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Best practices for the global commodity market within the functional disciplines of trading and risk management

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**Best Practices for the Global Commodity Market Within the Functional Disciplines of
Trading and Risk Management**

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This work is being submitted to Middlesex University
in partial fulfilment of the requirements for the degree of
PhD by Public Works within the discipline of
Work Based Learning

Middlesex University, London, UK

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Abstract

This context statement is a critical reflection on several of my public works and books from my 30+ years career in the global energy and commodity industry. I summarize my achievements in the professional research and development of best practices in the functional disciplines of trading and risk management, my contributions to written knowledge and academic writing, and the enhancement of university education around the world. I also review and reflect upon my innovations in practical solutions, approaches, and methodologies to real-world issues for the commodity industry.

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Setting the Scene

Context and Background to my Works and Those Selected

I am a true experiential lifelong learner. I left school at 16 to pursue a career in London. I worked as a clerk on the International Petroleum Exchange. At the time, the exchange was based at the St. Katherine's dock, close to the Tower of London in the UK. This job began a career, now spanning over 30 years in the commodity and energy trading, investment, and financing industries.

I gained over 30 years' commercial exposure through a broad range of senior executive roles in trading, investment management, and commodity finance. I have consulted governments and multinationals for advice in market developments and the health of business ecosystems in energy and commodity space. In 2014, I served as a Senior Energy Advisor to the U.S. Department of Defence (TFBSO). In 1999, I co-founded the Technical Analysts Society of Singapore. I also have been a member of the Energy Institute (UK) since 1991. I have shared my knowledge and developed best practices for my industry in energy and commodity trading and investment as a published author. I documented and shared my extensive industry expertise through a series of over 10 books (see Appendix B). Some of these books have become required material for professional exams and universities over the years, with National Aeronautics and Space Administration (NASA), other government agencies, and academics from around the world citing these books.

In putting this context statement together, I first catalogued all my public works, amounting to over 100+ publications, articles, and presentations. I then reviewed those books to select publications that showed the most contributions to knowledge in my industry. A key indicator that I used to gauge the application of my works by peers was to use the Google Scholar citation system to check published citations of my public works. I found over 150 specific citations of my publications in others' works, mainly concentrated in my Energy

Markets, Commodity Market Trading and Investment and Deep Space Commodities book publication. Therefore, I focus my review on these three books.

I next aimed to use the indexing software that I created as the main index references for my book publications (as publishers usually require this process, along with the manuscript). I data mined all my public works and presentations to find key echelons. Within each of these themes, the key purpose of all my publications has entailed developing best practices about that specific topic.

This first step showed recurring key themes. I created my main four categories and subcategories in a context tree (see Figure 1). A context tree refers to a figure for expressing the derivative branches of knowledge. For example, in my tree below, the root of the tree is commodities markets. This tree then branches into the key topics within commodities, namely risk management, trading, market analysis, and future trends. Each of these subtopics then further branches into content areas that my work has addressed within, with each conceptual stratum of the tree represented in a different colour. I showed where my public works contributed to professional and academic knowledge.

The next step involved analysing the frequency of key echelons related to the themes in my context tree against my public works.

Once this step was completed, I reviewed and examined the professional and academic impacts/kudos of my professional works. I decided to consider which publications were used in professional courses and university programs. I also deduced which works had been recognised by professional organisations in the related fields.

Map of Themes Review

The key themes/categories included the following: risk management, trading, market analysis, and thought leadership (see Figure 1).

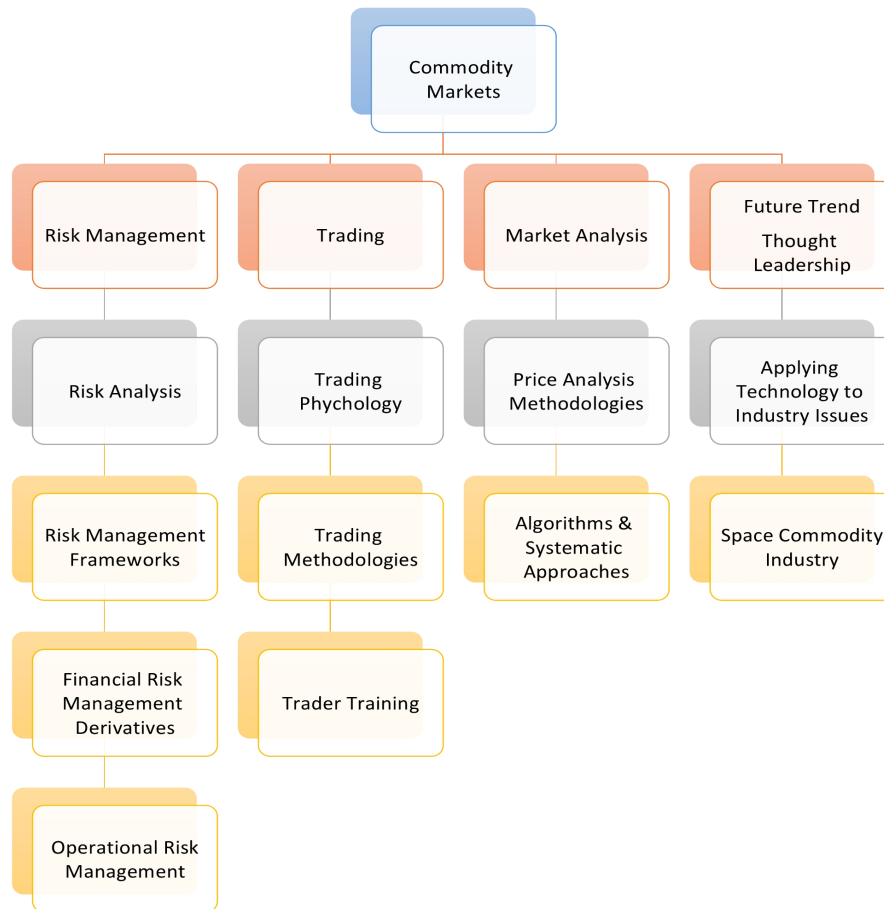


Figure 1: Context Tree (Source: Thomas Glyn James, 2021)

After completing the mapping exercise of my public works against the context tree, some questions remained concerning the public works that held the most professional and academic kudos. I also sought how each represented each of the following four attributes: usefulness, theory, new thinking, and contributions to knowledge in the field.

I concluded the four categories of my work that were most impactful included the following (see Figure 2 for the four subcategories):

1. Risk Management
2. Trading
3. Market Analysis
4. Future Trend Thought Leadership

Each of these four categories related to the four attributes of usefulness, theory, new thinking, and contributions to knowledge in the field. In this review, the selected three public works demonstrate these four categories of my work. Regarding risk management, risk management is essential not only in trading but also in arguably any endeavour. Therefore, it clearly supplies utility. I have also theorised about risk management regarding the specific systems I have developed for it and were cited as from a thought leader in this field (e.g., Fusaro, 2008). Overall, I believe I have contributed significant knowledge to this category, especially in my work, *Energy Markets Price Risk Management and Trading*.

The second category is trading. Trading's utility is evinced by the extensive stock market that engages in trading. In terms of theory, I have sought to develop a theory of how to trade both commodities and energy that considers the specifics of the context surrounding them. Other experts, such as Cohen (2008), acknowledged my thought leadership and contributions to knowledge in the field of trading.

Regarding market analysis, the usefulness of this topic derives from the usefulness of trading. Market analysis is a key part of trading. Because both trading and risk management theory contribute to market analysis, I believe that I have not only contributed significantly to theory on market analyses through my work on risk management but also more directly. Based on this same work and others' words (e.g., Cohen, 2008; Fusaro, 2008), I believe that I am a contributor of thought leadership in these areas. In this category and the second category of trading, I believe I have contributed significant knowledge, especially through my public works, *Commodity Market Trading and Investment* (2017) and *Energy Markets Price Risk Management and Trading* (2007).

Finally, the category of *Future Trend Thought Leadership* is best evinced through my work, *Deep Space Commodities* (2018). In this book, I offered utility through looking ahead to many of the key commodity issues that would arise regarding space. This book was one of the

first attempts at a theory of space commodities, meaning it represented both theory and new thinking. In addition, by posing key questions pertaining to where space commodities theory should go next, I offered thought leadership in a future trend that I believed would become of great importance.

I mapped my 10 main published book texts against the four subcategories of my public works. I did this because these titles probably achieved the broadest circulation amongst my industry. Thus, these publications could have had the most impact on written knowledge contributions.

		COMMODITY MARKETS														
		RISK MANAGEMENT		TRADING				MARKET ANALYSIS				FUTURE TREND				
		Risk Analysis	Risk Management Framework	Financial Risk Management Derivatives	Operational Risk Management	Trading	Trading Psychology	Trading Methodologies	Trader Training	Market Analysis	Price Analysis Methodologies	Algorithms & Systematic Approaches	Thought Leadership	Applying Technology to Industry	Space Commodity Industry	AI & Digitisation of Commodity Trade Industry
Deep Space Commodities: Exploration, Production and Trading Hardcover – August 8, 2018 (Palgrave) By Tom James, Author & Editor	1															
Commodity Market Trading and Investment: A Practitioners Guide to the Markets (Global Financial Markets) By Tom James (Feb 2017)	2															
Energy and Emissions Markets: Collision or Convergence (Wiley Finance) by Tom James (2010)	3															
The Wiley Trading Guide, Volume II Hardcover – November 21, 2011 (Wiley US/Australia) Tom James contributing author	4															
Energy Hedging in Asia (New Version) Hardcover: 382 pages Publisher: Motilal UK Books of India (December 1, 2010) By Tom James and Peter Fusaro	5															
Energy Price Risk Management - Chinese Mandarin Language By Tom James Published by Beijing Economic Press - July 2009	6															
The Professional Risk Managers' Guide to the Energy Market (PRIMA Risk Management Series) 1st Edition, Contributing Author Tom James (2007) McGraw Hill Publishing	7															
Energy Hedging in Asia: Market Structure and Trading opportunities (Finance and Capital Markets Series) Hardcover – 2 Aug 2005, Palgrave Macmillan, by Tom James and Peter Fusaro	8															
Agribusiness and Commodity Risk: Strategies and Management Contributed as Author to a few chapters in this book.	9															
Energy Price Risk: Trading and Price Risk Management Hardcover – December 3, 2002 Palgrave Macmillan, By Tom James	10															

Figure 2: Mapping of Book Publications Against the Four Key Subcategories of my Commodity Market Public Works

Evidence of Contribution to Knowledge

In seeking to create a comprehensive understanding of my contributions to the body of human knowledge, I began with the above process. This process entailed reviewing my 10 existent public works, then isolating the four key categories/themes in those works: (a) risk management, (b) trading, (c) market analysis, and (d) future trend thought leadership. Appendix A contains a complete list of my public works. I refer to many of these works in this chapter. From this full list of works, I then identified which public works had the most professional and academic kudos. I considered how each one represented the four core categories that I isolated (via my review of published works): usefulness, theory, new thinking, and contributions to the field.

Based on this narrowing process, I selected a list of three of my public works that both addressed these four key themes and had the most extensive list of professional and academic kudos. These three works were deemed my most impactful works contributing to the sum of human knowledge. This set is discussed in the following subsections. Although these works do not represent the total sum of my contributions to knowledge, each represents the essence of that contribution. In addressing the three works, the following sections review the content, ethics, significant outcomes, and new knowledge presented in three of my most impactful books.

Commodity Market Trading and Investment by Tom James

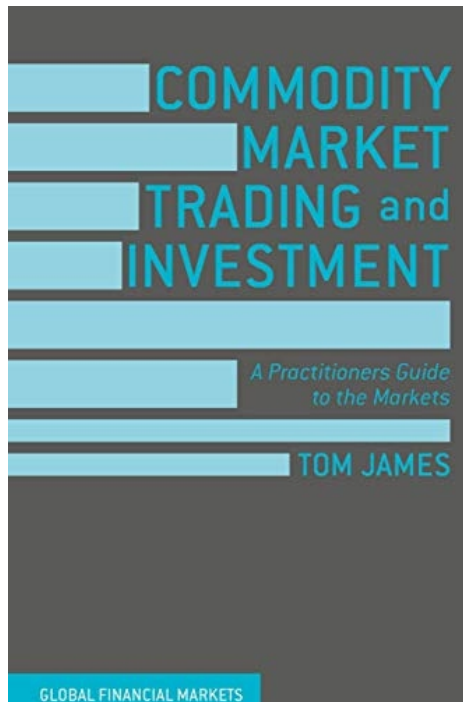


Figure 3: Image of *Commodity Market Trading and Investment* Book Cover

Accepted for publication in 2016 (Published: February 15, 2017). This book shows practical knowledge, analysis, trading techniques, and methodologies required for managing key international commodities. I believe this book is one of my most significant published works. The book meets the three critical categories of trading, market analysis, and commodity market risk management.

I wrote the book as an easy access book for traders and non-traders exploring a new asset class called “Commodities”. As I discussed in the book, commodity markets are one of the oldest forms of human commerce, dating to ancient Sumer approximately 6500 years ago. In some sense, commodity markets represent some of the most basic types of trade, encompassing a wide array of goods and services. However, this simplicity is deceptive, and market leaders have developed complex ways of dealing with such issues.

Therefore, one key innovation—and the key idea behind the book—is that new traders need to be made aware of the full nature of the market. I introduced my proprietary developed

market analysis methodologies, contributing to new thinking in market analyses (Chapter 6 concerns understanding the fundamentals of commodity markets, and Chapter 7 concerns applied technical analysis for commodities). These innovations are made manifest as the strategies that I described in the book. I developed these strategies through my professional practices, combining what I learned from available educational resources with my own experiences as a commodities trader.

One of these innovations is the consideration of psychology. I provided insights about trading psychology (Chapter 8 concerns building a disciplined trading approach), which I had practised and developed whilst managing trading teams during my long career. When adopting a psychologically driven approach to commodities trading, one key aspect is that, as a trader, a person must consider their own psychology and that of other traders. The importance of a disciplined trading approach is an innovation that I came to over time by observing myself and others. Without discipline, it is easy to be overcome by the moment and make rash choices that carry high financial costs further down the line. At the same time, one should understand the psychology of others because psychology, both group and individual, determines many market reactions. Coming to this conclusion was not an innovation that arose from any single experience, but rather from an aggregate of a great many experiences as a trader observing both my own trades and those of others.

I wrote the book as a practical handbook to orientate an individual to commodities, show the fundamental economic drivers of each commodity type (metals, agricultural, and energy), and introduce concepts and methodologies about financial analysis of the traded markets in these commodities. The importance of each individual type of commodity represents a level of detail that I came to feel was important to introduce to new traders. Those unfamiliar with the intricacies of trading may somewhat naturally assume that two products, such as metals and agricultural products, will behave similarly. Although I did not offer an in-

depth analysis of all the ways in which these products differed from one another, I attempted to impart onto my reader a key sense of the kinds of factors that drive each one. Understanding these differences is key to imparting a novice trader with the basic knowledge needed to have a chance of navigating the market successfully. Moreover, dispelling such innate but wrong assumptions is something that I came to feel should be key in a text intended to introduce the subject matter. Intuitive misconceptions can become the most dangerous, as people may often not stop to think about such thoughts, much less question them.

Finally, as a key closing insight, in Chapter 11, I covered commodity market risk management. Capping off with risk management added to the message of discipline and ended the discussion on a cautionary note. This book presented a one-stop guide from the markets to practical approaches to make trading choices. I showed how to apply these approaches to best manage a trading plan as a human trader.

I explored each aspect of commodity trading in detail so that the reader could implement effective techniques to build a strong portfolio. Early chapters showed the current scene of commodity trading markets before discussing the fundamental instruments and tools used to navigate commodity markets. I also provided detailed empirical case studies of traded natural resources to explicate professionals' financial instruments used to invest and trade successfully. I discussed financial risk management in commodity transactions, trading techniques, and market analysis techniques developed from practising over 25 years of active trading and teaching my clients and peers. Later chapters showed the psychological and behavioural influences behind optimal market trading; I encouraged the reader to understand and combat obstacles preventing them from reaching their full trading potentials.

In writing this book, I considered key ethical issues. I focused on helping readers build their portfolios—an ethically fraught subject. Although I believe my experiences added validity to offering this type of advice, there is an inherent ethical risk in any document

intended to help readers undertake potentially risky financial decisions. Investments always involve a modicum of risk, which is why such investments are more profitable than simply putting money into bank accounts or government bonds. However, not all readers are aware of this possibility, either in a technical or practical sense. Even if they intellectually understand that the market is a risky business, this understanding may not extend to shaping their perceptions of engaging with it.

From this perspective, there is an extensive ethical onus on a person writing a book about investment to ensure that the risks remain expressed properly. Thus, I paid attention to this ethical challenge. I made certain that the final chapter of *Commodity Market Trading and Investment* (2017) remained dedicated to risk management. Making risk management the final subject addressed in the book was a deliberate choice because the last topic in a book would often leave the strongest takeaway message. Therefore, I strove to ensure that my readers ended with a detailed discussion of the risks faced as an investor and how they could navigate those risks effectively. To this end, Chapter 11 spanned 26 pages, not making it individually the longest in the book, but exceeded only by Chapters 3 and 6 in length. These chapters contained the central discussions of core concepts within the market. In this regard, I strove for ethics in my work by ensuring that my readers remained fully informed regarding a central aspect of the market.

Even with this done, however, there remains the larger ethical issue of ensuring my book offers my readers sound financial advice. This is trickier, as all people—or at least most—can tend to privilege their views. Therefore, I carefully reflected on my experiences over the course of 25 years to ensure that I provided my readers with ethically sound advice for navigating the commodities market. In the face of a vast volume of experiential data, I found it reasonable to conclude that my experiences *are* significant enough to pass on. If I had not found success within this market, along with others, I would not be where I am today,

either financially or with respect to the platform upon which I have launched and advertised my books. Although some success can come from luck, my 25 years of successful industry experiences would seem adequate evidence that I am qualified to write on the subject and can offer sound advice to those looking to enter the commodities market.

***Energy Markets Price Risk Management and Trading* by Tom James**

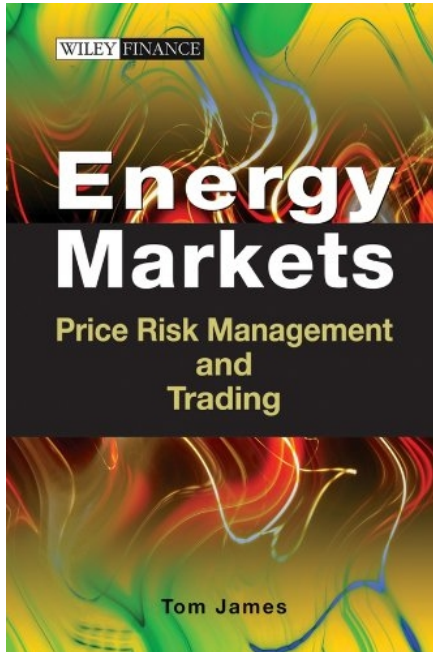


Figure 4: Image of *Energy Markets Price Risk Management and Trading* Book Cover.

The publisher for *Energy Markets Price Risk Management and Trading* is Wiley. The book was first published January 4, 2008, with a second edition in November 2012. This book contained the practitioner's guide to trading markets and optimizing company performances using correct price-risk strategies and tools. I believe this publication contributed to the energy trading and risk management industry. The book was one of the first practical, easily readable, non-jargon books covering key topics from trading, risk management, market analysis, hedging, and legal contracts for alternative risk transfers via over-the-counter derivatives with leaders of other energy firms, traders, and insurance company managers. The publication contributed written knowledge from experiential learning from my career. I also contributed to new thinking on applied technical analysis to energy markets.

The book has proven useful to the industry, becoming required exam reading material for the Global Association of Risk Professional (GARP) or Energy Risk Professional (ERP) qualifications (www.garp.org). Many university educators use the book as part of their reading lists for commodity trading/risk management modules. One such school with educators who use the book is the University of Petroleum & Energy Studies (<https://www.upes.ac.in/about-us>).

The book was published in English, later becoming the only energy risk management book published in Chinese by the Beijing Economic Press and Russian. The book was also sponsored by the New York Mercantile Exchange (NYMEX)—the world’s largest regulated energy marketplace. Based on these publications in different languages, I believe the book greatly contributed to this field.

I believe this book is one of my most significant published works. The book meets all the key identified categories found in my multiple public works: risk management, trading, market analysis, and thought leadership. I wanted to write this book based on the key insight that existing publications in the field were excessively technical in a bad way. Although risk management is a key topic for anyone—in any field, ultimately—and its application to energy is critical knowledge for would-be energy traders, this type of bad technicality represents a barrier to entry.

By bad technicality, I mean that prior publications were heavy on industry jargon. This type of jargon is pervasive in the industry, but its use assumes familiarity with basic—and often advanced—concepts. In this regard, jargon or bad technicality prevents those not already familiar with the field from easily gaining entry. They must gain familiarity to understand such jargon, but the presence blocks many avenues for learning. Hence, there was an unmet need for a plain-speaking practical guide that could help overcome these barriers to entry.

I am proud that despite setting out to create a plain-spoken, practical guide, my work was received as being thoughtful and useful even to others with expertise in the field. The book was also heavily peer reviewed. The following quotes show some unsolicited public comments posted online about this book:

This is a thorough, comprehensive, timely and well-written book on the very important topic of energy derivatives and their use as tools for risk management. Energy trading and energy risk management strategies have resurfaced against all over the world.

(Review by Shree Vikas in The Energy Journal, published by the International Association for Energy Economics Vol 26, No.2 pp. 133-136)

If you want a nice mixture of infrastructure info and risk management principles for this sector of the derivatives market, this book is a good investment, Not overly burdened with the mathematical models underpinning pricing for every single type of instrument in existence, I really like this book for giving me both a decent range of information on the nuts and bolts of how these are traded, and the macro principles involved in examining their risk context. (Review on Amazon.com by Danae Savitri, verified purchaser, 25 January 2008)

It serves as a great introduction to the energy markets as whole. The fundamentals of trading and price risk management are sound and solid... a good read made easy by the very good explanatory skills of Mr James. A very good introduction to the energy market as a whole. (Review on Amazon.com by DK, a verified purchaser, 1 June 2020)

This provides an excellent introduction to the energy markets and associated risk. Clearly written without getting overly bogged down in unnecessary formulae. Highly recommended for anyone wanting an in depth understanding of energy markets.

(Review on Amazon.co.uk by Mike Reeves, 5 July 2008)

Based on these experiences and the overall sales success of the book (around 3,000 hard-back copies sold in a niche market), I concluded that I was correct in thinking such a volume would offer the widest possible utility. Although the work was practical and plain-spoken, it did not lack key technical information. Instead, this information was presented in a more approachable fashion that I hoped would make it accessible to newcomers and industry veterans alike.

I presented best practice parameters developed for the global energy industry on financial value at risk and stress testing modelling in Chapter 8, meeting the risk management category. I discussed management controls, which emerged from developing best practices-based synthesising and my observational learning. Such learning occurs through observing the behaviours of others. Observational learning refers to a form of social learning that takes various forms, as based on numerous processes. In humans, this learning requires a social model.

In my opinion, the social model entailed my workplace, peers, and industry. Writing the book proved an interesting exercise in turning my own observational learning into “book learning” for others. Although I am a deeply experiential learner, I was keenly aware of the lack of resources available to me when I started out. Though I succeeded, in part through my predispositions to experiential or observational learning, I still would have strongly benefited from such a text. Moreover, I went into writing this volume with awareness that there were others in my position who were not experiential learners. For these individuals, better resources for more academically derived modes of learning are especially important. Therefore, I wanted to use my own experiential learning style to synthesize something that would help both those with that same learning style and those who do not share it.

The book aligned with the thought leadership category. In Chapter 1, I developed the “Risk Matrix” to present my illustration and thesis. I suggested that, practically, risk in a

trading organisation could not be completely alleviated. Leaders merely transfer or transform that risk from one type of risk to another. I indicated the importance of reviewing all risk in the organisation from a holistic perspective. Otherwise, business leaders may move risk from one type (e.g., price risk in the commodity markets into a cash-flow risk or credit risk), and they must now manage this new type of risk.

I provided practical examples from the energy and commodity industry, showing innovations and failures in the market. Thus, I developed an approach to analyse risk in an energy organisation. These examples offered not only the basis for my models of risk management in the energy sector but also strong evidence for those models. I believe it important to present such evidence where possible, so I do not simply ask readers to take my word for it but show them how and why I developed the key insights that I did and how these shaped my engagement with the energy commodities market. I also explored global carbon markets and the development of a global carbon market in Chapter 5. I explored approaches to reduce the net carbon impact of energy through emissions markets and trading mechanisms.

In Chapter 14, I found the book aligned with the market analysis and trading categories. I presented my unique practical framework for analysing energy market price movements. Others could use this framework to predict optimal timings for consumers or producers locking in low or high prices via the derivatives markets. This book contained a complete analysis solution and approach, thereby contributing to the written knowledge of the industry.

In Chapter 13, I found this public work aligned with the trading category. I presented multiple hedging applications and scenarios for end users, producers, and traders of energy.

Much as in the first book, the ethical issues that I confronted in writing *Energy Markets Price Risk Management and Trading* stemmed from two primary issues: the ethics of offering financial advice at all and using my own experiences as the basis for that advice. The energy market is less basic than the commodities market because it is relatively more recent

and quickly changing. The fast-changing nature of the market added an additional level of ethical consideration to writing this book, namely the ethics of whether a book based on my long experience remained fully relevant in a fast-changing energy sector.

As risk management is a particular area of expertise for me, I placed great emphasis on that topic in *Energy Markets Price Risk Management and Trading*. Although I did not make the topic the final issue discussed in this book, it remained covered in two of the final three chapters—and, indeed, was the *central* issue in this book. Therefore, the issue of acknowledging the risks implicit in energy trading and managing those risks appropriately remained in a strong “take away” position within this book, helping to ensure that my readers would conclude the book with a strong awareness of risks and my insights into managing such risks. I believe that this rearward positioning of the risk discussion will ensure that readers do not read about the risks at the beginning, then forget about those risks as they become engrossed in the subject.

The content of my work is drawn from my practical experiences. Researchers, such as Varvis (1999), discussed the ability to produce new theory by distilling practice. Although not all practical experiences can be generalized into theory, certain aspects of theory generation can be deeply grounded in certain kinds of practice. For example, regarding energy markets, my experiences were not merely a single data-point drawn from my own trades. Instead, these experiences were collected from a career of not only making trades on behalf of many clients but also watching the market as a whole and observing outcomes of bets or trades made by my contemporaries, co-workers, and competitors. This wide-ranging experience is of the sort well-suited to transitioning from practice into theory because of its breadth and generality.

Regarding the applicability of my expertise, the quotes provided above by Stowers (2008), and others showed that it was not merely self-perceived. Instead, my expertise was acknowledged by external sources and my peers in the financial industry. Although I worry

that writing this document may elicit the perception of arrogance, I say it not to brag but merely to emphasize that I do have reason to believe I am qualified to offer such insight. The book was adopted as required reading by the GARP qualification, which seemed to validate this perspective further, for which I am glad. In writing these books, I desired to share my experiences and expertise with others, and to have unintentionally shared information that was harmful would have deeply troubled me.

Regarding the fast-changing nature of the market, I adopted two strategies to ensure that changing market conditions would not void the book's value. Firstly, I addressed emerging trends in the market, such as through Chapter 8 on emissions trading. Secondly, and perhaps more importantly, I oriented the book toward general principles rather than specifics. Therefore, even as markets shift in specifics, such as with the emergence of green energy markets, the underlying principles of risk management that I conveyed in the book should remain unchanged. In this regard, even as the market has developed, I believe that my book has remained relevant, applicable, and only minimally in need of updating.

***Deep Space Commodities* by Tom James**

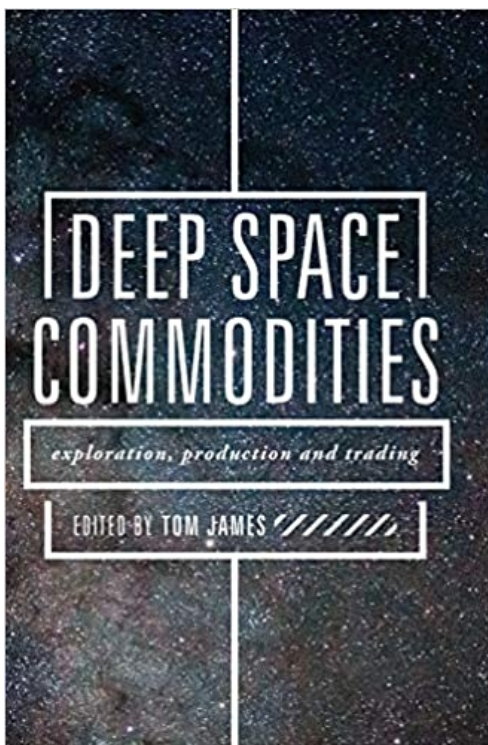


Figure 5: Image of *Deep Space Commodities* Book Cover

The publisher for *Deep Space Commodities* is Palgrave Macmillan. The book was first published August 8, 2018.

I edited the whole book and authored six of the 12 chapters in this publication. I wrote on the topics of deep space commodities and the new space economy, the science behind space law and technological developments, artificial intelligence and machines exploring space, scouting for resources, asteroid mining concepts, and space defence protection of the planet against asteroid threats. I found it interesting to interact with a set of global leading space-related experts from academia, business, and law. From them, I selected a variety of complimentary written chapters to cover key commercial issues faced by companies in space (e.g., legal issues around ownership of commodities in space), international legal frameworks for asteroid mining, and even the economic viability of Mars colonization.

I believe this book represents one of my most significant published works. I found the book aligned with three of the four key identified categories in my multiple public works: trading, market analysis, and future trends/thought leadership. Moreover, this book represents a different focus from my others. Although it continues to place focus on commodities, it is less a prescriptive guide to addressing a particular market and more a conceptual discussion of the emerging space era and second space race.

These are important issues that will have great ramifications going forward. Yet, even as interest in space has seen a resurgence, many of these more technical and legal issues have been left out of the discussion. This observation led me toward the subject matter. As efforts to return to space, such as those of SpaceX, are increasingly in the news, hashing out the specifics of how space commodities will work in practice remains important.

Deep space commodities refer to a new market and space economy. In the book, I introduced this subject for global boards of directors to evaluate and review possible risks and

opportunities. Leaders can learn the importance that such a new space economy has for their organisations.

I contributed to society by providing a readable and accessible book. Anyone, even without a scientific or engineering background, could find engaging and beneficial information in this book. I explored key practical topics concerning applied technology in space mining, space law, and rights of ownership in space. For the first time, I answered some key commercial questions while raising awareness about challenges that leaders must still overcome in the new space economy.

Answering these questions—and determining what issues remained—involved the careful synthesis of theory, practice, and law. In some cases, these issues were clearly spelled out in existing law, whereas other conclusions must be drawn from the extrapolation of existing legal frameworks and principles that should apply equally in the space context. These issues are the “nitty gritty” of leveraging space for commercial purposes. Given the entrance of private firms, such as SpaceX, into the space race and the key role that firm leaders will play in the extraction and utilization of space resources, these issues are important and yet often overlooked.

I conceptualised the book during a discussion with the Board of Directors of BHP Billiton (global mining giant). We discussed whether they had considered this subject to ensure they remained updated on the new space race. The literature lacked a publication for ease of reference, with an author exploring some answers while raising important questions for management in the commodity field. Management can use the outcomes to understand further deep space economy and opportunity, which was my goal with the book. Yet, if the book was written with an eye toward managerial usage, I tried to adhere to the same practical and plain written principles that guided my other works. These principles ensured that my work remained accessible to the widest possible audience, and corporate executives were not the

only stakeholders with a vested interest in the answers to the questions that I addressed. Potential audiences include space enthusiast, lawyers, investors, and even government actors. The value of the work to even governmental agencies is based on NASA's use of it.

NASA cited this book twice in the following works: *Prospective in Deep Space Infrastructures, Development, and Colonization* (Bushnell and Moses, 2020) and *Commercial Space in the Age of "New Space" Reusable Rockets and The Ongoing Tech Revolutions* (Bushnell and Moses, 2018). Based on these citations, the book was a valuable addition to its field, making it important to mention in this paper.

In addition, Leaders of the American Astronautical Society recognised this publication. The book was Identified as a candidate for the 2018 Eugene M. Emme Astronautical Literature Award, presented annually by the American Astronautical Society (AAS). Since 1982, leaders of the Emme Award, named after the first NASA historian, used the award to recognise an outstanding book serving public understanding about the impact of astronautics on society and its potential for the future. The award indicated that originality, scholarship, and readability were presented in the book, seeming to vindicate my attempt to ensure that the book was plainly written and readable, even to those without a background in physics, engineering, or global business.

Indeed, the wide array of stakeholders to whom the book is relevant is another reason I strove for plain writing. Had I adopted the jargon of physics, engineering, or business, two of the three main audiences would have been partially or wholly excluded from benefiting. Instead, the result has been a text that I feel was validated and widely accessible to people from all three backgrounds and more beyond.

I found this publication aligned with the future trend thought leadership category. I wrote the first commercially orientated book on the subject matter. I discussed the subject in a

non-scientific and non-engineering language. The book was also heavily peer reviewed. For example, the following quotes are some public comments on this published work:

Professor Tom James, an expert on global natural resources, has now focused his decisive intellect on resources in space and their commercial exploitation. I have been intimately involved with satellites and the military use of space for some 30 years, but it is only recently that these broader opportunities in space have become apparent. The Book is fascinating and very timely. A must for individuals and those involved in the off planet endeavour. (A. West, Admiral Lord West of Spithead, Former Chief of Defence Intelligence, Head of the Royal Navy and UK Security Minister, 2018, personal communication, 8 August)

Deep Space Commodities is a must-read for all those interested in the emerging field of space commodities. Commodities expert, practitioner and incisive thinker, Tom James, has drawn our attention to an area that is set to become increasingly critical in the coming years. He writes very clearly and engagingly... A breath-taking subject matter. (S. Nikoline, Cummings, Professor of International Relations and Founding Director of the Middle East, Caucasus and Central Asian Studies Institute at the University of St Andrews, UK, 2018, personal communication, 8 August)

Regarding the ethical aspects of *Deep Space Commodities*, there was a unique ethical concern that because space was a relatively new and emerging topic, the issues at hand could quickly become outdated. This issue of ethics was addressed first and foremost by an emphasis that all the knowledge in the book was offered on a “to the best of our understanding at the moment” basis rather than a definitive one going forward. Many legalities regarding space had not yet been tested in a meaningful way because the technologies to go to space in a commercial capacity beyond satellites was only newly emerging.

The other way in which I addressed this significant ethical aspect was by raising issues. Rather than trying to offer a book that had only answers, I instead strove to combine an appraisal of what was already known about space commodities, emphasising all the uncertain things which remained to be settled. Thus, I aimed to educate readers—especially those at the corporate leadership level—about issues that they might wish to investigate. In essence, by bringing attention to these issues in a publication aimed at those with a say or stake in such issues, I hoped to not only document existing knowledge but also to push toward finding answers to key questions that had not yet been fully addressed.

Another facet of the ethics for *Deep Space Commodities* was that it was less squarely within my area of expertise. Though I am an expert in commodities and resources, I am less intimately familiar with space. This ethical hurdle was tackled in two ways. Firstly, I made every effort to educate myself based on existing documentations. I drew upon my existing expertise, as finding such information about space was not so different from finding it about other resources. Secondly, while writing the book, I engaged with other key stakeholders, such as the board of BHP Billiton. This engagement served to ensure that I considered all relevant information and perspectives.

Because, unlike the prior book, *Deep Space Commodities* was less prescriptive, there was less ethical concern associated with offering my strategies to others. However, in exchange, there was the new ethical complication of ensuring that I wrote the book from a balanced perspective. Given the speculative and developing nature of the subject matter, it would be easy to unintentionally privilege one viewpoint or perspective. I made a conscious effort to avoid this issue, except where I believed that one view was more correct over another; in those cases, I made my appraisal clear and sought to support it with evidence. Therefore, I believed I addressed the ethical issues surrounding *Deep Space Commodities* comprehensively and appropriately.

Critical Review of Development as a Reflective Practitioner

Commodities are the lifeblood of economies. If people do not effectively manage that trade and the risks associated with that trade, both financial and otherwise, it can have a negative impact on the processes and livelihoods of everyone, including consumers and manufacturers. Therefore, commodities can have a broad impact on an industry.

When I joined the international commodity industry in 1989, I found no books or courses about the energy and commodity trading industry. All literature included discussions about on-the-job learning. Today, a review of the academic literature prior to 1989 substantiates this belief. Today, this literature search can be carried out easily using Google Scholar; then, it could not, and research had to be found by a much more manual and time-intensive process.

Moreover, although Google Scholar does generate results, many from that era are in places I would not have thought to look. For example, early studies on the commodities market by Cox and Michael (1986) or Sotos and Bowen (1976) appeared primarily in law review journals. Although my current work involves examining law, as evinced in the discussion thereof in the prior section, I would not have thought of this category as an entry point then. In an era where finding research depended significantly more on looking in the right place, this strange categorization had far-reaching implications for entering the field.

Additionally, research, such as Cox's (1976) article on the trading of stock futures published in more natural sources, such as the *Journal of Political Economy*, was hardly suitable for an introductory course. Instead, this research was quite technical, addressing models rather than introducing the material. Although this application was, of course, appropriate content for academic journal articles, it meant that the resources available at the time were poorly suited to my needs. Given the lack of material upon which to base such courses, it was perhaps unsurprising that I could not find them when I looked.

In the mid-1990s, a limited number of commercial courses on learning about the commodities market became available; however, university leaders did not develop such courses in the 1990s. Research from the 1990s also remains sparse, although what can be found today in a search includes more technical information, such as Brown, Holland, and Mensch's (1991) article on a computer system for the trading of commodities futures. Yet, this research did little to alleviate the need for training on the commodities industry.

As my career progressed, I not only lacked these materials that came to motivate me; I also began teaching and writing about international commodity trading and risk management topics due to a lack of training material available for users of these markets. Practical experiences with others who needed this information motivated me to create it.

One early motivation for this need came when I worked for some bank leaders. These leaders wished and needed to educate their customers regarding the industry; they needed to help customers understand the industry to convince them to invest in commodities. Over time, I began to create materials for these purposes and discovered that I had a talent for it. After early efforts to help customers, I found myself also facing colleagues—especially new hires—who entered the field faced with the same dearth of education as me. Because I already developed materials to help customers, it became a natural extension of my efforts to write similar materials to help my peers understand the industry.

In this sense, my experience in moving from student to teacher is not unlike the complexities of learning to teach described by Britzman (2012). In essence, my role as a teacher of commodities theory was an unexpected development growing from my practicum. I entered the field and first had to teach myself by learning on the job. Therefore, my first student was essentially myself, even before I began to teach anyone else. It is often said that the best way to learn something is to teach it and, in this case, I did both; this method was perhaps why I learned so well.

Much as described in the experiential learning theory (Moon, 2004), I learned through my experiences—I learned by doing, which showed I possessed a particular talent. This experiential learning style offset my original disadvantage from the lack of formal educational materials available. Not everyone learns in the same way, and although being an experiential learner can be problematic in some contexts, it proved highly valuable in my circumstances.

Thus, I started on the road to teaching because I was essentially my own teacher and student (though I also learned from my colleagues). By teaching myself the key material needed to do the job rather than being taught by others, I developed a sense of how the topic could be best and most usefully taught. This knowledge helped me better understand how to convey my experiences to others in a useful fashion.

From this initial position as self-teacher, the teaching of others evolved somewhat naturally. Because I had taught myself the content, it was perhaps easier than it otherwise would have been to reflect on and determine how I could help others understand it. However, my experiences differed from common discussions of experiential learning, as presented by McCarthy (2016), in a keyway. Scholars have often spoken about moving from theory to practice through experiential learning. However, I never had the benefit of the theory in advance, so my progression was in reverse, moving from practice to theory.

Perhaps, I have developed many innovative solutions in my work because I did not work from any existing theoretical assumptions; thus, I essentially developed new theory to explain my experiences using deductive reasoning (Johnson-Laird, 1999). Although existing theoretical orthodoxies can prove a framework through which to learn new material, these can also act as conceptual limiters, preventing one from seeing patterns they otherwise might.

Scholars, such as Jarvis (1999), discussed the role of practice in developing theory. The balance between theory and practice can be tenuous. On one hand, the plural of anecdote is not data. Trying to develop theory from too limited a set of practical experiences is folly and

will, at best, result in theory applicable to limited circumstances. On the other hand, focusing too heavily on theory can be detrimental when running contrary to accumulated results of practice. A famous historical example was the classical theory of economics, which did not allow economists to predict the conditions that would arise during the Great Depression (Carlson, 1968). In this sense, those economists worked from worse than nothing by using a theory that handicapped their understandings. If they had focused more on what they observed in practice, they might have better been able to predict the effects of the depression.

By contrast, Keynes (1930) took a more experiential approach to developing Keynesian economics. This approach rose out of the depression, the consequences that he had observed, and his practical observations of real people. As a result, much like how I addressed the specifics of different markets in my work on risk and energy, Keynes (1930) posited that the reality of economics was much messier than classical economics suggested. Practice told him that people were not always—or even usually—perfectly rational actors and that markets were rarely perfect. Similarly, my professional practice taught me that different kinds of energy or commodities perform differently in ways that undergird the theoretical approach to these topics that my works presented.

In this sense, I sometimes wonder if I have done a disservice to those, I have helped teach about these concepts by denying them a chance to reach their own conclusions. Ultimately, however, I do not think so, as I have an affinity for experiential learning—a learning style that not all people share, much less to the extent I do. Therefore, expecting them to learn experientially as I have rather than trying to offer them the benefit of my own experiences would be more likely to do harm than good, especially because of the importance that I would place on learning these key concepts in achieving any modicum of success in the commodities industry.

Unless users can be properly educated on markets and tools available for investment and risk management purposes, they will feel uncomfortable with understanding how the market operates. Moreover, engaging with the market without an understanding of these key issues, especially risk management, can lead to distinct harms, given that ineffective efforts to engage financial markets have monetary consequences. Users should understand the practical context of these markets in relation to their own roles and responsibilities to their employers. Lack of education hinders adoption of more modern approaches to issues.

Much of my success early in my career may have come from communicating my experiential learning in the industry to colleagues and customers of mine. This communication arose organically as a combination of my duties—which often involved ensuring that they could engage with the market effectively and safely—and the ability to teach that developed out of teaching myself. When these concepts needed to be communicated to a client or a co-worker, it became natural for me to take on this task. Through repetition, the tendency to do it and my ability to do it well were both reinforced. Based on this information, users could apply the tools I provided in my work through the financial institutions with which I worked. Therefore, their success created a positive feedback loop in which I spread my knowledge and bolstered success that helped me through helping the institutions with which I was a part.

Creating the teaching materials in the 1990s then led to my first publication, *Energy Price Risk* in 2003 with Palgrave Macmillan (James, 2003). I targeted my publications initially to my peers and commodity industry corporate management. This book represents an expansion of how my tendency toward teaching the materials had first arisen; my peers in this area were a natural extension of the internal educational materials that I had created.

However, although my works, at this point, were targeted to my peers, I retained the desire to express these ideas in a more plainly written way than had been done prior. I do not much care for jargon, and perhaps my early experiences teaching not only peers but also

customers helped me develop a more approachable writing style. Researchers, such as Lindsley (1991), discussed the challenges and value of translating jargon into plain speech, and I count myself, in many ways, fortunate that writing in an approachable, practical style rather than a technical one was a skill that I developed early.

I believed that it was the combination of approachability and content knowledge that I sought to imbue into my work that made it successful not only commercially but also as the basis for educational efforts. Since around then, leaders of many universities and professional institutes have developed courses on commodity and energy trading and risk management. These courses share many of the same foundational principles as I follow when approaching my writing—in particular, to combine subject matter competence and expertise with practicality and plain language.

I believe it is because of this congruence of purpose that my works have found their way to becoming a part of these educational efforts. Educators now incorporate my writings into their core reading lists; for example, leaders of the GARP for the Energy Risk Professionals qualification and the University of Petroleum & Energy Studies have used my works since 2007 (<https://www.upes.ac.in/>).

Since my first publication in 2003, I received positive feedback from readers, those taking my training courses, and leaders inviting me to speak and lecture at universities and conferences around the world. I found motivation to continue based on such positive feedback. Through my global lecturing and training work, I accumulated over 11,000 contacts in LinkedIn since 2005. I met many of these contacts during my training courses or university lectures. I used social media, such as LinkedIn, solely to present my work. Many of my LinkedIn connections approached me after reading one of my publications to ask for further reading materials or discuss and debate best practices.

Thus, I found my views had a unique, central role for my industry. Based on this insight, I collected many thoughts and ideas to distil and develop through actual practices. I published the practices that worked, adding to the best practice knowledge for my industry. Perhaps the cornerstone of this practice has been my focus on risk management and a disciplined approach to trading.

The nature of trading is that it involves risk—a fundamental economic principle; by adopting a higher level of risk than, for example, depositing money in a bank account to earn interest, a trader can make higher returns over the same period (Chong, 2004). However, this risk is often dangerously minimized; arguably, ignoring risks can be thought of as the central cause of both the crash that incited the Great Depression and the more recent Great Recession (Altunbas et al., 2017). At the same time, trying to avoid risk is folly in a market defined by risk.

Hence, I have concluded, through my experiences in the industry and consultation with other scholars (e.g., Chaplin, 2005) that the key entailed developing strategies to manage risk. Going together with a risk management strategy is the importance of a disciplined approach to trading. The ebb and flow of markets can be exciting and lead to strong emotional responses from traders. I would not say that these emotional responses were uniformly wrong, but rather that these were frequently short-sighted.

Hence, keeping a steady course through the ebb and flow of markets requires a carefully considered and disciplined investment strategy. One way in which I have tried to promote disciplined strategies is through starting with awareness of fundamentals of different types of commodities and energy markets. Only by understanding the underlying dynamics of a specific market can a trader hope to analyse the true implications or consequences of shifts more rationally within the market, avoiding emotional decision-making in favour of a strategy based on market analysis.

Another key principle I have found successful entailed developing hedging strategies. Even the best laid and most soundly rational trading strategy can go awry in the face of unexpected world events or other disruptions. To account for this issue, my books showed an account of the types of hedging strategies that I found valuable and used in my commodities market career. By making sound plans but also hedging, it is possible to manage and account for risk comprehensively.

These networks bring many advantages. The most important advantage, in my view, is the ability to discuss my ideas with peers. Although I have been successful in the field, it would be complete arrogance to say that I know everything about it or that I have always been correct. Therefore, a network of similarly experienced peers offers a rare way to engage with individuals who share my interests and background, validating my ideas, challenging me to address new issues, and offering their own insights.

As an example of how this process has been beneficial to me, it was through a networked meeting that *Deep Space Commodities* was conceptualized. Without my global network of contacts, I might never have been in the position to realize that there was a need for such a text. Furthermore, as I am not directly an expert on space, my professional network allowed me to seek out others' insights about specific areas of the subject matter. Therefore, my highly developed network of contacts is not merely due to my success but also something that has engaged with it, yielding a virtuous circle in which success brings me into contact with new people and perspectives; in turn, these can inspire me to be more productive in my work, explore new ideas, and address topics more completely, making my further works more likely to succeed.

Aside from social media connectivity, I have informal networks published via the Institute of Petroleum and the Technical Analysis Society of Singapore. I have been a member of the Institute of Petroleum since 1991, and the institute is now renamed the Energy Institute

and the Global Association of Risk Professionals. Additionally, in the late 1990s, I helped co-found the Technical Analysis Society of Singapore. Because of these connections and experiences, I have global reach to develop and discuss my ideas on best practices appropriate for the industry.

I have served as a Chair Professor at the University of Petroleum & Energy studies for the liquefied natural gas (LNG) business in India for 8 years. Moreover, I visited the adjunct professor at Ulsan National Institute of Science and Technology (UNIST) in Korea to discuss energy trading and risk management. I also consulted executive faculty with the Singapore Management University (SMU) when visiting the International Trading Institute. Additionally, I assisted the Middlesex University Master of Business Administration (MBA) in Oil & Gas as a mentor and assessor of students' submission papers. These experiences helped me develop professional networks, even beyond the way and extent to which those were developed through social media.

During the early 2000s, I discovered that although corporate managers might have understood basic principles of trading and risk management from their business studies or their own experiential learning, they lacked guidance on best practices. I specialise my work through my own experiences, experimentations, and interactions with industry peers. Because of my global training, teaching, lecturing, and consulting work on these topics, I have a unique opportunity to not only advise but also listen to other people's experiences in my industry. I can analyse this information to distil, reflect, and develop best practice guidance for this industry. Based on these experiences, I developed more training materials and publications to assist my industry, thereby developing a reputation as a thought leader/expert for trading and risk management.

Risk management is a particularly important discipline; I am far from alone in having this belief. Although I developed my ideas essentially from my own practices rather than

based on other researchers, my research in the intervening years indicated that I was not the only one to come to such conclusions. Other important scholars in the field of risk management included Dempster (2002), Chaplain (2005), and Geman (2009). Although we have not always arrived at the same conclusions, we are unified in the importance that we place on developing risk management strategies, especially in the commodities market.

One of the reasons I have developed my own insights so thoroughly is the specific nature of my experience. I have had an unusual career in the commodity industry, helping me better assist my peers. People will usually specialise early in their careers in the industry of commodity trading and risk management. Their roles may evolve around their specialisations, which may include energy, agricultural, or metals markets.

Such specialisation has great value—as I note in my own books, understanding the dynamics at play within a given market is key to engaging that market in a meaningful and productive way. At the same time, however, specialisation is highly limiting. Though someone who focuses heavily on a particular topic has expertise that others lack, they are also likely to have much less understanding of other areas, making it difficult to take a wider view and look at the field, something that I believe is necessary.

In my personal career development, I have deliberately chosen to take or create opportunities to develop a holistic, all-round experience across all major commodity markets. These markets included new ones, such as emissions markets. I expanded beyond bank trading or risk management, working in mining firms, energy firms, and financial technology. I designed processes and systems for leaders to run those businesses better. This type of generalist approach has allowed me to gain a more “bird’s eye” view of the commodities market. It has also given me the tools and flexibility necessary to look beyond what I know, as evinced most strongly in my decision to write *Deep Space Commodities* despite my prior lack of focus on or specialization in space issues.

On reflection, I think I specialised in this way because I enjoy challenges and development—I often find myself looking for new areas of interest and stimulation. Thus, I have pursued expanding my knowledge and understanding of boundaries in anything I do in my life. Through experiences, I have learned from my own and others’ observed mistakes. I challenged the status quo when considering better ways of applying concepts. I found that just because something had always been done a certain way, it did not mean that it was the correct or best way to succeed. Those in the field should constructively question policies, processes, and approaches, as people do not live in a static world. I found the only thing guaranteed in the industry was change, as also supported by other researchers.

Based on designing processes in my industry, I gained the opportunity to design country-wide markets in electricity and gas markets. I advised global governments on regulations and best practices for developing free markets in commodities. Had I elected to specialize in a more conventional sense, I likely could still have achieved much, but I do not think that path would have led to the same breadth of achievement that I currently have to reflect upon. I have not achieved my successes *despite* breaking the mould for a career path in commodities, but rather *because* of breaking that mould and pursuing a path more closely aligned with my shifting interests.

I have developed in my industry since the “coal face” of the International Petroleum Exchange trading floor in St. Katherine’s Dock in London in 1989. I founded the world’s first online Digital ID protected electronic trading platform for commodities in 1999. I connected concepts and challenged the status quo by asking “why” commodities were handled in a certain way and “how” it could be done in a better way. Based on my works, I consider myself a disrupter in the industry.

The paradigm of disruption has come to the forefront in literature recently with a focus on, for example, tech companies, such as Uber (e.g., Majumdar et al., 2018). However, the

notion of disruption is neither so recent nor so narrow as this line of research would suggest. Rather, there have always been—in my view—those whose success has come from disrupting the status quo. It is not that the way things are is always bad; instead, those practices usually arose for a reason. However, the practice often outlines the reason for which it was enacted because humans are resistant to change (Amarantou et al., 2018). Therefore, many people learn things the way they are and carry on that way because it is what they know, and they see no reason to change it. As a result, the status quo has often not been reassessed with great frequency, leaving an opening for a disruptor to realize how it could be improved.

In this sense, I see myself as a disruptor in an ancient and venerable tradition. For example, Leonardo da Vinci (2012) represented a person who made new connections as a disruptor in history. His greatest breakthroughs came from connecting the unconnected, particularly from insights gained by bringing different perspectives together. Based on his expertise in anatomy, da Vinci created better portraits and sculptures, making sense of mechanics and engineering. Da Vinci defined innovation as connecting the unconnected. Like da Vinci, I have gained insights based on my varied contacts in the industry, bringing different perspectives together with my own to disrupt the industry in a positive way by developing new best practices.

Another great disruptor, Albert Einstein (2017), faced the challenge of making connections that society had deemed absurd. For example, he made connections between energy and mass. At the time, there was no existing logic that showed such a connection existed, indicating it needed to be shaped through imagination. Similarly, researchers of almost every great scientific breakthrough have achieved outcomes based on hypotheses, leading to making sense through practical demonstrations, like those I have made in my industry.

Einstein's (2017) disruptions were an interesting case because although he was a great disruptor himself, he also came into conflict with other disruptors; to this day, the two most important and disruptive theories of the last century, Einstein's general relativity and the theory of quantum mechanics, cannot be fully reconciled (Maccone, 2019). This example is interesting and relevant because it helps one understand that one can be a disruptor without wanting to change everything. Instead, a disruptor changes the part of things that they find problematic, inefficient, and/or outdated. This may include leaving other well-established concepts in place, even when others would instead seek to unseat those. My experience has been the same; I have not tried to destroy the status quo wholesale but to amend, correct, or replace those parts of it that I believe have conflicted with the best practices I have arrived at through my experiences.

Another example of a disruptor is Sir Richard Branson. He sought to create a certain culture across his Virgin companies. I attended one of his conferences, where he explained his equation of life as $A+B+C+D$ (Always Be Connecting the Dots). This culture was not about creating newness but making sense of what leaders already had, whether in fragments and different places, which could be shaped in new and interesting ways. Similarly, I seek to better my industry by providing innovative solutions for market leaders. *Deep Space Commodities* is a good example of this mindset in action. The book did not fundamentally present new material but represented a compilation of known but scattered information. By combining this information together into one place, I created value by both offering a summary of what was known and identifying key points of contention or concern.

Another disruptor, Seth Godin (2012), is passionate about the need to make better connections. He stated that modern students were educated based on collecting concepts, but they lacked education about skills necessary to connect those concepts. Students require

confidence and creativity to think critically and laterally when analysing concepts, rather than focusing on memorising information to pass exams.

In March 2012, Godin published *Stop Stealing Dreams*, a provocative collection of 132 essays on improving the current education system. Millions of people read the manifesto and responded with interest. I found one concept of importance that Godin (2012) cited as “connecting” (p. 2). Godin (2012) used this term 57 times and had it in three headings. In Section 64 of his chapter about “Connecting the Dots vs. Collecting the Dots”, Godin (2012) stated the following:

The industrial model of school is organized around exposing students to ever increasing amounts of stuff and then testing them on it. Collecting dots. Almost none of it is spent in teaching them the skills necessary to connect dots. (p. 47)

I recommended my children go to university and not drop out of college like I did. However, I never forced them, as I had also chosen a different path at the age of 16, building a career and studying alongside that career. This experience relates to Godin’s (2012) comment about school being organised around training students to “collect dots” (p. 47), instead of connecting those dots. I posit that my ability to connect the dots derived from my lack of formal education in my formative years. I agree with Branson and Godin (2012) that once one learns the techniques of connecting the dots, the dots may change, but one can still excel at making connections.

This ability to connect the dots across differing contexts is one reason that both my career and writings cover such a great breadth. In essence, by learning how to think about problem solving, I can apply these tools to almost any problem; these are tools, not facts or domain-specific knowledge. When I need to learn the specifics of a topic, it is much easier to learn it when I already have the tools in place to grasp, manipulate, and use. In many ways, the idea of creating an intellectual toolbox, such as I have, was the original purpose of universities.

However, I am not convinced that the modern educational process results in this outcome, as it has become much more about collecting dots in recent decades.

I conducted a review of my work to illustrate the point that I have been able to work, succeed, and publish across a wide array of topics. I created Figure 1 when reviewing my publications, finding key themes that included risk management, trading, and leadership. These works reflect my broad career roles within the commodity industry, allowing me to work across different areas of the corporate world. Although I worked within the commodity spectrum, I had the opportunity of not getting siloed into a narrow specialisation within the commodity industry early on. Thus, I gained broad experiences based on the impacts of key financial risk control and planning decisions, which could inadvertently impact operational risks in a commodity and energy company. For example, a corporate manager may propose some cost cutting exercises that may realise short-term cost savings for the business; however, by taking this cost cutting action, the manager suddenly places massive stress on operational risks within the organisation—a stress that, at first, may not be transparent to the business. Without warning, such a manager can trigger a massive loss.

Thus, in my first publication, *Energy Price Risk* (James, 2003), I developed the concept of and the diagrammatic representation of the “Risk Matrix” © 2003-2021. With this matrix, I provided a holistic look at the inter-relationship among price, credit, volume, regulatory, legal, weather, and operation risks. I developed the definition approach that entailed teaching people about the Risk Matrix. I explained risk was like the law of energy learnt at school in physics classes. This law shows that one cannot create nor destroy energy, as it merely changes from one state to another. This definition of energy is like risk in a commodity business: One cannot destroy risk but can transfer it from a risk that feels uncomfortable managing to translate it into something that can be defined; observed; reported on; and managed, insured, or transferred to another person. This person may be an investor in

a derivatives market willing to trade that risk. Therefore, people must identify the risks in their businesses to measure and monitor such risks.

This process is an example of applying a tool from my intellectual toolbox across settings. The idea of conservation principles is central in physics, but many who study it would only see this idea as a dot in the category of physics. When I considered risk, I saw similar patterns and connected the dots across two different subjects to create new value. Many important problem-solving tools can be derived from mathematical problem-solving strategies—many of which are also used in physics. However, because most managers have specialized backgrounds only in business and/or their specific areas of business (e.g., energy or agriculture), they never obtain these problem-solving tools, much less the creativity needed to apply such tools across domains. This issue is, to me, one of the most crippling flaws of overspecialisation.

This topic has come to light in the recent literature, as well. Several novel approaches to research have emerged that have pushed back on the increasing levels of specialization in the modern world. For example, the transdisciplinary approach, also referred to as trans disciplinaryity, posits that a solution to many problems lies in transcending the traditional barriers between key producers and consumers of knowledge (Gibbons and Nowotny, 2001). This process essentially entails transcending divisions between disciplines to work on the same problems across two or more subjects. In this sense, there is motivation to eschew specialisation and learn to understand the perspectives of multiple disciplines.

Similarly, the interdisciplinary approach has taken root in both business and academia (Jacobs and Frickel, 2009). Interdisciplinary approaches are like transdisciplinary ones but not identical. In an interdisciplinary approach, rather than pushing the problem out to be examined through the lens of multiple disciplines, a team includes members from different, relevant

disciplines. This approach does not wholly cut back on specialisation but rather brings together different specialists.

My experiences are much more transdisciplinary than interdisciplinary. I have individually experienced different positions, industries, and disciplines over time. In passing through each of these positions, I gained skills, perspectives, and other intellectual tools that could be taken out of the discipline to contribute to my overall toolkit. Sometimes, these tools proved to be the solution I needed to a problem encountered in another discipline.

My contributions to written knowledge and the industry developed because my career enabled me to gain experiential knowledge not only within the commodity industry but also across many fields of expertise in that industry (i.e., given me the advantage to see issues/problems from different angles). I gained more of a holistic overview to the industry; however, I do not pronounce to be an expert in every single one of those areas. I have enough understanding to bring that awareness to managers in companies. Such managers can, whether they agree with my methodologies or theories, be challenged in their own approaches. They may use this information to develop and enhance best practices further. In doing so, managers may avert some financial or even worse, real-world catastrophes. Therefore, the commodity and energy industry are a real-world economy, affecting the life blood of all modern societies.

Most of my learning has been in the workplace based on experiential learning and on-the-job learning. I was fortunate enough to develop a broad, holistic view due to my career. In this sense, I was doubly fortunate; I was both inclined toward experiential learning, which made learning on the job effective for me, and the opportunity to expand that experiential learning beyond one narrow area. Although I believe I have earned most of my success, I remain aware that without both factors, I likely could not have achieved it. Had I not been prone to experiential learning, I would not have thrived jumping into the industry, while

without the chance to be a generalist rather than a specialist, I would likely not have come to look at the key issues so holistically or engage with new content areas so easily.

Not only did I accumulate knowledge from my career, but I also recalled learning from my time in a university. When I started my master's degree in work-based learning studies at Middlesex University in 2003, I learned from the university modules how to codify my knowledge, use tools for work-based research, and conduct action research. During this moment of reflection, I can see the importance of understanding approaches and skills needed to communicate my thoughts, collected wisdom, and experiential knowledge in a structured academic format. Before I worked toward my master's degree at Middlesex University, I had no knowledge of the term "experiential learning".

A person can accumulate knowledge, but they still require skills to reflect on that experiential learning while enhancing and developing that knowledge to build and add value to it. They must learn how to communicate their accumulated experiential wisdom to industry peers and academic audiences. If a person has such knowledge but lacks these skills, it is a disservice not only to themselves but also to the ongoing quest of humankind to accumulate, distil, and pass on knowledge to the next generation for the betterment of civilization. To some extent, I am also fortunate that my early work experiences gave rise to situations where I had to develop my knowledge sharing skills, skills that have not only allowed me to publish multiple successful books, but which have given me the ability to pass on what I have learned to others.

Through this experience, I have come to believe that all people have a responsibility to pass on any knowledge and wisdom they have gained during their lifetime. The next generation will determine the relevance of such knowledge, showing the importance of providing written knowledge and wisdom, possibly triggering new ideas and approaches used in society's development. Thus, I have continued writing presentations, books, and papers in

my field to influence the next generation and possibly beyond. There is no greater way to validate one's knowledge, especially for a disruptor, than to see how well that knowledge stands the test of time. The response to my work so far has given me to feel immensely proud of my knowledge by that standard, and also given me to feel that I have done—and continue to do—a important duty by passing that knowledge on. It is not gold to be hoarded, but rather something that can be shared infinitely without losing its value.

Based on my experiences, I posit that work-based learning studies are revolutionary, bridging the gap between “on the job” (i.e., I term as unconscious learning or the real-time, live accumulation of knowledge) and the structured world of academia. Donald Schon (1984) defined work-based learning as professionals meeting the challenges of their work by relying less on formulas learned in graduate school than on the kind of improvisation learned in practice. Schon (1984) described the process as “reflection-in-action” (p. 162).

I believe work-based learning studies are a critical part of formal academia; students can learn about themselves, learning about qualities of their characters and what they deeply appreciate or consciously value in their lives (i.e., their continuous, lifelong learning gained through experiences). Students can learn they may all contribute to society by sharing wisdom, thoughts, and experiences. Based on my own experiences from the past 20 years of writing over nine books and presenting 100s of presentations, I believe everyone has at least one book inside them to write.

Based on my experiences with worked-based learning studies, I believe methodologies and research approaches, such as action learning, should be part of formal college studies, whatever subjects studied. Whether someone plans to enter a formal work-based learning studies programme, learning and defining research approaches can aid many people to start their own lifelong experiential learning projects. They can use such tools to bring some academic rigour in how they structure their notes, observations, and remarks as they progress

through their careers. I wish I had known how to do these approaches in the 1990s, during the early stages of my career. Even a research diary technique, which I learned during my master's degree programme at Middlesex University, would have allowed me to document so much more of what I had learnt or observed during my learning and personal development journey.

There are many research methodologies available in the literature, from case studies (Yin, 2017) to experimental research (Apuke, 2017). However, most designs, whether qualitative or quantitative, tend to position the researcher as an impartial observer. Although no researcher is ever truly impartial, researchers generally attempt to avoid researching subject matters too close to them because it engenders bias.

Although this concern is valid, my experiences demonstrate that there can be considerable value in documenting the world closer to oneself. Two kinds of research embrace this positionality. One is, like the present study, auto ethnographic and reflective. However, had I been more aware of how to record and document my experiences, that research might have been best described as action research.

Action research is a qualitative approach to research where the researcher eschews distance to participate in the research actively (Clark et al., 2020). The action researcher is unabashedly a part of the research. At the same time, the participants in the research become more involved in the research, so that it is not just run by the researcher. In applying action research to my experiences, I would have been able to leverage both sides of this issue. On one hand, I would be the researcher engaging with a subject matter. On the other hand, I would have been the engaged research participant, eager to share experiences while taking up a role in doing so and shaping how those experiences were documented and understood.

Thus, my formal study of work-based learning involved Schon (1984), who believed that the best professionals knew more than they could put into words. Looking back and

reflecting on my personal experiences in the early 2000s, before I joined the work-based learning programme at Middlesex University, I also knew more than I could put into words. Thanks to the programme and my subsequent master's in work-based learning studies, I have become a better communicator and lifelong researcher in my field of practice.

I think that this improved understanding has also manifested itself in my writing.

While I hope—and believe—that my early efforts to provide educational materials to my peers and clients was useful to them, it could not have the depth that I have tried to imbue my more recent works with, simply because I did not yet fully understand my learning process. In this regard, there has been something both liberating and empowering about coming to understand experiential learning; being able to give fuller and more complete voice to my experiences has helped me tremendously to translate those experiences into published works.

My experience from the master's programme at Middlesex University has continued to influence how I document and recognise learning experiences in my career. By these means, I now know the approaches to research needed to document better my work-based learning experiences. These experiences have now become a much more conscious journey than in the past; therefore, I can apply an academic structure to my knowledge gained. I now know the methodologies (Bell, 2014) and everyday life skills for research, social research paradigms, action research (Blaxter et al., 2001), mixed-method research (Burton, 2000), and techniques for collecting data. I now have the knowledge needed to be a reflective practitioner (Schon, 1984).

My reflective practice and knowledge of formal methodological approaches from my master's degree has given me the ability to take a structured view of practices in my field of work and to review and evaluate those practices before making changes or creating new ideas and systems. Thus, I can articulate and distil knowledge into best practices (Murray, 2002). It took me the first 13 years of my career to put together my first book on energy and commodity

trading and risk management. Then, in the following 15 years, I wrote another eight and published many presentations and articles (see Appendix B). Since my master's degree, I have taken some business school courses that reinforced the reflective practitioner inside me. My business school experiences replicate what Schon (1984) referred to as the "Reflective Practicum" (p. 305), where the worlds of university and practice converge. Regarding educating the reflective practitioner, Schon (1984) referenced Herbert Simon (1969), who introduced the concern about business schools not getting split down the middle "into two worlds" inhabited respectively by "discipline- and profession-orientated faculties" (p. 341). The business school can be a productive and challenging environment for fundamental researchers who understand and exploit the advantages of having access to the real world. Educators of such a schoolwork as generators of basic research problems and sources of data. Thus, I have taken every opportunity to support master's programs as a mentor or lecturer. While staying exposed and involved with business schools, I find them great environments for continued experiential learning, research, and reflective practices.

Raelin (2006), among other scholars, addressed the role of action research, such as my own efforts to document my experiences and turn those experiences into meaningful insights. For example, Raelin addressed action learning as being a key source of learning about leadership. In trying to create insights into how to bolster the usage of a new leadership paradigm, action learning and action research can serve as the best teacher. Raelin's characterization of such action learning deeply matches my use of my experiences to inform theory and contribute to the knowledge of others. Raelin (2006) noted, "Action learning is portrayed as growing in acceptance as a management education and learning approach that distils knowledge from a context to be used to provide learning to the practice as well as to the practitioner" (p. 152). In this sense, people who engage in action learning not only learn from

the results themselves but are often in the best positions to create more general knowledge about those results than others.

Others may view my careers as privileged, but I took every opportunity offered to grow as an individual, even if I knew I was taking too much at once. I may even have had gaps in my knowledge or experience for that task. However, I took the attitude that if I did not know something, I would learn from mentors or publications. I have gained opportunities during my career to gain a broad work experience, never shying from pushing myself to learn and gain experiences across the commodity market sector. Because of this breadth of activities/roles within a particular sector, I have gained a holistic experience as an expert in my field (in addition to observing other people's experiences), enabling me to reflect and distil my and other people's experiences to develop best practices.

At this juncture, I should define the term "expert". Some interesting works have shown the definition of an expert as influenced by global and cultural differences. Being considered an expert in any field presents some challenges when defining the concept as it varies from business culture to business culture. I faced such challenges when writing this reflective piece for my PHD when I reflected on and tried to isolate my expertise, as well as write a title and select my key publications to review.

In Asia, an expert is comparable to a senior person with good experience across multiple areas, rather than just a single area of expertise. However, in the West, experts are considered professionals proficient and focused on a single area of work (Dreyfus and Dreyfus, 2005).

I had this revelation after researching the definition of "expertise" since I was born and raised in the West, in the United Kingdom. After reflection, I appreciate that I was influenced early on in my career by the Japanese, Chinese, and Singaporean business culture of the companies I supported throughout my career. By choice, I can see that I deliberately

developed a broad range of experience within the commodity and energy industry. In effect, this Englishman became an Asian-style expert.

Most agree on one common theme when defining an expert. One of the most important aspects of expertise is experience in actual fieldwork or practical experience, as described by Collins and Evans (2002). Therefore, I consider myself an expert in commodity and energy trading, investment, and risk management.

I have heard a saying that the lessons one never forgets are the ones learnt the hard way through failure. I have failed, I have learned, and I have succeeded. Every failure is a step to success, as stated by Whewell (1852):

Every failure is a step to success. Every detection of what is false directs us towards what is true: every trial exhausts some tempting form of error. Not only so, but scarcely any attempt is entirely a failure; scarcely any theory, the result of steady thought, is altogether false; no tempting form of Error is without some latent charm derived from Truth. (p. 101)

If someone says they have never failed, then they have never actually tried to do anything with their life. People only gain experiential learning through trying. Thus, documenting experiential learning is important so that people can learn from others' mistakes. Documentation of research and outcomes have developed the species and advanced civilisation.

The work and reading I have conducted since 2003 on being a reflective practitioner have enhanced my resilience to things not working out (i.e., not reaching my own definition of success). During my career, the most interesting thing I have observed is that most people are not good at defining success. They may feel like failures, making such harsh judgements of their own success, they never define their life outcomes as successful. Working and living this way does not show respect for the effort people put into their work and lives. Thus, a person

should define failure and success; otherwise, the definition of success or failure will be decided by the people and world around that person. People may be swayed by whoever influences them most, whether a boss, best friend, or social media influencer they will never meet. Thus, whenever such people do not match up to others' standards, they feel they have failed, but when they do match another's definition of success, they feel they have succeeded. Based on this concept, I tell my students at universities or colleagues in industries I am mentoring that they must try despite a fear of "failure". This fear is defined as an absence or lack of success, and if they already believe they have failed before trying, they have failed themselves.

Some interesting publications developed about professional development and learning from others' mistakes included work by Bledow et al. (2017). In addition, authors have discussed learning through failure; self-esteem; and motivation in work, life, and learning (Von Thienen et al., 2018). I believe that my success in recovering from what others may see as failure comes down to my personal definition of failure.

I have also found that a fear of failure may come from a lack of self-esteem—a critical factor enabling, not detracting, from achieving success. People with high self-esteem are more willing to speak in groups and criticize the group's approach. Leadership does not stem directly from self-esteem, but self-esteem may have indirect effects. Relative to people with low self-esteem, those with high self-esteem show stronger in-group favouritism, which may increase prejudice and discrimination (Baumeister et al., 2003).

Over the years, developing myself as a reflective practitioner has not been easy, but it has brought academic rigour and a solid, well-structured approach to analysing answers to the following key questions: "Why didn't that work"? and "What can be changed so it does work"? For example, I stay conscious and mindful of the differences between tacit and explicit knowledge. I have discovered that the challenges faced by any action researcher or reflective

practitioner entail examining tacit knowledge from one's experiences and others' experiences to process and distil that information. An action researcher must develop that knowledge and document it into *explicit*, actionable intelligence, methodologies, or best practices for an industry (Bell, 2014). Thus, I have practised several interview techniques to help others communicate their experiences about their work and the processes they manage. I started learning and developing these skills and approaches since 2004 after reading the chapter about planning and conducting interviews in Bell's (2014) *Doing Your Research Project* book from Open University Press, which was required reading of my work-based learning studies course in 2003 to 2005 (pp. 135-143).

It may be a struggle to write or talk about something one does not usually think about consciously (i.e., what they really do, and what skills are they using?); however, such people may ask themselves what they do in their jobs by analysing tasks, looking at every little detailed list of those tasks, and considering how they unconsciously execute such tasks daily.

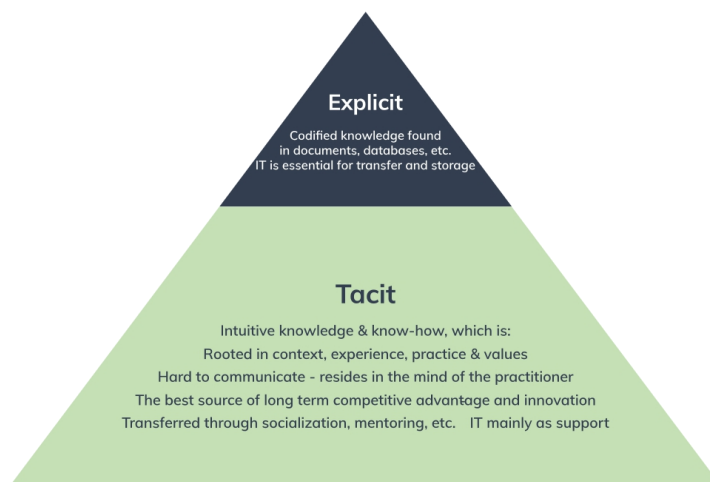


Figure 6: Explicit and Tacit Knowledge

Aside from documenting experiential learning in my industry and developing best practices as a thought leader for governments and industry, I work as a FinTech Entrepreneur in the international commodity trading industry. Thus, in business, I am always searching for practical, actionable solutions to problems that can then be improved. The way to achieve this

improvement is by adopting a consistent, disciplined approach and putting in place a methodology to analyse results properly. A formal methodology is needed to see if some improvement has been achieved or not achieved.

Aside to research methodologies, I learned how to acknowledge and recognise one's biases of a particular topic. Researchers and authors must face that they may have preconceived ideas or notions about expected research outcomes. I was taught to recognise my biases (acknowledging I am human and prone to bias). This acknowledgement consciously helped me maintain my perspective on the work. Work-based learning studies have helped me self-criticise much better when removing my personal ego from the equation.

One may have a personal interest, bias, or assumption about the correct approach to doing something in an industry. In the commodity industry, it either works or costs money and others' jobs and livelihoods. In the long term, one can develop a career much further by not holding on to and promoting a practice/approach just to save face. Pride can and has literally caused the death of some people in the commodity industry. As a reflective practitioner, I can step back and think beyond what I deem as the best approach to find what research has shown empirically and quantitatively as the best approach.

In addition, I have sought to engage in reflexivity since becoming more aware of and informed on issues of bias and research methodology than before. Reflexivity—and the related idea of critical reflection—relates in part to acknowledging one's own role in the process of change (Whitaker and Atkinson, 2019). To draw on an analogy from my experience in the commodity market, reflexivity is akin to the importance of the trader being aware that their actions can have a reciprocal effect on the market. Similarly, in research, the presence of the research can incite changes that would not have happened in their absence. It is difficult to remain a truly impartial and uninvolved observer, whether in markets in which one is engaged or research of which one is a part. Reflexivity can be a particularly difficult challenge because

it requires us to think of counterfactuals—what *might* have happened if I had not been here? If I had not done what I did? In creating these counterfactuals, it is especially important to be aware of our biases, as they can easily slip into these created realities. When engaging in reflexive practice, I seek to apply the same disciplined strategy that I apply to trading in the commodities market and to create these counterfactuals based solely on what I know about the situation and my own role in it, not on assumptions that cannot be supported through solid fact.

In the commodity industry, I have researched and written about trading and investment in markets. I have found research showing that humans act based on cave person instincts—flight or fight instincts—as opposed to anything logical. Unless a person has some qualitative disciplined approach to viewing the market and analysing outcomes, they will not attain success. Such a person may struggle to reflect on results, probably most driven by emotions and “instincts”.

In my professional training sessions with groups of junior traders, I do an interesting experiment that has shown positive outcomes with students all over the world. I make them queue up outside the classroom, and then let them in one-by-one. After entering the room, they get a slip of paper that contains an instruction. In accordance with this instruction, they must choose one side of the room to stand at; one side of the room is for BUYERS, and the other side of the room is for SELLERS. The one rule is that if the instructions allow, whenever a new person enters the room, students can change their minds and switch to the other side of the room. Usually, most students end up standing on one side of the room.

The trick is that only one of the students was instructed to stand on the BUYERS side of the room, and only one of the students was told that they must stand on the SELLERS side of the room. Based on this experiment, one can see that people still act like cave people, preferring to be protected by numbers, as shown by students choosing to join the larger group. This outcome shows that people still behave based on herd instincts, indicating the importance

of sharing experiential knowledge and accumulated wisdom to peers and academia. In such a way, people can break such patterns of behaviour, whatever the industry.

I have found that industry experts cannot work in a vacuum. Leadership and management entail important experiential learning that must be first experienced, researched, developed, and then shared. For example, I developed my own leadership approach based on giving people responsibility, allowing them the space to develop themselves in a supportive environment. They should feel comfortable enough to ask questions and get support needed to be more effective in their roles. Thus, I believe people need the chance to fail in a safe environment so that they can learn from those experiences while finding new or better ways to execute any roles or tasks. If a manager uses a dictator style when leading, they may stifle innovation and development of new and improved ways of doing business.

I believe in leadership showing correct actions to their employees by providing positive examples and showing that all are working hard together. Despite having individual tasks, self-discipline and trust is paramount within team members to achieve success on a project. I recognise that people know that they have flexibility when deciding how to meet a deadline, but time management is still required to meet a certain deadline.

I have worked in teams during my career as a member and leader. The members of those teams have derived from diverse backgrounds due to the global nature of the commodity industry, influencing how I work and act in that industry. I think because I have lived and worked in Asia over the past 25 years, I have absorbed some Buddhist approaches to life, which have influenced me to maintain an open mind about the world while teaching me some reflective techniques. Buddhist reflection shows core approaches to removing the human ego—a skill useful in teams. Teams will have people with more experiences than others and juniors without such experiences. These juniors may have fresh insights or new perceptions on actionable steps needed to reach an outcome. Thus, thought leadership, within teams and

businesses, influences how risk analysis occurs in trading market analysis. Although leaders must train their juniors to get the current job done, leaders must still present a comfortable environment for those juniors to discuss new concepts openly in a team setting. Juniors should feel comfortable enough to say to leadership, “Well, you've told me how to do 1 plus 1 equals 2, but I think there's a better and quicker way to do this, so let's discuss it”.

There is a whole cultural aspect to learning when processing experiential learning development, as I have seen when working in different countries. I have seen that students in Korea, China, the UK, or the United States have different opinions of learning and responding to their educators, making each teaching experience unique. Thus, cultural differences influence the “learning experience”. The literature also supports the idea that cultures can affect learning. There is evidence for culture-based learning experiences at many different levels, from national culture (Awiria and Nadiroh, 2019) to the broader East/West divide of collectivist cultures versus individualist cultures (Blau et al., 2020).

These cultural differences are not the only factors in play. There are also more local issues. For example, socio-demographic factors can play heavily into differential learning experiences of different students. Understanding these different cultural and socio-economic factors is key in many ways but can also be challenging. In this regard, I think I have done well again because of my predisposition to experiential learning. By remembering my engagement with individuals from different backgrounds in the past, I can develop a more practical-based approach to interacting with the same group in the future rather than trying to understand the differences academically first and then applying that knowledge in practice. By engaging experientially, I feel I am more likely to learn from those with other backgrounds first-hand.

As a team leader, I have kept my enthusiasm and passion to impart my knowledge and experiential learning to others, whether through training papers or publications. I have learnt

to honour juniors' inquisitiveness. When I first began in my career, research had yet to explore such topics, with universities lacking such courses for students; thus, I challenged the status quo to improve upon ways to conduct business in the industry. I faced the issue of being unable to view research that would show what worked and did not work, as extraordinarily little was recorded about the subject in the public and professional sphere considered often as commercially sensitive intellectual property. In the 1990s, the only transparent results of a process in the industry showed whether it was profitable. Literature often included established or accepted practices rather than a professionally developed and structured "best practice" thoroughly tested with peer reviews.

Because of these experiences, I have grown to see the importance of sharing my management experiences in managing trading teams in the commodity sector. I have learnt that commodity trading can be intense and stressful, mirroring the military as workers must make time critical decisions that require a plan of action, quickly involving teams of people across time zones. I have added to written knowledge in these areas when discussing the psychology of trading and how physical resets may clear the mind to think through the proper response (e.g., going outside and walking around the block to get some fresh air, even if just for a few minutes). This process occurs most prominently in my work *Commodity Market Trading and Investment* (2017).

Market leaders must solve a problem quickly while avoiding the "blame game" to focus on the solution. Once a problem is solved, leaders have plenty of time to analyse what went wrong to improve the process. I discovered that professionals in any industry will naturally focus on and review scenarios and times when things went wrong. They review protective risk management, best practices and ideas, and improvements that can be made to processes in place. Moreover, leaders must still review when things go right, such as when profits increase, to understand driving factors for success and repeat such success in the future.

Leaders can see if they should change policies and procedures or modify best practice guidance, as success may have just been a fluke accident if unrepeatable.

I have found that commodity markets are influenced by real-world changes due to climates, politics, and economics. Learners should expect a constant evolving learning process. The commodity industry will remain a challenge because leaders face dynamics related to weather, policies, governments, embargoes, shipping, transportation, climate changes, strikes, unions, wars, famine, diseases, and pandemics; thus, market leaders face an unpredictable world when making decisions. Just like the COVID-19 pandemic that hit the commodity markets in March 2020, leaders faced a simultaneous global demand for medical supplies and supply shock in many commodities. After the experience I had in 2008 with the global financial crisis, I re-edited some papers and updated books to show the influence of such a crisis. These updates include *Energy Markets Price Risk Management* (2012) and *Commodity Market Trading and Investment* (2017). Now, I have witnessed and experienced running a commodity fund through the COVID-19 pandemic—another new scenario that I had never faced in 30 years of my career. This example alone shows how unpredictable commodities can be when developing best practices, as I find myself reviewing those practices once more to show lessons learnt and ways to maintain industry success.

An increasing number of researchers have come to similar conclusions under the umbrella of practice theory. For example, Johannisson (2011) addressed the practice theory of entrepreneurship. The broader discipline of practice theory seeks to understand the role of personal traits on practice. Effective practice does not merely result from the sum of one's knowledge but from the combination of that knowledge with one's mindset and overall approach to practice (Nicolini, 2012).

Much as the insights that I developed result from a careful analysis of my day-to-day practice, practice theory offers organisations the chance to improve through a careful

assessment of everyday practices, identifying finer points of what works and why it works.

This type of analysis may be particularly valuable in the current context of COVID-19, much as it has been for me, because the nature of breaking down issues is much more general and adaptable than theories that only focus on knowledge or traits.

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Appendix A - Citations and References from the Public Works

Download Link to my Public Works

<https://drive.google.com/drive/folders/1MHKuuuwB0hjBhfVks1XI0sKN3KDZzaly?usp=sharing>

Deep Space Commodities

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Commodity Market Trading and Investment

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Appendix B - List of Public Works by Thomas G. James

Books Published

- James, T., 2003. In N. Scott, *Agribusiness and Commodity Risk: Strategies and Management*. Risk Books.
- James, T., 2002. *Energy Price Risk: Trading and Price Risk Management Hardcover*. Palgrave Macmillan.
- James, T., 2007. *The Professional Risk Managers' Guide to the Energy Market* (PRMIA Risk Management Series, 1st Edition). McGraw Hill Publishing.
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- James, T., 2009. Energy Security and the Credit Crunch. *World Economic Forum Magazine*.
- James, T., 2009. *Energy Price Risk Management - Chinese Mandarin Language*. China: Beijing Economic Press.
- James, T., 2010. *Energy and Emissions Markets: Collision or Convergence*. Wiley Finance.
- James, T., 2011. *The Wiley Trading Guide* (Volume II). Wiley US/Australia.
- James, T., 2017. *Commodity Market Trading and Investment: A Practitioners Guide to the Markets* (Global Financial Markets). Palgrave Macmillan.
- James, T., 2018. *Deep Space Commodities: Exploration, Production and Trading*. Palgrave.
- James, T., 2022. *Energy Decarbonized: Technology Enabled Hydrocarbon Fuels* (The Global Energy Markets). De Gruyter.
- James, T., 2021. *Blockchain and Artificial Intelligence: The World Rewired Hardcover*. De Gruyter.
- James, T. and Fusaro, P., 2005. *Energy Hedging in Asia: Market Structure and Trading Opportunities* (Finance and Capital Markets Series). Palgrave Macmillan.

Public Output in Education and Training

These are presentations, lectures, and papers with which I have electronic copies and data. I have given many others, but these are ones between 2009 to 2019 with which I have back-ups. I do not have access to materials of talks and presentations I gave before 2009 as these were not kept in digital format and lost in a fire at a shared storage facility on November 1, 2019 in the UK.

James, T., 2016, February. *Clean Energy Finance*. Presented at the Europe 2016 Conference on Investment Opportunities in Large Scale Power Storage.

James, T., 2016, February. *Developing the Nigerian Commodity Industry & Market*. Presented to the Nigerian Government and Dubai Mercantile Exchange.

James, T., 2016, February. *Energy Institute*. Presented at the London Annual International Conference Powering the Future - the Role of Gas and Coal of International Petroleum Week.

James, T., 2016, March. *Commercial Applications of Large-Scale Batteries* (Paper & Presentation). City of London Corporation.

James, T., 2016, March. *Potential Financial Efficiencies of Using a Commodity Trade Risk Management Platform System an Integrated Oil Company*. Petron of Philippines.

James, T., 2016, July. *A Model to Illustrate and Calculate the Value-Added Provided by a Flow Battery Hams Hall UK Car Production Plant* (Paper & Model).

James, T., 2016, July-August. *LNG Business Upstream and Downstream*. Korean National Gas Company.

James, T., 2016, October. Ulsan National Institute of Science & Technology, South Korea. Graduate School of Interdisciplinary Management Oil & Gas Market Trading & Risk Management.

- James, T., 2017, February. *Pan Asian LNG Hub and Exchange* (White Paper and Business Model Design). Singapore Government Enterprise.
- James, T., 2017, March. *Energy Risk - Asian Refineries*.
- James, T., 2017, April 5. *Oil Rich Countries and Space Development*. National University of Singapore Middle East Institute.
- James, T., 2017, May 17. *Platts Energy & Space – Singapore*. McGraw Hill.
- James, T., 2017, May-June. 5-day Asset Trader Development Program. London Institute of Banking and Finance.
- James, T., 2017, October. Ulsan National Institute of Science & Technology, South Korea. Graduate School of Interdisciplinary Management Oil & Gas Market Trading & Risk Management.
- James, T., 2017, November. *Application of Satellite technologies in Energy & Commodity Trading*. Energy Risk Conference.
- James, T., 2017, December. Africa - Asia Growth Corridor. Presentation on Developments of the Africa - Asia growth corridor logistics and trading routes.
- James, T., 2017, December. *Energy Trading & Risk Management ETRM Public Training Course*.
- James, T., 2018. *AI Meets Risk Management*. Presentation at Asia Risk Conference.
- James, T., 2018. *Euromoney E-Learning Development*. Global LNG Markets and Trading. Dalian Commodity Exchange.
- James, T., 2018, May. *Bunker Fuel Financial and Credit Risk Management*. Singapore public training course over 2 days.
- James, T., 2018, August. *UK Japan 21st Century Group*. Inter Government and Private Sector Group Presentation to Japan Government in Tokyo as part of a UK JAPAN Delegation.

James, T., 2018, September. *Dalian Commodity Exchange DCE* (4-day Presentation & Training). Commodity Trading & Trading Psychology.

James, T., 2018, November. *Bunker Fuel Financial and Credit Risk Management*. Singapore public training course over 2 days.

James, T., 2019. *Artificial Intelligence - Game Changer in Risk Management*. Energy Risk Asia Conference.

James, T., 2019, May. *Bunker Fuel Financial and Credit Risk Management*. Singapore public training course over 2 days.

James, T., 2019, November. *Bunker Fuel Financial and Credit Risk Management*. Singapore public training course over 2 days.

James, T., 2019, September. *Asteroid Mining* (Latest Developments Presentation).

James, T., 2019, September. *Physical Agricultural Trade Flows and Risk Management* (Presentation). Dalian Commodity Exchange China.

List of 2016 Presentations and Public Teaching 2-Day Courses

1. Emissions Market & Trading Programme. ICE London April 25- 26, 2016
2. Energy Trading & Risk Management. ICE Dubai. June15-16, 2016.
3. LNG Market Developments & Trading Programme. ICE Dubai. 2016.
4. Oil Trader Development Programme. ICE Dubai. November 2016.
5. Overview of the Agriculture Soft & Commodity Markets. ICE Dubai. October 2016.
6. Applied Technical Analysis for Energy & Commodity Markets. Singapore. June 22-23, 2016.
7. Applied Technical Analysis for Energy & Commodity Markets. ICE Singapore. November 9-10, 2016.
8. Energy Trading & Risk Management. ICE Singapore. May 9-10, 2016.

9. Energy Trading & Risk Management. ICE Singapore. September 19-20, 2016.
10. International Coal Trading Programme. ICE Singapore. June 20-21, 2016.
11. International Coal Trading Programme. ICE Singapore. November 7-8, 2016.
12. LNG Market Developments & Trading Programme. ICE Singapore. June 14-15, 2016.
13. Oil Trader Development Programme. ICE Singapore. May 11-12, 2016.
14. Oil Trader Development Programme. ICE Singapore. September 15-16, 2016.
15. Overview of the Agricultural and Soft Commodity Markets. Singapore. September 13-14, 2016.
16. Energy Trading & Risk Management. ICE London. May 26-27, 2016.
17. Overview of the Agriculture Soft & Commodity Markets. ICE London. April 18-19, 2016.
18. Overview of the Agriculture Soft & Commodity Markets. ICE London. December 12-13, 2016.
19. LNG Market Developments & Trading Programme. ICE London. June 6-7, 2016.
20. LNG Market Developments & Trading Programme. ICE London. October 27-28, 2016.
21. International Oil Trading. Euromoney London. December 5-8, 2016.
22. Construction of a Standard Best Practice Industry Methodology & Approach to Enable Risk Management Reviews of Commodity Industry Companies. September 2012 to December 2015. Applied in two multi-billion-dollar organisations as proof of concept as well in 2012 and 2014.
23. China Securities Association & Chicago Institute of Investment. Guangzhou, Beijing and Shanghai Introduction to Financial Derivative Markets, Foreign Exchange, Interest Rates Credit Default, Equity Indexes.

List of 2015 Presentations and Public Teaching 2-Day Courses

1. Overview of the Agricultural & Soft Commodity Markets. January 20, 2015.
2. Energy Trading & Risk Management. March 17, 2015.
3. Advanced Leadership & Strategy. Dubai. April 2015.
4. Overview of the Agricultural & Soft Commodity Markets. April 20, 2015.
5. Applied Technical Analysis for Energy & Commodity Markets. May 11, 2015.
6. Energy Trading & Risk Management. June 11, 2015.
7. Bitumen Hedging. Argus Bitumen Conference. Singapore. September 2, 2015.

Presentation on approaches that could be utilised by industry participants to hedge price risk in the Bitumen products.
8. Energy Trading & Risk Management. September 7, 2015.
9. Oil Trader Development Programme. September 10, 2015.
10. Presentation on Liquid Natural Gas LNG and Liquid Propane Gas LPG Market Developments. South Korea. October 2015.
11. Emissions Market & Trading Programme. November 9, 2015.
12. Energy Derivatives Operations and Controls. November 12, 2015.
13. International Coal Trading Programme. November 18, 2015.
14. Overview of the Agricultural & Soft Commodity Markets. December 14, 2015.
15. Energy Trading & Risk Management. December 16, 2015.

List of 2014 Presentations

1. Price analysis for Oil & Gas Markets. India Gas Conference - New Delhi. October 2014.
2. Handbook Entitled the Risk Matrix. June 2014.
3. Gazprom. Intro to Distribution and shipping trading and operations. Singapore. June 2014.

4. Dubai Oil Trader Development Program. Wrote and presented course with specific experiential learning transfer to new traders from me. February 2014.

List of Public Courses Presented by and Written in 2013

1. Applied Technical Analysis for Energy & Commodity Markets. Singapore. January 13-24, 2013.
2. Bunker Risk Management Programme. Singapore. January 13-29, 2013.
3. Oil Trader Development Programme. Dubai. February 13-24, 2013.
4. International Coal Trading Programme. Singapore. March 4-13, 2013.
5. Energy Derivatives Operations and Controls. London. March 13-18, 2013.
6. LNG Market Development and Trading. Singapore. April 11-13, 2013.
7. Overview of the Agricultural & Soft Commodity Markets. London. April 13-22, 2013.
8. LNG Market Development and Trading. London. April 13-24, 2013. –
9. International Coal Trading Programme. Mumbai. April 13-24, 2013. –
10. Energy Trading & Risk Management. London. May 13-29, 2013.
11. Bunker Risk Management Programme. Hong Kong. June 5-13, 2013.
12. International Coal Trading Programme. Singapore. June 6-13, 2013.
13. Crude Oil Marketing & Pricing Course. Lagos Nigeria. December 2013.
14. Singapore Management University Executive Faculty. Iron Ore Markets. December 2013.
15. International Iron Ore Markets and Derivative Developments. November 2013.
16. Singapore Management University Executive Faculty. Author and Course Director Coal Markets. November 2013.
17. Petroleum Economics and Risk Analysis. October 2013.

18. Physical Market Analysis Techniques Developments in LNG Markets and Trading.
India Gas Conference. October 2013.

APPEC Conference Singapore

1. Speaker and Presented “The new application of systematic analytical models to supply chain optimization”. September 2013.
2. Fundamentals of Oil & Gas Markets. August 2013.

Red Sea and Gulf Bunkering Conference

1. Presentation on Hedging & Price Risk Management in Oil Markets. RESCON.
September 2013.

Co-Generation - Sustainable Biomass Fuels from Waste Education

Co-Generation. Presentation and Training on the Viability and Technology of Co-Generation Using Biomass and Other Green Fuels. March 2013.

Energy Derivatives Operations and Controls (EDOC)

1. Wrote and delivered training for best practices in energy financial derivatives controls and back-office operations. March 2013.

Oil Trading & Risk Management

1. Author and Presenter 4 days course. Dubai. February 2013.
2. Presentation to MDX Business School. Middlesex University – London.
3. Energy and Resources Security - Critical Issues. October 23, 2012.

Bank of China Sponsored Presentation

1. Energy Price Risk Management From Asia Consumer Perspective, Including Hedging Via Financial and Risk Transfer Markets. Beijing January 11, 2012.

APPEC Conference 2011

1. Co-wrote and presented paper on “Water & Energy security the world water crisis, energy and politics”. September 2011.

Mekong Delta Energy Development

1. August 2011. Filed at National Library of Singapore.

Commodities for Banks

1. Designed, wrote and delivered a training course In London for Banks to educate their staff on the fundamentals of Precious Metals, Base Metals, Energy and Agri markets around the world and integrated structured financing for commodity producers, consumers and traders. September 2010.
2. Systematic Model for Optimization of Supply Chain in Diesel Gasoil Markets in Northern Territories of Australia & Singapore. January 2010.