

PENSION SOLUTION COLLABORATION



Discretionary Investment Management Model Portfolios

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Pension Solutions Collaboration (PSC) is creating a discretionary fund manager (“DFM”) panel. The mission of the DFM panel is to provide investors with access to an investment service which was previously reserved for the very wealthy.

- a. The DFM panel provides a personalised, globally-diversified range of investment portfolios, each designed to create long-term wealth for investors with different attitudes to risk.
- b. To do this, they allocate capital proportionate to the investors’ risk profile to the best and most cost-efficient Exchange Traded Funds (“ETF”).
- c. They monitor and manage each portfolio continuously with their proprietary risk management technology. The proprietary risk management technology is provided to the DFM panel by PSC.

The DFM panel offers investors a convenient, cost-effective, transparent and intelligent way of investing.

What this means for you?

1. Convenience

The DFM panel offers the most convenient form of investment: private wealth management. This service was previously only available to very wealthy investors. What investors get from the service is full management of their investment assets so that they can concentrate on other important things in life.

2. Costs

Competitive fees are among the most important factors for a successful investment. The DFM’s provide investment management for 1.5% per year. This fee includes the investment management, account management, underlying ETF wrapper management costs and portfolio custody costs. The reason the DFM’s are able to offer the service at such a competitive price is that all unnecessary costs are avoided and replaced with the efficient use of technology.

3. Transparency

The DFM panels investment management is completely transparent. Firstly, there is a clear and understandable cost structure. Secondly, the independence from banks, fund providers and other stakeholders in the financial market enables complete transparency to focus 100% on the best interest of the clients.

4. Tax Wrappers

- General Investment Account
- ISAs
- Pensions: SSAS : SIPP : QROPs

5. You Can’t Predict Returns But You Can Predict Risks

“The essence of investment management is the management of risks, not the management of returns.”

- Benjamin Graham, Warren Buffett’s mentor

Risk is constrained via a weekly rebalancing of each model portfolio following a Value at Risk (“VaR”) volatility management strategy. The DFM panel applies cutting-edge technology, the latest research on capital markets and financial econometrics in order to continuously monitor the risk in each portfolio. Portfolios are highly diversified across multiple global asset classes. As volatility changes the technology makes adjustments to each portfolio to keep it within the VaR constraint. Instead of using static weights for different asset classes to approximate a certain degree of risk, the technology measures risk itself and adopts a systematic approach to asset class weights to ensure each portfolio truly reflects the investors downside risk exposure comfort level.

Countless empirical studies show: The selection of individual securities based on expected increases in value (so-called stock-picking) is not effective. Whilst returns cannot be predicted, risk can be predicted with reasonable accuracy. The DFM uses this structure in the market as the basis of its advanced risk management model, which historically has not been available to everyday investors in the retail market. The instruments in an investors personal investment strategy are assigned a percentage risk level which translates to a risk of loss, which should not be exceeded in 95% of all outcomes. If the model predicts that your portfolio may exceed this level then a risk-reducing portfolio reallocation is done automatically, for example, through reallocation of shares to bonds. Conversely, in periods of low market risks, the model will execute a risk-enhancing reallocation to increase the amount of risk in an investors portfolio up to their risk level. By doing this no return potential is wasted by having a portfolio which is too conservative.

Overall an investors investment risk is always controlled dynamically and does not just fluctuate in unison with the risks of the financial markets. To provide investors with optimal risk diversification, their money is invested globally into 8 major asset classes:

1. Equities
2. Government bonds
3. Corporate bonds
4. Real estate
5. Commodities
6. Systematically traded currency
7. Physical gold
8. Money market accounts.

The ETFs the DFM's invest in give access to all major asset classes with approximately 8,000 individual securities spread across over 90 countries.

A breakdown of the ETFs the DFM's invest in is available in the asset universe document.

In financial services, too much time and energy is spent trying to predict the future movements of asset prices. But countless empirical studies have shown it is impossible to do so. This is why stock picking and timing the market are hit and miss; they almost never achieve sustained investment success.

It is possible, however, to predict risk to a certain extent. Risk is not constant over time and can be seen to cluster, with changing phases characterised by high or low volatility, with higher volatility implying a potentially higher loss. The DFM's technology dynamically allocates an investors portfolio based on a quantitative measure of their risk appetite. The technology uses forward-looking Monte-Carlo projections, based on recent market developments, to measure the level of risk in the products an investor is invested in, and then reallocates their portfolio according to their risk category. In contrast to traditional wealth managers, the DFM's adopt a fluid approach to the weighting of asset classes in their portfolios. This is designed to enable investors to capitalise on markets where risk is rewarded and limit exposure to excess risk in more volatile conditions. This is an institutional class product using state-of-the-art technology, available to investors at a competitive cost. But, with all investing comes risk and investors must ensure that they have selected a risk category that they feel comfortable with, based on the risk categories their IFA and the DFM's have deemed suitable for them. Empirical studies have shown that fluctuations of consecutive price movements are highly correlated. This means that a day or month with higher than average volatility, is likely to be followed by a period of further volatility. This insight was originally developed by Benoît Mandelbrot and Eugene Fama. However, it was the scientific work of Robert Engle who helped to develop this from theory to models for risk forecasting; an achievement for which he was awarded the 2003 Nobel Memorial Prize.

The DFM's investment systems are programmed to apply a Nobel Prize winning strategy that aims to control downside risk, and has been proven in a study by Yale from November 2015 to improve risk-adjusted returns. The strategy manages the allocation % of each component within each portfolio on the basis of volatility.

Risk is constrained via a weekly rebalancing of each model portfolio following a VaR volatility management strategy.

Meaning that subject to the investors attitude to risk, the portfolio most suited to their situation and attitude will be maintained (with 95% confidence level) within an annualised VaR level as detailed below for each of the five portfolios. These VaR percentages are based on a one year time horizon.

6. Portfolio Annual 'Value at Risk' Levels

Cautious	VaR	-3%
Cautious/Moderate	VaR	-8%
Moderate	VaR	-13%
Moderate/Adventurous	VaR	-18%
Adventurous	VaR	-25%

Actively Managing Risk Using Data and Technology

The DFM's systems use cutting-edge technology in order to continuously monitor the risk in investors portfolios. This enables the DFM to apply a volatility management approach to each portfolio. Portfolios are highly diversified across multiple global asset classes. As volatility changes the system makes adjustments to each portfolio to keep it within the VaR constraint. Instead of using static weights for different asset classes to approximate a certain degree of risk. The software measures risk itself, adopting a fluid approach to asset class weights to ensure that each portfolio truly reflects investor downside risk exposure comfort levels.

Volatility Managed Portfolios

<http://faculty.som.yale.edu/tylermuir/documents/VolatilityPaper237.pdf>

Alan Moreira and Tyler Muir, November 23, 2015

The Report Conclusion

"Abstract Managed portfolios that take less risk when volatility is high produce large, positive alphas and increase factor Sharpe ratios by substantial amounts. We document this fact for the market, value, momentum, profitability, return on equity, investment factors in equities and the currency carry trade. Our portfolio timing strategies are simple to implement in real time and are contrary to conventional wisdom. Volatility tends to be high after the onset of recessions and crises when selling is typically viewed as a mistake. Instead, our strategy earns high average returns while taking less risk in recessions. We study the portfolio choice implications of these results. We find volatility timing provides large utility gains to a 'Mean-Variance' investor, with increases in lifetime utility ranging from 50-90%. We then study the problem of a 'Long-Horizon' investor and show that, perhaps surprisingly, 'Long-Horizon' investors can benefit from volatility timing even when time variation in volatility is completely driven by time-varying discount rate volatility"

Effective Risk Management Improves Performance, Because More Risk Does Not Always Lead to Better Returns

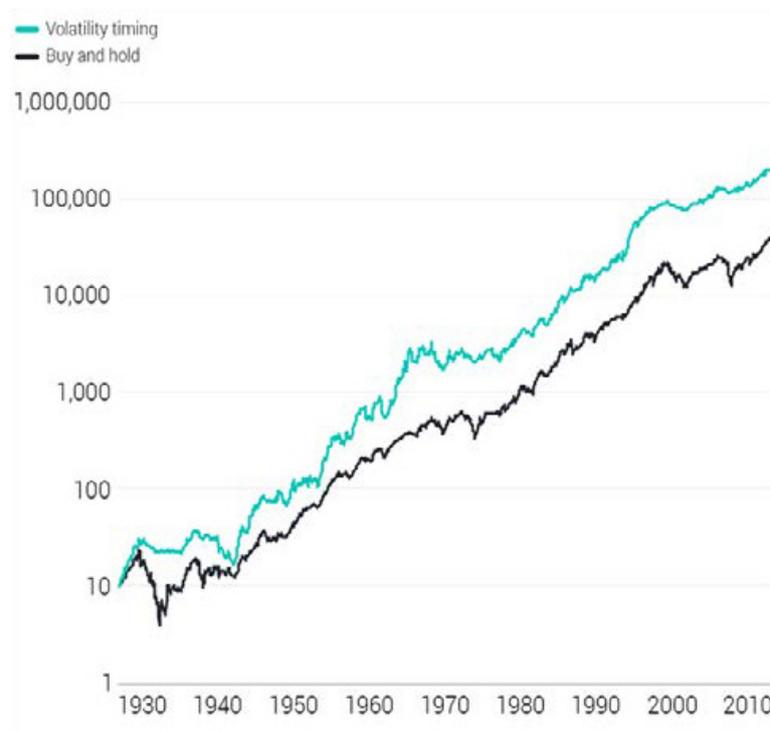
Investors cannot expect high returns unless they are willing to also accept a high level of risk. Asset classes with higher average long-term risk typically generate better returns than asset classes with a lower-risk profile (e.g., equities vs bonds). However, it would be wrong to conclude that more risk automatically leads to better returns, as the relationship between risk and return is more complex than that. Risk can effectively be broken down into two components: the "fundamental" risk which is characteristic for a particular asset class and changes very little over time, and the "short-term excess" risk, i.e. temporary risk fluctuations above or below the fundamental risk. These periods of excess risk are driven by the different levels of uncertainty about the future performance of an asset class. Asset classes with high fundamental risk usually generate better returns over longer investment horizons. So there is indeed a positive relationship between the level of fundamental risk and return. However, periods with positive excess risk frequently go hand in hand with lower, or even negative, performance. Investors are therefore, in the long run, rewarded for accepting a higher fundamental risk by investing into generally more risky asset classes but they are punished for taking on positive excess risk. The DFM's goal is to keep each portfolio within the risk category specified by the client by using a combination of different ETFs representing different asset classes. If the DFM's risk projections show a breach of the risk category due to a period of excess risk, the portfolio weights are adjusted automatically. This "smoothing out" of periods of excess risk aims to achieve better risk-adjusted returns.

Scientific Studies Identify A "Low-Risk-Premium" – a premium for investments in periods of lower uncertainty
Scientific studies suggest that a risk-based investment approach delivers better risk-adjusted returns than stock-picking and trying to predict returns.

See for example Haas and Mittnik (2009), Mittnik and Paella (2003) as well as Moreira and Muir (2016).

"If returns are not predictable by volatility, then one should vary one's investment according to volatility since this will allow the investor to reduce risk without forgoing returns" Yale scientists Moreira and Muir summarise in a recent study. They identify a "low-risk premium" that rewards investments in periods of normal and low market risk.

Within a time frame of 90 years (1926-2015), the researchers compared the performance of stock portfolios pursuing two different investment strategies. One strategy adopted a conventional "Buy & Hold" approach, the other followed a risk control mechanism that decreased exposure during high-volatility periods and increased it during low-risk periods.



The result: “In volatile markets, there’s a lot of additional risk that investors are exposed to and if they’re not being adequately compensated for that risk, then the right thing to do actually, is to exit”, concludes Tyler Muir, Professor of Finance at the Yale School of Management.

[Yale Study \(2015\): Risk-based Strategies Are More Successful Performance Comparison Buy & Hold vs. Risk-based Approach \(Logarithmic Scale\)](#)

Period: 1926-2015. Source: Moreira and Muir (Yale University, 2015)

Warning: Neither past performance nor performance projections are indicative for actual future performance. Please note our Risk Warnings.

Haas, M. und Mitnik, S. (2009), Portfolio selection with common correlation mixture models, in: Bol, G., Rachev, S.T. and Würth, R. (publishers), Risk Assessment: Decisions in Banking in Finance, Springer-Verlag. Kuester, K., Mitnik, S. and Paoella, M. (2006), Value-at-Risk Prediction: A Comparison of Alternative Strategies, Journal of Financial Econometrics, 4, 53-89.

Mitnik, S., and Paoella, M. (2003), Prediction of Financial Downside-Risk with Heavy-Tailed Conditional Distributions, in: Rachev, S.T. (ed.) Handbook of Heavy Tailed Distributions in Finance, Elsevier/North-Holland, 2003

Moreira, A., and Muir, T. (2016), Volatility Managed Portfolios. Working paper, February 2016, Yale School of Management.

7. Exchange Traded Funds

An ETF is a security (investment product) that follows an underlying component(s) of the market. For example, a share index, a commodity, a group of bonds or even a basket of assets. The way it works is that the ETF owns the underlying assets (shares of stocks, bonds, commodities, currency etc) and then divides the ownership of those assets into shares. This allows an investor in the ETF to indirectly own the assets which the ETF has invested in. A simple example of one of the ETFs we use in our portfolios is the Vanguard S&P 500 ETF. This ETF is set up by Vanguard to track the 500 Large Cap US stocks which make up the S&P 500. The DFM’s accesses ETFs via an instrument that tracks the ETF or via the physical purchase of the ETF.

The DFM’s selection of ETFs follows a comprehensive, multistage process. The most important quantitative and qualitative selection criteria are listed below:

- **Low Cost:** Cost avoidance is one of the most important criteria for long-term investment success. When selecting ETFs, the DFM’s pay particular attention to the key figures such as Total Expense Ratio (“TER”) and the Ongoing Charges Figure (“OCF”), both of which indicate the total cost of tracking the index.

- **High liquidity:** ETFs with low trading liquidity generally have bigger bid-ask spreads, which increases the trading cost. The DFM's focus on ETFs with large investment volumes and several market makers to ensure the best possible liquidity and to minimise trading costs.
- **Low Tracking Error:** The tracking error indicates the accuracy with which the ETF tracks the index. The DFM's choose ETFs with minimal deviation from the performance of the underlying index. This ensures that their portfolios accurately capture the performance of each index.
- **Adequate Diversification:** ETFs usually track very broad market indices which often include hundreds or thousands of individual stocks. This broad risk diversification allows access to the fundamental return drivers of each asset class without taking high individual risks. However, very broad-based indexes also contain a so-called long-tail, i.e. a number of smaller companies with lower liquidity and higher trading costs. The DFM's ETF selection process ensures a balanced and favourable ratio between risk diversification and implicit trading costs.
- **Appropriate Replication Method:** DFM's seek to use 'physical' replication of the underlying index. Physical replication of the index means the index is replicated by buying the individual index components (for example, the FTSE 100 ETF is made up of the 100 stocks in the FTSE 100). The DFM's try to only use physically replicating ETFs.

8. Summary

The DFM's offer investors the unique opportunity to access an investment service which was previously reserved for the very wealthy.

The DFM's will create an investor's portfolio by selecting a combination of different asset classes spread across the globe, risk will be constrained within an investor's portfolio according to their VaR risk tolerance level. An investor's portfolio will be rebalanced on at least a weekly basis according to volatility measurements.

9. Risks

Risk is about the probability and possible extent of losses of an investment. An investor must accept the possibility of taking losses in the investment process.

Relationship between Return, Security and Liquidity

To be able to choose an investment strategy, an investor should understand the importance of the three pillars of successful investing:

- Return is the measure of economic success of an investment which is expressed in gains and losses.
- Security aims at preserving the value of the investment. The security of an investment depends on the risks associated with that investment.
- Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price.

Return, security and liquidity are inherently linked. A secure and liquid investment will, as a general rule, not generate high returns. A secure investment generating relatively high returns will probably not be liquid. A liquid investment generating high returns will regularly provide a low security. All in all, an investor must weigh these goals against each other depending on his/her individual preferences as well as personal and financial circumstances.

Managing Portfolio Risk

Although, it is not possible to predict what is going to happen in the future, it is possible to manage investor exposure to different risks within their investment portfolio, to a certain extent. The DFM's role is to design portfolios that can withstand shocks whilst still offering the opportunity for returns. However, market conditions may limit the DFM's ability to trade certain assets in investor portfolios. Diversification is one way in which portfolio risk is managed. This is because different classes of assets are affected by different risks to different degrees. If the risk is spread across many different assets and asset classes, it is unlikely to affect all at the same time and to the same degree.

General Risks

There are general risks to which all asset classes, financial instruments and financial services are exposed to and which may lead to a financial loss. Some of these risks are:

- **Economic risk:** The economic development moves in cyclical fluctuations. Cyclical downturns can reduce the value of your investment substantially.

- **Inflation risk:** Money is subject to decrease in value due to inflation.
- **Country risk:** The government of a country may exert influence on capital movements and the transferability of its currency and, thus, hindering a debtor to fulfill its obligations. If an investment includes assets affected by this risk, a loss might be suffered.
- **Currency risk:** This is a form of risk that arises from the change in price of one currency against another. An investment might decrease in value even though the underlying asset has not decreased in value.
- **Liquidity risk:** Some investments may not be liquid and, thus, may not be sold ad hoc or sold only with reduction in value. If these investments must be sold on short notice, a loss might be suffered.
- **Cost risk:** Banks, credit institutions and financial services companies charge various costs which may substantially reduce the performance of an investment over time.
- **Tax risk:** Gains generated by investments in capital markets are subject to taxes and/or other fiscal liabilities. Changes of the law might lead to an unexpected value decrease of an investment.
- **Risk of leveraged investments:** Leveraged investments lead to increased risks in investing. If an investment decreases in value, an investor might not be able to cover interest or repayment claims.
- **Risk of incorrect information:** Investors may make misguided investment decisions due to missing, incomplete or incorrect information and, thus, suffer a loss.
- **Risk of self-custody:** Self-custody increases the risk of losing the documents underlying the relevant security and missing important deadlines (as no custodian keeps track of them).
- **Risk of custody abroad:** Securities purchased abroad are often kept safe by third parties chosen by the custodian. This may lead to higher costs, longer terms of delivery and uncertainties regarding foreign jurisdictions. In particular, in case of insolvency of or other measures of enforcement against the third party safekeeping the securities the access to the securities might be impeded or made impossible.

Risks of Different Asset Classes

Shares

Shares constitute an equity stake in a company. The value of shares is derived from dividing the value of a company by the number of shares which it has issued. Owning shares does not mean that the shareholder has direct control over the day-to-day operations of the company, however, depending on the class of share, it generally entitles to an equal distribution in any profits declared in the form of dividends.

Shares are, inter alia, subject to the following risks:

- **Price risk:** The price of a share is determined by supply and demand and may be influenced by the general economic risk as well as specific risks pertaining to the company itself. This may lead to a decrease in the value of the share. The development cannot be systematically predicted.
- **Insolvency risk:** As shareholders' claims are generally the last ones fulfilled in case of insolvency, shares are considered a high-risk investment.
- **Dividend risk:** A dividend is a payment made by a company to its shareholders, usually as a distribution of profits. Due to a poor economic development of the company or a decision of the board not to disburse dividends, a shareholder may not receive any dividends.
- **Risk of changes in interest rate:** Prices of shares might be substantially affected by changing interest rates.
- **Liquidity risk:** Prices for shares traded on exchanges are usually available on daily basis. However, for various reasons trading might be temporarily disrupted and, thus, you might not be able to sell shares on short notice.
- **Bonds:** The term bonds refers to a wide range of interest bearing securities freely tradable. Bonds are issued by companies, public institutions and/or governments. In contrast to shares, bonds do convey an interest. The entity which issues the bond (issuer) is effectively taking out a loan, under which it agrees to pay a fixed or floating rate of interest (coupon), and the full value of the bond (principal) when it reaches maturity. Though the value at maturity remains constant, the tradable value is susceptible to change. This can be influenced by interest rates, inflation and the outlook of the creditworthiness of the corporation or country which issued the bond.

Bonds are, inter alia, subject to the following risks:

- **Counterpart risk:** If the issuer of bonds is partially, or in total, unable or fails to honour its obligations, the investment may suffer a corresponding loss. As secured financial instruments, covered bonds, address this risk.
- **Inflation risk:** If inflation and/or inflation expectations increase, then the value of the investment may decrease and the investor may ultimately suffer a loss.

- **Risk of changing interest rates:** The market interest rate is material for the value of a bond, because bonds might become less economically attractive in times of increasing interest rates and, thus, decrease in value. If sold before maturity, the owner may suffer a loss.

Commodities

A commodity is a basic resource which can be used in the production of another good or service. Commodities are split into four major classes: agriculture, energy, metals and livestock. Investments in commodities are referred to as alternative investments. In contrast to shares and bonds, trading of commodities is usually taking place without ownership in commodities actually being transferred. Rather, commodities are replicated by derivatives which then in turn are traded. By trading through derivatives, hurdles such as transport, storage, insurance of goods are set aside and only the value of the commodity is being traded. However, it adds counterparty risk to the risk profile. If the investor wants to invest in a single commodity, he/she must purchase a security which reproduces the performance of that Exchange Traded Commodity ("ETC"). As with ETFs, ETCs are traded on exchanges. However, there is an important difference: The capital invested in ETCs does not form part of the fund's assets which are protected from insolvency of the issuer. Thus, ETCs are always subject to a counterparty risk against which the issuers implement different hedging mechanisms. The relevant factors for choosing ETFs explained below apply accordingly to ETCs.

Commodities are, inter alia, subject to the following risks:

- **Economic risk:** In general, investments in commodities are subject to the same market fluctuations as direct investments in commodities. Prices of commodities are influenced besides general market movements by a wide range of other factors and, thus, are generally considered as being rather volatile and high-risk.
- **Counterparty risk:** If the issuer of a commodity derivative is partially or in total unable or fails to honour its obligations from the derivatives contract, the investment may suffer a corresponding loss.

Foreign Exchange

Investments denominated in a foreign currency are a possibility to diversify an investor's portfolio. In addition, investments in all other asset classes might be associated with foreign currency risks.

Investments in foreign currency are, inter alia, subject to the following risks:

- **Exchange rate risk:** Changes in the exchange rate of different currencies may have a substantial influence on the performance of an investment. Even in the event of the investment performing well, the value might deteriorate for individual investors due to unfavorable exchange rates.
 - **Risk of changing interest rates:** Changes in the rate of interest in the investors' domestic market or foreign market may cause changes in the exchange rate due to considerable capital movements.
- Regulatory risk:** Regulatory authorities (e.g. Central Banks) play a decisive role in the fixing or management of its country's exchange rate. They might intervene for macroeconomic reasons. This poses additional risks hard to foresee for the individual investor.

Real Estate

Real Estate as an asset class may comprise investments in residential, commercial as well as special purpose real estate. The investment may be made directly by acquiring real property or indirectly by investing in real estate funds, Real Estate Investment Trust (REIT) or real estate companies.

Investments in real estate are, inter alia, subject to the following risks:

- **Return risk:** The (direct) investment in real estate requires substantial financial resources. Amortisation takes place by renting out the real estate. This periodic return can easily be interrupted which may endanger the timely amortisation of the investment.
- **Valuation risk:** The valuation of real estate is subject to various uncertainties. In addition, there are regionally segmented markets. Thus, there is substantial risk of paying too much for the purchase of a property or changing valuations due to a change in the environment.
- **Liquidity risk:** Real estate is a relatively illiquid asset class. The sale process might take a considerable period of time.
- **Transaction costs:** The process of valuation, sale/purchase and transfer causes relatively high costs compared to investments in securities.
- **Exchange rate risk:** Indirect investments in real estate may be subject to the general exchange rate risks

Open Ended Funds and ETFs in Particular

Open-ended funds are a collective investment scheme which can issue and redeem shares at any time. It contrasts with a closed-end fund, which typically issues all available shares at the launch of the fund, with such shares usually only being tradable between investors thereafter. ETFs are a special form of an open-ended fund. ETFs are a passive investment instrument which seek to track the performance of a particular index, such as the FTSE 100. They provide exposure to the performance of a pool of stocks, bonds or other asset classes included in the index, as well as different regions and sectors. Shares of ETFs are traded on an exchange and, thus, are rarely purchased from the issuer itself.

Major Characteristics of ETFs

- **Diversification:** ETFs provide simple and easy means of diversification. They do so as an investment in an ETF is akin to buying a small proportion of each component which makes up the relevant index. Since this takes place in a single transaction, considerable time and transaction costs are saved.
- **Low Costs:** The total expense ratio ("TER") of ETFs are significantly lower than those of traditional funds.
- **High Liquidity and Transparency:** During exchange hours an ETF is continuously priced and traded, meaning it is liquid, provided the ETF is well established and of big enough size. Furthermore, the constituents of the ETF can be monitored and its performance can be compared to the benchmark index.

Major Factors for the Selection of ETFs

- **Low Costs:** The costs of an ETF as indicated by the TER among others (external trade costs, bid-ask spreads, taxes, etc.) should be considered.
- **High Liquidity:** Certain ETFs are more liquid than others. An investor should pick ETFs which can be easily and readily traded.
- **Method of Replication:** Often ETFs which physically reproduce an index are preferred due to this being a robust form of replication.
- **Low Tracking Error:** ETFs which closest align to the performance of the index should be chosen.
- **Diversification:** An ETF replicates a specific index. A broad diversification generally reduces risk, but may also lead to higher trading costs (i.e. in illiquid assets). When choosing an ETF one should consider the ones with a healthy balance between diversification and appropriate trading costs.

Risks of ETFs

- **Underlying Price Risk:** The price of ETFs will fluctuate, reflecting changes in the value of the underlying assets or derivatives, so the value of your investment may increase or decrease. If a large amount of derivatives are used, the risk profile of the ETF may differ significantly from physically replicating ETFs.
- **Counterparty risk:** If the counterparty of a derivative contract gets into distress, the value of an ETF investment might be affected. Providers may take measures such as using multiple counterparties or holding collateral, so if one counterparty defaults they can draw the collateral to pay returns to investors.
- **Tracking error:** ETFs possibly under perform the index or benchmark they are tracking over the longer term because of the impact of fees and other costs. The tracking error varies between different ETFs depending on the approach chosen to replicate the index.
- **Currency:** An investor's portfolio will be valued in Pounds Sterling (GBP). If an ETF's underlying investments are in a currency different to the denominated currency of the ETF, there will be embedded foreign exchange risk meaning that, for example, an index might rise but its currency might fall against GBP resulting in a different return for the ETF investor.
- **Tax:** Tax laws are subject to change which could affect investments in the future. In some cases, an investor may incur income tax on their proceeds when they sell rather than capital gains tax.
- **Market Timing:** As ETFs trade continuously during exchange opening hours there is a risk that ETF transactions are executed outside of the normal market hours of the underlying fund constituents. This could affect the performance of the ETF relative to the index constituents.
- **Liquidity:** Some ETFs or their underlying fund constituents might be traded with limited volumes. There is a risk that transactions to buy or sell such securities might have a negative impact on their prices. In addition, a lack of liquidity can lead to a delay in the execution of transactions or may limit the extent to which a transaction can be executed. ETF trading may also be suspended due to the closure of the underlying market or due to the fund winding down.

Risks of Financial Services

For investing in capital markets, different financial services are available in the market. All of them are subject of certain risks and conflicts of interest.

- **Execution only trading:** The client makes his/her own investment decisions which are merely executed by the financial service provider. The client does not explain his/her circumstances to the financial service provider and the financial service provider does not give advice related to these transactions. The client risks making misguided investment decisions.
- **Investment advice:** Investment advice is a personal recommendation that attempts to assist an investor regarding particular financial products and investment strategies. However, the adviser does not have ultimate discretion to execute the transactions. Some advisors are not fully independent and offer only restricted advice. This is where they advise on only a small portion of the total available market.
- **Investment management:** An investment manager has discretion over both asset allocation and individual security selection in relation to the assets held in the client's portfolio. The investment manager shall act in the client's best interest. However, the investment manager may make misguided investment decisions or even behave fraudulently. Before providing the investment management services, the investment manager must assess the client's individual risk preferences as well as personal and financial circumstances.