not indicate that they will do well in the future *(Malkiel 1995; Carhart 1997; SPIVA persistence scorecards 2020; Goyal & Wahal(2008, 2020); Cornell, Hsu and Nanigian (2016); Arnott, Kalesnik & Wu(2017*). Also, a high "star" fund rating does not predict future fund performance (*Philips and Kinnery Jr, 2010*).

[3] The FMA removed some Kiwisaver default funds due to their high fees.

Consilium(2021) researched N.Z. funds for the last decade and ranked how well they performed in the first five years and then 2nd half of the decade. As shown in Exhibit 6, the funds that did well in the first portion(left-hand side of 1st graph) did not mean they did well in the 2nd period.

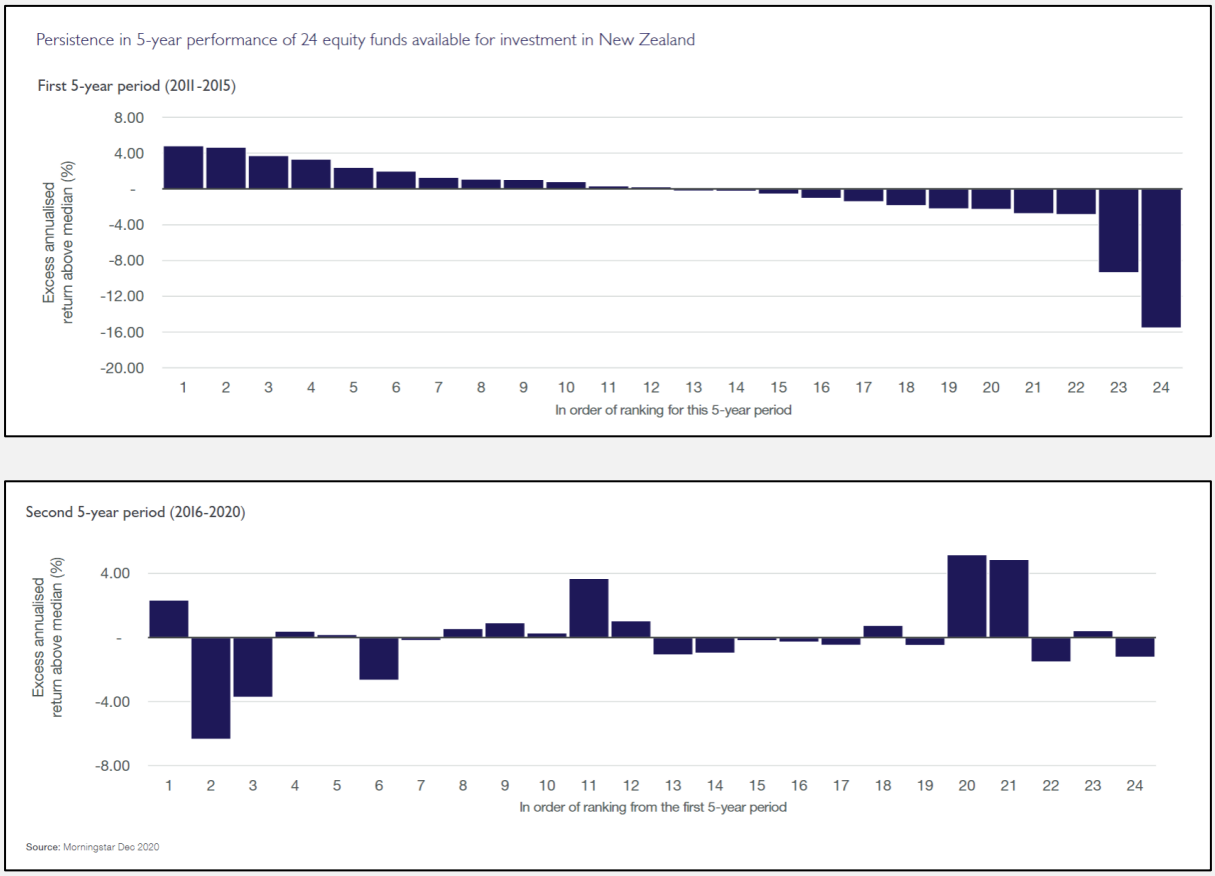


Exhibit.6

- Skilled Fund managers: A minority of active managers can over-perform than passive funds, but it is difficult to identify these skilled managers beforehand *(Cuthbertson, Nitzsche and O'Sullivan (2005); Fama & French (2010); Jones and Wermer (2011)).* As well, this requires deep analysis and resources that are beyond most individual investors and even professionals (*Warren (2020); Scobie, (2017); Goyal and Wahal (2008, 2020)).*
- Factor Investing- Fama & French (1*993,1993,1994, 2010,2012, 2015*) developed a model that states that the returns from a diversified portfolio are virtually unrelated to managers' picking shares or timing the market. Their evidence showed there can be higher returns by investing in specific share style groups like "value" shares or "small company" shares *(Bender, Briand, Melas and Subramanian (2013))*. This approach is an in-between active and passive strategy called factor investing or smart beta.

- Core/Satellite approach: This strategy is where the investor splits their portfolio with their “core” (majority) portion with a passive fund and their ‘satellite’ portion with an active fund/factor fund (fund) combination. Yet, the investor still needs to analyse active managers (*Jones and Wermer 2016; Scobie 2017*)) and maintain low management fees (*Wallick, Wimmer, Tasopoulos, Balsamo & Hirt 2017*). Both the factor investing and Core/Satellite approach requires more in-depth knowledge or alongside an evidence-based financial adviser.

In summary, for the fund's strategy, most investors would be better with a low-cost passive index fund. There is evidence of factor investing yet require more knowledge/assistance

Graphica Consilium graphs

Ferri, R. A. (2010). *All about asset allocation*. McGraw-Hill.

SPIVA reports 2020- https://www.spglobal.com/spdji/en/research-insights/spiva/

Morningstar Active/Passive 2021- https://www.morningstar.com/lp/active-passive-barometer

Passive N.Z.

The strategy of fund references

Fama, Eugene F. and French, Kenneth R., Luck Versus Skill in the Cross Section of Mutual Fund Returns (December 14, 2009). Tuck School of Business Working Paper No. 2009-56 , Chicago Booth School of Business Research Paper, Journal of Finance, Forthcoming, Available at SSRN: https://ssrn.com/abstract=1356021

Fama, E. F.; French, K. R. (1992). "The Cross-Section of Expected Stock Returns". The Journal of Finance. 47 (2): 427. doi:10.1111/j.1540-6261.1992.tb04398.x. JSTOR 2329112.

Fama, Eugene F. and French, Kenneth R., A Five-Factor Asset Pricing Model (September 2014). Fama-Miller Working Paper, Available at SSRN: https://ssrn.com/abstract=2287202 or http://dx.doi.org/10.2139/ssrn.2287202

Carhart, Mark M., On Persistence in Mutual Fund Performance. J. OF FINANCE, Vol. 52 No. 1, March 1997, Available at SSRN: https://ssrn.com/abstract=8036

O'Neal, Edward S. and Livingston, Miles B., The Cost of Mutual Fund Distribution Fees. Journal of Financial Research, Available at SSRN: https://ssrn.com/abstract=74229

Haslem, John A. and Baker, H. Kent and Smith, David McNeil, Identification and Performance of Equity Mutual Funds with High Management Fees and Expense Ratios (May 23, 2008). Journal of Investing, Vol. 16, No. 2, pp. 32-51, Summer 2007, Available at SSRN: https://ssrn.com/abstract=1137002

Gil-Bazo, Javier & RUIZ-VERDÚ, PABLO. (2009). The Relation Between Price and Performance in the Mutual Fund Industry. Journal of Finance. 64. 2153-2183. 10.2139/ssrn.947448.

Russell Kinnel: https://www.morningstar.com/articles/752485/fund-fees-predict-future-success-or-failure

FMA managed funds/ fees- https://www.fma.govt.nz/assets/Guidance/Managed-fund-fees-and-value-for-money-guidance.pdf

Malkiel, Burton G., Returns from Investing in Equity Mutual Funds 1971-1991. Available at SSRN: https://ssrn.com/abstract=6119

Goyal, Amit and Wahal, Sunil, (2008) The Selection and Termination of Investment Managers By Plan Sponsors. Journal of Finance, Forthcoming, Available at SSRN: https://ssrn.com/abstract=994304

Goyal, Amit and Wahal, Sunil and Yavuz, M. Deniz, Choosing Investment Managers (July 14, 2020). Swiss Finance Institute Research Paper No. 20-63, Available at SSRN: https://ssrn.com/abstract=3651476 or http://dx.doi.org/10.2139/ssrn.3651476

Cornell, Bradford and Hsu, Jason C. and Nanigian, David, The Harm in Selecting Funds that Have Recently Outperformed (February 25, 2016). Available at SSRN: https://ssrn.com/abstract=2732060 or http://dx.doi.org/10.2139/ssrn.2732060

Arnott, Robert D. and Kalesnik, Vitali and Wu, Lillian J., The Folly of Hiring Winners and Firing Losers (September 15, 2017). Journal of Portfolio Management, Vol. 45, No. 1, 2018, Available at SSRN: https://ssrn.com/abstract=3099723 or http://dx.doi.org/10.2139/ssrn.3099723

Philips and Kinnery Jr, (2010) Mutual fund ratings and future performance https://www.stat.berkeley.edu/~aldous/157/Papers/mutual_funds.pdf

Cuthbertson, Keith and Nitzsche, Dirk and O'Sullivan, Niall, Mutual Fund Performance: Skill or Luck? (February 15, 2005). Journal of Empirical Finance, 2008, Vol. 15, Issue 4, pp. 613-634. , Available at SSRN: https://ssrn.com/abstract=665744 or http://dx.doi.org/10.2139/ssrn.665744

Wermers, Russell R. and Jones, Robert W., Active Management in Mostly Efficient Markets (November 22, 2011). Financial Analysts Journal, Vol. 67, No. 6, 2011, Available at SSRN: https://ssrn.com/abstract=1963292

Warren, Geoffrey J., Active Investing as a Negative Sum Game: A Critical Review (January 22, 2020). Journal of Investment Management, Forthcoming, Available at SSRN: https://ssrn.com/abstract=3441036 or http://dx.doi.org/10.2139/ssrn.3441036

Tahn Sharpe- article on Geoff Waren view at Active advantage seminar 27/2/20 https://www.professionalplanner.com.au/2020/02/active-is-great-for-insto-so-so-for-retail-academic/

Scobie(2017)- Perils of Past Performance https://www.mercer.co.nz/our-thinking/wealth-and-investments/perils-of-past-performance.html

Bender, Jennifer & Briand, Remy & Melas, Dimitris & Subramanian, Raman. (2013). Foundations of Factor Investing. SSRN Electronic Journal. 10.2139/ssrn.2543990.

Wallick, Wimmer, Tasopoulos, Balsamo & Hirt (*2017 The Vanguard Group*) Making the implicit explicit: A framework for the active-passive decision

Swedroe, L. E., Grogan, K., & Lim, T. (2010). *The only guide you'll ever need for the right financial plan: Managing your wealth, risk, and Investments*. Bloomberg Press.