

**Global Transportation & Logistics Equity Research**

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On March 28, 2014, we had the pleasure of hosting a conference call featuring Brian Clancy, a long-time observer of the airfreight and aviation industry, to discuss how the air cargo landscape has changed over the years and what likely lies ahead for forwarders and carriers. Mr. Clancy is co-founder and Managing Director of Logistics Capital & Strategy, LLC (LogCapStrat) with 25 years of experience in the airfreight sector, including more than two decades of providing financial and strategic consulting services to all types of transportation and logistics companies worldwide. The following is a recap of our key takeaways and an edited transcription that call. Stifel expresses no opinion on, and is not responsible for, the views expressed in this transcript by participants who are not employees of Stifel.

- **In the 1980s and 1990s, a confluence of factors propelled air cargo growth to levels since unseen and not expected to return.** Air cargo deregulation (1977), an under-developed container shipping market, and relatively high interest rates drove growth through the 1980s, while the high-tech boom, elongating supply chains (i.e., outsourcing to Asia), and relatively cheap jet fuel prices drove growth in the 1990s. Additionally in the '90s, volumes were relatively stable, with imports and exports remaining in balance.
- **In the 2000s, the market began to see greater volatility of demand, partially due to increased industry cyclicality and episodic product launches.** In addition, a divergence in import and export volumes stymied growth, while declining average length of haul, increasing shipment density, and optimization of product design and supply chains reduced capacity demands. Finally, a low interest rate environment cut carrying costs and helped to facilitate modal substitution.
- **Airfreight forwarders control ~95% of global airfreight, and the top-20 (out of thousands) handle ~68% of global tonnage.** Share held by the top-20 has increased over that last 10 years, according to LogCapStrat, as they have a greater ability to create networks around the demand patterns of shippers.
- **Historically, the high-tech industry has been a big consumer of airfreight—approximately 50% of revenue over the last 20 years (particularly head-haul out of Asia into the EU and U.S.).** But today, maturation of that industry, miniaturization of componentry, the slowing pace of Moore's Law (which is a big driver of product obsolescence and thus the need for rapid transit), and the growing prevalence of cloud computing have reduced airfreight demand.
- **Consumer demand and corporate IT in North America and Europe are still the primary drivers of international air freight.** Interestingly, a significant amount of the sizable intra-Asia market is also driven by this EU/ U.S. demand. While there has been significant growth around emerging markets (particularly in perishables), typical North-South trades (e.g. Africa-Europe) are still small on a relative tonnage basis.
- **Volatility in airfreight is expected to continue, which is good news for forwarders, as it means that emergency demand (inventory fulfillment) should still be there.**
- **LogCapStrat international air express market share estimates show DHL essentially owns the emerging markets of Africa and the Middle East while also having a strong footprint in intra-Asia.** FedEx still is the leader in global express volume with #1 export market share in the U.S., Asia, and Latin America.

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- **The aircraft outsourcing business, otherwise known as ACMI (aircraft, crew, maintenance, and insurance), has come under intense pressure lately due to decreased military usage in addition to an increase in belly space available from growing passenger airlines.** ACMI is basically a dedicated operation (think dedicated vs. one-way truckload in the U.S.), so when there is plenty of capacity available, demand declines.
- **Near-term outlook:** As for current international airfreight demand trends, Mr. Clancy said we are, "building a base in the U.S., and there are glimmers of hope in the EU market." This is because Europe still has a sizable export base out of Germany that ships everywhere around the world that has a different demand-generating ability, not necessarily linked to the European consumer. And the corporate IT upgrade cycle in U.S. has been postponed long enough. March has turned out to be a relatively good month for most.
- **Investment implications:** If Mr. Clancy is correct in that a bottom is forming in the international airfreight arena, we could see an opportunity for outperformance over the next couple of years from someone like Expeditors (EXPD; \$39.42; Hold) after years of underperformance. Although, we believe increased competition, slow demand growth, and its leadership transition are likely to weigh on the stock near-term. Our lone Buy recommendation in the airfreight/express space presently is turnaround story UTi Worldwide (UTIW; \$10.87; Buy), but that is mainly under the assumption the new IT rollout is successful within the next six months and the company is then likely to be sold in the next 12-24 months. On the integrator side, FedEx (FDX; \$132.98; Hold) and DHL (DPW-XE; €27.37; Hold) appear best positioned for an upswing in the global air cargo and/or express markets, but we believe the shares of each are fairly valued at present and would prefer to wait for a better entry point, all else being equal.

*\*Prices are as of 4/7/2014 market close*

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### Dave Ross

Welcome everybody to the next in our series of conference calls. I am very excited about our speaker today, Brian Clancy. He is a good friend who I have known for a number of years. He is also, in our view, the go-to guy on the airfreight and air cargo industries. Brian will be sharing his thoughts with us on the air cargo market and some of the structural transitions going on there. We feel that his insights are valuable ones, given his 25 years of experience in strategy consulting and financial advisory, specifically within the transport and logistics arena.

To give you some background, Brian started his career in 1989 as an analyst at Airline Economics in DC. In 1993, he co-founded Merge Global, which had a strong track record spanning 20 years. That company has since been rebranded to Logistics Capital & Strategy, where Brian currently serves as a Partner and Managing Director. The firm is based in Arlington, Virginia and has another office in Chicago. They have a variety of clients all across the transportation and logistics arena and work extensively on growth strategies, strategic procurement, financial advisory, and even turnaround operations. Brian is going to share his thoughts with us today, which I think will be very illuminating, and then we will open up the floor for questions.

### Brian Clancy

Thanks Dave, I'm happy to be here. As for the structure of my presentation, I want to begin by giving you a historical perspective. I think history is always valuable for understanding where we are today, and more importantly, it is helpful for understanding what could happen tomorrow. I would like to spend some time framing the last 20 years of growth and putting it in historical context. Then I will talk about the air freight market—mainly shipments above 100 kilos—has traditionally included the freight forwarders.

Next, I will share some views on the air express market. I will also talk about the supply curve, and specifically, the ACMI industry and the charter market. There has been a lot of the turmoil in that industry segment recently. Finally, I will try to synthesize everything and give you some perspective on what all of this means for the different competitive segments in terms of issues they will face over the next 5 years.

As you can see in **Exhibit 1**, the economic characteristics of freight transportation are generally unique relative to a manufacturing company or industrial distribution company. On top of that, air cargo has a few characteristics that are unique even to freight transportation. For example, time and space are very important dimensions of supply and demand. We have the classic problem of one-way demand and two-way supply. The whole issue of managing directional imbalances is a big one in air cargo. The perishability of capacity is another—once the flight departs, that's it. Perishability has huge implications on revenue management strategy and pricing, especially with everything coming together at the last minute. One of the fundamental character-

#### **Exhibit 1: Economic characteristics of air cargo (freight transportation) are unique relative to other industries**

<b>UNIQUE CHARACTERISTICS OF AIR CARGO INDUSTRY</b>
▪ Time and space are key dimensions of supply and demand
▪ One-way demand
▪ Perishability of capacity
▪ Network complexities <ul style="list-style-type: none"><li>▪ Demand and price are O&amp;D-based</li><li>▪ Supply and cost are leg-based</li><li>▪ Allocation of revenue and cost is the root cause of evil in pricing and profitability</li><li>▪ 50% of industry supply curve is a by-product of another industry</li></ul>
▪ Scale economies <ul style="list-style-type: none"><li>▪ Network scope</li><li>▪ Density</li></ul>

Source: Logistics Capital & Strategy

istics of the business that freight forwarders have historically have been experts at exploiting is the idea that planes depart at certain times—the risk of the unused pallet positions for the carriers allow forwarders to shop around for last minute prices.

Then there are the network complexities. In this business, you have a kind of asymmetry where demand and price are origin-based and destination-based, because that is what shippers want. They want to move something from point A to point B. Yet your production system—the supply system—is on a leg-by-leg basis. And so you have this strange mismatch between demand and supply because you cannot really isolate unique origin and destination (O&D) supply. Often times, it becomes problematic when airlines are trying to figure out what part of their network is profitable from a cargo prospective and what parts are not. The good news historically has been that the asymmetry creates vast differences or variations in prices and what people perceive their cost to be. And that is another historical source of exploitation for forwarders to get good prices from airlines.

Here is another factor that is very unique to air cargo, and you really do not see this in other industries: half of the industry's supply curve—in terms of capacity—is a by-product of another industry. That is, belly capacity is a by-product of the passenger air travel industry, and as a percent of total capacity offered in our continental markets, belly capacity is going to go up. So, this whole cost subsidy effect that you have seen in the industry has always been there, but it is increasing. To the degree that it is a substitute product, an increasing supply of subsidized alternative belly capacity can make operating freighter aircraft very challenging. I will refer back to this phenomenon later in the presentation. Other things have to be considered when thinking about the network—everything from network scope, all the origins and destinations, the various service types offered, and then the production system that is used to create network scope. The concept of network density is very important, and I will talk about it more later on in the presentation.

Going to **Exhibit 2**, we show what behind the rapid growth in the 80s and 90s. It is the old classic 6.5%—the 20 year growth rate for air and cargo, if you go back to the very first version of the Boeing air cargo forecast that David Pierce put together in 1990, was 6.5%. Now, it is still the same number. I think I was lucky enough when I started my career in 1989. I showed up to a party that was just in the first or second inning and as I think about the historical trends that were in play back in the 1980s, I think we all have to thank Fred Smith in being very aggressive in 1977 and getting air cargo deregulation passed. That actually happened a year before air passenger deregulation, and really allowed FedEx to go from the

Falcons of the time to its first large aircraft, which I think were the 727s. But that move also created an avalanche of growth within the integrated carrier industry. And then we saw progressive air cargo deregulation among international route authorities in the late 1980s and throughout the 1990s. There was a huge opening-up of markets and capacity was flooded into the system creating all kinds of new options for people.

Also in the 1980s, you had a relatively under-developed container shipping network, so there was a huge variation in transit time. Prices were still relatively high in container shipping, particularly in-and-out-of the United States,

**Exhibit 2:** A confluence of several trends enabled strong air cargo growth in the 1980s and 1990s

**KEY TRENDS ENABLING AIR CARGO GROWTH**

1980s	1990s
<ul style="list-style-type: none"><li>▪ Air cargo deregulation (1977)</li><li>▪ Under-developed container shipping network</li><li>▪ Relatively high interest rates</li></ul>	<ul style="list-style-type: none"><li>▪ Technology industry growth</li><li>▪ Pivot to Asia manufacturing</li><li>▪ Relatively cheap jet fuel prices – converted freighters</li></ul>

Source: Logistics Capital & Strategy

because of the regulative regime and the tariff setting mechanism. Interest rates were relatively high, so people paid a lot more attention to inventory costs, or the capital cost of having inventory, back then than they do now. The interest rate environment and the opportunity cost of capital has changed considerably. So, you had a good set up. Regulations were falling away, that modal substitution risk really wasn't there as much as it is today, and there was a sense of urgency, because you had to really make sure that you were efficiently deploying your capital.

And then in the 1990s, on top of the 1980s growth trends being in play, the technology industry went through a massive explosion, as we all know. And of course in the late '90s, we had the dot-com revolution and we had all the telecommunications infra-structure that had to get built and deployed. The PC revolution was well underway, and servers were being shipped in droves. Now, back then the computing power, if you were to look at the ratio of computing power to the volumetric foot print of the device that was required to achieve the computing power, it was very low. That meant you had a lot of volumetric cargo. All this stuff was perfect freighter cargo because the technology was sort of clunky. The form factor for all the servers and computers was big—even the laptops back then were bulky. Volume was large, and the underlying density of the products was low.

In the 90s, you also had huge demand growth. There were a lot of secular trends in play driving that growth, and the cargo being hauled was pretty volumetric, so it consumed a lot of air craft space. And then on top of all that, there was a pivot to Asian manufacturing. While the Korean, Taiwanese, and Japanese high tech and electronics industries were doing a lot in the 1980s, they really gained steam in the 1990s. Then, you had demand and length of haul changing at the same time, with generally high ratios of volumetric cargo. These three things—unit demand rising, length of haul increasing, and volumetric capacity rising and density falling—combined to produce huge demand for freighter aircraft. And then of course, we had a nice, cheap jet fuel in the 1990s, which is where oil reached its lowest point—I think it was 1999. I remember the front page of the Economist saying that oil was \$11 or \$12 per barrel. You could go out and get a used 747-200, convert the aircraft, and then fly it and not really be too concerned that you are guzzling 38,000 gallons per block relative to some of the more efficient air craft. We all thought at the time that it would remain that way. Of course, things have changed, but there were a lot of very good factors that gave us a great tailwind for growth in that era.

If you look at **Exhibit 3**, the high tech industry has been and will continue to be a very important part of the global air cargo market. Back in the 1990s, as much as 50% of international air freight revenue—in particular, your head haul market coming out of Asia on the trans-Pac as well as into Europe—came from the high tech industry. So, if the high tech industry goes through a lot of change—structural change—the effects will clearly ripple into the airfreight industry. Historically, the high tech shippers were the biggest segment of planned-user of airfreight. When you think about why you use air freight, given that it is so expensive relative to surface transportation, it is typically going to be for strategic reasons. Obviously, the high tech sector historically used airfreight to manage inventory obsolescence risk, or to allay some kind of emergency. For example, if you were not able to forecast the need for a spare part at a certain location, the speed of airfreight would be an important factor in recovering a valuable economic process.

**Exhibit 3:** Historically, the high tech industry has been a major consumer of air freight—50% of revenue in the last 20 years

**HIGH TECH SPECIFIC AIR CARGO DEMAND DRIVERS: 1990s**

- High availability and low cost of transportation relative to inventory carrying costs
- High tech products had high inventory carrying costs
  - **Component devaluation costs** fall 40% over nine months driven by Moore's law
  - **Price protection costs** – risk of selling inventory into the channel at a higher price level and then discounting which creates rebate exposure
  - **Product obsolescence costs** – end market price depreciation at 1% per week

Source: Logistics Capital & Strategy

Back in the 1990s you had relatively cheap transportation, as I've mentioned, but the inventory carrying cost of high tech products was high. You had unbelievably volatile changes in component values, which could fall as much as 40% in 9 months. Having inventory sit around was not an option; interest rates were still relatively high compared to where they are today. The way that the high tech manufacturers would sell product into the channel was to have price protection guarantees, and they did not want to have a bunch of inventory coming back at them. So you always had this strategic push at the end of the quarter to make sure that they could manage that type of risk. And then there was the classic product obsolescence risk. The final selling prices were declining at a rate of 1% per week. Together, you can see how all of these factors would have a huge influence on the decision to use airfreight. The complication is that now, a lot of these factors have changed, unfortunately. The urgency has gone away in a lot of different segments because high tech is such a huge part of the total demand curve for airfreight. It clearly has a ripple effect and will have long term impact.

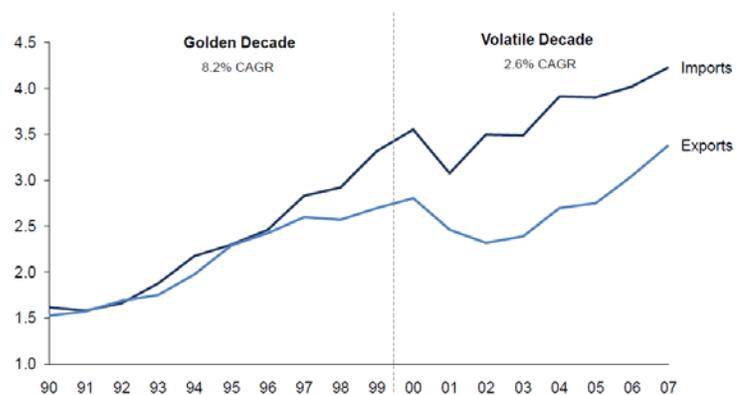
Just for some historical reference, look at the old golden decade as shown in **Exhibit 4**. There we had great growth 1990-2000. What is shown here is the U.S. international air cargo market, which I think is a good proxy. One of the good things about the U.S. market is the data that is in the public domain is a lot more granular. You can extrapolate a lot of the patterns, whether it be in the trans-Atlantic or the trans-Pacific, to what might happen in Asia and Europe. And so we have a tendency to study the U.S. market perspective. But you can see what happened, post dot-com crash in 2000—we had a very volatile decade. Not only did you have a collapse in exports, but you also had a downturn in '01. We had a nice period of growth in the '04, '05, and '06 timeframe, with 2007 being the peak.

And then if you look at **Exhibit 5**, not only did you have nice growth in the 1990s, you had more volatile growth in 2000 to 2010. The biggest issue is the volatility in absolute terms got really big. Obviously, as the markets grew and volatility was compounded, you wind up with these massive changes in tonnage. That sort of situation wreaks havoc if you are in the business of trying to keep freighters busy. We saw a lot of that when volumes fell off in 2009 and then came rushing back in 2010. But then we hit this weird pattern of sideways growth that has characterized 2011, 2012, and 2013. I think we are finally getting a base built up in the U.S. market, and I can see some glimmers of hope in the European market. Were we can start to see a new formation of a foundation for growth.

**Exhibit 4:** The international air cargo industry grew significantly in the 1990s

**US INTERNATIONAL AIR CARGO MARKET: 1990-2007**

Thousands of tonnes

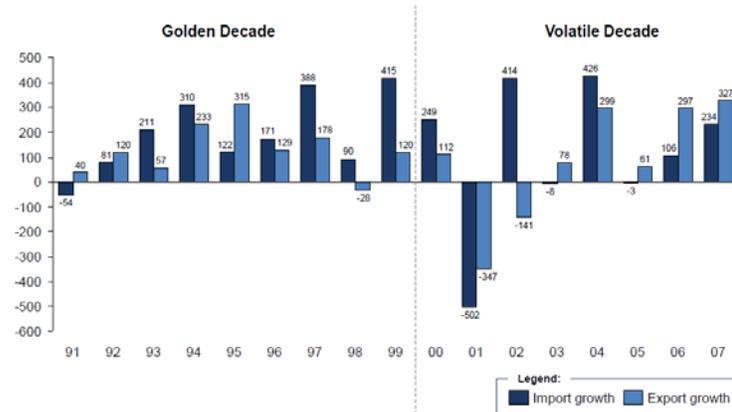


Source: Logistics Capital & Strategy FreightFlow Database

**Exhibit 5:** In the 2000s, the international air cargo market witnessed significant volatility relative to the 1990s

**US INTERNATIONAL AIR CARGO MARKET: 1990-2007**

Thousands of incremental tonnes



Source: Logistics Capital & Strategy FreightFlow Database

**Exhibit 6:** Air penetration rates for most of the top 25 import segments peaked in the 1990s

**U.S. AIR IMPORT MARKET BY PRODUCT SEGMENT**

Rank	Product Segment	Air Weight	Cumulative Share %	Air Weight Penetration Rate %	Peak Year Air Penetration	Peak Penetration Rate%
1	Cotton Apparel	231,035	5.7%	5.4%	1990	17.8%
2	Industrial Machines	227,926	11.4%	11.8%	1997	13.6%
3	Computer Accessories	217,003	16.8%	14.6%	1997	18.6%
4	Cut Flowers	181,938	21.3%	69.1%	1991	77.7%
5	Fresh Fish	178,041	25.8%	7.7%	2001	12.5%
6	Computers	177,182	30.2%	46.9%	1998	57.6%
7	Electric Apparatus	173,564	34.5%	12.8%	1997	20.1%
8	Other Automotive Parts	163,581	38.6%	3.5%	1999	6.1%
9	Telecom Equipment	156,173	42.4%	31.8%	2007	44.1%
10	Other Apparel & Textiles	153,279	46.3%	5.8%	1991	20.2%
11	Cell Phones & PDAs	152,612	50.1%	4.4%	2010	4.4%
12	Vegetables	120,265	53.0%	5.5%	1998	10.0%
13	Industrial Supplies	102,880	55.6%	2.8%	1990	4.9%
14	Medicinal Equipment	96,220	58.0%	12.2%	1990	28.6%
15	Pharmaceuticals	83,926	60.1%	25.3%	2003	29.2%
16	Industrial Engines	76,797	62.0%	7.9%	2004	11.0%
17	Re-Imports	69,003	63.7%	13.6%	1999	14.9%
18	Toys, Games, and Sporting Goods	66,124	65.4%	1.6%	1997	3.7%
19	Footwear	62,243	66.9%	4.2%	1990	10.1%
20	Measuring, Testing, Control Instruments	58,876	68.4%	26.8%	2000	34.1%
21	Generators, Accessories	56,302	69.8%	5.2%	1997	9.9%
22	Semiconductors	52,472	71.1%	30.8%	1997	91.2%
23	Fresh Fruits	44,529	72.2%	0.4%	1996	0.5%
24	TVs & VCRs	44,051	73.3%	7.1%	2000	9.5%
25	Engines and Engine Parts	43,178	74.4%	4.5%	1997	5.8%

Source: Logistics Capital & Strategy FreightFlow Database

Looking at **Exhibit 6**, we see the total U.S. air import market. I've cut it from two different perspectives. The first perspective looks at the peak air penetration rate for these different commodity sectors—in other words, what year more stuff might have flown by air relative to moving by sea freight. Moving down the list here, at the top in terms of absolute tonnage is apparel products. It makes sense, if you think about what was going on in 1990. Companies like The Limited, and Mast Logistics, their sourcing subsidiary, were big users of airfreight out of Hong Kong. They had a strategic air lift program using Flying Tigers. At the time, they were doing a really good job managing demand forecast by using airfreight.

But things have changed since then. Within the last 15 years, you had fiber agreement changing, the whole quota system broke down, and trade regulation really started to shift the whole apparel supply chain. With other verticals as well—you could see computer accessories, the housings for desktop computers and peripherals—all that peaked in 1997 and has been declining ever since. Cut flowers back in the early 1990s, when you looked at the Columbian and Ecuadorian flower markets and the relatively cheap capacity, was a huge part of the Miami market. It will still be an important part of the Miami market, but the story changed a long time ago. Fresh fish, looking at this data, peaked in 2001. Computers, meaning the final, assembled server, laptop, or desktop peaked in 1998. You can go down the list and get a general idea of what happened here. But these trends in air cargo, in terms of its share of a whole range of different products, have been going on for a long time. None of this is new; it is not something that has happened in the last two years. The whole dynamic has been in play for 20 years, but is now just finally catching up with us.

**Exhibit 7:** Similarly, several of the top 25 import segments reached peak volumes well before the 2008

### US AIR IMPORT MARKET BY PRODUCT SEGMENT

Rank	Product Segment	Current Air Weight	Cumulative Share %	Peak Year	Peak Year Volume	% of Peak Year Volume
1	Cotton Apparel	231,035	5.7%	2006	326,833	71%
2	Industrial Machines	227,926	11.4%	2010	227,926	100%
3	Computer Accessories	217,003	16.8%	1999	293,888	74%
4	Cut Flowers	181,938	21.3%	1997	194,128	94%
5	Fresh Fish	178,041	25.8%	2003	227,703	78%
6	Computers	177,182	30.2%	2010	177,182	100%
7	Electric Apparatus	173,564	34.5%	2010	173,564	100%
8	Other Automotive Parts	163,581	38.6%	2010	163,581	100%
9	Telecom Equipment	156,173	42.4%	2007	302,993	52%
10	Other Apparel & Textiles	153,279	46.3%	2004	201,439	76%
11	Cell Phones & PDAs	152,612	50.1%	2010	152,612	100%
12	Vegetables	120,265	53.0%	2003	122,384	98%
13	Industrial Supplies	102,880	55.6%	2007	112,193	92%
14	Medicinal Equipment	96,220	58.0%	2007	104,326	92%
15	Pharmaceuticals	83,926	60.1%	2010	83,926	100%
16	Industrial Engines	76,797	62.0%	2004	77,765	99%
17	Re-Imports	69,003	63.7%	2007	72,909	95%
18	Toys, Games, and Sporting Goods	66,124	65.4%	1999	95,389	69%
19	Footwear	62,243	66.9%	2000	85,120	73%
20	Measuring, Testing, Control Instruments	58,876	68.4%	2010	58,876	100%
21	Generators, Accessories	56,302	69.8%	2010	56,302	100%
22	Semiconductors	52,472	71.1%	2000	71,521	73%
23	Fresh Fruits	44,529	72.2%	2005	44,529	100%
24	TVs & VCRs	44,051	73.3%	2005	72,236	61%
25	Engines and Engine Parts	43,178	74.4%	2004	45,547	95%

Source: Logistics Capital & Strategy FreightFlow Database

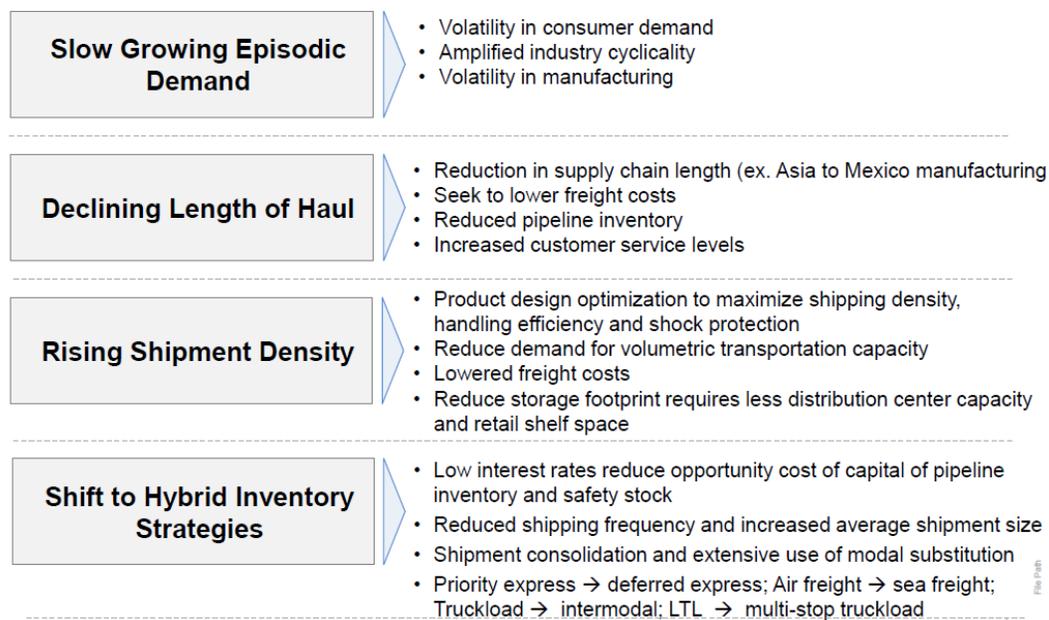
If you look to **Exhibit 7**, you can see that there has been a similar pattern from a peak volume perspective as opposed to air penetration rate. Here, you are looking at the peak year volume relative to current airfreight weight, and again, you should begin to see very similar patterns. Now that we looked at the history of the growth over the past several decades, and the reasons why that growth may have occurred, what is going to happen going forward? From here, I'm going to transition my comments into the airfreight portion of this discussion.

If you go to **Exhibit 8**, we begin to look at the four trends that I think really matter. Obviously, there are tons of trends, and I had to pick four that I thought made sense and that reinforce each other. I think the first one is the concept of slow-growth and episodic demand. We are seeing that now. One of the things of which it is important to remind ourselves is that the North American and European economies, no matter how you cut them, are so big in terms of economic activity, population base, and their ability to spend, that they have a huge influence on the supply/demand equilibrium in the global air cargo market, as well as the long term profit pool that will be available.

A lot of the demographic factors that we see here in the U.S. as well as in Europe, and the underlying issue of wage growth is very important to keep an eye on, because unless you get a rebound in demand in North America and Europe, you are not going to see any real movement. And that is because of the scale of these markets in terms of the sheer volume and profit dollars available. The emerging markets simply cannot make up the difference. More importantly, a lot of these emerging markets are still dependent on end-user demand in the develop markets. If you start to decompose the supply chain and understand why different factories are located where they are, there still is a connectivity factor that you cannot avoid.

**Exhibit 8:** The air cargo industry will continue to face challenges from macro economic trends and resulting network adjustments

**FACTORS IMPACTING AIR CARGO DEMAND: 2014-2018**



Source: Logistics Capital & Strategy, Penn State Supply Chain Trends Assessment

Our view is you will continue to have relatively slow growing demand. There will be episodic spikes here and there, but interestingly, one of the other dynamics that we have seen undergo significant change is with peak season. What's going on with that? Whether it be ocean freight peak season or even worse, airfreight peak season, the whole situation has changed considerably, affecting how shippers purchase capacity from freight forwarders now, and affecting the way forwarders think about purchasing capacity from airlines. What kind of hedging mechanism do they put in place now?

There have been a lot of interesting changes with peak season in terms of how consumers buy things and when they buy things. Whatever those changes have been, I think what they are going to do is create more volatility. And you would think that continued volatility should be good news. I would think it is good news, as volatility tends to equal unpredictability more often than not, and unpredictability is generally a good thing for airfreight. The reality, I think, has been that it is somewhat bifurcated in that air freight, historically, has been plan-use. Plan-use is something that has the ability to switch modes because in that regard, you have forward visibility on your requirements, and therefore, you have time to plan. On the flip side, it is the emergency demand that I think will benefit from volatility. That emergency demand should be a benefit to the express carriers, who are well positioned to take advantage of it.

Furthermore, we have the concept of declining length of haul. There has been the whole shift out of Asia or China into Mexico, and then the shift out of China into Poland, the Czech Republic, and Turkey—into what would be Europe's version of the maquiladora. That shift has probably been more applicable to lower value products that are bulky and large—stuff that is better suited for surface transportation. But there is some evidence that some airfreight products also are experiencing a change in terms of where they are assembled, and therefore, where the actual origin point for the final destination market might be, whether it is the United States or the EU.

So, on a weighted-average basis, I think it is true that there is a reduction in supply chain length. But the problem is that you really have to get into each specific supply chain to evaluate what the relative change will be. I think in the high tech industry, if you go upstream and look at where all the DRAM is made, you look at the different semiconductor manufacturing plants and their footprints, you look at the integrated circuit guys, and then you look at the disk drive guys, a lot of that plant capacity is still in Asia. It is still in the triangle between Japan, Korea, and Taiwan. When they make their stuff and add more value to the components, they ultimately get put into China for assembly. I don't think you are going to see a lot of that manufacturing network find its way into Mexico or other places. But what you will find is that stuff that might be made in Asia and flown into the United States might increasingly stop in Guatemala in component form to get snapped together at the last minute. It will mainly be an ocean freight movement into Guatemala, where the products will see final assembly and then go into North America via expedited truck or airfreight if necessary. In this case, you have optimized the long haul portion of the move by using a cheaper mode but you are still responsive to your customer base in North America. People are reevaluating their networks because they want to lower their freight costs, but at the same time, reducing the length of the supply chain can lead to a direct reduction in the size of the pipeline inventory. Of course, they still have to make sure that they are responsive to the customer, especially in a softer-demand environment, where people are fighting for business, and having inventory positioned as close as (economically) possible to the customer is one way to achieve that goal.

Moving on to the third trend listed in **Exhibit 8**, we are also see a rise shipment density. In the high tech industry, cargo used to be very volumetric back in the 1990s. Unfortunately, the industry has gotten very efficient with their design—unfortunate from an air cargo prospective, that is. The form factors are now so low profile that there is a densification of the product and shipment—it might be a cell phone, laptop, or tablet. The ability of tech shippers to squeeze so much functionality into a finite space is really causing cargo density to go up pretty high. So, the physical density—meaning how many kilos per cubic meter—is really going up. We are talking about 210 or 225 kilos per cubic meter. Back in 1995, a pallet of product might have had density of only 150 kilos per cubic meter. So, we are talking about huge swings in density, which then starts to change the amount of demand available for carriers. Remember the demand metric is essentially equal to distance multiplied by units multiplied by density.

Historically, 80% of what you were moving at the time was volumetrically constrained. But now, and In the high tech industry specifically, there has been a focus on engineering of the product, change of form factor, and consolidation of functionality. You used to have to buy four different devices. Your modem was a separate piece of equipment, your monitor was another piece of equipment, etc. Now we have laptops that have everything all jammed into them and that are super-low-profile. That whole consolidation of functionality effect then, is reducing the amount of high tech volumetric cargo demand that is available for the industry. The rest of the verticals are seeing similar trends—apparel especially, as those shippers have become really smart about how to do flat packs out of Asia, for example. They are able to jam as much into an aircraft pallet as possible in order to optimize density. Hong Kong has to be the best in the world in terms of pallet building. And I think the guys from Shanghai might argue with that, but it is amazing how they are able to optimize every last cubic centimeter.

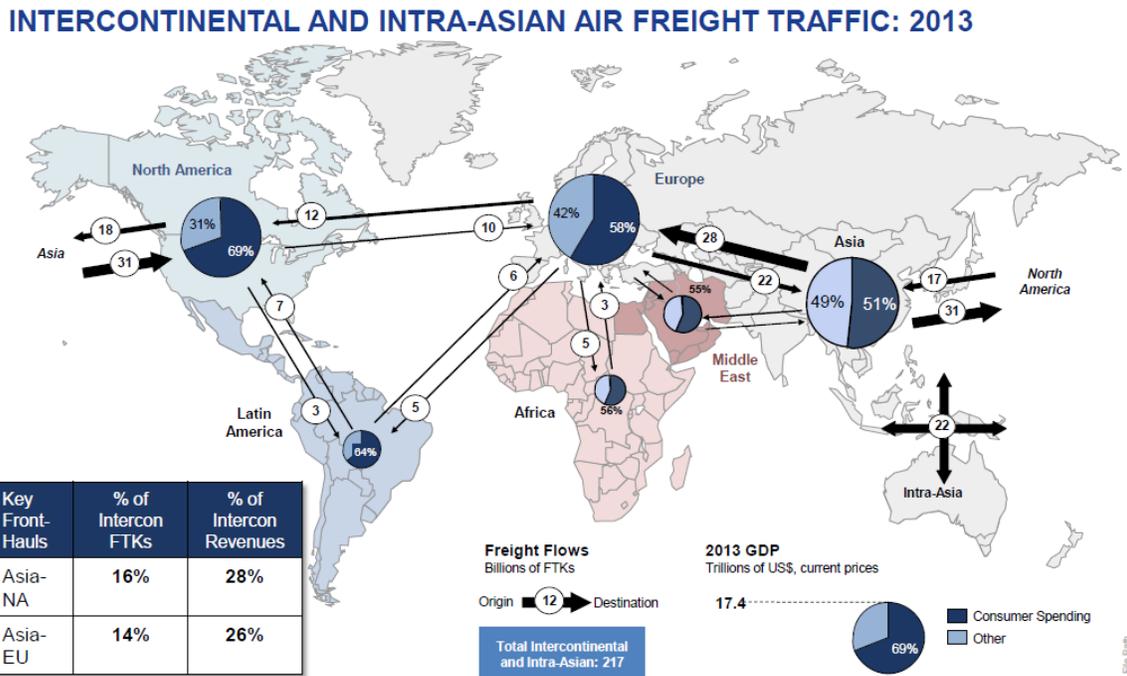
What's also happening—and this is true of the trucking industry, although maybe its origin was in the CPG industry—is that everyone is looking at the packaging of the product and thinking about how to take stuff out. It is mainly to save money, since no one really wants to carry around a bunch of air and empty packaging space. No body wants to ship a bunch of extra packaging material, because it is expensive to do so. It would be nice to note have so much waste. So what you have in addition to the products changing themselves, is packaging that is becoming smaller and more efficient. Combine the two, and again you have less volumetric demand available, which generally is not a good thing if you are a freighter operator. What this trend does though, if you are in the business of belly capacity, is really interesting. It starts to change how airlines are going to play and which airlines are going to be more important going forward, because they have the staying power of the cross subsidy benefit of having passengers pay for the flight. Combine that with these new aircraft—the 777-300—that is 22 metric tons per departure. That capacity is almost like a mini freighter. If I have rising shipment density where I can effectively get more end

demand on the aircraft, because the freight is starting to morph its way into becoming more belly friendly, it does start to change the revenue equation for a lot of belly carriers.

The final trend in **Exhibit 8** that you need to keep an eye on is this idea that people are changing their inventory strategies. As I talked about, in the 1990s, we had relatively high interest rates. In contrast, with interest rates where they are now, there really is not a huge opportunity cost to capital. That dynamic obviously impacts your pipeline inventory and also your safety stock especially. Back in the 90s, because oil was cheap, everyone was doing a just-in-time (JIT) strategy. Everyone was doing high frequency shuttles, but on a global scale—it was not just regional, it was global. I think that is obviously changing now, in order to manage the high cost of jet fuel, as well as the high differential cost of air freight versus container shipping. What your finding is that people are increasing—to the extent that they can—their average shipping size. In a lot of cases, they are also engaging in modal substitution. There is priority express, which is increasingly going deferred. That is where you might not need something to arrive in a day or two days, but maybe 5-7 days is fine. Obviously, you would want the associated price decline to go with that change in service level. Also, you are seeing more airfreight go to sea freight. Finally, and this is especially evident in the North American market, you are seeing parts of the truckload market go to inter-modal, LTL (less-than-truckload) and multi-stop truckload. The point is that shippers are constantly evaluating their inventory strategies, and it is having a ripple effect on the modal substitution that you are seeing in the all of these various industry segments.

Moving to **Exhibit 9**, we get an overview of the market in terms of how we viewed the global air cargo market in 2013. I think the important point to make on this slide concerns the economic magnet effect—the circles in Europe and the one in North America—those are huge chunks of GDP. And in the U.S. market, 69% is driven by consumer spending. In Europe consumers are less of a driver, mainly because of the strong exports from the German economy. And of course with Asia’s manufacturing base, there is roughly a 50/50 split. But again, the important

**Exhibit 9:** Corporate IT and consumer demand in North America, Europe, and Asia is the primary catalyst of international air freight



Source: IMF World Economic Outlook, Bureau of Economic Analysis, Eurostat, The Economist, Logistics Capital & Strategy

takeaway from this slide is that the consumption in North America and the consumption in Europe make the import market from Asia to those two destinations very important.

You can see the box on the lower left hand side of **Exhibit 9**, which shows the percent of global intercontinental freight-ton-kilometers. Transpac Asia-North America makes up 16% of the total. Asia-Europe is 14% of the total. More important is to look at the percent of revenues. Here, 28% is on the Transpac, 26% is on Asia-Europe. These one way inbound lanes—these front haul lanes into the primary demand centers and consumption centers matter a lot because they have a huge ripple effect on everything else. The majority of global air freight capacity is set up for these markets because the integrators, with their gigantic networks in North America and Europe as well as the pipe that connects everything. When we talk about these trends and we talk about where the growth is going to be. Where can demand absorb this overhanging capacity, it's still very important to focus in on these two demand centers. There's always talk about emerging markets, etc. but when you add it all up, it's not enough to move the needle in our view.

**Exhibit 10** identifies some of the demand drivers for air cargo. We have found that one of the easiest ways to think about the air cargo market is to segment it into these five food groups. There are products that have high value density, with high tech as a notable example. Pharmaceuticals would also fall into that group. This segment is a very important part of those two head haul markets that I was discussing earlier, making up 31% of the North American inbound, and 27% in the case of Europe. The next category consists of physically perishable products, such as food, seafood, veggies, and cut flowers. Your north/south markets, particularly South America into North America, and then Africa into Europe, are heavy duty perishable front hauls. Chilean salmon, Peruvian asparagus, and Ecuadorian and Columbian flowers together make up a huge chunk of the northbound flow into North America. That same pattern repeats itself if you look at what comes out of Kenya and moves into Europe, and if you look at some other origin markets in Africa.

**Exhibit 10:** Air cargo markets consist of five end-user segments

**PRIMARY AIR CARGO DEMAND DRIVERS: 2013**

Characteristic	High Value Density Product	Physically Perishable Product	Production Process Impairment	Service Process Impairment	Marketing Process Impairment
<b>Definition of usage driver</b>	High value products use air cargo minimize inventory carrying costs, risk of damage and theft	Low value products that have limited physical shelf life	Medium or low value component or part that is tied to a larger production process and cost of impairing the process is substantial	Equipment or parts used to deliver a high value service will use air cargo to avoid service disruption and associated economic costs	Products that are sold in very narrow time windows for promotional reasons and final demand is often unknown
<b>Product examples</b>	Cell phones, laptops, semiconductors, pharmaceuticals	Cut flowers, seafood, fruit, vegetables, certain life science products	Components feeding automotive assembly plant, spare parts for textile machinery	Aircraft On Ground (AOG) parts, major infrastructure project, oil & gas exploration platform	Printed materials for advertising campaign, latest designer jeans and footwear, toys, consumer electronics
<b>North America air imports (air weight %)</b>	<b>31%</b>	<b>21%</b>	<b>22%</b>	<b>6%</b>	<b>21%</b>
<b>Europe air imports (air weight %)</b>	<b>27%</b>	<b>25%</b>	<b>26%</b>	<b>4%</b>	<b>18%</b>

Source: Logistics Capital & Strategy FreightFlow Database and LogCapStrat primary research

The next three categories are related. First is production process impairment, which consists basically of products that need to be at certain a location at a specific time so as not to impair a much more expensive production process. The classic automotive line shut down at a \$100,000 dollars per hour of opportunity cost is the classic example. Connie Kalitta built his whole business up running airfreight ambulance services for the automotive industry and then eventually got into much bigger airplanes. These products might not actually be that valuable in and of themselves to warrant the use of airfreight. However, not having them in the right place at the right time would create a ripple effect by shutting down a much more expensive economic process.

Concerning service process impairment, it is a similar story. For example, there might be an airplane that is on the ground because there are some parts that it needs—perhaps brakes—and the stocking location where the plane is grounded does not have it. Here we have a \$150 million airplane sitting around with angry passengers—you would want to get the part as soon as possible. So, that is an example of recovering an economic process and therefore the cost of getting the parts there are critical. The oil and gas industry is another great generator of the service process impairment-sort of demand. As you expand your oil and gas exploration footprint into the remote corners of the world, more often than not, air cargo is a crucial way to get in and out.

Finally, there is marketing process impairment, which has evolved over time. I referenced in example back twenty years ago when the Limited stores were experimenting with the use of air freight for demand forecast air management. Product launches are obviously crucial in that all this stuff has to come together at once and it has to happen without a hitch. So a lot of companies are using really, really high profile product launches as a way of stimulating demand. But there is a level of precision required to pull it off. That precision oftentimes is only found in using air freight, and in certain cases, even air express to make it happen. But having said that, even when we have these episodic product launches, they do not seem to be enough to really move the needle in terms of creating big changes in airfreight pricing. I think about the banter that was going on last fall; everyone was trying to forecast the various product launches. You had sort of a feedback loop of chatter saying that airfreight prices are going to go through the roof on all of these key lanes. The reality, though, is that when you look at the data, the spike really did not happen. We had maybe two weeks of a mini peak in November but it really was not very consequential.

Each of these demand segments—the trends that I just went through—they are not all equally affected. In fact, if you go to **Exhibit 11**, you can see our view on the impact of each of the macro-trends that I talked about on each of the five user segments. If I look at high value of density products, I think there is definitely an impact as a result of only having episodic demand. I think the declining length-of-haul story, particularly in high-tech, is not as pronounced for the reasons I discussed, but there is evidence that is happening. The rising shipment density shift in hybrid inventory strategies definitely is impacting high-tech. When I think about all the high-tech shippers that I talk to, they are continually looking at ways to use different modes of transportation. In particular, using sea freight to reduce their air freight spends. It all makes sense on why they are doing this. If the technology is not changing as fast as corporate IT spending, these companies are kicking the can down the road in terms of upgrading. They are waiting maybe until the next year because there is not a huge productivity take-out or a huge benefit by accelerating the corporate IT investment. You start to see why you have to manage the margin compression, because the final selling prices for a lot of these products have been falling for a long time. The idea is that if you run everything else out in your playbook and all you have left is reducing your supply chain costs, you are going to look hard at your modal mix. That is exactly what these high-tech shippers are doing.

With physically perishable products, the good news is that because the goods are physically perishable, the demand has to be pretty steady. Also, I think the length of haul profile should not change too much, because it is a natural resource attraction. The fields are where the fields are. You also have the contra-seasonal weather patterns. I don't see the Peruvian asparagus market moving to somewhere like Bolivia, so it will continue to be a crucial origin point in the case of South America.

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**Exhibit 11:** Macro trend impact on long term air cargo use propensity varies across user segments

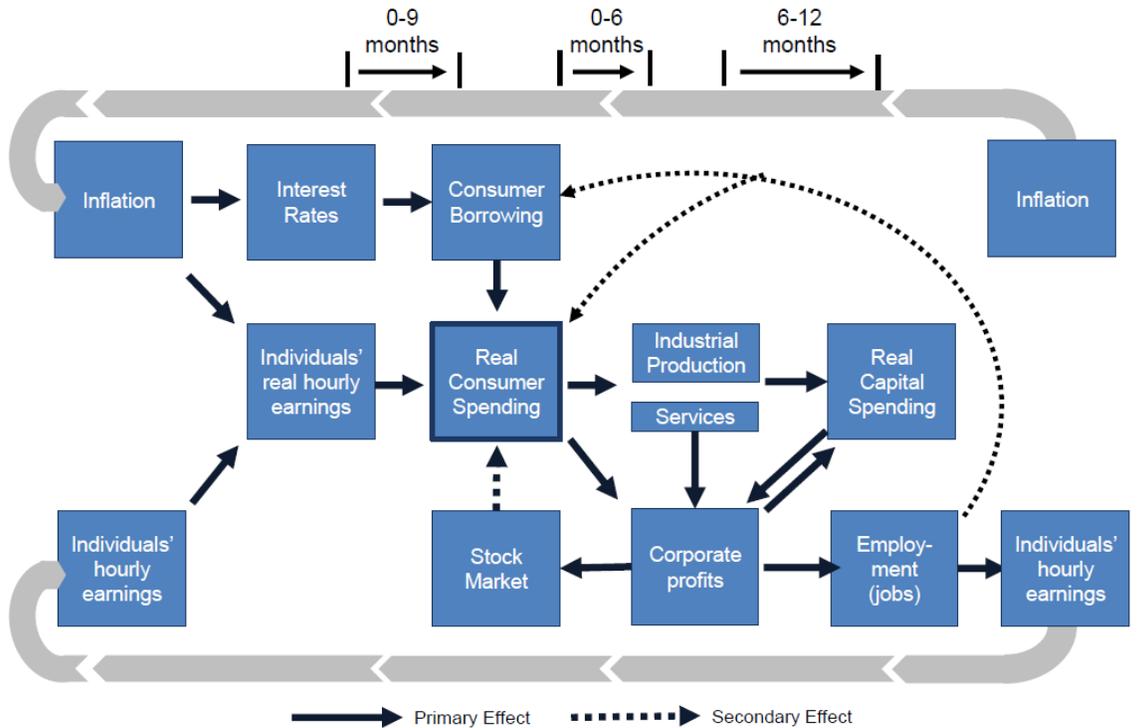
**TREND IMPACT ON PRIMARY AIR CARGO DEMAND DRIVERS**

Macro Trend	High Value Density Product	Physically Perishable Product	Production Process Impairment	Service Process Impairment	Marketing Process Impairment
Episodic Demand	Minimal Impact	Minimal Impact	Significant Impact	Minimal Impact	Significant Impact
Declining Length of Haul	Minimal Impact	Minimal Impact	Significant Impact	Significant Impact	Significant Impact
Rising Shipment Density	Significant Impact	Significant Impact	Significant Impact	Significant Impact	Significant Impact
Shift to Hybrid Inventory Strategies	Significant Impact	Significant Impact	Significant Impact	Significant Impact	Significant Impact

Legend: ○ Minimal Impact ● Significant Impact

Source: Logistics Capital & Strategy analysis

**Exhibit 12:** Personal wage growth is still the most important variable that triggers end-user demand and air trade growth



Source: Logistics Capital & Strategy, [aheadofthecurve.com](http://aheadofthecurve.com)

In addition, I think you are seeing some rise in some shipment density. You could make the point and there is also some experimentation going on with refrigerated technology, whether it be by Maersk or APL and others. A lot of the thought leaders in the container shipping industry are playing around with new refrigeration technology that has the right atmosphere that can keep the stuff cocooned and in the right conditions to enable surface transportation. That technology will evolve over time, but I still think that perishable cargo will still be an important component of airfreight.

Production process impairment clearly is impacted by demand. It is also impacted by length of haul. With service process impairment, I think the big issue is the rising shipment density that we are seeing. It becomes more belly friendly and I think that has negative implications for freighters. Marketing process impairment I think is impacted by almost all of these different trends—obviously to differing degrees.

If you look to **Exhibit 12**, we see that no matter how you cut it, Personal wage growth is still the most important variable that triggers end-user demand and air trade growth. I know that everyone has this mental map of GDP in their brains, but it is really all about wages. If wages are not rising, or if they are rising here in North America but not in Europe, that is an issue, because wage growth leads demand train. This concept rings especially true when you look at our market, where 69% of GDP is linked to consumer spending and is thus ultimately driven by wage growth. Now, what is the setup here in terms of how the air cargo market is going to evolve over the next five years? As opposed to giving you a forecast of say, 6% or 4% or whatever, I am going to lay out a different way of thinking about it. I am going to give you the multiplier.

So, you pick your GDP forecast. There are seventy five or so odd ones of them available at any point in time and only one will probably be right. So, You pick your GDP forecast and then you can use the multipliers in **Exhibit 13** that span the different business and user segments to arrive at your component part of the market growth. Then you can aggregate all of that to arrive at a longer term demand figure. What I have done here is to show that different products for different reasons will grow at different rates. Developed markets, clearly, are more mature relative to the emerging markets, which may have more growth. But the developed markets have a lot more absolute demand.

**Exhibit 13: Relative growth will vary by shipper segment and destination market**

% of Vol.	Shipper Segment	Industries Examples	Strategic Implications	Air Import Forecast Growth Rate Relative to GDP: 2013-2018	
				Developed	Emerging
<b>Planned Users</b>					
30%	High Value / Weight Ratios	<ul style="list-style-type: none"> <li>Mobile phones</li> <li>IT equip</li> <li>Healthcare</li> </ul>	<ul style="list-style-type: none"> <li>Highest unit value products remain air freight users while lower unit value shift to ocean and/or near shoring – highly granular supply chain segmentation</li> </ul>	1.5x	2.0x
22%	Physical Perishability	<ul style="list-style-type: none"> <li>Fresh fruit</li> <li>Seafood</li> <li>Flowers</li> </ul>	<ul style="list-style-type: none"> <li>Cost of doing business in near term but refrigeration technology will enable mode shift – carbon footprint risk in EU</li> </ul>	1.1x	1.7x
19%	Marketing Process Impairment	<ul style="list-style-type: none"> <li>Apparel</li> <li>Product launch materials</li> </ul>	<ul style="list-style-type: none"> <li>Improve forecasting reduces need but certain brand owners will continue to use as part of cycle time strategy</li> </ul>	1.3x	2.0x
<b>Emergency Users</b>					
24%	Production Process Impairment	<ul style="list-style-type: none"> <li>Components</li> <li>Spare parts for manufacturing machinery</li> </ul>	<ul style="list-style-type: none"> <li>Rebounding industrial production triggers increased plant shutdown risk</li> </ul>	1.5x	2.5x
5%	Service Process Impairment	<ul style="list-style-type: none"> <li>Spare parts</li> <li>Critical supplies</li> </ul>	<ul style="list-style-type: none"> <li>Continue growth in air travel demand will increase aircraft installed base and attendant assembly and spare parts flows</li> <li>Natural resource extraction in remote locations will fuel spare parts flows</li> </ul>	2.0x	2.5x

Source: Logistics Capital & Strategy

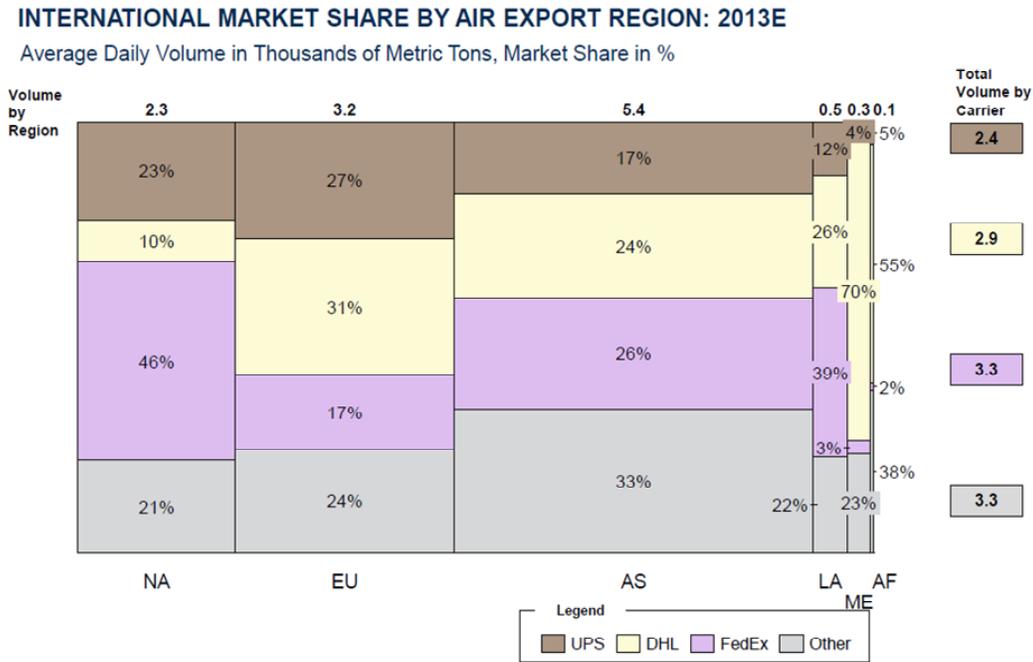
That is an important thing to remember. You can see that with modal substitution in all the variables that I just discussed, your high-tech airfreight will not grow like it used to.

Back in the 1990s we had multipliers that were between two-and-a-half and three-and-half times GDP for inbound volumes into the North America as well as Europe. These multiples have changed considerably over the last few years as a result of all the structural change in the various economies. I think that, as I mentioned earlier, the plan user segment is really the one that is undergoing a lot of structural change and therefore has seen the ripple effect in terms of the market demand curve.

The emergency users will always be there. I think you will see a continued need, as production ramps up, as invariably there will be mistakes made and you have to recover from those mistakes with airfreight. And then, you have this continued boom in global air travel with the global aircraft fleet being deployed, as well as the proliferation of global oil and gas exploration. There will be all sorts of service parts that are needed, and that will be a great driver of growth. So pick your GDP forecast, multiply it, depending whether you are looking at a developed market or an emerging market, by the multiplier here and you can cook up your own air cargo forecast going forward.

Now I'm going to switch my comments to the air express industry. If you look at **Exhibit 14**—it looks kind of like an ice cream chart with all flavors—this is our estimate of the global market position of the big three integrators as well as the rest of the market. A couple very important points here: typically, when you see the dueling market share charts from the different integrators and their investor relations conference calls, they are a little vague about what share metric they are using. Is it share of revenue, share of shipments? How exactly should I think about that? Well, what I'm showing you here is our estimate in 2013 of the average daily volume in weight. So, we are looking here at average daily tons—metric tons—and what the share is for each carrier in the depicted origin markets.

**Exhibit 14:** Each global integrator has a different competitive market position and network strategy in each regional origin market



Source: Logistics Capital & Strategy Express Air Package Demand Forecast Model

The takeaways here are that FedEx has a great share of North American origin. That is, FedEx owns about 46% of originated express weight coming out of North America, whether it be destined for Asia or Europe or Latin America. That is the strength of the FedEx shipment collection system in North America. It's a huge network—it still is the largest air network. They have their tentacles everywhere. They are very good at getting things from Boise to Prague or Boise to Bangkok. They have a very, very well-functioning network.

Having said that, UPS has a huge air presence in North America too, and they are very competitive. DHL, even after it retooled its North American network into Cincinnati, still have enough footprint to be competitive in a lot of these secondary and tertiary origin points. Now in Europe, you can see—and this should be no surprise—that DHL is the largest origin share player at 31%. A close second is UPS because they made investments a long time ago, in the mid-70s, when they built up their ground business in Germany. And since that time, they have made continuous investments to improve their market position.

In Asia, it is sort of an interesting game. Of the Asia origin market, around 33%, by our estimation, is in the hands of competitors other than the big three integrators. I am talking about foreign firms, as well as the various "local hero" competitors. If you go down to Australia, Toll's express business is a big part of that market, not that the Australian market is a massive market. Again, if you go into Japan, there are a lot of Japanese-centric businesses that have really good share positions. In China, there are a lot of competitors that are growing both within China and also extending out from China. A lot of the foreign postal authorities still have some form of an express business that they participate in. The forwarders are all very competitive and very entrepreneurial. Relationships matter in Asia. You can be the largest guy without necessarily having a massive network with all the aircraft. I think that is an important concept.

Now, from a weight perspective, a lot of people think that DHL has the largest share of Asia. But, by our calculation, it is FedEx that has the highest originated weight share, because a large part of that is built around the amount of demand they handle on the Transpac into North America. Historically, they have always operated the largest air network from a capacity perspective into North America, and we think that tilts the balance a little. If you were to recut this chart using a revenue share perspective, clearly you would see DHL is the leader. Part of why you are seeing a different pattern here is because the metric is a little different. Key points on the far right side of this chart are that DHL and FedEx obviously have interesting market positions in Latin America.

As far as the Middle East and Africa, DHL clearly owns those. Now, they are not huge chunks of the market, but they are clearly growing on a percentage basis. But while they are growing fast, it is still the incremental absolute growth that is what you want to follow. DHL got into these markets a long time ago—in the 70s—and the legacy market position they have in the Middle East and Africa is really theirs to lose. The other two big integrators are not sitting still, and they are going to show up in DHL's backyard soon. Ultimately, the investments they are making will benefit all shippers because there will be more competition.

If you go to **Exhibit 15**, this is just a summary of our view of how we think the Global Air Express market is going to behave between 2013 and 2018. What you are looking at is the compound annual growth rate in each of the trade lanes and the absolute metric you are seeing is the growth. We focus on that figure because you can always get these unbelievably high percentage growth rates, but they really do not fill airplanes very well. And so, the key takeaway here is that Asia—*intra-Asia*—will be a very, very important generator of incremental demand. In fact, of all the incremental demand, you have almost a thousand metric tons per day of incremental demand that is going to be generated in the *intra-Asian* market.

If you think about who has the best *intra-Asian* network, DHL has made huge investments with their Hong Kong joint venture. And along with some of the other things that they have done, they probably stand to benefit the most from our expected growth rate in terms of Air Express going forward in Asia. Another important lane that is sometimes

**Exhibit 15: Intra-Asia is likely to experience the most significant growth in the global express market**

**GLOBAL AIR EXPRESS FORECAST: 2013E-2018F**

Average Daily Absolute Growth in Metric Tons, CAGR (%)

		Destination						Total	
		NA	EU	AS	LA	ME	AF		
Origin	NA	Absolute Growth: 30.6	108.1	193.4	136.1	43.4	9.7	521.3	
	CAGR (%)	1.2%	3.6%	7.3%	4.9%	10.7%	9.7%	4.5%	
EU	Absolute Growth	158.2	127.3	143.0	25.6	20.0	16.8	491.0	
	CAGR (%)	4.9%	1.4%	7.3%	7.5%	4.1%	5.6%	3.2%	
AS	Absolute Growth	666.4	282.3	996.5	61.2	27.7	15.6	2,049.7	
	CAGR (%)	6.5%	5.5%	8.9%	10.9%	10.2%	11.6%	7.4%	
LA	Absolute Growth	111.0	9.9	13.0	-	0.3	0.2	134.4	
	CAGR (%)	6.8%	6.3%	10.6%	-	7.7%	5.4%	5.4%	
ME	Absolute Growth	6.7	5.0	9.1	1.0	-	3.6	25.4	
	CAGR (%)	6.0%	4.6%	11.2%	16.0%	-	12.6%	2.2%	
AF	Absolute Growth	3.4	4.7	2.3	0.2	1.1	-	11.6	
	CAGR (%)	9.6%	5.7%	10.1%	9.7%	9.5%	-	5.9%	
Total		Absolute Growth: 976.3	537.3	1,357.3	224.2	92.5	45.8		
		CAGR (%)	5.4%	3.1%	8.5%	5.3%	4.7%	7.5%	

**Observations:**

- Overall, Asian exports and imports will witness strong absolute volume growth; Intra-Asia trade will generate the highest overall volumes followed by strong performances in the AS-NA and AS-EU corridors
- Mature markets – Europe and North America – while growing at slower rates, will still produce significant export volumes due to the size of their economies
- Exports and imports to/from developing economies – AS, LA, ME, and AF – will grow at the fastest rates
- With the exception of LA-NA, exports from LA, ME, and AF, though growing at high rates, will generate relatively insignificant absolute volumes due to their small market sizes

Legend:

<span style="background-color: #d9ead3; border: 1px solid #ccc; padding: 2px;"> </span> High Absolute Growth	<span style="background-color: #fff2cc; border: 1px solid #ccc; padding: 2px;"> </span> Average Absolute Growth	<span style="background-color: #f4cccc; border: 1px solid #ccc; padding: 2px;"> </span> Below Average Absolute Growth
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Source: Logistics Capital & Strategy Air Package Demand Forecast Model

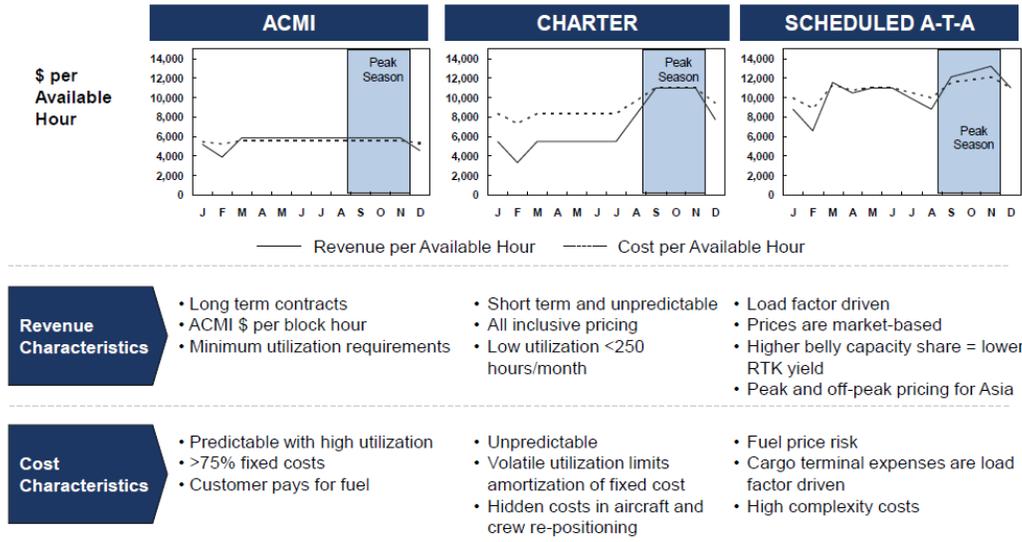
overlooked is the Trans-Atlantic (both ways). It is a nice “steady-eddy” market that has become more mature, but is still a consistent generator of profits. The Trans-Atlantic lane continues to be a very important part of all three carriers’ profit plan every year because of its general predictability and stability.

I am now going to transition into talking about the industry supply curve and how that is changing. I am referring here to **Exhibit 16**, where we discuss ACMI relative to the other two “flavors” of capacity. If you think about the capacity that freight forwarders use to move stuff from point A to point B, you have three things you can choose from. First, you have scheduled airport-to-airport transportation, which either comes in the form of belly capacity or freighter capacity. Or, you can charter a freighter aircraft from one of many people out there or in certain cases—and this is what Panalpina does with its Dixie jet or the spirit of Panalpina—you can actually run your own proprietary airline. Obviously, Panalpina outsources this function to Atlas Air. In fact, as an interesting aside, that was the first project I worked on back in 1990—CargoLux was the first provider of capacity to Panalpina when they launched the Dixie Jet in September of 1990. The idea of flying one’s own aircraft has been around for a long time, and Panalpina has always been very leading edge in that regard. Obviously, it has meant that at times, they have taken on more risk than they wanted to, but it is what it is.

In the good old days in the 1990s, when the founder of Atlas Air Michael Chowdry was out talking to investors, the story was a good one—there were all these five-year contracts that were iron-clad. They had unbelievably great rates per block hour. There were hourly minimums with each of the planes, and whether lessees used the plane or not they still owed money. On top of all that, these were used aircraft. With these converted airplanes, you could go to Thai Airways and buy a high gross weight 747-200 at one price, run it through a conversion, and then make it available to customers. It was just an unbelievably attractive business model. It was not like Atlas actually invented it—Evergreen had been doing it for years in the 1980s. In fact, the largest ACMI customer from 1982-1988 was UPS, because during that time, UPS outsourced all of their flying. They had tons of airplanes—DC8s, 747s—there were a lot of different companies providing ACMI capacity to UPS until they took their airline internal.

**Exhibit 16:** Historically, ACMI had lower business risk relative to the other two air cargo capacity segments

**ILLUSTRATIVE DIFFERENCES IN ECONOMICS BY BUSINESS SEGMENT**



Source: Logistics Capital & Strategy

Interestingly, the largest global ACMI customer today is DHL. They are very sophisticated in their strategy, having at least two providers (and preferably four) in every aircraft type that they operate. They can plug and play people as necessary to manage their network. It is a very clever strategy. The problem is that other segments in ACMI are not growing as fast. DHL continues to become—and will remain—the largest customer to the ACMI industry across all of the payload range segments of the market. So, I think what is important here is that ACMI's flavor and economic risk is changing for a whole host of factors. As a result, a lot of the underlying economic logic and the relative risk equation of ACMI (in terms of while we were all calibrated in the 1990s and the earlier part of 2000-2005) is changing every day. I will go into more detail in the next two exhibits.

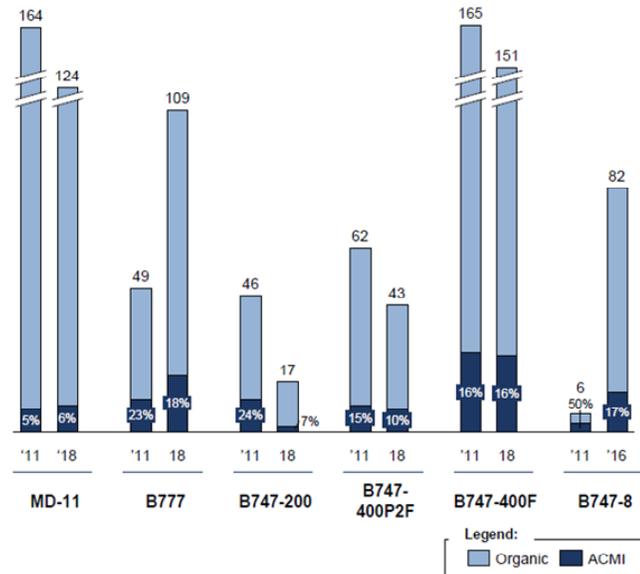
What you are looking at in **Exhibit 17** is our estimate of the ACMI large freighter penetration rate in 2011 versus what we think it will be in 2018. You can see these are all large, wide-body aircraft—basically airplanes that have more than 80 tons of capacity. With the MD-11s, we think the market is definitely shrinking and will continue to shrink—it is a relatively small user base. The maintenance cost and the cost and availability of spares is becoming an issue. A lot of your bigger operators of the MD-11s are already voting with their feet and making the necessary changes. But interestingly enough, we think there will always be a residual ACMI market on that platform.

The 777 is, from an ACMI perspective, basically driven by DHL and their constellation of providers. Southern Air is the U.S. domicile provider. AeroLogic, which is a joint venture with Lufthansa, is the provider in Europe. DHL have been and will continue to be a big user of 777 from an ACMI standpoint. You can see that the whole installed base of the 777 network is increasing tremendously.

For the 747-200, I think party is over. You are going to see an accelerated retirement, and there will not be much left after that. The 747-200 market also really benefitted from the U.S. military and the drawdown has completely changed the equation. Still, there will always be some niche providers out there that will use the older aircraft, especially because they have relatively volatile demand and can have airplanes sitting around and waiting.

**Exhibit 17:** Overall large freighter ACMI penetration will decline from 14.1% in 2011 to 12.5% in 2018

**ACMI LARGE FREIGHTER PENETRATION RATE**  
 Units of Aircraft, Percent (%)



**Key Points**

- Future large freighter growth will primarily come from new aircraft types including B747-8 and B777
- Atlas Air is the sole B747-8 ACMI provider while B777 ACMI services are offered by AeroLogic, Southern Air and TNT Airways
- Although more new type freighters will be added by ACMI providers, the ACMI penetration rates of those aircraft types will decline to around 17%
- The penetration rates of MD-11 will increase slightly because total MD-11 demand will decline
- The total demand for B747-400P2F will grow because no new freighters will be built from factory but the ACMI penetration rate of -400P2F will decline due to competition from B747-400F's
- B747-200 freighters will be phased out and in turn their ACMI penetration will decline as well because ACMI providers' B747-200s are older than other carriers'

Source: Logistics Capital & Strategy Freighter ACMI Demand Forecast Model

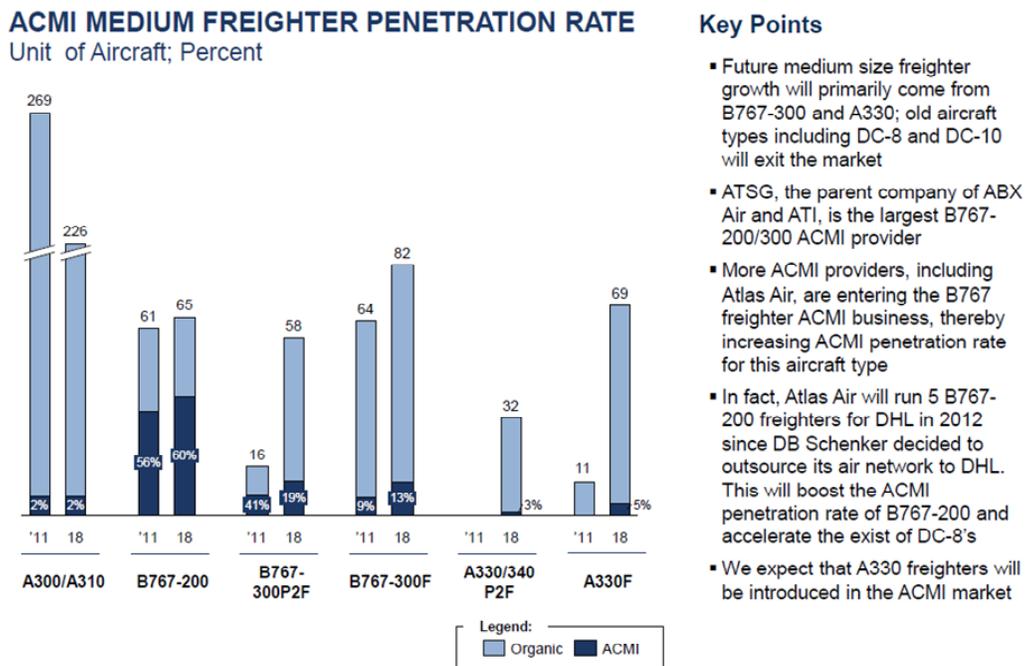
In **Exhibit 17**, we also see the 747-400P2F. That plane being less competitive because of its relatively high fuel burn-to-payload rate, especially as fuel prices continue to check in at \$100 per barrel mark, and as the whole fuel risk equation becomes a bigger issue. You should see some trimming of the 400 fleet, in part because there are a lot of 400s out there, and there are some start-up carriers that will then use them. But I think the biggest issue, and this definitely applies to the 747-8, is that we have some unintended competitors jumping into the ACMI market, and they are the petro-dollar carriers. I am talking about Emirates, Etihad, and Qatar, and then some of their younger cousins like Silk Way out of Baku, Azerbaijan. They have orders for big equipment and they are an oil driven economy. You already are seeing a lot of these players develop alliances with traditional ACMI customers. We saw that with British Airways making its decision to move on and hook up with Qatar Airways. Think about how compelling or how beneficial that could be to hook up with a big belly carrier that also has freighters, all without taking the block hour risk as a customer anymore. You could buy five pallets here, ten pallets there, or half a plane here and a quarter of a plane there. The flexibility is massive, and these three Middle Eastern carriers are not going anywhere. They are all part of a 50-year economic diversification plan—the respective chosen instruments of each of their sponsor countries, which will in turn continue to invest in them. So when you have that dynamic in play, it currently has and will continue to have an interesting impact on how your historical customers think about ACMI and how they actually will purchase it in the future.

I could see your higher cost European and North American carriers that have historically used ACMI capacity become intellectual property companies. They want to manage the network. They want to figure out the right prices to charge. They want to manage the customer relationships. They do not really want to touch the freight as much physically. This does not mean they will exit the business completely, but I can see a shift. Then incrementally, the lower cost production platforms will do more of the actual physical movement, at least in certain geographies. As a result, when I look at the 747-8, I think that aircraft in general only has finite potential. I think the 777 has already demonstrated that it is going to win. That market has become fairly concentrated—Cathay Pacific has made a massive bet on that airplane, and they have the biggest network in origin Asia. Then you have the Koreans, who are

also there, along with NCA (Nippon Cargo Airlines). But the ACMI part of that market is the thing you have to think about. I think that is where there is not going to be a lot of upward movement because of the whole structural shift that I am talking about.

Now, in the medium sized market (**Exhibit 18**), I think the story there is that a lot of older A300s are going to be retired. Then, with the 767-200s, DHL as a customer is the backbone of that market. They are also the largest 767-300 user and will continue to be. Then, I think we will also see a bunch of A330s creep into the market as the residual values fall. Interestingly, my prediction is that the A330P2F freighter will actually turn out to be a very successful freighter, economically speaking, relative to the original, factory built A330s.

**Exhibit 18:** The overall medium size freighter ACMI penetration rate will remain at about 13%



Source: Logistics Capital & Strategy Freight ACMI Demand Forecast Model

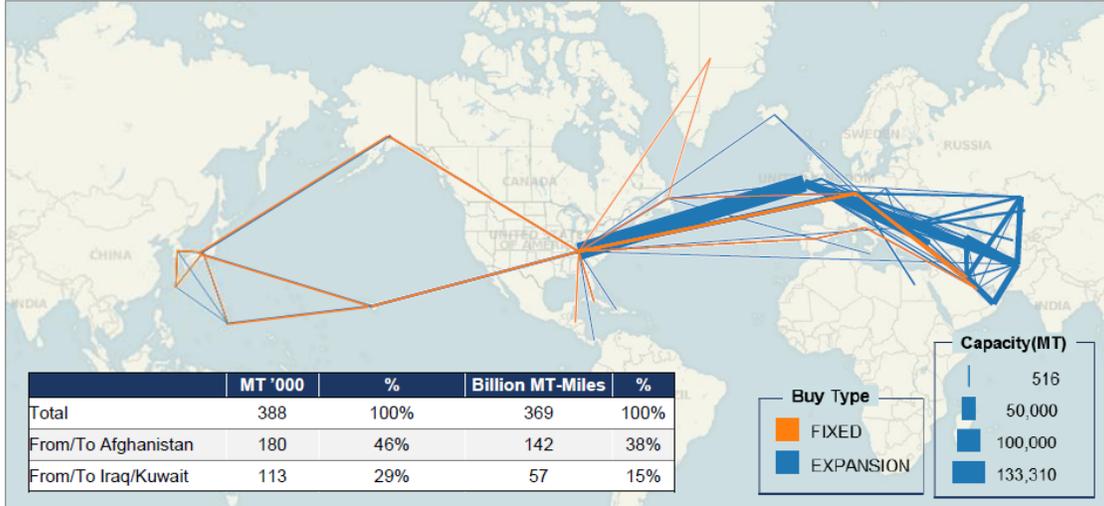
Also, back in 2010, the war in Afghanistan and our recovery efforts in Iraq were generating all kinds of demand for freighter aircraft. In **Exhibit 19**, you can see a network map that shows the scale of flows for both the fixed part of the AMC buy as well as the expansion part. The blue lines show flights going back and forth all the time, as well as a lot of one-way flights where you could then reposition the airplane into Hong Kong and do a double-dip by providing capacity for the freight forwarding market.

Now, if you look at **Exhibit 20**, you can see that the problem is that as we are drawing down our footprint and spending. There is a huge decline in aircraft equivalence now required to satisfy demand. Before, there were as many as 22 units of demand, by our estimate, and we are now going down to maybe 5 or 6. That demand sucked up MD-11 capacity, some of your older 747-200s, and your oldest 747-400s. Without that nice foundation of demand—well-paying demand too—being available in the market, there has been a collateral impact on the survivability of a lot of the second tier players in the ACMI business. That collateral effect will further tighten up supply, I think, over the next three to five years. The old standby capacity that used to be available, enabled in part by the military, will no longer be available as much as it was before.

**Exhibit 19:** AMC CRAF demand consumed a significant portion of ACMI / charter carrier capacity during the war

**AMC CRAF CAPACITY DEPLOYMENT<sup>1,2</sup>: 2010**

Metric Tonnes



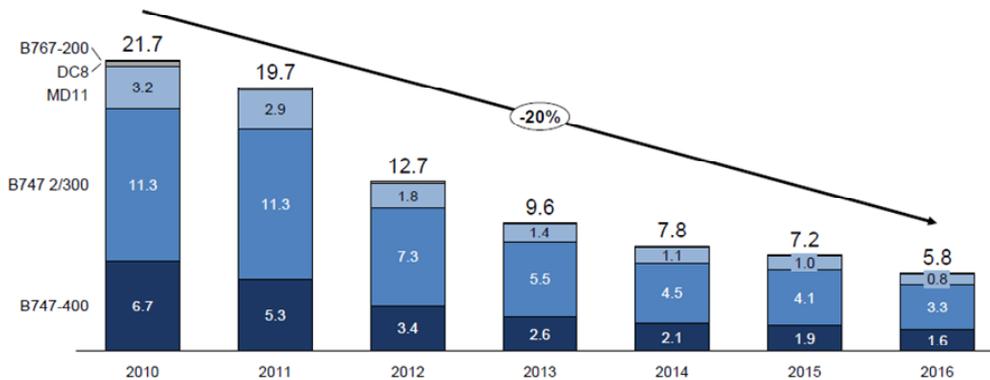
**Notes:**

- 1) Only routes with greater than 500MT are shown on the map
- 2) Foreign airfields are aggregated to countries and regions defined by ICAO and U.S. airfields are aggregated to Continental U.S., Alaska, Hawaii, and Guam

Source: AMC CRAF Airlift Spend Database, Logistics Capital & Strategy

**Exhibit 20:** Reductions in U.S. military spending will have a sustained impact on the military and commercial charter markets

**AMC WIDEBODY FREIGHTER DEMAND FORECAST: 2010- 2016**  
 Equivalent Aircraft Units<sup>1</sup>



**Key Points**

- The CRAF fleet is forecasted to decline by 20% per year, on average, as the United States military pulls out of Iraq and reduces troop size in Afghanistan
- By 2016, we forecast that demand from AMC will be 1.6 equivalent B747-400 freighters and 0.8 equivalent MD-11F
- AMC may seek ways to modernize the CRAF fleet in the future. If a formal policy is enacted, older freighters including DC-8 and B747-200 will be retired more quickly, thereby reducing future share of those aircraft types and increasing share of B747-400 and MD-11

<sup>1</sup> Assuming 250 block hours per month

Source: AMC CRAF Spend Database, Logistics Capital & Strategy AMC Demand Forecast Model

**Exhibit 21** summarizes the result of a lot of these trends. At the retail level, in terms of the integrator versus forwarder battle for shippers, the integrators just have more tools available to satisfy demand. As all three integrators have built freight forwarding capabilities in addition to all the other services they offer, they stand to benefit in managing volatility. Still though, I think certain freight forwarders are also well poised—particularly the ones that have a well-functioning sea freight operation and that are good at thinking about how they will manage their cost structure going forward. Specifically, it will be the ones that can manage declines in net revenue per kilo. The net revenue per kilo contribution that you would get from airfreight is significantly higher than the equivalent amount for sea freight. So much of the cost structures of these freight forwarding companies were built around that airfreight net revenue. This cost deflation and modal substitution, as well as the generalized trend in more episodic demand, has had a huge impact on all of these forwarders' cost structures.

**Exhibit 21: Integrators and forwarders will have to adapt to changing customer service preferences and increased price elasticity**

Integrators	Forwarders
<ul style="list-style-type: none"> <li>▪ Better strategic position relative to forwarders</li> <li>▪ Will further improve their market position in intercontinental small package, divert the highest yield emergency air freight shipments away from airlines, and re-capture downgraded air freight demand with their vast ground package and LTL networks in North America and Europe</li> <li>▪ Primary challenge is managing the air to ground diversion within the largest regional networks and premium to deferred air shift in intercontinental lanes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Freight forwarders will manage modal substitution of planned air freight users by re-capturing pallet-sized shipments as LCL sea freight or consolidated FCL shipments</li> <li>▪ Net revenue margins per kilo will likely drift down forcing forwarders to explore new initiatives to reduce unit costs</li> <li>▪ Will continue to maintain some share of the emergency air freight market</li> </ul>

Source: *Logistics Capital & Strategy*

Almost all of the large forwarders are, in varying forms, struggling with legacy IT investments and wondering how to get out of the AS/400 environment and get to the cloud. They are all having to basically engage in these mini-Apollo projects in terms of rapid IT investment to go through a transformation. And sometimes, they do not get it right. It is interesting because some of the newer startups out there do not have the legacy of these bad decisions—they have not been spending a lot of money to prop up old technology. They are starting fresh.

So, I could see a whole new era of competitors because the IT barriers to entry in this industry have come down considerably. If you have a group of entrepreneurial people with the latest in technology and without the legacy drag, and if they focused on specific customer niches to work with the belly capacity airline providers, I think you could have a different competitive play dynamic. This does not mean that these startups are going to take over the

**Exhibit 22: Carriers with growing belly capacity will be best positioned to manage volatility and price competition**

Non-Integrated Airlines w/ Belly Capacity	Freighter Airlines (including ACMI Carriers)
<ul style="list-style-type: none"> <li>▪ Non-integrated airlines that operate belly capacity will always have pricing flexibility due to the passenger revenue subsidy of flight costs</li> <li>▪ Carriers adding 777/787 passenger aircraft will benefit from increased cargo payload per departed seat</li> <li>▪ Carriers that can afford fuel efficient next generation freighters and successfully implement their fleet replacement cycle will benefit from an industry with fewer competitors operating larger aircraft with relatively low unit costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Freighter airlines, including ACMI carriers, that have based their fleet strategies on low capital cost used aircraft and cannot afford to replace their fleets will be forced to exit the industry – military downturn will accelerate this process in 2014</li> </ul>

Source: *Logistics Capital & Strategy*

entire world, but they could definitely seek out some of the more profitable segments of the market, which would obviously start to change the competitive profile. For one, it would give shippers more options.

Now, as you can see in **Exhibit 22**, what is going to happen in the war between belly carriers and freighter carriers is that belly carriers—particularly the ones with well-functioning passenger franchises—will continue to grow. They have made huge investments and these aircraft, in terms of the number of seats relative to the amount of available cargo lift—that productivity ratio continues to go up.

These carriers will do a very good job of making sure that those bellies are full, but they are going to have to manage the complexity that comes with running an efficient ground operation. Obviously, cargo will not walk itself to the gate and get on the airplane. The whole battleground in air cargo has been and will continue to be over the value-add that happens on the ground. It is over issues like how to get the cargo through the terminal, how to get it on the aircraft, and how to get it off the aircraft and back on the freight forwarder's airport fleet truck at destination. I think the freighter carriers are the ones that really have to do some soul searching here. Particularly if they are not part of the DHL integrated ecosystem, or if they do not have a large entrenched franchise like Cathay out of Hong Kong. They really have to think about what bets they are going to make and what niches they are going to serve.

Clearly, there are going to be geographic niches where certain carriers are the dominant player and the market is not big enough to have multiple players—those carriers will generally be safe. But I think there are a large number of carriers that are really going to have to think through their freighter strategy, and whether they should even have freighters at all. As I said before, the military downturn will only accelerate this thought process.

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**Exhibit 23:** All industry participants need to make some important investments to remain viable

**STRATEGIC INVESTMENTS REQUIRED**

- |   |
|---|
| ▪ Achieve deeper understanding of costs and prices to manage slow and volatile demand – predictive analytics are no longer optional and the domain of the integrators |
| ▪ Embrace cloud-enabled IT cost deflation to automate processes to improve service while lowering cost to serve – tabula rasa approach                                |
| ▪ Simplify service type mix to reduce cost and align offering with changing shipper purchase patterns   |
| ▪ Increase share of wallet with most attractive customers – easier to do than acquire your competitors' customers   |
| ▪ Human resources becomes even more strategic as highly variable compensation models risk talent flight in many forwarding companies                                  |

Source: *Logistics Capital & Strategy*

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ments, not just in their core operational IT platforms, but also with predictive IT analytics. I think that those will ultimately will be a key differentiator going forward.

You do not have a choice. You have to figure out how to take your IT cost structure down. Our firm, LogCapStrat, had a bunch of servers even as a little company. We got rid of them and we brought our IT cost down by 90% by going to the cloud. I am getting ten times the capability and I brought my cost down by 90%, and we are just a little company. So everyone has to think about how they are going to reduce their IT cost structure, because if your competitors are getting that economic benefit and you are still dealing with these legacy issues, you will be at a disadvantage. Simplification will be important. It will also be important to get deeper with existing customers, because in an era of low growth, getting new customers is tough. Finally, human resources is going to be a big deal, because it will be crucial to get the right talent in place and synch them correctly to handle more complicated business and a greater need for precision. The general view that the airfreight industry is changing is a reality. We still think it can be a very attractive industry going forward, but it will be smaller relative to other modes. There is a setup here where two to three years from now, the profit pool available to the surviving competitors could become very attractive.

Now, what kind of investments are needed to manage the transition and flourish on the back side of this transition? As we show in **Exhibit 23**, I think people are going to have to become more precise. The idea of using rules of thumb in a slow demand environment or in a volatile demand environment will require more precision. Companies are going to have to invest and are going to need a better understanding of their cost structure. They will need a better understanding of the price elasticity of demand of their customers. For years, the integrators have made huge investments in analytical capabilities, and I think what you will find is that the forwarders are going to have to play catch-up. The forwarders need to start to making these invest-

### Question & Answer

**LISTENER #1:** Brian, thank you for a great presentation. I am just curious about your impressions on hybrid air-sea approaches from either the ocean carriers or the airfreight providers. That has always been a niche market, and many customers face a variety of options between airfreight and traditional LCL, which has not always worked at APL and other ocean carriers. It has not always been the best high-service option. Do you see any potential for growth there?

**BRIAN CLANCY:** That is an interesting question. You would think that if I am blending two modes, it would make a lot of sense. But then think about the history behind sea-air, which started back in the mid-60s with Air Canada and its desire to better-use back haul capacity. Where sea-air really grew was in the 1980s when the Japanese high-tech market was growing, and you could not get cargo into Europe cost-effectively because there was limited supply and sky-high rates that were something like seven dollars per kilo. Players like Kintetsu and Nippon Express, as well as some of the European forwarders, built a sea-air pipeline out of Japan and they used the U.S. West Coast as the first point on the boat.

You basically would go ex-Tokyo into Seattle, then you would fill up your aircraft pallets at SeaTac, and then you would put it on a CargoLux freighter or Martinair freighter that would then fly into the hub in Luxembourg before distributing the cargo throughout Europe. So interestingly, this strategy was used before in part to manage sky-high airfreight prices. You would think that the same catalyst would be in play today. Really, there is no reason why that strategy could not be used now. But the problem is that to make sea-air work, you have to move twenty to thirty aircraft pallets at a time because you need to get a common means of scale in your setup costs for handling. In other words, there is a minimum amount of batch costs that are not sensitive to the number of kilos you have and you need to amortize that over as many kilos as possible. If you do not have that freighter capacity available, it becomes more of a problem. The bigger issue is that the Asia-Europe market now is just awash in capacity. So the idea that you have to use this sea-air option to manage limited supply thirty years ago is not as big of a deal now.

Having said that, the three petro-dollar carriers have and will continue to run the sea-air play-book out of the Indian sub-continent. They all do it today, bringing the cargo into Sharjah and then making the transition either to airfreight into Europe, or the 767s come from Central Asia in the middle of the night and they pick up their stuff and they go back to their various countries in Azerbaijan or wherever. They make their delivery.

That whole Persian Gulf sea-air complex is alive and well, and I think what makes it even more interesting is when you look at the belly reach of Emirates, the growing belly reach of Qatar, and then Etihad, and then you look at the investments they have made in their various container ports, you will continue to see more of it going forward. It will extend beyond just the Indian subcontinent as the primary origin because they have also experimented a lot out of Southeast Asia.

I think you could look at similar geographies, like maybe Panama over time, and you will find similar things happening. You may see a sea leg into Panama and then basically have air distribution throughout South America and Central America. Historically, the whole Asia-Latin America trade link has been a sea-truck-air market where a lot of cargo will come into Los

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Angeles, then it will be run across the country and down into Miami via team driver, and then it will be put on a freighter and get it down to wherever it needs to go—perhaps Brazil. I think that absolutely it is going to be a key part of the playbook and I think we are going to see everyone searching for it in various spots.

**DAVE ROSS:** Brian, thanks again for that great presentation. You mentioned that you would like to be building a base here in the U.S. air freight market and you see glimmers of hope in the EU market. Could you elaborate a little more on what you are seeing from an airfreight demand perspective, and then why you are looking into base building here, and finally, why you are a bit more optimistic about Europe?

**BRIAN CLANCY:** Well, I think first off, Europe has a different industrial geography than the U.S., meaning that you still have a pretty sizable export base with Germany shipping to everywhere around the world. Switzerland and some of the other countries also play a role. So, it has an interesting sort of demand generating ability that is not always directly linked to European consumer spending. But I think what we are seeing there is that the EU market, at least from a consumer perspective, seems to have bottomed out. I think what you are also seeing is that the origin demand out of Europe will respond to improvements in U.S. consumer spending. I think that we are starting to see that, especially if you start to look at some of the recent consumer spending data here in North America, or in the U.S. specifically, along with some evidence of some potential wage growth. Also, on the corporate IT front, if you look at the various surveys, we really postponed the upgrade cycle in IT. If you talk to any of the analysts covering the different sectors, it seems that we are actually due for an upgrade cycle. Everyone seems to grumble about how old their laptop is. You are seeing similar trends with other types of IT hardware as well.

There are little pieces of data that we are plugging into the mosaic—we think we are starting to see solid volumes building up and I think March has turned out to be a relatively good month for most, and March is an important month. It is pretty much the post-Chinese New Year indicator for how the year is likely play out. If you have a pretty strong March, it tends to be a good indicator, because this March is a very important airfreight restocking month after the whole post-Christmas inventory drawdown and then the shutdown with Chinese New Year. If you start to see a strong March you can generally extrapolate that to indicate a strong year, as the historically link has been pretty close. Most of our contacts out there seem to be saying that March demand, particularly in the forwarding sector, is shaping up to be pretty strong year-over-year, as well as sequentially.

**SPEAKER #2:** Gentlemen, thank you for a marvelous presentation. Very insightful. I have one question about the airfreight marketplace as we look at it in totality. I am excluding the ACMI and air express pieces and looking at the true airfreight marketplace. Comparing that to ocean freight, as much as we talk about freight forwarding, the reality is that our collective global freight forwarders on the ocean side really hold sway over a miniscule percentage of total TEU movements. Will you comment as to the possible global share of airfreight that is controlled by freight forwarders?

**BRIAN CLANCY:** Well, actually, as to what percent share freight forwarders control of airfreight or sea freight, airfreight is roughly 95% controlled by freight forwarders, and there are a lot of good reasons for that. The top 25 freight forwarders in a population of say, 10,000, control about 68% of

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global tonnage. So, almost 70% of freight is controlled by the top 25 guys, and by our estimation, that share has drifted upwards in the last decade.

Now, why do the freight forwarders control the air cargo market? It is because of the logistical complexity. Freight forwarders create networks that form around the demand pattern of their shippers, which typically is a one-to-many pattern. Airline networks are many-to-many, and there really is an incongruence which can only be managed efficiently by someone other than the asset operator, as every shipment, by definition, is door-to-door, and it must all be coordinated. It has to come from a factory or distribution center and end up wherever it needs to go. So, there is a truck move at the origin—it could even be multiple truck moves by the time it gets to the airfreight gateway. There is a capacity arbitrage function that is needed when consolidating voluminous shipments with dense shipments and then combining it into a pallet to generate attractive prices for shippers. These are all things that typically, an airline is not suited to do. Remember, half of airline capacity is a byproduct of carrying people. It is not to say that the airlines do not do a good job running their belly cargo operations. I am simply saying that the complexity alone is daunting, and often requires a specialist. So, because belly capacity is such a big part of the industry supply curve, it has enabled forwarders to become the middle man where on the one dimension, there is a great deal of logistical complexity, and on the other dimension, they have the ability to engage in capacity arbitrage.

I think it is interesting to compare it to container shipping, where the global freight forwarders probably control 45% of TEUs. There are interesting reasons for the variance—the reason why forwarders do not have a high share of sea freight as they do in airfreight is because of the scale of the largest shippers like a Wal-Mart or Home Depot. These shippers are moving so many TEUs that it makes sense for them to go directly to the container shipping company. They run their own large trucking networks to begin with, so logistically, they can handle a lot of that stuff themselves.

On top of that, the regulatory regime—at least in the United States—had made it relatively difficult for forwarders over the last 30-40 years to go directly to the beneficial cargo owners (BCOs) and have a direct relationship. Clearly, the forwarders do that now, but what I am saying is there had been a regulatory speed bump that prevented this massive shift that we saw in air freight. Now, the sky is the limit. Incrementally, the large forwarders have continued to take more share on the margin of sea freight. There is not too much share to take in the air freight sector, and it will be interesting to see who benefits there as marginally priced belly capacity becomes a bigger percent of the total industry supply curve.

**SPEAKER #2:** Can you comment please on how you delineate or view the role of the air cargo GSAs (General Sales Agents) versus the fewer airfreight forwarders?

**BRIAN CLANCY:** Well a GSA, or general sales agent, is typically is not selling to shippers. They are generally representing an airline and they all have different business cards. What happens is that an airline, if they are flying into a secondary market or have secondary cities into a primary market and want sales force coverage, basically has people knocking on freight forwarder doors. Oftentimes, the airline will outsource the sales force function to a GSA. So you have a lot of GSAs in the air cargo market, and they are basically a contract sales force for the airlines.

Now, there are agents for which you could maybe use the word GSA in a forwarder context. This is where freight forwarders—particularly medium sized freight forwarders and small

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freight forwarders—oftentimes will have agents. Say that the company is being built up in North America and they know they need a network footprint in Australia. As opposed to making a forward investment on resources without accompanying revenue, it is better for them to scale the business by having a GSA. Then, one must consider the difference between a polygamous agent, meaning an agent to everybody, or a proprietary relationship with an exclusive agent. So what agents do from a forwarder perspective is to allow extended network reach, particularly for middle market freight forwarders who want to minimize investment risk.

**END**

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**Exhibit 24: Stifel Global Integrator and Forwarder Financial Comps**

Company name (Ticker)	Rating	Closing Price 4/7/2014	Diluted S/O	Market cap.	Total Debt	Cash & equiv.	TEV <sup>(a)</sup>	Equity value as a multiple of Earnings per Share				Enterprise value as a multiple of EBITDA				Div. Yield	2014E FCFYld					
								2013A <sup>(b)</sup>	2014E <sup>(b)</sup>	2015E <sup>(b)</sup>	Book value	TTM Revenue	2014E EBITDA	TTM EBITDA	TTM EBITDA			TTM EBITDA	TTM ROA	TTM ROE	TTM ROIC	PEG ratio <sup>(d)</sup>
								2013A <sup>(b)</sup>	2014E <sup>(b)</sup>	2015E <sup>(b)</sup>	2014E	TTM	2014E	TTM	TTM			TTM	TTM	TTM	TTM	TTM
<b>Global Integrators</b>																						
Deutsche PostDHL (DPW-DE)	Hold	€27.37	1,211.8	45,416.2	8,137.8	4,681.3	50,972.6	16.8x	16.1x	14.4x	3.3x	0.6x	8.3x	8.8x	7.5x	13.0x	6.0%	21.6%	15.5%	1.1	2.9%	8.2%
FedEx Corp. (FDX)	Hold	132.98	316.6	42,107.1	4,736.0	3,042.0	43,801.1	20.8x	16.5x	13.2x	2.8x	1.0x	6.4x	7.4x	6.9x	13.0x	5.0%	10.4%	8.8%	1.3	0.5%	3.5%
TNT Express NV (TNT-E-NL)	NC	€6.97	543.3	5,185.2	249.3	789.1	4,645.4	NE	NE	NE	1.6x	0.5x	NE	5.6x	5.0x	NM	-4.0%	-6.7%	-5.7%	NM	0.0%	NM
United Parcel Service (UPS)	Hold	97.36	931.1	90,652.4	12,527.0	5,245.0	97,934.4	21.3x	18.7x	16.8x	14.0x	1.8x	10.0x	11.0x	11.0x	13.8x	11.6%	77.3%	25.0%	1.7	2.8%	5.7%
	Min	5,185.2	249.3	789.1	4,645.4	16.8x	16.1x	13.2x	1.6x	0.5x	6.4x	5.0x	5.6x	5.0x	5.0x	13.0x	-4.0%	-6.7%	-5.7%	1.1	0.0%	3.5%
	Mean	45,840.2	6,412.5	3,439.4	49,338.4	19.6x	17.1x	14.8x	5.4x	1.0x	8.2x	7.6x	8.2x	8.2x	7.6x	13.3x	4.7%	25.7%	10.9%	1.4	1.5%	5.8%
	Median	43,761.7	6,436.9	3,861.6	47,386.9	20.6x	16.5x	14.4x	3.0x	0.8x	8.3x	8.1x	7.2x	8.1x	7.2x	13.0x	5.5%	16.0%	12.1%	1.3	1.6%	5.7%
	Max	90,652.4	12,527.0	5,245.0	97,934.4	21.3x	18.7x	16.8x	14.0x	1.8x	10.0x	11.0x	11.0x	11.0x	11.0x	13.8x	11.6%	77.3%	25.0%	1.7	2.9%	8.2%
<b>Non-Asset-Based Forwarding/Logistics</b>																						
C.H. Robinson Worldwide (CHRW)	Hold	52.04	151.6	7,891.1	875.0	162.0	8,604.0	19.5x	18.9x	17.1x	8.4x	4.7x	11.5x	11.6x	11.1x	12.5x	14.9%	34.3%	23.5%	1.6	2.7%	2.5%
DSV/AS (DSV-DK)	NC	DKK175.40	176.0	5,662.7	1,237.5	1,122.0	6,788.0	NE	NE	NE	5.4x	3.5x	NE	NM	NM	14.8x	7.1%	29.4%	14.8%	NM	0.6%	NM
Echo Global Logistics (ECHO)	Hold	17.36	24.1	417.8	0.0	53.3	364.5	28.5x	25.5x	21.7x	2.7x	2.3x	9.8x	10.8x	10.2x	15.7x	6.2%	10.0%	10.0%	1.4	0.0%	3.0%
Expeditors International (EXPD)	Hold	39.43	205.6	8,105.0	0.0	1,247.7	6,857.4	23.5x	21.4x	20.0x	3.9x	3.7x	10.5x	11.4x	10.8x	12.4x	11.7%	16.9%	16.6%	2.1	1.5%	5.7%
Forward Air Corp. (FWRD)	Hold	45.09	31.8	1,435.3	0.1	98.6	1,336.9	24.8x	20.5x	18.0x	3.4x	2.1x	9.5x	12.4x	10.5x	15.7x	12.5%	14.5%	14.6%	1.9	0.9%	4.3%
Hub Group (HUBG)	Hold	39.15	37.7	1,474.3	8.2	69.0	1,413.5	20.4x	20.0x	16.7x	2.6x	3.8x	11.3x	11.5x	10.0x	12.1x	7.2%	13.3%	NM	1.5	0.0%	-2.0%
Kuehne + Nagel International AG (KNIN-CH)	Hold	CHF 123.80	120.2	16,649.6	52.9	1,097.5	15,851.5	25.3x	22.3x	20.7x	6.2x	2.2x	15.0x	17.8x	11.6x	18.7x	9.4%	25.0%	NM	1.5	2.8%	4.8%
Landstar System (LSTR)	Hold	58.74	46.1	2,706.2	129.3	180.3	2,655.2	24.9x	21.4x	19.3x	6.0x	1.0x	11.6x	13.0x	13.0x	15.0x	11.8%	26.1%	20.0%	1.4	0.0%	0.0%
Panalpina Welttransport Holding (PWTN-CH)	Hold	CHF 137.70	23.7	3,649.3	3.6	371.7	3,288.8	NM	32.8x	24.4x	4.7x	1.9x	17.8x	23.1x	11.4x	26.9x	3.8%	10.2%	11.5%	2.2	1.5%	5.3%
Roadrunner Transportation Svcs. (RRTS)	Buy	24.22	38.8	939.0	192.6	5.4	1,126.2	18.8x	16.4x	14.0x	1.9x	0.8x	9.9x	11.1x	10.3x	13.2x	6.3%	11.0%	8.7%	1.1	0.0%	4.9%
Universal Truckload Svcs. (UACL)	Buy	28.35	30.1	854.4	237.5	21.8	1,070.1	16.8x	16.9x	14.2x	8.1x	1.0x	9.3x	10.2x	8.8x	12.6x	12.5%	62.6%	19.6%	0.8	1.0%	4.5%
UTL Worldwide (UTW)	Buy	10.87	104.8	1,139.5	550.8	204.4	1,485.9	NM	NM	15.8x	1.7x	1.0x	9.8x	15.1x	8.0x	NM	-0.1%	-0.2%	0.7%	NM	0.6%	0.0%
XPO Logistics Inc. (XPO)	Buy	27.10	57.7	1,564.6	183.7	23.7	1,724.6	NM	NM	NM	3.4x	14.0x	NM	NM	NM	NM	-9.7%	-16.6%	0.7%	NM	0.0%	NM
	Min	417.8	0.0	5.4	364.5	16.8x	16.4x	14.0x	1.7x	0.8x	9.3x	10.2x	8.0x	12.1x	8.0x	12.1x	-9.7%	-16.6%	0.7%	0.8	0.0%	-2.0%
	Mean	4,037.6	267.0	281.5	4,043.6	22.5x	21.6x	18.3x	4.5x	3.2x	11.5x	13.5x	10.5x	15.4x	15.4x	15.4x	7.2%	18.2%	14.0%	1.6	0.9%	3.0%
	Median	1,564.6	129.3	112.2	1,724.6	23.5x	20.9x	18.0x	3.9x	2.2x	10.5x	11.6x	10.5x	14.8x	14.8x	14.8x	7.2%	14.5%	14.7%	1.5	0.6%	4.3%
	Max	16,649.6	1,237.5	1,247.7	15,851.5	28.5x	32.8x	24.4x	8.4x	14.0x	17.8x	23.1x	13.0x	26.9x	26.9x	26.9x	14.9%	62.6%	23.5%	2.2	2.8%	5.7%
<b>Stifel Transportation Average</b>																						
		9,763.6	1,717.6	471.3	11,055.8	21.4x	19.4x	16.5x	3.7x	2.2x	9.2x	10.2x	9.1x	15.3x	15.3x	15.3x	5.6%	15.2%	10.4%	1.5	0.9%	3.1%

(a) Total Enterprise Value = Market Capitalization of Equity + Total Debt - Cash + Market Value of Minority Interest

(b) Stifel estimates for those rated and First Call mean estimates for unrated securities

(c) Enterprise value adjusted to include the capitalization of off balance sheet operating leases with lease expense (or rent expense) being added back to EBITDA for the valuation multiple calculation

(d) 2014 P/E divided by First Call mean or Stifel estimated long-term growth rate

Excludes non-recurring items

Calculators may vary due to rounding

Source: Company data, First Call, and Stifel estimates

**Exhibit 25: Deutsche Post DHL - Financial Model**

	2012				2013				2014				2014E	2015E						
	2008A	2009A	2010A	2011A	1Q	2Q	3Q	4Q	2012A	1Q	2Q	3Q			4Q	2013A	1Q	2Q	3Q	4Q
<b>Fiscal year end December 31</b>																				
<i>(figures in € millions, except per share amounts)</i>																				
<b>TOTAL OPERATING REVENUE</b>																				
Mail	14,393	13,912	13,913	13,973	3,557	3,288	3,276	3,851	13,972	3,612	3,383	3,439	3,968	14,402	3,622	3,395	3,449	3,989	14,455	14,547
Y/Y % change	-1.2%	-3.3%	0.0%	0.4%	1.1%	0.9%	-1.9%	-0.1%	0.0%	1.5%	2.9%	5.0%	3.0%	3.1%	0.3%	0.3%	0.3%	0.5%	0.4%	0.6%
Express	13,637	9,917	11,111	11,691	3,020	3,244	3,172	3,342	12,778	3,037	3,237	3,112	3,326	12,712	3,250	3,464	3,330	3,559	13,602	14,418
Y/Y % change	-1.7%	-27.3%	12.0%	5.2%	9.8%	10.7%	9.0%	7.8%	9.3%	0.6%	-0.2%	-1.9%	-0.5%	-0.5%	7.0%	7.0%	7.0%	7.0%	7.0%	6.0%
Global forwarding, freight	14,179	11,243	14,341	15,118	3,686	3,973	4,018	3,989	15,666	3,615	3,722	3,712	3,789	14,838	3,626	3,857	3,830	3,891	15,204	15,850
Y/Y % change	9.4%	-20.7%	27.6%	5.4%	2.4%	5.7%	5.6%	0.8%	3.6%	-1.9%	-6.3%	-7.6%	-5.0%	-5.3%	0.3%	3.6%	3.2%	2.7%	2.5%	4.3%
Supply chain	13,718	12,183	13,061	13,223	3,409	3,528	3,670	3,733	14,340	3,483	3,550	3,532	3,712	14,277	3,589	3,669	3,694	3,881	14,833	15,410
Y/Y % change	-4.2%	-11.2%	7.2%	1.2%	6.0%	12.5%	10.4%	5.2%	8.4%	2.2%	0.6%	-3.8%	-0.6%	-0.4%	3.1%	3.4%	4.6%	4.5%	3.9%	3.9%
Corporate center & other	1,782	1,527	1,302	1,260	292	296	299	316	1,203	289	307	311	344	1,251	289	307	311	344	1,251	1,251
Y/Y % change	-206.3%	-14.3%	-14.7%	-3.2%	-9.6%	-5.1%	2.7%	-5.4%	-4.5%	-1.0%	3.7%	4.0%	8.9%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Consolidation	(3,235)	(2,581)	(2,395)	(2,436)	(600)	(597)	(596)	(654)	(2,447)	(592)	(600)	(608)	(645)	(2,445)	(600)	(600)	(600)	(600)	(2,400)	(2,400)
<b>Revenue</b>	<b>54,474</b>	<b>46,201</b>	<b>51,388</b>	<b>52,829</b>	<b>13,364</b>	<b>13,732</b>	<b>13,839</b>	<b>14,577</b>	<b>55,512</b>	<b>13,444</b>	<b>13,599</b>	<b>13,498</b>	<b>14,494</b>	<b>55,035</b>	<b>13,777</b>	<b>14,091</b>	<b>14,014</b>	<b>15,603</b>	<b>56,945</b>	<b>58,076</b>
Other operating revenue	2,736	2,141	2,217	2,050	378	761	411	618	2,168	440	490	464	567	1,961	440	490	464	567	1,961	1,961
<b>Total revenue (continuing operations)</b>	<b>57,210</b>	<b>48,342</b>	<b>53,605</b>	<b>54,879</b>	<b>13,742</b>	<b>14,493</b>	<b>14,250</b>	<b>15,195</b>	<b>57,680</b>	<b>13,884</b>	<b>14,089</b>	<b>13,962</b>	<b>15,061</b>	<b>56,996</b>	<b>14,217</b>	<b>14,581</b>	<b>14,478</b>	<b>15,300</b>	<b>58,906</b>	<b>61,057</b>
Y/Y % change	1.5%	-15.5%	10.9%	2.4%	4.1%	9.0%	5.3%	2.3%	5.1%	1.0%	2.8%	2.0%	-0.9%	-1.2%	2.4%	3.5%	3.7%	3.6%	3.4%	3.6%
Total revenue (discontinued operations)	11,226	1,634	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL OPERATING EXPENSES</b>																				
Materials expense	(31,979)	(25,774)	(29,380)	(30,544)	(7,571)	(7,917)	(8,048)	(8,327)	(31,863)	(7,518)	(7,721)	(7,686)	(8,287)	(31,212)	(7,735)	(7,986)	(7,909)	(8,450)	(32,080)	(33,096)
Staff costs	(18,389)	(17,021)	(16,609)	(16,730)	(4,327)	(4,460)	(4,334)	(4,649)	(17,770)	(4,456)	(4,538)	(4,322)	(4,469)	(17,785)	(4,439)	(4,583)	(4,539)	(4,480)	(18,411)	(18,994)
Depreciation, amortization and impairment losses	(2,662)	(1,620)	(1,296)	(1,274)	(316)	(331)	(343)	(349)	(1,339)	(321)	(334)	(338)	(348)	(1,341)	(336)	(347)	(344)	(367)	(1,395)	(1,439)
Other operating expenses	(5,146)	(3,686)	(4,485)	(3,895)	(837)	(1,160)	(921)	(1,043)	(3,961)	(890)	(916)	(970)	(1,072)	(3,848)	(942)	(972)	(963)	(1,029)	(3,935)	(4,029)
<b>Total operating expenses</b>	<b>(58,176)</b>	<b>(48,111)</b>	<b>(51,770)</b>	<b>(52,443)</b>	<b>(13,051)</b>	<b>(13,868)</b>	<b>(13,646)</b>	<b>(14,368)</b>	<b>(54,933)</b>	<b>(13,185)</b>	<b>(13,509)</b>	<b>(13,316)</b>	<b>(14,176)</b>	<b>(54,186)</b>	<b>(13,451)</b>	<b>(13,888)</b>	<b>(13,756)</b>	<b>(14,696)</b>	<b>(55,791)</b>	<b>(57,559)</b>
<b>PROFIT FROM OPERATING ACTIVITIES (EBIT)</b>																				
Mail	2,179	1,391	1,118	1,107	382	190	246	371	1,199	382	173	261	360	1,176	380	204	259	379	1,222	1,229
Operating margin	15.1%	10.0%	8.0%	7.9%	11.0%	5.8%	7.5%	9.6%	8.6%	10.6%	5.1%	7.6%	9.1%	8.2%	10.5%	6.0%	7.5%	9.5%	8.5%	8.5%
Y/Y % change	10.3%	-36.2%	-19.6%	-1.0%	5.1%	2.2%	-16.5%	50.8%	8.3%	-2.6%	-8.9%	6.1%	-3.0%	-1.9%	-0.4%	17.7%	-6.9%	5.3%	3.9%	0.8%
Express	(2,194)	(790)	497	916	232	298	231	280	1,041	254	296	283	320	1,133	270	326	293	342	1,230	1,383
Operating margin	-16.1%	-8.0%	4.5%	7.8%	7.7%	9.2%	7.3%	8.4%	8.1%	8.4%	9.1%	8.5%	9.6%	8.9%	8.3%	9.4%	8.8%	9.6%	9.0%	9.6%
Y/Y % change	NM	NM	NM	NM	84.3%	8.4%	23.1%	6.9%	14.8%	13.6%	9.5%	-0.7%	13.9%	14.3%	8.8%	6.2%	10.0%	11.4%	6.8%	8.6%
Global forwarding, freight	362	174	383	440	87	138	122	167	514	88	129	127	139	483	91	139	138	146	513	623
Operating margin	2.6%	1.5%	2.7%	2.9%	2.4%	3.5%	3.0%	4.2%	3.3%	2.4%	3.5%	3.4%	3.7%	3.3%	2.5%	3.0%	3.6%	3.8%	3.4%	3.9%
Operating margin (as a % of gross profit)	15.1%	10.0%	8.0%	7.9%	11.0%	5.8%	7.5%	9.6%	8.6%	10.6%	5.1%	7.6%	9.1%	8.2%	10.5%	6.0%	7.5%	9.5%	8.5%	8.5%
Y/Y % change	-11.5%	-51.9%	120.1%	14.9%	22.5%	20.0%	-1.6%	25.8%	16.8%	1.1%	-6.8%	4.1%	-16.8%	-6.0%	3.0%	7.6%	-6.0%	6.3%	21.5%	
Supply chain	(920)	(216)	231	362	92	101	110	116	419	84	68	100	178	430	111	117	126	171	525	599
Operating margin	-6.7%	-1.8%	1.8%	2.7%	2.7%	2.9%	3.0%	3.1%	2.9%	2.4%	1.9%	2.8%	4.8%	3.0%	3.1%	3.2%	3.4%	4.4%	3.5%	3.9%
Y/Y % change	NM	-76.5%	NM	56.7%	17.9%	-9.0%	10.0%	58.9%	15.7%	-8.7%	-32.7%	-9.1%	53.4%	2.6%	32.5%	72.7%	25.6%	-4.1%	22.1%	14.1%
Corporate center & other	(393)	(328)	(395)	(389)	(112)	(101)	(104)	(106)	(423)	(98)	(107)	(105)	(111)	(421)	(87)	(92)	(93)	(103)	(375)	(357)
Operating margin	-22.1%	-21.5%	-30.3%	-30.9%	-38.4%	-34.1%	-34.8%	-33.5%	-35.2%	-33.9%	-34.9%	-33.8%	-32.3%	-33.7%	-30.0%	-30.0%	-30.0%	-30.0%	-30.0%	-28.5%
Y/Y % change	-29.4%	-16.5%	20.4%	-1.5%	4.7%	9.8%	8.3%	12.8%	8.7%	-12.5%	5.9%	1.0%	4.7%	-0.5%	-11.5%	-13.9%	-11.1%	-7.0%	-10.9%	-5.0%
Consolidation	0	0	(1)	0	0	0	(1)	(2)	(3)	1	(1)	0	(1)	(1)	0	0	0	0	0	0
Operating margin	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.1%	-0.2%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Y/Y % change	NM	NM	NM	-100.0%	NM	-100.0%	-50.0%	-66.7%	-100.0%	-100.0%	NM	-100.0%	-100.0%	NM						
<b>Profit from operating activities (EBIT)</b>	<b>(966)</b>	<b>231</b>	<b>1,835</b>	<b>2,436</b>	<b>691</b>	<b>625</b>	<b>604</b>	<b>827</b>	<b>2,747</b>	<b>699</b>	<b>586</b>	<b>646</b>	<b>885</b>	<b>2,810</b>	<b>765</b>	<b>693</b>	<b>722</b>	<b>934</b>	<b>3,115</b>	<b>3,478</b>
Operating margin	-1.7%	0.5%	3.4%	4.4%	5.0%	4.3%	4.2%	5.4%	4.8%	5.0%	4.1%	4.6%	5.9%	4.9%	5.4%	4.8%	5.0%	6.0%	5.3%	5.7%
Y/Y % change	-145.3%	-123.9%	NM	32.8%	9.9%	11.2%	-6.5%	38.1%	12.8%	1.2%	-7.2%	7.0%	7.0%	2.3%	9.5%	19.6%	11.7%	5.5%	10.8%	11.7%
Depreciation, amortization and impairment losses	(2,662)	(1,620)	(1,296)	(1,274)	(316)	(331)	(343)	(349)	(1,339)	(321)	(334)	(338)	(348)	(1,341)	(336)	(347)	(344)	(367)	(1,395)	(1,439)
<b>EBITDA</b>	<b>1,696</b>	<b>1,851</b>	<b>3,131</b>	<b>3,710</b>	<b>1,007</b>	<b>956</b>	<b>947</b>	<b>1,176</b>	<b>4,086</b>	<b>1,020</b>	<b>914</b>	<b>984</b>	<b>1,233</b>	<b>4,151</b>	<b>1,102</b>	<b>1,041</b>	<b>1,066</b>	<b>1,301</b>	<b>4,509</b>	<b>4,917</b>
Net income from associates	2	28	56	60	0	0	0	2	2	0	0	0	2	2	2	2	2	2	8	8
NI from measurement of Deutsche Postbank Grp - E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other financial income	598	1,885	2,251	590	382	43	26	20	471	73	65	28	16	182	31	28	26	29	115	134
Other financial costs	(714)	(1,857)	(1,335)	(1,391)	(485)	(155)	(131)	(192)	(963)	(107)	(90)	(117)	(117)	(431)	(112)	(112)	(112)	(112)	(448)	(448)
Foreign currency result	14	(11)	17	(36)	(14)	(22)	(2)	1	(37)	(10)	(14)	(9)	(9)	(42)	0	0	0	0	0	0
Net other financial income (costs)	(102)	17	933	(837)	(117)	(134)	(107)	(171)	(529)	(44)	(39)	(98)	(110)	(291)	(81)	(84)	(86)	(83)	(333)	(314)
Net financial income (costs)	(100)	45	989	(777)	(117)	(134)	(107)	(169)	(527)	(44)	(39)	(98)	(108)	(289)	(81)	(82)	(84)	(81)	(325)	(306)
<b>Profit before income taxes</b>	<b>(1,066)</b>	<b>276</b>	<b>2,824</b>	<b>1,659</b>	<b>574</b>	<b>491</b>	<b>497</b>	<b>658</b>	<b>2,220</b>	<b>655</b>	<b>541</b>	<b>548</b>	<b>777</b>	<b>2,521</b>	<b>686</b>	<b>612</b>	<b>638</b>	<b>853</b>	<b>2,789</b>	<b>3,172</b>
Income taxes	(200)	(15)	(194)	(393)	(159)	(93)	(86)	(76)	(414)	(144)	(118)	(121)	34	(350)	(137)	(122)	(128)	(171)	(558)	(698)
<b>Consolidated net profit (continuing operations)</b>	<b>(1,266)</b>	<b>261</b>	<b>2,630</b>	<b>1,266</b>	<b>415</b>	<b>398</b>														

**Exhibit 26: Expeditors International of Washington, Inc. - Financial Model**

(figures in \$U.S. millions, except per share amounts)  
 Fiscal Year End December 31

	2012				2013				2014				2014E	2015E						
	2008A	2009A	2010A	2011A	1Q	2Q	3Q	4Q	2012A	1Q	2Q	3Q			4Q	2013A	1Q	2Q	3Q	4Q
<b>Gross revenues</b>																				
Airfreight	2,541.4	1,831.3	2,821.8	2,893.5	638.9	638.5	622.7	700.8	2,600.9	620.4	643.0	628.1	742.4	2,633.8	683.7	721.5	743.9	783.6	2,932.7	3,136.7
% change y/y	5.6%	-27.9%	54.1%	2.6%	-8.8%	-14.8%	-15.5%	-0.7%	-10.1%	-2.9%	0.7%	0.9%	5.9%	1.3%	10.2%	12.2%	18.4%	5.6%	11.3%	7.0%
Ocean freight and ocean services	1,991.0	1,297.7	1,955.4	1,878.6	434.3	519.0	549.3	472.3	1,974.9	445.5	492.0	525.2	495.6	1,958.2	460.3	521.0	541.0	490.4	2,012.7	2,113.3
% change y/y	9.4%	-34.8%	50.7%	-3.9%	-1.3%	6.6%	7.6%	7.1%	5.1%	2.6%	-5.2%	-4.4%	4.9%	-0.8%	3.3%	5.9%	3.0%	-1.0%	2.8%	5.0%
Customs brokerage and other services	1,101.5	963.3	1,190.3	1,378.4	338.1	347.4	359.7	359.9	1,405.1	344.6	365.5	381.8	387.9	1,479.8	363.3	385.5	402.5	408.7	1,560.0	1,644.1
% change y/y	9.4%	-12.5%	23.6%	15.8%	5.7%	0.8%	0.2%	1.4%	1.9%	1.9%	5.2%	6.1%	7.8%	5.3%	5.4%	5.5%	5.4%	5.4%	6.4%	6.4%
<b>Total gross revenues</b>	<b>5,633.9</b>	<b>4,092.3</b>	<b>5,967.6</b>	<b>6,150.5</b>	<b>1,411.4</b>	<b>1,505.0</b>	<b>1,531.7</b>	<b>1,533.0</b>	<b>5,980.9</b>	<b>1,410.5</b>	<b>1,500.5</b>	<b>1,535.1</b>	<b>1,625.9</b>	<b>6,071.9</b>	<b>1,507.4</b>	<b>1,627.9</b>	<b>1,687.3</b>	<b>1,682.8</b>	<b>6,505.4</b>	<b>6,894.2</b>
% change y/y	7.6%	-27.4%	45.8%	3.1%	-3.4%	-4.8%	-4.7%	2.1%	-2.8%	-0.1%	-0.3%	0.2%	6.1%	1.5%	6.9%	8.5%	9.9%	3.5%	7.1%	6.0%
<b>Net revenue margin</b>																				
Airfreight	22.8%	26.7%	22.7%	24.2%	24.7%	24.2%	24.2%	22.0%	23.7%	25.1%	24.9%	25.7%	21.9%	24.3%	24.1%	23.5%	23.0%	22.0%	23.1%	22.5%
bps change y/y	84bp	395bp	-404bp	152bp	-44bp	101bp	-7bp	-228bp	-47bp	35bp	72bp	149bp	-12bp	55bp	-96bp	-138bp	-270bp	9bp	-117bp	-64bp
Ocean freight and ocean services	19.8%	25.0%	19.7%	23.2%	23.6%	20.3%	21.3%	22.9%	21.9%	22.6%	22.6%	22.0%	22.1%	22.3%	22.5%	22.0%	22.0%	23.0%	22.4%	22.4%
bps change y/y	78bp	516bp	-527bp	346bp	72bp	-206bp	-191bp	-150bp	-127bp	-100bp	-228bp	75bp	-78bp	40bp	-7bp	-62bp	0bp	90bp	5bp	0bp
Customs brokerage and other services	57.2%	59.1%	56.0%	55.2%	55.1%	55.8%	55.0%	54.5%	55.1%	54.9%	54.1%	53.7%	53.1%	53.9%	54.7%	53.9%	53.5%	52.9%	53.7%	53.9%
bps change y/y	-23bp	190bp	-304bp	-85bp	-26bp	69bp	15bp	-95bp	-9bp	-18bp	-166bp	-124bp	-146bp	-116bp	-22bp	-24bp	-21bp	-186bp	-21bp	-20bp
<b>Total net revenue margin</b>	<b>28.5%</b>	<b>33.8%</b>	<b>28.4%</b>	<b>30.8%</b>	<b>31.6%</b>	<b>30.1%</b>	<b>30.4%</b>	<b>29.9%</b>	<b>30.5%</b>	<b>31.6%</b>	<b>31.3%</b>	<b>31.4%</b>	<b>29.4%</b>	<b>30.9%</b>	<b>31.0%</b>	<b>30.2%</b>	<b>30.0%</b>	<b>29.8%</b>	<b>30.2%</b>	<b>29.8%</b>
bps change y/y	70bp	533bp	-542bp	247bp	57bp	26bp	-37bp	-178bp	-34bp	71bp	112bp	103bp	-52bp	37bp	-58bp	-105bp	-145bp	39bp	-65bp	-38bp
<b>Net revenues</b>																				
Airfreight	578.8	489.5	640.2	700.4	157.9	154.2	150.7	154.4	617.2	155.5	160.0	161.4	162.6	639.5	164.8	169.6	171.1	172.4	677.8	704.9
% change y/y	9.6%	-15.4%	30.8%	9.4%	-10.4%	-11.1%	-15.7%	-10.0%	-11.9%	-1.5%	3.7%	7.1%	5.3%	3.6%	6.0%	6.0%	6.0%	6.0%	6.0%	4.0%
Ocean freight and ocean services	394.6	324.2	385.5	435.4	102.4	105.6	116.7	108.1	432.7	100.6	111.3	115.5	109.5	436.9	103.6	114.6	119.0	112.8	450.0	472.5
% change y/y	13.9%	-17.8%	18.9%	12.9%	1.8%	-3.2%	-1.3%	0.5%	-0.6%	-1.8%	5.4%	-1.0%	1.9%	1.0%	3.0%	3.0%	3.0%	3.0%	3.0%	5.0%
Customs brokerage and other services	629.9	569.1	667.0	760.7	186.3	193.9	197.7	196.3	774.2	189.3	197.9	205.1	205.9	798.1	198.7	207.8	215.3	216.2	838.0	879.9
% change y/y	8.9%	-9.6%	17.2%	14.0%	5.2%	2.1%	0.5%	-0.4%	1.8%	1.6%	2.1%	3.7%	4.9%	3.1%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
<b>Total net revenues</b>	<b>1,603.3</b>	<b>1,382.8</b>	<b>1,692.8</b>	<b>1,896.5</b>	<b>446.6</b>	<b>453.7</b>	<b>465.1</b>	<b>458.7</b>	<b>1,824.1</b>	<b>445.3</b>	<b>469.1</b>	<b>482.0</b>	<b>478.1</b>	<b>1,874.5</b>	<b>467.1</b>	<b>491.9</b>	<b>505.4</b>	<b>501.4</b>	<b>1,965.9</b>	<b>2,057.4</b>
% change y/y	10.3%	-13.8%	22.4%	12.0%	-1.6%	-4.0%	-4.8%	-3.7%	-3.8%	-0.3%	3.4%	3.6%	4.2%	2.8%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%
<b>Other operating expenses</b>																				
Salaries and related costs	863.8	774.2	894.1	993.4	246.1	249.9	252.9	246.1	995.1	248.4	255.6	261.6	267.0	1,032.6	254.3	261.0	264.6	268.7	1,048.6	1,093.0
Rent and occupancy costs	77.0	74.3	77.2	84.7	21.2	20.9	21.3	24.7	88.0	21.7	22.1	21.9	25.0	90.6	21.5	22.0	22.3	22.7	88.5	92.3
Depreciation and amortization	40.0	40.0	35.9	35.8	9.5	9.7	10.0	10.7	39.9	11.3	11.7	12.6	12.5	48.1	11.6	11.9	12.0	12.2	47.7	49.7
Selling and promotion	37.8	26.3	32.1	39.0	8.7	8.9	7.8	8.8	34.2	7.3	8.3	8.3	9.4	33.2	9.9	10.2	10.3	10.5	40.9	42.6
Other	111.5	82.9	105.3	124.4	35.8	31.9	28.0	40.4	136.1	28.2	27.8	31.3	30.6	117.9	33.0	33.9	34.4	34.9	136.2	141.9
<b>Total operating expenses</b>	<b>1,130.1</b>	<b>997.8</b>	<b>1,145.6</b>	<b>1,278.2</b>	<b>321.3</b>	<b>321.2</b>	<b>320.0</b>	<b>330.7</b>	<b>1,293.3</b>	<b>316.8</b>	<b>325.5</b>	<b>335.7</b>	<b>344.4</b>	<b>1,322.4</b>	<b>330.2</b>	<b>338.9</b>	<b>343.7</b>	<b>349.0</b>	<b>1,361.8</b>	<b>1,419.5</b>
<b>Operating ratio (gross)</b>	91.6%	90.6%	90.8%	89.9%	91.1%	91.2%	90.5%	91.6%	91.1%	90.9%	90.4%	90.5%	91.8%	90.9%	90.9%	90.6%	90.4%	90.9%	90.7%	90.7%
<b>Operating ratio (net)</b>	70.5%	72.2%	67.7%	67.4%	70.9%	70.8%	68.8%	72.1%	70.9%	71.1%	69.4%	69.6%	72.0%	70.5%	70.7%	69.9%	68.0%	69.6%	69.3%	69.0%
<b>EBIT</b>	<b>473.1</b>	<b>385.0</b>	<b>547.2</b>	<b>618.3</b>	<b>125.3</b>	<b>132.4</b>	<b>145.1</b>	<b>128.0</b>	<b>530.8</b>	<b>128.5</b>	<b>143.6</b>	<b>146.3</b>	<b>133.7</b>	<b>552.1</b>	<b>136.9</b>	<b>153.0</b>	<b>161.7</b>	<b>152.4</b>	<b>604.0</b>	<b>637.9</b>
% margin (net revenues)	29.5%	27.8%	32.3%	32.6%	28.1%	29.2%	31.2%	27.9%	29.1%	28.9%	30.6%	30.4%	28.0%	29.5%	29.3%	31.1%	32.0%	30.4%	30.7%	31.0%
<b>EBITDA</b>	<b>513.1</b>	<b>425.0</b>	<b>584.1</b>	<b>655.1</b>	<b>134.8</b>	<b>142.1</b>	<b>155.1</b>	<b>138.7</b>	<b>570.7</b>	<b>139.8</b>	<b>155.3</b>	<b>158.9</b>	<b>146.2</b>	<b>600.1</b>	<b>148.4</b>	<b>164.9</b>	<b>173.8</b>	<b>164.6</b>	<b>651.7</b>	<b>687.6</b>
% margin (net revenues)	32.0%	30.7%	34.5%	34.5%	30.2%	31.3%	33.4%	30.2%	31.3%	31.4%	33.1%	33.0%	30.6%	32.0%	31.8%	33.5%	34.4%	32.8%	33.1%	33.4%
<b>Other income (expense)</b>																				
Interest income (expense)	21.1	10.2	7.0	10.2	3.4	3.1	2.8	3.5	12.8	3.2	3.1	3.0	2.5	11.8	3.3	3.4	3.4	3.5	13.6	14.2
Interest expense	(0.2)	(0.5)	(0.6)	(1.0)	(0.6)	(0.2)	(0.2)	(0.2)	(1.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other, net	5.5	8.2	10.4	10.4	1.1	3.7	1.2	2.1	8.1	1.5	4.3	1.2	1.6	8.7	1.0	1.0	1.0	1.0	4.0	4.0
<b>Other income, net</b>	<b>26.4</b>	<b>17.9</b>	<b>16.8</b>	<b>19.7</b>	<b>3.8</b>	<b>6.5</b>	<b>3.9</b>	<b>5.4</b>	<b>19.6</b>	<b>4.8</b>	<b>7.4</b>	<b>4.2</b>	<b>4.2</b>	<b>20.5</b>	<b>4.3</b>	<b>4.4</b>	<b>4.4</b>	<b>4.5</b>	<b>17.6</b>	<b>18.2</b>
<b>Earnings before income taxes and minority interest</b>	<b>499.6</b>	<b>402.9</b>	<b>564.1</b>	<b>638.0</b>	<b>129.1</b>	<b>138.9</b>	<b>149.0</b>	<b>133.4</b>	<b>550.4</b>	<b>133.3</b>	<b>151.0</b>	<b>150.5</b>	<b>137.8</b>	<b>572.6</b>	<b>141.2</b>	<b>157.4</b>	<b>166.2</b>	<b>156.9</b>	<b>621.6</b>	<b>656.1</b>
<b>Effective tax rate</b>	39.4%	40.3%	39.0%	39.5%	40.6%	39.5%	40.4%	37.4%	39.5%	39.5%	38.6%	38.4%	39.1%	38.9%	39.5%	39.5%	39.5%	39.5%	39.5%	39.5%
<b>Minority interest<sup>(1)</sup></b>	(2.0)	(0.2)	(0.0)	(0.6)	(0.0)	(0.1)	(0.2)	0.7	0.4	(0.3)	(0.3)	(0.3)	(0.5)	(1.5)	(0.2)	(0.2)	(0.2)	(0.2)	(0.8)	(0.8)
<b>Net earnings<sup>(2)</sup></b>	<b>301.0</b>	<b>240.2</b>	<b>344.2</b>	<b>385.7</b>	<b>76.7</b>	<b>84.0</b>	<b>88.5</b>	<b>84.2</b>	<b>333.4</b>	<b>80.3</b>	<b>92.3</b>	<b>92.4</b>	<b>83.5</b>	<b>348.5</b>	<b>85.2</b>	<b>95.0</b>	<b>100.3</b>	<b>94.7</b>	<b>375.3</b>	<b>396.2</b>
<b>Average shares outstanding - diluted<sup>(3,4)</sup></b>	<b>219.2</b>	<b>216.5</b>	<b>216.4</b>	<b>215.0</b>	<b>214.2</b>	<b>213.2</b>	<b>211.4</b>	<b>209.0</b>	<b>211.9</b>	<b>207.6</b>	<b>207.2</b>	<b>207.4</b>	<b>205.5</b>	<b>206.9</b>	<b>204.8</b>	<b>203.9</b>	<b>203.4</b>	<b>202.8</b>	<b>203.7</b>	<b>201.5</b>
<b>EPS - diluted (continuing operations)</b>	<b>\$1.37</b>	<b>\$1.11</b>	<b>\$1.59</b>	<b>\$1.79</b>	<b>\$0.36</b>	<b>\$0.39</b>	<b>\$0.42</b>	<b>\$0.40</b>	<b>\$1.57</b>	<b>\$0.39</b>	<b>\$0.45</b>	<b>\$0.45</b>	<b>\$0.41</b>	<b>\$1.68</b>	<b>\$0.42</b>	<b>\$0.47</b>	<b>\$0.49</b>	<b>\$0.47</b>	<b>\$1.84</b>	<b>\$1.97</b>
% change y/y	13.2%	-19.2%	43.3%	12.8%	-15.3%	-10.6%	-15.7%	-7.0%	-12.3%	8.0%	13.2%	6.4%	0.8%	7.7%	7.6%	4.6%	10.7%	15.0%	9.4%	6.7%

**Exhibit 27: FedEx Corp. - Financial Model**

(figures in \$ millions, except per share or Fiscal Year End May 31)

	2009A	2010A	2011A	2012A	FY 2013				2013A	FY 2014				2014E	FY 2015				2015E	2016E
					1QA	2QA	3QA	4QA		1QA	2QA	3QA	4QE		1QE	2QE	3QE	4QE		
<b>REVENUE</b>																				
<b>FedEx Express</b>																				
Package Revenue:																				
U.S. Overnight Box	6,074	5,602	6,128	6,546	1,604	1,609	1,609	1,691	6,513	1,584	1,625	1,643	1,664	6,516	1,617	1,657	1,676	1,697	6,647	6,739
U.S. Overnight Envelope	1,855	1,640	1,736	1,747	430	409	413	453	1,705	419	398	393	455	1,665	424	403	396	459	1,633	1,690
Total U.S. Overnight	7,929	7,242	7,864	8,293	2,034	2,018	2,022	2,144	8,218	2,003	2,023	2,036	2,119	8,181	2,041	2,060	2,072	2,157	8,330	8,429
U.S. Deferred	2,789	2,589	2,805	3,001	702	732	812	774	3,020	729	771	869	792	3,161	759	802	904	824	3,288	3,398
Total U.S. Packages	10,718	9,831	10,669	11,294	2,736	2,750	2,834	2,918	11,238	2,732	2,794	2,905	2,911	11,342	2,799	2,862	2,976	2,981	11,618	11,827
International Priority	6,978	7,087	6,760	6,849	1,661	1,678	1,567	1,680	6,586	1,576	1,642	1,542	1,655	6,415	1,616	1,682	1,582	1,696	6,576	6,669
International Economy					487	514	491	554	2,046	532	567	540	588	2,227	581	618	589	642	2,429	2,377
International Domestic	565	578	653	853	309	384	342	363	1,398	345	385	347	368	1,445	374	416	375	398	1,563	1,664
Total International	18,261	17,496	19,550	20,855	5,193	5,326	5,234	5,515	21,268	5,185	5,388	5,334	5,523	21,430	5,369	5,578	5,521	5,717	22,186	22,998
Total FedEx Revenue	29,079	26,738	29,819	32,149	7,229	7,376	7,268	8,433	32,486	7,818	8,011	8,239	8,434	32,772	8,166	8,438	8,497	8,694	30,516	31,427
% change y/y	-8.3%	-4.2%	11.7%	6.7%	-0.7%	3.2%	2.1%	3.3%	2.0%	-0.2%	1.2%	1.9%	0.1%	0.8%	3.5%	3.6%	3.5%	3.5%	3.5%	3.7%
Freight Revenue:																				
U.S.	2,165	1,980	2,188	2,498	610	645	668	639	2,562	624	585	577	575	2,361	571	615	607	604	2,398	2,504
International Priority	1,104	1,303	1,722	1,827	439	446	384	409	1,678	388	417	379	417	1,601	412	443	402	442	1,699	1,775
International Airfreight	369	251	283	307	74	77	64	61	276	54	55	48	51	208	56	57	49	53	216	223
Total Freight Revenue	3,638	3,534	4,193	4,632	1,123	1,168	1,116	1,109	4,516	1,066	1,057	1,004	1,044	4,171	1,039	1,115	1,058	1,100	4,312	4,502
% change y/y	-10.1%	-2.9%	18.6%	10.5%	0.5%	-0.3%	-4.4%	-5.7%	-2.5%	-5.1%	-9.5%	-10.0%	-5.9%	-7.7%	-2.5%	5.5%	5.5%	5.4%	5.4%	4.4%
Other FedEx Express Revenue	465	525	838	1,028	316	364	354	353	1,387	354	399	336	395	1,484	350	400	390	430	1,570	1,715
% change y/y	1.7%	12.9%	59.6%	22.7%	27.4%	46.8%	41.0%	25.2%	34.9%	12.0%	9.6%	-5.1%	11.9%	7.0%	-1.1%	0.3%	16.1%	8.9%	5.8%	9.2%
Total FedEx Express Revenue	22,364	21,555	24,581	26,515	6,632	6,858	6,676	6,977	27,171	6,605	6,844	6,674	6,961	27,084	6,758	7,094	6,969	7,247	28,668	29,214
% change y/y	-8.4%	-3.0%	14.0%	7.9%	0.6%	4.2%	2.9%	2.6%	2.5%	-0.4%	-0.2%	-0.4%	-0.2%	-0.3%	2.3%	3.6%	4.4%	4.1%	3.6%	4.1%
<b>Total FedEx Ground Revenue</b>																				
	7,047	7,439	8,485	9,573	2,462	2,593	2,747	2,776	10,578	2,730	2,849	3,031	2,964	11,574	2,931	3,059	3,248	3,183	12,420	13,279
% change y/y	4.4%	5.0%	14.1%	12.8%	8.1%	10.9%	10.6%	12.1%	10.5%	10.9%	9.9%	10.3%	6.8%	9.4%	7.3%	7.4%	7.1%	7.4%	7.3%	6.9%
<b>Total FedEx Freight Revenue</b>																				
	4,415	4,321	4,911	5,282	1,399	1,377	1,237	1,388	5,401	1,424	1,434	1,347	1,363	5,568	1,403	1,421	1,313	1,432	5,569	5,875
% change y/y	-10.5%	-2.1%	13.7%	7.6%	-5.3%	-3.9%	-0.2%	-0.5%	2.3%	1.8%	4.1%	-8.9%	-1.8%	3.1%	-1.5%	-0.9%	-2.5%	5.1%	0.0%	5.6%
<b>Total FedEx Services Revenue*</b>																				
	1,977	1,770	1,684	1,671	389	405	380	406	1,580	375	391	368	430	1,564	410	425	410	440	1,685	1,745
% change y/y	-7.5%	-10.5%	-4.9%	-0.8%	-5.4%	-5.2%	-5.2%	-6.0%	-5.4%	-3.6%	-3.5%	-3.2%	5.9%	-1.0%	9.3%	8.7%	11.4%	2.3%	7.7%	3.6%
<b>Other</b>																				
	(306)	(351)	(357)	(361)	(90)	(126)	(115)	(112)	(443)	(110)	(115)	(119)	(90)	(434)	(90)	(90)	(90)	(90)	(360)	(360)
<b>Total Consolidated Revenue</b>																				
	35,497	34,734	39,304	42,880	10,792	11,107	10,953	11,435	44,287	11,024	11,403	11,301	11,628	45,356	11,412	11,908	11,850	12,212	47,383	49,754
% change y/y	-6.5%	-2.1%	13.2%	8.6%	2.6%	4.9%	3.7%	3.9%	3.8%	2.1%	2.7%	3.2%	1.7%	2.4%	3.5%	4.4%	4.9%	5.0%	4.5%	5.0%
<b>OPERATING EXPENSES</b>																				
Salaries and employee benefits	13,767	14,027	15,276	16,099	4,103	4,125	4,150	4,192	16,570	4,077	4,148	4,167	4,197	16,589	4,176	4,345	4,330	4,347	17,198	17,829
Purchased transportation	4,534	4,728	5,674	6,335	1,680	1,860	1,871	1,861	7,272	1,879	2,040	2,063	2,045	8,027	2,096	2,201	2,242	2,190	8,730	9,206
Rentals and landing fees	2,429	2,359	2,462	2,487	618	630	640	633	2,521	640	648	662	690	2,640	683	711	710	713	2,817	2,918
Depreciation and amortization	1,975	1,958	1,973	2,113	573	592	599	622	2,386	639	647	652	752	2,690	747	781	784	781	3,093	3,213
Fuel	3,811	3,106	4,151	4,956	1,138	1,235	1,215	1,158	4,746	1,104	1,136	1,163	1,180	4,583	1,173	1,215	1,206	1,216	4,810	4,960
Maintenance and repairs	1,898	1,715	1,979	1,980	542	511	424	432	1,909	480	479	438	478	1,875	437	455	455	455	1,801	1,868
Airline stabilization compensation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Impairment (and other) charges	1,204	18	89	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Business realignment costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	5,132	4,825	5,322	5,390	1,392	1,423	1,418	1,439	5,672	1,410	1,478	1,515	1,216	5,619	1,208	1,258	1,259	1,261	4,986	5,173
Total Operating Expenses	34,750	32,736	36,926	39,494	10,046	10,376	10,317	10,337	41,076	10,229	10,576	10,660	10,558	42,023	10,520	10,966	10,987	10,963	43,436	45,112
<b>OPERATING PROFIT</b>																				
FedEx Express	794	1,127	1,228	1,260	209	239	152	460	1,060	236	326	135	508	1,205	365	468	362	613	1,809	2,195
FedEx Ground	807	1,024	1,325	1,764	446	415	476	557	1,894	468	424	477	563	1,932	513	474	552	621	2,160	2,406
FedEx Freight	(44)	(153)	(175)	162	91	77	8	81	257	91	77	29	89	286	104	89	39	106	339	401
FedEx Services*	(810)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Profit	747	1,998	2,378	3,186	746	731	636	1,098	3,211	795	827	641	1,160	3,423	982	1,032	954	1,340	4,307	5,002
<b>OPERATING RATIO</b>																				
FedEx Express - adjusted	96.4%	94.8%	94.7%	94.7%	96.8%	96.5%	98.7%	93.4%	96.1%	96.4%	95.2%	98.0%	92.7%	95.6%	94.6%	93.4%	94.8%	91.5%	93.6%	92.5%
FedEx Ground - adjusted	88.5%	86.2%	84.4%	81.6%	81.9%	84.0%	82.7%	79.9%	82.1%	82.9%	85.1%	84.3%	81.0%	83.3%	82.5%	84.5%	83.0%	80.5%	82.6%	81.9%
FedEx Freight - adjusted	98.7%	103.1%	101.8%	96.9%	93.5%	94.4%	99.4%	94.2%	95.2%	93.6%	94.6%	97.8%	93.5%	94.9%	92.6%	93.7%	97.0%	92.6%	93.9%	93.2%
FedEx Services - adjusted	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Operating Ratio	97.9%	94.2%	93.9%	92.5%	93.1%	93.4%	94.2%	90.4%	92.7%	92.8%	92.7%	94.3%	90.8%	92.7%	92.2%	92.1%	92.7%	89.8%	91.7%	90.7%
Total Operating Ratio - adjusted	94.5%	94.2%	93.9%	92.5%	93.1%	93.4%	94.2%	90.4%	92.7%	92.8%	92.7%	94.3%	90.8%	92.7%	92.2%	92.1%	92.7%	89.8%	91.7%	90.7%
<b>EBITDA</b>																				
	2,722	3,956	4,351	5,299	1,319	1,323	1,235	1,720	5,597	1,434	1,474	1,293	1,912	6,113	1,729	1,813	1,738	2,121	7,400	8,214
% margin	7.7%	11.4%	11.1%	12.4%	12.2%	11.9%	11.3%	15.0%	12.6%	13.0%	12.9%	11.4%	16.4%	13.5%	15.2%	15.2%	14.7%	17.4%	15.6%	16.5%</

Exhibit 28: UTi Worldwide - Financial Model

(figures in \$ millions, except per share amounts)  
Fiscal Year End January 31

	FY 2013				FY 2014				FY 2015				2015E	2016E						
	2009A	2010A	2011A	2012A	Apr 10A	Jul 20A	Oct 30A	Jan 40A	2013A	1Q14	2Q14	3Q14			4Q14	2014A	1Q15	2Q15	3Q15	4Q15
<b>Gross revenues</b>	4,547.4	3,567.5	4,549.9	4,914.2	1,168.7	1,182.9	1,156.7	1,099.3	4,607.5	1,080.7	1,129.4	1,154.4	1,076.4	4,440.9	1,116.2	1,174.9	1,196.4	1,084.5	4,572.0	4,715.9
% change y/y	4.4%	-21.5%	27.5%	8.0%	-2.5%	-8.8%	-8.5%	-4.7%	-6.2%	-7.5%	-4.5%	-0.2%	-2.1%	-3.6%	3.3%	4.0%	3.6%	0.8%	3.0%	3.1%
Freight consolidation costs	2,998.8	2,206.5	2,994.3	3,210.4	762.9	776.9	753.1	728.2	3,021.0	704.9	743.8	760.9	706.4	2,916.0	731.3	775.2	788.2	700.5	2,995.2	3,062.8
% change y/y	4.8%	-26.4%	35.7%	7.2%	-3.2%	-9.0%	-8.3%	-2.5%	-5.9%	-7.6%	-4.3%	1.0%	-3.0%	-3.5%	3.7%	4.2%	3.6%	-0.8%	2.7%	2.3%
<b>Net revenues</b>	1,548.7	1,361.0	1,555.5	1,703.9	405.8	406.1	403.6	371.1	1,586.5	375.7	385.6	393.5	370.0	1,524.9	384.9	399.7	408.2	384.0	1,576.8	1,653.1
% change y/y	3.5%	-12.1%	14.3%	9.5%	-1.2%	-8.4%	-9.0%	-8.7%	-6.9%	-7.4%	-5.0%	-2.5%	-0.3%	-3.9%	2.4%	3.6%	3.7%	3.8%	3.4%	4.8%
<b>Operating expenses:</b>																				
Staff costs	834.8	745.0	850.0	938.1	231.2	225.3	219.1	218.9	894.5	220.2	224.3	221.1	220.1	885.7	222.4	222.9	221.2	214.0	880.6	893.1
Depreciation and amortization	41.9	44.0	46.0	47.6	11.5	11.2	12.3	13.9	48.9	13.2	13.0	13.6	14.1	53.9	13.2	13.2	12.8	12.4	51.6	51.9
Amortization of intangible assets	13.0	11.1	14.7	15.8	3.2	3.2	3.0	2.9	12.3	2.8	2.8	5.7	7.2	18.5	8.7	8.8	8.7	8.5	34.7	34.4
Restructuring and impairments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other operating expenses	504.9	470.5	522.0	551.9	134.6	131.2	137.5	143.1	546.5	132.9	132.4	132.6	142.9	540.8	136.8	136.6	135.0	130.5	539.0	549.5
<b>Total operating expenses</b>	1,394.6	1,270.6	1,432.8	1,553.3	380.5	370.9	371.8	378.9	1,502.1	369.1	372.4	373.1	364.4	1,499.0	381.1	381.4	377.8	365.4	1,505.8	1,528.9
Operating ratio (net revenue)	90.0%	93.4%	92.1%	91.2%	93.8%	91.3%	92.1%	102.1%	94.7%	98.2%	96.6%	94.8%	103.9%	98.3%	99.0%	95.4%	92.6%	95.2%	95.8%	92.5%
<b>EBIT</b>	154.1	90.4	122.7	150.6	25.2	35.2	31.8	(7.8)	84.4	6.6	13.3	20.4	(14.4)	25.9	3.7	18.3	30.4	18.6	71.0	124.3
% margin	10.0%	6.6%	7.9%	8.8%	6.2%	8.7%	7.9%	-2.1%	5.3%	1.8%	3.4%	5.2%	-3.9%	1.7%	1.0%	4.6%	7.4%	4.8%	4.5%	7.5%
<b>EBITDA</b>	208.9	145.5	183.4	213.9	40.0	49.5	47.0	9.0	145.6	22.6	29.0	39.8	7.0	98.4	25.6	40.2	52.0	39.4	157.2	210.6
% margin	13.5%	10.7%	11.8%	12.6%	9.9%	12.2%	11.6%	2.4%	9.2%	6.0%	7.5%	10.1%	1.9%	6.4%	6.7%	10.1%	12.7%	10.3%	10.0%	12.7%
Operating income	154.1	90.4	122.7	150.6	25.2	35.2	31.8	(7.8)	84.4	6.6	13.3	20.4	(14.4)	25.9	3.7	18.3	30.4	18.6	71.0	124.3
Interest income	13.3	7.3	12.3	18.1	3.6	3.5	4.8	5.1	17.1	5.3	4.2	3.2	4.5	17.2	1.9	2.0	2.4	2.5	8.9	13.6
Interest expense	(30.6)	(20.0)	(28.5)	(31.9)	(6.4)	(6.0)	(7.1)	(11.0)	(30.5)	(8.6)	(7.7)	(8.1)	(9.8)	(34.2)	(8.2)	(8.1)	(8.2)	(8.2)	(32.7)	(33.4)
Other income/(expense)	1.4	(0.9)	1.2	(0.2)	(0.0)	(0.3)	(0.2)	0.1	(0.4)	(0.2)	(0.7)	(0.3)	(1.4)	(2.7)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Pretax income</b>	138.3	76.8	107.8	136.6	22.4	32.4	29.3	(13.6)	70.5	3.1	9.1	15.2	(21.1)	6.3	(2.5)	12.2	24.6	12.9	47.2	104.5
% margin	8.9%	5.6%	6.9%	8.0%	5.5%	8.0%	7.9%	-3.7%	4.4%	0.8%	2.4%	3.9%	-5.7%	0.4%	-0.7%	3.1%	6.0%	3.4%	3.0%	6.3%
Provision for income taxes	38.7	21.8	33.2	41.6	5.7	10.0	10.7	(1.7)	24.7	4.0	2.7	5.3	(6.6)	1.9	(0.9)	4.3	8.6	4.5	16.5	36.6
Tax rate	28.0%	28.4%	30.8%	30.4%	25.5%	30.8%	36.4%	12.5%	35.0%	128.4%	29.5%	35.0%	31.0%	31.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Income before minority interest	99.6	55.0	74.5	95.0	16.7	22.4	18.7	(11.9)	45.9	(0.9)	6.4	9.9	(14.6)	4.3	(1.7)	7.9	16.0	8.4	30.7	67.9
Minority interest	(2.1)	(4.4)	(4.7)	(6.5)	(1.3)	(1.3)	(2.3)	(1.5)	(6.5)	(1.6)	(0.9)	(1.8)	(1.5)	(5.7)	(2.0)	(2.0)	(2.0)	(2.0)	(8.0)	(8.0)
<b>Net income from continuing operations</b>	97.5	50.6	69.8	88.6	15.4	21.1	16.3	(13.4)	39.4	(2.4)	5.5	8.1	(16.1)	(1.4)	(3.7)	5.9	14.0	6.4	22.7	59.9
Discontinued operations	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extraordinary items	(102.1)	(9.4)	0.0	(16.0)	(2.5)	(2.2)	(5.8)	(129.5)	(139.9)	(10.0)	(9.9)	(17.2)	(34.7)	(75.3)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net income</b>	(4.6)	41.2	69.8	72.5	12.9	18.9	10.5	(142.8)	(100.5)	(12.4)	(4.4)	(8.1)	(50.7)	(76.7)	(3.7)	5.9	14.0	6.4	22.7	59.9
% margin	-0.3%	3.0%	4.5%	4.3%	3.2%	4.7%	2.6%	-38.5%	-6.3%	-3.3%	-1.2%	-2.3%	-13.7%	-5.0%	-0.9%	1.5%	3.4%	1.7%	1.4%	3.6%
Average shares outstanding - diluted	101.0	101.7	102.2	103.4	103.9	103.9	104.0	103.8	103.5	104.0	104.6	104.7	104.8	104.5	104.5	104.5	104.5	104.5	104.5	104.5
Diluted shares outstanding - assuming all preferreds convert																				
<b>FY EPS - diluted</b>	(\$0.05)	\$0.41	\$0.68	\$0.70	\$0.12	\$0.18	\$0.10	(\$1.39)	(\$0.97)	(\$0.12)	(\$0.04)	(\$0.09)	(\$0.48)	(\$0.73)	(\$0.03)	\$0.06	\$0.13	\$0.06	\$0.22	\$0.57
% change y/y	NM	NM	68.5%	2.7%	47.5%	-17.7%	-63.2%	NM	-238.4%	NM	NM	NM	NM	-24.4%	NM	NM	NM	NM	NM	164.4%
<b>FY EPS - diluted (continuing operations)</b>	\$0.97	\$0.50	\$0.68	\$0.86	\$0.15	\$0.20	\$0.16	(\$0.13)	\$0.38	(\$0.02)	\$0.05	\$0.08	(\$0.15)	(\$0.01)	(\$0.03)	\$0.06	\$0.13	\$0.06	\$0.22	\$0.57
% change y/y	-7.8%	-48.5%	37.3%	25.3%	15.1%	-16.8%	-45.2%	NM	-55.5%	NM	-74.2%	-50.7%	NM	-103.5%	NM	NM	72.7%	50.5%	\$0.19	\$0.50
FY EPS - diluted (cont ops) - if preferreds convert																				
<b>CY EPS - diluted</b>	\$0.11	\$0.64	\$0.71	(\$0.47)	(\$0.54)	(\$0.07)	(\$0.07)	(\$0.35)	(\$1.03)	(\$0.18)	\$0.03	\$0.11	\$0.09	\$0.04	\$0.07	\$0.14	\$0.19	\$0.15	\$0.55	\$0.55
% change y/y	-65.9%	NM	10.2%	NM	NM	-141.9%	-150.1%	NM	118.9%	NM	NM	NM	NM	NM	NM	NM	77.8%	72.1%	NM	NM
<b>CY EPS - diluted (continuing operations)</b>	\$0.51	\$0.67	\$0.84	\$0.49	(\$0.06)	\$0.03	\$0.07	(\$0.08)	(\$0.04)	(\$0.07)	\$0.03	\$0.11	\$0.09	\$0.15	\$0.07	\$0.14	\$0.19	\$0.15	\$0.55	\$0.55
% change y/y	-48.4%	30.8%	24.3%	-41.8%	NM	-85.4%	-59.9%	NM	-108.0%	NM	-3.1%	56.5%	-211.8%	NM	NM	NM	77.8%	72.1%	281.4%	281.4%

(1) On March 26, 2006 a 3-for-1 stock split occurred, all share count prior to this period has been restated to reflect that split

(2) F4Q08 excludes after-tax restructuring charges of \$6.2 million (\$8.395 million before tax)

(3) F1Q09 excludes after-tax restructuring charges of \$4.4 million (\$6.035 million before tax)

(4) F2Q09 excludes \$5.3 million benefit from sale of art packing business

(5) F3Q09 excludes \$2.1 million benefit from sale of art packing business

(6) F4Q09 excludes \$10.6mm in one-time pre-tax severance-related charges in Staff costs and \$1.1mm in one-time pretax charges in Other operating expenses. F4Q09 EPS also includes a negative currency translation non-cash adjustment of \$0.06 per share due to a

(7) F1Q10 excludes \$6.3mm in one-time gain-on-sale of a corporate property in South Africa, severance charges of \$5.2mm, and restructuring charges of \$1.2mm. It also includes approximately \$0.03/share due to adverse currency translation from the strong dollar

(8) F1Q12 excludes a pre-tax sum of \$6.461mm for transformational and facility exit costs due to closure of underutilized contract logistics facilities in Europe (after tax effect of \$4.605mm), yielding a \$0.05 per share overall impact

(9) F2Q12 excludes \$3.483mm in one-time pre-tax severance expenses, which were primarily related to transformational activities, for a net, after-tax effect of \$2.397mm

(10) F3Q12 excludes \$1.655mm in one-time pre-tax severance expenses, which were primarily related to transformation initiatives, for a net, after-tax effect of \$1.133mm

(11) F4Q12 excludes \$5.1mm in one-time pre-tax severance expenses and \$5.2mm in intangible asset impairment, with a net, after-tax effect of \$4.5mm and \$3.4mm respectively

(12) F1Q13 and F2Q13 exclude \$1.7mm and \$2.1mm in one-time pre-tax severance expenses, respectively, for a net, after-tax effect of \$1.2mm and \$1.4mm, respectively

(13) F3Q13 excludes pre-tax severance of \$3.884mm, primarily related to transformational activities, and excludes \$5.213mm related to a legal judgment from a 2006 warehouse fire, and adds back \$3.315mm of tax adjustments for both items, for a total net after-tax effect

(14) F2Q14 excludes \$3.180mm in one-time pre-tax severance expenses, primarily related to transformation activities, for a net, after-tax effect of \$2.372mm (\$0.02/share); the quarter also provides for a deferred tax asset valuation allowance of \$7.540mm, with an EPS impact

(15) F3Q14 excludes \$13.184mm in pre-tax severance expenses, primarily related to transformation activities, for a net, after-tax effect of \$11.964mm, or \$0.12/share; the quarter also provides for a deferred tax asset valuation allowance of \$5.229mm, with an EPS impact

Source: Company data and Stifel estimates

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