

Effective Asset Allocation Using Fuzzy Logic

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ABSTRACT

With the rising inflation it becomes important to get maximized return on the every investment we make. In the recent times many mutual fund companies, different insurance advertisements often confuses a person in making a good investment decision. For getting a good return of our investments portfolio management or the asset allocation plays an important role. It is generally seen that if all money is allocated in one particular class then the inflation cannot be undermined. It may be possible that one asset class may seem to be more secure for some of the people, but it does not necessarily provide a handsome or appreciable return. It is very difficult for an individual to regularly watch or monitor a set of asset classes all the time. For giving a helping hand to the number of investors, we have developed a Knowledge Management rule based Asset Allocation scheme. In our model the capital keeps shifting between the three asset classes namely Gold, Equity and the Sweep account. If such a conditional shifting is done in the process of asset allocation profit margins will certainly increase and there will be exponential rise in the capital assets. Our model is an optimized model; it is equally applicable to the people belonging to the different income classes.

KEYWORDS

Portfolio, Price, Decision

1. INTRODUCTION

Now that we understand some of the basic dynamics and inherent challenges organizations face in executing a business strategy via supporting initiatives, let's look at some basic concepts and components of portfolio management practices.

Business Strategy

It contains a selected, approved, and continuously evolving, collection of Initiatives which are aligned with the organizing element of the Portfolio, and, which contribute to the achievement of goals or goal components identified in the Enterprise Business Strategy. The basis for constructing portfolio should reflect the enterprise's particular needs. For example, you might choose to build a portfolio around initiatives for a specific product, business segment, or separate business unit within a multinational organization.

2. THE PORTFOLIO STRUCTURE

As we noted earlier, a portfolio structure identifies and contains a number of portfolios. This structure, like the portfolios within it, should align with significant planning and result boundaries,

and with business components. If you have a product-oriented portfolio structure, for example, then you would have a separate portfolio for each major product or product group. Each portfolio would contain all the initiatives that help that particular product or product group contribute to the success of the enterprise business strategy.

2.1 THE PORTFOLIO MANAGER

This is a new role for organizations that embrace a portfolio management approach. A portfolio manager is responsible for continuing oversight of the contents within a portfolio. If you have several portfolios within your portfolio structure, then you will likely need a portfolio manager for each one. The exact range of responsibilities (and authority) will vary from one organization to another, but the basics are as follows:

1. One portfolio manager oversees one portfolio only.
2. The portfolio manager provides day-to-day oversight.
3. The portfolio manager periodically reviews the performance of, and conformance to expectations for, initiatives within the portfolio.
4. The portfolio manager ensures that data is collected and analyzed about each of the initiatives in the portfolio.
5. The portfolio manager enables periodic decision making about the future direction of individual initiatives.

2.2 PORTFOLIO REVIEWS AND DECISION MAKING

As initiatives are executed, the organization should conduct periodic reviews of actual (versus planned) performance and conformance to original expectations.

Typically, organization managers specify the frequency and contents for these periodic reviews, and individual portfolio managers oversee their planning and execution. The reviews should be multi-dimensional, including both tactical elements (e.g., adherence to plan, budget, and resource allocation) and strategic elements (e.g., support for business strategy goals and delivery of expected organizational benefits). A significant aspect of oversight is setting multiple decision points for each initiative, so that managers can periodically evaluate data and decide whether to continue the work. These "continue/change/discontinue" decisions should be driven by an understanding (developed via the periodic reviews) of a given initiative's continuing value, expected benefits, and strategic contribution. Making these decisions at multiple points in the initiative's lifecycle helps to ensure that managers will continually examine and assess changing internal and external circumstances, needs, and performance.

2.3 GOVERNANCE

Implementing portfolio management practices in an organization is a transformation effort that typically involves developing new capabilities to address new work efforts, defining (and filling) new roles to identify portfolios (collections of work to be done), and delineating boundaries among work efforts and collections. Implementing portfolio management also requires creating a structure to provide planning, continuing direction, and oversight and control for all portfolios and the initiatives they encompass. That is where the notion of *governance* comes into picture. The IBM view of governance is:

“An abstract, collective term that defines and contains a framework for organization, exercise of control and oversight, and decision-making authority, and within which actions and activities are legitimately and properly executed; together with the definition of the functions, the roles, and the responsibilities of those who exercise this oversight and decision-making.”

Portfolio management governance involves multiple dimensions, including:

1. Defining and maintaining an enterprise business strategy.
2. Defining and maintaining a portfolio structure containing all of the organization's initiatives (programs, projects, etc.).
3. Reviewing and approving business cases that propose the creation of new initiatives.
4. Providing oversight, control, and decision-making for all ongoing initiatives.
5. Ownership of portfolios and their contents.

Each of these dimensions requires an owner, either an individual or a collective to develop and approve plans, continuously adjust direction, and exercise control through periodic assessment and review of conformance to expectations. A good governance structure decomposes both the types of work and the authority to plan and oversee work. It defines individual and collective roles, and links them to an authority scheme. Policies that are collectively developed and agreed upon provide a framework for the exercise of governance. The complexities of governance structures extend well beyond the scope of this paper. Many organizations turn to experts for help in this area because it is so critical for the success of any business transformation effort that encompasses portfolio management. For now, suffice it to say that it is worth investing time and effort to create a sound and flexible governance structure before you attempt to implement portfolio management practices.

2.4 PORTFOLIO MANAGEMENT ESSENTIALS

Every practical discipline is based on a collection of fundamental concepts that people have identified and proven (and sometimes refined or discarded) through continuous application. These concepts are useful until they become

obsolete, supplanted by newer and more effective ideas. For example, in Roman times, engineers discovered that if the upstream supports of a bridge were shaped to offer little resistance to the current of a stream or river, they would last longer. They applied this principle all across the Roman Empire. Then, in the middle Ages, engineers discovered that such supports would last *even longer* if their *downstream* side was also shaped to offer little resistance to the current. So that became the new standard for bridge construction. Portfolio management, like bridge-building, is a discipline, and a number of authors and practitioners have documented fundamental ideas about its exercise. Recently, based on our experiences with clients who have implemented portfolio management practices and on our research into the discipline, we have started to shape an IBM view of fundamental ideas around portfolio management. We are beginning to express this view as a collection of "essentials" that are, in turn, grouped around a small collection of portfolio management themes. For example, one of these themes is *initiative value contribution*. It suggests that the value of an initiative (i.e., a program or project) should be estimated and approved in order to start work, and then assessed periodically on the basis of the initiative's contribution to the goals and goal components in the enterprise business strategy. These assessments determine (in part) whether the initiative warrants continued support. This theme encompasses the notion that *initiative value changes over time*. When an initiative is in the proposal stage, it is possible to quantify an anticipated value contribution. On this basis (in part) the proposed initiative becomes an approved initiative. But what about an initiative that is a large program effort, with a two-year duration? It is highly unlikely that the program's expected value will remain static during the entire two-year period, so continuous value monitoring is necessary. From this, we can derive an essential statement: Initiative value changes and requires continuous monitoring over the life of the initiative. In a future article, we will provide a more extensive discussion of portfolio management essentials, as seen from an IBM viewpoint.

3. RELATED WORK

[18] Have described the operation and performance of a computational intelligence rule-base system that manages a portfolio of stocks according to investment objectives. It provides an overview of several improvements to the system presented in previous papers and provide detailed results from applying the system in representative scenarios toward determining the robustness of the approach.

4. MODEL

Our model consisting of the five rule bases proportionate to the five asset classes namely Gold, Shares, Fixed Deposits, Saving Account and the Sweep Account. We have taken Sensex fair level as 14000, Fair Gold price as Rs.13500, and Sweep allocation at Rs.50000 (as offered by most of the banks)

5. CONCLUSION

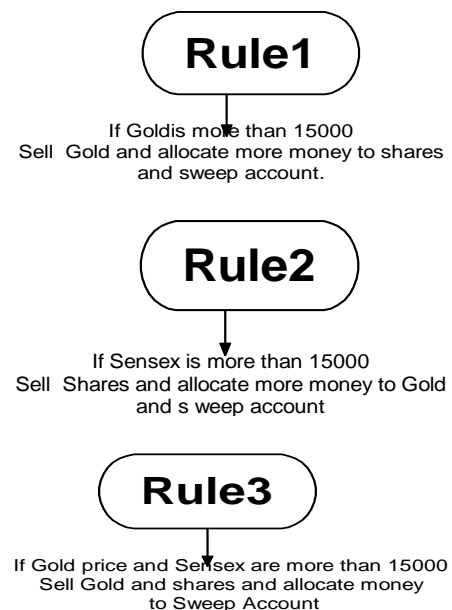
Our model eliminates the need of any portfolio manager for smart and profitable investment decisions

6. FUTURE SCOPE

Such a product will be very useful in emerging markets such as India.

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Rule 4

If Sweep Account is more than Rs.50000
Allocate Rs10000 each to Gold and Shares.

