Unit 1: The Field of Finance

This unit introduces the field of finance as a scholarly discipline. We get acquainted with the most interesting questions finance as a science is dealing with currently and used to be in the past.

ILO1: Introduction to the field of Finance
ILO 2: Historical Trends in Finance
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ILO1: Introduction to the field of Finance

The field of finance appeared in the beginning of 20th century out of economics and accounting, and it represents the link between these fields. Economics provides a basic framework of relationships between people and firms through the set of main principles, such as supply and demand relationships, macroeconomic outcomes, budget constraint, investment and public finance etc. Financial managers must take into account the broad picture of the economic environment in which corporations must continually make choices. A financial manager must understand the institutional structure of the economy, sectoral differences, and how the public policy affects economic outcomes.

Economic variables, such as gross domestic product, consumer price index, industrial output, disposable income, unemployment, inflation, interest rates, and taxes, must be integrated into the financial manager's decision-making model and be used correctly.

Accounting is the scorecard of business. It translates a company's diverse activities into a set of objective numbers that provide information about the firm's performance, problems, and prospects. Finance involves the interpretation of these accounting numbers for assessing performance and planning future actions. The financial manager must know how to interpret and use these statements, must understand the sources and uses of cash to allocate the firm's financial resources correctly and to generate higher return.

Finance is a natural link between economic theory and accounting, and all corporate managers—whether in production, sales, research, marketing, management, or strategic planning—must know what it means to assess the financial performance of the firm.

ILO 2: Historical Trends in Finance

Modern academic finance is analytical, mathematical, and firmly rooted in economics; several Nobel laureates of recent years have been financial economists. Institutions and firms barely feature. It concerns itself primarily with markets and with tradeable financial instruments. It also borrows concepts from applied mathematics (the portfolio) and engineering (diffusion equations).

Like any discipline, the field of finance has developed and changed over time. At the turn of the century, finance emerged as a field separate from economics when large industrial corporations in oil, steel, chemicals, and railroads were created by early industrialists such as Rockefeller, Carnegie, Du Pont, and Vanderbilt.

By the 1930s, the US was in its worst depression ever, and financial practice revolved around such topics as the preservation of capital, maintenance of liquidity, reorganization of financially troubled corporations, and the bankruptcy process.

By the mid-1950s finance moved away from its descriptive and definitional nature and became more analytical. One of the major advances was the decision-oriented process of allocating financial capital (money) for the purchase of real capital (long-term plant and equipment). The enthusiasm for more detailed analysis spread to other decision-making areas of the firm—such as cash and inventory management, capital structure theory, and dividend policy.

The emphasis also shifted from that of the outsider looking in at the firm, to that of the financial manager making tough day-to-day decisions that would affect the firm's performance.

Let us look at some topical issue in finance in the 50s:

1. Capital Structure Argument[1]: The Modigliani–Miller hypothesis (1958) states that, in a perfect market, neither the total market value of a corporation nor its average cost of capital was affected by its capital structure. What does this mean? Corporations raise money by issuing securities. Securities are mostly stocks and bonds. Stocks confer rights of ownership and, in certain circumstances, the right to dividend payments. In a second paper, Modigliani and Miller (1961) argued that a firm's dividend policy was also irrelevant. Bonds confer the right to a capital sum in repayment at a given date, and to pay interest up to then. Combined, they form a firm's capital structure. The argument was essentially that if two identical firms (i.e. identical in terms of expected earnings and risk exposure) had different capital structures, any difference in their market value would disappear through arbitrage in a perfect market. And perfect markets are everywhere, except where you have taxes, particularly differential taxes between stocks and bonds, brokerage fees, any costs associated with information acquisition, and any trader who can influence price (Modigliani and Miller, 1961). So empirically, there are very few circumstances in which the proposition could hold and certainly not in the USA at the time they were writing.

Their second proposition, however, is that the rate of return investors can expect on their equities increases as the firm's debt-to-equity ratio increases. This seems at first at odds with the proposition that debt/equity ratios do not matter, but the answer is that any increase in expected return is exactly offset by an increase in risk and therefore in shareholders' required rate of return. The same restrictive assumptions apply.

2. Portfolio Structure Theory:

Harry Markowitz, who wrote one of the seminal papers in finance, was an operations researcher. He took up the point that investors would put their money in those stocks with the highest expected rates of return. But since investors did not put all of their eggs in one basket (i.e. one stock), but diversified their investments (i.e. many), he argued that they did so to control risk. He thought of risk as the variance of returns, or its root, the standard deviation. He argued that the unit of analysis should be the investment portfolio, and these portfolios could be more or less 'efficient'. An 'efficient' portfolio could be one that maximized return for a given level of risk, or minimized risk for a given level of return (Markowitz, 1952). The basic argument of portfolio theory was that one looked at correlations between stocks in which one invested. If they all move together, the risk is high. If they have low covariance, the risk is lower.

ILO3: Modern Issues in Finance

Modern financial management has focused on risk-return relationships and the maximization of return for a given level of risk. The award of the 1990 Nobel prize in economics to Professors Harry Markowitz and William Sharpe for their contributions to the financial theories of risk-return and portfolio management demonstrates the importance of these concepts. In addition, Professor Merton Miller received the Nobel prize in economics for his work in the

[1] Understanding Management: Social Science Foundations 1st Edition by Paul Willman

area of capital structure theory. These three scholars were the first professors of finance to win Nobel prizes in economics, and their work has been very influential in the field of finance over the last 50 years. Since then, others have followed.

Finance continues to become more analytical and mathematical. New financial products with a focus on hedging are being widely used by financial managers to reduce some of the risk caused by changing interest rates and foreign currency exchange rates. As a counterbalance to more quantitative analysis, the psychology of financial decision making, called behavioral finance, has become more widely taught in the classroom. Amos Tversky and Daniel Kahneman were pioneers in the psychology of cognitive bias in the handling of risk. The risk-return trade-off decision is an important concept in finance and economics.

Prospect Theory. In the 1970s, Danny Kahneman and Amos Tversky started worrying about how people make decisions (Kahneman and Tversky, 1979). In an early study, they presented identical propositions to subjects in an experiment. The two propositions were identical in terms of outcome. If subjects were rational optimizers, the results would have been neutral. They were not. Framing of results mattered. People preferred things that were positively framed (focusing on good outcomes) to those that were negatively framed (showing the same figures, but mentioning the bad). To take a very simple example, if you tell someone a meal has 20% fat content, they react very differently from how they do to the statement that it is 80% fat free. The same principle, they claimed, works with the way people perceive risk.

One of the biases that people rely on when they make decisions is loss aversion: like in the insurance example above, they tend to overweight small probabilities to guard against losses. Even though the likelihood of a costly event may be miniscule, we would rather agree to a smaller, sure loss — in the form of an insurance payment — than risk a large expense. The perceived likelihood of a major health problem is greater than the actual probability of such an event actually occurring.

We would all like to believe that we are logical decision makers. In the field of user experience, we often talk about how users weigh the expected utility of different alternatives to determine what action to take or where to go next. However, when it comes to making decisions such as whether to purchase something, make a donation, or pick a level of a service, people are highly susceptible to cognitive biases, and often don't make the logical choice.

For example, what would you choose: to get $900 or take a 90% chance of winning $1000 (and a 10% chance of winning 0)? Most people avoid the risk and take the $900, although the expected outcome is the same in both cases. However, if I asked you to choose between losing $900 and take a 90% chance of losing $1000, most of you would probably prefer the second option (with the 90% chance of losing $1000) and thus engage in the risk-seeking behavior in the hope to avoid the loss.

Tversky died in 1996, but Kahneman received the Nobel prize in economics in 2002 for his work with Tversky.

But their argument first appeared 15 or so years earlier when Eugene Fama (1953) was working on his market efficiency theory. He, claimed, that, if everyone is perfectly rational, and information freely available, then it is tough to make a profit trading. As an old finance cliché goes, if you see a $100 bill lying in the street, it must be a fake because otherwise someone else would have picked it up. So if everyone knows everything, then any systematic patterns in stock prices would disappear, because traders would spot and eliminate them. It is the corollary that is critical; if there are no patterns then prices follow a random walk, and if they do that, you can apply probability theory. However the first one to notice that was not Fama, it was a British

statistician Maurice Kendall (1953), who is generally credited with the 'discovery' of randomness in stock and commodity price series.

Efficient Market Hypothesis. Eugene Fama (1970, 1976) has done a great deal to operationalize the notion of capital market efficiency. He defines three types of efficiency, each of which is based on a different notion of exactly what type of information is understood to be relevant in the phrase "all prices fully reflect all relevant information:[2]"

1. Weak form efficiency. No investor can earn excess returns by developing trading rules based on historical price or return information. In other words, the information in past prices or returns is not useful or relevant in achieving excess returns.

2. Semistrong-form efficiency. No investor can earn excess returns from trading rules based on any publicly available information. Examples of publicly available information are annual reports of companies, investment advisory data such as "Heard on the Street" in the Wall Street Journal, or ticker tape information.

3. Strong form efficiency. No investor can earn excess returns using any information, whether publicly available or not.

Obviously, the last type of market efficiency is very strong indeed. If markets were efficient in their strong form, prices would fully reflect all information even though it might be held exclusively by a corporate insider. Suppose, e.g., we know that our company has just discovered how to control nuclear fusion. Even before we have a chance to trade based on the news, the strong form of market efficiency predicts that prices will have adjusted so that we cannot profit.

These questions still raise heated debate in modern financial theory; however, there are more recent ones, which deal with derivatives, dividends, sustainable finance, corporate social responsibility etc.

Additional Readings:

1) Miller M.H. and F. Modigliani, "Some Estimates of the Cost of Capital to the Electric Utility Industry 1954-57," American Economic Review, June 1966, 333-348.

2) Fama, E. F. (1970); 'Efficient capital markets: A review of theory and empirical work', Journal of Finance, 25, 2, pp. 383–428.

3) Markowitz, H. (1952); 'Portfolio selection', Journal of Finance, 17, pp. 77–91.

4) Kahneman, D. and Tversky, A. (1979); 'Prospect theory: An analysis of decision under risk', Econometrica, 47, 2, 263–91.

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Financial Theory and Corporate Policy (4th Edition) 4th Edition by Thomas E. Copeland (Author), J. Fred Weston (Author), Kuldeep Shastri. Pearson, 1988.

[2] Financial Theory and Corporate Policy (4th Edition) 4th Edition by Thomas E. Copeland (Author), J. Fred Weston (Author), Kuldeep Shastri.

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