Overview and Math of Finance

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1 Introduction

2 Guide for Financial Planning

Based on your own financial goals in your career and life, you may want to hire a financial advisor; or you could take a peek at this guide! [?] Personal financial planning is an organized process of managing one's own wealth to achieve personal satisfaction in one's economic situation. In planning, one may reduce uncertainty concerning future needs and resources. You have now become your own personal financial manager!

2.1 Step I: Create a Financial Plan

A simple example of a financial plan is to pursue the goal of increasing your savings by limiting your spending habits.

To begin creating a financial plan, it is crucial to initially determine your current financial situation. In other words, you should prepare a list of current assets and debt balances and also spending for important foundation for future success items; such as a bank account, college degree, investment, and more.

It is also crucial to set up your financial goals. From analysis of the current financial situation that you are in, to your ideal situation, you may begin to set some feasible goals.

Doing these are similar even to the role of the financial manager in a financial corporation, [?], where the tasks of the manager is composed of

- the investment, or *capital budgeting decision*, or
- the *financing decision.*

The investment (1) is how much to invest and what assets to invest in.

The financing decision (2) is the method in which to raise the needed cash.

When constructing a financial plan, it is important to realize the **time value of money**.

Did you want to invest in a finacial calculator? You should know that it is built with present value and future value formlas into it. The special keys you may see on it may include

- n: number of periods (of time)
- i : interest rate per period (as a percentage)
- PV : present value
- FV : future value
- PMT : amount of any recurring payment also known as an *annuity*

The calculator is designed to return the future values that you possibly will have. But as seen by the inputs, you yourself will have to find the interest rates and the other information needed by the calculator.

Because predicting the interest rate may bring you future profits. It is important to use *present values* when calculating cash flows (of the future). This is because one should never compare cash flows from different dates. The calculation of present values gives us knowledge of the future allocations that should be set aside for bills.

> Rule of 72: The time for an investment to double in value is approximately $72/r$ where r is the interest rate.

In continuing our quest to create a fine financial plan, let us focus on what financial firms would value.

Let's consider a financial planning model.

Financial plans include three components [**?**]:

1. input; the current financial statements of the firm and forecasts about its future. The principal forecast is often growth in sales since many other variables (such as labor requirements, inventory levels, etc.) are closely tied to sales.

2. the planning model ; it calculates the results implied by the manager's forecasts for the profits, new investments, and financing. The equations that relate output variables to forecasts is an important part of the model. This model can illustrate the equational relationships between a change in sales and other variables such as costs, working capital, fixed assets, and financing requirements.

3. outputs ; The output of the financial model consists of the following list: financial statements (income statements), balance sheets, and statements that describe sources and uses of cash (called pro formas: forecasts based on the inputs and the assumptions that are built within the plan). The output of financial models usually involve many financial ratios that may indicate whether the firm will be financially up to competition at the end of the period which was planned by the financial model.Financial plans include three components: inputs, the planning model, and outputs.

Here are the main risks to watch out for when planning your financial model:

- Inflation Risk: Rising or falling prices as a result of inflation influence the timing of the buying decisions.
- Interest Rate Risk: when the change of interest rates affects costs when one borrows assets, and benefits when one saves or invests. This is because borrowing at a lower interest rate when interest rates are increasing results in higher payments. If you save while interest rates are dropping, you will earn a lower return with certain (six-month) savings certificates than those with longer maturity.
- Income Risk: when the loss of a job affects spending and the lifestyle of unemployed involves increased saving.
- Personal Risk: health risks, risks to objects (future repairs), etc.
- Liquidity Risk: when certain savings and investments have the potential for higher earnings; however they may be difficult to convert to cash or to sell without the loss of a significant value.

2.2 Step II: Implement Your Plan

When you've got a financial plan that matches your financial goals to suit your financial needs and situation, then there are a few steps to keep in mind when implementing the plan.

Simply, they consist of:

- Plan
- Save
- Borrow
- Earn
- Manage Risks
- Invest
- Real Estate and Retirement