Which performance measurements are of major importance to clients in their investment decisions?

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Preface

The final part of the graduate program of the discipline Business Mathematics & Informatics consists of doing an internship at an institute or company. The objective of this internship is to solve a real world problem by means of the knowledge gained during the preceding years of the discipline, emphasizing the three key components of the BMI study: economics, mathematics and informatics.

My internship took place at ABN AMRO Asset Management, which is a company that manages the wealth of both private individual clients and institutional clients. The objective was to acquire a better understanding and more insight into the client's wishes with regard to funds, while focusing especially on the various performance representations that play a role in the investment decisions of clients. An additional objective was to construct a flow predictor which is capable of both predicting future flows and giving insight into the realization of predictions and hence the drivers of the client's flows.

I have tried to explain the interesting findings of my internship as clearly and thoroughly as possible. If there are any notes or suggestions regarding this thesis, I would sincerely like to hear them.

I would like to thank my supervisor from ABN AMRO Asset Management, Tjemme van der Meer. Without his time and help this thesis would never have been completed. His enduring enthusiasm and continuous new insights helped me to get the most out of this internship. I would like to thank my supervisors of the Vrije Universiteit, Wojtek Kowalczyk and Harry van Zanten for their guidance and their extremely valuable feedback.

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Finally, I would like to give special thanks to Ronald Kolk, Koen Munniksma, Anne Schoemaker and the members of my family for their friendship, support and help.

I look back on this internship with great pleasure. I sincerely hope that you will enjoy reading this thesis as much as I enjoyed writing it.

With kind regards,

Koen van den Bergh
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1. Introduction

The history of ABN AMRO Bank N.V. dates back to 1824. Today it belongs to the 13 largest banks in the world. ABN AMRO offers employment to more than 110,000 people. With 986 USD bln ($986 * 10^9$) in total assets, the bank has a strong and vital position.

ABN AMRO Asset Management (AAAM), one of the business units of the ABN AMRO Bank, is a separately organized division that manages in total 192 EUR billion ($192 * 10^9$) in assets (as of September 30th 2006). The headquarters of ABN AMRO Asset Management are located in Amsterdam and London. Other major establishments are situated in Atlanta, Chicago, Hong Kong and Singapore. Currently, there are over 1600 employees who are working at the business unit Asset Management. These co-workers are dispersed over 24 countries.

The business unit Asset Management invests the wealth of private individuals and institutional clients such as central banks, pension funds and insurance companies. Roughly said, investing this wealth is done in two ways: either the client retains his own portfolio ('mandate'), or the client's assets are pooled into a fund. Mandates are custom-made investment solutions solely accessible to the richer clients. By contrast, funds are accessible to any type of client. There are about 300 funds managed by portfolio managers in which money can be invested.

Clients invest their money in funds/mandates for several reasons. For instance, a particular client may prefer to safely invest his/her property with the objective to secure his/her pension savings. Such a client is very conservative in its investment decisions since his retirement pay is at stake. Another client may be interested in gaining high profits without considering the risk involved. Whatever the client's investment purpose may be, ABN AMRO is expected to support clients in realizing their plans. As long as the client is content, he remains loyal to ABN AMRO. Consequently, one of the main objectives of ABN AMRO is keeping clients satisfied.

Generally speaking, clients are satisfied if their funds perform well, i.e. if the funds show profits. Preferably, these profits are as high as possible and should be competitive to the profits offered by its peers. If this is not the case, clients may decide to withdraw their possessions and choose (a fund of) a different asset manager. In times of bad conjuncture it might be impossible to gain profits; in this case ABN AMRO should minimize losses.

ABN AMRO Asset Management makes profits by means of fixed management fees (as a percentage of Assets under Management - AuM), and to a limited degree by charging a percentage of the profits gained ('performance fee'). Consequently, ABN AMRO Asset Management benefits from funds that perform well. Top performing funds provide advantages to ABN AMRO Asset Management indirectly if / when it leads to increased AuM.

Therefore, we can say that all parties involved profit from funds that perform well. Portfolio managers do their best in managing the fund's assets. Armed with knowledge, instincts and perseverance they continuously attempt to beat the market and gain the highest profits possible within their risk parameters. Nevertheless, they do not always succeed in achieving this objective. After all, there is no such thing as a free lunch, i.e. high profits and high risks often go hand in hand. In order to restrict the risk exposures, they are monitored on a daily basis. The risk figures are supervised by multiple decentralized risk departments (five or six globally dispersed departments), that are connected to the accompanying local portfolio management departments.[1] Furthermore, there is a global risk department which is called Investment Risk. Global Head of Investment Risk, Tjemme van der Meer is the manager of this department. This department is a subdivision of the staff department Risk, Legal and Compliance, which is directly placed under the CEO of Asset Management. The purpose of this department is to examine / limit the risk of the client and the risk exposure of the business unit ABN AMRO Asset Management itself.

The risks clients are exposed to are principally related to market risk and credit risk and can be grouped into four types:

1. The client loses money because the portfolio management takes more risk than the client had expected / agreed upon. This may happen, for instance, when tracking errors versus the (external) benchmark are high and not clearly communicated.
2. The client loses money because the portfolio management takes different risks than the client had expected / agreed. This is about style drift.
3. The client loses money but the portfolio management cannot justify a particular risk. This primarily relates to implied exposures (bottom-up investment process leading to top-down exposures). But it also relates to risks for which we have not paid our professional due diligence (meet market standards).
4. The client loses more money than another client with the same mandate.

All these risks/scenarios have one thing in common: ABN AMRO fails to meet the client's expectations. As mentioned earlier, there is a risk that unsatisfied clients leave ABN AMRO (business risk), share their negative experiences with others (reputational risk) and may file a claim with ABN AMRO Asset Management (operational risk). Evidently, all these risks are directly related to the risk of the business unit ABN AMRO Asset Management itself. Consequently, managing these risks is of major importance to ABN AMRO Asset Management.

Managing risks has to do with managing expectations. Therefore, it is important to understand the client's preferences. Currently, the wish exists to obtain a better perspective of the client's expectations. In this internship we are trying to get to grips with these wishes. For the Investment Risk department it is of particularly interest to examine the influence of the various sorts of performance on flows.

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[1] The largest risk departments are situated in Amsterdam, Brazil, Chicago, Hong Kong, Italy, London, and Scandinavia.

For example, is the client interested in absolute performance or relative performance?[2] And in case the relative performance is more significant to the client, does this concern performance compared to its competitor funds or performance compared to a pre-specified index (benchmark)? Another interrelated factor is risk, which is also examined for its influence on clients.

To examine the (performance) determinants of flows, three phases may be distinguished. Firstly, a thorough examination is required among the academic articles concerning this subject. Are there any previous findings which can be of help to my internship? In particular, the emphasis lie on the performance – flow relationship. The determinants found to be the most influential are provided in the literature overview chapter 2.

Besides examining academic articles there is another method to find out the client's behavior in relation to performance. The idea is to interview ABN AMRO Asset Management co-workers, especially those employees that are in contact with clients directly: the salesmen.[3] They should know more about what specifically *ABN AMRO's* clients want and thus what drivers influence *ABN AMRO's* client's investing behavior. In the ABN AMRO Sales-Channels chapter 3 an overview will be given of the information extracted from the interviews.

The two initial phases serve two main goals. The first is that they will provide us with some knowledge about the fund industry domain. Secondly, the examination brings forth important determinants which influence clients in their investment behavior.

The determinants following from the first two phases are used as input for the quantitative examination. The quantitative examination eventually yields a prediction model which is both capable of predicting future flows, and of giving insight into the realization of predictions and hence into the drivers of the client's flows. Chapter 4 encompasses a complete and clear description of the entire process of coming towards a prediction model. The final conclusions of this internship are elaborated in the executive summary.

My interpretation of the investment behavior of the private individual investor with regard to performance is described in chapter 5. It should be noted that it is purely an interpretation and has no academic value. Nevertheless, the reader can use it as a steppingstone.

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[2] In this thesis absolute performance indicates unadjusted performance (ordinary profits or losses). This term is commonly used in the fund industry and should not be confused with the mathematical interpretation of absolute. In this thesis the term absolute performance will be used interchangeably with the terms raw return, unadjusted performance, raw performance and plain performance.

[3] I have spoken to the salesmen within ABN AMRO Asset Management. The salesmen of the Private Clients and Retail Clients department are not in direct contact with clients; nevertheless, they are in direct contact with the BU NL / PC NL / PC Global departments that have direct contact with clients and consequently have knowledge of the concerning clients. The salesmen of the institutional clients do have direct contact with their clients.

In the appendix some other interesting information is provided: a list of the co-workers that have helped me assemble the input needed for this thesis, a question form for adding funds to the AABR system, an elaboration of the complete Morningstar rating methodology, an enumeration of the variables included in the quantitative examination and last but not least extensive descriptions of the data mining algorithms employed for building the prediction models.