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A leading **trade nation**

The role of container shipping and logistics in enhancing trade and economic growth in China



MAERSK



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Trade – a powerful tool to boost economic growth

China's international trade has grown rapidly in the past few decades. This has had a significant impact on China's economic growth and raised income levels in the country. China is now the world's leading trade nation.

The unprecedented growth of China

China has been the world's largest growing major economy over the last 30 years. The government has focused on developing highly competitive manufacturing capabilities, increasing trade and raising personal incomes in China.

One effect has been that more than 500 million people have been lifted out of poverty since 1978, and the size of the economy has grown by an average of 10% per year¹. This has created major new opportunities for China and its people.

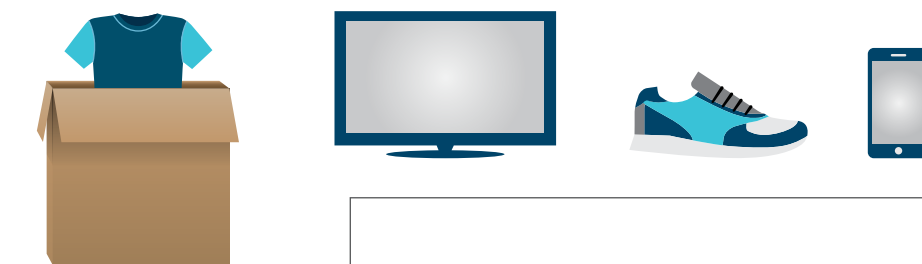
Reducing trade barriers for growth

Since becoming a member of the WTO in 2001, China has pursued effective policies to improve conditions for trade and invested in infrastructure to continue to open up its economy.

Since 2001, China has witnessed a growth in imports and exports of around 600%. Maritime transport has been an important means of enabling this trade growth, and since 2001, the amount of containers going into and out of Chinese ports has increased by 500%.

Today, China is the leading trade nation in the world with exports and imports both amounting to about 25% of China's GDP.

600%
since China's accession to the WTO in 2001.



Exports and imports both amount to about

25%

of China's GDP, and have been growing by about



¹ worldbank.org

It matters how well you are connected

A country's ability to achieve economic growth depends on many factors. One of these factors is how well the country is connected to the rest of the world by means of maritime transport. The greater 'connectivity' by sea, the easier it is to sell goods in remote locations and profit from new markets.

How well is China connected to the world?

We have investigated the role maritime transport plays for China's trade growth². The study we undertook in 2013 demonstrates how world-class 'container shipping connectivity' enables trade and helps increase trade growth per se.

China's focused investment strategy has enabled the country to improve on all the parameters needed to achieve world-class container shipping connectivity. Today, the world's leading container ports are located in China, including six of the ten largest and most efficient container ports in the world – among them Hong Kong and Shanghai.

The shipping lines have responded with larger ships. The high economy of scale of big container ships allows companies to ship more goods at a lower cost per unit. So too does the fierce competition amongst shipping lines to prevail in this attractive growth market. Frequent, reliable and direct connections to ports worldwide mean that Chinese businesses can export goods around the clock and reach their customers overseas almost as easily as next door.

Our calculations show that Chinese trade has achieved a 54% improvement in container shipping connectivity between 2004 and 2012. This period was unique due to massive outsourcing by China's trading partners, making China the manufacturing hub of the world.

The economic value of improving a country's container shipping connectivity

The factors that account for good container shipping connectivity – strong competition between shipping lines, economies of scale, frequent and reliable connections and efficient ports – all help to reduce transport costs. One of the positive outcomes of this is increased trade.

The Chinese economy has benefited enormously. Between 2004 and 2012 Chinese trade increased by USD 1,963.5 billion.

What is container shipping connectivity?

The term container shipping connectivity is used to describe how well a geographical location is connected to other locations by maritime container transport. How well is determined by a range of different factors:

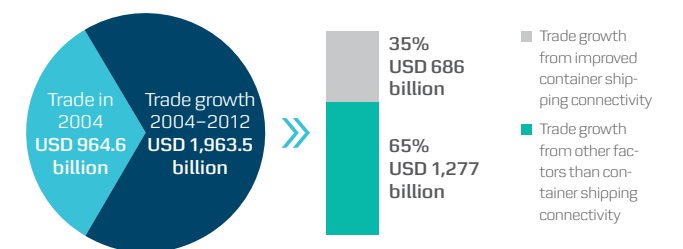
- Frequent, reliable and timely connections
- The carrying capacity (number of containers on the ship) enabling economy of scale
 - Efficient port performance
 - Strong competition amongst shipping lines

Our analysis suggests that the 54% improvement in container shipping connectivity has driven 35% of the trade increase³. This corresponds to a trade growth worth USD 686 billion.

The lesson learned from China is that establishing strategies for improving a country's connectivity has the potential to stimulate economic growth – creating value for society and opportunities for business.

Impact of container shipping connectivity on growth in Chinese trade, 2004–2012

Chinese trade in 2012: **USD 2,928.1 billion***



*Trade data source: World Bank

² The study covered mainland China.

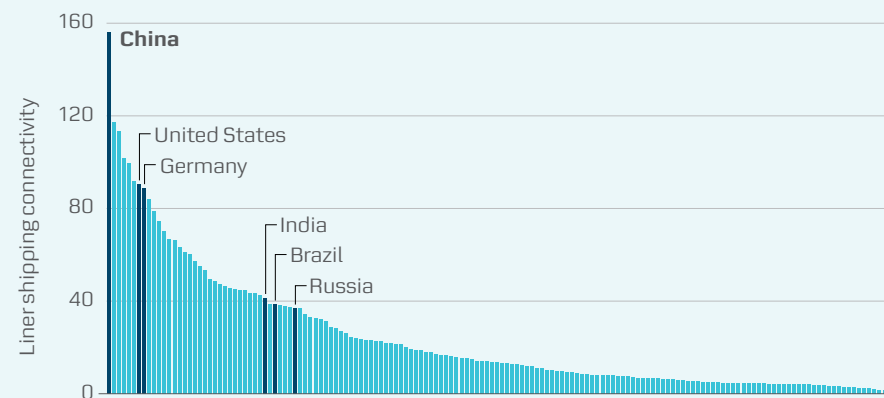
³ This is based on an estimation of a standard gravity model of manufactured bilateral trade isolating the effects of container shipping connectivity from other determinants of trade.

The benefits in a nutshell

What world-class container shipping connectivity will do for a nation

China's container shipping connectivity vs. world, 2012

China has the best container shipping connectivity in the world – more than six times above the global average.



How good container shipping connectivity boosts economic growth

Our study shows that Chinese container shipping connectivity improved by 54% over the period 2004–2012. This has driven a significant reduction in trade cost, which in turn has led to increased trade and economic growth in China.

Good container shipping connectivity

- ✓ Strong competition
- ✓ Economies of scale
- ✓ Frequent and reliable connections
- ✓ Efficient ports



54% improvement

Lowered trade costs



16% decrease in Chinese trade costs

Increased trade



35% increase in Chinese manufactured import and export

Improved economic growth

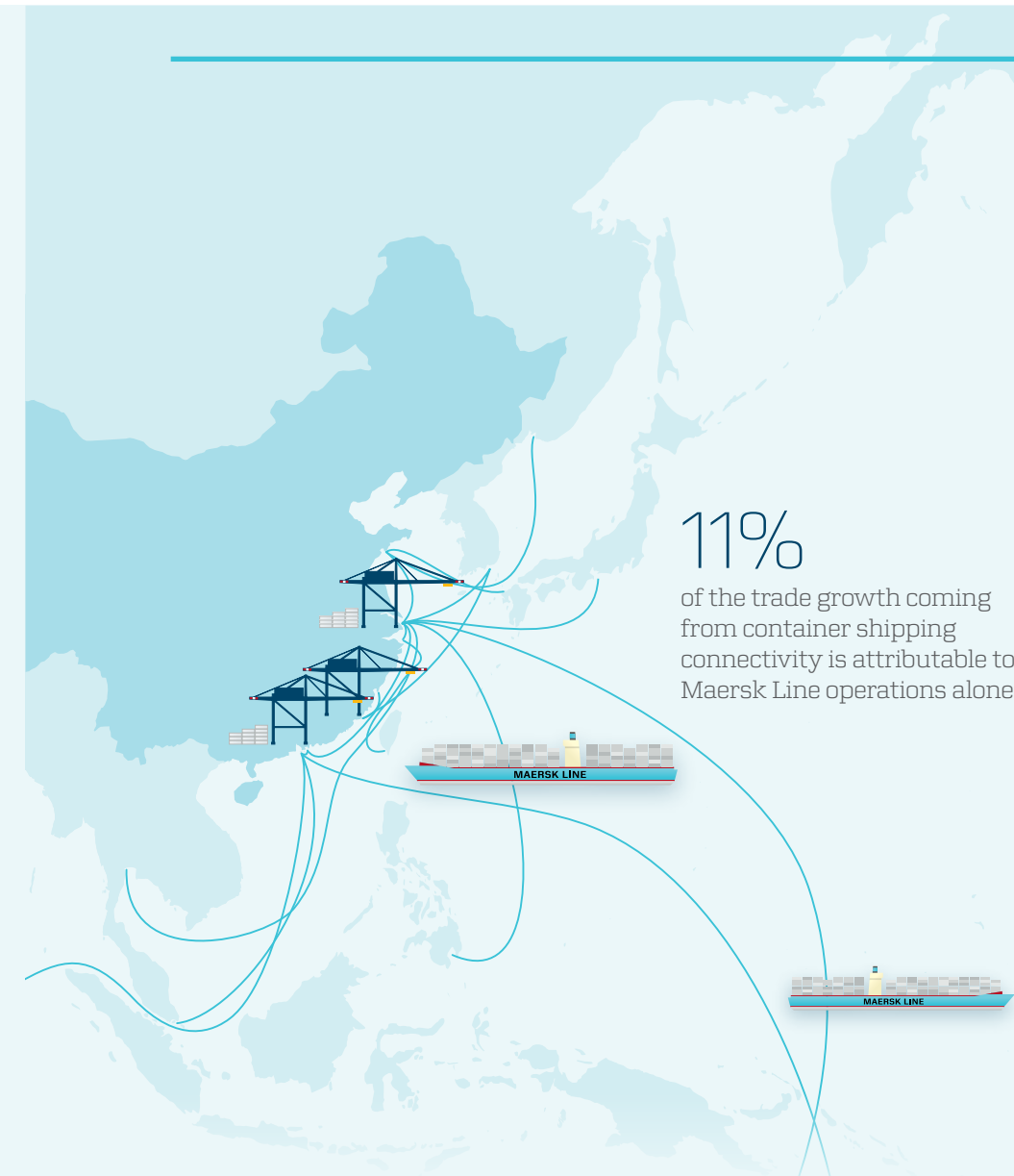


USD 686 billion trade growth

Maersk Line's contribution in China

Maersk Line is the leading shipping line in the world. The company was one of the first foreign shipping lines to be given a licence to operate in China and has served China since the beginning of the 20th century. Today, the country is one of Maersk Line's biggest markets.

Maersk Line's presence and market share in China implies that it is responsible for a significant share of the total shipping sector's contribution to increased trade growth in China. Our study shows that in the period 2004–2012 a 11% of the trade growth coming from improved container shipping connectivity is attributable to Maersk Line operations alone. In other words, Maersk Line has helped boost Chinese trade growth by increasing its services and economy of scale in China.



Logistics – the next catalyst for growth

While China's competitiveness is improved from good container shipping connectivity, high inland logistics costs still constitute a barrier to growth. Improved logistics performance could be a catalyst for growth in China and a means to sustain national competitiveness.

Chinese companies hurt by high logistics costs

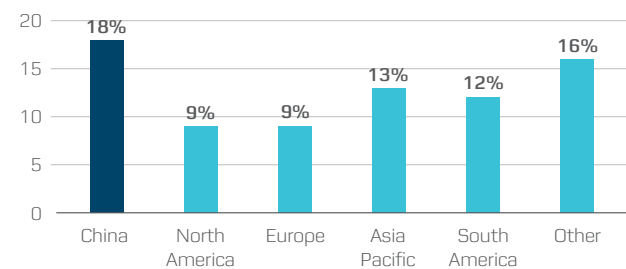
High logistics costs are currently impacting on Chinese companies, hampering business growth and global competitiveness.

Overall logistics costs amounted to 18% of China's GDP in 2012. This is partly because China trades a lot, but it is also due to logistics inefficiencies that are compounding the cost of trade. According to the Hong Kong Logistics Association, logistics costs can amount to 30–40% of production costs in China.

One important reason for China's high logistics costs is the fragmented nature of the sector. For companies that lack the means to handle logistics in-house, moving goods around the country can be a slow process. This typically requires multiple transfers between a host of providers, making it hard to keep track of shipments and increasing the risk of theft, breakage and negligence.



Logistics costs (% of GDP)



Source: CFLP (2012) & Armstrong Associates (2012)

Overall logistics costs amounted to 18% of China's GDP in 2012. This is higher than the average for Asia-Pacific and South American countries which suffer from relatively high freight logistics costs.

China's size, geography and local politics, such as high road tolls, also contribute to the problem. Road tolls can account for between 30–40% of transport costs for trucking companies.

15%

logistics costs' reduction can offset a

30%

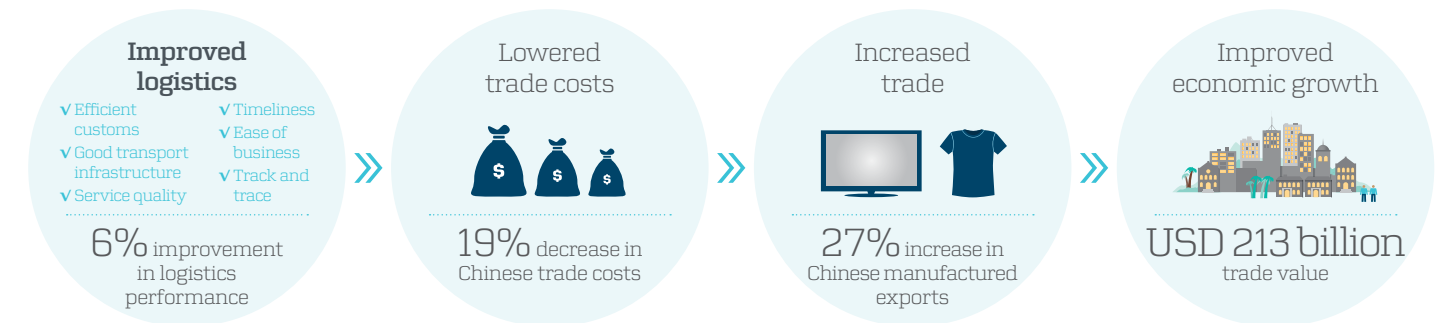
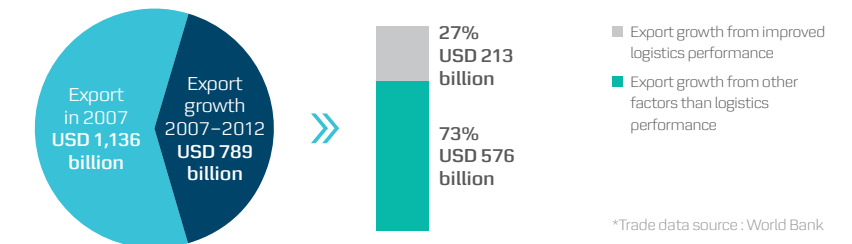
wage increase in China in the footwear, personal computers and heavy machinery industries.

How good logistics can boost economic growth

Our study shows that over the period 2007–2012 the logistics performance in China improved by 6%, primarily due to improvements in logistics infrastructure such as roads and rail as well as more efficient customs procedures. In the same period Chinese export grew by USD 789 billion. Our analysis suggest that the 6% improvement in logistics performance has driven 27% of that increase in trade corresponding to a trade value of USD 213 billion.

Impact of improved logistics performance on growth in Chinese manufactured exports, 2007–2012

Chinese export in 2012: USD 1,925 billion*



A major growth potential

Today, no logistics operators boast nationwide coverage in China. However, third-party logistics providers could address many of China's logistics challenges through their logistics competence and strong global network coverage.

The Chinese government recognises the development of a modern logistics industry as an important factor for economic growth. The third-party logistics sector is expected to grow by 12–16% every year over the next four years.

How third-party logistics can support China's competitiveness

China has much to gain by outsourcing to third-party logistics providers. We have analysed 15 supply chain development projects conducted by Damco – a Maersk-owned logistics company specialised in supply chain management services. On average these projects indicate a 15% saving potential on

logistic costs for companies operating in China while maintaining the same time to market.

China would benefit greatly by achieving an overall 15% logistics costs' reduction in light of current wage increases. A study conducted by Accenture (2011) shows that a 15% reduction in logistics costs can improve the gross margin for multinational companies in footwear, personal computers and heavy machinery in China. This is enough to fully or partly offset a 30% wage increase in China.

Hence, establishing strategies for improving the country's inland logistics could be an important means to sustain China's competitiveness.

Opportunities for sustainable growth

Environmentally sustainable development is a key priority in China's 12th five-year plan. We share this priority and support the endeavour by reducing the CO₂ footprint of transport and by pursuing ways to optimise the country's logistics performance and reduce carbon in the supply chain.

Supporting sustainable growth in China

Among other initiatives, China's 12th five-year plan contains substantial demands on reduced energy consumption per transported unit for all kinds of transportation. For China, improving energy efficiency is not only a priority for sustaining competitiveness – it is important for the health of the Chinese population and the environment.

Trade with ever fewer emissions

Maersk can contribute to this goal. Maersk Line aims to reduce its CO₂ emissions by 40% per container by 2020 and has already achieved a 34% reduction since 2007.

Maersk Line was the first shipping line to commit to the Fair Winds Charter and to put it into practice. The initiative is a voluntary programme that requires participating shipping lines to switch to fuels with a maximum sulphur content of 0.5%. This has reduced Maersk Line's sulphur emissions by approximately 80%.

Maersk Line wants to extend the Fair Winds Charter approach further, to cover the entire Pearl River Delta and other ports in Asia as well as to cover vessels at sea.



Taking carbon out

According to the World Economic Forum (WEF 2009), the logistics and transport sector could reduce its total CO₂ emissions by up to 50% through efficiency improvements in the supply chain.

As a specialist in supply chain management services, Damco can help address China's logistics challenges and optimise supply chains, from origin to destination. 15 supply chain development projects conducted by Damco in China have shown the potential to cut CO₂ emissions by on average 11%.

This demonstrates the potential for third-party logistics operators to unlock sustainable growth in China while supporting the country's competitiveness.



The logistics and transport sector could reduce its total CO₂ emissions by up to

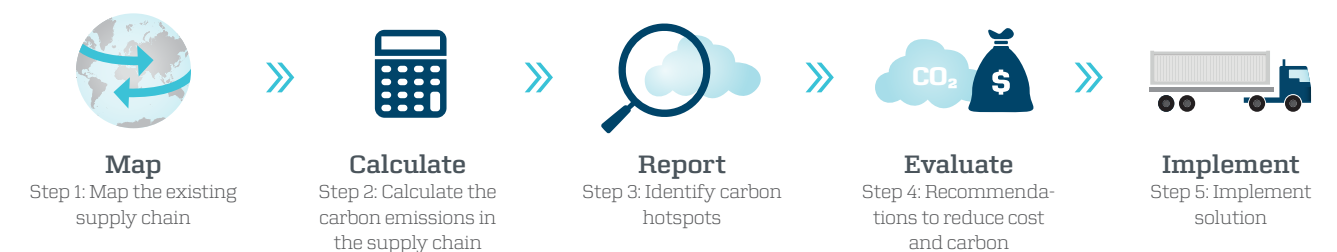
50%

through efficiency improvements in the supply chain (WEF 2009).

Identifying carbon in supply chains

Damco conducts supply chain carbon check projects for global companies across many different industries. These projects have proven that CO₂ reductions can be achieved through supply chain efficiency, which translates into reduced logistics costs. On average, cost and carbon have a 1:1 ratio: When Damco can reduce CO₂ emissions by 1%, the logistics costs can also be reduced by 1%.

Damco's supply chain carbon check consists of five steps:



Investing in China

For more than 90 years, Maersk has invested in China and the development of different industries, including the container shipping and ports industry, inland logistics services and the Chinese shipyard industry.

In China since 1924

Maersk has served China's foreign trade since the first Maersk vessel, M.S. Sally Maersk, called at Shanghai on 8 March 1924.

Maersk's business activities in China include an extensive portfolio of wholly owned and joint ventures within transport, logistics and port operations. Since the first investments were made in Yantian Port in 1994, Maersk has invested in more than ten container terminals.

Maersk ordered the first of many vessels from China in 1996, when China accounted for only 4% of global ship deliveries. Since then, Maersk has ordered more than 82 vessels and a number of other kinds of ships with a total value exceeding USD 3.5 billion. The shipbuilding industry has since taken off and China has become the world's largest ship producer with around 40% of the global market.

Today, China is one of Maersk's biggest markets and a strategically important economy with ever increasing opportunities.



About the study

China has seen massive trade and economic growth for the past few decades and we are proud to have been a part of this incredible development. We wanted to deepen our understanding of the contribution of maritime transport and logistics to China's trade growth. Our 2013 study quantifies and evaluates both past contributions as well as future opportunities for more economic growth, increased national competitiveness and sustainable development.

Please visit www.maersk.com/sustainability to download a technical background report.

