Financial History of Shipping Cycles

Financial History of Shipping Cycles

By

Andreas Vergottis

Cambridge
Scholars
Publishing

Financial History of Shipping Cycles

By Andreas Vergottis

This book first published 2025

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-0364-4299-6
ISBN (Ebook): 978-1-0364-4300-9

To my wife, Adamantia

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

I would like to extend my special thanks to Dimitris Karloukas, Gerasimos Lykiardopoulos, Angela Papanastasatou, Makis Roumpis and Michalis Voutsinas for their valuable multi-year contribution towards completing this project. Without their assistance this book would not have been possible to complete.

I would also like to extend my thanks to Marine Money for permission to copy extensively from their September 2005, Back to the Future, publication.

PREFACE

The idea of collating the information presented here and publishing it as a book gradually matured over several decades of dedicated research in the field of shipping. The end product presented here is a full list of economic, historic, financial metrics and barometers of shipping markets starting in year 1896. While the idea of publishing this data set with commentary on market developments as the cycles unfolded is fairly recent, there has been gradual progression over the decades towards achieving this goal.

The key skeleton around which this booklet is composed is a complete data set - for certain series on a monthly basis, for others on an annual basis - of key barometers and financial metrics of shipping. These are:

a) Demand growth rate
b) Supply growth rate – contracting, deliveries and demolition
c) Freight rates, time charter equivalent rates, operating costs and implied ROCE
d) Ship prices in absolute terms and as fraction of newbuilding cost
e) Newbuilding costs

The collation of the first portion of the database starts with the authors research efforts at City University Business School to create an econometric model of world shipping markets for historic explanation, simulation and future forecasting reasons. This led to satisfactory but not complete coverage of the above a)-e) dataset for the period 1960-1990.

On completion of the econometric model, the daily task of understanding where we are in the market cycle and where we are heading, has forced me to keep the data set updated up to the minute so far as possible. Ambitions grew as it became clear that the post-1960 data set offered only a limited range of possible cyclical fluctuations that could unfold at any point in time past or future. Moreover a lot of the post-1960 dataset was in the form of indices. Economists love indices but to reach out to the whole set of target audience, which in addition to academia, includes market practitioners it was imperative to translate the data into actual dollars and % return performance where convenient.

In my daily task as a shipping analyst I was called to make forecasts about the maritime markets. I quickly became self conscious that my living memory experience and data was shaping my, all too often biased, opinions and future projections. Unable to see ahead clearly I felt the need to understand the more distant past that lies beyond living memory to gain a richer experience about what is possible. History repeats itself kind of thinking. A liberate the mind process.

The task was therefore laid out to try and reach as far back as possible into the earlier days of steamship which for cargo ships starts in 1853. It quickly became apparent that one could not reach that far back for barometers a)-e). The data was simply not available nor could it be estimated or inferred. A more recent start period was set as year 1896 to lay out and present the financial metrics and key barometers highlighted above. This year coincides more or less with the time by which steamers had completely wiped out sailers from the world maritime markets.

In reaching out towards start year 1896, many challenges were presented. The further back one goes in time, the more unfamiliar the ships become, the more varying becomes the units of measurement, the routes that the ships plied, the fuel they used for propulsion, data is in index form and the list is endless.

To overcome these challenges a Chinese tale is relevant. An apprentice joined the workshop of a Jade master hoping to acquire the skills of the trade. On his first day at work the master gives the young apprentice a green stone to rub. After rubbing the stone for one hour the master says the lesson of the day is over and lets the apprentice go home. This repeats for a few days and the apprentice asks the master what is the whole point of these one hour rubbing lessons. The master continues with the lessons without reply for a whole six month period. At the end of the period the apprentice rubs the stone and suddenly he cries out “This is fake Jade”. The master declares that the first lesson is over.

There is no alternative to rubbing the historic shipping data with your hands in order to reach an understanding of what they really represent and how they should be made compatible with each other. After 40 years of rubbing “the Jade” we confidently present in this book the data a)-e) for over 125 years.

We have also read the shipping industry press since 1896 to try and understand what market participants thought about events as they were unfolding. Of course they lacked the benefit of hindsight that we have. We

have also tried to use the pre and post event angle analysis to see where expectations were right and where they were proven wrong or even badly wrong.

To our knowledge this is an industry first. There is no other sector of the economy where the economic history of the industry has been laid out in its fundamental financial metrics and supply and demand baromoters for a period of over 125 years in a consistent manner. Hopefully this book will spawn research in this direction for other economic sectors. Unfortunately it takes 40 years of focused rubbing of "the Jade" but at the end it is worth it.

Our target audience reflects the nature of the study. Firstly it is a study in economic history and cycles and as such it is targeting academia. Shipping cycles being the subject matter it should be essential reading to several students undertaking shipping MBAs around the world. But being simple in nature it can be approached and understood and become essential reading for industry participants. Shipbrokers, shipowners, shiplenders, charterers, shipbuilders are main beneficiaries of extending their knowledge beyond their narrow living memory and narrow focus of daily tasks. Last but not least, financial investors outside shipping should also find this book appealing providing a live example of a dynamic cyclical and highly speculative industry in action.

INTRODUCTION

This manual aims to provide useful information to the investment community about shipping. Financial investors in general who may be unfamiliar with shipping up to now have a lot to learn from an industry that resembles the stock market and broader financial markets in its cyclicality and various fundamental and behavioural mechanisms. Shipowners buy and sell ships on speculation mirroring activity in the stock market. In doing this they engage in expectations formation of future freight rates, unit revenues, unit costs, operating profits and future vessel prices.

A few simple principles at the outset. Shipping comes closely to being a commoditized industry where entry and exit is fairly simple and open to anyone that has capital at his disposal. When industry ROCE ("Return on Capital Employed") exceeds WACC ("Weighted Average Cost of Capital"), new ships are being ordered and old ships cease to be scrapped in sufficient magnitude causing supply growth to exceed that of demand. The result is mean reversion of ROCE back towards WACC. The opposite dynamic comes into play when ROCE falls below WACC. In this regard, as is well known, shipping resembles the economic textbook paradigm of perfect competition with low barriers to entry.

We present here over 125 years of shipping cycles in desired detail. We break the presentation into 8 historic segments.

The pre-WWI period 1896-1913.
The WWI period 1914-1919.
The intra World War period 1920-1939.
The WWII period 1940-1945.
The post WWII period up to 1973.
The OPEC Oil Shocks period 1974-1985.
The post OPEC regime change period 1986-2002.
Finally, the arrival of China onto the scene spanning the years 2003-2022.

We study history because it rhymes. Those who do not study history are condemned to repeat the mistakes of the past. But we caution that historic knowledge is not sufficient for informed investment. The forward-looking

angle is required and the future outcome may wildly differ from any of those investigated from the past history. A simple example will suffice. At the end of WWI there followed a prolonged downturn which lasted practically the entire 20-year period until the start of WWII. This had to do with the fact that UK and Germany, the two leading trade nations of the world at the time, continued to be at political and economic friction throughout the period 1920-1939. The average ROCE of the dry cargo shipping industry during this 20-year period was a very poor 2.4% per annum outcome.

At the end of WWII several shipping companies thought the post WWI malaise was due to repeat itself. This is our natural make up as children of the jungle wired up to survive predator and other threats. We are conditioned to extrapolate the past into the future even if the latter is about to follow a completely new unexpected path in the stock market jungle. Our jungle DNA was shaped for survival in a regime where the laws of nature were unchanged, or at least in matters of life and death you might as well have assumed they were unchanging.

The shipping and stock market jungles are fundamentally different to the animal jungle where our DNA was formed. In the stock market jungle transmutations take place on a daily basis rather than every 65 million years when a massive meteorite strikes. Every so often a completely new variant of devil turns up which gives the next cycle a totally different shape to those studied from the past. Tigers change their stripes in the stock market within 65 hours or even faster. Forward looking analysis is required. The shipping companies that extrapolated the post WWI trade friction into the post WWII outcome got it completely wrong. A new tiger, a new devil turned up. It was the “Marshall Plan” and the “Japanese Economic Miracle”, which ensured rebuilding and trade prosperity from 1946 to 1973. For shipping those who invested in it at the end of WWII enjoyed almost 3 decades of nearly uninterrupted prosperity.

Another example of why one should read economic history over a broad span of time is the following. Market participants only have their living memory to draw upon in order to learn lessons and simulate analogies on unfolding cycles as they happen to make predictions. But the next cycle may resemble events that lie outside living memory. This book adds to your stock of historic knowledge at least another 80 years’ worth of cyclical dynamics. In 2002 China arrived on the scene. No one was aware of it at the time. By mid-2003 half the world was talking about China. By mid-2004 everyone was talking about China. And China was driving the commodity markets and shipping inexorably upwards. A lot of dry bulk shiponwers took profit

very early on, as by December 2003 the market had hit living memory highs. A painful mistake that was soon regretted. Living memory was a bad advisor for what was unfolding which was not a boom but a superboom. One had to go beyond living memory highs to find suitable analogy. And that analogy was the superboom of WWI shipping market.

The shipowners who sold their dry bulk ships in December 2003 got it completely wrong. A new tiger, a new devil turned up. Its name was China and gave the cycle a totally different shape to living memory ones déjà vu shipping markets WWI.

So, study history but engage in forward looking thinking as well. Easier said than done. The complete package requires:

a) Years of experience
b) Established network of contacts
c) Regular relevant information flow
d) Extended historical analysis – cherry pick the parts that are analogous to what lies ahead
e) Established commercially tuned research
f) Thinking outside the box – expect the unexpected

We hope this book provides useful material for those who wish to elevate their understanding of the laws of the shipping and stock market jungle. An interesting finding is that the behaviour of ship prices does not conform to the rational economic theory of asset pricing. According to the later, ship prices should instantly jump to their new equilibrium whenever external conditions change in order to exhaust the possibility of excess return to subsequent traders. Instead we find that ship prices move sluggishly towards their new equilibrium in hesitant steps trending all the way towards it. This gives investors the possibility to make excess returns by playing a simple "the trend is your friend" strategy provided they have a clear idea for where things are heading. And once the trend has exhausted itself it is increasingly likely that we are getting closer to calling a turn of the cycle.

We summarise here some major lessons learned from reviewing the history of shipping, with emphasis on periods when shipowners were seriously wrong footed in their investment strategy. The first occasion is around the Boer War in 1900. British mobilisation for the conflict necessitated the movement of large number of troops and raw materials by ships leading to soaring freight rates. Values of ships rose significantly only to drop disastrously soon after the short-lived war was over. A timid attempt to push

the market upwards in late 1905 was cut short by the Lehmanesque Knickerbocker financial crisis in 1907 sending ship values to all-time lows. At this stage ship prices sink so low that you hold your nose and buy. Those who did so got rewarded few years later in the boom of 1912.

Then comes the outbreak of World War I causing a boom in freight rates. The legacy strategy prevailed at the outset but wrongly so. What owners did not realise at the outset was that this boom was not normal both as regards its strength and duration. It was not a boom but a superboom that was unfolding. In the beginning owners paid only a price that in combination with prevailing freight rates would pay down the residual value of the vessel to pre-War levels. But rates kept going up higher and higher. Those who sold early to take advantage of what looked like record high prices regretted their actions. Prices just kept breaking new records as did freight rates.

At the end of World War I the super boom continued. It was the effect of congestion in ports. It lasted for 18 months and a lot of investors were sucked into this last phase of the superboom which had the illusory feeling of being recurring, like a new era, after several years of record earnings. But the congestion effect soon unwound and it was revealed to all concerned that the emperor was naked. Thereafter follows a prolonged crisis in dry cargo market that was the other side of the coin of the previous superboom. Its root cause is the fact that the major economies of the world which comprise the two sides of the World War I participants, are effectively in uneasy peace with Germany in chains. On the other hand, tanker owners earned double digit returns through 1920-1939 just as dry cargo struggled to earn 2.4% per annum over the same period.

The Great Depression affected both dry cargo and tanker markets severely. As we moved deeper into the crisis great bargains presented themselves for owners that had financial reserves in hand to deploy. Modern ship values sank to a ratio of below 50% of their depreciated replacement cost for dry cargo ships, while for 10 year old tanker vessels their value fell to 20% of depreciated replacement cost. Another opportunity to hold your nose and buy. Those who did so got richly rewarded at the end of the Great Depression.

After World War II shipowners were nervous, based on backward looking thinking, that the post World War I malaise would repeat itself. Those who did so missed a great buying opportunity. The outcome now was exactly the opposite to those 25 years earlier. US initiated the Marshall Plan while Japan performed its economic miracle, leading to robust growth in trade flows. The winning recipe from 1945 to 1973 was to Buy and Hold. Average

returns on capital employed for both dry cargo and tanker ships were in double digit territory.

Then comes a totally unexpected turn of events. It is triggered by the Yom Kippur war of October 1973 which in turn leads to OPEC shifting to an aggressive stance towards the West and turning off the taps. Oil prices quadruple sending the world economy into downturn. Tanker demand which was growing at legacy rate of 17% per annum now totally stagnates. The tanker orderbook which almost equalled the fleet on the water, is now delivered into a market that exhibits zero demand growth. Tanker fleet utilisation goes down from 100% to 50% in the space of 3 to 4 years. The winning strategy here is early loss is the best loss.

There follows a boomlet in 1980 which proved very transitory. Those who bought thinking that the worst was over soon regretted their actions unless they took their profits very early on and without asking for too much. The shipping and shipbuilding crisis of seventies and eighties was just about to show its most ugly teeth. And in the midst of it with modern assets trading at less than half their depreciated replacement cost a great opportunity appears to hold your nose once again and buy. And so many great fortunes were made. The icing on the cake is the reverse oil shock of December 1985 when OPEC decides it is time to abandon its aggressive stance towards its clients and turn on the taps again flooding the market with new volumes of oil. World trade flourishes. A strong recovery follows all the way to 1990 interrupted in August 1990 by the first Gulf War.

The 1990's decade sees the shipping market being in a trading zone with a bit of an upward trend overlaid as the markets are still healing from the big depression of the seventies and eighties. Then comes a blast from the past. China arrives onto the scene for most people unannounced. But for the precious few that had done their homework and had their ears on the ground the arrival of this new tiger was not unexpected. And so, a new boom unfolds across all sectors of shipping, dry bulk, tankers and containers. Those who had not studied history repeated the (dis)investment mistakes of World War I. They failed to see that what was unfolding was not a boom but a superboom particularly in the dry bulk sector. Without the benefit of this manual, they had only their living memory to go by. When values reached the living memory all-time highs a lot of people took their profit and sold as early as December 2003. But this profit was a modicum compared to what was in store and you could work that out if you had looked at pre-living memory cycles. Dry bulk shares rose 18 times from 2002 to 2008.

Macro trumps micro once again in September 2008 with the bankruptcy of Lehman. New ships ordered during the pre-Lehman superboom are now delivered into a weak macroeconomic environment pushing freight rate trajectories below hoped for levels. But in 2009 China announces a major infrastructure boom scheme which promises to restore demand and health in the shipping markets. Shipping regularly double dips. Supply grows very rapidly in the years 2010-2012 as the ships ordered pre-Lehman hit the water. On the China infrastructure boom thesis investors buy commodities once again including freight and ships. But freight is a very different commodity to all others. A voyage is not a storable commodity so its price goes to ebitda zero when you have excess supply. All other commodities find support even in weak demand environment through intertemporal storage speculation. The long-term price supports the nearby spot price through buy and hold anticipated storage profits.

Last decade is largely a wasted decade for shipping. Around 2014 new ECO engines are developed which economise on fuel consumption and helps newly built ships earn a higher profit compared to previous designs. This is normally a kiss of death for the shipping industry. Shipowners cannot resist the lure of improved newbuilding designs and order them in large amounts. So many are built that they drive freight rates lower so they turn from being exclusive winners to collective losers.

Shipping fortunes critically depend on the shipbuilding capacity on hand which in turn determines how many ships can be built. Yard capacity doubled on the way to Lehman, leading to oversupply in the post Lehman environment. Through the last decade shipbuilding capacity shrunk sufficiently to create a tighter market. So, as we entered this new decade all shipping markets experienced recoveries of different types and shapes which rewarded investors that had bought during the lows of the previous decade.

A few words on presentational aspects. There is little value to be gained by saying to any member of our audience that the representative workhorse of the tramp market at the start of 1896 was a 5000 dwt ship, valued at £19,175 as a 5-year-old and earning a time charter rate of £24.8 per day. A little more added value is derived by adding that at that time operating expenses were £15.6 per day, hence charter rates were comfortably above opex and layup rates. More insight is gained by saying that the value of the 5-year-old estimated at £19,175 as mentioned, stood at 14% discount to the depreciated new resale value. Even better is to add that the combination of all this

implied a real ROCE of 8.6% which is close to real WACC. We estimate the later to be around 7% in real terms over time.

Hence, we use two key ratios to track the cycle namely Return on Capital Employed ("ROCE") and Tobin's Q-ratio. ROCE is computed on replacement cost principles. More precisely ROCE is defined as Return on Replacement Cost and calculated on a monthly basis and then annualised. In other words, it is the ratio of Annualised Earnings Before Interest and Tax ("EBIT") to Depreciated Replacement Cost ("DRC"). Starting with definitions the replacement cost of a ship in a given month is simply the newbuild quoted price of that period. The DRC is the same newbuild price number multiplied by 0.815 to make it equivalent to a 5-year-old age adjusted basis, so as to make it comparable with the numerator age-wise. The 0.815 factor is derived based on a linear depreciation profile over 25 years down to scrap value, such residual assumed to be equal to 7.5% of newbuild price. In other words:

The annualised EBIT calculation in the ROCE numerator is computed as:

95%*360*TCE – 365*OPEX – Annual Depreciation Charge (1.1)

Where

TCE = Daily Time Charter Equivalent rate (5% broker commission assumed; 5 days off-hire)

OPEX = Daily operating expenses

Annual Depreciation Charge = 0.925 * Newbuild Price / 25 (1.2)

One can debate the depreciation profile appropriate to ships at different points in time and other parameters chosen above. But let it be said that for a 5-year-old vessel which is the focus of the study and within the normal bounds of parameter sensitivity it makes little difference to the EBIT and DRC calculation, what precise residual value and economic lifetime span assumptions one uses. It is also worth mentioning that the above assumptions fit the stylistic facts that we observe over decades of data.

We use the expressions Return on Replacement Cost and Return on Capital Employed interchangeably in this report. For an industry with weak barriers to entry, such as shipping, ROCE should fluctuate around WACC through the cycle.

The other key ratio we compute to measure cyclical developments is Tobin's Q. The numerator is merely the second-hand value of a 5-year-old benchmark ship. The denominator is the newbuild price of such ship multiplied by 0.815 thus age adjusting it to a 5-year-old equivalent. Given the arbitrage between new and aged ships this ratio should fluctuate around 1 through the cycles. When ROCE exceeds WACC we may expect Tobin's Q to rise above 1 and when ROCE falls short of WACC Tobin's Q may fall below 1.

Tobin's Q = 5 year old market value / 0.815 * Newbuild Price

CHAPTER ONE

THE PRE-WORLD WAR I PERIOD 1896-1913

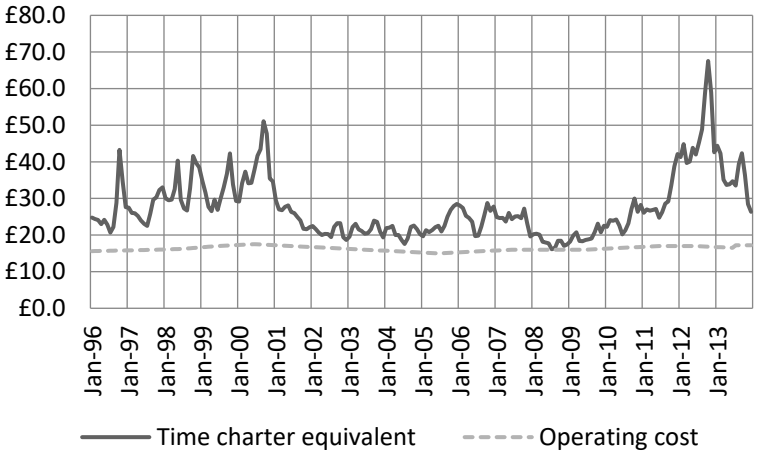
We start our investigation in year 1896, this choice being driven by data availability. By that time the replacement of sail ships by steamers in the shipping trade is approaching completion. The geopolitical environment is favourable to globalization and trade, with Pax Britannica in the background. This was a period of relative peace between the Great Powers during which the British Empire became the global hegemonic power and adopted the role of a "global policeman". Britain traded goods and capital extensively with countries around the world, adopting a free trade policy after 1840. Imitating Britain, more and more countries abandoned their old policies of taxing trading goods at import ports to generate state revenue. This increasing openness of trading nations was a positive factor for trade growth and has continued all through the 20th century.

We use as the representative cargo ship of the period a 5000 dwt tramp vessel. We have computed its daily time charter equivalent earnings in the spot market across several routes and compared it with its daily operating cost. This is a coal fired ship that is the workhorse of the time and we use the bunker coal prices at main terminals as cost input. By today's standards these are slow 9 knot vessels. The routes they ply regularly reflect the predominance of the British empire at the time and it is a two way trade. Outbound from UK is the weak leg of the trade and the vessels export UK produced coal. The inbound to UK trade is the strong leg of the trade.

The period starts at cycle low in 1896 but nevertheless revenues comfortably cover operating costs at the outset. The charter market is then on an uptrend from 1896 to 1900 where it peaks coinciding with the Boer war which led to a lot of additional shipping requirements. Old style wars were very shipping intensive. The charts shown here show shipping on an upward trend all the way through 1900. There follows a bust phase lasting from 1901 to 1904 and then follows a timid attempt towards a market recovery. But it all goes wrong in mid-October 1907 when the Knickerbocker financial crisis struck. US GNP contracted by 12% the following year. Shipping was not left unscathed. Charter rates declined down to operating

costs in July 1908. A strong up-cycle kicks in thereafter which peaks in October 1912. A sharp correction follows in 1913.

Fig. 1-1: Daily time charter equivalent vs operating cost – 5000 dwt cargo steamer



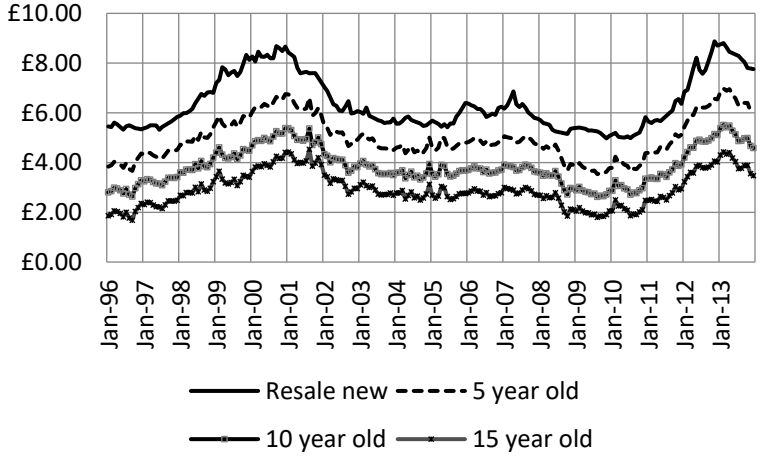
Source: Fairplay; Oceanic Investment Management calculations.

The dotted line in Fig. 1-1 represents the developments of daily operating costs. As always this is a smooth line compared to that of unit revenues continuous line. In fact from start to finish operating costs hardly exhibit any net rise. The British empire is financially prudently managed and broader monetary conditions are non-inflationary. Unit revenues stay firmly above unit costs and only in the Knickerbocker incident the former equal the later for very brief period of time.

We turn now to fluctuations in ship prices as shown in Fig. 1-2. As expected, they correlate closely with those of charter revenues shown in Fig. 1-1. A peak occurs at the time of the Boer war in 1900 and then follows a bust period. The all-time low point is reached after the Knickerbocker crisis as one would expect. The all-time high correlates closely after the all-time high in freight rates of H2 1912.

We combine the data in Fig. 1-1 and Fig. 1-2 to compute fluctuations in ROCE.

Fig. 1-2: Ship values per dwt–5000 dwt cargo steamer

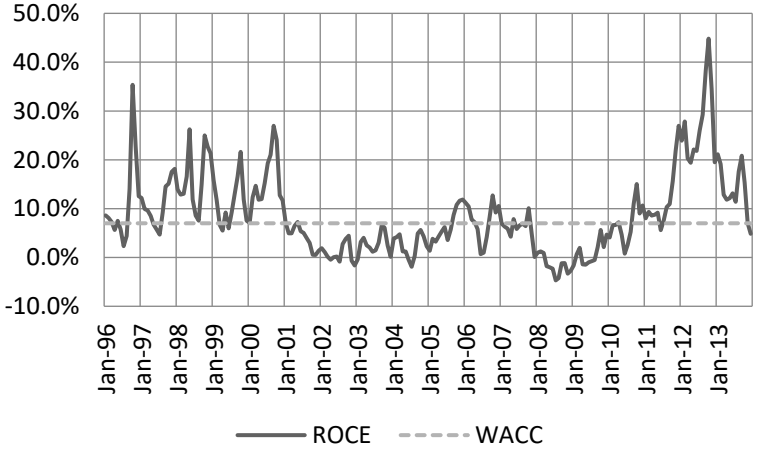


Source: Fairplay; Oceanic Investment Management calculations.

The industry is largely in value creation mode, ROCE exceeding WACC, from the start of the period until the mid-point of the Boer war. In the following bust phase ROCE falls short of WACC and this value destruction mode lasts until the middle of the first decade of the previous century. The timid attempt to return to value creation around 1906 is interrupted rudely by the outbreak of the Knickerbocker financial crisis leading to a nadir in ROCE towards the middle of 1908. In fact, ROCE goes negative for almost 18 consecutive months following the outbreak of the crisis. The strong freight recovery of 1912 sends ROCE to all time high during October month that year reaching a level of just under 45%.

The average ROCE of the entire period is 8.6% which should be contrasted with estimated WACC of 7%. Thus, over almost 20 years the industry created a value-added spread between ROCE and WACC of 160bps and this should be deemed to have been a satisfactory financial outcome as a whole. The closeness of average ROCE to WACC is consistent with the view that the shipping markets are open to competition with relatively low barriers to entry.

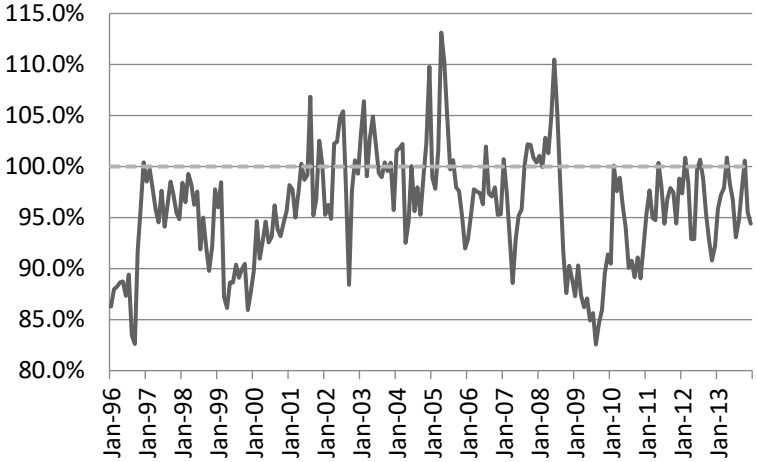
Fig. 1-3: 5000 dwt cargo ship – ROCE vs WACC



Source: Fairplay; Oceanic Investment Management calculations.

In Fig. 1-4 we express 5-year-old second hand prices as fraction of new vessel values, the latter depreciated to 5-year-old equivalent.

Fig. 1-4: Tobin's Q – 5 year old 5000 dwt cargo ship

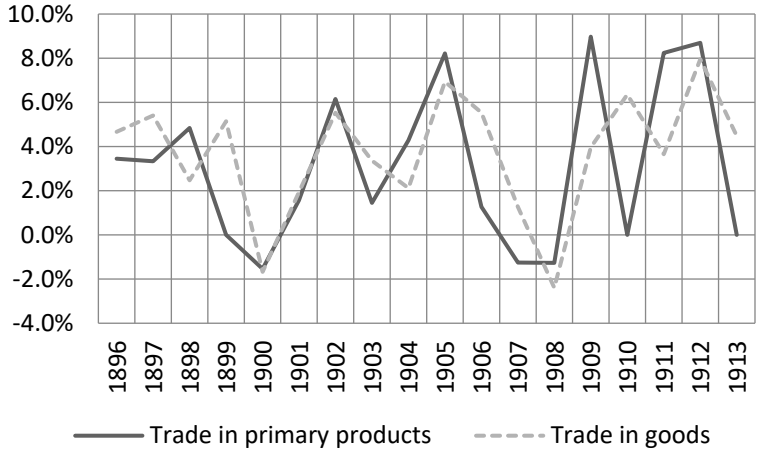


Source: Fairplay; Oceanic Investment Management calculations.

All time low for the Tobin's Q was reached in the aftermath of the Knickerbocker crisis which should not be surprising. The average Q ratio over the entire period is 95.9% not far off the theoretical midcycle of 100%.

We turn now to the external demand environment for shipping and the response from the supply side that created the fluctuations in rates and values we have just analysed. As mentioned, this was a period during which trade flourished and that is illustrated in Fig. 1-5.

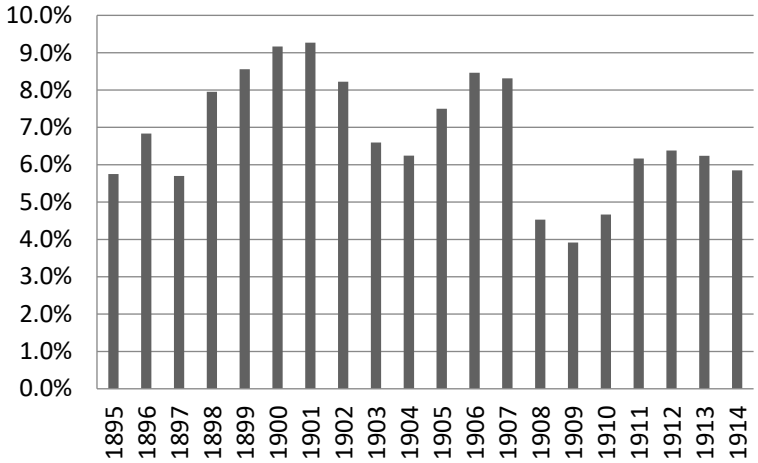
Fig. 1-5: World trade measures



Source: Parkinson (1960); CEPR Federico-Tena World Trade Historical Database

The average compound growth rate between 1896-1913 is a robust 3.7% per annum. But there are several speed bumps along the way. Once again, the financial crisis of 1907 stands out as a period of abnormally negative deviation from trend growth. A post Boer war hungover is also apparent in the data.

Fig. 1-6: World fleet excluding tankers – deliveries - % of fleet



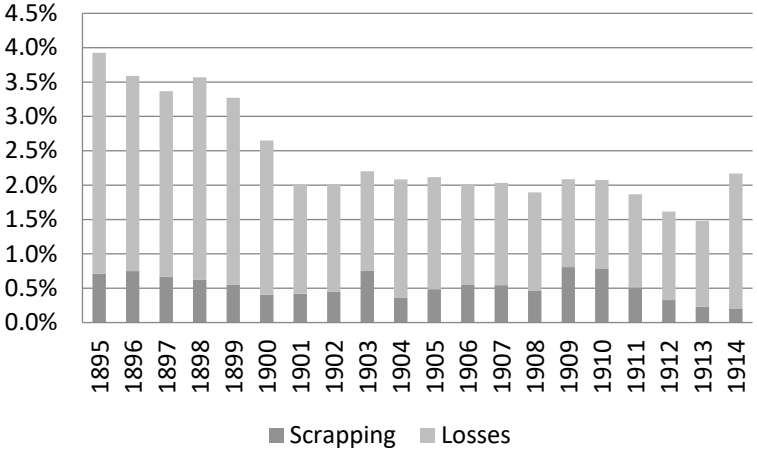
Source: Lloyds Register Merchant Shipbuilding Returns & World Fleet Statistics. Sun Oil Company. Oceanic Investment Management calculations.

As expected, the shipbuilding cycle in fleet deliveries correlates, after allowing for the standard lag between ordering and execution, with the financial conditions in the freight market, in the market for ships and the underlying trade growth dynamic. Fleet deliveries ascend on the way to the Boer war and then decelerate during the subsequent bust phase. The timid rise in freight rates around 1906 pushes fleet delivery rate upwards. The financial crisis of 1907 sees fleet delivery rate hit a nadir in 1909. As we come out of the Knickerbocker financial crisis, deliveries accelerate again.

Scrapping cycle is inversely correlated with the health of the shipping markets. Scrapping falls during the boom around the Boer war and rises during the subsequent bust phase. It then falls during the upturn in the market of 1905-1906 only to rise visibly again after the financial crisis of 1907. It approaches all time low towards the boom phase at the end of the period.

Losses do not show cyclicality though during this period they exhibit an interesting downward trend. This reflects structural changes and improvements in the quality of ships built, ship management practices and insurance oversight.

Fig. 1-7: World fleet excluding tankers – scrapping & losses - % of fleet



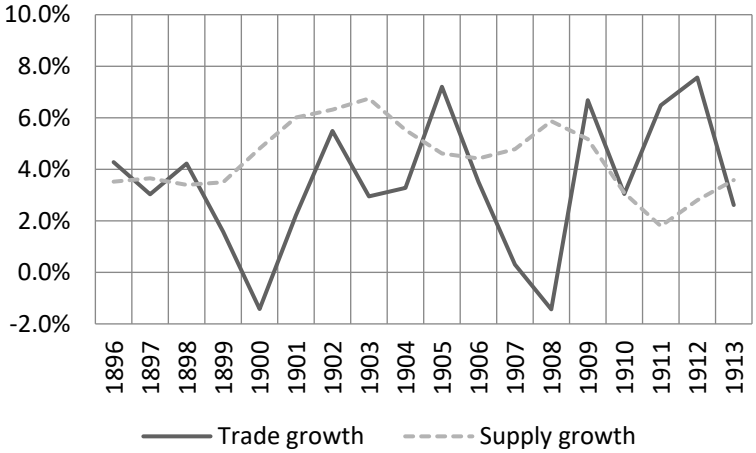
Source: Lloyds Register World Casualty Returns. Sun Oil Company.

Fig. 1-8: World fleet excluding tankers – annual growth rate

Source: Lloyds Register World Fleet Statistics. Oceanic Investment Management calculations.

The sum total of deliveries, scrapping and losses results in the fleet growth pattern shown in Fig. 1-8. The annual compound average fleet growth over the 20-year period under review is 4.4% per annum. This should be contrasted with the trade growth estimate of 3.7% per annum exhibited in Fig. 1-5.

Fig. 1-9: Trade growth vs supply growth



Source: Lloyds Register World Fleet Statistics. Parkinson (1960); CEPR Federico-Tena World Trade Historical Database.

Over a long period of 2 decades investigated here the growth rate of demand and supply should be approximately equal. We believe fleet growth is measured 100% accurately based on ship by ship detailed annual assessments by Lloyds Register. Thus demand is the suspect area where market growth may be underestimated. Allowing for error, the true measure of annual demand growth over the 20-year period rises somewhat above 4% per annum, a very robust showing.

Another reason for the deviation may lie in the metric used for demand namely trade in goods which is measured in tonnes. However, a more proper measure of ship demand is tonne-miles which multiplies the amount of goods shipped with the average distance over which they travel. There is good reason to believe that over the time period, trend distances are increasing. This is a typical pattern that is regularly observed as we move into a regime of economic openness. Countries first draw upon their own

stock of goods and materials and those of nearby countries. As local stocks get exhausted countries have to seek more imports from further away. In the process average distances increase.

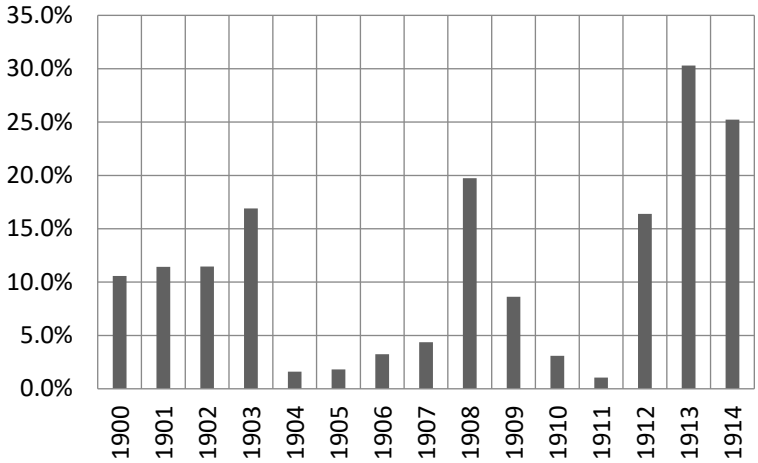
An even more exhaustive measure of ship demand is vessel-time used and this captures the shifting effect of waiting time in port and congestion. Unfortunately this metric has only become available in the last 10 years with satellite vessel tracking systems and cannot be calculated for earlier years.

So what was the winning investment strategy over the period under review? We do not enthuse with asset play which can only offer benefits at the margin if at all. It is impossible to sell an entire fleet and then reconstitute it between cycle highs and lows. However, it is possible to modernise the fleet by buying young ships towards the bottom of the cycle and complete the process by selling older units closer to the peak of the cycle. Such a feasible strategy over the period, should start by recognizing that the market is range bound. The rules of play are as stable as the British Empire at the time. Attractive entry points for acquiring modern assets are in year 1896 and at the depths of the Knickerbocker crisis. Selling of older units fetch attractive prices during the Boer War (1900) and during the boom period of 1912. Stock market investors have identical attractive entry and exit points given that share prices are linked to Net Asset Value.

During our period under review a major change begins to take place in the fossil fuel industry. The 19th century was a period of industrialization based on coal which benefitted shipping through enhanced trade flows of this essential feedstock. Towards the end of the 19th century oil is beginning to enter into the equation challenging coal in certain uses while at the same time creating new markets. From a shipping perspective we pick up the story at the very end of the 19th century when tanker seaborne trade and the tanker fleet itself were at their very infancy.

We lack tanker financials for the period under review. Our statistics are limited to the evolution of the fleet and certain of its characteristics.

Fig. 1-10: Tanker deliveries - % of fleet



Source: Sun Oil Company.

Starting with deliveries it is notable that there is close correlation between tanker and rest of the fleet newbuilding execution. We can only surmise that the broader macroeconomic and trade conditions dominate both sectors in the same way. There are signs of a post Boer recession but it kicked in with a long lag. There are also clear signs of a post Knickerbocker recession but also coming with a certain less pronounced lag.