

<b>Institution: City University London</b>
<b>Unit of Assessment: 19 Business and Management Studies</b>
<b>Title of case study: Adopting alternative corporate financing and ownership models in shipping</b>
<p><b>1. Summary of the impact</b></p> <p>Professor Costas Grammenos' research at City University London changed the way traditional family shipping companies perceived the capital markets as a source of finance. Dissemination of his research to the international business community through international dialogue, debates and speeches has made a significant impact on the international shipping industry, in which several City <i>alumni</i> raised, or helped others to raise, funds from major global capital markets (e.g., New York, London). Up to 2000, only 25 shipping companies had raised finance from the US equity capital markets, with the number increasing to 56 for the period from 2000 to 2013.</p>
<p><b>2. Underpinning research</b></p> <p>Professor Grammenos (at City since 1984) and his research group have spent thirty years conducting research into shipping, trade and finance and have had over fifty original articles published in peer-reviewed journals. Grammenos' early research focused on understanding shipping business cycles, credit risk analysis, the principal sources of security at the banks that lend to shipping companies and the significance of 'family name' to the reputation of the shipping company. Over time his research increasingly explored how equity and bond markets could be used to provide shipping companies with a wider variety of sources of finance in addition to bank lending. In doing so he drew the attention of the shipping world to the potential of public and private equity and debt markets as new sources for shipping finance.</p> <p>In 1996, Grammenos published the first ever peer-reviewed research on shipping equities and capital markets, Grammenos and Marcoulis (1996a). The paper examined the financial performance of shipping stocks traded on stock exchanges around the globe. Shipping companies with prime business on vessel operations were mainly considered and critical factors associated with shipping Initial Public Offerings (IPOs) were investigated. As these companies grew bigger, they reorganised and met their capital needs in the stock market more frequently. This novel work was followed by research into the reasons why shipping companies go public and the factors that affect the initial returns of shipping IPOs (Grammenos and Marcoulis, 1996b). Until quite recently, most investors did not view shipping shares as an attractive asset class and, from the shipping companies' perspective, close family ownership ties and a reluctance of ship owners to dilute company control meant that shipping companies rarely considered using equity finance.</p> <p>The cyclical and highly volatile behaviour of the shipping business and their corporate earnings help to explain the negative attitude of investors towards shipping stocks. The macroeconomic cycle exerts a significant impact on shipping stock returns. Grammenos and Arkoulis (2002) studied a sample of 36 shipping companies from across the globe during the period 1989 to 1998. They looked at returns on world equity markets against a set of global macroeconomic variables and found that oil prices and laid up tonnage (e.g., ships not in active service) are negatively related to valuations of shipping stocks, whereas the exchange rate variable displays a positive relationship.</p> <p>An alternative source of capital to fund shipping investments is debt finance, especially issued bond securities. Like equity, financing shipping projects using bond issues has traditionally not been a popular choice for ship owners due to a period of high default rates in the 1990s and because low interest loans drew companies requiring finance back to bank lending and overdrafts. Shipping bonds are considered high-yield bonds indicating a higher risk of default, but they typically pay higher yields than better quality bonds to make them attractive to investors.</p> <p>Grammenos and his team therefore began to consider how to make the bond market a more attractive choice for shipping companies in need of capital and for investors. Pioneering research examined the determinants affecting the primary pricing of new shipping high-yield bond offerings in the USA, during the period from 1993 to 1998. Primary pricing refers to the determination of the</p>

spread of the new high-yield bond offering. The spread is defined as the difference between the yield to maturity on a coupon-paying corporate bond and the yield to maturity on a coupon-paying government bond of the same maturity (Grammenos and Arkoulis, 2003). The analysis of the determinants of spreads on new high-yield bonds of shipping companies offers insights into the factors that affect the initial pricing of these financial instruments. The results indicated that factors, mainly related to debt, which are normally included in the credit ratings, appear insignificant in the empirical models. Later research assessed the risk profile of such shipping bonds and estimated their probability of default (Grammenos *et al.* 2008). This paper is novel as it estimated the probability of default for shipping high-yield bonds and introduced a methodology that combines the use of financial ratios with shipping industry specific factors.

Overall, Professor Grammenos and his team were responsible for creating and successfully developing an entirely new research area within the field of transportation economics and finance. Their work has codified the lessons from commercial shipping history in terms of modern financial analysis and portfolio theory and it has led to a greater understanding and better techniques for analysing shipping finance and markets. Their research presents shipping companies with convincing evidence to support their financing decisions.

### 3. References to the research

Grammenos C.TH. & Marcoulis S.N. (1996a). [A cross-section analysis of stock returns: The case of shipping firms](#). *Maritime Policy and Management*, 23(1). 67-80.

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Grammenos C.TH. & Arkoulis A.G. (2002). [Macroeconomic factors and international shipping stock returns](#). *International Journal of Maritime Economics*, 4, 81-99.

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Grammenos C.TH., Nomikos N.K., & Papapostolou N.C. (2008). [Estimating the probability of default for shipping high yield bond issues](#). *Transportation Research Part E: Logistics and Transportation Review*, 44(6), 1123-1138.

Research is published in respected peer-reviewed journals.

### 4. Details of the impact

Grammenos and his team have established themselves as a leading global authority on shipping finance. The Costas Grammenos Centre for Shipping, Trade and Finance is a global educational hub and the first to introduce interrelationships between these three disciplines through research, education and engagement. Work conducted by the Centre has influenced shipping practitioners and academics from across the world. The Centre provides a forum for dialogue through its conferences, seminars and debates and acts as an ecosystem where research is trialled and demonstrated in practitioner communities by those very practitioners attending the Centre as students. The Centre has over 2,900 *alumni* (from more than 100 countries) who constitute a captive audience of practitioner beneficiaries from the highest levels of the international shipping and financial communities.

As a graduate of the Centre, Nikolas Tsakos, President of Tsakos Energy Navigation (TEN) was influenced by Grammenos' research to raise finance by listing his company on the New York Stock Exchange in 2002. Mr Tsakos first explored the idea of raising funds through capital markets in his MSc dissertation and continued the idea into his professional career. Since his graduation, Mr Tsakos has become a 'flag bearer' for the modern shipping business model of raising finance through equity. TEN raised \$500M of equity from the stock exchange; it has been the only public tanker company to be continually profitable from 1993 to 2011 and has distributed, through dividends, over \$400M to its shareholders. The company has exceeded US\$1billion in profits and has, on average, returned an impressive 20% on equity per annum to its shareholders [1]. Similarly, Goldenport Holdings, a shipping company that owns and operates a fleet of dry bulk

vessels (major shareholder, John Dragnis, Cass 1999 graduate) started trading on the London Stock Exchange in 2006. Goldenport raised £158M and by 2008 the market value of the company reached £293M. Finally, Stelios Haji-Ioannou (Cass 1989 graduate) listed Stelmar Shipping Ltd. on the New York Stock Exchange in 2001, raising \$126M. The company was then acquired in 2005 for \$843M by the Overseas Shipholding Group, forming the second largest publicly traded oil tanker company. Overseas Shipholding Group market value reached \$2,673M in June 2008. By going public, these companies (together with others that followed) transformed the traditional family ownership approach into a corporate structure, which resulted in lower cost of capital, improved service to customers and enhanced corporate social responsibility (CSR) due to investors' demand for better disclosure.

The reverberations of these companies implementing the methodology (listing, raising capital, business growth or expansion) meant that Grammenos and his research, along with his team who have taught on courses at Cass Business School, contributed to the success of London remaining a main locus for the international shipping industry for the past decade. Sir Gavin Arthur, former Lord Mayor of London, said: "*London is not only the world's leading international finance centre, but also the maritime capital of the world. In no small measure, the activities of the Centre have contributed to this pre-eminence*" [2]. Another Lord Mayor of London, Sir David Howard said: "*The Centre is a world-class institution with a world-class reputation. For Cass Business School it is a jewel in the crown. For London, Europe and the wider world, it is an asset of immense value*" [3].

As London became a focal point for the shipping industry, Grammenos and his research Centre began to organise round-table fora to bring together around 700 world business leaders, policy-makers and academics to discuss and debate issues of challenge, competition, innovation and their consequences within a global context, the City of London Biennial Meetings, which have taken place since 1999. In the words of one participant, the late Eddie George, former Governor of the Bank of England, "*From the very beginning, the Centre for Shipping, Trade and Finance's Biennial Meeting established itself as a major event for the City of London, where academics, with policy-makers and business leaders – from around the world – have the opportunity to discuss and debate issues which contribute to the dynamic development of the City of London markets and their effect worldwide. Also discussed is the growth of other international and national markets and their impact on the London markets. It seems now to be the major event of its kind for the City of London.*" At the most recent meeting in 2010, Mr Efthimios Mitropoulos, Secretary General of the International Maritime Organization described the meetings as "*a landmark in the City of London calendar*" [4].

The research, education and international dialogue conducted by Grammenos and his group redefined the context within which shipping companies are assessed. Investors now have the methodology to assess shipping companies on the basis of both the financial factors which influence their market standing (e.g., interest rates, exchange rates, commodity trade) and of internal, business, or organisational factors such as managerial capacity, financial robustness and operational efficiency. Sir John Stuttard, Vice Chairman, PricewaterhouseCoopers stated: "*Many successful businessmen and women in shipping, logistics and energy, trade and finance have studied with Professor Costas Grammenos. His inspirational teaching and pioneering research have brought the rigor of academic debate to the dynamic industry of shipping and maritime economics*" [5].

December 2009 was a crucial time for global climate action. With the first commitment period of the Kyoto Protocol set to expire in 2012, the international community congregated in Copenhagen to adopt, under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC), a new global regime to combat climate change. Against this background, in February 2009 the United Nations Conference on Trade and Development (UNCTAD) expert meeting on '*Maritime Transport and the Climate Change Challenge*' debated how best to address the multiple challenges, especially those of concern to developing countries, the least-developed countries and small island developing states. Some 180 experts from 60 countries and 20 intergovernmental and non-governmental organisations, as well as representatives of the global shipping and port industries, met in Geneva to discuss a wide range of issues over the course of three days. The discussions, chaired by Grammenos, focused on greenhouse gas emissions and climate change mitigation options; the potential impacts of climate change on maritime transport systems and supply chains; and the broader economic, social and developmental implications that have yet to

be understood and addressed adequately [6].

The reach of Grammenos' work on shipping professionals was enhanced by the creation of The Grammenos Library, a series of book titles focused on issues affecting the international shipping industry. Published by Taylor and Francis, the Library brings together contributions from a wide range of internationally-known academics offering practical analyses of the business of shipping. Grammenos own title, 'The Handbook of Maritime Economics and Business' is the founding title in the Library. Lloyd's List, the leading daily news publication for the maritime industry, calls it the 'Maritime Bible' [7].

Grammenos is considered the leading authority on shipping finance by business leaders and politicians and is regarded as the academic and intellectual arm of the industry. To that extent, his authority and judgment have enabled him to become the executor of the Onassis Prizes in Shipping, Trade and Finance (\$200k each), in conjunction with the Onassis Public Benefit Foundation, initiated in 2009. The Prizes add to the international recognition of The City of London as a hub of the shipping, trade and finance industries. Dr Anthony Papadimitriou, President of the Onassis Foundation, said: "*The Onassis Foundation is proud to associate once more the name of its Founder with the Corporation of the City of London and the Costas Grammenos Centre for Shipping, Trade and Finance which respectively are world centres of the practice and academic study of these three areas*" [8].

Professor Grammenos' reputation as a shipping researcher and his influence on shipping have led to honours and awards from various bodies. In 2009, he was appointed CBE by Her Majesty the Queen 'for services to teaching and research'. In 2011 and 2012, Grammenos featured on the 'Lloyd's List of One Hundred Most Influential People in the Shipping Industry', the only academic on the list of industry figureheads [9]. According to Lloyd's List: "[Grammenos'] *input over many years means that almost a whole generation of key decision makers have been influenced by his courses, contributing in no small way to the shift of many traditional family ship owning companies into more efficient corporate enterprises able to compete in an increasingly challenging global market...Few in the industry can claim to have been responsible for the formative education in the finer points of maritime finance for so many ship owners*" [10].

##### 5. Sources to corroborate the impact

1. Capital Link Shipping (2011). [Nikolas Tsakos receives honorary doctorate from Cass Business School](#), Weekly Markets Report, page 5, 21<sup>st</sup> March
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4. Mitropoulos, Efthymios (2010). [Shipping and the environment](#), 6th City of London biennial meeting Keynote address by the Secretary-General, International Maritime Organization, 9<sup>th</sup> November
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7. Matthews, Steve (2010). [Updated maritime bible sails into view](#), *Lloyd's List*, 22<sup>nd</sup> July
8. New Statesman (2012). [Onassis Foundation announces 2012 prizes for trade, finance and shipping](#), 9<sup>th</sup> May
9. Tradewinds (2009). UK honours Professor Grammenos with CBE 16<sup>th</sup> January, p. 28
10. Lloyd's List (2011). [One Hundred Most Influential People in the Shipping Industry](#), Entry 65