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Meeting Client Suitability Requirements in Robo-Investing

Mike Knezevich
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Outline

- Effect of regulations on wealth management industry
  - FCA study and financial consequence
  - New regulations with MiFD II(Markets in Financial Instruments Directive)
    - Are wealth managers prepared?
- Discuss options for measuring suitability
  - Analytical Hierarchy Process (AHP)
  - Discretionary Wealth Hypothesis (DWH)
- Portfolio construction:
  - Risk aversion
  - Panama Papers and Taxes
  - Robo-advisor

2011 FCA Wealth Management Review

Dear CEO

This letter requires your immediate attention. It asks you to respond to the FSA by 9 August 2011.

Wealth management review

We have recently reviewed the suitability of client portfolios in a sample of firms in the wealth management industry. We have identified significant, widespread failings, which we are concerned may also be prevalent in firms outside our sample. In this letter we explain the issues we have identified and ask you to consider whether your firm meets – and can demonstrate that it meets – our suitability requirements.

Results from our review

- 14 out of 16 firms were judged to pose a high or medium-high risk of detriment to their customers, based on the number of client files which had a high risk of unsuitability or where the suitability could not be determined.
- Overall, 79% of files reviewed had a high risk of unsuitability or the suitability could not be determined.
- 67% of the files reviewed were not consistent with one or more of the following: the firm's house models; the client's documented attitude to risk; and the client's investment objectives.

We are involved in ongoing regulatory action with these firms to mitigate these risks. However, as a result of our findings some firms have already put in place major rectification programmes.

Costly Consequences

- According to FCDA documents, In 2013 J.P. Morgan International Bank Limited ("JPMIB" or "the Firm") was levied a financial penalty of **£3,076,200**.
  - *During 2010 and 2011 JPMIB was reviewed as part of an FCA thematic project on wealth management firms and suitability of advice, which led (or should have led) to a heightened awareness in the wealth management sector of the importance of* ***ensuring suitable outcomes for clients*** *and resulted in the issue of a 'Dear CEO' letter to wealth management firms on 14 June 2011.*
  - *JPMIB failed to comply with Principle 3 and SYSC 9.1.1R between 1 January 2010 and 17 February 2012. During the Relevant Period JPMIB failed to take reasonable care to organise and control its affairs relating to its provision of retail investment advice and portfolio investment services responsibly and effectively, with adequate risk management systems.*

Increased Regulations Introduced

- An agreement on the rules for MiFID II were made on January14,2014 to be implemented in January 2017.
- February 10, 2016, a one year extension was proposed moving MiFID II implementation date to January 3, 2018.
  - In a recent Citywire article "Brussels confirms Mifid II delay" By Jonathan Yarker 2016 citing concerns by regulators that..

    In February this year, the European Commission proposed delaying the regulation amid growing concern that the ***financial services industry was not ready to adopt it into domestic law****.*

- To summarize regulatory impact "***You can no longer call up your client and give them a 'hot tip' on a stock, the suggested investment must be suitable to their investment plan***".
  - Unfortunately cannot remember to whom I owe credit for this quote but perfectly summarizes the impact of regulations in investment management.

"Suitability" as a Hurdle to Wealth Managers

- In a 2014 Investment Week article entitled "Wealth managers hit out over 'crippling' suitability requirements" author Laura Dew interviewed wealth managers to understand the impacts of regulations.
  - A client suitability report must "…specify a client's demands and needs, their attitude to and capacity for risk, as well as explaining why the firm has recommended a transaction, and any possible disadvantages for the client. Firms must then maintain suitability records for several years."
    - Based on these inputs advice must replicable at any point in time. If a regulatory investigation or legal actions occurs, manager must be able to prove it was the best advice at that point in time.
  - One anonymous senior investment manager at a leading wealth management company interviewed for the article was quoted as saying "…each report takes a minimum of four hours per client…" "Suitability is crippling the firm."

FCA and Robo-Advisory

- In 2016 FT article by Naomi Rovnick and Emma Dunkley "FCA proposes reforms to close 'advice gap'" the authors highlight the finding of the Treasury and FCA's 85 page study "Financial Advice Market Review: final report"
- Findings:
  - "half of consumers think that pensions are difficult to understand"
  - "fewer and fewer people have access to affordable financial advice, at a time when more and more people need it."
  - "The high cost of advice is blamed by many for the "advice gap", with the FCA finding that more than 85 per cent of investors were not willing to pay more than £200 for online advice. At the same time, advisers are unwilling to advise those with limited assets, with 69 per cent reporting they had turned away potential clients in the past year."
- Early 2016 the FCA approved the use of Robo-Advisory services to bridge this information gap for smaller investors who could not afford advice

What is Suitability?

- DEFINITION of 'Suitable (Suitability)' A situation (and sometimes a legal requirement) that an investment strategy meets the objectives and means of an investor. In most parts of the world financial professionals have a duty to take steps that ensure that an investment is suitable for a client. –Investopedia
- FCA defines "Good practice":

> **Good practice**
>
> A firm used one process to assess the customer's attitude to risk and a separate process to assess the customer's capacity for loss ensuring both were appropriately considered as part of the suitability assessment.

  - Client's financial capacity to afford to take risk
  - Client's appetite for taking risk

Suitability: Capacity to Afford Risk

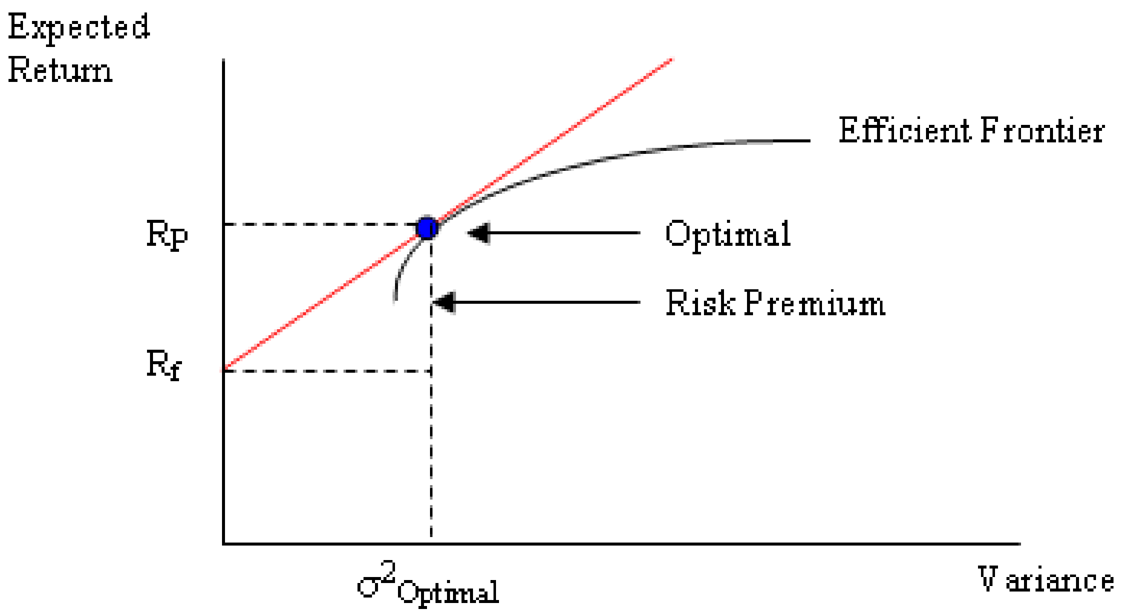
Markowitz provided a way to determine the most optimal portfolio in risk - return space:

Max $\quad U = \alpha - \lambda\,\sigma^2$

- U is the investor's utility (satisfaction) from the portfolio
- α is the mean return
- λ is the investor's risk aversion
- σ is the standard deviation of return

The λ value represents the slope of a line drawn tangent to the efficient frontier so as to intersect at the chosen portfolio

A Simple and Elegant Solution!



- Or is it? Does this simply elegant solution represent everyone's risk aversion?

Discretionary Wealth Hypothesis (DWH)

- In 2003 Jarrod Wilcox wrote his paper "Harry Markowitz & the Discretionary Wealth Hypothesis"
- Abstract:

*In his 1959 book, **Harry Markowitz showed how return mean and variance combined to determine expected long-term growth rate of capital**. But the maximization of that **growth rate seemed to fit the risk preferences of only a narrow range of aggressive investors** with no concern for shortfalls. This paper **generalizes that goal to both conservative and aggressive investors by mapping the distribution of returns on total wealth to that of returns on discretionary wealth**. It also broadens the definition of risk to include return skew and kurtosis where required, fully encompassing the concept of downside risk. The resulting change in frame of reference extends Markowitz's criterion to many practical investment decisions involving maximizing long run wealth while controlling the probability of shortfalls along the way.*

DWH and Utility

- Using a household balance sheet to determine the discretionary wealth of an individual client or household, we can estimate the individualized risk aversion parameter λ^* :

  $\lambda^* = T / (2 * (T-L))$

  - λ^* = optimal value of risk aversion
  - T = the total assets on the life balance sheet
  - L = the total liabilities on the life balance sheet

  - Problem: DWH is purely a financial solution, but just because someone can afford to take risk does not mean they want to.

Measuring Investor's "Appetite for Risk"

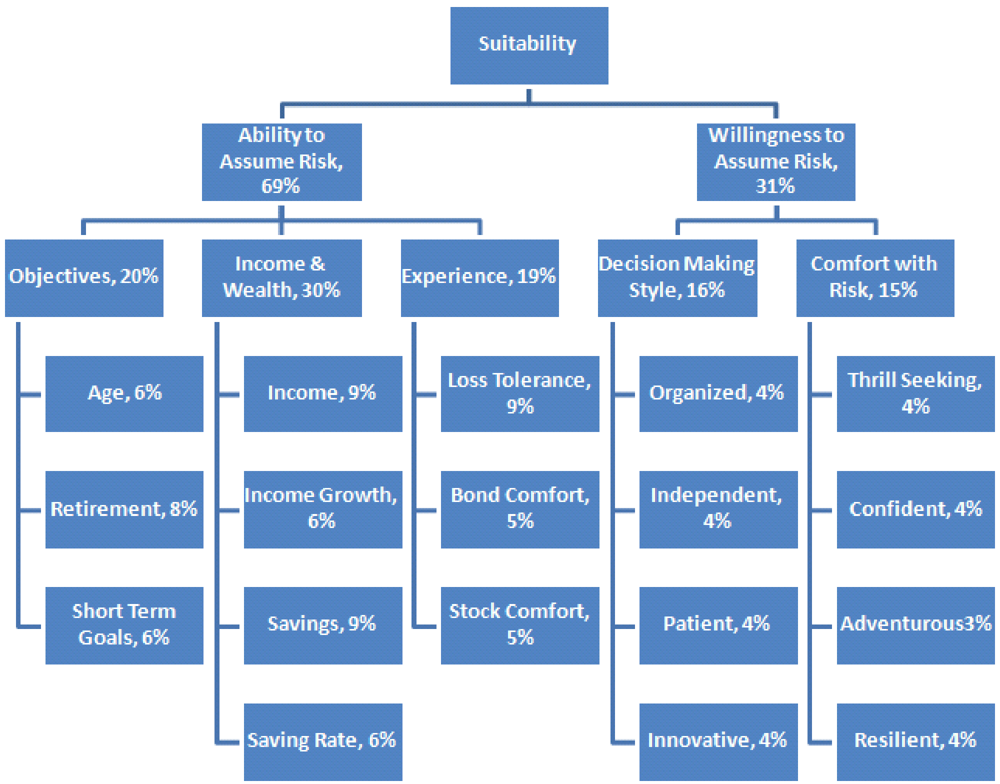
- The **analytic hierarchy process** (**AHP**) is a structured technique for organizing and analyzing complex decisions, based on mathematics and psychology. It was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. –Wikipedia
- Northfield has pioneered the use of AHP in wealth management
- Why its important?
  - Assume we have two investors with the same discretionary wealth. Under the DWH the investors are financially capable of taking the same risk.
  - What if the appetite for risk is different?
  - AHP takes qualitative information (psychology) into account to mathematically determine investor suitability.

AHP Step by Step

1. Develop question categories to help focus the client on the purpose of this group of questions.
   - What is the client's ability to assume risk?
2. Develop a number of questions for each category.
   - Given investor's experience how tolerant are they to losses? Investing in bonds? Investing in stocks?
3. Split the responses for each question into levels, five being typical
   - 1-highly experienced, 5-average experience, 9-highly inexperienced.
4. Assign weights to each question.
   - Experience is 19%
5. Define the set of investments available to the investor such as a range of asset classes, mutual funds or structured products
   - Universe of available investment products is based on the wealth manager. We assume these are vetted investment options.

An AHP Illustration

Figure 1



Reproduced from Bolster, P. and S. Warrick, "Matching Investors with Suitable, Optimal and Investable Portfolios", Journal of Wealth Management, 2008.

How Qualitative becomes Quantitative

- For each combination of asset class and question response level, we assign a suitability ranking.
- The suitability ranking is an integer ranging from 1 (most suitable) to some chosen upper limit. Normally the upper limit is 9, but sometimes we use 99 to ensure minimal exposure.
- If there are twelve asset classes, five response levels and seven questions, we have: – Ratings = 12 • 5 • 7 = 420 suitability judgments – Some are automatic: If A>B and B>C then A > C

AHP Asset Allocation

- Based on responses to the questions and weights assigned to each question we can now determine the investor's suitability within each asset class

Sectors

	Name
1	Cash
2	Investment Grade Bonds
3	High Yield Bonds
4	TIPS
5	Non US Bonds: Developed
6	Non US Bonds: Emerging
7	US Equities
8	Non US Equity: Developed
9	Non US Equity: Emerging
10	Real Estate
11	Commodities

Fund US Equities **Question:** Emerging Markets

	Questions	A1	A2	A3	A4	A5
1	Duration of Liabilities	7	3	1.5	1	1
2	Spending Requirements	7	3	1.5	1	1
3	Inflation Protection	5	5	5	5	5
4	Domestic tilt	1	3	5	7	9
5	Real Estate Exposure	9	9	9	9	9
6	Commodities Exposure	9	9	9	9	9
7	Emerging Markets	9	9	9	9	9

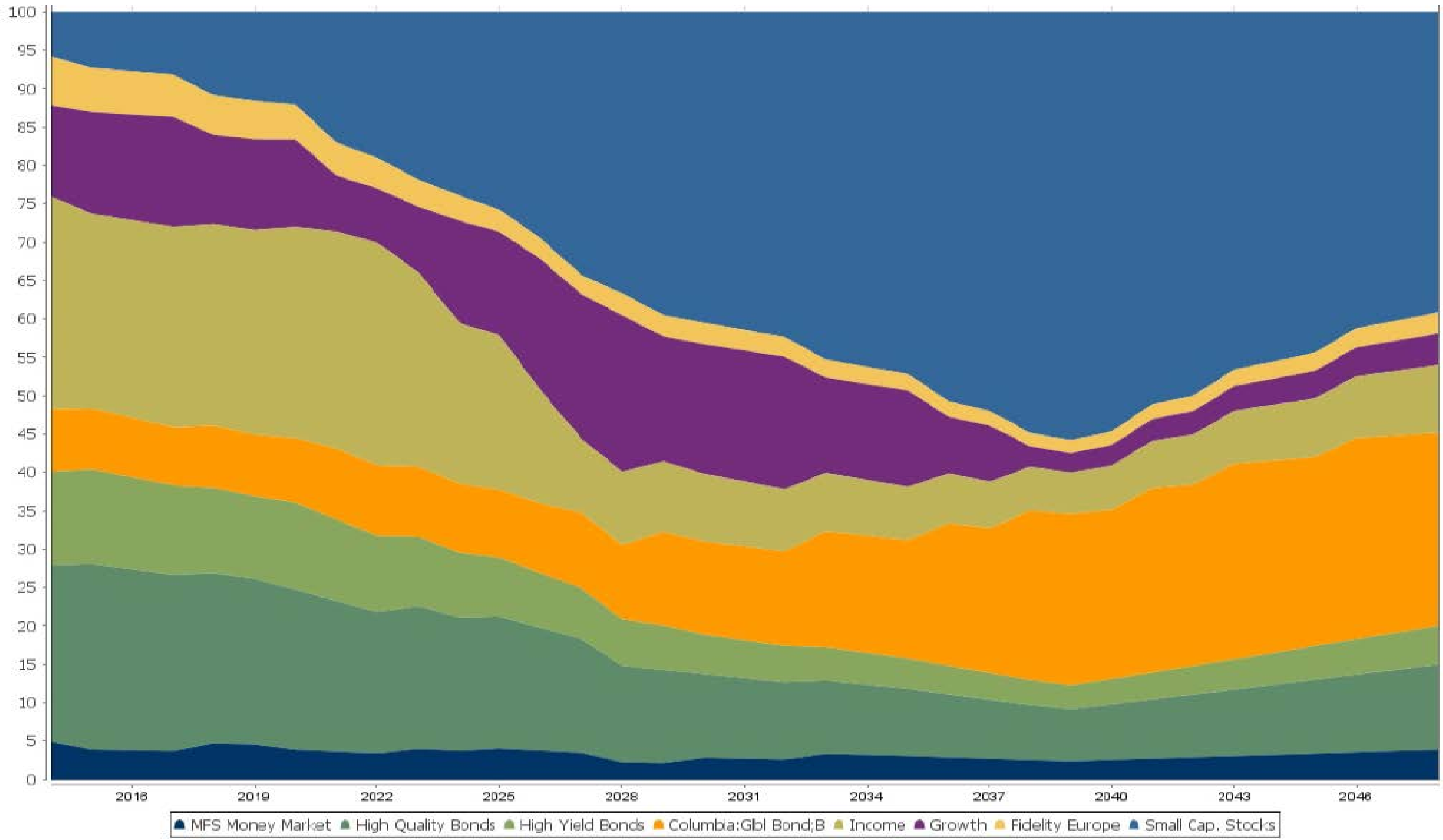
Differentiating Risk Capacity to Appetite

- Lets revisit our two investors with the same discretionary wealth making them financially capable of taking the same risk, but lets now introduce one's preference to be less tolerant to losses.
- Also remember regulators suggestion for "Good practice"

> **Good practice**
>
> A firm used one process to assess the customer's attitude to risk and a separate process to assess the customer's capacity for loss ensuring both were appropriately considered as part of the suitability assessment.

- We can measure both an investor's financial capacity with their appetite for risk by combining the suitability measures.
  - Bayesian adjusted with AHP as the prior.

Investment Plan Based on Combined Suitability



What does this have to do with Robo-Advising?

- Remember our anonymous senior investment manager: “Suitability is crippling the firm.”
- Whether it is working with the investor directly (full service), allowing the investor to provide the information via a website (robo-advising) or anything in-between.
- With some typical financial data from the investor and a questionnaire we just automated a measurement of suitability from which we can create portfolios.
- We also have an investment plan by which an advisor can compare a suggested “hot tip” investment to the investor goals.
- With these inputs at the individual inventor level an automated investment portfolio construction process may be implemented on a large scale.

Beyond Regulation

- Up to this point I have discussed how to automate the incorporation of suitability to adhere to regulation for an individual investor.
- Another FCA “Good practice”:

Good practice

A discretionary management firm had a number of standardised initial asset-allocations. Portfolio managers had flexibility to tailor the solutions to individual customer circumstances. If they wished to make more changes than the limits allowed, the investment selection needed further sign-off. This prompted each portfolio manager to consider whether each investment selection was in the best interests of the customer.

- Why stop at individualized suitability? Customizing a portfolio to suit a investor’s particular needs provides a higher level of service and greater fit to achieve their goals.

Mass Customization

- Customizing portfolios becomes a costly proposition, particularly for smaller accounts. There is little economic incentive to align portfolios into client specifications.
- “Mass Customization” is the concept of automating the manufacturing of individual portfolio.
  - Start with a model portfolio which best represents the firm’s investment skills and implementation cost.
  - Take into consideration inventor's:
    - Suitability measures
    - Stock and index constraints
    - Taxes situation
  - End up with customized portfolio using the firms best investment ideas coupled with the investor’s particular circumstances.

And “Tax has never been so sexy”

- Panama Papers is a data leak from Panama law firm, Mossack Fonseca who created multiple shell corporations. Although legal entities are some times set up for illegal purposes such as fraud, tax evasion, and evading international sanctions.
- Without stealing the content of upcoming webinar:
  - With the release of the Panama Papers expect more scrutiny from tax authorities.
  - A massive inflow of previously hidden money during the amnesty periods in different countries.
- The ability to construct tax efficient portfolios will provide a competitive advantage in a more tax sensitive environment.
  - US banks are already well positioned to handle tax efficient investing

Conclusion

- The wealth management industry is becoming more regulated
- At the same time investors need more advice in managing their investment accounts.
- Time and resources needed to provide the necessary advice, particularly to smaller investors, is cost prohibit for wealth managers.
- Automating the portfolio construction process can provide the necessary individualized advice in a cost efficient manner.
  - Determining suitability
  - Customizing to a investor's particular objectives
- Improves adherence to regulations as well as client services