Preface

Imagine walking into a banquet. At each table guests are engrossed in conversations. Walking around the hall, you observe some people going in and out of conversations, while others linger and become fully engaged. Before deciding to join one of the tables, you ask yourself which conversation you want to contribute to, and why the other guests should bother with what you have to say.[1]

The conversations about energy at the managers' table revolve around "how to supply", and their conclusions focus on resource economics and technology. At another table policymakers concentrate on environmental and sustainability issues, and the divide between continued fossil fuels usage and promoting renewables. The consumers' table is torn between demanding clean energy and whether it is fair to pay subsidies. Each group being stuck at its own table with a narrow world view, issues are obscured and causes are advocated, preventing meaningful dialogues from taking place. To redirect these conversations, our long-held beliefs and systems need to be reframed.

For example, capital budgeting is an article of faith at the managers' table that is due for reframing. Founded on the premise that certainty in cash flows is preferred, investments with predictable cash flows achieve the highest value. This truism has taken on the stature of biblical truth for managers. Where else can a single number—net present value (NPV)—hold sway, alighting managerial passions and transforming ideas into commercial reality?

This faith in the certainty of NPV is greatly shaken when reality diverges from the well-ordered world that finance presumes. In an uncertain world, small changes in costs, prices, volumes or discount rates radically alter the decision to commit or defer. This uncertainty is problematic: without intending to, managers often inadvertently focus their minds on getting the "right" answers to champion favoured investments, while finding reasons to reject competing opportunities that are "wrong". Consequently, the decision to commit boils down to competition among managerial interests (and perhaps ego). Looking back on "non-rational" decisions in the field, Lenos Trigeorgis has asserted that maybe capital budgeting as described has contributed to western firms' economic under-performance and decline.[2]

The dilemma around the proposed Hinkley Point C nuclear facility is a case in point. The prospect of large investment inflow excites the United Kingdom government because of the jobs it creates. The prospect of reviving the French nuclear industry is viewed favourably in France. To attract funding, the latest being from China, capital commitments are aligned with expected cash flows that justify commitment by Electricité de France, supported with sizeable subsidies. Fast forward to when the final investment decision is going to be taken, and cost estimates have escalated that threaten to unravel the well-crafted financial balance. As consumers realise how much the electricity will cost them, benign neglect turns to hardened protests. But weren't the financial circumstances looking viable, you may be forgiven for asking? Indeed they were, except that another cost estimate escalation will wipe out any returns—and this is before the first brick is laid at the site.

Fortunately for modern finance and strategy, a different narrative is challenging the entrenched certainty notions. Avinash Dixit,[3] in introducing the works of Benoit Chevalier-Roignant and Lenos Trigeorgis on option games, offers an alternative formulation: "When facing an uncertain future, remaining flexible until more information arrives has value, because one can cherry pick to make investments only when the prospects are relatively favourable. This is the starting intuition of real options theory. But in game theory, the strategy of making irreversible commitments to seize first-mover advantage and present rival players with a fait accompli to which they must adapt can have its own value." Dixit continues to observe that managers are faced with a question: "What does one do when facing an uncertain future in the company of rivals?" He credits the work of Chevalier-Roignant and Trigeorgis as providing an invaluable starting point for future work in this field.

Option-games reasoning provides better ways to untangle complex decisions in the uncertain world of energy investments. Providing a coherent language and framework, option games could link a number of the disparate conversations, often conducted in isolation, among policymakers and the managerial ranks.

The ability to link strategy with finance in a coherent frame has value. In formulating good strategies, Richard Rumelt starts with the intuitions that guide managers when deciding what matters and what does not.[4] Experience, however, is a poor guide for actions. Deep analysis requires rigour, which leads to greater understanding of "where we are" and of the challenges that confront the firm before getting to "where it wants to be". With this clear line of sight in place, managers can create options that open the pathways to gain competitive advantage. In effect, managers commence with an understanding of a firm's initial endowments ("where we are"), and plot the paths ("how do we get there"), often recursive, tentative and uncertain, that bring us to the firm's aspirational state ("what do we want to be") by design, rather than by hope or luck. By breaking down complex and large investments into smaller, sequential commitments, managers are given the flexibility to scale up or down, or completely abandon, as market conditions warrant.

These managerial imperatives contrast with the corporate realities that capital budgeting perceives. Through the rose-tinted glasses of NPV, initial endowments are sunk costs. It is the future payoffs that need to be optimised, by maximising revenues and minimising costs and volatilities, and at a minimum commitment price. Perhaps for this very reason, financial discourse in the managerial world increasingly becomes detached from the critical strategic decisions of the firm. This often results to the detriment of the firm's sustained viability, while shortening the Chief Finance Officer's shelf life.

The conversation becomes meaningful if finance could opine with coherence and with demonstrable comprehension of the business challenges. Business managers need to appreciate the financial outcomes of the strategic causes that they champion. Finance could start by speaking to its audience, by making complex financial and mathematical theories accessible to a wide range of managers. We can achieve this by simulating feasible scenarios and quantifying the likely impact on firm (or portfolio) value. We may start by juxtaposing the topics in finance and strategy through the use of this logical structure[5]:

1. *Initial endowments or "where we are"* examines the range of policy, economic, and strategic issues surrounding the current realities of energy firms, and how these could condition future outcomes.
2. *The options or "what we aspire to be"* recognises and articulates what an end game would look like. Option games work with feasible futures for rivals and plot the pathways by which those futures may be reached, a thought process that contrasts with capital budgeting's naive notion of ignoring how rivals could spoil the game or tactically cooperating for mutual gain.
3. *The commitment or making choices about "how we get there"* is a recursive process that combines tactical and strategic moves. As if driving through a

mountain pass, firms may encounter obstacles that require managers to change course, slow their pace as they approach a sharp curve, or speed up when the conditions warrant early and decisive action.

Having unpacked the logic and intuition behind the financial “black box”, we can address the varied interests and the mosaic of energy agenda that make up meaningful conversations and informed actions. This book will appeal to those who have a genuine interest in meaningfully contributing to changing energy conversations. Specifically, these may fall into the following categories:

1. Managers who want to understand why certain actions they take lead to outcomes that are radically different from those they have come to expect, and how they can remedy such situations;
2. Policy practitioners who aim to understand how firms formulate their decisions and strategies, in order to ascertain how policy actions could come into play by altering or supporting such managerial actions.
3. Academics whose insights might support the transmission of knowledge to a wider audience, particularly in the areas of strategy, economics, finance, and decision-making. Theory comes to life when the tangible influence exerted in these areas is demonstrated in relation to the markets and firms’ strategic actions, or in people’s daily lives.
4. People with an interest in their society’s well-being, where orchestrating effective actions, and knowing what the conversation is about, opens a meaningful contribution to public discourse.

In preparing to join the energy banquet, I owe an intellectual debt to many scholars whose works serve as foundations to my book, and to the academics, policymakers, and managers who have expounded on the intricacies of theory and policy in their businesses.

David Parker provided counterpoints to my experiences in energy deregulation and privatisation as an investment banker and equity analyst. The world is markedly enriched by David’s academic lens. As bankers, we occupy ourselves with the what while seldom questioning the why. David gave me the whys—and answers to why our accepted wisdom falls far short of the mark when practice is divorced from reality and the rigours of theory. Tarik Driouchi spent enormous time and effort at King’s College London educating me in the use and limitations of real options and option games. Tarik introduced me to Lenos Trigeorgis’s works, whose influence is more than apparent in this book. Lenos and Tarik both commented on my earlier works on managerial flexibility, real options, and option games, which are adapted in a number of the chapters included here.

Jordi Canals and Bernardo M Villegas, accomplished political economists and practitioners of business ethics, strengthened the context to the discourse around subsidies' allocation dilemmas and their effect on distributive justice and the common good. Pablo M Fernandez and Jorge Soley, both professors at IESE Business School, were generous in sharing their works on YPF's sequestration in Argentina and arranging interviews with Repsol's senior leadership. Rolando Dy, professor at University of Asia and the Pacific, and Paddy Miller, professor at IESE Business School, from his vantage point in Hong Kong, enriched the conversations with their perspectives from outside energy and finance. Their diverse views and feedback prevented me from being too locked into my own echo chamber: they help me avoid listening to my own voice and misconstruing it as the prevailing world view.

In the policy area, a breakfast with Don Chew, [6] in London, when we discussed the dynamics of energy transitions, reacquainted me with the works of Stephen Littlechild. Littlechild's "British experiment" offers us lessons on deregulation, some of which are better understood under the heading of option-games theoretic reasoning. David Parker greatly expanded the work on energy deregulation to incorporate his findings on less stellar outcomes in evolving energy markets. Raphael P.M. Lotilla and Romeo Bernardo reconnected me with my alma mater, the School of Economics, University of the Philippines.[7] Ruperto Alonzo and Maja-Leah Ravago, professors at the School of Economics, University of the Philippines, and fellows at USAID/UPecon Foundation's Energy Policy Development Programme, through their research initiatives provided the forums where I tested my emerging ideas with academics, managers, and policymakers. Antonie de Wilde, an early enthusiast for energy portfolios, introduced my works to Indonesia's Montty Girianna for policy and commercial applications. Luca Venza and the Energy Club of IESE Business School are sources of learning where I gained some of the most unexpected insights. One thing we all seem to agree on: politics is part of the value chain of energy, a realisation that does not sit well with capital budgeting's toolkits. Terence Chia, a student from Singapore who attended my lectures, described the market operator as a bartender in a Spanish bar. The bartender decides who gets the drinks—a new take on allocation and market access that pins down who arbitrates the firm's value.

Over the years, I have interacted with many more academics and practitioners. They have enriched my insights, and I am very grateful for their feedback and generosity with their intellect. However, any errors that may arise in applying their contributions are entirely mine.

A number of my colleagues at Barcino Advisers deserve particular mention. Ramon Soley Climent, Thomas Guido Aquino, Arsenio G. Barcelona, and Regina Zulueta have all been supportive with their time, patience, and introductions to managers and policymakers. Marciano Aristotle de Borja of Aboitiz Equity Ventures deserves praise for patiently coordinating meetings, information, and feedback from the firm's leadership. Various contributors are quoted in individual chapters or provided early praise. To them, I am grateful for their dialogues and their friendship.

My publisher and editors, Liz Barlow and her team at Palgrave Macmillan in London, provided useful guidance, and proved adaptable to our changing circumstances as the book evolved. Kinga Barbara Tchórzewska assisted in various ways to make my life as an author less daunting. The library team at IESE Business School proved able to promptly supply the volumes of literature that I requested periodically. Thank you Manel Prado and colleagues, Carina Huguet, Laia Alarcon, Maria Jose Castell, Ana Elizalde, Silvia Monsalve, Maria Mora-Figueroa, and Laura Rodilla. To all our family and friends, my wife Jonelyn and I appreciate your patience and your encouragement, particularly during periods characterised by my being unsociable and inaccessible. Margarita Jalbuena Ortoll's hospitality was much appreciated during our stays in Manila, Philippines, while visiting companies and writing part of this book.

My friend who recently departed for the afterlife, **Jesus M. Zulueta Jr.**, remains a continuing inspiration. His sudden demise, while accompanying the Philippine president on his state visit to Tokyo, postponed our earthly chats on topics large or small, or simply interesting to us. From his seat in the celestial banquet, with time he shall manifest his presence in our earthly discourse. With good humour, he may intercede to help resolve the mundane concerns of human society.

Barcelona, Spain and London, UK — Ricardo G. Barcelona

Notes

1. This is the advice Anne Huff gave to her doctoral students in framing the research question at Cranfield School of Management, United Kingdom. She is at present Professor of Strategy and Research Development at Maynooth University in Ireland. Prior to Maynooth, she was variously with London Business School, UK, Technische Universität München, Germany, and University of Colorado, United States, among others.
2. Lenos Trigeorgis is Professor at the School of Management, King's College London. He has written several books and papers on option games.
3. Avinash Dixit is Professor at Princeton University, United States. His pioneering works in real options theory are among the foundations that current works in the field are built upon.

4. Richard Rumelt is Professor at Anderson Business School, University of California, Los Angeles, United States. McKinsey & Co. refers to him as "strategist of the strategists".
5. Chapter 1 provides an outline of the clusters of topics in and organisation of this book, which will allow readers to explore their specific interests.
6. Don Chew is Editor-in-Chief, *Journal of Applied Corporate Finance*, New York, United States.
7. Romeo Bernardo chairs the Foundation for Economic Freedom and was formerly Under-Secretary of Finance, Government of the Philippines.

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