Part I World shipping: the context

1 Drivers of change in the shipping industry

Like it or not, the shipping industry is currently experiencing a business environment characterized by radical change – and there seems to be an explosive acceleration in the speed of change. The traditional shipping company can no longer thrive in this environment. To succeed, the shipping company of the future may have to undergo a fundamental restructuring of the way it operates. This will call for new strategies and business models. So what's behind all this change? This chapter focuses briefly on the more striking drivers of change in the industry. These may have a high impact not only on the future role of the traditional, asset-based shipping company, but also on reshaping shipping companies for the future.

But before I go into this, what is the formal definition of a shipping company? A shipping company is a commercial firm that is active in one or more of the following:

- shipowning
- trading, including ship brokerage, forward freight agreement (FFA) trading and liner shipping
- operations
- commercial and technical innovations.

The shipping industry is institutionally more broadly defined than might be conventionally assumed. It is the overall industry's value chain that matters, not merely ship ownership, a relatively small part of the industry as a whole.

GLOBALIZATION

Globalization is shaping our modern world. It is perhaps also the single biggest force in the shipping industry – indeed, in most industries.

Markets are becoming larger and larger – and more global. And the pace of globalization has gathered speed because of a number of factors, including the almost complete opening up of world markets. With the advent of multinational, multilateral agreements, we have also begun to see large homogenous trading blocs, such as the European Union (EU), the North America Free Trade Agreement (NAFTA) and the Association of Southeast Asian Nations (ASEAN). As the barriers to cross-border trade and ownership continue to break down, goods will move even more freely around the world.

DISPERSED MANUFACTURING

In the not-too-distant past, many durable consumer goods were made in Japan and then shipped to countries such as the US and Europe. Over time, cost levels in Japan increased and countries like Taiwan and Korea took over. This led to changes in shipping patterns. Since China has become the "manufacturer of the world," one-third of the world's container shipping is now going to and from China. Even though the recent economic slowdown has impacted China negatively, it still remains the dominant manufacturer in the world. One could speculate that a future low-cost manufacturing country might be Vietnam. There is already an increase in ocean/sea freight route activity to and from this country. As these low-cost manufacturing centers continue to grow, meaning that goods are produced further and further away from major consumers, we are likely to see an unprecedented increase in the demand for container-based shipping.

INCREASED GLOBAL DEMAND FOR COMMODITIES AND CONSUMER GOODS

With these changes in world patterns of manufacturing, China and other so-called low-cost developing nations are becoming even more important in today's global economic scene. And, as these developing nations become wealthier, we are seeing an increase in global demand for commodities such as various types of ore, steel, and energy to support their booming infrastructure needs.

The newfound wealth of the low-cost manufacturing nations will also become more of a driving force in the global demand for consumer goods. Also, the interrelationships among consumers are becoming more immediate and transparent. Masses of new consumers will enter the world arena.

WORLD TRADE

With most of the world's economies slowing down in the latter part of 2008, the level of world trade has also dropped. The consumer sector is definitely having problems, mostly in the US, but also in Europe. An important consequence of the decline in consumer confidence is the fall in container-based demand for the shipping of finished goods in particular – mostly from China to both the US and Europe. Despite this decline, China remains the major exporter of manufactured goods. As a reflection of this, many of the container liners are, as of the end of 2008, implementing extensive reductions in employee levels, laying-up ships, sharing ship capacity, and streamlining route systems.

The flow of raw materials is also falling. Steel production is down, not least due to the slowdown in the purchase of consumer durables such as cars. As a consequence, iron ore imports are also down, as are the trading flows of most other commodities. Commodity prices, therefore, have also come down – perhaps a good sign for having a potentially stimulating effect on the world economy, but with significant negative consequences for many developing economies.

Hence, from an unprecedented period of growth in most economies, we find ourselves, as of the end of 2008, in the grip of a worldwide recession and weakened trade flows.

DEMOGRAPHIC SHIFTS

The growth in the world's population is heavily centered in Asia today. India is the planet's most heavily populated country, with slightly more than one-quarter of the world's total population within its borders. China is also huge, with slightly less than one quarter, and

Southeast Asia is growing fast. In contrast, European countries, North America, and Japan are not growing at the same rate. These demographic shifts will certainly have longer-term impacts on the world's ocean freight patterns and shipping rates. The countries with young populations, such as the countries in Asia, are mainly producers today, but they can be expected to be the major consumers of the future. Asia-focused shipping can be expected to become even more dominant.

UNEVEN ECONOMIC GROWTH AND TURBULENCE

Economic sustainability and robust growth are becoming critical. However, economic volatility may also become more extreme. There are strong economic ups and downs within each trading bloc. Higher capacity utilization within many industries represents a major reason for this.

Before mid-2008, China, in particular, proved to be *the* major source of sustainable and rapid growth in the world economy. China's economy was growing, on average, 10 percent per year and inflation was relatively low. As China became the world's manufacturing center, it was estimated that its gross national product (GNP) per capita would be 50 percent of that of the US by 2030. However, China has five times the population of the US, which means that its total GNP will be 2.5 times larger. In addition to China, India, Eastern Europe, Russia, and Latin America were all experiencing strong growth. Never before has three-quarters of the world's population seen such a strong cycle of growth.

While China's impressive growth over the last few years has indeed been a major factor in propelling a strong level of prosperity throughout the entire world, it was slowing down by the end of 2008 for two classes of reasons.

First, a series of endogenous factors had a negative impact on China's economy. The earthquake in Sichuan in the summer of 2008, while relatively limited in physical scope, affected China's entire economy. The Summer Olympics in August 2008 similarly brought the entire country to a virtual standstill for two weeks. A stricter focus on the environment has also taken its toll on the economy.

Second, the world slowdown, particularly in the consumer goods sector in the US and Europe, has led to fewer exports of finished goods from China, which, in turn, has led to less basic metal production – particularly steel – and thus fewer raw material imports, particularly iron ore.

Finally, China has been putting a lot of emphasis on shipbuilding. As of the end of 2008, there were estimated to be approximately 400 shipyards capable of building ocean-going ships in China. Experts think that this number will have to shrink to perhaps as few as 100 in the next three to four years.

All of this has led to a slowdown in China's economy – and we can, in all likelihood, expect to see more.

Western Europe, on the other hand, is experiencing relatively slower growth compared to the rest of the world. Germany and France, for instance, have had problems maintaining their economic dynamism. Germany is still a larger exporter than China, but the products being exported generally have more value-added content. The same can be said of Japan. In North America, the entire economy has gone through large swings, including extended periods of depression. Innovation remains high within many sectors of the US economy, of course.

While shipping companies must adapt in order to compete globally, they must also be aware of their exposure to ups and downs in various parts of the world, at various points in time. For instance, while the transpacific volume of containers shipped is now flat because of the economic slowdown in the US, growth in container shipping has shifted to the China–Europe routes. When things are good in one place, they are often not so good elsewhere, resulting in volatility in the global portfolio of corporate activities (Fischer, 2004). But it is not only macro-economic shifts that are driving change. There are also many forces at the micro-economic level that are causing turbulence. The credit crisis, which began at the end of 2007, and fluctuating interest and currency exchange rates, are just a few examples. As a result of this economic volatility and the shift in growth regions, we are bound to see further changes in ocean transportation patterns.

To sum up, rapidly growing world trade is driving many of the major changes in the world today – and world trade is more or less synonymous with world shipping (Bernstein, 2008).

GEOPOLITICAL SCENE

The geopolitical scene is also changing. Things are becoming more turbulent, not less, after the collapse of the former Soviet Union and the emergence of the United States as the sole superpower. Regional instability is a major reason for this. Consider, for instance, the tensions in the Indian subcontinent; China and its relationship with Taiwan; Korea – North and South; the Israeli–Palestinian conflict; Iran; Iraq; the many gruesome local and civil wars in Africa; conflicts in Central America; the Balkans – with several years of terrible wars behind them and continuing tensions … one could go on and on.

Are these countries politically stable? China is run by an authoritarian regime. Although it is certainly more and more pragmatically liberal in its view of economic matters, it is still not a democracy. Will the present balance last? Are we talking about a feeble stability here? Similarly, India – the world's largest democracy – is still fraught with tensions. Can relative stability be sustained in this enormous country? Will the path toward more economic liberalism continue?

We could continue speculating about the political forces that are currently at play, or latent. Clearly, this has an impact on the business order. In general, political stability is a condition for economic stability and prosperity, as well as for investment attractiveness and meaningful economic value creation (Courtney, 2001). The relationship between stability and growth in ocean shipping remains strong. Still, it may be seen as a paradox that ship freight rates tend to shoot up during periods of political instability and war. While such events often create bursts of unexpected growth within the shipping sector, the long-term growth trajectory of shipping is a function of political stability.

TERRORISM

The threat of terrorism is another dimension that has been heightened, particularly since the attacks on the United States on September 11, 2001. Despite the efforts of many of the established world powers, it seems to be difficult to limit the threat of terrorism, anywhere in the world. An immediate sense of violence and political instability is the result. The risk of global terrorism and the cost of security measures to combat it will continue to be an ongoing concern. These issues are sure to have an impact on the shipping industry. How can safety be ensured in container shipping, for instance? Piracy, particularly from bases in Somalia, also represents a serious problem for world shipping – with respect to both safety and costs.

TECHNOLOGY

Technologies are changing fast and product life cycles are becoming shorter. More substantial research and development (R&D) investments are needed to come up with new products and/or processes with global reach. Contemporary R&D seems to be a matter of going for larger gains and global scope, but it also comes with larger financial commitments and risks. The impacts for shipping are numerous – new navigational equipment, engines with more sophisticated fuel injection, new hull designs, more efficient propulsion, low-friction, etc. However, the basic design and characteristics of a ship tend to be very stable – in an overall sense, the lifecycle for ships may be remarkably long. Several fundamental innovations have been driven by legislators, for example, the requirement to have double-hull tankers from 2010. Will legislators increasingly require the implementation of more environment-friendly ships too? I expect so.

ENVIRONMENTAL AND SAFETY CONCERNS

In the developed world, environmental and safety concerns are high on the agenda for most industries, and shipping is no exception. After the Exxon Valdez oil spill disaster in Alaska in 1989, new legislation was introduced in the US in 1990, which required double hulls on all new

tankers and established a phase-out schedule for existing single-hulled vessels. The EU followed suit, and double-hull construction in tankers became mandatory in 1994. Subsequent events – the Erica and the Prestige incidents – have led to an acceleration in the phase-out dates of single-hulled tankers to 2010 and, in some cases, 2015.

While the biggest environmental challenge is how to control carbon dioxide (CO_2) emissions, there is also a drive toward limiting nitrogen oxide (NOX) and sulphur oxide (SOX) emissions. The world's shipping fleet produces five percent of global CO_2 emissions in the world – twice as much as the world's fleet of aircrafts, and the same as that produced by Africa. The Kyoto Protocol does not yet cover ocean shipping; however, one cannot overlook the possibility of forced obsolescence of ships due to new legislation.

Additionally, certain ports – notably in Western Europe and the US – require ships to use relatively clean diesel as bunker fuel. They have disallowed the use of heavy oil, which is a greater source of pollution.

It must be stressed, however, that there is a major difference between an international agreement and national legislation. One would not necessarily be breaking the law by failing to adhere strictly to national legislation.

REBALANCING THE COMPETITIVE EDGE: DEVELOPED VS. EMERGING SHIPPING NATIONS

The rising costs resulting from environmental, safety and crewing legislation are making it more and more difficult for shipping companies in the developed world to compete with those in the new economies. Environmental and safety-enhancing legislation in developed countries has resulted in increased investment costs. However, this legislation may not be strictly adhered to by certain countries. This means that less expensive tonnage (e.g., single-hull tankers), typically from the developing world, might still be allowed to operate. Because this tonnage is less expensive, it is highly competitive. Increased global transparency may ameliorate such differences to some extent, however.

A MORE CAPITAL-INTENSIVE INDUSTRY

For many industries the emphasis is on reducing costs, enhancing efficiency, providing higher quality products and services, and gaining market accessibility. Many companies do this by maximizing their buying power on a global basis, leveraging their economies of scale by maintaining larger and more sophisticated physical plants, and globally sourcing and reconfiguring the manufacturing-based part of the value chain. The worldwide shipping industry is no exception. The days when plants – or shipping companies – were focused on individual national economies seem to be largely gone. One consequence, of course, is that the investment requirements per installation – or per ship – have increased, which means that many industries have become much more capital intensive. We see this en masse within the shipping industry. Seaspan Corporation, for example, one of the world's largest container shipping companies, which charters its ships out to major shipping lines under long-term, fixed-rate contracts, recently ordered eight 13,100 TEU mega-container vessels, representing a staggering investment of US$1.5 billion.[2] And the capital intensity of modern container operations has become huge.

CAPITAL: ABUNDANT – AND NOT SO ABUNDANT

The credit crisis that emerged in 2007 has grown progressively serious, particularly for companies that have launched substantial newbuilding programs. Financing costs have gone up, and the availability of debt capital is an issue. Ship finance banks are increasingly having problems syndicating their ship loans, which as a result must often remain on the banks' books, leading in turn to less capacity to allocate funds to the shipping sector. The Basel II Accord, which sets limits on the number of certain types of loans that can be issued, including those made to the shipping industry, also contributes to the scarcity of capital.

[2] Container capacity is often expressed in 20-foot equivalent units (TEU).