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Chapter 1 : Harry M. Markowitz - Biographical - www.nxgvision.com

Harry Max Markowitz (born August 24,) is an American economist, and a recipient of the John von Neumann Theory Prize and the Nobel Memorial Prize in Economic Sciences.

Markowitz Biographical I was born in Chicago in , the only child of Morris and Mildred Markowitz who owned a small grocery store. We lived in a nice apartment, always had enough to eat, and I had my own room. I never was aware of the Great Depression. Growing up, I enjoyed baseball and tag football in the nearby empty lot or the park a few blocks away, and playing the violin in the high school orchestra. I also enjoyed reading. At first, my reading material consisted of comic books and adventure magazines, such as The Shadow, in addition to school assignments. In late grammar school and throughout high school I enjoyed popular accounts of physics and astronomy. In high school I also began to read original works of serious philosophers. Everything in the program was interesting, but I was especially interested in the philosophers we read in a course called OII: Observation, Interpretation and Integration. Becoming an economist was not a childhood dream of mine. I had the good fortune to have Friedman , Marschak and Savage among other great teachers at Chicago. If anyone knows the Cowles Commission only by it influence on Economic and Econometric thought, and by the number of Nobel laureates it has produced, they might imagine it to be some gigantic research center. In fact it was a small but exciting group, then under the leadership of its director, T. Koopmans, and its former director, J. When it was time to choose a topic for my dissertation, a chance conversation suggested the possibility of applying mathematical methods to the stock market. I asked Professor Marschak what he thought. He thought it reasonable, and explained that Alfred Cowles himself had been interested in such applications. He sent me to Professor Marshall Ketchum who provided a reading list as a guide to the financial theory and practice of the day. Williams proposed that the value of a stock should equal the present value of its future dividends. But if the investor were only interested in expected values of securities, he or she would only be interested in the expected value of the portfolio; and to maximize the expected value of a portfolio one need invest only in a single security. This, I knew, was not the way investors did or should act. Investors diversify because they are concerned with risk as well as return. Variance came to mind as a measure of risk. The fact that portfolio variance depended on security covariances added to the plausibility of the approach. Since there were two criteria, risk and return, it was natural to assume that investors selected from the set of Pareto optimal risk-return combinations. While I did not work on portfolio theory at RAND, the optimization techniques I learned from George beyond his basic simplex algorithm which I had read on my own are clearly reflected in my subsequent work on the fast computation of mean-variance frontiers Markowitz and Appendix A of Markowitz In the 38 years since then, I have worked with many people on many topics. The focus has always been on the application of mathematical or computer techniques to practical problems, particularly problems of business decisions under uncertainty. Sometimes we applied existing techniques; other times we developed new techniques. I have written above about portfolio theory. My work on sparse matrix techniques was an outgrowth of work I did in collaboration with Alan S. Rowe and others at the RAND Corporation in the s on industry-wide and multi-industry activity analysis models of industrial capabilities. Our models strained the computer capabilities of the day. I observed that most of the coefficients in our matrices were zero; i. William Orchard-Hayes programmed the first sparse matrix code. Since then considerable work has been done on sparse matrix techniques, for example, on methods of selecting pivots and of storing the nonzero elements. Sparse matrix techniques are now standard in large linear programming codes. During the s I decided, as did many others, that many practical problems were beyond analytic solution, and that simulation techniques were required. One problem with the use of simulation was the length of time required to program a detailed simulator. In the early s, I returned to RAND for the purpose of developing a programming language, later called SIMSCRIPT, which reduced programming time by allowing the programmer to describe in a certain stylized manner the system to be simulated rather than describing the actions which the computer must take to accomplish this simulation. Hausner; its manual by H. Karr who later co-founded a computer software company, CACI, with me. I am sorry I cannot acknowledge all the people I have worked with over the last 38 years and describe what it was we accomplished. As each of these people know, I often considered work to be play, and derived great joy from our collaboration. From Les Prix Nobel. The information is sometimes updated with an addendum submitted by the Laureate.

Chapter 2 : Harry Markowitz

Markowitz is the principal of Harry Markowitz Company, and an adjunct professor at the Rady School of Management, UCSD. Read More about Harry M. Markowitz By Harry M. Markowitz.

Overview[edit] Harry Markowitz put forward this model in It assists in the selection of the most efficient by analyzing various possible portfolios of the given securities. The HM model is also called mean - variance model due to the fact that it is based on expected returns mean and the standard deviation variance of the various portfolios. Harry Markowitz made the following assumptions while developing the HM model: Risk of a portfolio is based on the variability of returns from the said portfolio. An investor is risk averse. An investor prefers to increase consumption. Analysis is based on single period model of investment. An investor either maximizes his portfolio return for a given level of risk or maximizes his return for the minimum risk. An investor is rational in nature. Determination of a set of efficient portfolios. Selection of the best portfolio out of the efficient set. Determining the efficient set[edit] A portfolio that gives maximum return for a given risk, or minimum risk for given return is an efficient portfolio. Thus, portfolios are selected as follows: Risk-return of possible portfolios As the investor is rational, they would like to have higher return. And as he is risk averse, he wants to have lower risk. The efficient portfolios are the ones that lie on the boundary of PQVW. For example, at risk level x2, there are three portfolios S, T, U. But portfolio S is called the efficient portfolio as it has the highest return, y2, compared to T and U. All the portfolios that lie on the boundary of PQVW are efficient portfolios for a given risk level. All portfolios that lie below the Efficient Frontier are not good enough because the return would be lower for the given risk. Portfolios that lie to the right of the Efficient Frontier would not be good enough, as there is higher risk for a given rate of return. The Efficient Frontier is the same for all investors, as all investors want maximum return with the lowest possible risk and they are risk averse. Choosing the best portfolio[edit] For selection of the optimal portfolio or the best portfolio, the risk-return preferences are analyzed. Risk-return indifference curves Figure 2 shows the risk-return indifference curve for the investors. Indifference curves C1, C2 and C3 are shown. Each of the different points on a particular indifference curve shows a different combination of risk and return, which provide the same satisfaction to the investors. Each curve to the left represents higher utility or satisfaction. The goal of the investor would be to maximize his satisfaction by moving to a curve that is higher. This point marks the highest level of satisfaction the investor can obtain. This is shown in Figure 3. R is the point where the efficient frontier is tangent to indifference curve C3, and is also an efficient portfolio. With this portfolio, the investor will get highest satisfaction as well as best risk-return combination a portfolio that provides the highest possible return for a given amount of risk. Portfolio Y is also not optimal as it does not lie on the best feasible indifference curve, even though it is a feasible market portfolio. All portfolios so far have been evaluated in terms of risky securities only, and it is possible to include risk-free securities in a portfolio as well. A portfolio with risk-free securities will enable an investor to achieve a higher level of satisfaction. This has been explained in Figure 4. The Combination of Risk-Free Securities with the Efficient Frontier and CML R1 is the risk-free return, or the return from government securities, as those securities are considered to have no risk for modeling purposes. R1PX is drawn so that it is tangent to the efficient frontier. Any point on the line R1PX shows a combination of different proportions of risk-free securities and efficient portfolios. The satisfaction an investor obtains from portfolios on the line R1PX is more than the satisfaction obtained from the portfolio P. All portfolio combinations to the left of P show combinations of risky and risk-free assets, and all those to the right of P represent purchases of risky assets made with funds borrowed at the risk-free rate. In the case that an investor has invested all his funds, additional funds can be borrowed at risk-free rate and a portfolio combination that lies on R1PX can be obtained. The CML is an upward sloping curve, which means that the investor will take higher risk if the return of the portfolio is also higher. The portfolio P is the most efficient portfolio, as it lies on both the CML and Efficient Frontier, and every investor would prefer to attain this portfolio, P. The P portfolio is known as the Market Portfolio and is also the most diversified portfolio. It consists of all shares and other securities in the capital market. In the market for portfolios that consists of risky and risk-free securities, the CML represents the equilibrium condition. The Capital Market Line says that the return from a portfolio is the risk-free rate plus risk premium. Risk premium is the product of the market price of risk and the quantity of risk, and the risk is the standard deviation of the portfolio. The CML equation is:

Chapter 3 : Harry M. Markowitz - Bogleheads

Harry M. Markowitz Biographical I was born in Chicago in , the only child of Morris and Mildred Markowitz who owned a small grocery store. We lived in a nice apartment, always had enough to eat, and I had my own room.

Chapter 4 : Modern Portfolio Theory (MPT)

Harry M. Markowitz, (born August 24, , Chicago, Illinois, U.S.), American finance and economics educator, cowinner (with Merton H. Miller and William F. Sharpe) of the Nobel Prize for Economics for theories on evaluating stock-market risk and reward and on valuing corporate stocks and bonds.

Chapter 5 : Harry Markowitz | Faculty | Rady School of Management | UC San Diego

Harry Markowitz () is a Nobel Prize winning economist who devised the modern portfolio theory, introduced to academic circles in his article, "Portfolio Selection," which appeared in the.

Chapter 6 : Harry M. Markowitz (Foreword of The Flaw of Averages)

by Harry M. Markowitz;Kenneth Blay. Hardcover. $ $ 61 More Buying Choices. $ (35 used & new offers) The Theory and Practice of Investment Management.

Chapter 7 : Harry Markowitz - Official Website of Dr. Markowitz

Harry M. Markowitz is the father of Modern Portfolio Theory (MPT) and the concept of the efficient frontier.. Markewitz laid the foundation for what is now termed portfolio theory in his paper, Portfolio Selection.

Chapter 8 : Harry M. Markowitz - Facts - www.nxgvision.com

Harry M. Markowitz has 19 books on Goodreads with ratings. Harry M. Markowitz's most popular book is The Flaw of Averages: Why We Underestimate Risk.

Chapter 9 : Harry M. Markowitz | American economist | www.nxgvision.com

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