



Speech for the Investiture Ceremony as Doctor Honoris Causa of Dr. Robert F. Engle and Dr. Eduardo Schwartz

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May 8, 2024

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Rector magnifice,
dignissimae auctoritates,
huius universitatis magistrorum et discipulorum amplissime ordo,
amicae et amici omnes,

RECTOR MAGNIFICUS,
DISTINGUISHED AUTHORITIES,
PROFESSORS AND STUDENTS,
LADIES AND GENTLEMEN.

1. Throughout life, we encounter memorable days and happy occasions, such as today, when I have the privilege of delivering the laudation for Professor Dr. Eduardo Schwartz. This day brings joy and pride as we welcome into our University someone I consider both a mentor and friend, and a giant in the field of finance, as I will explain.

I first met Professor Eduardo Schwartz in 1997. By that time, he had already become a prominent figure in finance, known for his over 70 publications in leading journals and, indeed, in that distant year of 1997, Eduardo was presiding over the American Finance Association, publisher of *The Journal of Finance*, and was a professor at the Anderson School of Management at the University of California, Los Angeles (UCLA).

Although Eduardo did not begin his career as an academic, he has made significant theoretical and practical contributions to finance. One might ask, what exactly is finance? Robert Shiller, in his book *“Finance and the Good Society,”* defines finance not as an end in itself, but as a mechanism for exchanging goods and services for money, a tool that helps individuals and institutions achieve their goals and facilitates societal development. In this light, Professor Schwartz’s contributions have been crucial for understanding key factors in complex investment environments,

enhancing risk management, and often enabling decision-making under uncertainty, thereby facilitating capital allocation to development-needy areas such as natural resources, innovation, and, more recently, sustainable economic transitions.

Professor Schwartz earned his degree in industrial engineering from the University of Chile and started his career as an engineer in Chile's natural resources sector. This background later influenced his research career. Following a political change and the expropriation of his family's business, Eduardo turned adversity into opportunity and moved to Vancouver, Canada, where he pursued an MBA and a Ph.D. in Finance at the University of British Columbia, under the guidance of another distinguished financial economist, Professor Dr. Michael Brennan.

His academic journey in Canada marked the beginning of a new life. I will divide his versatile and inspiring academic path into three parts:

2. (1) His pioneering beginnings. After defending his doctoral thesis in 1975, he taught at the University of British Columbia, was a visiting scholar at the University of California, Berkeley, and at the London Business School. During these years, he began to publish groundbreaking work alongside Professor Dr. Brennan, applying stochastic modeling to interest rates, bonds, and contingent claims. In 1972 and 1973, elegant models for pricing financial derivatives had been published by Black, Merton, and Scholes, marking the advent of continuous-time finance with the introduction of stochastic mathematics. Stochastic calculus is a branch of mathematics that deals with processes involving random or unpredictable elements. This calculus is particularly useful in finance as it helps model the behavior of inherently uncertain and variable financial markets.

In those vibrant early days of “financial engineering,” Eduardo was in the right place at the right time, advancing mathematical developments in fixed income and real asset investments. “My work since has been rooted in mathematical modeling and an interest in stochastic modeling and uncertainty.”(he says)

From this era stem several of his most cited works such as “A Continuous Time Approach to the Pricing of Bonds,” “The Valuation of American Put Options,” and “Evaluating Natural Resources Investments.”

3. (2) The strengthening of an academic career. In 1986, he joined the faculty of Anderson School of Management at UCLA, in a historic recruitment led by Professor Dr. Richard Roll, another prominent figure in modern finance. At UCLA, where he directed the Chair of Real Estate Assets and Natural Resources Economics, he remained for over thirty years. During these productive years, he continued to model the stochastic behavior of prices in fixed income, equities, commodities, and real assets. He published on capital structure, the temporal structure of interest rates, asset allocation, oil, electricity prices, and investments in natural resources.

In 2000, at the midpoint of his career at Anderson School, he published along with Francis Longstaff the seminal paper “Valuing American options by simulation: a simple least-squares approach,” one of his most cited papers. This research redefined the unresolved valuation method of American options (versus European options) and opened a new pricing path using simulation.

For his impact and significance, special mention deserves his developments in the real options method for valuing investments under uncertainty. Real options provide great flexibility in

investment analysis, the potential to choose the best time to invest, expand, or exit an investment, etc., proposing itself as an alternative and complementary method to the traditional discounted cash flow method (NPV), and facilitating decision-making and capital flow to previously challenging environments.

Indeed, he is co-editor with Professor Dr. Lenos Trigeorgis of the University of Cyprus, of the book “Real Options and Investment Uncertainty,” published in 2001 by MIT Press, a compilation of advances and classical studies in the field and becoming the reference book of the discipline.

From the same era dates the paper “The Rational Pricing of Internet Companies,” which amid the dot-com stock market boom and widespread uncertainty about valuing such companies, became a model of reference, modeling uncertain elements like costs and future demand. For this seminal work, he received the Graham and Dodd Award from the *Financial Analysis Journal*. Throughout his career, Eduardo has applied real options to the exploitation of natural resources, investment projects, and the valuation of patents and R&D models.

4. (3) His recent contributions. Into the 21st century, his work has evolved towards issues related to energy transition, climate finance, and environmental economics, with papers like “Stranded Fossil Fuel Reserves and Firm Value,” “Optimal Carbon Abatement in a Stochastic Equilibrium Model of Climate Change,” and topics such as the optimal exploitation of fisheries in the oceans, or, currently, investigating about the pricing of water.

I can say that with more than 100 articles published in leading journals in the field, over 25 book chapters, having served as associate editor of more than 20 journals, including *The Journal of*

Finance, Journal of Financial Economics, and Journal of Financial and Quantitative Analysis, and being a research associate of the National Bureau of Economic Research, Eduardo is as versatile and tireless a researcher as one can find.

I cannot overlook in this journey his involvement in transferring his theoretical models to financial industry practice, now termed as “impact practice.” He has consulted for national agencies and over 40 companies and institutions, including *Merrill Lynch, British Petroleum, Wells Fargo, Pacific Stock Exchange, UBS, HSBC*, and many others. He has authored monographs and delivered over 80 professional conferences, helping to extend his models in the financial sector (today, we have representatives from several entities using his models present here).

The singular fecundity of a half-century dedicated to financial economics leads me to describe him as a Renaissance researcher of finance over the last 50 years.

I conclude this part with his words: “I move on, I change,” Schwartz says. “I started on derivatives, then did work with interest rate models, credit risk models, and, more recently, commodity models and real options, the application of option concepts to value projects and companies.”

5. With the remaining time, I would like to talk about his exceptional commitment to education and his fascinating personality, which has earned him countless friends and co-authors around the world.

There is a Professor Eduardo, educated and smiling, intertwined with Researcher Doctor Schwartz. His generosity and availability make him a beloved mentor to young professors, postdocs, and PhD students. Each year, for decades, he has welcomed a small

community of postdocs and PhD students at Anderson School to collaborate with them. In the vibrant 1990s, I remember witnessing young tenure-track professors enter his office with sparkling eyes, seeking advice on their developments and models, with the excitement of those who believe they have made a valuable contribution. He would listen and swiftly ask the right questions and identify the challenging points. Eduardo was always constructive in his critiques, focusing on key issues in a matter of minutes.

In the renowned finance seminars, where weekly, the research works of professors were presented, the presentations of job market candidates were especially interesting. The dialogue between the abundant and knowledgeable faculty of Anderson and the candidates could become very challenging. It was not unusual for candidates not to get past the second page of their presentation due to the sharp questions of the faculty. In these dynamics, I always remember hearing Eduardo speak with constructive and balanced words, almost replicating in English his soft South American accent, with courtesy and valuing the contributions of the researchers. Something that, in that competitive atmosphere, was highly valued by all the young researchers.

Due to his approachable character and proximity, Eduardo was a reference for all the young Spanish speakers at Anderson School. A long-awaited occasion was the annual meeting at Eduardo's house, where MBA students, doctoral candidates, visiting professors, and faculty enjoyed his hospitality and generosity, forming friendships. His wife, Gloria, actively contributed to this, being a wonderful hostess and facilitator of community relations.

6. I conclude, leaving a key piece for the end: his love for teaching. Eduardo embodies a commitment to teaching. On one occasion, I asked him about his classes, as they might have seemed, to me,

too basic for his level of knowledge. He told me, “You know? Teaching the basics of finance is the most difficult. You must deeply understand the fundamentals of the discipline, put together the cornerstone pieces, and provide students with a solid structure where other pieces will later fit. That’s why I like it. It’s a challenge. Teaching the beginning of any discipline is the most difficult.” He may not remember that conversation. I was impressed by this well-tuned vision of teaching. His website at UCLA reads, “I see my job, mainly, as teaching students how to think. The specific material, they’ll forget. But if they learn to think they will learn to solve the problems they’ll face later in their careers.” His meticulous dedication is evidenced by the numerous excellence awards with which, over the years, his students have recognized the quality of his classes.

Now a professor emeritus at UCLA, far from retiring, his relentless curiosity, versatility, and work capacity keep him very active at Simon Fraser University, holding the “Ryan Bedie” Chair of Finance, and teaching doctoral courses.

When he comes to Comillas, he always has his office open for professors, already having various collaborations underway. It is worth noting that some friends from other Spanish universities also know how to capitalize on his availability and generosity.

With this exposition of Eduardo’s contributions, I hope to have summarized Professor Schwartz’s contribution to the field of finance. In this dynamic field, our praise encompasses not only his outstanding academic achievements and professional excellence but also his generosity in sharing his knowledge.

May his contributions continue to inspire and guide future generations of economists and financial experts worldwide.

“Thus, Having Considered And Presented These Facts,
Distinguished Authorities And Faculty Members, I Hereby
Ernestly Request With All Due Consideration That Dr. Eduardo
Schwartz Be Awarded And Conferred The Highest Degree Of
Doctor Honoris Causa By The Universidad Pontificia Comillas”

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