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PRESENTATION SUMMARIES
by Paul Hanouna

Keynote Speaker: Robert C. Merton

Robert Merton in his keynote address focuses on innovations in pension fund management. More specifically, he discusses the problems that companies face in providing retirement income to their employees, while at the same time keeping the costs and risks of pension plans under control. He pronounces that not only are Defined Benefit (DB) plans dying but that they are not coming back since they are perceived by companies to be too costly in terms of both return and risk. In 1990, DB plans accounted for roughly 22% of the retirement market and Defined Contribution (DC) plans accounted for roughly the same. Today, DB plans account for only 14% of the retirement market and DC plans are twice as large. Recently, many Fortune 1000 companies are discontinuing DB plans. For instance, out of the 627 Fortune 1000 companies that currently have DB plans, 113 are ending them or discontinuing them as January 2006. Recently, DB plans were given a large blow by the decision of IBM (a company considered employee centric) to convert their DB plans to DC plans. However, many DB plans will continue and thus need to be managed. The challenge of DB plans then is to properly manage risks and understand that there is a problem with financing a stable stream of cash flow after retirement with volatile assets such as equity. Next, Robert Merton discusses the problems associated with DC plans. Specifically, a major problem with DC plans is educating employees to make an intertemporal optimization, which Robert Merton compares to a doctor asking the patient how many sutures he needs. For Robert Merton getting to the best retirement plan will necessarily go through utilizing all the assets the individual possesses, including housing. Housing is currently the largest asset households possess and is currently under-utilized in retirement plans. The future will see the best of the DBs and DCs. On the DB side, we will see simplicity and focus on standard of living. On the DC side, we will see portability, customization, no credit risk and no residual liability to the corporation.

Stephen A. Ross

A neoclassical look at behavioral finance: A tale of two anomalies

Stephen Ross in this presentation compares and contrasts the neoclassical and behavioral approaches to finance and provides neoclassical answers to several behavioral anomalies. But first, how do neoclassical and behavioral approaches differ?

On the one hand, the Neoclassical approach consists in using assumptions of efficient markets and no arbitrage to develop financial theories. Together, these assumptions form the basis of CAPM, APT, Factor Models, CBM, and Pricing Kernels in asset pricing and the Modigliani–Miller Propositions and agency theory in corporate finance. It is important to note that neoclassical finance theory is not based on the existence of a rational "economan" but is based instead on the idea that there are "sharks" in the marketplace looking for chum "easy money." The traditional empirical findings tend to support the notions of efficient markets and no arbitrage opportunities. For example, evidence showing that returns are serially uncorrelated and that it is difficult to make excess returns using fundamentals supports the notion that markets are efficient. The fact that arbitrages are hard to find and the engineering side of finance support the no arbitrage assumption. However, in Asset Pricing, Fama's comment that the data has yet to meet a theory it likes appears to be true. CAPM betas appear unrelated to pricing, the Representative agent CBMs fare very poorly and the APT or ICAPM betas are only weakly explanatory of pricing. In corporate finance, event studies largely offer support for efficient market pricing and the Modigliani–Miller Propositions.

On the other hand, the behavioral framework advances that investors are a bundle of conflicting emotions such as framing (path dependence), overconfidence, timidity and that they are irrational in the presence of risk by violating expected utility theory and Bayes updating. Furthermore, investor sentiment is correlated across investors at random which forces prices to differ from fundamental values and additionally shifting investor sentiment causes arbitrage to be risky, costly, and limited. The bottom line is that in the behavioral approach, finance prices are not determined by the "smart" money but by an everyday man.

The behavioral approach is supported by a number of anomalies that can be grouped into stock market effects, violations of the law of one price, volatility anomalies and the ability by some investors to beat the market. According to Stephen Ross, these anomalies can be ranked by (1) how plausible they are and (2) by how damaging they are to neoclassical theories. On how plausible the anomalies are, the long-run return predictability is the least plausible followed by the small firm effects, the risk price/earnings, the momentum and the equity risk premium puzzles. On how damaging each anomaly is, the long-run predictability of returns is the highest followed by the equity risk premium puzzles, momentum, risk price/earnings and the small firm effects.

Over time, anomalies rarely persist to foster new theories as the supporting interpretation of the data erodes with replication and statistical analysis makes the anomalies less plausible. They also become less damaging as neoclassical analysis progresses.

Stephen Ross shows how two anomalies can be solved with neoclassical approaches. The first anomaly is that closed end funds tend to trade at a discount from their net asset value. The discounts are correlated across funds, they narrow as markets rise, they start at an IPO premium and finally country funds rise and fall in value depending not just on domestic returns but also with the US market. Introducing a fee and expense structure into

a theoretical model of fund prices can solve this anomaly. Ross finds that the simple fee based theoretical discount generates a 7.7% discount, which is exactly in line with the sample average discount. Ross also finds that discounts are positively correlated with NAV's and negatively correlated with market returns, but are positively correlated with the difference between NAV and market returns. Given the difference, neither NAV nor market returns have explanatory power. Furthermore, the country fund anomaly can be explained by capital gain policies, which is dependent on the investor's home market.

The second anomaly is the Siamese twins problem. Royal Dutch Petroleum (RDP) and Shell Trading and Transport (STT) share in the Group company operating results at a ratio of 60:40, but their share prices do not move in a 60:40 lockstep. Ross explains this anomaly by the fact that the two companies have differing levels of dividend payouts.

Mark Kritzman, the discussant, points out that there are other anomalies related to closed end funds such as the fact that their volatility is 64% higher than the underlying assets that compose it and the fact that closed end fund discounts predict future returns.

Sanjiv R. Das

A simple model for pricing securities with equity, interest-rate, and default risk

Sanjiv Das presents a simple model for pricing securities with equity, interest rate, and default risk. The model is valuable for pricing many securities such as CDOs or distressed convertibles that contain equity, interest rate, and default risk all at once. The model can be used to extract probabilities of default functions using market data. Furthermore, the model relies exclusively on observables such as equity prices and interest rates rather than unobservable processes such as firm value. The model uses and Constant Elasticity of Volatility (CEV) equity model and adds to it a default intensity process as well as a Heath–Jarrow–Morton model for the evolution of riskless interest rates. Although the model is rooted in the reduced-form approach to credit-risk, it borrows heavily from the insights gained from the structural approaches to credit-risk. Specifically, the framework is based on generalizing the reduced-form approach by including a process for equity. The motivation being that any default process for a company's debt obviously also applies to that company's equity, meaning that when default occurs, equity must go into a post-default value. The default probability is modeled to be a dynamic function of both equity and interest rate information. This results in default probabilities that are captured by both equity- and debt-market information rather than one of those information sets as in either the reduced-form (debt information) or the structural models (equity information). The model captures several empirical regularities such as the negative relation between equity prices and equity volatility, the negative relation between default intensity and equity prices, and the positive relation between default intensity and equity volatility. The final model is in discrete-time, making the implementation straightforward. The implementation is demonstrated by calibrating the model to market data to extract default probabilities. The model can be used to value distressed convertible bonds, debt-equity swaps, and credit portfolio instruments. In addition, the model can be easily extended to correlated default analysis and can be used to extract default risk premia. An empirical analysis of the extracted default risk premia using the CDX INDU Index shows that there are two main principal components. The main principal component tracks closely the S&P500 Index with a correlation of 50%.

Zvi Bodie

Financial literacy

Zvi Bodie, in his presentations, asks the question of what type of education ought to be provided to retail investors, not to financial institutions but to the end users of finance. This question is particularly important since retirement systems are rapidly changing from a government funded social security system and defined benefit plans, where the average retail investor needs to know very little about finance, to defined contribution plans that require financial literacy. Financial literacy is the minimal knowledge that every person should have in order to avoid costly financial mistakes and effectively communicate with financial advisors. Since current governmental policy supports "an ownership society" where individuals are allowed more leeway in retirement planning, financial literacy has become a national goal. The national strategy for financial literacy outlined by the US treasury is to empower the American consumer to choose wisely among the myriad of financial choices they are given.

Financial literacy ought to recognize that finance is an applied science like medicine or engineering and that best practices evolve as scientific knowledge advances, but there are some principles that remain constant. These principles ought to be presented as simply as possible but not simpler and misleading advertising should be exposed and corrected by regulatory authorities in charge of consumer protection. The popular literature abounds with examples of misleading statements. The popular literature for instances glorifies the magic of compound interest and praises the virtues of investing early. The magic might disappear, however, if the real rate of interest is negative. Another misconception is that saving is putting money in a savings account and is thus for the short-term, whereas investing is for the long-run. Saving, however, is really incomeless consumption, whereas investing means selecting a portfolio of assets. A third misconception is that investing always involves taking risks. Government issuance of safe inflation protected bonds, however, exists. Lastly, the popular literature has advanced that the only way to reduce risk is to diversify when in reality the simplest way to reduce risk is to hold safe assets.

Bodie proposes 10 principles for good financial literacy. To frame choices in terms of objectives and constraints, not to waste resources, not to be fooled by inflation, to distinguish between saving and safe investing, not to judge the risk of an asset in isolation, stocks are not safe even in the long run, a security's price is a fair estimate of its value, beware of survivorship bias in evaluating investment managers, take taxes and fees into account, and seek expert advice from impartial sources.

Terry Marsh, the discussant, pointed out that negative real rates of interest are not often negative and that a security's price is not always a fair estimate of its value when there is financial manipulation.

David Hsieh

Tutorial on hedge funds

David Hsieh's presentation consists of a tutorial on hedge funds. He explains what hedge funds are, who invests in them, what their performances are, and what are their risk factors. Hedge funds usually start life, like any other business venture, with a new product. In this case, the new product is usually a new trading strategy that is marketed to investors and like any new business venture, new hedge funds exhibit high attrition rates. A salient feature of hedge funds is that trading strategies need to be kept secret, since competitors can easily imitate them, which entails minimal disclosures to the public, including their investors. For researchers, this means that data on hedge funds is thus limited and

is primarily obtained through industry consultants with typical data available being monthly returns and a brief description of style. The data might suffer from survivorship biases and non-reporting problems when funds leave the database, and suffer from selection and backfill biases when funds enter the database. Given the drawbacks of bringing in new capital from investors (lack of secrecy), the hedge fund managers must have limited capital or not enough capital to achieve economies of scale to start off with. The fund receives the necessary capital through outside (equity) investors but also through leverage.

The hedge fund industry has grown very rapidly in recent years with most of the recent growth coming from university endowments and pension plans. Accompanying the rapid growth in hedge funds is the increasing variety in investment styles. For instance, in 1995, most hedge funds were either macro or long–short equity funds, whereas today there is a wider panoply of investment styles, including convertible, arbitrage, and fixed income arbitrage funds. The large majority of funds are young (79% are less than seven-years old) and the typical fund has $25 to $100 million in assets. Hedge funds differ substantially from mutual funds in at least two respects. First, it takes only a few common factors to explain most of the variation in mutual funds returns, whereas with hedge funds those same factors explain very little of the variation in returns. Second, the correlation among hedge fund returns is considerably smaller than it is among mutual funds.

A fundamental issue is: what are the systematic risks of hedge funds? This question is important for investors to determine how hedge funds should be included in their portfolios. Furthermore, it is important to counterparties such as lenders or prime brokers to determine how much risk they are exposing themselves to with respect to not only one hedge fund for a portfolio of hedge funds. Finally, it is important to regulators to determine if hedge funds are a source of market instability. David Hsieh has found seven risk factors that can account for the risk of the average hedge fund. The market risk premium, the 10-year bond rate minus the risk free rate, the Baa bond returns minus the 10-year bond rate, the straddle on bond futures minus the risk free rate, the straddle on currency futures minus the risk free rate, and the straddle on commodity futures minus the risk free rate. These seven factors can explain 87.6% of the HFR Index and 76.3% of the MSCI Index. About 25% of funds have significantly positive alpha, which means that most hedge funds do not provide much alpha but instead provide mostly beta. The implication for investors is that hedge fund returns are different from traditional money managers, there are potential diversification benefits for long-only investors, hedge funds have low alphas and it makes sense to reward hedge fund managers relative to an appropriate benchmark for hedge funds.

Bruno Dupire

Revisiting risk premia

In his presentation, Bruno Dupire revists the risk-premia by using the numeraire portfolio. Along the lines of the numeraire portfolio of Long (1990), Bruno Dupire identifies a strategy in the tradable assets such that the price of any non-dividend paying investment expressed in terms of this strategy is a martingale under the physical measure. The price of an asset expressed in terms of another one can be seen as a ratio of two martingales and is not in general a martingale. Departure from martingality is usually attributed to risk premia. Bruno Dupire further shows how risk premia depend on the relationship between the strategy, the asset and the benchmark. For instance, benchmarks far away from the strategy enable the capture of higher risk

premia. The presentation shows how to reconstitute this strategy from historical data and examine the consequences in terms of portfolio optimization and clarify the importance of the choice of a benchmark in allocation decisions. The approach is illustrated with examples of international portfolios. Lisa Goldberg shows how the Growth Optimal Portfolio a.ka the numeraire portfolio can be constructed using methods developed by Platen (2005) and Le-Planten (2006).

Ananth Madhavan

Transaction cost modeling as a source of alpha

Ananth Madhavan in his presentation shows what the impact of transaction costs can have on portfolio performance. Trading costs can substantially reduce the notional returns to an investment strategy causing great practical interest in understanding their effects on portfolio performance. Previous research on the topic largely focused on the impact of realized transaction costs rather than ex-ante transaction cost considerations on investment performance. More specifically, the focus is on the impact of transaction costs on an active manager's Information Ratio (IR) defined as the ratio of expected active return to active risk. The model extents the Grinold (1989) framework who shows that the information ratio is the product of skill, measured by the information coefficient (the correlation between the manager's predicted and actual alpha) and breath as measured by the number of independent active bets per year. Ananth Madhavan presents a model where transaction costs are incorporated explicitly into the optimization problem of an active manager. In their framework, the manager obtains noisy signals for both alpha and transaction costs with the latter affecting the choice of portfolio turnover. Greater turnover allows for more active bets but only at the expense of higher transaction costs. The results are that the introduction of transaction costs into the model affects the portfolio's information ratio through two channels. There is not only a direct reduction in net returns but also an indirect reduction in net returns caused by the reduction in the portfolio's breath in a pre-trade sense. The analysis provides insights into the determinants of optimal fund capacity and on how fund managers can influence their capacity through investments in better execution research and technology.

Michael Jensen

Putting integrity into finance theory and practice: A positive approach

In his presentation, Michael Jensen argues that finance theory and practice are incomplete without an integrated notion of integrity where integrity is defined without reference to morals, values, religion, or ethics. Michael Jensen first describes integrity as something which is whole, complete and stable or second, as a state of being unimpaired, in perfect condition or soundness. The notion of integrity has long been neglected in finance because it has often been considered subjective or "normative." However, Michael Jensen argues that whether one likes or dislikes integrity is a normative value judgment but the effect of integrity on value, productivity, etc., is a "positive" proposition. The notion of integrity is closely related to the notion of workability because an entity or system that is out of integrity will not be whole, complete and stable. Workability is the bridge to value and the farther out of integrity the worst a given entity will work. Michael Jensen further argues that the positive proposition that increasing integrity of a firm will contribute to increasing its value is no different in kind from the positive proposition that the net present value investment rule will lead to value creation. The theory thus implies that integrity is a necessary, but not a sufficient, condition for the maximization of long-term value, a theory that is

both testable and refutable. Michael Jensen illustrates the application of this concept in finance by considering several examples. For instance, the implicitly held proposition that firm's managers owe fiduciary responsibility to current shareholders creates a lack of integrity in finance where managers have incentives to expropriate wealth from future shareholders or bondholders. These policies cannot contribute to the creation of long-term value and interestingly are also dissonant with respect to US disclosure laws. Michael Jensen shows how lack of integrity applies to financial reporting where managers have incentives to "manage" earnings because of nonlinearity in their compensation packages. Analysts appear complicit if not complicit in allowing managers to meet of beat earnings forecasts. These problems are compounded by the use of euphemisms such as "managing earnings" rather than "lying about earnings." Michael Jensen also argues that lack of integrity is also a source of poverty and underdevelopment in certain societies making current research by finance scholars on distinguishing between the effects of common law vs. civil law a second order effect.

Wayne Ferson

Measuring the timing ability of fixed income mutual funds

Are US Fixed-Income mutual fund managers able to time the bond market? Wayne Ferson answers this question in his presentation. This question is important considering that US Fixed-Income mutual funds represent one-sixth the value of equity mutual funds but receive proportionally less attention from researchers. Prior research shows that the typical average performance after costs of US Fixed-Income mutual funds is negative and on the same order of magnitude as the funds' expenses. However, the total performance may be decomposed into components, such as timing and selectivity ability. If investors place value on timing ability, for example, a fund that can mitigate losses in down markets, they may be willing to pay for this insurance with lower returns. This presentation focuses on managers' ability to time the bond market. Timing ability on the part of a fund manager is the ability to use superior information about the future realizations of common factors that affect bond market returns whereas "selectivity" refers to the use of security-specific information. If common factors explain a relatively large part of the variance of a typical bond return, it follows that a relatively large fraction of the potential performance of bond funds is most likely attributed to timing. However, measuring the timing ability of bond funds is a subtle problem since traditional models of market timing ability rely on convexity in the relation between the fund's returns and common factors which with bonds can arise for various reasons unrelated to timing ability. The empirical analysis thus needs to control for other sources of nonlinearity. The preliminary findings are that when compared with unmanaged benchmarks, managed bond funds have a concave relation with respect to nine bond factors implying that managers have poor market timing ability. However, when other sources of nonlinearities that are unrelated to market timing are introduced into the statistical model, the findings are that fund managers have no market timing ability in either direction. This evidence deepens the puzzle as to why actively managed US Fixed-Income mutual funds exist in the first place.

Roberto Rigobon

Wealth transfers and portfolio constraints

Portfolio constraints whether government or institutionally imposed have long pre-occupied academics and policymakers because they are thought to cause market crashes and spread financial instability. For instance, margin and collateral

requirements are thought to have contributed to the propagation of the 1998 Russian crisis. Roberto Rigobon in his presentation investigates the role of portfolio constraints in the international transmission of shocks within a general equilibrium framework. His specific focus is on the impact that portfolio constraints have on stock prices and terms of trade and their co-movement. International propagation of shocks can occur for many reasons other than market frictions. For example, the international economics literature has put forth the linkages through terms of trade as a culprit. In this explanation, a shock to one country affects its terms of trade with the rest of the world directly helping or hurting partner countries and their stock markets. The international asset pricing literature contends that common worldwide discount factor for cash flows and the law of one price is responsible for transmitting shocks if markets are frictionless. However, while these two reasons are clearly important they do not account for the full extent of international financial co-movement found in the data. For example, they have nothing to say about the surprisingly high correlation of financial instruments belonging to the same asset class. This effect could well be the outcome of portfolio constraints limiting exposure to a particular class of assets—commonly imposed on institutional investors, pension funds and mutual funds—whereby a tightening or a loosening of such constraints affects prices of all assets belonging to the class. The general framework consists of a three country, three-asset model. One of the countries is the center (developed) and the other two are peripheral (emerging) countries. The model shows that how changing the portfolio constraints in the center are responsible for causing wealth transfers to the periphery and affecting their stock markets. For example, a wealth transfer to the periphery countries improves their terms of trade, which in turn boosts their stock market while the exact opposite happens in the center country. Thus, in the model portfolio constraints increase the co-movement among stock market prices and the terms of trade of the periphery, and decrease their co-movement with the center, beyond that which is implied by the trade and common discount factor explanations. These results hold even when the periphery countries do not trade among themselves. Furthermore, the model shows that portfolio constraints cause amplification and flight to quality effects. Amplification occurs when a shock to one country has a larger impact on its stock market than that entailed by the unconstrained model while a flight to quality refers to a negative shock in a periphery country depressing stock market prices in all periphery countries while at the same time boosting the center country. These implications found are consistent with the patterns of co-movement observed in the international financial markets.

Jason MacQueen

Markowitz was wrong

Classical portfolio theory teaches us that the best way to manage equity portfolios is to maximize return while minimizing risk. In this world, managers have an expected return for each stock, a full covariance matrix and an optimizer. All returns are regarded as equally attractive and all risks are regarded as equally bad. In this traditional setting, the manager's task is then simply to optimize the portfolio to maximize return while minimizing risk. A different perspective, however, is that these days most active managers use multi-factor models of return to help them pick stocks and build their portfolios. In these models, stock return consists of a number of factor-related components, plus a stock alpha. In this new setting, the manager's task is to use both the factor exposures and the alpha to select stocks. Managers typically use a relatively small number of criteria to select stocks, which might include momentum characteristics as well

as country or industry membership as examples of factor bets and for stock specific reasons (alpha). Risk models on the other hand need to capture all the common factor and stock specific risks in the portfolio to be useful. Thus the manager makes deliberate bets on specific factors but his portfolio might include exposures to other unwanted factors, which are incidental bets. The manager's skill is represented by the portfolio returns due to its exposure to the deliberate factor bets plus any stock alpha. Unfortunately, these skill returns can easily be dominated by the noise returns from the incidental factor bets. Thus from the stock selection method that the manager uses, it is clear that not all risks are equally bad. The deliberate exposures to certain factors do not need to be minimized since they are wanted whereas the unwanted exposures need to be minimized. The customized hybrid risk model reflects managers' investment process by identifying and quantifying both the deliberate and unintended bets in the portfolio. Hybrid risk models combine a particular set of specified factors with a small number of statistical factors. The specified factors will include both the skill and noise factors that are relevant to the manager's investment process and the statistical factors ensure that stock risk is properly quantified. These models are the future of fund management because absolute return funds have become popular, as investors are more aware of the problems with capitalization-weighted benchmarks. Furthermore, it makes little sense for investors to reward managers for noise returns when they can easily be removed. On the other hand, they would be happy to pay performance fees for true skill returns which can be identified with hybrid risk models.

Robert Michaud and Richard Michaud

Issues in estimation error and portfolio optimization

Robert and Richard Michaud in their joint-presentation show how the Markowitz (1959) Mean–variance (MV) optimization, while having remained the practical standard for asset allocation and equity portfolio management for almost 50 years, suffers from estimation errors in risk-return parameters. The direct result is an unstable framework for asset allocation and equity portfolio management that causes poor out-of-sample performance.

Estimation problems with the classical MV method have induced managers to adopt ad hoc practices such as laboriously managing the inputs or heavily constraining the solution making people wonder why one should bother with optimizing in the first place. Prior research has argued that for these reasons MV optimizers have little investment value. To address these problems Robert and Richard Michaud have developed (and trademarked) the Resampling Efficiency^{TM} (RE) optimization and rebalancing algorithm. RE uses Monte Carlo techniques to properly represent investment information in the definition of portfolio optimality. The RE optimizer provides stable estimates of portfolio weights with improved out-of-sample performance. The result is better diversification and increased portfolio performance because better point estimates are obtained through resampling and RE provides a better guide as to when rebalancing is needed based on statistical analysis.