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Pathway to value creation

A perspective on how transportation and logistics businesses can increase their economic profit

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Executive summary

To unlock growth and profitability in a challenging sector, transportation and logistics companies need to make bolder and more astute strategic choices than ever before. The sector's checkered history of value creation is counterbalanced by compelling lessons from successful players in a range of transportation and logistics industries, both pre- and post-crisis. For all of the upheaval facing the sector, a number of powerful megatrends will create unprecedented opportunities to enter new markets and redefine existing business models. The asset intensity and geographic breadth of transportation and logistics companies will reward granular fact-based decisions about the markets in which to play, city by city, route by route. This is an opportune moment for executives in the sector to challenge whether their strategy will meet and outperform market expectations.

The authors of this report draw on proprietary macroeconomic and sector-specific research, supported by "big data"-enabled analytical techniques from McKinsey's global center of excellence in strategy and corporate finance. We adopt a financial investor perspective by taking an in-depth look at the capital market performance of 264 listed transportation and logistics companies from around the world over a period of ten years. The findings provide fact-based insights into the drivers of value creation, both before and after the economic crisis, across eight industries that comprise the sector: airline, bus, freight forwarding, postal/CEP (courier, express, and parcel), rail, shipping, trucking, and contract logistics.

Key findings

The through-cycle capital market performance of the transportation and logistics sector is below investors' requirements. Over the last ten years, the companies in our sample have generated an average total return to shareholders (TRS) of 7.2 percent, a figure well below the sector's cost of capital (10.5 percent). Although the sample did produce average to above-average revenue growth at a compound annual growth rate (CAGR) of 3.6 percent, the sector's return on invested capital (ROIC) of 7.5 percent was lower than in most other sectors.

Even in the worst-performing industries, successful players provide valuable lessons for those seeking a pathway to economic profitability. Overall, companies in the bottom 60 percent of the sample destroyed 3.5 times the economic profit created by the top 40 percent. All is not lost, however. Individual "winners" in each industry have been able to create value, typically by making bold strategic moves to boost margins and capital efficiency. An example here is the large new aircraft orders placed by Ryanair and Easyjet in a saturated intra-European air transport market – a bet that has paid off. Both companies have delivered continuous value-creating growth through rigorous "clean sheet" cost control and an unmatched asset productivity, benefiting from large-order discounts and highest-in-class flight hours per day.

Improving ROIC is the key to overcoming investor skepticism about the sector and increasing valuations. Market expectations for transportation and logistics are lower than for the S&P 500 Index on average. Although growth expectations are weak, a poor ROIC in particular drives valuation multiples of about 11 (versus 13.5 for the S&P 500). Transportation and logistics players cannot simply grow their way out of the situation – addressing comparatively low ROIC must be at the core of any value-creating strategy.

Winning strategies will make the most of seven megatrends that are shaping the transportation and logistics sector. The emergence of more and more megacities and new regional pockets of growth will change the places where transportation and logistics companies can fuel their organic growth. Shared transportation and disruptive technology-related solutions will generate new competition, but also new markets. Companies will face the challenges of understanding how the digital revolution will affect their business and of mastering their own digital transformation. Technological progress will require companies to make conscious choices about their asset intensity and investment program to avoid the "asset trap." Rapidly changing regulatory and geopolitical environments will call for smart approaches to managing external relations in complex stakeholder landscapes. Finally, an increase in the volatility of demand and input factors will require greater strategic agility and flexibility than in the past.

Ingredients for value creation

To design and implement strategies to beat the market, senior executives of transportation and logistics businesses should ensure their strategies incorporate five crucial ingredients:

Be agile in resource allocation. Companies that are better prepared to flexibly reallocate resources are more successful in generating a higher TRS. Nowhere is this more true than in the geographically diverse network industries of the transportation and logistics sector. In this largely asset-intensive business environment, huge strategic bets have to be made – and run the risk of even greater misallocations. Yet 90 percent of companies' allocation decisions are anchored on "last year, we …" approaches. Few transportation and logistics companies have been more agile in reallocation recently than Singapore Post – cutting capital expenditures (capex) for the traditional mail business and even divesting several printing and mailing businesses to allow for bold investments into the growing e-commerce logistics business, expanding coverage across Southeast Asia. Executives can unlock the benefits of agility by overcoming common barriers that hinder flexible resource reallocation – typically, a lack of intent, an inadequate process, and a lack of the right skills and mindsets.

Resolve the asset dilemma. Our analysis suggests that the flexibility provided by financial leases rarely justifies the premium asset-intensive companies pay for them, implying that many transport companies could outperform competitors by owning a larger part of their core fleet. A through-cycle procurement strategy is also required to overcome pro-cyclical asset purchases that create vicious cycles of capacity influx in times of lower demand. An understanding of the enormous efficiency gains in the newest equipment models helps avoid the "asset trap," i.e., sinking money into transport equipment or infrastructure that rapidly loses value and/or becomes obsolete. A shipping line has saved 5 percentage points on the costs of adding new asset capacity relative to competitors by consistently better timing its vessel purchases through the cycle for the last 15 years, thereby avoiding having to pay the substantial price premium that is charged during "order booms." Also, the first movers into innovative asset pooling concepts, starting with aircraft engine pools, have been rewarded with higher capital efficiency.

Make your digital transformation a success story. Almost every company is facing the pressure of digitally enabled change from customers, new competitors, and shareholders. Turning a potential threat into an opportunity will require each company to define a digital strategy tailored to its own value drivers, and to make its transformation a success on its

own terms. Instead of just “adding” digital outside of existing structures, corporations can create much more value from digitization if they build on their existing assets and strengths (product portfolio and product development team, existing customer relationships, company assets, and business-building approaches). For most companies, this will mean defining and executing objectives that digitize their core processes, reinforce the IT foundations of their business model, and stake a claim along new frontiers. The latter could reach from digital auxiliary products (“Is the data your new product?”) to partnering with digital giants to develop completely new solutions.

Develop programmatic M&A and cooperation capabilities. Transportation and logistics players have been active consolidators with a bias for using M&A as the predominant source of growth. The sector’s current “firepower” (i.e., excess cash and debt-raising capacity) means that many companies stand to benefit from considering additional M&A opportunities. Instead of chasing “the one big deal,” companies will need to develop a programmatic capability to identify, execute, and integrate attractive acquisition targets – just as many of the leading freight forwarding and contract logistics players have being doing since the year 2000. In addition, companies will need to continue to use alliances to access new markets and capabilities in a cost-effective way.

Manage for an uncertain world. Now more than ever, a market-beating strategy will often mean departing from a company’s traditional markets and experience. Doing so prudently will require executives and boards to be explicit about building the assessment and management of risk and uncertainty into the strategy process. Among sources of uncertainty, changes in regulation can put substantial value at risk. Mitigating the negative impact of regulatory change, and capturing the opportunities it creates, requires a company to rigorously map its stakeholder landscape, engage stakeholders with the right mindset and fact-base, and build crack external affairs capabilities and resources. This will be particularly important for incumbents and entrants in the most regulated industries within T&L – postal services (under the universal service obligation) and passenger rail – but this is no less critical for carriers reliant on access to public transport infrastructure such as ports and airports.

□ □ □

This report aims to equip executives in the transportation and logistics sector with a fact base on historic capital markets performance and insights into sector-shaping trends. Blending the five strategic ingredients into a compelling strategy will require ambition to outperform the market, tailored analytics, granular understanding of individual markets, and flawless judgment. Executives who are able to combine these inputs will have mixed a potent cocktail that has every chance of beating the market.

Introduction: Informing strategy with insights into value creation

The continuing negative effects of the most recent crisis, combined with the influence of a number of disruptive trends, have made strategic positioning even more critical for transportation and logistics companies.

Why insights into value creation are more important than ever

Growth and return on capital drive cash flows and are the fundamental ingredients of value creation. The goal of a well-crafted strategy is to increase one or both by identifying sources of competitive advantage that place the company ahead of trends and drive superior performance. The asset intensity and geographic breadth of most transportation and logistics companies mean portfolio choices are fundamental to performance and cash flow. These factors also mean that having a fact-based perspective on how the industry creates value is a particularly important input into strategic decisions.

In capital-intensive businesses, such as transportation and logistics, the foundational principle for success is to have a clear line of sight on how much profit over the cost of capital ("economic profit") an investment will create through the cycle. Most companies in the industry have to invest significant amounts just to stay in business – for instance, to comply with tighter emission standards, to maintain and expand distribution networks, and to launch new and more convenient services. The annual investment required to renew the fleet and other assets to operate the network often exceeds cash flow. Not investing is often not an option because the efficiency gains from new generations of assets are critical to defending and strengthening competitiveness.

Against this backdrop, the transportation and logistics industry faces the continuing negative effects of the 2008/09 crisis, combined with new turbulence in the energy and currency markets. Disruptive forces, such as the shift in geographic growth to emerging markets, digitization-driven challenges to established business models, and shifts in regulation, pose a series of new opportunities for the sector, but realizing them requires additional capital-intensive bets that must pay off. As transportation and logistics companies confront new choices and trade-offs, financial analysis of past performance can provide a fact-based reference point.

What this publication is about

The aim of this report is to provide a thought-provoking perspective on how value is created (and destroyed) in the transportation and logistics industry and which key trends are likely to affect the sector in the future. To support decision makers, we identify overarching patterns among these trends and draw out possible courses of action to guide strategy development and planning. The report also describes some tools and methods that can help leaders define and execute their strategies.

The perspectives and ideas in this report draw on McKinsey's strategy and corporate finance methods and global experience in the transportation and logistics sector as well as on in-depth analysis of 264 listed companies in the sector utilizing new "big data" and advanced analytical techniques. The insights in this report reflect proprietary research, analysis, and market surveys covering the sector's eight major industries: airline, rail, bus, shipping, trucking, postal/parcel/express services, freight forwarding, and contract logistics (Exhibit 1). These industries address different steps of the value chain, have disparate structures and different asset intensities, and each faces different trends and issues.

However, the eight industries all have two features in common: they are all dedicated to the physical movement of goods and/or people. They are also set up as network businesses, relying on (transport) infrastructure, dealing with a high share of fuel/energy costs, and often providing time-critical and perishable services.

Exhibit 1

Split by industries

Sample of 264[1] transportation & logistics companies

1 Figures do not add up as some companies are allocated to more than 1 industry 2 Passenger and cargo 3 Tanker, bulk, and container
4 Excluding Japanese rail companies due to uncommonly high network investments distorting an insightful comparison to other rail companies globally
5 Post, courier/express/parcel

SOURCE: McKinsey

This report is structured in three chapters:

Chapter 1: Where has value been created? An overview of historic returns to shareholders, a breakdown of drivers of economic profit, and implicit market expectations for the sector

Chapter 2: What drives future value creation? Global megatrends impacting sector momentum – comprising both challenges and opportunities

Chapter 3: What does it take to win and beat the odds? Five ingredients that must be explicitly considered in any value-creating strategy.

Where has value been created? Lessons from the past and expectations for the future

While the post-crisis “new normal” for the transportation and logistics sector is tougher than for most other industries, there are still clear winners and losers.

How has the sector performed? Through-cycle returns to shareholders

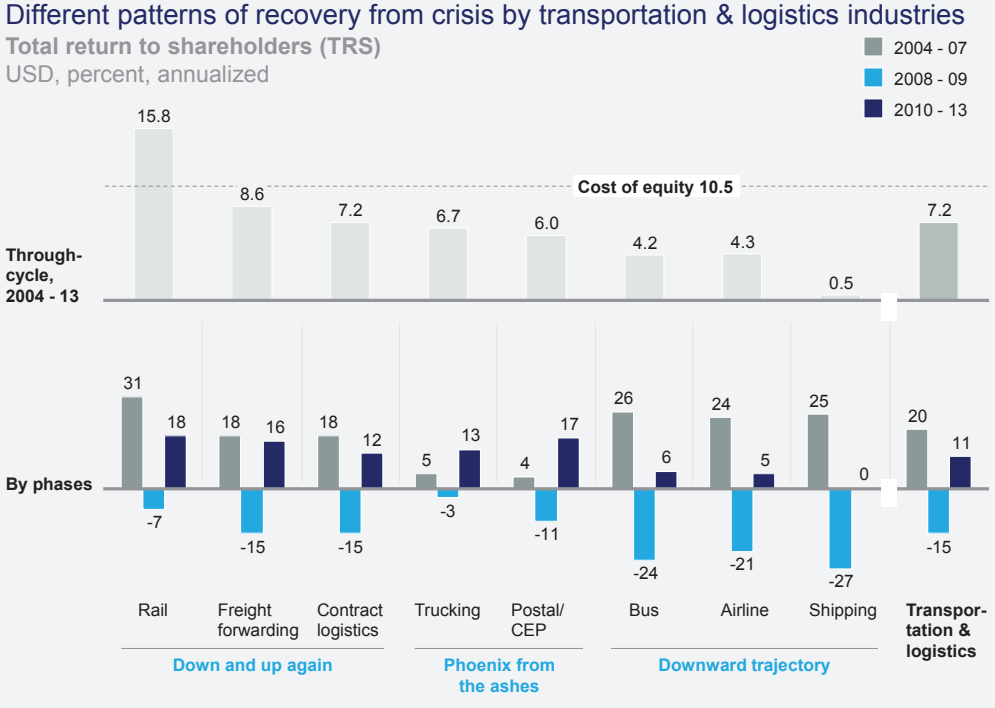
From 2004 to 2013, the transportation and logistics sector generated returns to shareholders below its cost of equity. While the sector generated average rates of revenue growth, its ROIC lagged other sectors.

Over the last economic cycle, the capital markets performance of the transportation and logistics sector was well below the rate of return required by equity investors. TRS is defined as the accumulated performance of a company's shares over time, taking into account both share price appreciation and dividends paid. Over the last ten years, the sector has achieved an annual TRS of 7.2 percent relative to its estimated cost of equity of 10.5 percent.[1] By contrast, the best-performing sector, biotechnology, achieved a TRS of 16.5 percent per annum over the same period; heavyweight traditional sectors also generated a much healthier TRS (e.g., chemicals (10.7 percent), retailing (9.7 percent), utilities (9.6 percent)).

Three distinct patterns of industry performance have emerged over the last three economic phases (pre-crisis (2004 to 2007), crisis (2008 to 2009), and post-crisis (2010 to 2013)) (Exhibit 2):

Down and up again. The top three performers (rail, freight forwarding, and contract logistics) fell from TRS at high pre-crisis levels (22 to 31 percent per annum) down to double-digit negative TRS during the crisis. However, post-crisis, they managed to partially rebound, achieving 50 to 75 percent of their pre-crisis performance (i.e., stable double-digit TRS values).

Exhibit 2



SOURCE: McKinsey Corporate Performance Center

1 Derived applying the risk-weighted sector beta of 0.9 for equity holders to the sector WACC (weighted average cost of capital) of 9 percent at an average debt/equity share of 30:70 percent; beta is a measure of the volatility of a stock's returns relative to the equity returns of the overall market

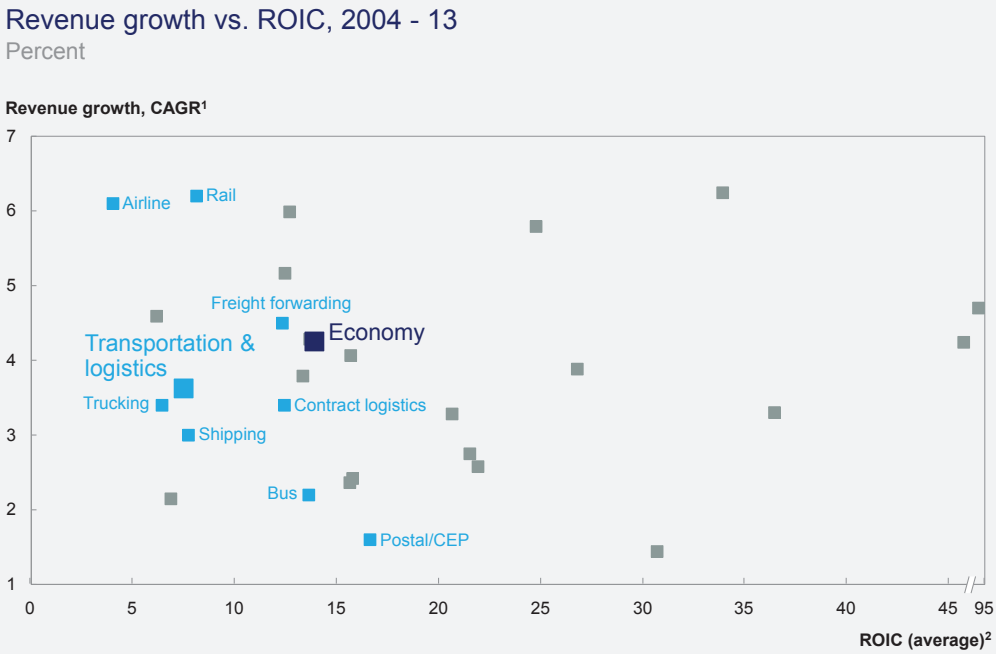
Phoenix from the ashes. Trucking and postal/CEP are the exceptions to the story. Starting from a low single-digit TRS pre-crisis, they emerged from the 2008/09 turbulence to increase their TRS to nearly four times their pre-crisis levels.

Downward trajectory. The bottom three performers (shipping, bus, airlines) started with the high TRS (20 to 30 percent per annum), but destroyed almost as much value during the crisis. Post-crisis, average annual TRS has remained flat at 0 to 5 percent.

Investors' returns are ultimately driven by a company's growth and profitability. In the transportation and logistics sector, analysis reveals that the sector as a whole has grown revenues in line with other industries, with some industries such as rail, airlines, and freight forwarding even exceeding comparators. At the same time, however, the ROIC achieved by the sector ranks among the lowest across all industries, a remarkably consistent picture (Exhibit 3).

However, even within troubled industries, some individual companies stand out as winners, achieving ROIC well above their peers. The next section explores how these companies have created value.

Exhibit 3[2]



1 Real revenue growth, CAGR 2004 - 13, inflation adjusted
2 ROIC after tax, excluding goodwill; excludes outliers; average for 2004 - 13
SOURCE: Compustat; McKinsey Corporate Performance Center

2 For more details, please see appendix

How has value been created? Understanding the drivers of economic profit in transportation and logistics

Although the sector has failed to generate positive economic profit, individual "winners" in each industry have been able to create value. This can be attributed mostly to improvements in margins and capital efficiency.

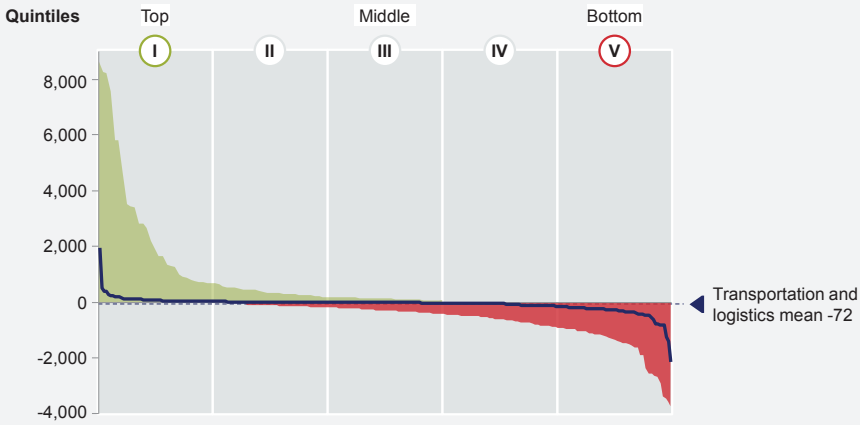
Economic profit effectively measures how much value a company creates over and above its cost of capital,[3] and change in economic profit is one of the key drivers of TRS. Unsurprisingly, as seen in the sector's TRS, the transportation and logistics sector as a whole generated a negative economic profit over the last ten years.

Examining the companies in the sector at an individual level reveals an interesting dynamic. The vast majority of transportation and logistics companies generate a small negative economic profit. However, the bottom 60 percent of companies in the sector destroyed 3.5 times more value than the top 40 percent created, as illustrated by the industry's "power curve" (Exhibit 4). While it is possible to be a winner, companies in the bottom quintile lose big.

Exhibit 4

Average economic profit by company, 2004 - 13

USD millions



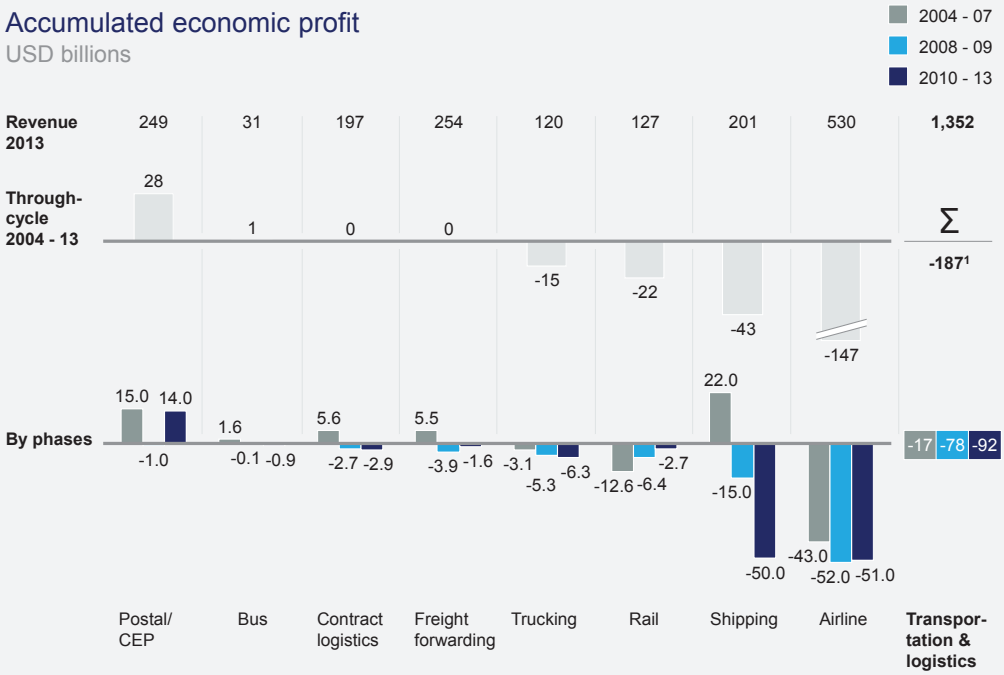
Transportation & logistics	135	6	(15)	(72)	(416)	Average economic profit
Utilities	146	(82)	(259)	(584)	(1,599)	
Retail	448	60	5	(38)	(226)	
Pharma and healthcare	3,022	366	101	7	(140)	
Transportation & logistics	7,139	340	(783)	(3,801)	(21,963)	Total economic profit

SOURCE: McKinsey Corporate Performance Center

3 For more details, please see appendix and Koller, T., Goedhart, M., Wessels, D.: Valuation: Measuring and Managing the Value of Companies, 5th Edition

If, on average, companies in the transportation and logistics sector destroyed economic value, have the included industries at least improved over the cycle? Over the three time horizons introduced earlier, only the postal industry achieved positive economic profit both prior to and after the crisis (Exhibit 5). Four industries – bus, contract logistics, freight forwarding, and shipping – reversed their fortunes for the worse, enjoying positive economic profit before the crisis, but destroying value post-crisis. Airlines and trucking both started with negative economic profit pre-crisis and worsened that position post-crisis. Only the rail industry used the crisis as a turning point, bucking the trend within asset-intensive industries to decrease its economic losses from -USD 12.6 billion pre-crisis to -USD 2.6 billion from 2010 to 2013.

Exhibit 5



1 Figures do not add up as some companies contribute in different sectors but are only accounted for 1 time in the total sum

SOURCE: McKinsey Corporate Performance Center

Two thirds of companies producing high economic profit before the crisis failed to maintain their relative position after the crisis (Exhibit 6). While this relative movement along the power curve does not necessarily represent absolute increase or decrease in economic profit, it is typically strongly correlated with TRS.[4]

Despite the sector's overall destruction of value, each industry produced winners with sustained economic profit as well as some with sustained losses. Some of the very best performers can be found in the most capital-intensive and/or worst-performing industries, e.g., Daqin Railway, Ryanair (the European low-cost airline), and Frontline (the world's largest oil-tanker shipping company) (Exhibit 7).

4 For more details, please see appendix

Exhibit 6

Economic mobility from 2004 - 07 to 2010 - 13

Percent, n = 264[1]

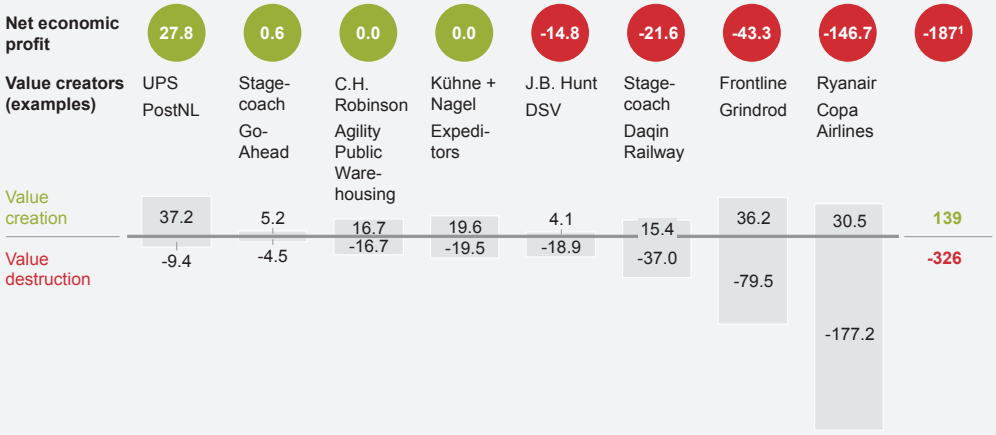
1 Based on a sample of 264 TTL companies

SOURCE: McKinsey Strategy Practice, McKinsey Corporate Performance Analytical Tool

Exhibit 7

Accumulated economic profit 2004 - 13 by segment

USD billions



1 Figures do not add up as some companies contribute in different sectors but are only accounted for 1 time in the total sum

SOURCE: McKinsey Corporate Performance Center

Breaking down each industry's pre- and post-crisis change in economic profit into its underlying drivers reveals some industry-specific insights (Exhibit 8). For instance, shipping's through-cycle drop in economic profits is driven almost entirely by a sustained nosedive in margins, caused partly by industry overcapacity. In contrast, the airline industry managed to overcome a pre-crisis reduction in sales volumes, only to trade that value away through a complete reversal in margin growth. The rail industry's improving fortunes, on the other hand, are enhanced thanks to steady through-cycle improvement in margins and capital efficiency.

Exhibit 8

Change in economic profit by drivers (before and after crisis)

USD billions

	Postal/ CEP	Bus	Contract logistics	Freight forwarding	Trucking	Rail	Shipping	Airline
Pre-crisis value creation[1]								
Economic profit 2004	3.5	0.4	2.0	2.0	-0.5	-11.4	9.2	-14.3
Sales effect	1.0	0.2	1.1	1.1	0.1	-1.5	5.5	-5.7
Margin effect	-1.6	0.4	-1.6	-1.6	-0.4	3.3	-7.6	12.2
Capital efficiency	0.4	-0.1	0.5	0.3	-0.1	2.0	-0.7	4.8
TCR[2] effect	-0.4	-0.3	-0.6	-0.5	-0.2	-0.7	-0.3	-2.1
Economic profit 2007	2.9	0.6	1.3	1.3	-1.1	-8.2	6.1	-5.1
Post-crisis value creation[3]								
Economic profit 2010	2.4	-0.1	1.3	1.4	-1.9	-13.2	-0.1	-4.7
Sales effect	0.3	0	0.2	0.4	-0.1	1.5	0	-1.4
Margin effect	0.6	-0.4	-1.5	-1.2	0.5	3.0	-12.2	-13.9
Capital efficiency	1.1	0	-0.3	-0.1	0.2	2.2	-2.1	3.3
TCR[2] effect	-0.1	0.1	0.3	0.3	0	0.2	-0.2	-0.6
Economic profit 2013	4.3	-0.4	-0.1	0.8	-1.3	-6.4	-14.5	-17.4

1 Based on 235 + 5 unique companies
2 Tangible capital ratio: describes the share of a company's balance sheet deployed in productive assets (vs. assets used to finance goodwill; companies growing through acquisitions typically create less value as their productive asset share is smaller)
3 Based on 264 unique companies

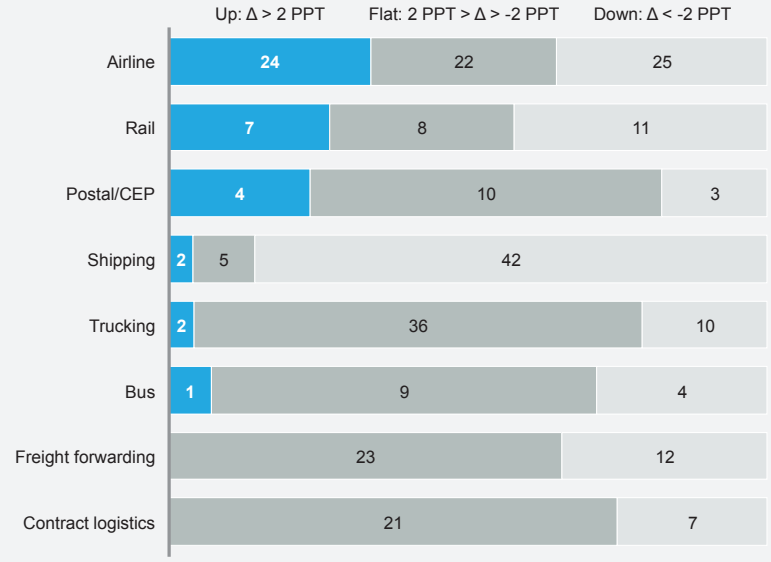
SOURCE: McKinsey Corporate Performance Center

It is also instructive to take a closer look at pre- and post-crisis economic profit margins of the sample companies within each industry. Only in airlines, rail, and postal/CEP did a relevant share of companies manage to improve their performance compared with pre-crisis figures. Unsurprisingly, our shipping sample mirrors the seismic shifts towards negative profitability in the industry. Similarly, structural changes in profitability potential can also be observed in freight forwarding and contract logistics. Having survived the crisis with limited damage, companies in these industries now seem unable to substantially gear up their economic profit to pre-crisis levels: between 2010 and 2013, none of the sample companies earned an economic profit margin that was significantly higher than its pre-crisis margin in the 2004 to 2007 period. Trends such as disintermediation as well as increasing price transparency and pressure through digitization seem to have created new profitability ceilings for the industry (Exhibit 9).

Exhibit 9

Companies' change in accumulated economic profit margin 2010 - 13 vs. 2004 - 07 by industry

Number of companies



SOURCE: McKinsey

What are the market's expectations for transportation and logistics?

Current valuation and growth forecasts

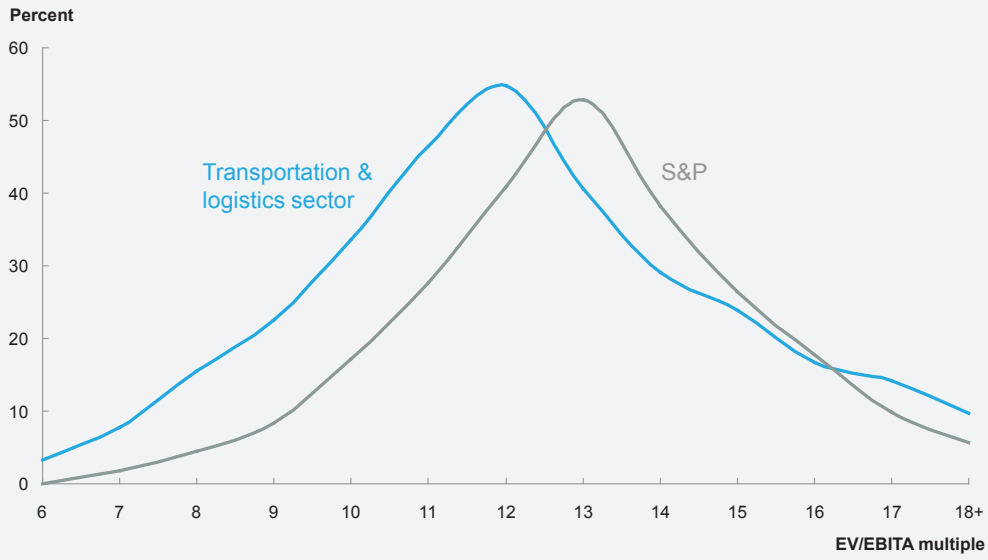
Market expectations for transportation and logistics seem to be muted compared with the S&P 500. Weak growth expectations combined with poor current ROIC drive low valuation multiples.

Valuation multiples (i.e., the ratio of EV to EBITA) for transportation and logistics companies show that the sector is structurally discounted relative to the S&P 500 Index, with an average of around 11x versus roughly 13.5x. This indicates investors' skepticism about the sector's future profitability and growth potential (Exhibit 10).

Exhibit 10

EV/EBITA multiple distribution[1]

Percentage of companies within multiple range



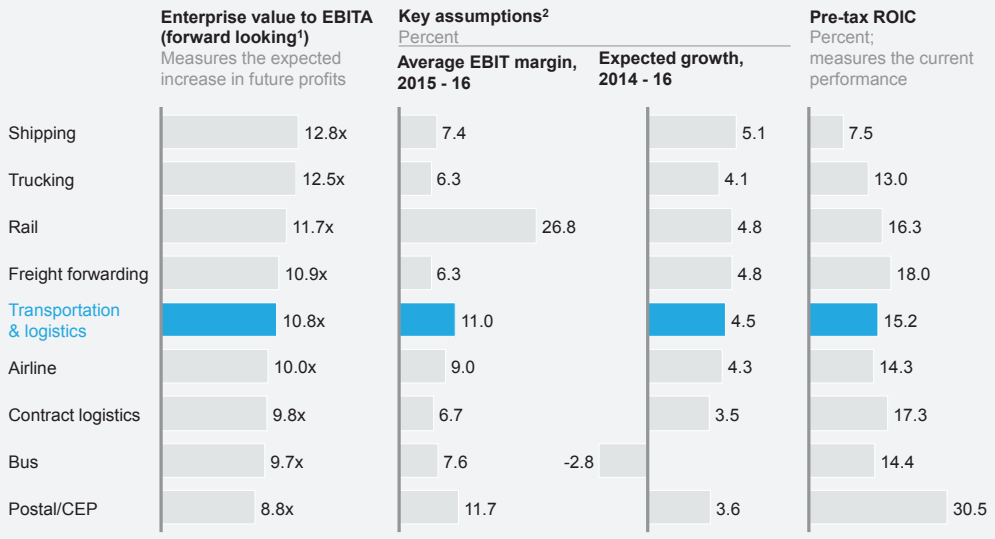
1 Financial companies have been excluded from the S&P 500 data set. Multiple is EV as of Feb 2015 on FY + 1 EBITA. Data points lower than 4.0x and higher than 18.0x are considered outliers and were excluded from the data set

SOURCE: Capital IQ; McKinsey Corporate Performance Analysis Tool (CPAT); McKinsey analysis

Higher valuations are mainly driven by expectations of future growth in profitability versus current performance. For shipping and trucking, which have lower current ROIC ratios, the market appears to expect a rebound in profitability. On the other hand, the markets appear to signal doubt about the postal industry's ability to sustain its strong run of increasing profitability and growth (Exhibit 11).

Exhibit 11

Valuation by sector



1 EV is based on Dec 2014 market capitalization, IC as of Dec 2013; EBITA is based on consensus estimates for FY 2015 for all companies
2 2015 - 16 based on analyst estimates

SOURCE: Capital IQ; McKinsey Corporate Performance Analysis Tool (CPAT)

The capital market performance, economic profit generation, and valuation of the transportation and logistics sector at first sight appear to paint a gloomy picture: transportation rates (as income per capacity unit) for goods and passengers have by and large been too low for operators to generate an attractive return. Efficiency gains – be they created via technological progress, economies of scale of denser networks, or process improvements – have been passed on mostly to passengers and cargo owners (especially the retail and consumer goods sectors as largest customers by transportation spend),[5] but also to employees and suppliers; in the aviation value chain, for example, most other participants like aircraft OEMs, airports, and booking services create value at the expense of the airlines themselves.

However, individual success stories in the worst-performing industries reveal that there is a path to value creation. By staying ahead of the trends shaping the industry and by making astute strategic choices, decision makers have a chance to beat the odds.

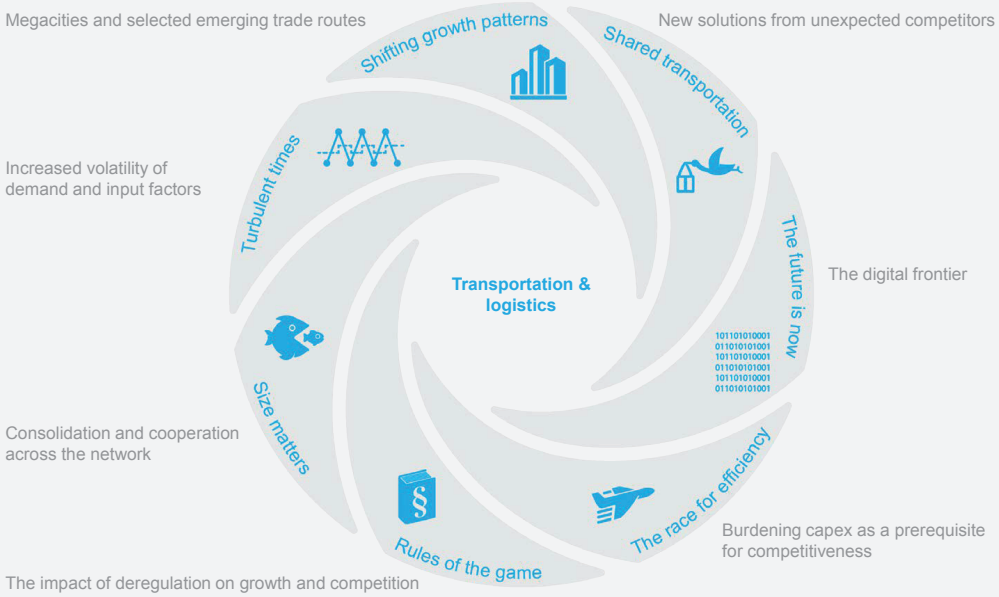
5 In fact, freight rates have been in steep decline for decades on an inflation-adjusted basis ("Where is the value in transportation," McKinsey, 2012).

What drives future value creation? Global megatrends shaping the transportation and logistics sector

Transportation and logistics companies connect a world changing at an ever-increasing rate, fueled by global megatrends and sector-specific forces. Creating value in this sector requires a strategy that places the company ahead of those trends. Our research shows that "riding the right tailwinds" – being in the right markets at the right time – can account for more than 60 percent of growth. Yet, only 40 percent of companies systematically take into account the impact of macrolevel trends as they shape their strategies. In our view, seven important trends are shaping or will shape the sector over the coming years (Exhibit 12). Acknowledging that none of those trends is entirely new or has so far been negligible, we believe that out of dozens of themes and dynamics observed and discussed in transportation and logistics, these seven are most relevant – even increasing in importance – and requiring strategic responses by executives.

Exhibit 12

7 megatrends affecting the transportation & logistics businesses



SOURCE: McKinsey

Shifting growth patterns: Megacities and emerging trade routes

As overall emerging market growth rates slow, growth patterns in trade and transportation are becoming more granular. Betting on the most lucrative pockets of growth requires a sophisticated perspective to select the cities and trade routes that will shift the centers of economic gravity.

Growth in the transportation and logistics sector has tended to be highly linked to GDP. While this still holds true, the IMF predicts that emerging markets' growth will slow from its pre-crisis peak of 7 percent per annum to 5 percent per annum over the current five-year period (2014 to 2018),[6] albeit from a higher base. In addition, the trade-to-GDP multiple has fallen by 25 percent from 2.2 in the period from 1997 to 2006 to pre-globalization levels of 1.6 over the period of 2007 to 2013 and is not expected to rebound.

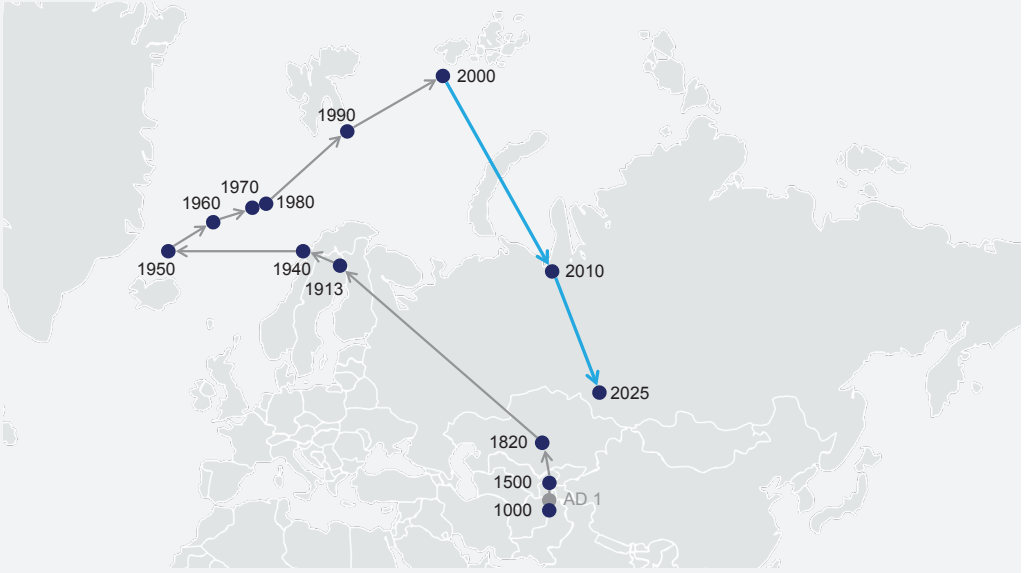
6 IMF (http://www.imf.org/external/pubs/ft/wp/2014/wp14173.pdf)

In this context, it is crucial to identify the specific geographic areas and segments that promise above-average growth, both in and beyond the emerging economies.

Shifting centers of gravity. Over the coming decades, Asia-linked trade flows are projected to increase more than 3.6 times from 2009 to 2029.[7] This means that by 2030 the trade flows between Asia and North America will be four times higher than between North America and Europe. Looking at past growth, this prediction seems anything but unrealistic. Latin America became the fastest-growing market for Asian goods with an impressive annual growth rate of 36 percent from 2003 to 2008; vice versa, Latin American exports to Asia grew by 25 percent, in the same period.[8] Finally, intraregional trade within emerging markets has exploded. For example, between 2009 and 2029, intra-Asian trade flows are projected to increase 4.6 times; domestic Chinese flows by 5.8 times, representing the highest projected growth rates of all traffic flows. The McKinsey Global Institute visualized the shifting center of gravity on a world map, tracking its recent trajectory east and south (Exhibit 13).

Exhibit 13

Evolution of the earth's economic center of gravity[1]
AD 1 - 2025



1 Economic center of gravity is calculated by weighting locations by GDP in 3 dimensions and projected to the nearest point on the earth's surface. The surface projection of the center of gravity shifts north over the course of the century, reflecting the fact that in 3-dimensional space America and Asia are not only "next" to each other, but also "across" from each other

SOURCE: McKinsey Global Institute analysis using data from Angus Maddison, University of Groningen

7 Boeing WACF 2010-11

8 IMF Direction of Trade Statistics, time period 2003 to 2008

Emerging cities. By 2025 the number of megacities (with a nominal GDP of over USD 100 billion) in Asia, Africa, and Latin America will rise from 16 in 2010 to 109 (83 of which are in Asia alone). Moreover, half of the global GDP growth will take place in 440 middleweight cities (0.15 to 10 million inhabitants) in the developing world. Take Tianjin as an example: 120 kilometers southeast of Beijing, this city's GDP is projected to grow from USD 130 billion (equal to Stockholm's GDP) in 2010 to USD 625 billion (equal to Sweden's total GDP) by 2025.[9]

Nearshoring. While companies in Europe and North America are facing constant pressure to reduce travel and logistics costs, products from Asia have become more expensive due to diminishing labor cost differentials, which make it increasingly hard to recover the long-distance shipping costs. As an example, for US companies, Chinese products have become about 33 percent more expensive since 2005 than those sourced from Mexico. The resultant trend to nearshoring – shifting manufacturing to countries in the same region – both creates opportunities for new intraregional routes and challenges the profitability of trade routes to emerging markets.

Shared transportation: New solutions from unexpected competitors

Starting with car sharing, the shared economy is beginning to profoundly impact other passenger and cargo services, and even spurring new arrangements between businesses.

The popularity of shared transportation is on the rise, as innovative peer-to-peer platforms enable customers to utilize other economic agents' assets and competencies. Technology-enabled solutions, pioneered by Uber and Airbnb in the field of B2C transactions, are now being planned or emulated in other transportation segments and also spreading into the B2B space.

Crowdsourced delivery. Dozens of platforms already exist for local crowdsourced delivery arrangements. For example, with Barnacle, drivers can post their driving routes with a mobile app and get notified of any delivery requests. Friendshippr leverages a Facebook user's own network by helping turn Facebook friends into couriers. These services represent both a threat and an opportunity for traditional postal and logistics services. DHL Parcel delivers parcels to a service point/depot ("Packstation" or "Paketshop") and enables recipients to pay others for pickup and "last-mile" delivery, thus bypassing high costs for covering remote areas. Start-ups in crowdsourced delivery typically offer fast local, point-to-point deliveries (instant, scheduled), easy access via online platforms and application program interfaces (API), and automated pricing and dispatching.

Capacity sharing and trading. Within a few years of the introduction of sharing-economy services geared to the B2C segment, B2B platforms for freight transportation emerged, changing existing business models but also creating new ones.

Consider the start-up Cargomatic in the US. Traditionally, trucks servicing scheduled or ad-hoc routes often had loads that did not fill their freight or cargo capacity, and the excess was poorly managed. With Cargomatic's new online platform, shippers can now access spare capacity at pre-screened and qualified carriers at short notice (in near real time) and at a comparatively low cost. This more open access creates a win-win situation, maximizing payload while enabling cheapest-possible freight rates. Cargomatic benefits from a

9 McKinsey Global Institute, Cityscope 1.1

20 percent commission on the freight rates for the broker service and transaction handling. The company – which has raised more than USD 10 million in funding within the last 12 months – aspires to become the leading platform connecting commercial shippers and trucking companies – a position that Uber took years to reach in local on-demand passenger transportation.

In general, online platforms enable and fuel transport capacity sharing and thus pose a threat to established business models, especially in freight forwarding. The Web-based solutions allow shippers, carriers, and other players (e.g., customs authorities) to interact directly at different steps of the information value chain. They will continue to streamline procurement of transport services, lower switching barriers through standardized quotes, ease comparisons through greater transparency, minimize intermediaries' margins with concepts such as reverse auctioning, and bring down the number of parties to deal with (disintermediation). Already, around 20 percent of global tenders for freight forwarding are handled via such online platforms. It is not inconceivable that the entirety of low-complexity volumes could transition onto platforms like GT Nexus, Inttra, and Cargoclix.com

Disruptive solutions for passenger services. Shared-economy business models have already disrupted the passenger transportation market. In addressing the traditionally low utilization of cars, and the inner-city congestion challenge, shared transportation – from Citi Bike and Flinkster to Uber and myDriver – is revolutionizing the way customers think about short-distance transportation. Once the new models overcome existing legal hurdles and reach mainstream adoption, these asset-light approaches/services will accelerate pressure on owners and operators of traditional infrastructure to react.

The future is now: The digital frontier

The digital revolution has profound and specific implications for the transportation and logistics sector. In order to survive and thrive as they transform into digital businesses, companies in this sector need to consider each step of the value chain, from acquiring and delighting customers, to increasing operational efficiency.

By drastically reducing the marginal cost of acquiring a new customer, digitization has radically increased the speed at which new transportation and logistics players can grow. For example, by expanding its services from flights only to travel in general, Skyscanner boosted revenues by 42 percent in 2014 alone. Nevertheless, many transportation and logistics companies have not yet fully recognized digital's potential to create (and disrupt) value across the value chain, especially in operations and customer interaction.

Simpler, safer, and better operational processes. Digitization will transform the back end of transportation and logistics businesses. Digital solutions are capable of reducing costs and adding more value to services in all facets of operational processes. According to our research, partial or full automation, e.g., driverless trucks (already technologically possible), can reduce transport costs by 25 to 40 percent, delivery time by 30 percent, and the number of accidents by more than 50 percent. Access to new insights through exploding amount of data generated ("big data") also enables transportation and logistics companies to optimize customer-facing and internal processes. The truckload service firm U.S. Xpress rigorously collects real-time data on the fuel consumption of its vehicles, saving the company millions of dollars.

The importance of data as an input is accelerating, enabling new possibilities and information-based business models. Big data lays the groundwork for completely new levels of optimization and easier quality evaluation. Predictive modeling will, for example, become much more accurate and thus greatly improve capacity planning. On the other hand, there will be a growing need for transportation and logistics companies to collaborate with the data providers, e.g., cloud service providers, to gain market insights. Moreover, data security and system reliability will be increasingly differentiating factors for industry players.

Meeting customers' increased expectations. Digital tools enhance transportation and logistics services by making them faster, cheaper, and better, as well as more transparent, flexible, and comfortable. But innovations by attackers, such as the price aggregator and ranking site TripAdvisor, have also intensified competitive pressure for incumbents.

Markets and channels – digitally augmented or replaced. New digital technologies open markets that either complement or replace old markets. Instant customer reach, direct access to end customer, and low-to-zero transaction cost are inherent benefits leveraged by more and more transportation and logistics players and especially their customers. With online shopping, e.g., the number of parcels has soared (growing roughly three times as fast as the GDP in all major economies since the year 2000), enabling logistics companies to reinvent themselves as e-commerce players.

The race for efficiency: Burdening capex as a prerequisite for competitiveness

Transportation assets are becoming smarter, greener, and larger at an ever-faster rate. Companies need to invest constantly in new-generation assets to remain competitive, while retaining capital discipline.

Companies endowed with older assets in capital-intensive industries are typically able to generate windfall profits. However, the opposite holds true for the transportation industry. There is a strong inverse relationship between economic profit and the average age of an airline or shipping fleet.

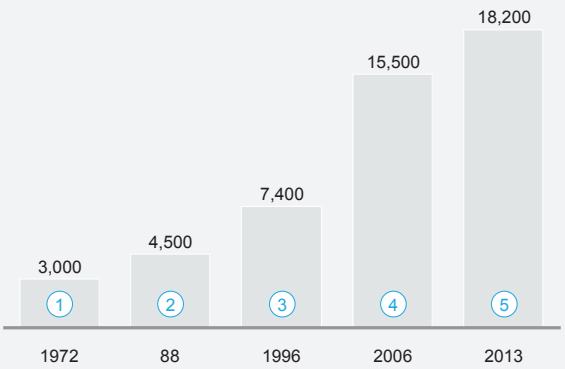
Lower costs. Asset size has roughly doubled every ten years, reducing unit costs by 16 percent and 25 percent, respectively, for new-generation aviation and container shipping assets (Exhibit 14). Over the past 30 years, marginal capacity cost in a number of the eight transportation and logistics industries has amounted to as much as 25 to 50 percent.

Asset deflation. Furthermore, scale and technological progress have driven up the operating efficiency of new assets. New-generation assets (e.g., large container ships, the new Boeing 787, or Gigaliner trucks) are 10 to 30 percent more efficient than previous generation assets and have correspondingly lower unit operating costs. New assets often set lower market prices, causing older, less efficient assets to deliver lower than expected return on investment. Further, as we have shown in our report "Where is the value in transportation?" from 2012, new-generation assets devalue older assets as second-hand prices tumble. Exhibit 15 recaps the significant impact the development of capital expenditure and operating costs has had on different industries over the last 30 years.

Exhibit 14

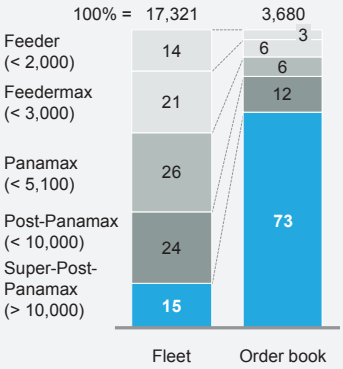
Development of containership sizes

Largest ship size, 1972 - 2013
TEU



1 3rd generation
2 4th generation (Panamax)
3 5th generation (Post-Panamax)
4 6th generation (Ultra Large Container Ship/Super-Post-Panamax)
5 Maersk deployed newly delivered 4 Triple-E class vessels (18,000 TEU) on Asia-EU route

Containership fleet, Mar 2014
TEU, percent



SOURCE: CI Online; McKinsey analysis

Exhibit 15

Change of marginal capex[1]/variable[2] cost by industry for old vs. new capacity in operation (estimates)

Not transportation & logistics industry
Transportation & logistics industry

	1980	2010	Capital expenditure Percent	Variable cost Percent	Calculated windfall profit[3]
Mining	Iron ore mine	New iron ore mine	1,500	370	10
Real estate	Home	New home	150	-40	4
Power generation	Coal power plant	New plant	425	-15	3
Container shipping	Container vessel, 1,600 TEU	Emma Maersk, 14,770 EUR	-50	-32[4]	-7
Aviation	Boeing 737-300[5]	Boeing 737-700	-8[6]	-20	-4
Trucking	Mercedes-Benz NG80	MAN TGS 41 t	-25	-20	-4

1 Cost per capacity unit in nominal terms
2 Cost per output unit in 2010; includes mainly fuel, maintenance, crew, handling, operating supplies
3 Calculated EBIT gap in percentage points between operator with average aged asset vs. operator with only newest assets (50% of this effect is assumed to be realized)
4 Based on energy intensity/bunker burn
5 1984
6 Based on cost per seat

SOURCE: "Where is the value in transportation?", McKinsey, 2012

Environmental regulations. Governments around the world continue to strengthen environmental regulations that apply to the transport sector. In Europe, high-emission vehicles are banned from city centers, with zero-emission requirements expected to be commonplace by 2030. Airlines now need to buy allowances for CO_2 emissions. And in shipping, Emission Control Areas (ECA) in the US and Europe, are expected to be followed by new areas in the Caribbean, Mediterranean, Arctic, and Sea of Japan. In response, the shipping industry is moving towards smarter vessels, reducing fuel consumption through design, with lower speeds and wider beam hulls.

Rules of the game: The impact of deregulation on growth and competition

A further wave of deregulation will expose transport and logistics companies to greater competition in their home markets, while opening up opportunities elsewhere.

In many countries, the privatization and deregulation of the transportation and logistics sector started in the 1980s. Still, further removal of regulatory barriers (especially in the EU) could alter the sector even more dramatically.

Postal services. The deregulation of postal services in Europe is already well advanced. The EU required member states to fully liberalize their postal services by 2013, causing incumbent companies to react with reforms such as new products and pricing strategies. For example, the UK's Royal Mail has applied innovative pricing levers differentiated by zone, physical features (size, weight), and content. It was able to increase stamp prices by more than 30 percent, while remaining affordable for consumers.

Air. Open-sky agreements between countries have progressively opened routes previously dominated by national carriers to new entrants. The US alone already has such agreements with 100 countries. Today, open-sky negotiations are still mostly bilateral and remain a lengthy, highly political process affected by the economic cycle. Efforts to establish multilateral agreements, such as the ASEAN Multilateral Agreement on Air Services, could rapidly accelerate the opening up of regional routes.

Rail. The rail industry is still highly regulated, especially in Europe as the largest market for passenger rail services. But the trend towards liberalization is accelerating. Cross-border passenger rail in the EU, for instance, has been opened for all European railway companies creating new opportunities for international cooperation. Domestic European railway services are to be completely tendered out by 2022, which is, so far, only the case in the UK and Sweden. This may result in dramatic changes in the railway landscape (new owners, fragmented markets).

At the same time new players such as Uber enter existing or perceived areas of regulatory voids, testing current protectionism and legislators' willingness to adjust inflexible rules to new business models. Results are mixed, ranging from tightening of regulation, banning Uber's service (e.g., in Miami among other cities) to ongoing official reviews for less regulation (e.g., for currently tightly regulated paid ride services and ride sharing in Washington D.C.), which could affect the wider industry of urban transportation.

Size matters: Consolidation and cooperation across the network

As industries consolidate and competition increases, M&A is a core competency for transport and logistics companies. At the same time, traditional and innovative approaches to cooperation are increasing opportunities to work together to leverage scale and realize synergies.

Consolidation and cooperation have never been as easy and as necessary as in today's increasingly deregulated and value- and cost-conscious world. As barriers continue to fall, companies are deploying the full range of combination techniques, from M&A to simple partnerships. The asset intensity and network effects in the transportation and logistics sector increase the potential synergies from collaboration.

Consolidation. Most mature industries are consolidating across markets. Incumbents in post and parcel services, in particular Deutsche Post, prepared themselves for full liberalization through an aggressive acquisition strategy across the globe. For airlines, we estimate that between one-third and half of the total synergies realized through M&A result from network/fleet optimization. Not surprisingly, the strong consolidation activity in the US airline market – with the top three market share based on ASK (available seat kilometers) moving up overall from 50 percent in 2001 to 64 percent in 2014, and from 62 percent to 90 percent on international flights – has resulted in significantly higher profitability levels through capacity rationalization and economies of scale in all processes.

Joint ventures. In most industries, cooperation through joint ventures remains the primary means to gain access to new markets, especially emerging ones. Examples of joint ventures in Europe include Veolia, RATP, and KMB in the bus sector and, in Asia, the Singapore/China Airlines joint ventures in air cargo.

Creative cooperation. Companies are getting more and more creative in how they collaborate. Gainsharing agreements, for instance, are often used as an incentive for contract logistics (3PL) and shippers to work together on improving supply chain operations. In 2012, 42 percent of shippers reported gainsharing agreements with their 3PL partners as a way to fill their fixed warehouse and vehicle capacity. Kimberly-Clark has pursued a "collaborative logistics" approach by partnering with its retail customers. In the same trucks, it succeeded in combining light freight that "cubes out" (physically fills the trailer) with its customers' heavy freight that "weighs out" (meets the maximum legal weight limit). This slashed empty miles, transportation costs, and the number of trucks. Creative cooperation agreements are also expected to emerge across industry borders along the value chain.

Turbulent times: Increased volatility of demand and input factors

Transportation and logistics industries are exposed to rapid swings in both customer demand and input factors such as fuel. Remaining agile in the face of sudden change remains the best defense to increased volatility.

Transportation and logistics companies face a perfect storm of exposure to volatility – not as a rare event but as a constant companion. The scale of fuel and energy as a share of total costs means that rapid changes have a big impact on the bottom line. In addition, consumer demand for transportation and logistics services is highly price sensitive and subject to macroeconomic shifts, demand shocks, and regulatory changes.

Fuel price developments. With prices for a barrel of oil dropping from USD 107 to less than USD 50 within eight months until February 2015 and changing direction over and over again since then, shipping providers need to adapt more swiftly than ever before. They have a range of levers they can pull (e.g., speed control and route planning) to control the potential impact on the cost base. The same holds true for air passenger and cargo services.

Demand volatility. While other high-capex sectors such as utilities also face demand volatility in the form of recurring annual cycles and deviations, demand fluctuations in transportation and logistics industries are less predictable. Furthermore, digital technologies are rapidly disrupting how consumers spend their disposable cash, and political unrest has suddenly appeared in several previously popular offshoring and production locations across the world. Consequently, T&L companies are highly vulnerable to unexpected reductions in demand for services in their portfolios as well as on specific trade lanes across all service types. When combined with high asset intensity and long investment lead times, the resulting demand volatility, characteristic of this sector, severely challenges any company's ability to robustly plan for the future.

In addition to this primary demand volatility, the sector also grapples with a secondary, home-grown form of volatility. Analogous to the "bullwhip effect" that bedevils some inventory managers in the manufacturing sector, some industries in the transportation and logistics sector have, in trying to beat primary demand volatility, created a further source of volatility, which consumers know as "overbooking roulette" and academics refer to as a secondary conduct effect. In short, in a very transactional market in which providers have capital-intensive assets with high geographic flexibility, providers try to attract more volume to fill excess capacity. This conduct creates massive price pressure. The goal – to counteract falls in volume and their direct profitability impact due to lower asset utilization – has, however, never been sustainably achieved. It made it much harder to reraise price levels to economic levels.

Unpredictable fluctuations in transportation asset cost. The carrier part of the value chain, which takes on (most of) the short-term utilization risks for assets, faces another form of volatility. The prices of transport assets themselves, which influence 20 to 75 percent of a carrier's cost structure, are inherently volatile. Most carriers order with the cycle, which not only contributes to overcapacity during downturns (when deliveries of assets ordered at cycle highs become due for delivery) but also results in the payment of substantial price premiums charged during order booms. Within shipping, for example, time-charter rates for certain vessel classes plunged by more than 70 percent within a year after the high in 2008, rebounding strongly until 2011, with another steep drop starting thereafter. These rates are influenced by a diverse set of input factors (including commodity demand, fleet supply, seasonal pressures, bunker prices, situation around choke points such as the Suez and Panama canals, market sentiment, and port congestion). Only few shipping lines benefited from the low time-charter rates because most of the capacity was contracted at higher long-term rates.

□ □ □

The trends outlined in this chapter will affect the eight transportation and logistics industries in different ways. However, each of these trends has the ability to profoundly impact the growth or profitability, or both, of companies in the sector. As such, these trends give rise to the question how to master the journey toward future value creation, specifically what ingredients a forward-looking recipe needs to contain to prepare a transportation and logistics player for an ever-changing future.

What does it take to win? Five ingredients for value creation

In the past decade, the transportation and logistics sector's overall performance has been lackluster. Yet this decade has also seen some astonishing accomplishments by individual companies, e.g., airlines with hub systems around privileged flows or low-cost business models, shipping lines that adjusted their fleets and networks, or parcel companies that achieved process optimization through a higher degree of sorting automation and data analytics-based routing. As these accomplishments indicate, transportation and logistics businesses can devise and execute winning strategies. It's not straightforward; but strong performers have succeeded by considering, blending, and adapting the following actions as the most potent ingredients for creating value.

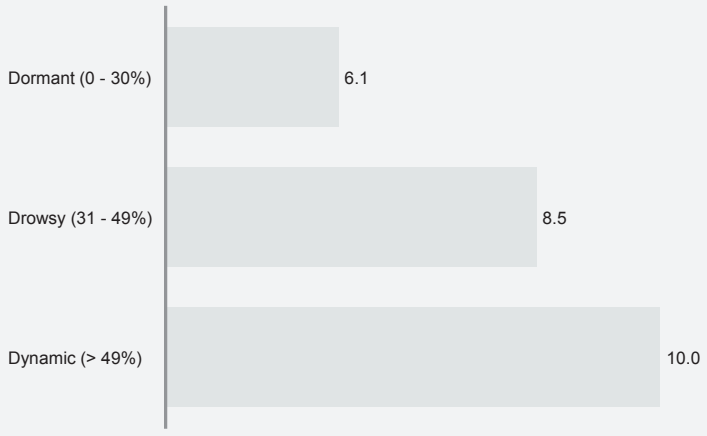
Be agile in resource allocation and reallocation

Across industries, McKinsey research shows that being agile in resource allocation drives higher performance. The median TRS achieved by "dynamic reallocators" is nearly 40 percent higher than for low reallocators (Exhibit 16). Nowhere is this more true than for the transportation and logistics industry, where high capex and increasing granularity of growth require senior executives to frequently rethink their presence in markets and business segments. This effect applies not only to capital expenditures but to a broader range of company resources such as marketing spend, R&D budgets, and deployment of scarce management talent as well.

Despite this evidence, there is a 90 percent correlation in the aggregate between companies' resource allocation year on year. This value-destroying organizational inertia is typically driven by a number of factors, including a lack of strategic direction, processes that entrench the status quo, and the distortive effect of cognitive biases on decision

Exhibit 16

Median TRS CAGR of companies by degree of reallocation[1]
Percent, 1,508 companies, 1990 - 2010



1 Measures the share of capex that shifted between business units over 20 years; there are 505 dormant reallocators, 498 drowsy reallocators, and 505 dynamic reallocators

SOURCE: McKinsey corporate strategy research program

making. McKinsey's benchmark database of capex/opex allocation decisions of more than 1,500 non-financial companies reveals several techniques and tools that can help senior executives overcome these obstacles and increase their resource allocation agility:

Create transparency – Creating a corporate resource map can help executives understand current and historic resource allocation in granular detail across capital spending, marketing, R&D, and top talent. This map, essentially a matrix of the resources deployed by geography, function, and/or product, enables detailed quantitative visualization of resource inertia both internally and in comparison with other companies.

Overcome biases – Reframing budget meetings as reallocation sessions and running them accordingly can mitigate the impact of biases. Meetings can be held with unorthodox gamification approaches, such as allocating executives poker chips and asking them to place bets on promising projects, or by deploying powerful "counter-anchors" in the discussion. For example, starting a budget allocation discussion by reviewing projected demand growth by division could help avoid the temptation to anchor the decision on the previous year's allocation.

Fix the process – Positioning resource allocation decisions earlier in the strategy-setting process avoids the typical challenge that it is "too late to change" by the time the budgeting and planning cycle is in full swing.

Let go, and learn – Getting out of businesses that have served the company well in the past but are now stagnant or declining is a core element of agile resource allocation. A formalized process to decide on exits can help, such as a goal to dispose of at least 2 to 3 percent of the portfolio (in revenue) each year.

Resolve the asset dilemma

Transportation and logistics companies face a number of challenges arising directly from the asset intensity of their businesses and the asset deflation described under megatrend "the race for efficiency" in chapter 2. In shipping, for example, despite a persistent demand-supply imbalance, fleet owners must invest constantly in more technologically advanced assets in order to remain competitive.

A typical answer to this "asset dilemma" has been for transportation and logistics companies to lease some or all of their fleet. Whether or not this strategy is optimal comes down to whether greater flexibility and access to technology justifies the premium companies pay for leases – 10 to 15 percent for aircraft or trucks, and up to 25 percent for ships. McKinsey analysis suggests that the premium paid is often 3 to 7 percent higher than the benefits in flexibility that a lease brings, implying that many transport companies could outperform competitors by owning a larger part of their core fleet. Ultimately, detailed and granular analysis is required to weigh the merits of this choice at a company and divisional level.

Not surprisingly, timing is critical for a company wishing to own more of its fleet. As mentioned in chapter 2, prices of new aircraft and ships are cyclical and hard to predict.

The prices of new-build ships can fluctuate by 30 percent or more (and prices of leased equipment by over twice that). Most companies purchase at the top of the cycle, when they are flush with cash and are at or above capacity, even though delivery can be 2 to 4 years later. Their ordering behavior is often quite tactical, pushing to expand the fleet as the cycle progresses because they are close to their customers clamoring for more capacity.

To avoid procyclical order behavior, a clear asset purchasing strategy is key – either focusing on placing orders at the bottom of the cycle if the company is able to make major commitments of cash when losses in the industry are heavy, or ordering at consistent intervals throughout the cycle. Such an approach can give companies a significant edge. In one example we analyzed, a shipping company would have beaten or equaled all of its peers, including those typically recognized for their skill in asset purchasing, on average purchase price if it had bought through the cycle against a long-term growth rate. Eventually, its fleet costs would have been 10 percent lower than the industry average and generated industry-leading returns at 2 percentage points above its cost of capital.

In terms of asset financing, there are also more alternatives to be assessed than just the conventional mix of equity and debt or leasing. Selecting innovative financing structures (e.g., collaborating with other operators and owners via pooling of asset capacity) or tapping new financing sources (e.g., long-term investors such as pension funds) will become a source of differentiation – or even key to survival in the asset dilemma. McKinsey research has shown, for example, that the current airline funding system is a fragile equilibrium relying on increasing and unsustainable levels of debt.

Make your digital transformation a success story

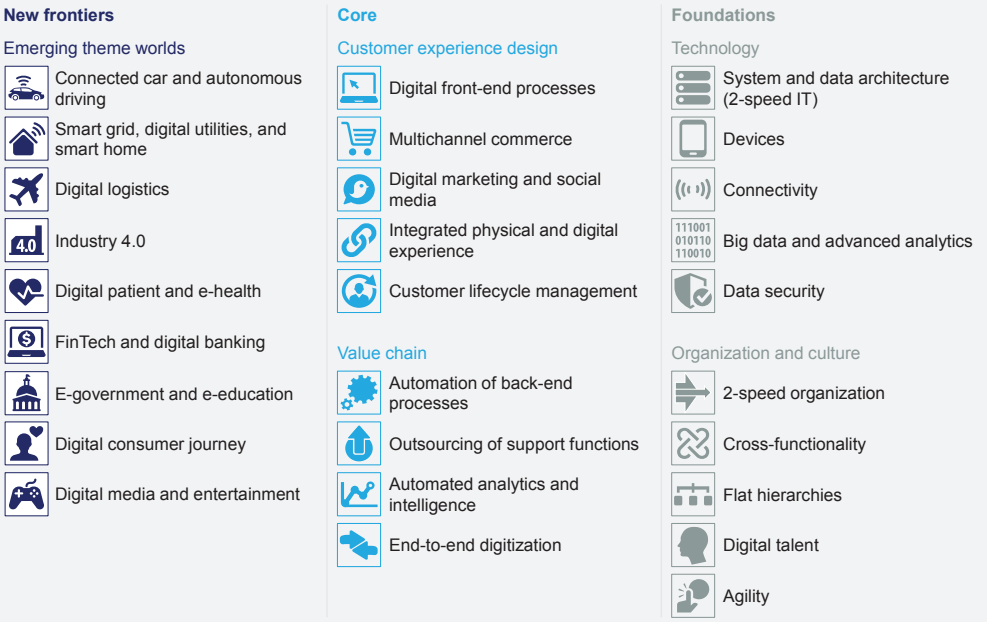
Digital will continue to change transportation and logistics. We define “digital” as the use of disruptive technologies to optimize the core business and to stake a claim along new frontiers (new products/services and business models). Digital has already dramatically changed entire industries – this is not limited to B2C and digital products (e.g., music), but also applies to B2B and physical products (e.g., agriculture). Disruptive technologies are highly relevant across all transportation and logistics industries, and an army of innovative start-ups is already clamoring at the gates.

But digital is not only a risk for incumbents – if done well, it is also a huge opportunity. An opportunity to win market share against competitors by providing the better digital experience, possibly combining it with traditional advantages such as flexibility to customer demand; an opportunity to increase market size with new digitally enabled products and value-added services, especially leveraging the data that large carriers and freight forwarders own; and finally, an opportunity to reduce costs in core processes – digital customer interaction as well as digital back-office processes can save significant amounts of money.

A company can step up to the challenge of becoming a digital transportation and logistics enterprise by treating digital efforts as a portfolio with three main segments: new frontiers, core, and foundations (Exhibit 17).

Exhibit 17

3 relevant fields of action across the digital enterprise



SOURCE: McKinsey Digital

Stake a claim along new frontiers. At this level, industry players need to answer the following three questions: Are we equipped to cope with competitors attacking our business models with new technologies? Are we proactively creating digitally enabled business models with the potential to disrupt our industry? Are we capturing new value pools emerging from changing sector frontiers?

In freight forwarding, for instance, answering these questions requires recognizing that digital platforms and brokers (e.g., GT Nexus) are a dramatic threat to the value proposition of all players in the freight ecosystem – traditional forwarders are at risk of being replaced entirely, while carriers are at risk of being reduced to commoditized capacity providers. To address the risks and opportunities here, freight companies basically have three choices: "be the driver of digital," "wait for the market and react," or "withdraw into a niche" and must soon decide which approach to take. Ideally, incumbents can position themselves to capture value pools emerging from the changing sector frontiers.

In parcel/CEP, the newcomer on the block is Amazon, which also happens to be the world's largest customer of parcel services. The company is now using its integrated logistics chain to move beyond its traditional core and selectively attack parcel delivery providers. It outperforms established customer experiences in terms of speed and convenience through features such as cooperative agreements to provide same-day delivery, new launches (partnership with Smith News, stake in Yodel, launch of Amazon Fresh), and diversified pick-up locations (e.g., Amazon Locker, Pass My Parcel).

Digitize your core processes. Here, a company again needs answers to at least three questions: Are we already fully capturing market opportunities from new, digital customer touch points ("omnichannel" strategy)? Are we achieving operational excellence by fully digitizing our value chain/supply chain? Do we insist uncompromisingly on generating added value from internal overhead (and consequently outsource support functions)?

Digitizing your core means digitizing the day-to-day end-to-end processes (by increasing automation, connectivity, and data-based decision making), unlocking revenue and cost potential, and preparing the organization to stake a claim along new frontiers. The most powerful individual digitization levers are automated and accurate pricing, optimized operations planning based on real-time information, and integrated multi channel customer interaction.

As an example in operations, Amazon has invested five times as much as competitors (measured as a share of sales revenue) in technology and modernized its fulfillment infra-structure, including warehouse robots, undercutting traditional cost levels by 5 to 10 percent.

Reinforce the foundations. To enable digitization at scale, most transportation and logistics companies will need to overhaul their business operating model (structure, governance, processes, HR). The business operating model must fulfill digital success factors, in particular: pursuing the highest ambitions, obsession with the customer, outward focus, agile innovation process with openness to testing and learning, and a risk-encouraging culture.

Likewise, the IT function has to adapt its operating model, with a specific focus on a two-speed IT architecture and two-speed processes, agile software development, cyber security, and a scalable next-generation infrastructure. In the end, also at the foundations level, it comes down to these governing questions: Are we making the most of state-of-the-art technology, e.g., are we able to extract and analyze internal and external data in near and real time? What is the right architecture to allow us to digitize at scale and how do we get there? How much should we invest, when, and where should we make or buy? Are we set up to win in a digital age? Do we have the right capabilities? Is our way of working agile and data-driven?

Our core belief about the digital transformation journey in transportation and logistics businesses is this: digital must be implemented at scale. Trying to "emulate start-ups" and "experimenting a bit on the side" will ultimately fail. Discarding all assets for a new digital business means competing with thousands of "real" startups. "Speedboats" with strong pilot tests are unlikely to scale up rapidly. Corporations can create much more value through digitization if they enhance and build on their existing assets and strengths. Digital affects each organizational unit and function in an enterprise. Hence, an effort is needed to make the whole company more digital – including adjusting the business and IT operating models.

Develop programmatic M&A and cooperation capabilities

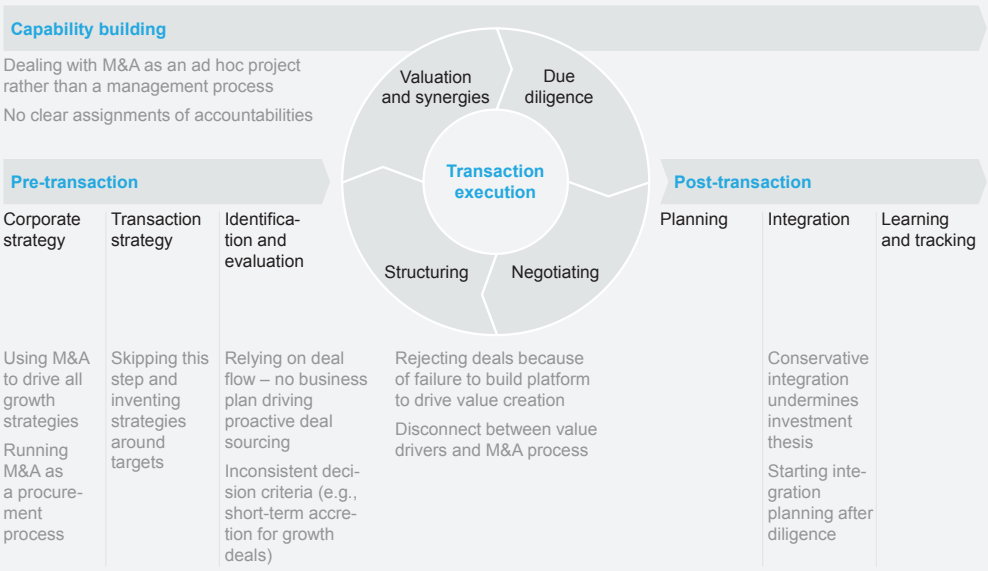
Transportation and logistics companies have traditionally been very active participators in M&A and other forms of alliances or partnering. Parcel logistics providers like DHL, Fedex, and UPS have engaged in M&A and cooperative agreements since the 1980s, and executed more than 74 deals between 2000 and 2011 alone. Similar trends can be observed in the first tier of the freight forwarding industry and among airlines.

Indeed, growth from M&A is critical for the long-term success of companies across industries. Recent research by McKinsey's Strategy and Corporate Finance Practice clustered the top 1,000 firms by their 1999 market capitalization and the growth strategy they pursued (organic versus programmatic, tactical, selective, and large-deal M&A[10]) and tracked which companies persisted within the top 1,000 market cap firms until 2013.

The result was surprisingly clear: the majority of top 1,000 survivors was engaged in programmatic (39 percent) and tactical M&A (37 percent). The global 1,000 drop-outs focused mainly on organic growth, selective M&A, or large-deal M&A. In addition, the analysis showed that not only do the most active deal makers survive, they also earn higher excess returns: if more than five deals per year are executed, the median excess returns increases nearly four times versus only 1.3 deals per year (0.8 versus 3.8). The key to unlocking these benefits for transportation and logistics companies is to develop deep programmatic M&A capabilities across deal sourcing, deal management, and integration. Such a programmatic approach avoids shortcomings often experienced in M&A (Exhibit 18).

Exhibit 18

Common challenges in making M&A successful



SOURCE: McKinsey

18

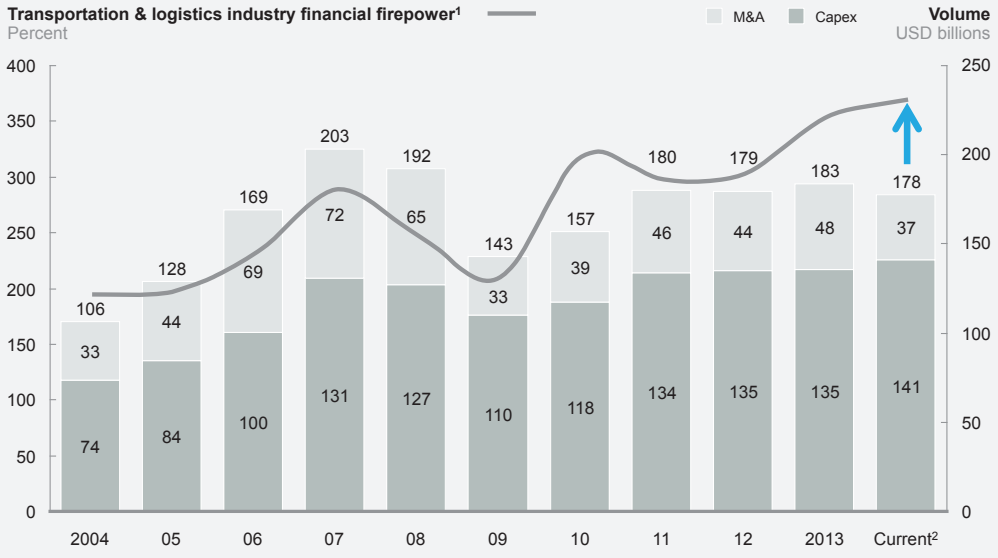
10 Organic defined as max. 1 deal every 3 years, where cumulative value of deals is below 2% of acquirer market cap; Programmatic defined as more than 1 deal/year, where cumulative value of deals is over 25% of acquirer market cap; Tactical defined as more than 1 deal/year, where cumulative value of deals is less than 25% of acquirer market cap; Selective defined as not more than 1 deal/year, where cumulative value of deals is under 25% of acquirer market cap (and not organic); Large deal defined as single one multiple deal, where target market cap was greater than 30% of acquirer market cap

The value creation potential from programmatic M&A is especially at hand now, when the industry's "financial firepower" (excess cash plus debt capacity) is at a historical high (Exhibit 19), suggesting a new wave of inorganic growth is ahead.

Besides creating combinational synergies, increased post-merger scale can additionally be an enabler for technology investments "at scale," overcoming otherwise unattractive payback periods and thus fueling the digital transformation. For example, since merging with Northwest, Delta Air Lines has invested over USD 200 million in mobile apps, Web site overhaul, and online baggage tracking. This investment surely played its part in enabling the strong financial improvement and return to value creation for Delta Air Lines post-merger.

Exhibit 19

Given the industry's increased firepower, companies could consider M&A



1 Firepower defined as follows: excess cash + debt raising capacity based on 2.5x EV/EBITDA multiple
2 Current capex based on reported last 12 months (LTM); for companies for which LTM capex is not reported, we assumed 2013 capex; current M&A based on deals in 2014

SOURCE: Capital IQ; Dealogic

Manage for an uncertain world

Manage volatility in demand and input factors. The real world is much more volatile than most predictions would have us believe – even more so in transportation and logistics industries. However, the human brain is ill-equipped to deal with high levels of uncertainty – the "tools" our brain uses to make sense of uncertain situations are often insufficient:

- *Trying to learn everything.* In inherently ambiguous situations, this leads to "analysis paralysis," delaying decisions
- *Defaulting to a familiar experience.* Finding patterns where none exist leads to biased decision making
- *Filtering out outliers.* Failure to register low-probability but high-impact events ("black swans") leads to missed opportunities and heightened risk exposure.

Addressing uncertainty with a structured program can generate both a competitive advantage and a higher valuation from capital markets. To get there, business leaders need to come up with answers to questions such as the following:

- Do we periodically refresh our perspectives and beliefs about how market forces will shape our business?
- Do we continually monitor relevant signs to help us see when changes are imminent?
- Do we have a strategy that is flexible enough to adapt to a range of possible futures, e.g., by using scenario planning?
- How are we addressing cultural barriers – biases, hierarchies, silos, rigidity – that may prevent a clear view of the future?

McKinsey's flexibility management programs have revealed that the main challenge in diagnosing volatility is not in estimating and quantifying uncertainty. Sales, strategy, and planning departments often have a very good quantitative understanding of which parameters are uncertain and to what extent. The challenge lies more in properly consolidating and interpreting these uncertainties – and then in translating insights into actions to become more agile.

Embed management of regulatory and political affairs into strategy. McKinsey research suggests that the "value at stake" from regulatory changes averages 45 to 55 percent of transportation and logistics companies' EBITDA. As regulatory uncertainty increases, managing relationships with governments and regulators becomes an ever more important competency to protect and create value.

In a 2013 *McKinsey Quarterly* survey, half of the CEOs interviewed indicated that government and regulator relationships rank among their top three priorities. Nevertheless, only 20 percent report being "frequently successful" at providing influential input into government policy/regulatory decisions and at managing their reputations for competitive advantage.

Several key factors have emerged that distinguish more successful regulatory management efforts:

- **Recognize importance of external affairs.** Successful companies make managing external affairs a CEO priority or have the external affairs function report to CEO or C-level executive. This was the case for 50 to 60 percent of the companies interviewed.
- **Engage with stakeholders with the right mindset.** Actively engaging with policymakers and doing so with a partnering mindset is acknowledged as an important success factor. However, although 64 percent of the interviewees described themselves as proactive, further analysis revealed that only 36 percent were in fact active.

- **Build capabilities and resources.** Leading companies see managing relationships with regulatory stakeholders as a source of competitive advantage. On average, respondents dedicated 20 to 40 FTEs to managing external affairs. However, only about 25 percent of all companies considered themselves very/extremely effective at the core capabilities for stakeholder engagement. In more successful companies, that number rose to 65 percent.

- **Systematically monitor success and reputation.** Successful companies frequently and rigorously assess their reputations and often actively manage their presence in social media. Fewer than 30 percent of the companies surveyed had formal mechanisms for tracking their reputations with governments, regulators, and media. Nearly 50 percent of companies did not actively use social media.

□ □ □

In the volatile digital era ahead, most companies in the transportation and logistics sector are under pressure to combine stronger revenue growth with much higher rates of ROIC. Mixing the most potent ingredients to create this winning strategy cocktail requires more of a team effort than in more stable industries: the CFO to facilitate more agile resource allocation, the COO to resolve the asset dilemma, the Chief Technology Officer to implement digital solutions at scale, the Chief Strategist for programmatic M&A and cooperation, and finally the CEO to manage the portfolio of big bets, options, and no-regrets moves that make up strategy under uncertainty. The C teams who get much or all of this right – with precision, agility, and their distinctive "signature" of courage, charisma, and expertise – will stand out as creators of value who reliably deliver satisfying customer experiences, strong top-line growth, and superior ROI and bottom-line profitability.

Appendix

Economic profit

Economic profit is the measure of the total value created by an industry or a company above the opportunity cost of capital needed to create it. It is calculated as follows:

Economic profit = NOPLAT – Capital charge (NOPLAT equals earnings before interest and taxes (EBIT) adjusted for the impact of taxes)

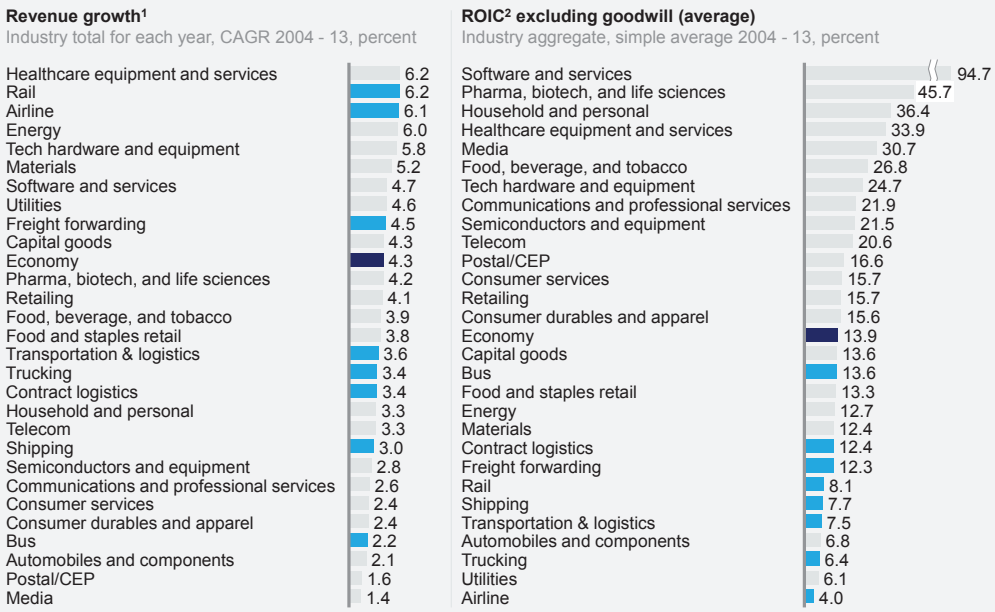
Capital charge = (Invested capital, excluding goodwill, at previous year-end * WACC)

WACC is assumed to be 9% (except for Japan, where it is 7% due to lower interest rates over the 10-year period 2004 to 2013)

Details on transportation and logistics sector ROIC, growth, and TRS

Exhibit 20

Revenue growth and ROIC by sector



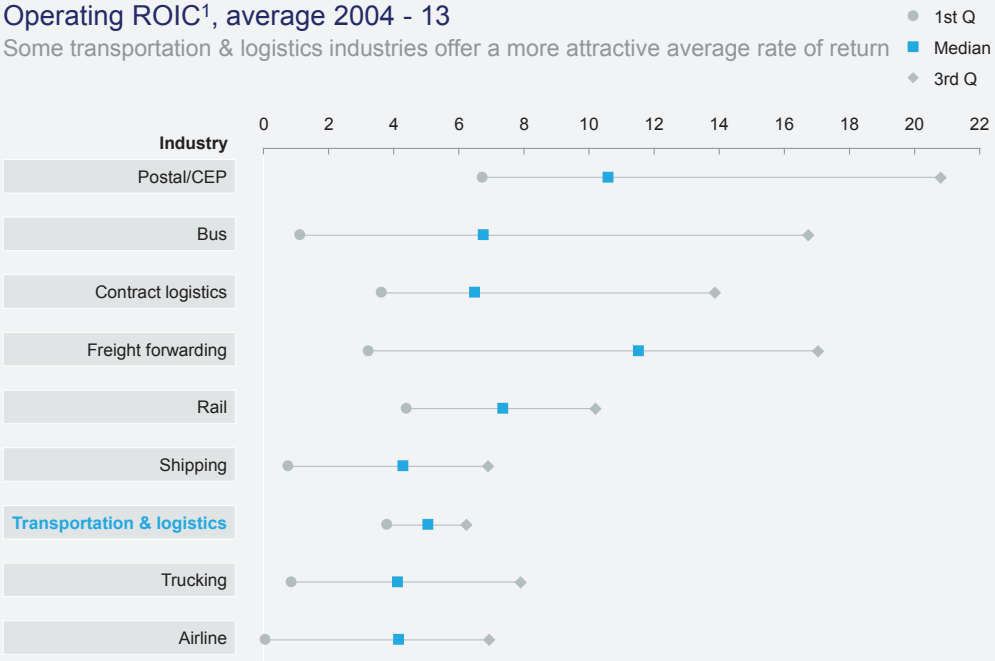
1 Real revenue growth, CAGR 2004 - 13, inflation adjusted, median for industry
2 ROIC after tax, excluding goodwill; excludes outliers

SOURCE: McKinsey Corporate Performance Analysis Tool (CPAT)

Exhibit 21

Operating ROIC[1], average 2004 - 13

Some transportation & logistics industries offer a more attractive average rate of return



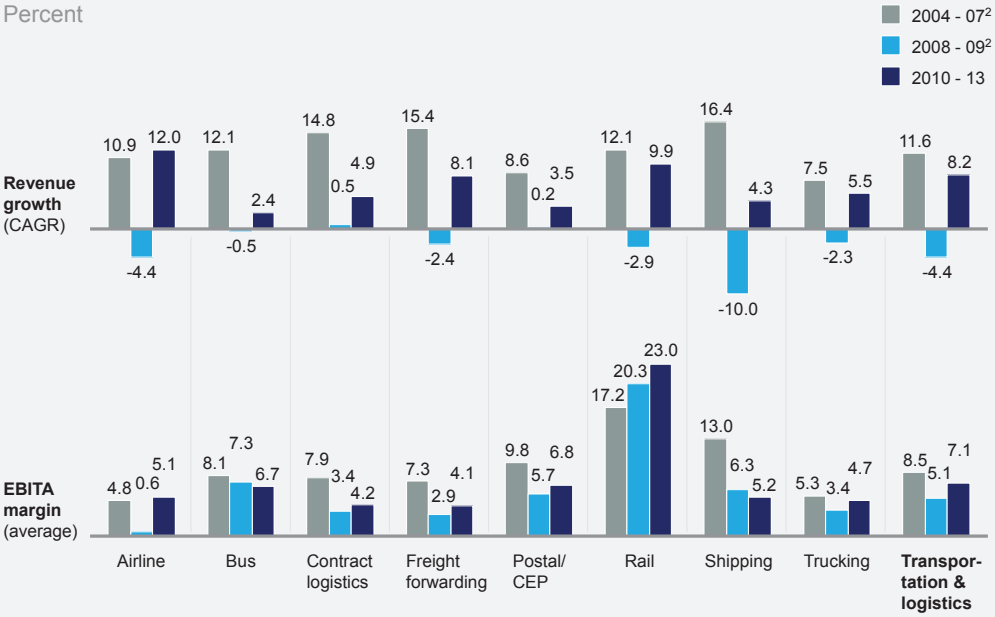
1 ROIC after tax, excluding goodwill; excludes outliers

SOURCE: Compustat; McKinsey Corporate Performance Center

Exhibit 22

Revenue growth (nominal) and EBIT margin by industry, 2004[1] - 2013

Percent



1 CAGR calculations only start as of YE 2004
2 Based on 239 sample companies only due to data availability

SOURCE: McKinsey Corporate Performance Center

Exhibit 23

Economic mobility rewarded by higher shareholder returns

TRS CAGR 2010 - 13, percent, n = 264[1]

1 Based on a sample of 264 transportation & logistics companies

SOURCE: McKinsey Strategy Practice; McKinsey Corporate Performance Center

Sample and methodology

All eight industries in scope are covered by a significant sample of companies – from 14 in the bus industry to 78 airlines, providing reliable and continuous reporting from 2004 to 2013.[11] As 35 companies in the sample have core businesses in two or three industries, the sum of sample companies within each industry is larger than the total number of individual companies (264). The list below gives an overview of the companies included. All data are from McKinsey's proprietary Corporate Performance Analysis Tool as of May 2015.

11 For 25 companies, a complete set of financial data is available only for years 2010 onwards. This has been taken into account accordingly for all analyses.

Data available between 2004 and 2013 (* no data 2004 to 2009)

Airlines

ABU DHABI AVIATION	United Arab Emirates	FLYBE GROUP PLC*	United Kingdom
AEGEAN AIRLINES	Greece	GARUDA INDONESIA	Indonesia
AER LINGUS GROUP PLC	Ireland	GOL LINHAS AEREAS INTELIGENT	Brazil
AEROFLOT-RUSSIAN INTL AIRL	Russia	GRUPO AEROMEXICO SAB DE CV*	Mexico
AIR ARABIA PJSC	United Arab Emirates	HAINAN AIRLINES CO LTD	China
AIRASIA BHD*	Malaysia	HAWAIIAN HOLDINGS INC	USA
AIRASIA X BERHAD*	Malaysia	ICELANDAIR GROUP HLDGS*	Iceland
AIR BERLIN PLC	Germany	INTL CONSOL AIRLINES GROUP	United Kingdom
AIR CANADA*	Canada	KENYA AIRWAYS	Kenya
AIR CHINA LTD	China	KNAFAIM HOLDINGS LTD*	Israel
AIR FRANCE – KLM	France	KOREAN AIR LINES CO LTD	South Korea
AIR MAURITIUS LTD	Mauritius	LATAM AIRLINES GROUP SA	Chile
AIR NEW ZEALAND LTD	New Zealand	MALAYSIAN AIRLINE SYSTEM BHD	Malaysia
AIR PARTNER PLC	United Kingdom	NORWEGIAN AIR SHUTTLE ASA	Norway
AIR TRANSPORT SERVICES GROUP	USA	JAPAN AIRLINES CO LTD	Japan
ALASKA AIR GROUP INC	USA	JET AIRWAYS INDIA	India
ALLEGIANT TRAVEL CO*	USA	JETBLUE AIRWAYS CORP	USA
AMERICAN AIRLINES GROUP INC	USA	PAKISTAN INTL AIRLINES CORP	Pakistan
ANA HOLDINGS INC	Japan	PAL HOLDINGS CORP	Philippines
ASIANA AIRLINES INC	South Korea	PEGASUS HAVA TASIMACILIGI*	Turkey
ASIA AVIATION PUBLIC CO LTD*	Thailand	QANTAS AIRWAYS LTD	Australia
ATLAS AIR WORLDWIDE HLDG INC	USA	REPUBLIC AIRWAYS HLDGS INC	USA
AVIANCA HOLDINGS SA*	Panama	RYANAIR HOLDINGS PLC	Ireland
CATHAY PACIFIC AIRWAYS LTD	Hong Kong	SAS AB	Sweden
CEBU AIR INC	Philippines	SHANDONG AIRLINES CO LTD	China
CHINA AIRLINES	Taiwan	SINGAPORE AIRLINES LTD	Singapore
CHINA EASTERN AIRLINES CORP	China	SKYMARK AIRLINES CO LTD	Japan
CHINA SOUTHERN AIRLINES	China	SKYWEST INC	USA
CHORUS AVIATION INC*	Canada	SOUTHWEST AIRLINES	USA
COMAIR LTD	South Africa	SPICEJET LTD	India
CONTROLADORA VUELA COMPANIA*	Mexico	SPIRIT AIRLINES INC*	USA
COPA HOLDINGS SA	Panama	THAI AIRWAYS INTERNATIONAL	Thailand
DART GROUP PLC	United Kingdom	TRANSAT A T INC	Canada
DELTA AIR LINES INC	USA	TRANSAERO AIRLINES	Russia
DEUTSCHE LUFTHANSA AG	Germany	TURK HAVA YOLLARI AO	Turkey
EL AL ISRAEL AIRLINES LTD	Israel	UNITED CONTINENTAL HLDGS INC	USA
EASYJET PLC	United Kingdom	VIRGIN AUSTRALIA HLDGS LTD	Australia
EVA AIRWAYS CORP	Taiwan	VUELING AIRLINES SA	Spain
FINNAIR OY	Finland	WESTJET AIRLINES LTD	Canada

Bus

BLS AG	Switzerland	KANAGAWA CHUO KOTSU CO LTD	Japan
COMFORTDELGRO CORP LTD	Singapore	NATIONAL EXPRESS GROUP PLC	United Kingdom
DAZHONG TRANSPORTATION GROUP	China	ROTALA PLC*	United Kingdom
FIRSTGROUP PLC	United Kingdom	SBS TRANSIT LTD	Singapore
GO-AHEAD GROUP PLC	United Kingdom	SHINKI BUS CO LTD	Japan
HOKKAIDO CHUO BUS CO LTD	Japan	STAGECOACH GROUP PLC	United Kingdom
JIANGXI CHANGYUN CO LTD	China	TRANSPORT INTL HLDGS LTD	Hong Kong

Data available between 2004 and 2013 (* no data 2004 to 2009)

Postal/CEP

AMERCO	USA	POSTNL NV	Netherlands
ARAMEX PJSC	United Arab Emirates	ROYAL MAIL HOLDINGS	United Kingdom
BPOST SA/NV	Belgium	SINGAPORE POST LTD	Singapore
CJ KOREA EXPRESS CORP	South Korea	SINOTRANS LTD	China
CTT CORREIOS DE PORTUGAL SA*	Portugal	TNT EXPRESS NV*	Netherlands
DEUTSCHE POST AG	Germany	UNITED PARCEL SERVICE INC	USA
FEDEX CORP	USA	UK MAIL GROUP PLC	United Kingdom
HANJIN TRANSPORTATION CO LTD	South Korea	TRANSFORCE INC	Canada
OESTERREICH POST AG*	Austria	YAMATO HOLDINGS CO	Japan

Contract logistics

AGILITY PUBLIC WAREHOUSE CO	Kuwait	LOGWIN AG	Luxembourg
AGUNSA AGENCIAS UNIVERSALES	Chile	MAINFREIGHT LTD	New Zealand
ALL AMERICA LATINA LOGISTICA	Brazil	MITSUBISHI LOGISTICS CORP	Japan
ALPS LOGISTICS CO LTD	Japan	NEPTUNE ORIENT LINES LTD	Singapore
C H ROBINSON WORLDWIDE INC	USA	NIPPON YUSEN KABUSHIKI KAISH	Japan
CON-WAY INC	USA	NORBERT DENTRESSANGLE	France
DEUTSCHE POST AG	Germany	PACER INTERNATIONAL INC	USA
ID LOGISTICS GROUP SA*	France	PANALPINA WELTTRANSPORT AG	Switzerland
HAMAKYOREX CO LTD	Japan	SANKYU INC	Japan
HANJIN TRANSPORTATION CO LTD	South Korea	SBS HOLDINGS INC	Japan
HORIZON LINES INC	USA	TOLL HOLDINGS LTD	Australia
JAPAN TRANSCITY CORP	Japan	TRANCOM CO LTD	Japan
KAMIGUMI CO LTD	Japan	WINCANTON PLC	United Kingdom
KERRY LOGISTICS NETWORK LTD*	Hong Kong	YASUDA LOGISTICS CORP	Japan
KUEHNE & NAGEL INTERNATIONAL	Switzerland	ZERO CO LTD	Japan

Freight forwarding

AGILITY PUBLIC WAREHOUSE CO	Kuwait	K&S CORP LTD	Australia
ALLCARGO LOGISTICS LTD	India	KUEHNE & NAGEL INTERNATIONAL	Switzerland
ALL AMERICA LATINA LOGISTICA	Brazil	LANDSTAR SYSTEM INC	USA
BOLLORE	France	LOGWIN AG	Luxembourg
CWT LTD	Singapore	MITSUBISHI LOGISTICS CORP	Japan
DE SAMMENSLUTTEDE VOGNMAEND	Denmark	NIPPON YUSEN KABUSHIKI KAISH	Japan
DEUTSCHE POST AG	Germany	ORIENT INTL ENTERPRISE LTD	China
DIMERCO EXPRESS CORP	Taiwan	PACER INTERNATIONAL INC	USA
EXPEDITORS INTL WASH INC	USA	PANALPINA WELTTRANSPORT AG	Switzerland
FORWARD AIR CORP	USA	SEINO HOLDINGS CO	Japan
GRUPO EMPRESAS NAVIERAS SA	Chile	SENKO CO LTD	Japan
HUB GROUP INC – CL A	USA	SHANGHAI QIANGSHENG HOLDING	China
HUNT (JB) TRANSPRT SVCS INC	USA	SINOTRANS AIR TRANSN DEV	China
HYUNDAI GLOVIS CO LTD	South Korea	SINOTRANS LTD	China
INTERBULK GROUP PLC	United Kingdom	TOLL HOLDINGS LTD	Australia
KERRY LOGISTICS NETWORK LTD*	Hong Kong	XPO LOGISTICS INC	USA
KAWASAKI KISEN KAISHA LTD	Japan	YRC WORLDWIDE INC	USA
KINTETSU WORLD EXPRESS INC	Japan	YUSEN LOGISTICS CO LTD	Japan

Rail

ALL AMERICA LATINA LOGISTICA	Brazil	DAQIN RAILWAY CO LTD	China
ARCBEST CORP	USA	FIRSTGROUP PLC	United Kingdom
ASCIANO LTD*	Australia	GENESEE & WYOMING INC -CL A	USA
AURIZON HOLDINGS LTD*	Australia	GLOBALTRANS INVESTMENT*	Cyprus
BLS AG	Switzerland	GO-AHEAD GROUP PLC	United Kingdom
CANADIAN NATIONAL RAILWAY CO	Canada	GUANGSHEN RAILWAY CO LTD	China
CANADIAN PACIFIC RAILWAY LTD	Canada	JSL SA*	Brazil
CHINA RAILWAY TIELONG	China	KANSAS CITY SOUTHERN	USA
CONTAINER CORP (INDIA)	India	MTR CORP LTD	Hong Kong
CSX CORP	USA	NATIONAL EXPRESS GROUP PLC	United Kingdom

Data available between 2004 and 2013 (* no data 2004 to 2009)

Rail

NORFOLK SOUTHERN CORP	USA	STAGECOACH GROUP PLC	United Kingdom
PKP CARGO SA*	Poland	TRANSCONTAINER OJSC*	Russia
SBS TRANSIT LTD	Singapore	UNION PACIFIC CORP	USA
SMRT CORP LTD	Singapore	VTG AG	Germany

Shipping

ALGOMA CENTRAL CORP	Canada	KIRBY CORP	USA
A.P. MOELLER - MAERSK	Denmark	KOREA LINE CORP	South Korea
CHINA COSCO HLDGS CO LTD	China	MISC BERHAD	Malaysia
CHINA SHIPPING CONTAINER	China	MITSUI OSK LINES LTD	Japan
CHINA SHIPPING DEVELOPMENT	China	NEPTUNE ORIENT LINES LTD	Singapore
CIA CHILENA DE NAVEGACION	Chile	NIPPON YUSEN KABUSHIKI KAISH	Japan
CIA SUDAMERICANA DE VAPORES	Chile	ODFJELL SE	Norway
CMB-CIE MARITIME BELGE NV/SA	Belgium	ORIENT OVERSEAS (INTL) LTD	Hong Kong
COSCO SHIPPING CO LTD	China	OVERSEAS SHIPHOLDING GROUP	USA
CSC NANJING OIL SHIPPING CO	China	PACIFIC BASIN SHIPPING LTD	Hong Kong
DAIICHI CHUO KISEN KAISHA	Japan	QATAR GAS TRANSPORT(NAKILAT)*	Qatar
DAMPSKIBSSELSKABET NORDEN AS	Denmark	QATAR NAT NAVIGAT	Qatar
DFDS AS	Denmark	REDERI AB TRANSATLANTIC	Sweden
EURONAV	Belgium	REGIONAL CONTAINER LINES PCL	Thailand
EVERGREEN MARINE CORP (TWN)	Taiwan	SANKYU INC	Japan
EXMAR SA	Belgium	SHIPPING CORP OF INDIA LTD	India
FRONTLINE LTD	Bermuda	STOLT NIELSEN LTD	United Kingdom
GRINDROD LTD	South Africa	THORESEN THAI AGENCIES PCL	Thailand
HANJIN SHIPPING HLDGS CO LTD	South Korea	TORM AS	Denmark
HORIZON LINES INC	USA	TSAKOS ENERGY NAVIGATION LTD	Greece
HYUNDAI MERCHANT MARINE CO	South Korea	WAN HAI LINES LTD	Taiwan
IINO KAIUN KAISHA LTD	Japan	WILH WILHELMSEN HOLDING ASA	Norway
IRISH CONTINENTAL GROUP PLC	Ireland	YML-YANG MING LINE	Taiwan
KAWASAKI KINKAI KISEN KAISHA	Japan	ZERO CO LTD	Japan
KAWASAKI KISEN KAISHA LTD	Japan		

Trucking

CELADON GROUP INC	USA	OKAYAMAKEN FREIGHT TRANSN CO	Japan
CONTRANS GROUP INC	Canada	OLD DOMINION FREIGHT	USA
CON-WAY INC	USA	P.A.M. TRANSPORTATION SVCS	USA
COVENANT TRANSPORTATION GRP	USA	QUALITY DISTRIBUTION INC	USA
DE SAMMENSLUTTEDE VOGNMAEND	Denmark	ROADRUNNER TRANS SVCS HLDGS*	USA
FUKUYAMA TRANSPORTING CO LTD	Japan	RYDER SYSTEM INC	USA
HAMAKYOREX CO LTD	Japan	SAIA INC	USA
HANSOL LOGISTICS CO LTD	South Korea	SAKAI MOVING SERVICE CO LTD	Japan
HEARTLAND EXPRESS INC	USA	SEINO HOLDINGS CO	Japan
HITACHI TRANSPORT SYSTEM LTD	Japan	SENKO CO LTD	Japan
HUNT (JB) TRANSPRT SVCS INC	USA	SIXT SE	Germany
HUTECH NORIN CO LTD	Japan	S LINE GIFU CO LTD	Japan
ID LOGISTICS GROUP SA*	France	STEF	France
JAPAN LOGISTIC SYSTEMS CORP	Japan	SWIFT TRANSPORTATION CO*	USA
KANDA HLDGS CO LTD	Japan	TEGMA GESTAO LOGISTICA SA	Brazil
KEIHIN CO LTD	Japan	TOLL HOLDINGS LTD	Australia
KNIGHT TRANSPORTATION INC	USA	TONAMI HLDGS CO LTD	Japan
KRS CORP	Japan	TRANSFORCE INC	Canada
MARTEN TRANSPORT LTD	USA	UNIVERSAL TRUCKLOAD SERVICES	USA
MARUZEN SHOWA UNYU CO LTD	Japan	USA TRUCK INC	USA
MARUWN CORP	Japan	UTOC CORP	Japan
MEITO TRANSPORTATION CO LTD	Japan	WERNER ENTERPRISES INC	USA
MITSUBISHI LOGISTICS CORP	Japan	XPO LOGISTICS INC	USA
NIPPON EXPRESS CO LTD	Japan	YOOSUNG T&S CO LTD	South Korea
NIPPON KONPO UNYU SOKO CO	Japan	YRC WORLDWIDE INC	USA
NORBERT DENTRESSANGLE	France		

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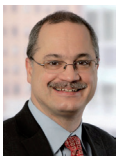

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