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Eugene F. Fama has been on the University of Chicago Booth School of Business faculty since 1963 and is a founding board member of Dimensional and consultant to the firm. He is the joint recipient of the 2013 Nobel Prize in Economic Sciences for his work on the empirical analysis of asset prices.

Fama (left) receives his Prize from King Carl XVI Gustaf of Sweden during the award ceremony in Stockholm on December 10, 2013.

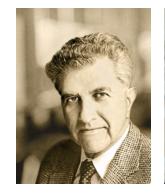
## BRINGING ACADEMIC IDEAS TO LIFE

IN RECOGNITION OF GENE BECOMING A NOBEL LAUREATE, I WOULD LIKE TO TAKE A MOMENT TO REFLECT ON THE FIELD OF FINANCE, DIMENSIONAL'S HISTORY, AND THE SIGNIFICANCE OF THE IDEAS WE HAVE BEEN RALLYING **AROUND FOR SEVERAL DECADES.** 

When we started Dimensional, we knew these ideas were important; they just hadn't been widely recognized yet. Most of the major academic research in finance was done in the 1950s, '60s, and '70s. Rigorous testing by financial economists of that seminal era led to the development of asset pricing models to evaluate the expected return characteristics of securities and portfolios. In turn, that led to a theory of market efficiency that suggested security prices reflect all available information. Studies documenting the failure of professional money managers to outperform market indices reinforced the notion that outguessing the market is tough to do.

The decision to rely on academic-not Wall Streetresearch was not an accident, even though it seemed strange at the time. Academic ideas are at the core of Dimensional's approach. Since our founding in 1981, four Nobel laureates in Economic Sciences have worked with Dimensional: Eugene Fama, Merton Miller, Myron Scholes, and Robert Merton. Gene has been a shareholder and a director of Dimensional Fund Advisors since the beginning. Merton and Myron were founding independent directors of our US mutual funds; Myron is now the lead independent director.1

Bob was a director on the US mutual fund board from 2003 to 2009 and is now our Resident Scientist.<sup>2</sup>







MERTON MILLER (TOP), Nobel laureate 1990



MYRON SCHOLES (TOP), Nobel laureate 1997

Nobel laureate 1997

ROBERT MERTON (BOTTOM), EUGENE F. FAMA (BOTTOM), Nobel laureate 2013

Only Bob was already a laureate when he started working with us.

In the beginning, not everyone was convinced we could implement our strategy successfully. The plan was to invest in small cap stocks to offer diversification benefits for institutional investors who, at the time, mostly held large cap stocks in their portfolios. Additionally, new research showed that small caps outperformed large caps over the long term.

The academic community debated whether this size effect was illusory because the cost of trading small cap stocks could wipe out any advantage in expected returns. Gene, Merton, and Myron shared that scepticism, pointing out that small cap stocks may be easy to buy but hard to sell.

To address those concerns, we established rules and methods to help us avoid costly implementation. *"Since our founding in 1981, four Nobel laureates in Economic Sciences have worked with Dimensional: Eugene Fama, Merton Miller, Myron Scholes, and Robert Merton."* 

For example, we designed our strategies to limit the amount of trading, and we remained flexible about which securities to buy and when. Those crucial early decisions became a source of added value.

For the past three decades, Dimensional has been putting financial science to work for our clients. Our record of success reflects one of Dimensional's key differentiators. Myron has said that ideas alone are cheap—implementation is what really counts. Since the beginning, we have worked closely with financial economists who, along with our internal research and investment team, are among the best in the field. We have taken much of their research —almost all of which is freely available in the public domain—and successfully implemented it.

With Gene most recently joining the ranks of Nobel laureates, I would like to congratulate him on a lifetime of achievement and for the extraordinary influence and guidance he has provided our firm since day one. Likewise, I'd like to thank all of our clients who have believed in our approach. Together, we have brought these incredible ideas to life.

Dan BButh

David Booth Chairman and Co-Chief Executive Officer, Dimensional Fund Advisors

<sup>1.</sup> The "US Mutual Funds" refer to The DFA Investment Trust Company, DFA Investment Dimensions Group Inc., Dimensional Investment Group Inc. and Dimensional Emerging Markets Value Fund Inc.

<sup>2.</sup> Robert Merton is an advisory board member of DFA's affiliate, Dimensional SmartNest LLC.

## Your Majesties, Your Royal Highnesses, Your Excellencies, Honored Laureates,

## LADIES AND GENTLEMEN:

Let me begin by thanking the committee for granting this year's prize in Economic Sciences to me, my colleague Lars Peter Hansen, and Robert Shiller.

I have learned much over the years from Lars's work and from listening to his penetrating comments on the work of others in the University of Chicago's many research workshops. I have also learned a great deal from Bob's writings and from his presentations at Chicago over the years. Bob and I agree on many things in finance, we disagree on others, but always cordially and with an eye toward learning more from someone with a different viewpoint.

Important to me personally is the recognition the Prize gives to the standing of finance in economics. When I started in the early 1960s, finance as a serious research area was just getting started. We had Harry Markowitz's magnificent Chicago PhD thesis on portfolio theory, and we had the theorems of Merton Miller and Franco Modigliani on the irrelevance of



Eugene F. Fama delivers his Nobel Banquet speech in the Stockholm City Hall on 12/10/2013. © Nobel Media AB 2013. Photo: Niklas Elmehed

the financing decisions of firms. Spurred by the coming of computers, empirical research on what became the theory of efficient markets was getting underway. That was it in terms of major paradigms. There were no good research journals in finance, and almost all the serious action in finance was at two places: Chicago and MIT.

Research in finance exploded over the next 20 years. William Sharpe, John Lintner, Robert Merton, Robert Lucas, Douglas Breeden, and others developed our major asset pricing models-prescriptions about how risk should be measured and the relation between risk and expected return. Fischer Black, Myron Scholes, and Robert Merton developed the first rigorous options pricing model. Equally important, an army of excellent young empirical researchers—Lars and Bob are among the best-entered finance, and all the major theoretical

paradigms were put through the empirical wringer many times.

Today, research in finance continues its impressive growth. Most major universities have firstrate research faculties in finance. There are now at least five excellent research journals in finance, and there are others that are better than anything we had in the '60s. The major paradigms of finance are familiar to PhD students in other areas of economics, and due to the work of people like Lars and Bob, finance now has a major role in macroeconomics.

In my view, after 50-plus years of vertiginous growth, finance

is now comfortably first among the areas of economics in which there is a rich interplay between theory, empirical tests, and the development of models to accommodate the challenges raised by evidence.

In the applied domain, finance is far and away the most successful area of economics in terms of penetration of theory and evidence into real-world applications. The expansion of the finance industry over the last 50 years parallels the development of academic research in finance and has borrowed heavily from it. Research in finance has been and continues to be a great ride. It has been incredibly satisfying to participate in the growth of finance and to know and learn from all the old giants who created the field and the new giants like Lars and Bob who continue to push its boundaries.

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