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AIR EXPRESS OUTLOOK 2023-2027

Finding opportunities & overcoming challenges in a dynamic market

Air Express Market Outlook 2023 - 2028

Finding opportunities and overcoming challenges in a dynamic market

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Executive Summary

In the past 30 months, all express carriers have adapted quickly to handle the pandemic driven surge in business to consumer shipments. 65% of express volumes in 2020 were related to online shopping, up from just under 50% in 2019. 2021 has seen a continuation of high volume levels, but as business to business traffic has come back, yields have improved. This is a reversal of a trend that for a number of years saw volumes increase while yields decreased, a downside of increasing B2C traffic in both international and particularly domestic air express networks.

DHL, FedEx and UPS dominate the international express business, while the US domestic air express business is essentially a duopoly between FedEx and UPS. SF Express is the dominant player in the Chinese domestic air express business with over half of the market. We do not expect this to change, but within regions there is place for smaller to mid-sized regional champions, including companies such as Aramex, Blue Dart, Toll or Estafeta, among others.

While the air cargo market in 2020 declined, international and domestic express markets grew strongly. 2021 saw a continuation of this growth for the first half of 2021, but year on year growth for the second half of the year was flat. Every mountain has its peak.

In 2020, international express accounted for 22% of all air cargo volumes, up from 19% in 2019. International express shipments grew at 9% in 2020 and we expect it to grow at 11% in 2021, followed by an increase of 4.1% per annum between 2022 and 2026. Fueled by business to consumer e-commerce traffic, the world's largest domestic air express market in revenue terms grew at over 12% in 2020 and we expect over 9.6% in 2021 and at about 5% beyond 2022. Chinese domestic express volumes grew by 31% in 2020, but most of this growth was in ground networks.

Decreasing air share of express shipments is a consistent theme across all major geographical markets. Business to consumer traffic – the primarily driver of package growth – is unable or unwilling to pay $50-$60 per shipment on international and $20 per package in domestic markets such as the US. However, the gap in express rates and standard airfreight rates could create opportunities for middle mode operators particularly on international routes.

1. Introduction and Organization of the Report

This report brings together our analysis of the state of the air express business, the changes that have taken place in the last decade right through to the fourth quarter of 2021, as well as predictions for what is likely to happen in the coming years. The report provides a historical overview and five-year growth forecast of key international and domestic air express markets through to 2026. The *Air Express Market Outlook* analyses the performance, positioning and strategies of the key global and regional express operators including Aramex, Blue Dart, DHL Express, FedEx, SF Express and UPS in the light of emerging competition from e-commerce platforms and postal companies, among others. Given that almost two thirds of the world's freighter fleet are operated by or for express companies, we also address the medium to long term outlook for aircraft demand and subcontracted flying services. The report complements our *2022 Global E-Commerce Logistics Outlook*, which provides additional depth the role that e-commerce platforms, express, postal and other companies play in the distribution of e-commerce parcel traffic. Our *2022-2041 Freighter Forecast* focuses on the demand for feeder, narrowbody and widebody freighter forecast, including by the express business.

Chapter 2 provides an overview of the air express value chain and key characteristics of the segment, including how shipments move through networks, the type of customer the business serves and how volumes are spread throughout the year.

Chapter 3 looks at each of the main domestic and international air express markets, including domestic US, domestic China and other markets such as India. We have also prepared five-year forecasts through to 2026 for international and US domestic markets. This year, we have not prepared an intra-European air express forecast, mainly because network changes as a consequence of FedEx consolidation of its own and the network inherited from TNT in 2016 will take place in the next 12 months.

Chapter 4 provides a comparative analysis of the key companies operating in the air express segment. This includes the big three global players DHL, FedEx and UPS as well as SF Express, Blue Dart and Aramex. The section covers long term historical performance, recent developments and a discussion on how these companies are positioned to benefit from future market growth.

Chapter 5 discusses how a change in customer mix and emerging competition are changing the business traditionally owned by DHL, FedEx and UPS. In this context we highlight what we believe are the critical success factors going forward.

Given the importance of express as a key freighter aircraft customer, Chapter 6 provides an overview of current and forecast express aircraft demand, as well as the market for contract flying services.

An Appendix (starting on page 83) includes profiles of each of the express operators analysed in the report. Subscribers will receive periodic updates to these profiles. The report is complemented by interactive map tool which can be accessed via the Cargo Facts Consulting Insights platform (www.cfcinsights.com).

We hope you find this report useful in shaping your company's strategy. We welcome your feedback and suggestions on what you would like to see included in next year's report.

2. The Air Express Value Chain

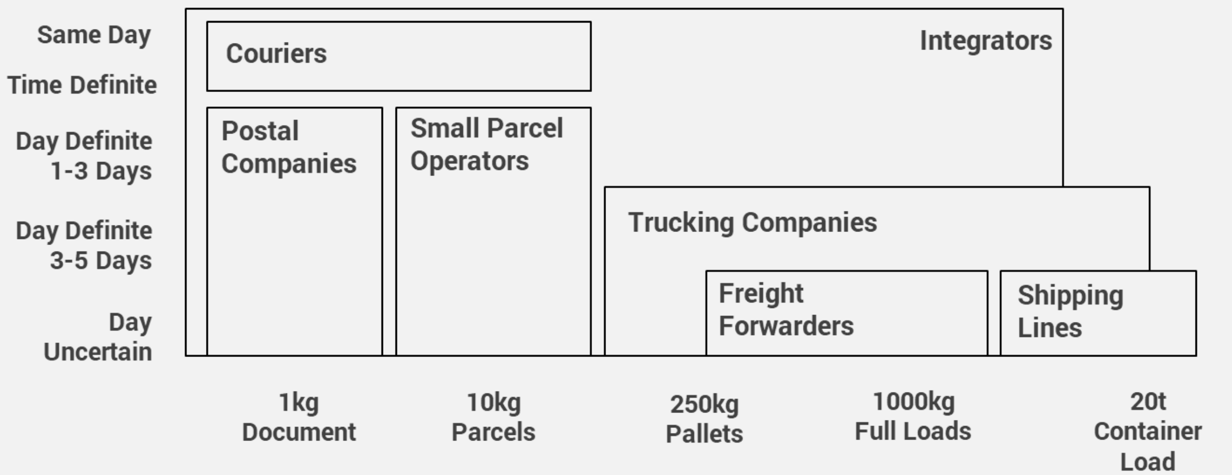
Key Findings:

- Air Express accounted for approximately 19% of international air cargo traffic in 2019 and around 21% in 2021.
- Since companies operate across multiple segments, the lines between different air cargo segments are often blurry.
- Express networks have traditionally been geared towards moving small packages and documents with late afternoon pickups and early morning delivery, but networks have recently evolved to offer seven day and same day deliveries.
- Contrary to the air freight business, express companies tend to have a more diverse customer base, although concentration has been increasing thanks to the big three e-commerce platforms.

There are three main air cargo sectors – freight, express and mail. Express traffic accounts for approximately 19% and mail for under 3% of international air cargo traffic. Freight usually refers to larger, bulky shipments (usually more than 70 kilograms) sold by freight forwarders and carried by all cargo and combination carriers. Combination carriers are passenger airlines that a combination of passenger lower hold and freighter capacity to transport cargo. Mail refers to letters and packages moved through postal network. Express traffic refers to documents and small packages carried by integrated carriers such as FedEx, UPS, DHL, or SF Express, or as part of Express Mail Services (EMS) moved though postal networks. Express carriers are often referred to as integrated because they offer door to door services, including first mile pick up and last mile delivery. The distinction between each segment is somewhat blurry as companies may operate in multiple segments (see Figure 1).

Small package air networks achieve lower cargo densities than general air freight networks, with loaded densities in the order of 5-7 lbs. per ft^3 (or 80-110kg per m^3) as opposed to 10 lbs. per ft^3 (or 160 kg per m^3). This has implications for the type of aircraft required in express networks, with a preference for volume overweight-carrying capabilities.

Figure 1 – Key Participants in the Global Freight and Logistics Business



Source: Cargo Facts Consulting

Express shipments spend most of their time in ground networks and sorting facilities. Figure 2 and Figure 3 show the process of moving a westbound transatlantic express shipment from origin to destination. Domestic shipments follow a similar process, except for customs clearance since there is not cross-border air freight activity.

The type of service level that an integrator can offer depends on both time zones and network structure. So far, overnight services have been the standard in domestic or regional markets and two to three-day service in international markets. However, express carriers have branched out into both deferred or economy type services as well as same day or instant delivery within cities. Operating days have been expanding from 5 to 7 days. Increased proliferation of same day services creates network challenges. Most express networks have traditionally been geared towards late afternoon pick-ups and early morning deliveries. These have been facilitated by a hub and spoke networks centered around large sorting facilities strategically located to provide minimum connecting distances between economic centers. Same day services require more localized sorting, which can be more labor intensive. Same day intercity services also require different types of air capacity – high frequency passenger networks with rolling departures and multiple connecting opportunities throughout the day are much more suited to supporting these kind of services.

Figure 2 – Typical Intercontinental Express Shipment from Europe

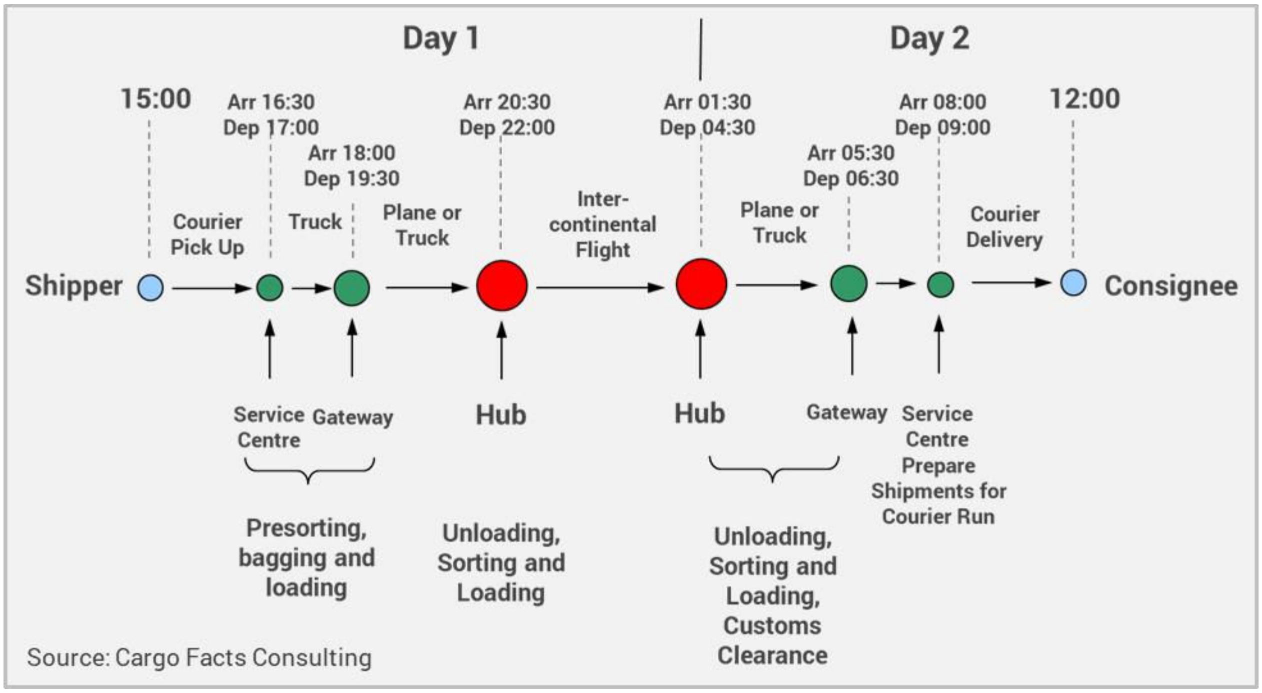
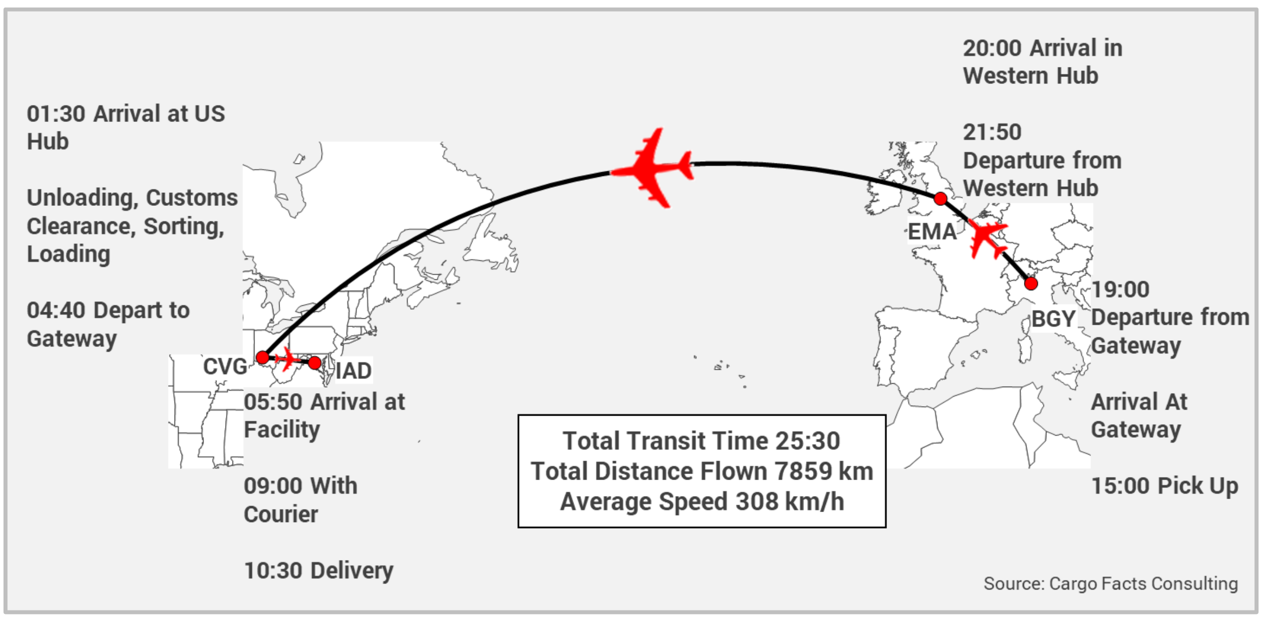


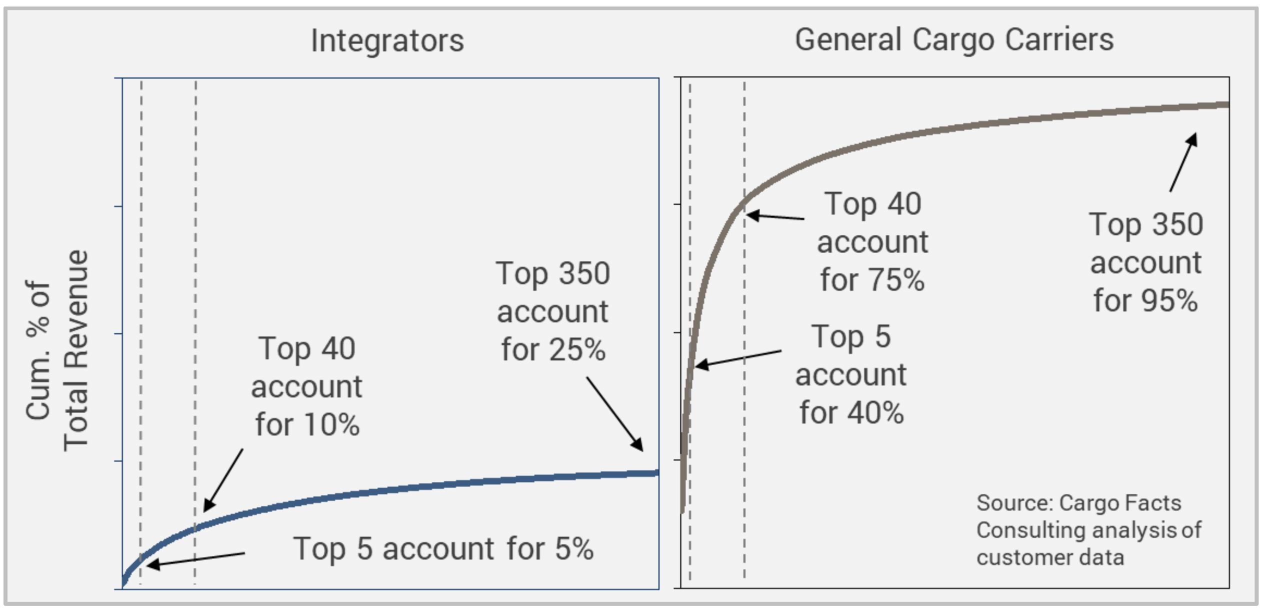
Figure 3 – Example of an Intercontinental Shipment from Milan to Washington DC



In terms of customer mix, integrators tend to be quite diversified, with no single customer accounting for more than a few percent of overall revenues. Exceptions have been developing though and there are differences between operators. In 2019, FedEx cancelled both its Ground and Express contracts with

Amazon to focus on a future without the e-tailer and platform while UPS generated 11.6% of its total revenue from Amazon in 2019 and this share went up in 2020, reaching 13.3% or a total of $11.26 billion. At time of writing, we do not have an estimate for 2021, mainly because UPS avoids talking about Amazon as much as possible. We estimate that SF express generates a large part of its volume with the three big Chinese e-commerce platforms. Figure 4 shows the typical difference in customer concentration between integrators and cargo carriers, which operate in a wholesale market generating most of their revenues with a handful of freight forwarders.

Figure 4 – Difference in Customer Concentration between Integrators and Cargo Carriers



The express market is seasonal in nature and cycles impact revenues and volumes. Traditionally, the U.S. express market experiences an increase in volume prior to the holiday season, around November and this lasts throughout the end of the year. This sales season cycle also affects international business, especially the US-Asia market, that shows peaks in the fourth quarter of every year. The summer and winter quarters historically show lower volumes, and the operating costs and shipment levels can also be affected by weather, especially during the first quarter of the year in the Northern Hemisphere. This has implications for infrastructure and asset investments which need to be geared towards peak volumes rather than average volumes. The peaks have been exacerbated by the shift towards more business to consumer traffic and promotions around key shopping events such as Black Friday, Cyber Monday, and Singles Day, all taking place in November, among others. Due to increased online shopping activity during the pandemic, the express business has been operating at higher-than-normal activity levels over a longer period. Since 2020, every month has been a peak season month.

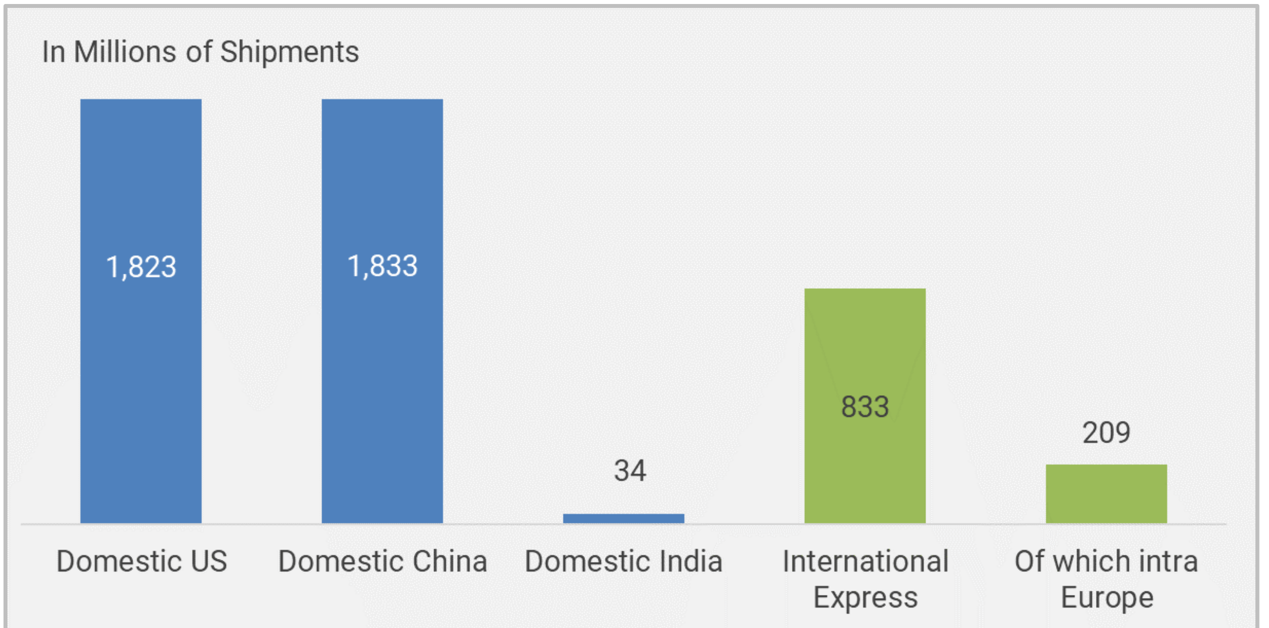
3. The Main Express Markets – History and Forecast

Key Findings:

- Global air express traffic has consistently grown faster than general air cargo traffic.
- International express shipment grew at 9% in 2020 and we expect it to grow at 11% in 2021, followed by an increase of 4.1% per annum between 2022 and 2026.
- Fuelled by business to consumer e-commerce traffic, the world's largest domestic air express market in revenue terms grew at over 12% in 2020 and we expect over 9.6% in 2021 and at about 5% beyond 2022.
- However, as Amazon makes moves to insource more volumes, this growth could evaporate. The underlying forecast growth sans e-commerce is closer to 3% per year.

In this report, we focus on the development and outlook for the key international and domestic express markets, including Domestic US, Domestic China, Domestic India and Intra Europe (see Figure 5)

Figure 5 – The Main Domestic and International Air Express Markets 2020



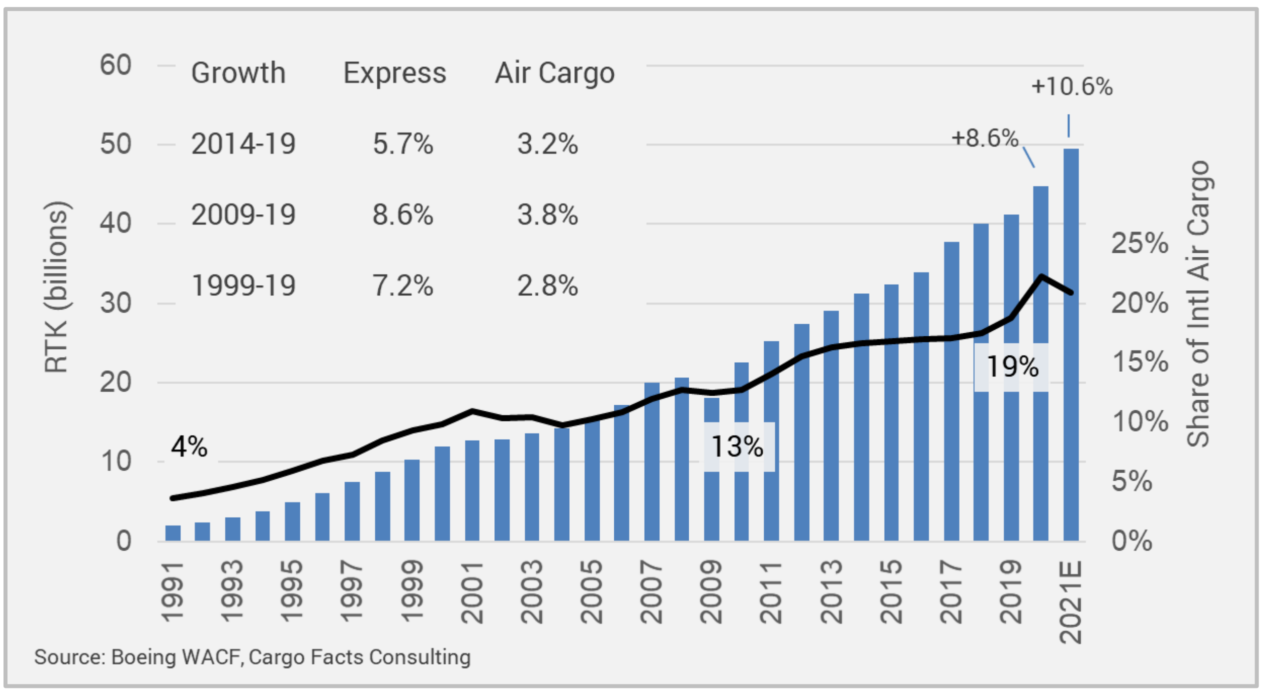
Source: Cargo Facts Consulting, Analysis of Express Operator and other statistical data

Note that we have chosen to exclude other domestic markets such as Australia, Canada, Japan, and some domestic and intra Latin American markets, among others, even though they are an important source of air express revenue and drive the demand for aircraft capacity. We have published some additional analysis on these markets throughout the year which subscribers will have access to via our Insights platform.

3.1 International Express

Global air express traffic has consistently outpaced the growth of general cargo traffic, but we have witnessed a deceleration of growth rates. Growth from 2014 to 2019 was about 5.7%. Figure 6 shows the growth for the air cargo and express segments since 1999. By 2019 express accounts for about 17% of international cargo traffic, up from 13% in 2008 and 4% in the early 1990s. 2020 and 2021, were at 22% and 21%, respectively, but this number is likely to come back down slightly as the supply and demand situation in the air freight business becomes more normal.

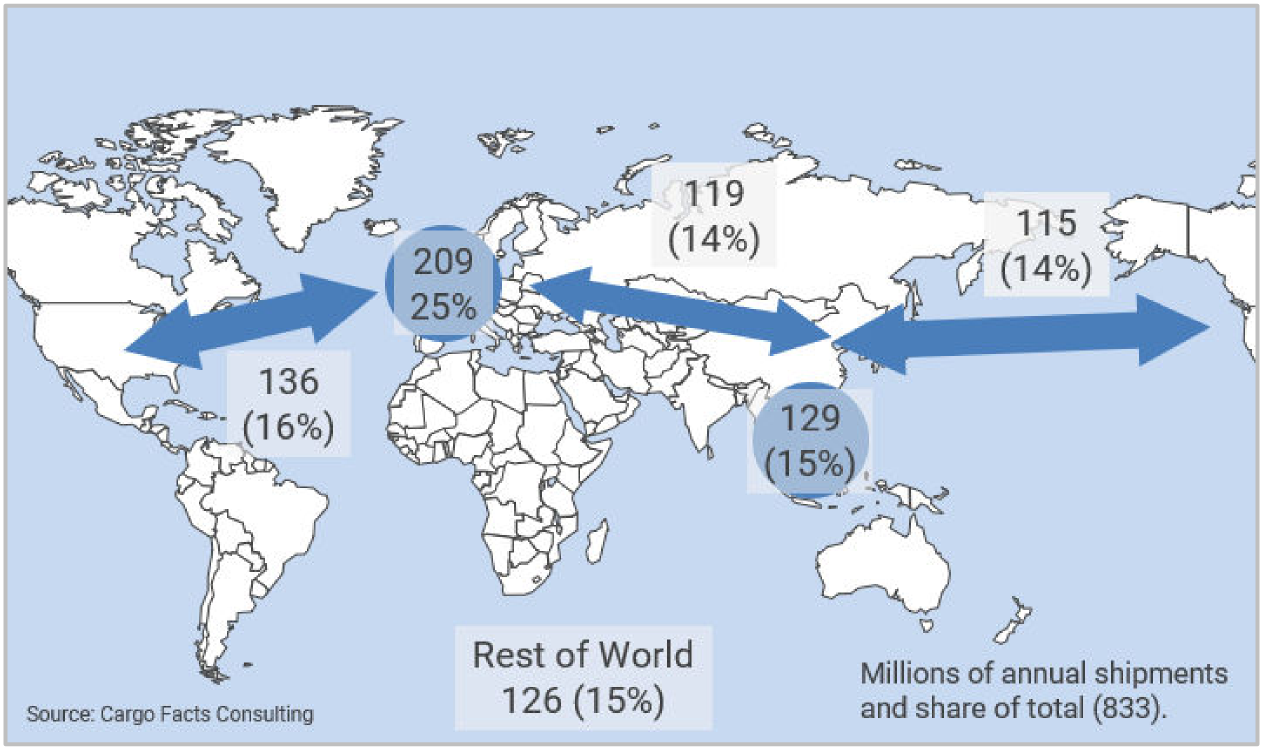
Figure 6 – International Air Express Traffic Growth 1991 – 2021



Just over 85% of cross border air express traffic takes place in 5 intercontinental and intra-regional markets. Intra Europe is the largest regional market (with a 25% share). In terms of shipment volumes, Intra-Asia, Transpacific and Transatlantic are roughly the same size, each accounting for between 14-16%

of total traffic (see Figure 7). Note that international shipment count does not include express shipments within different countries. This traffic combined with intercontinental shipments distributed throughout regional networks means that actual volumes carried on aircraft within these networks are higher.

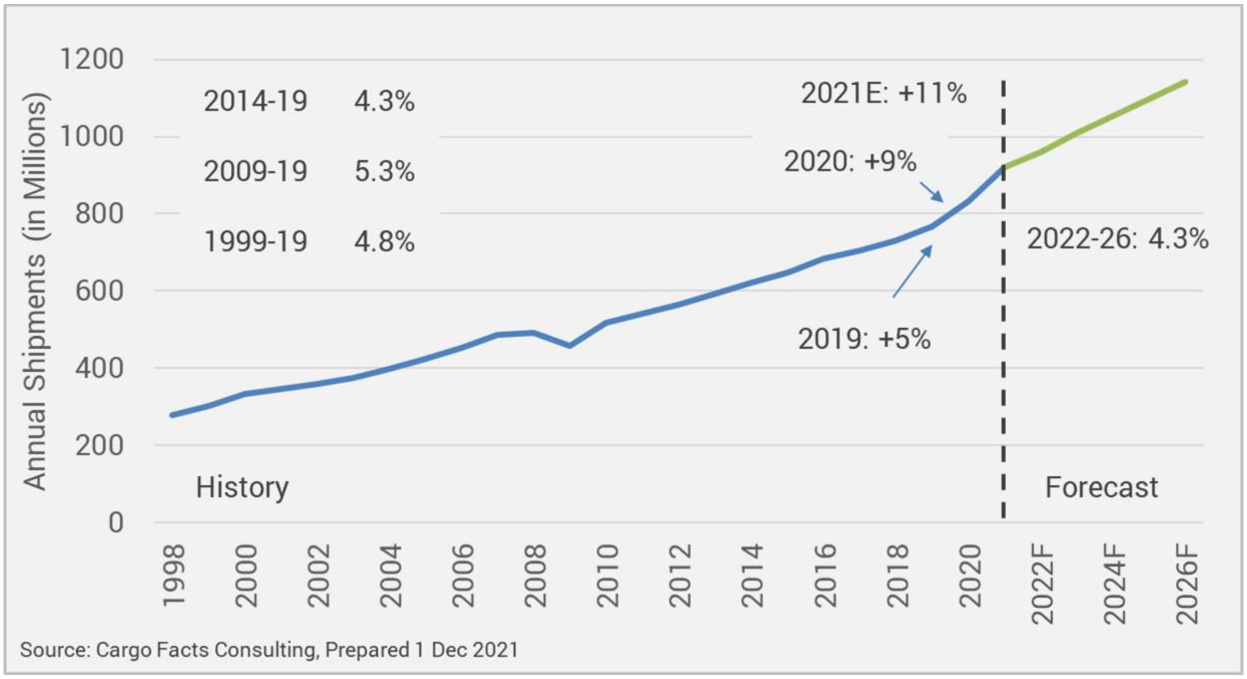
Figure 7 – The Main International Express Markets in 2020



This year, we revised our historical series for international express shipments, which has impacted both historical growth rates and overall shipment counts. Based on this, shipments have grown on average by just over 4% per year for the last five years and 5.3% over the last 10 years (see Figure 8) through to 2019. Again, we are not using 2020's figures as a base for comparison here.

This is somewhat lower than international air express traffic growth rates shown in Figure 6. At around 9%, 2020 saw an acceleration of growth due to pandemic related surges in demand and we expect 2021 to reach a 11% growth. Between 2022 and 2026, we forecast average shipment growth rates of 4.3% per year. This rate is a bit lower than our last year's forecast which indicated an average of 4.9% per year.

Figure 8 – International Express Shipment Growth and Forecast 1998 – 2026

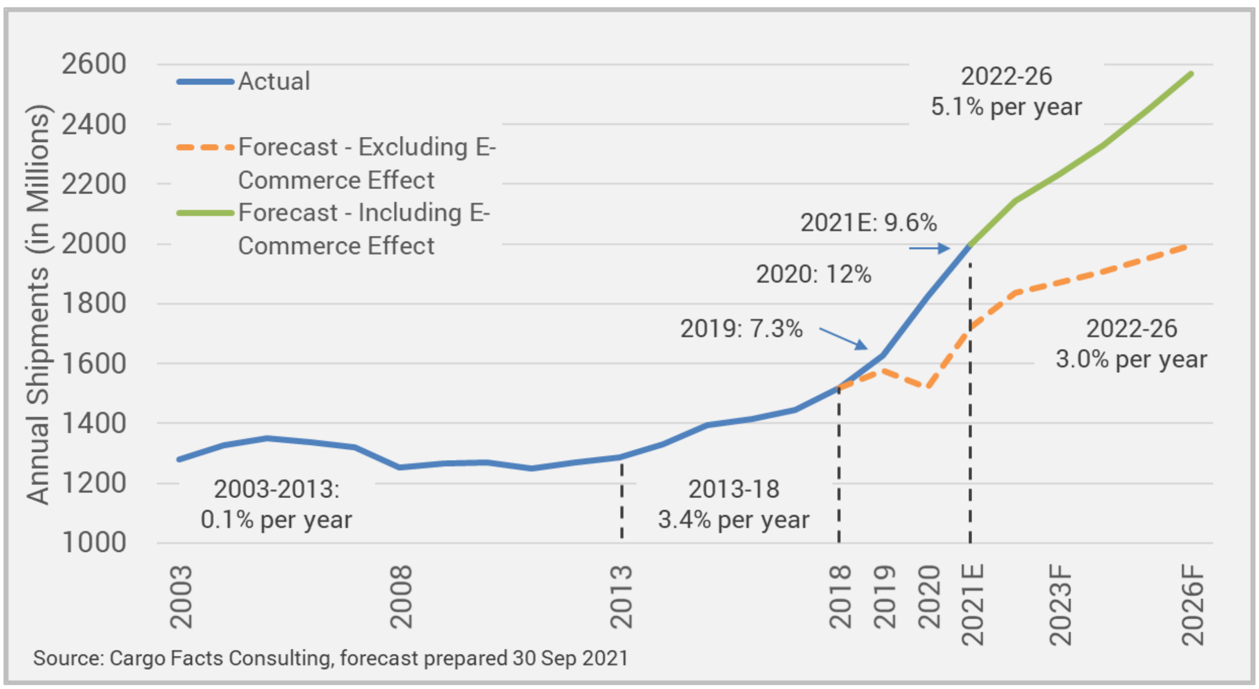


3.2 Domestic US

The U.S. represents the world's largest domestic air express market and is expected to hit two billion shipments in 2021. We define air express as the market for overnight and deferred shipments, excluding ground operations. The combined ground operations for FedEx and UPS move more than four times the amount of shipments moved by air. We also include UPS express mail operations, but since the departure of DHL from the U.S. market in 2008, the market is essentially a duopoly between FedEx and UPS. We do not include Amazon's in-house operations as it is essentially an intra-company fulfilment network. Measured in flights, Amazon's air network is one-third the size of UPS and one-fifth the size of FedEx. FedEx and UPS together account for 50% to 55% of domestic revenue freight ton miles, although this share has decreased primarily as a result of Amazon's dedicated network, which will have more than 90 aircraft operating in North America by the end of the year.

Figure 9 provides an overview of our most recent air express shipment traffic history as well as a forecast through 2026. The U.S. air express market has gone through several phases and has seen fundamental changes since the early 2000s – both on the demand and supply side. Until about 2013, the domestic air express market was swinging between negative, flat and moderate growth, partly a result of poor economic conditions as well as a decline of document traffic. Average annual shipment growth in the 10 years to 2013 was only about 0.1% per year. Much of the volume that DHL left over after its departure literally disappeared or began moving in-ground networks. Growth peaked between 2013 and 2018 to an average of 3.4% per year, as the economy was doing well. The air express market went into overdrive after 2018 thanks to rapid growth in e-commerce shipments requiring two-day and overnight delivery. In the following five years growth picked up as more business to consumer traffic started moving through domestic express networks. In 2019, growth accelerated to 7.3%, driven to large part by Amazon's upgraded prime product offering and 2020 resulted in a record-high growth of 12%, due to the pandemic surge in business to consumer traffic. This growth is in addition to volumes moved by Amazon through their own dedicated air network, which will encompass more than 90 aircraft by the end of 2021 in North America alone.

Figure 9 – US Domestic Express Shipment Growth and Forecast 2003 – 2026



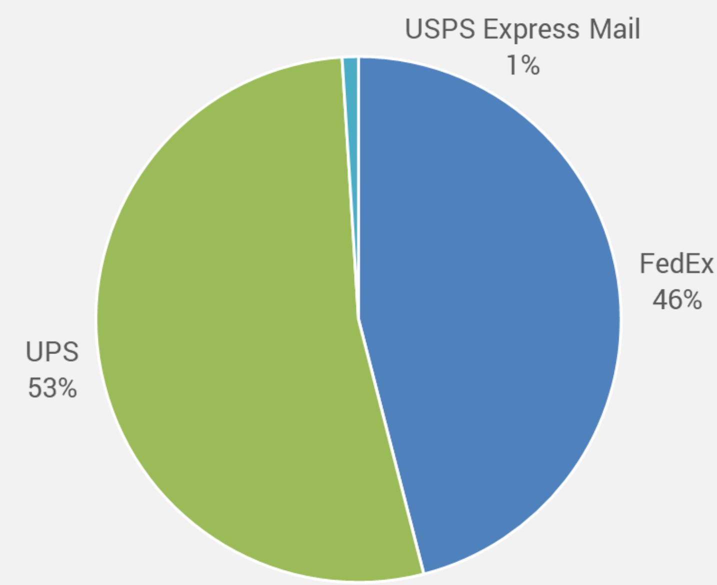
However, the growth rates we have been observing in the express business are not in line with underlying express market drivers. Much of this growth could be lost as Amazon continues to insource volumes and other platforms focus on own controlled networks to fulfill their deliveries. The forecast line in Figure 9 shows our expectation of what the market would look like between 2018 and 2026 if the normal statistical relationships between economic development and express would continue to apply. We think there is a great risk that the addressable market for FedEx and particularly UPS could contract compared to current levels. But the counterbalance to this could be volumes from other platforms such as Shopify, Wal Mart or distribution requirements from growing Alibaba and Jd.com cross border operations.

While e-commerce traffic had increased as a share of total shipment volumes for years, 2020 provided an additional boost — business-to-business traffic dropped, and business-to-consumer traffic surged as large parts of the fixed retail business was closed. Traffic this year has remained strong, but business-to-business traffic has grown to pre-crisis levels. In our forecast, prepared in late September 2021, we expect the market to grow by just under 10% this year and then moderate somewhat to an average of 5.1% per year for the next five years. Excluding the effect of online shopping moving through express networks, growth would be closer to 3% per year.

Readers will note FedEx recently expressed its expectation that the U.S. domestic package market would grow by 10% per year through 2026. Our own analysis points to lower growth rates, at least for the air express market. Most of the growth in the package market has been and is likely to continue to be seen in ground, not air, networks. Witness China, where a few years ago SF Express was moving 18% of its traffic through its air network. Today that figure is closer to 10%. Air Express networks are too yield hungry for business-to-consumer e-commerce and densification of distribution center networks will see volumes increase more in last mile than longer haul networks.

On the supply side, the major express carriers – FedEx and UPS – continue to dominate the US domestic air freight and express market. The withdrawal of BAX Global in 2011 and exit of DHL domestic operations in 2007 are the latest in a series of changes in the US Express industry in which the number of freighter networks has declined sharply. Although DHL does not provide domestic express services in the US, it continues supporting international operations in and out of the US. This leaves only two major players in the market: FedEx and UPS, while the United States Postal Service (USPS) Express Mail accounts for a much smaller share (see Figure 10).

Figure 10 – U.S. Domestic Air Express Shipment Market Shares 2020



Source: Cargo Facts Consulting analysis of company financial data

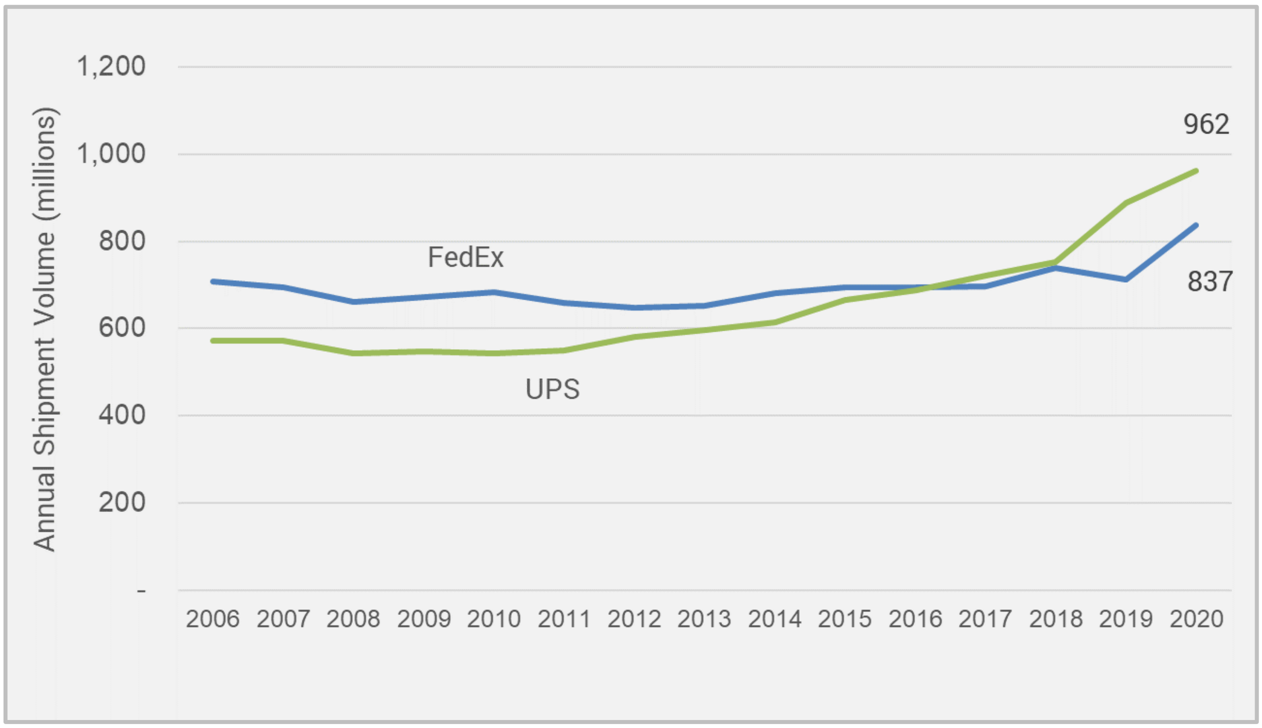
In 2020, the size of the Domestic US Air Express market was about 1.82 billion shipments per year, or on average 7.1 million shipments per day.

The US air express market has shifted among the two main players: FedEx and UPS beginning in 2006. Prior to DHL's decision to exit the US domestic market, its market share was approximately 15% of the market. USPS market share has declined from approximately 3% of the US domestic market in 2003 to about 1% today. FedEx figures here include an unspecified amount of traffic associated with the contract FedEx has to transport Priority and Express Mail on an airport-to-airport basis for USPS. FedEx reports its USPS traffic as Freight and not Mail so there is no visibility on the USPS share of FedEx total volume.

The levels for FedEx and UPS were flat over the period from 2007 through 2013. This factor is surprising given that both companies should have picked up significant amounts of the shipments that left DHL beginning in the third quarter of 2008. Presumably, all three competitors would have seen declining traffic by the end of 2008 if DHL had remained in the market as the market was shrinking during the recession. As it turned out, traffic gained by FedEx and UPS as a result of the DHL closure roughly offset declines these two competitors would have felt from the economic slowdown.

Figure 11 indicates that UPS experienced some post-recession gains in US shipment volumes beginning in 2011, while FedEx experienced a small rebound in 2010, but then had declines in 2011 and 2012. The net result is that the domestic express shipment growth in 2018 for FedEx and UPS combined were up less than 3% from 2006 so these are obviously unimpressive gains. UPS has had higher growth rates in the last decade and it surpassed FedEx in terms of average daily shipments in 2016; it handled around 73,000 more per day in 2018 and this figure grew to 490,000 more daily shipments in 2020.

Figure 11 – FedEx and UPS Domestic Air Express Shipments 2006 – 2020

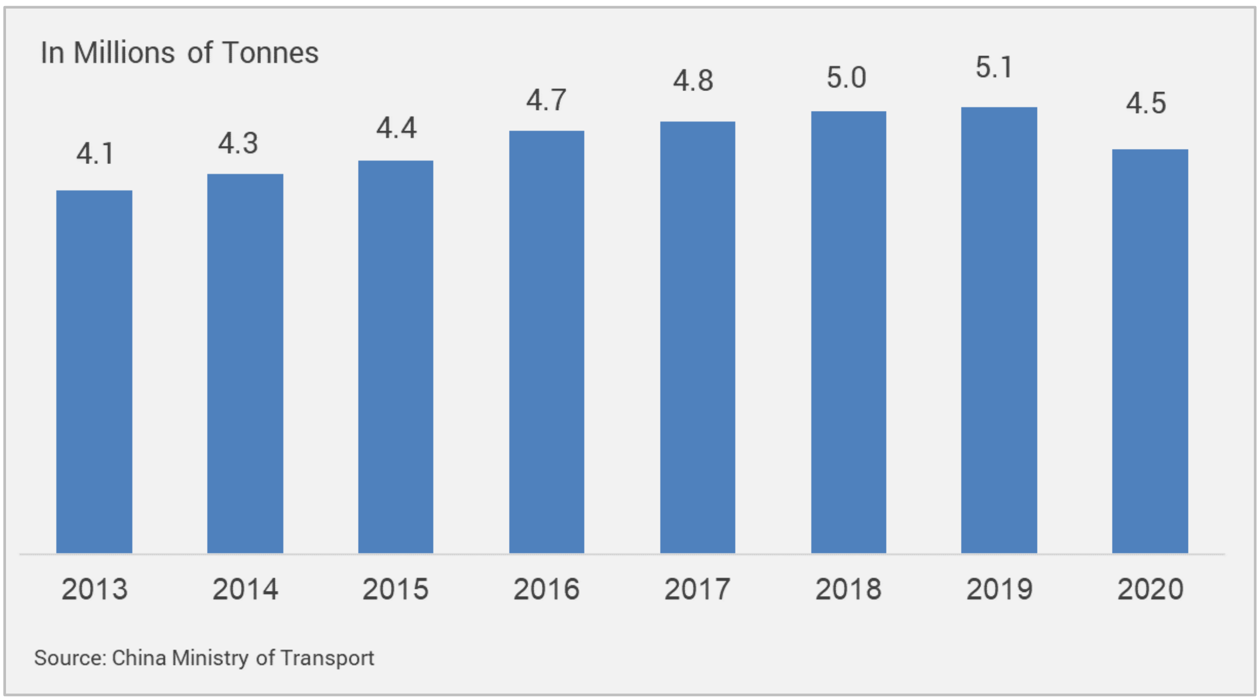


There are some combination carriers that work in conjunction with freight forwarders to serve the US Domestic air freight industry by offering belly space on passenger flights. However, with the exception of Alaska Airlines, the rest do not operate freighters and there is not a regular use of large widebody passenger aircraft in the US even though some medium widebody are used in transcontinental routes and during peaks. The majority of domestic flights are operated by narrowbody aircraft which have very limited space for freight, so the express operators are indeed the key players in this market. As of today, over 90% of US domestic freight traffic is carried by FedEx and UPS.

3.3 Domestic China

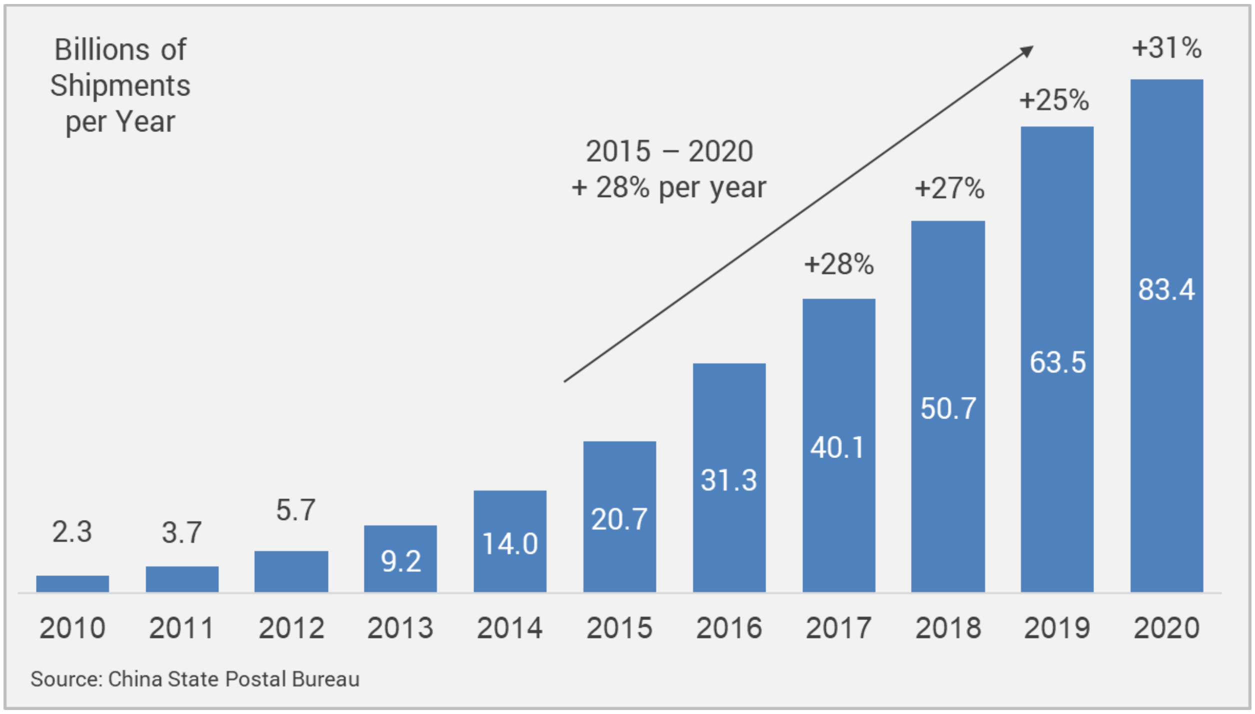
Domestic Chinese Express has shown strong growth over the past five years, but most of this growth has been in ground rather than air networks. The average annual domestic air cargo tonnage growth between 2014 and 2020 has been 3.7% per year but in the last year, the growth was significantly lower, and it registered a decrease of 11.6%. This figure stands at 4.5 million tonnes per year (see Figure 12). Most of this traffic is related to domestic postal deliveries. SF Express, the largest Chinese air express operator states that its market share of China domestic cargo and mail transportation in 2020 was about 26.5% (compared to around 20% in 2018). Our own calculations reconcile with this figure.

Figure 12 – Chinese Domestic Air Freight Tonnage 2013 – 2020



By comparison express traffic growth has been in the order of 28% per year over the last five years. Figure 13 provides an overview of Chinese domestic express shipment volumes between 2010 and 2020, according to the China Postal Bureau. Based on this information, the total market size in 2020 was 83.4 billion shipments. Based on company reports, we estimate that the air express share of this traffic has dropped within the last year from 3% to about 2-6% of total shipments. This represents a market size in 2020 of about 1.833 billion shipments, with 982 million carried by SF Express, and an estimated 592 million by China Postal Airlines, 192 million by YTO, and 68 million by Yunda Express.

Figure 13 – Chinese Domestic Express Shipments 2010 – 2020



Currently there is insufficient air express shipment data available to produce a reliable forecast of Chinese domestic air express shipment or weight. The existing SF express fleet growth plans through 2025 would imply air express shipment growth expectations of approximately 12% per year for the next two to three years. In 2020, SF shipments reached 83.36 billion, or a year-on-year increase of 31%. The best way to understand the Chinese domestic market is through the lens of SF Express, which provides the highest level of granularity on its operations, while the other Chinese express operators provide very little quantitative information.

The logistics industry market in China is estimated to be worth around RMB15 trillion ($2.35 trillion), and SF's total revenue in 2020 was about RMB150 billion ($23.46 billion), representing about 1% of the market. In the last couple of years, SF Express entered the mid-to-low-end e-commerce sector to develop a complete express delivery product mix in order to serve clients with a wide range of services to rapidly increase market share in China. In recent years, SF's cost of express delivery price per shipment has steadily decreased, from RMB28.50 ($4.46) per shipment in 2007 to RMB10.55 ($1.65) per shipment in 2020. This is due to the surge in e-commerce as well as the homogenous competition among the e-commerce delivery operators.

Even though China has a large logistics market, the logistics business in China still seems to be relatively fragmented when compared to other nations. According to data published by the China Federation of Logistics and Purchasing in November 2020, the top 50 logistics companies' total revenue from logistics business in 2019 was RMB 1.1 trillion ($0.2 trillion), but only 10.7% of China's total revenue from logistics business of RMB 10.3 trillion ($1.62 trillion) in 2019, indicating a low degree of concentration and plenty of room for future integration. We have observed that Chines express service firms have diversified in terms of business volume, market share, business strategy, and profitability as the express service sector in China has grown rapidly in recent years.

3.4 Domestic India

In India, e-commerce has changed the way people do business and buy products and this has been reflected in the sector's growth. From $46.2 billion in 2020, the Indian e-commerce market is expected to $350 billion by 2026. A surge in internet and smartphone usage, the expansion of internet penetration and a growing middle class sparked most of the industry's growth and India just became the eighth-largest global e-commerce market after France and before Canada. We have decided to include India in this study because of the growing potential of its e-commerce market and express operations development. After China and the US, India has the third-largest online shopper base and it is expected to reach 350 million by the end of 2026.

Online platforms are on the rise since there the upfront capital required cannot be compared to setting up an asset-based business. The logistics industry in India is also growing fast with continuous infrastructure and technology improvements supported by government reforms. Increasing foreign investments and trade indicate a promising outlook for the Indian logistics sector even though the businesses in this area are rapidly evolving, facing new challenges and increasing competition.

The e-commerce industry has had a direct impact on India's small, and medium sized companies by providing funding, technology, and training, as well as having a positive cascade effect on adjacent industries. Digital payments, local logistics, analytics-driven customer engagement, and digital marketing are examples of technology-enabled developments that will likely boost the sector's growth. Aviation in India, like anywhere else, is subject to short- and long-term fortune swings. IATA, on the other hand, believes that the potential for growth in Indian air transport is favorable for the foreseeable future, thanks to economic expansion and rising household incomes.

Indian airports saw a 30% rise in the number of cargo shipments, to about 265,000 tonnes in August 2021 and even though levels were still below pre-pandemic figures, it showed promising signs of recovery. Infrastructure and digital investments have been made to better serve customers across the country. India has also seen the demand increase for time-sensitive commodities such as medical equipment or perishable goods.

On the air freight front, India's performance has been disappointing. Moves over the past decade to reduce a hobbling bureaucracy and upgrade infrastructure have failed, with cargo airport plans not materializing and freighter operators going out of business. DHL-owned Blue Dart Aviation remains the only success story in India's cargo scene and its brand has become the market leader for value, speed, customer service and operational reliability. Despite its lower profit margins between 2018 and 2020, the pandemic brought some opportunities to this company and the latest fiscal year resulted in positive profit margins of 15%. Blue Dart is India's largest and only express delivery company with a supporting air network (See chapter 4.4, Page 43). At an estimated 36 million air shipments per year, the Indian domestic Air Express Market is only 2% the size of the Chinese domestic and 14% the size of the intra-European express market.

4. Express Company Twelve Year Business Review and Outlook

Key Findings:

- DHL, FedEx and UPS dominate the global express business, but they their geographical exposure is very different. Although all three have US origins DHL is the most global.
- Meanwhile, SF Express is as big as UPS in terms of shipments moved, but it is primarily a Chinese domestic operation.
- In terms of profitability, companies have followed a different trajectory. Aramex and DHL Express have shown long term improvement, while FedEx and UPS are flat. Blue Dart margins have been falling. FedEx, DHL and UPS all saw an uptick in profitability in 2020.

The global air express business today is dominated by three companies: DHL, FedEx and UPS. All three companies have US origins. However, on a regional level there are large differences in the scope and scale of operations and these companies face competition from regional champions and new entrants, some with global ambitions. FedEx, and UPS dominate the US domestic express market, where DHL Express is no longer present. In Europe, DHL, UPS and FedEx compete with ground-based parcel companies such as DPD, Hermes and GLS, to name a few. None of the big three are present in the Chinese domestic market which is the domain of the likes of SF Express, China Postal Airlines, YTO Express and a huge array of ground based express companies, including JD.com’s inhouse logistics arm. In the Middle East and Africa DHL competes with companies such as Aramex. Prior to the 2016 takeover by FedEx, TNT operated in a mix of intra-European, intercontinental and domestic markets (such as Australia or Brazil).

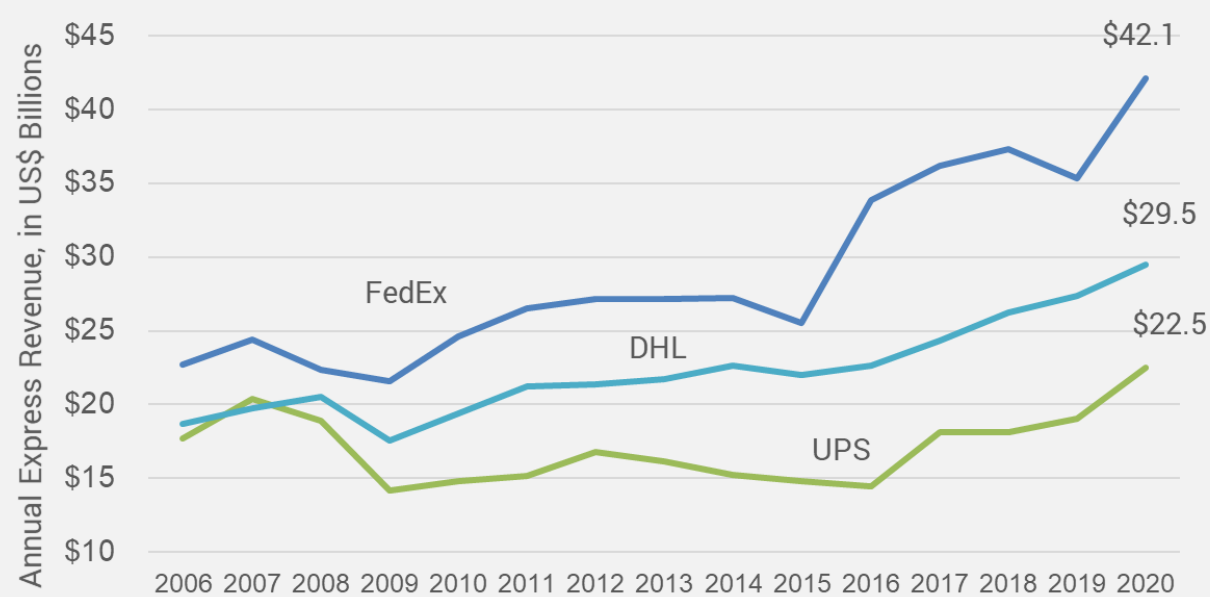
This section focuses on five companies: DHL, FedEx, UPS, SF Express, Aramex and Blue Dart. All of these report regular financial results and operating statistics, albeit of varying granularity and usefulness. We have prepared a profile of China Postal Airlines (see Table 7, Page 89) but due to lack of financial data have not included the company in financial and strategy analysis of this section. Most of the analysis covers the period from 2006 to 2020, but we have included a chapter that discusses recent developments in 2021. Financial years for Aramex, DHL, SF Express and UPS follow the calendar year, while FedEx ends its financial year in May and Blue Dart in March. Where appropriate we have adjusted FedEx and Blue Dart figures to reflect our calendar year-based analysis.

Chapter 4.1 provides a comparative analysis of the big three DHL, FedEx and UPS with regard to market shares, yield development and changes in product mix. Chapter 4.2 provides an overview of key developments in 2020 and the following chapters (4.3 - 4.8) provide an analysis of the six companies covered in this report in alphabetical order.

4.1 Companies Compared – Revenue, Growth, Market Share and Yields

In terms of overall corporate revenues, FedEx and UPS are two $84 billion a year companies while DHL most recent revenue reached $75 billion but they have a very different mix of businesses and scope. SF Express is a $23 billion company, while Aramex generated revenues of approximately $1.5 billion. Blue Dart generated revenues of $443 million in the last financial year. Figure 14 shows an overview of the express revenues generated by each of the three big integrators and the size of each varies substantially.

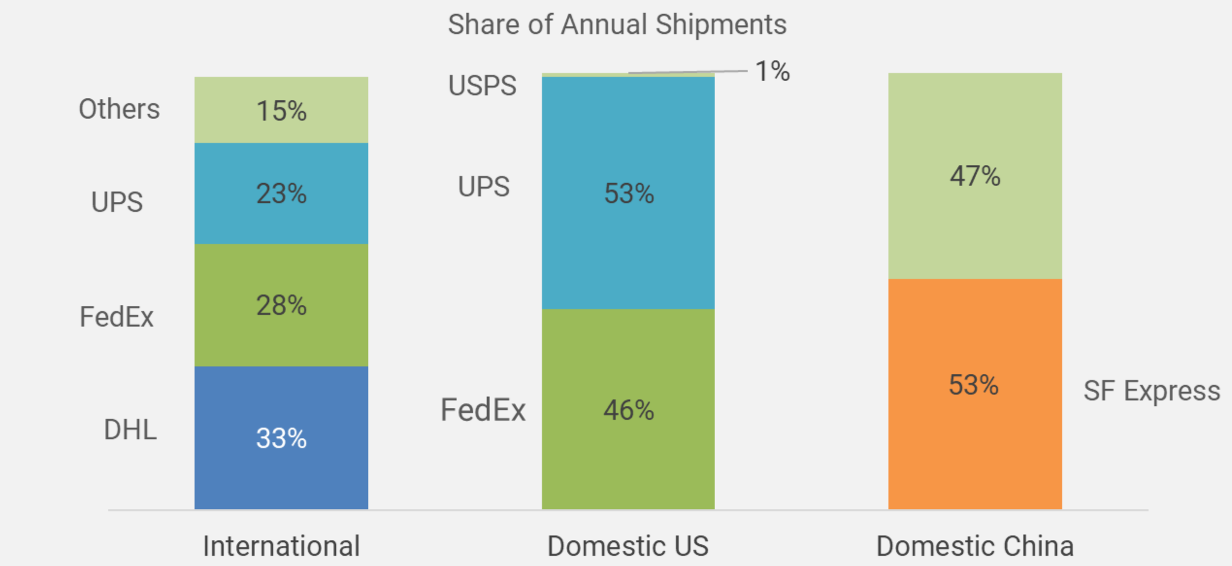
Figure 14 – Top Three Integrators Express Revenue 2006 – 2020



Source: Cargo Facts Consulting analysis of company financial data

The three big global integrators account for almost 90% of international air express shipments, with UPS and FedEx together accounting for approximately 60% (see Figure 15). The Domestic US market is dominated by UPS and FedEx, while the Chinese Domestic Market is dominated by SF Express. None of the big three are active in the domestic China market, even though for example UPS and SF cooperate internationally.

Figure 15 – International, Domestic US, and Domestic China Air Express Market Shares 2020

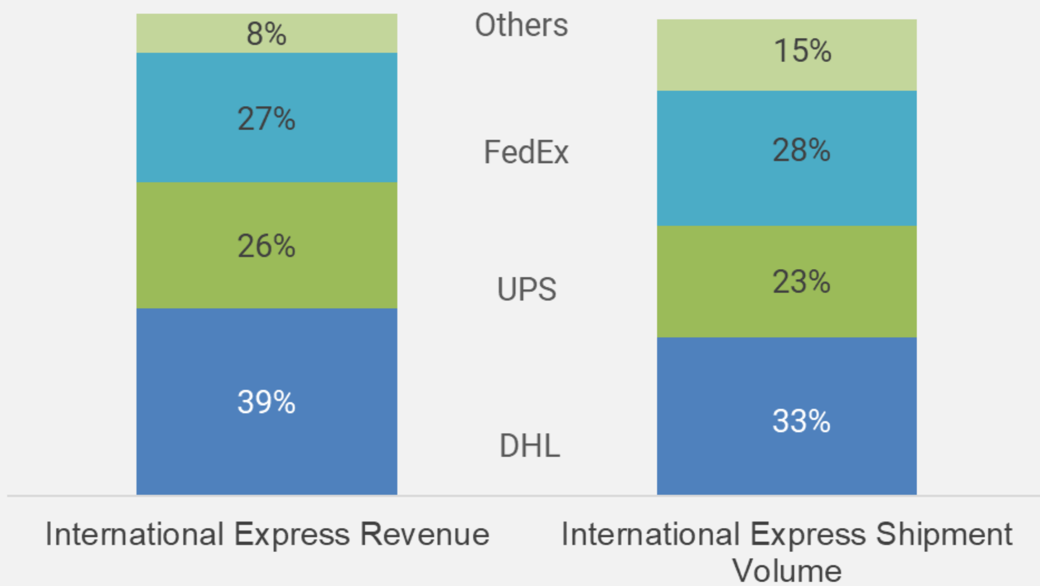


Source: Cargo Facts Consulting estimates based on company data, traffic and capacity data

The relative strength of each of these companies varies by international market. Predictably, UPS and FedEx are stronger on markets to and from the US than markets not linked to the US, while DHL has a dominant presence in Asia to Europe and Intra-Asian Markets. Last year we provided an overview of shares in the transatlantic, transpacific, intra-European, Intra-Asian, and other markets. We have decided not to include this figure in this year's report due to the lack of accurate segment data and changes in the market in 2020. Also, none of the carriers provides a detailed geographical breakdown.

Figure 16 provides an overview of shipment volumes and revenue shares by operator in 2020. We have combined shipment counts, revenues and yields, air-ground split as well as an analysis of air traffic data for markets where this is available. DHL is dominant in both revenue and shipment terms, accounting for almost 40% of international air express revenue, with FedEx and UPS each accounting for approximately one quarter. Others includes primarily EMS revenues and volumes.

Figure 16 – International Express Shipment and Revenue Shares by Operator 2020



Source: Cargo Facts Consulting estimates based on company data, traffic and capacity data

Yields for the three main international express operators have followed a moderate downward trend over the past 10 years as competition and the share of business to consumer traffic has increased (see Figure 17). This analysis includes the main international cross border products of each of the integrators.

While there has been a degree of consistency with regard to international per package yields, FedEx and UPS have developed differently (see Figure 18). Since 2015 FedEx' premium product yields have been growing while UPS has seen a decline. Deferred product yields have also been following an upward trend for FedEx and a downward trend for UPS, but they have stabilized in the last couple of years. While in the mid to late 2000s FedEx and UPS generated similar yield levels, since 2010 FedEx has consistently achieved higher package yields to UPS. Much of the recent drop in UPS next day air yield is a direct consequence of its high exposure to Amazon (13% of its global revenue in 2020).

Figure 17 – DHL, FedEx, and UPS International Air Express Package Yields 2007 – 2020

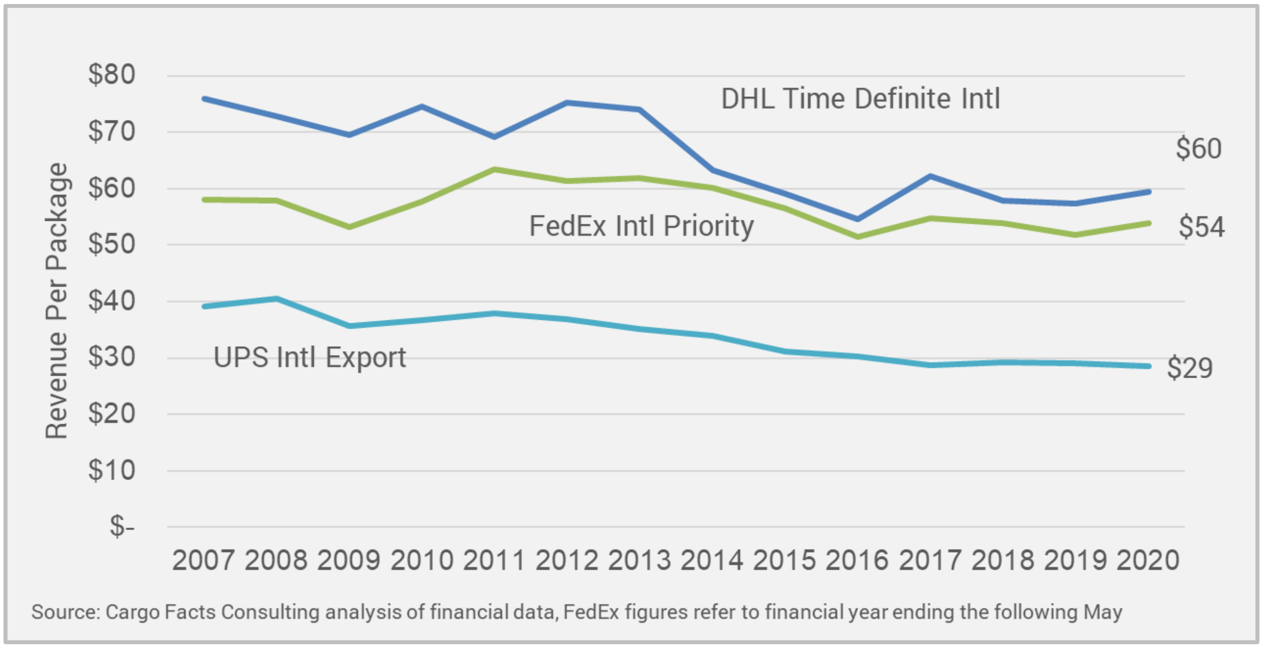
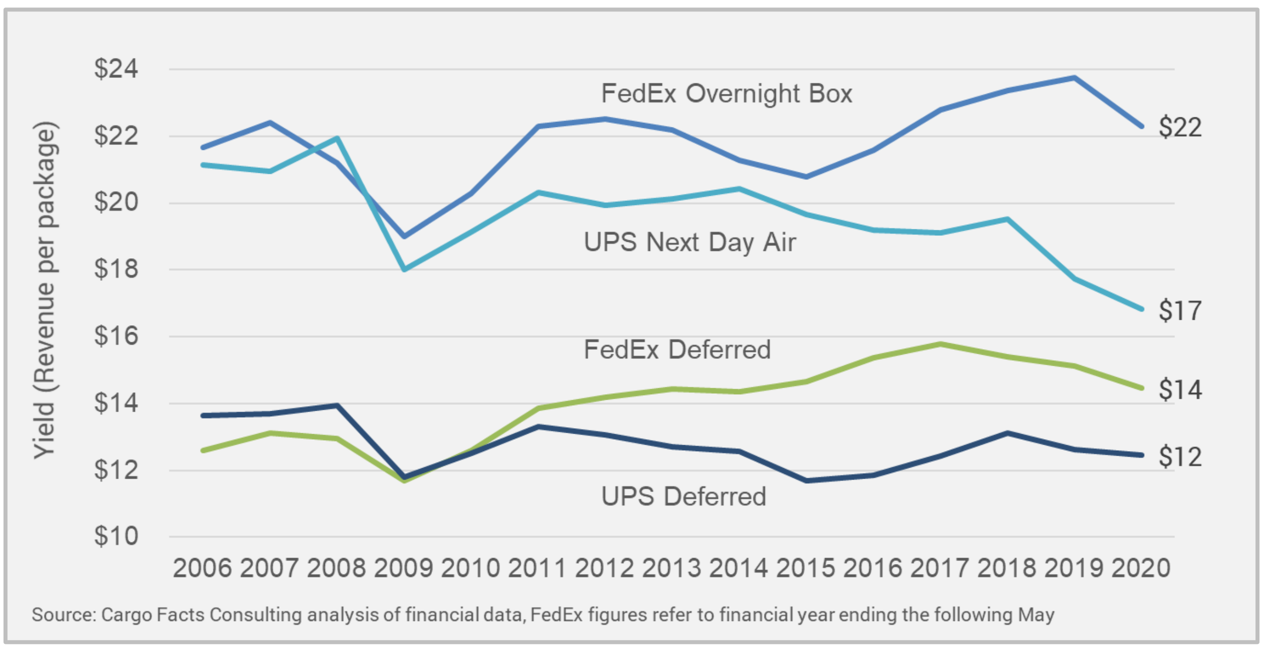
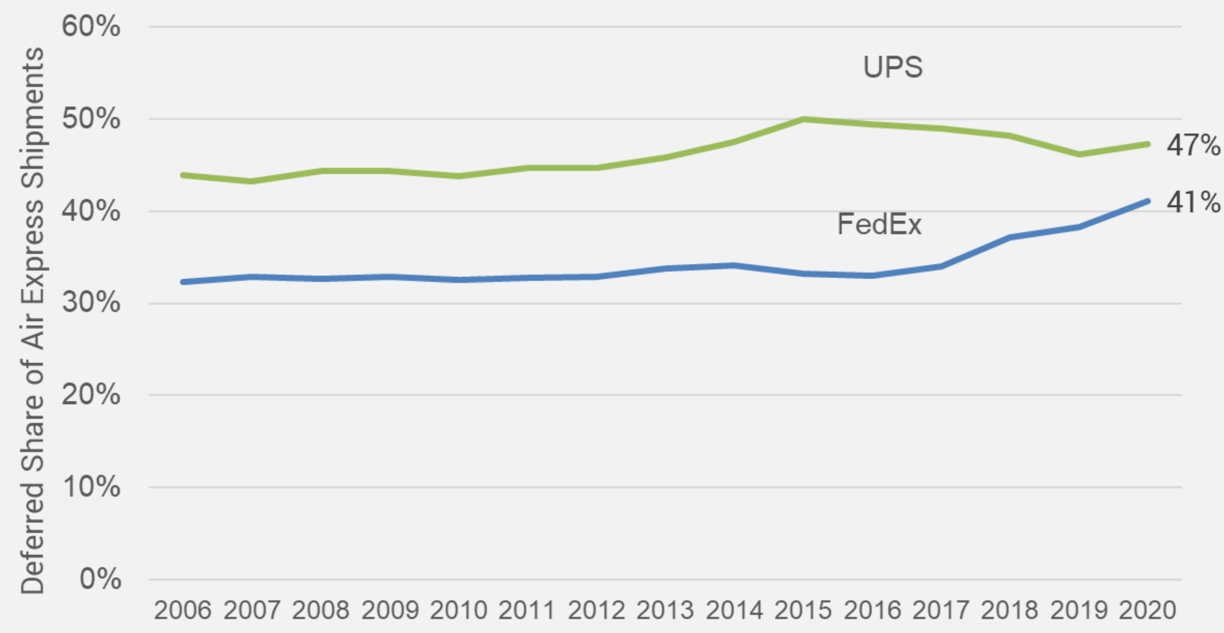


Figure 18 – FedEx and UPS US Domestic Package Yield by Product 2006 – 2020



The increase of B2C traffic also implies more residential deliveries and lower-priced deferred services. The deferred share today is indeed higher today than it was 10 years ago (see Figure 19) and with UPS' higher B2C share compared to FedEx the percentage of deferred services is also higher. UPS most recent years results show an Amazon effect – the switch from two day to one day prime shipping led to a reduction in the deferred share of shipments while the loss of the Amazon contract led to an increase for FedEx.

Figure 19 – UPS and FedEx Deferred Share of US Domestic Shipments 2006 – 2020

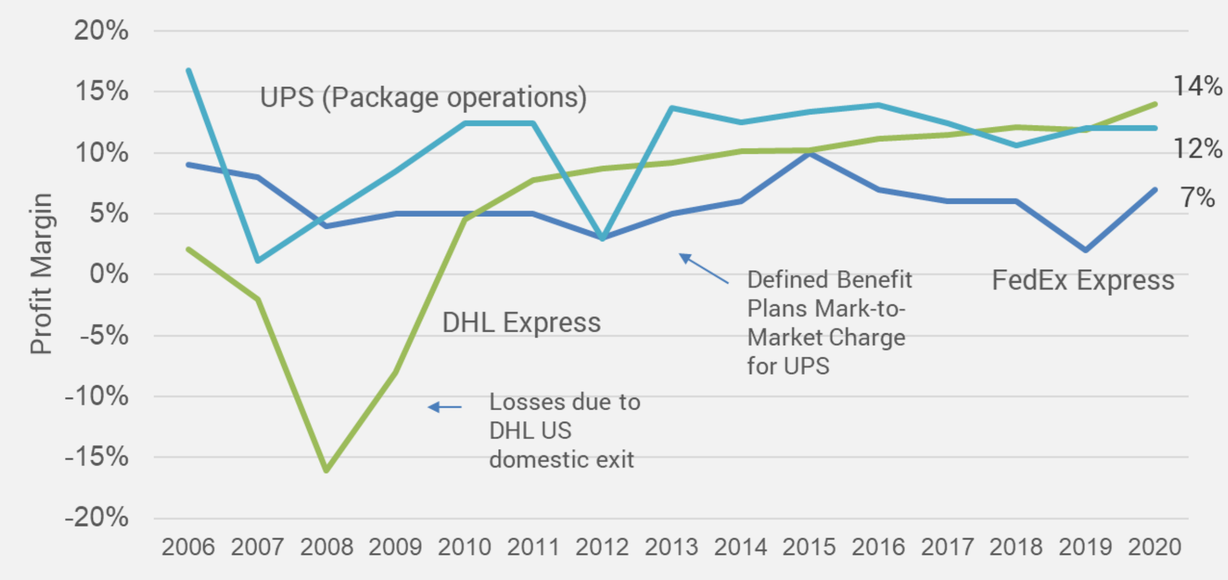


Source: Cargo Facts Consulting analysis of financial data

In terms of margins, DHL Express has outperformed both FedEx and UPS, although the latter does not report separate results related to its Express business (see Figure 20). Following the exit from the US, DHL Express has recovered, and its profit margins have shown a steady upward trend. FedEx and UPS have shown no clear long term upward or downward trend, but in recent years there has been pressure on margins. Lower yields and an increase in the share of deferred products have actually led to higher margins for FedEx.

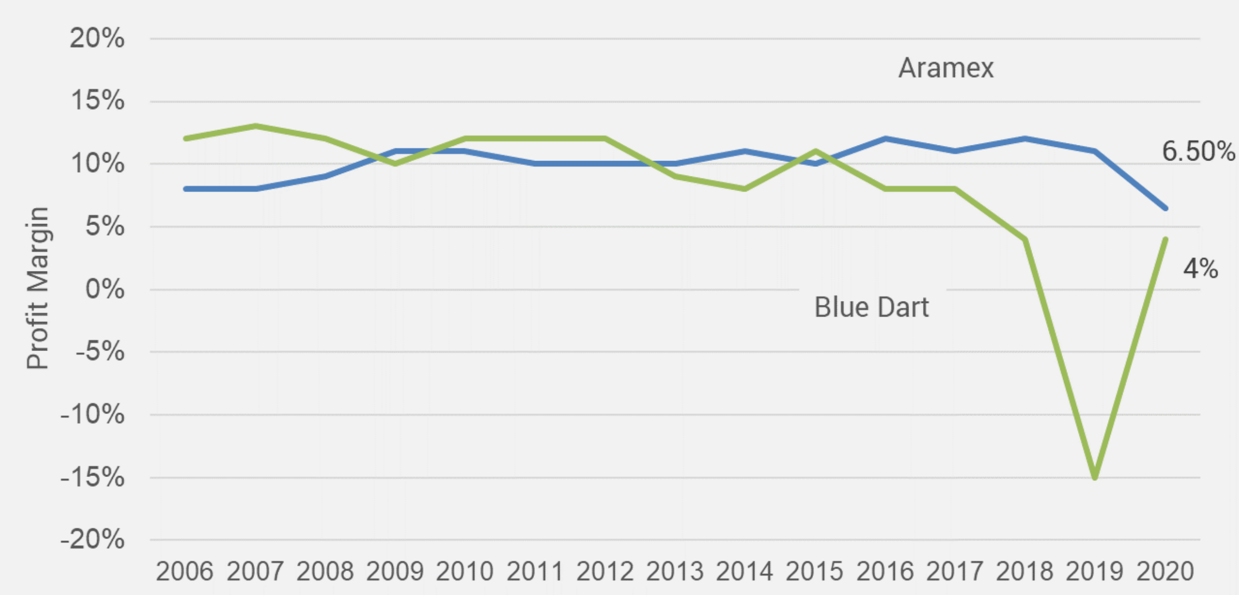
By comparison, Aramex has also shown a steady trend of increasing margins, while Blue Dart has taken a hit in the last years (see Figure 21) but seemed to have improved in 2020. SF Express (not shown due to insufficient time series data) generated operating margins of 19% in the express segment in 2020, with total net profit margins of 7%.

Figure 20 – DHL, FedEx and UPS Profit (EBIT) Margins 2006 – 2020



Source: Cargo Facts Consulting analysis of company financials

Figure 21 – Blue Dart and Aramex Profit (EBIT) Margins 2006 – 2020



Source: Cargo Facts Consulting analysis of company financials

4.2 Pandemic Fueled Growth – Developments in 2020 and 2021

While increasing e-commerce package traffic over the pandemic has been positive for utilization of sort facilities and both air and ground linehaul networks, it has increased last-mile delivery costs due to the requirement to deliver to lower-yield shipments to lower-density locations. Furthermore, the increase of business-to-consumer traffic in express networks has seen a decline of revenues per package particularly in domestic networks.

Table 1 and Table 2 show the summary of yield and volume developments in 2020 and 2021 (first half where data is available). US and China domestic have both seen a surge in volumes but yields have dropped. In domestic markets, 2020 was in many ways like 2019 – volumes were up, and yields were down as air express networks carried higher B2C shares. On international markets, express volume growth accelerated in 2020 and 2021 compared to 2019, but yield trends were similar. However, overall air cargo yields saw greater increases in 2020 – closer to 30% for the full year. When you are getting on average $55 per shipment there is not much higher you can go. 2021 has been somewhat different: volume growth is moderate, but in the US domestic market, per package yields have gone up.

Table 1 – 2020 Air Express Yield and Volume Development: DHL, FedEx, UPS, SF Express

Company	International Export Volume	International Export Yield	Domestic Volume	Domestic Yield
DHL (Jan-Dec 2020)	+ 10.5% ↑	+ 1.8% (-1.8% in $) ●	- -	- -
FedEx (Dec 2019-Nov 2020)	+ 9.1% ↑	-4.4% ↓	+ 3.9% ↑	- 4.3% ↓
UPS (Jan-Dec 2020)	+ 14.5% ↑	- 2.0% ↓	+ 8.2% ↑	- 4.0% ↓
SF Express (Jan-Dec 2020)	- -	- -	+ 68% ↑	-19% ↓

Source: Cargo Facts Consulting analysis of company financials, UPS domestic volumes exclude Ground

Table 2 – 2021YTD Air Express Yield and Volume Development: DHL, FedEx, UPS, SF Express

Company	International Export Volume	International Export Yield	Domestic Volume	Domestic Yield
DHL (Jan-Sep 2021)	+ 15% ↑	+ 14% (+18% in $) ↑	- -	- -
FedEx (Dec 2020-Aug 2021)	+ 21 % ↑	+ 6.6% ↑	+ 16% ↑	+ 3.0% ↑
UPS (Jan-Sep 2021)	+ 12% ↑	+ 13% ↑	+ 0% ●	+ 11% ↑
SF Express (Jan-Sep 2021)	- -	- -	+ 39% ↑	-13% ↓

Source: Cargo Facts Consulting analysis of company financials, UPS domestic volumes exclude Ground, SF domestic volumes do not

Express operators have adjusted their network planning and schedule to maximize capacity and utilization on a daily basis during the pandemic. FedEx and UPS have implemented surcharges on all international package and air freight shipments since March 2020 to address demand and capacity challenges associated with the COVID-19 pandemic. However, changes in lockdowns and economic conditions and the inability to forecast the short-term outlook can materially affect all the express operators.

4.3 Aramex

Based in Dubai, UAE, Aramex is a global asset light provider of logistics and transportations solutions. Their strategic location in the Middle East serves as a logistics connection between East and West, operating in more than 600 cities across more than 65 countries and employing over 16,000 professionals. Aramex claims to have dozens of alliances with leading international express and logistics providers as part of the Global Distribution Alliance (GDA), reaching more than 230 countries and territories worldwide. Aramex partnered with Amazon Web Services (AWS) in late 2020 to expand its technology footprint, increasing its agility, security, and speed of innovation. The Middle East operator has proven that their unique asset-light business model and commitment allows the company to adapt quickly to changing market conditions, implement last-mile delivery solutions, develop new services, or respond to changing customer preferences. In 2021, Aramex opened new fulfillment centers and branches in Egypt, Iraq, Morocco and Saudi Arabia. Aramex has also completed the split of operations with Aramex Express and Aramex Logistics fully implemented, with benefits reflected in the growth of 22% of the freight forwarding business in 2021, exceeding pre-pandemic figures.

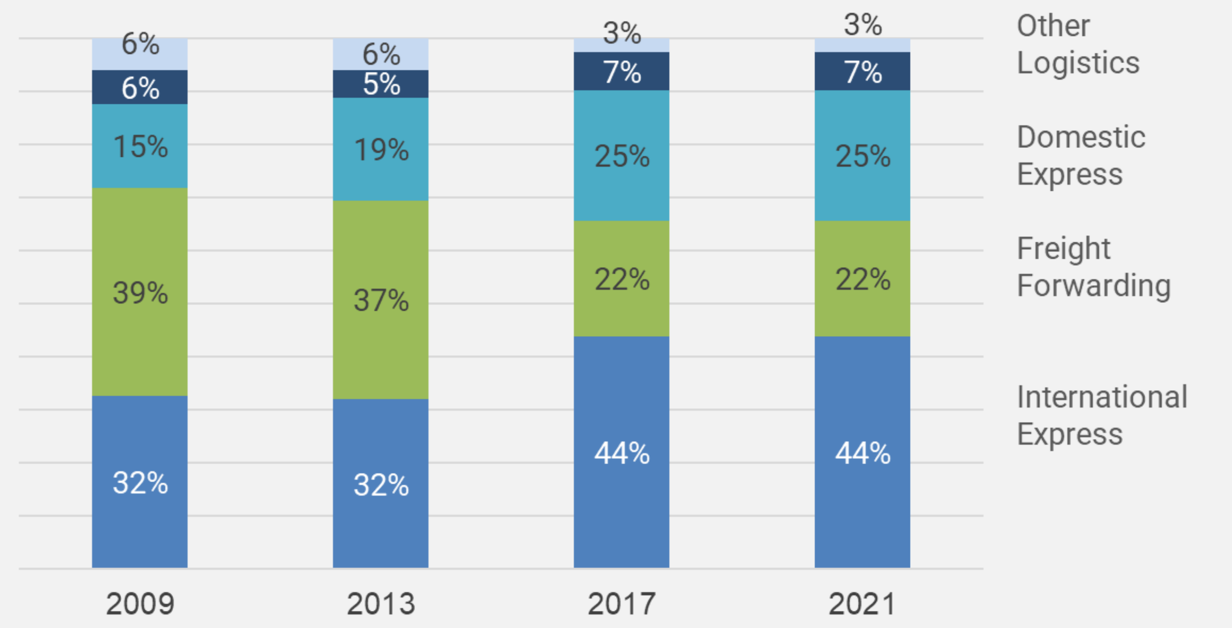
Aramex posted a net profit of AED 226 million ($61.5 million) in 2020, a decrease of 15% year-over-year while revenue was up by 10% to AED 6,1 billion ($1.6 billion) recording the highest figure to date with about the same growth rate as the previous year. Aramex saw growth across all its products lines and this was the third consecutive year of continuous growth for all of them. Aramex divides its product offering into four main categories: International Express Services, Domestic Express Services, Integrated Logistics and Freight Forwarding. Other services include Healthcare, Information Management Solutions and Shop & Ship. The latter three segments accounted for 3% of Aramex revenue distribution by segment as shown in Figure 22. Aramex International Express Services continues to be the company’s core product, with a revenue share of 44% in 2021. This segment grew in 2021 by 3% to AED 2,654 million ($722 million) fueled by growth and higher volumes from Australia, US, Europe and Asia into the GCC markets.

In terms of the domestic express, revenue increased by 35% to AED 1,489 million ($405 million) in 2021, up from AED 1,108 million ($302 million) in 2020 due to an increase in domestic e-commerce across the GCC and Australia. E-commerce volumes in core markets increased by 65% as more consumers turned to the internet to purchase a wide range of items.

Figure 22 illustrates how the various business segments have changed their revenue share over time. Aramex had a larger focus on its Freight Forwarding operations back in 2007 but its dependency on this division has been offset by the growth in the Domestic and International Express sectors over the last five years. In addition to the strong e-commerce focus, Aramex has targeted other industry opportunities in the Pharmaceutical, Oil & Gas, Aerospace and Fashion Industries. By investing in warehouse spaces and temperature-controlled vehicles, they are able to offer additional logistics and freight forwarding solutions in different regions. GeoPost and Abu Dhabi are the most recent strategic large shareholders that are well positioned to add synergies to the Express and logistics divisions of Aramex.

Aramex keeps growing its customer base and servicing online retailers in their core markets of the Gulf, Levant, Asia & Africa and in new markets. Aramex posted an increase in revenue across all its business units but it is worth highlighting the Freight Forwarding division, which recorded a total o AED 1,325 million ($361 million) in 2021 (22% increase vs. 2020). The “Other” division also grew by 16% up to AED 164 million ($45 million) in 2021. The freight forwarding revenue growth are originating in the oil and gas sector, as well as the retail sector. In the recent years, Aramex has prioritized e-commerce over freight forwarding but their strategy moving forward will focus on this unit and offer a combined product to their customers.

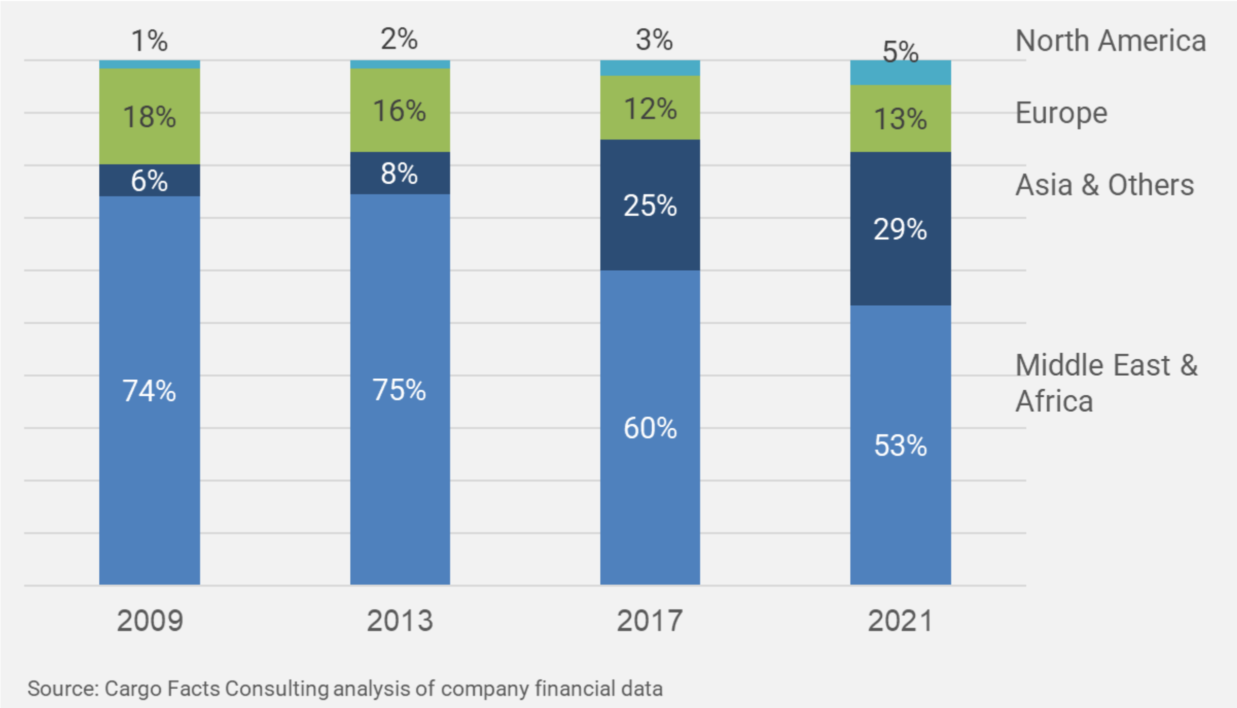
Figure 22 – Aramex Revenues by Business Segment 2009 – 2021



Source: Cargo Facts Consulting analysis of company financial data

Figure 23 shows the company's revenue share by region, with its core market (Middle East & Africa) accounting for 53% of the total revenue in 2021. The Asian region has experienced the highest growth in the last decade with Europe's share decreasing from 18% in 2009 to about 13% in 2021. Aramex recorded double digit growth in logistics coming from Saudi Arabia, Morocco and the UAE. These three markets present a wide range of opportunities in the e-commerce sector. Aramex saw continuous pressure from the increase in line haul costs due to supply chain constraints, lockdown restrictions and lack of international belly capacity. Oceania remains a key market for Aramex, where they are the second largest logistics operator and where they see opportunities for cross-border growth by expanding trade lanes from the continent to North America and Europe especially.

Figure 23 – Aramex Revenues by Region 2009 – 2021



Aramex delivered a total of 132 million shipments in 2021, an increase of 12% from the same period in 2020. Figure 24 shows the revenue per shipment development from 2007 to 2021. Additionally, Figure 25 shows Aramex shipment volumes over time. Aramex has seen noted a considerable increase in the cost per kilo of shipment due to limited air freight capacity and higher overall line haul costs. Therefore, Aramex is considering options to restructure their own long-haul network including chartering their own flights to some routes. Aramex continues to diversify its business units with a healthy mix of B2B and B2C services, moving to a B2B2C model with end-to-end service offering.

Figure 24 – Aramex Revenue per Shipment and Volume Development 2007 – 2021

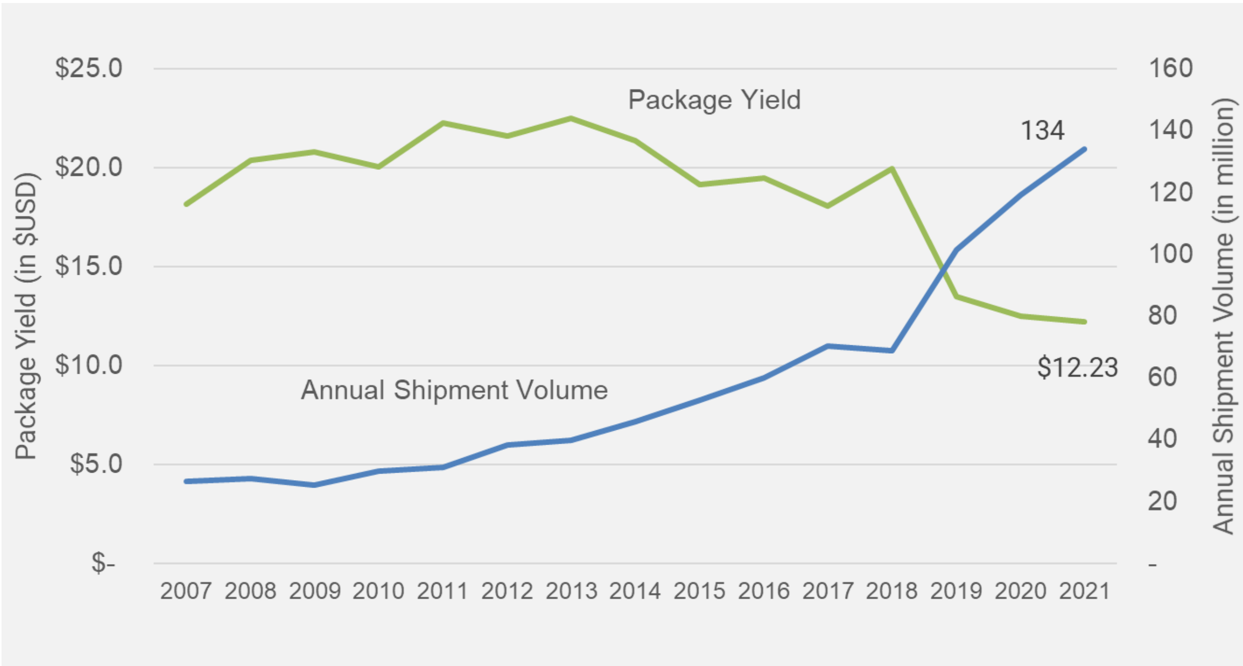
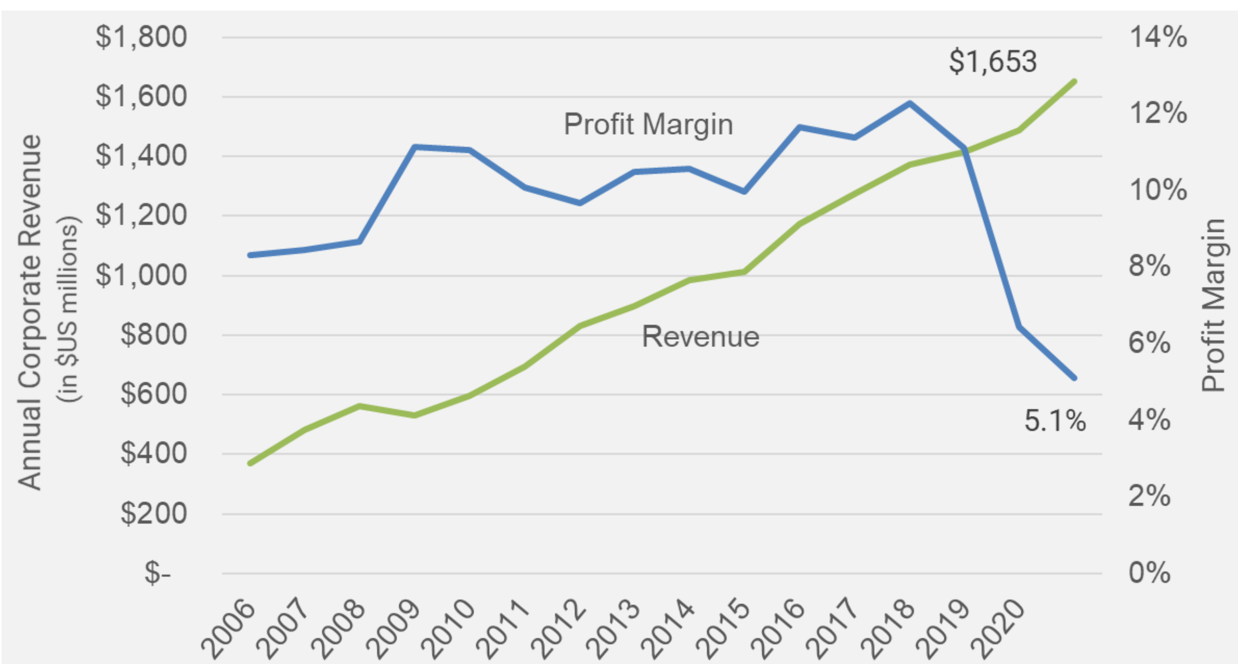


Figure 25 – Aramex: Corporate Revenue and EBIT Margin 2006 – 2021



Source: Cargo Facts Consulting analysis of company financial data

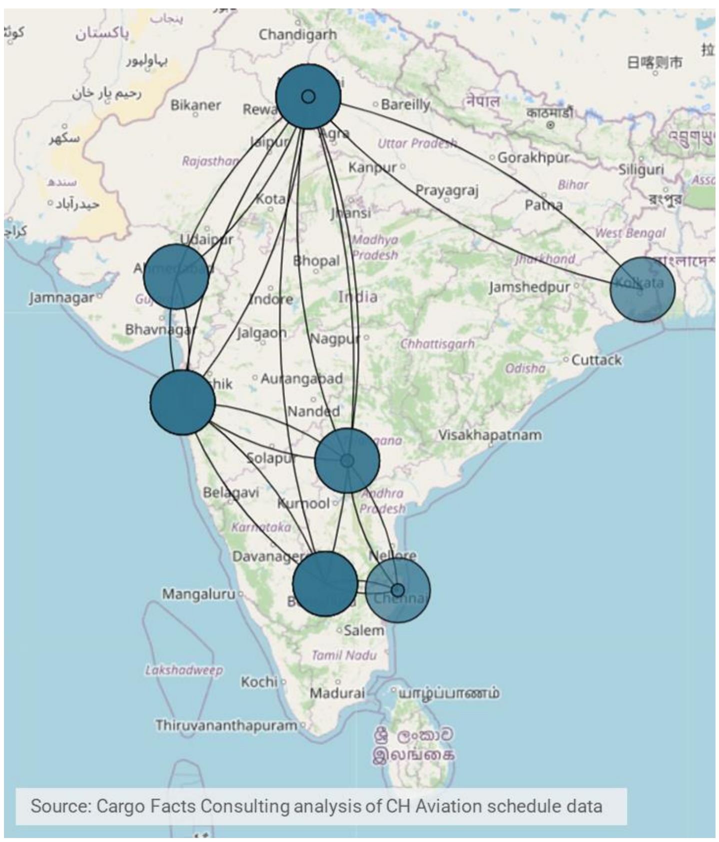
In October, Aramex completed its acquisition of Florida-based Access USA Shipping (MyUS), a global technology platform that enables cross-border e-commerce, for approximately $265 million — the company’s largest purchase to date. In 2021, MyUS generated more than $100 million in revenue and delivered over 1 million packages to customers from retailers based in the U.S., U.K. and China. In October 2021, GeoPost/DPDgroup, a subsidiary of the French state-owned postal group La Poste, acquired a 21.6% stake in Aramex.

4.4 Blue Dart

Blue Dart Aviation, originally the air arm of Indian express company Blue Dart Express, was spun out as a standalone carrier in 2004 when DHL acquired majority ownership of Blue Dart Express. However, Indian ownership ended in late June 2015 when Blue Dart Express raised its stake in Blue Dart Aviation from 49% to 75%, effectively making Blue Dart Aviation a subsidiary of DHL Express. The airline currently operates six 757-200Fs with capacity of 500 tonnes per night, serving the seven largest cities in India and primarily flying at night, allowing late cut-off times and on-time early morning deliveries (see Figure 26).

Blue Dart is preparing for a strategic expansion under which it plans to add two 737-800Fs by the end of March 2023. Additional units are under consideration. The smaller-gauge aircraft are due to be deployed to smaller domestic cities. These will be Blue Dart's first 737 NG freighters. Blue Dart's original 737 fleet was based off converted 737 Classics. The 737-800F is already operational in India, with combination carrier SpiceJet flying the -800F since 2019.

Figure 26 – Blue Dart Air Network, November 2022



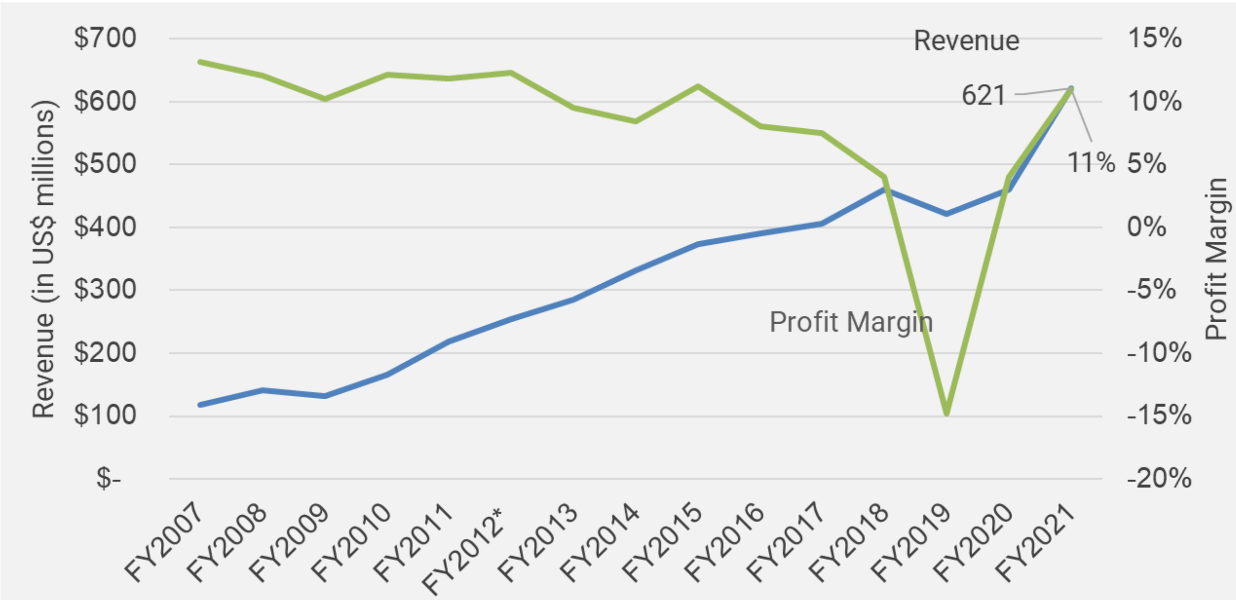
Under DHL's control there were no major changes for a number of years in Blue Dart Aviation's successful operation. The Blue Dart operation was transferred at the beginning of 2014 from DP-DHL's DHL Express unit to the new Post-eCommerce-Parcel unit. Later it was disclosed that the PeP unit had chosen India as the pilot market in the Asia-Pacific region for its new e-commerce business strategy. Due to the restructuring within the DPDHL Group, Blue Dart became part of the new DHL eCommerce Solutions division effective January 1, 2019. In early 2020 before the extent of the pandemic became evident, Ken Allen, the former CEO of DHL Express and former chief of its ecommerce solutions segment, stated that DHL overinvested in Blue Dart and grew too quickly in size and scope. The priority was to improve service quality and establish a solid operating platform to "build incrementally." As of November 2022, Blue Dart has not commented in detail about its expansion with 737s.

Blue Dart offers air freight, ground, and air express, charters and trucking services through its partnerships with DHL Express, DHL eCommerce LLP, DHL Supply Chain and DHL Global Forwarding. This synergy allows Blue Dart to reach 220 countries and territories through its time-definite and day-definite delivery services. Moreover, the company offers specialized delivery services such as Freight on Delivery (FOD), Freight on Value (FOV), Point to Point (P2P) or Temperature Controlled Logistics (TCL). Blue Dart played a crucial role in delivering medicines, test equipment and other emergency supplies to customers through the pandemic. The Blue Dart Med-Express Consortium was successfully created by the corporation to deploy drones to provide a comprehensive healthcare infrastructure to the country's interior urban areas.

Economy in India has faced challenges in the last decade, but Blue Dart has been able to achieve excellent financial results while offering high customer service quality. During its latest fiscal year (ended March 31, 2022), Blue Dart consolidated revenues reached $621 million (44.1 billion INR), a 35% gain on a year-over-year basis. Blue Dart focus is to keep upgrading their digital solutions and infrastructure to ensure an improved optimization of its sorting and handling capabilities. Figure 27 summarizes the company's revenue and profit margin over time.

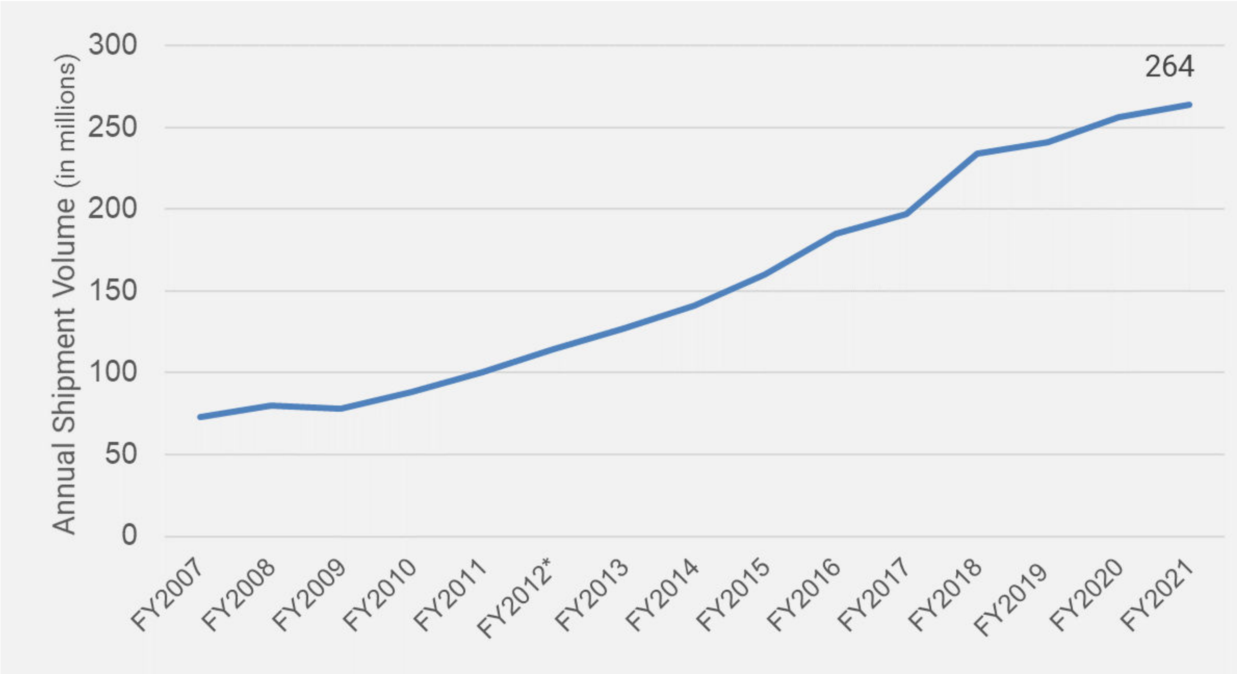
Blue Dart is primarily a domestic operation. In its most recent financial year, the company moved 263.3 million domestic shipments but only 1 million shipments and a total weight of 932,690 tonnes. The consolidated shipment count grew by 14% in the latest fiscal year compared to the same period in the previous year. Figure 28 shows the development of Blue Dart air and ground shipments from 2007 to the latest fiscal year. Approximately 12% of Blue Dart's tonnage moves through its air network, with the remainder using ground transportation. It is worth noting that Blue Dart's Air network has not changed significantly over the last decade despite transitioning from 737 Classics to larger 757 freighter aircraft. The addition of 737-800Fs is expected to bring new cities to Blue Dart's network, adding frequencies to the existing network as well.

Figure 27 – Blue Dart Revenue and EBIT Margin FY2006 – FY2021



Source: Cargo Facts Consulting analysis of company financial data

Figure 28 – Blue Dart Air and Ground Shipments FY2007 – FY2021



Source: Cargo Facts Consulting analysis of company financial data

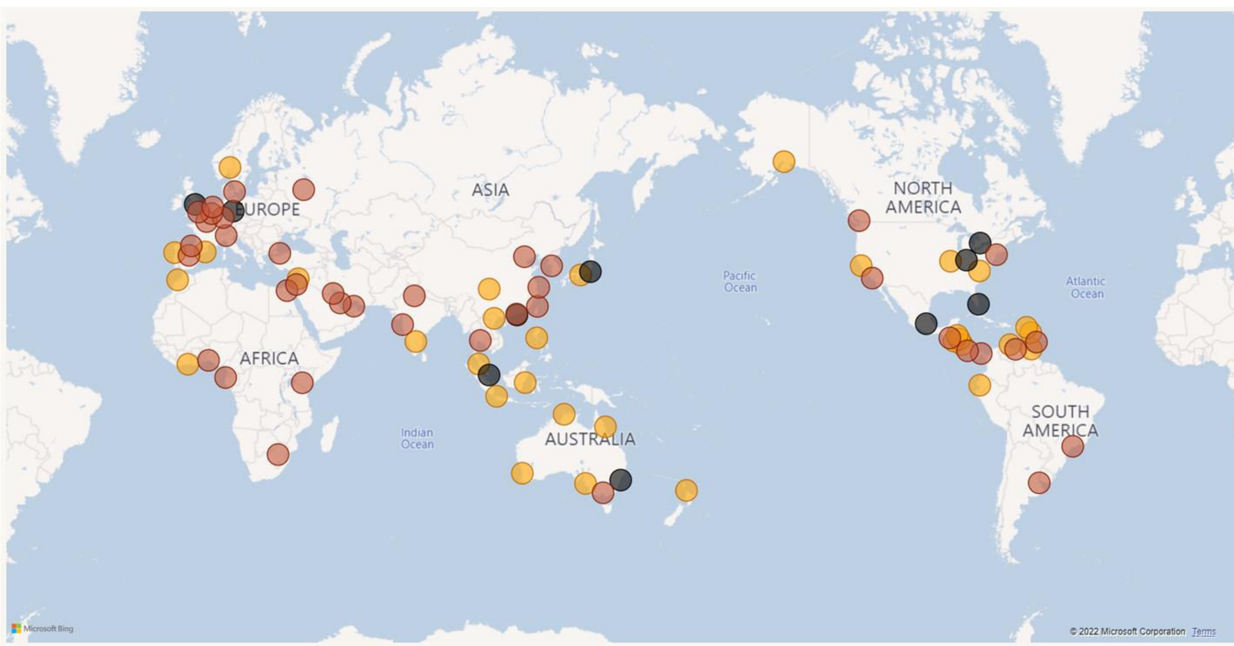
Blue Dart saw its demand reduced as lockdowns were ending in India in the summer of 2021. All economic indicators including GDP growth and PMIs showed signs of a solid rebound while the increasing activity in business operations of the key industry verticals contributed to the growth in the last three quarters. In FY2021 (which ended in April 2022), Blue Dart delivered a very strong financial performance. Overall revenue grew by 21% with volumes rising despite a challenging political scenario in the region. Their continued cost efficiency programs and automation and digitalization initiatives were also key to the strong results.

4.5 DHL Express

DHL Express is part of Deutsche Post AG, a German-registered corporation with headquarters in Bonn, Germany. Under its Deutsche Post & DHL brands, this group provides a range of international services including parcel distribution, express delivery, supply chain management, freight transport and e-commerce solutions. In November 2021, the group is organized into the five following operating segments: Supply Chain, Global Forwarding & Freight, Express, Post-eCommerce-Parcel and Global Forwarding. Each of the divisions is managed independently and subdivided into business units, functions, and regions. This report focuses on DHL's Express division but also reviews the operational performance of the other three divisions to place the relationship between the Express group and the rest.

Figure 29 provides a current overview of the international scope and scale of DHL Express' operations. The pandemic allows DHL Express to launch direct services between Brussels (BRU) and Miami (MIA), Hong Kong (HKG) to Sydney (SYD) via Guam (GUM), East Midlands (EMA) and Los Angeles (LAX) and Shenzhen (SZX) to Brussels (BRU) and other European destinations.

Figure 29 – DHL Express Hubs and Focus Cities – 2022



Source: Cargo Facts Consulting analysis of company and flight data

DHL Express has a global network that spans over 220 countries and territories, providing services to 2.7 million customers and employs over 110,000 people. Its fleet of about 250 aircraft makes DHL one of the largest air carriers in the world. DHL has developed a network of airline alliances with 18 owned and partner operators that is very different from the single-operator business models of FedEx or UPS. In the past decade, DHL has expanded its own dedicated air operations by taking more direct control over freighter operations on high-demand routes supplying more reliable capacity and providing shorter delivery times. Its dedicated air freight fleet and over twenty partner airlines operate over 850 daily scheduled flights serving more than 500 airports across the world.

Figure 30 – DHL Express Airline Subsidiaries, Affiliates and Subcontractors

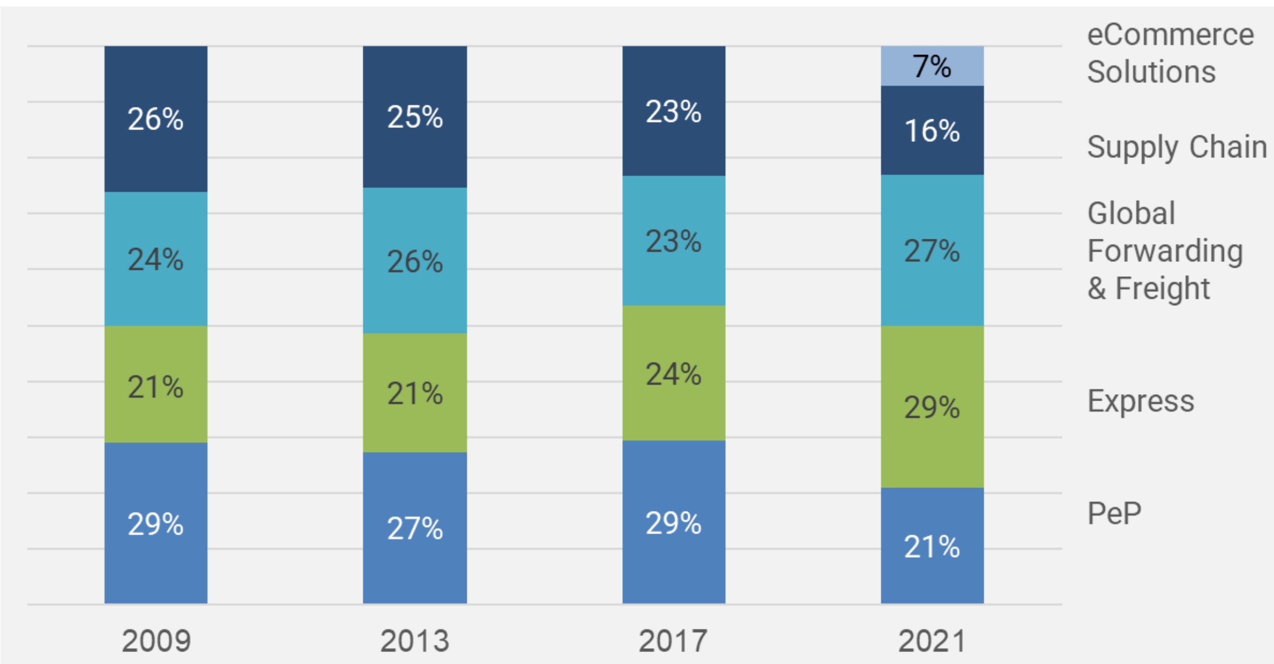
DHL majority or wholly-owned subsidiaries	DHL International Aviation Middle East DHL Air UK DHL de Guatemala DHL Ecuador (TransAM) DHL Aero Expreso European Air Transport Leipzig Blue Dart Aviation Vensecar Internacional
DHL Aviation affiliate airlines in which the company holds minority shareholdings (50% or less)	Tasman Cargo Airlines (49%, since 1994) Air Hong Kong (JV with majority shareholder; Cathay Pacific, since 2002) Polar Air Cargo (49%, since 2006) AeroLogic (50% JV, since 2009)
DHL Aviation contract airlines	ABX/ATI Aeronaves TSM Allied Air Amerijet Atran Aviastar-TU ASL incl K-mile Atlas/Southern Air ASG (Bluebird, Smartlynx) Cargo Air iAero Kalitta Air, Kalitta Charters II MasAir Mesa Raya Solenta Aviation West Atlantic/ Swiftair 21 Air

Source: Cargo Facts Consulting Fleet and Operational Data Analysis

The DHL Express division continued its strong performance in 2020 and revenue increased by 19% in 2020 to €24.2 Billion ($25 billion). The division's EBIT rose 54% to €4,2 billion ($4.3 billion). B2C volumes remained the primary driver, but B2B volumes improved somewhat starting in Q1. Time-definite international express (TDI) growth of 10.3% and a rise in average weight per shipment were the main drivers of this success. Through the course of the year, network capacity utilization remained continuously high, significantly enhancing the effectiveness of shipment processing across the whole network. This resulted in a rise in profitability once more. Express reported an EBIT margin of 17.4%, a record for this unit.

Figure 31 shows DHL's revenue distribution across its four divisions. Historically, the total revenue is almost equally divided between the segments but with a higher share for the PeP (Post - eCommerce – Parcel). In 2019, DHL created a new segment called the new eCommerce Solutions which encompasses all international parcel delivery operations with core activities in Europe, some Asian countries and the US. In the latest fiscal year, this accounted for about 7% of all DHL revenue.

Figure 31 – Deutsche Post DHL Revenue by Segment 2009 – 2021

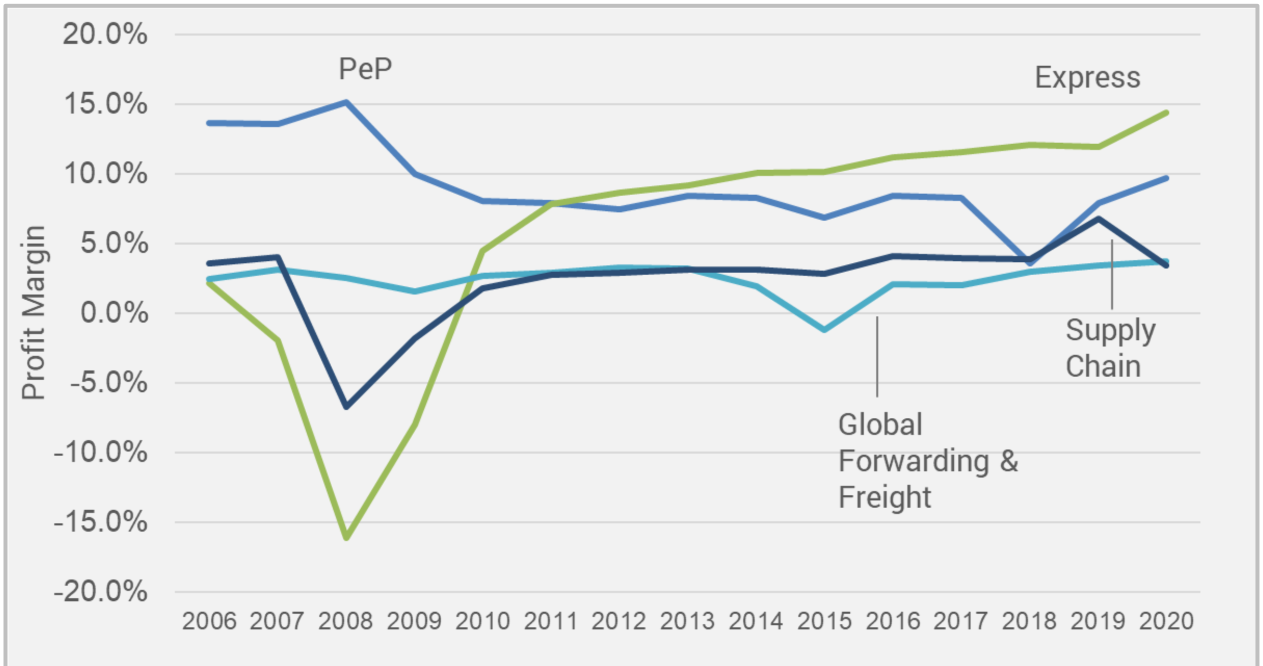


Source: Cargo Facts Consulting analysis of company financial data

The dynamic surge in package volumes intensified during the Christmas season, with capacity utilized at optimal levels and maintaining a high quality of service. The pandemic drove the growth of internet sales, which directly affected the demand for DHL network's capacity. Shipment volumes for B2B and B2C significantly grew and exceeded estimates in practically all regions. The recovery of B2B is also worth mentioning.

Figure 32 illustrates the profit margin development by business division and it clearly shows how DHL Express leads this figure on a unit base. Since the years after the economic recession and DHL's exit of the U.S. domestic market, the Express division has experienced a stronger performance than the other units. The newly created eCommerce Solutions division was not included in this figure.

Figure 32 – Deutsche Post DHL Profit Margin (EBIT) by Business Segment 2006 – 2020



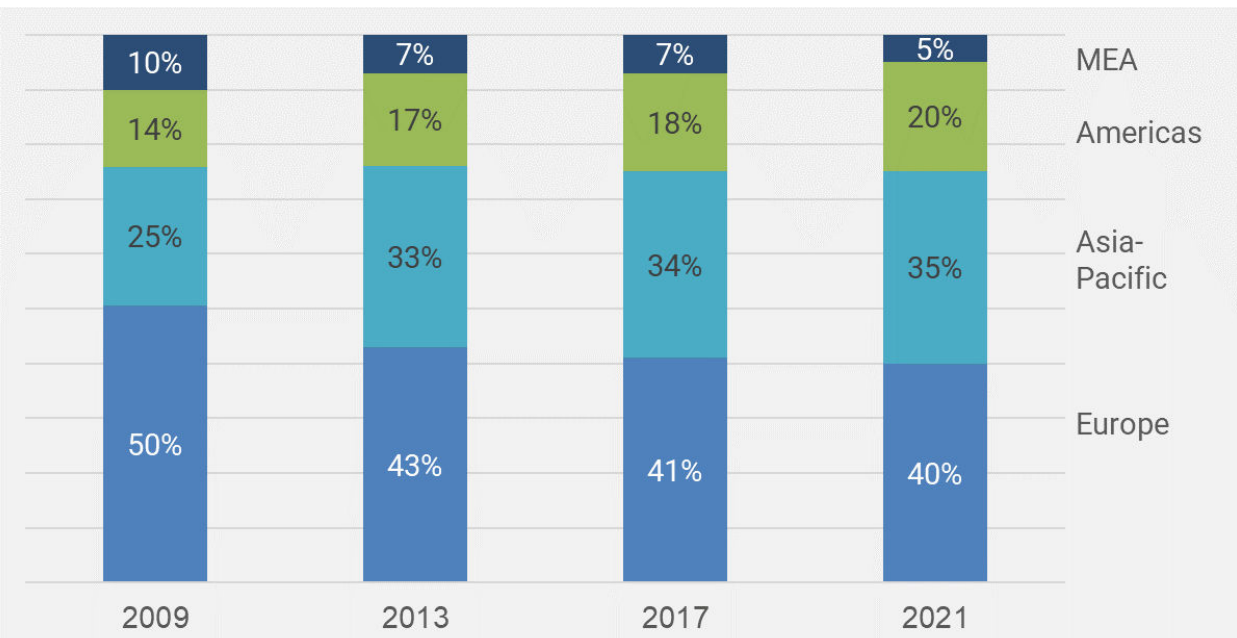
Source: Cargo Facts Consulting analysis of company financial data

Figure 33 shows the revenue distribution of DHL Express by region over the last twelve years. The share decline in the Americas region between 2008 and 2012 was due to the withdrawal of DHL from the U.S. domestic market in January 2009. Since then the relative share of revenue generated in each region has stayed constant. DHL continues to expand their European network by launching new direct flights and introducing two A321P2Fs. Highlights to their improved operating infrastructure in the Americas include the new service centers in Mexico, the United States and Colombia and their new hub in Toronto. The Middle East remains the smallest region but in 2019, DHL launched Africa eShop as an online marketplace which connects retailers in the United Kingdom and the US with buyers in the African continent. As of today, more than 100,000 users from over 35 countries are active.

Within the Express unit, in 2020 about 75% of total revenue came from Europe (42% share) and Asia Pacific (33% share) with the Middle East and Africa (MEA) region and the Americas representing 7% and 19% respectively.

DHL Express's core product is the international time-definite shipments (TDI) which provides services with a pre-defined delivery time. The second main product is called time-definite domestic (TDD) and provides domestic services within a country or territory. TDD revenues are about tenth of TDI revenues due to lower shipment volumes and a much lower revenue per shipment. TDD is also generally a ground product. Most of the freight capacity owned or purchased by DHL is used for TDI and if something remains, it is sold to other air freight operators and customers with DHL Global Forwarding being the largest buyer of this remaining capacity. Revenue in the Europe area climbed by 25.7% to €10,193 million, including negative currency impacts of €10 million. Revenue per day climbed by 29.8% and shipment volumes by 12.4% in the TDI product line. International daily sales increased by 20.1% in the fourth quarter of 2021, while daily cargo volumes increased by 0.3%.

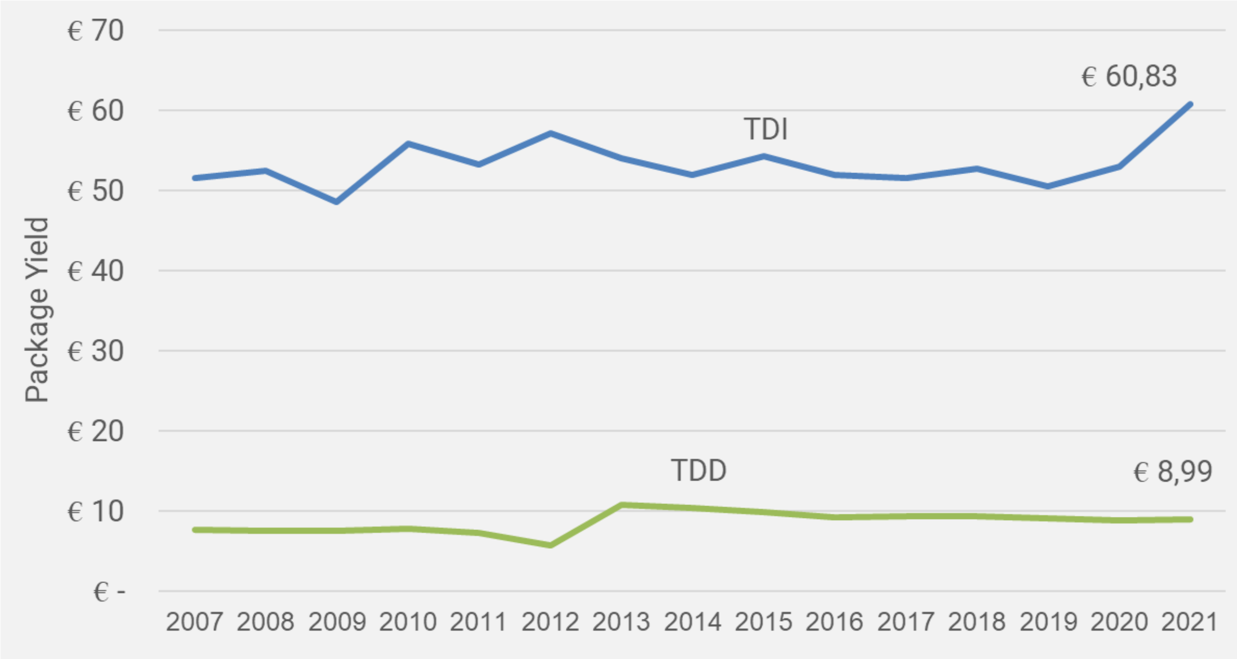
Figure 33 – DHL Express Revenues by Region 2009 – 2021



Source: Cargo Facts Consulting analysis of company financial data

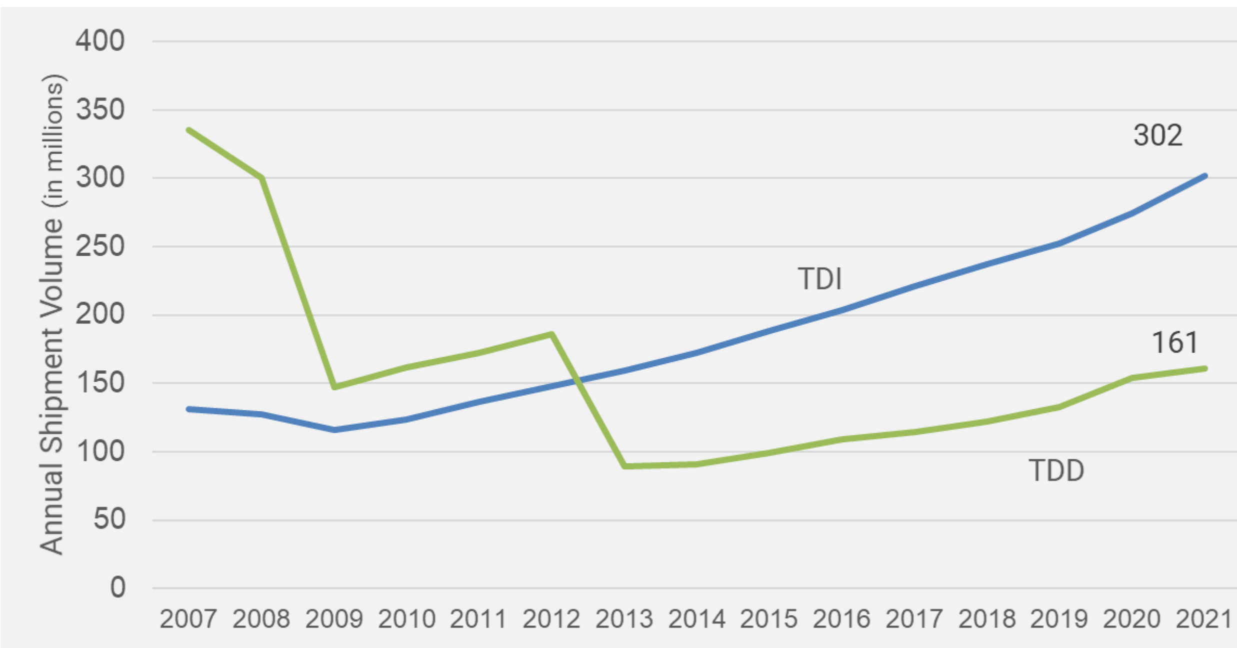
Figure 35 displays the shipment volume development for the TDI and TDD product lines. It is important to note how TDD shipment volumes reflect DHL's strategy to end domestic delivery operations with the goal of focusing on international operations. The shipment data reflect overall weakness in 2008 and 2009, including the impact of the global recession and the significant negative effects of DHL’s withdrawal from the domestic market in the United States in early 2009. DHL Express reported an increase in revenues and shipment volumes for the TDI and TDD product lines due to the high growth of B2C volumes.

Figure 34 – DHL Express Time Definite International and Domestic Yields 2007 – 2021



Source: Cargo Facts Consulting analysis of company financial data

Figure 35 – DHL Express Shipment Volume by Product Development 2007 – 2021



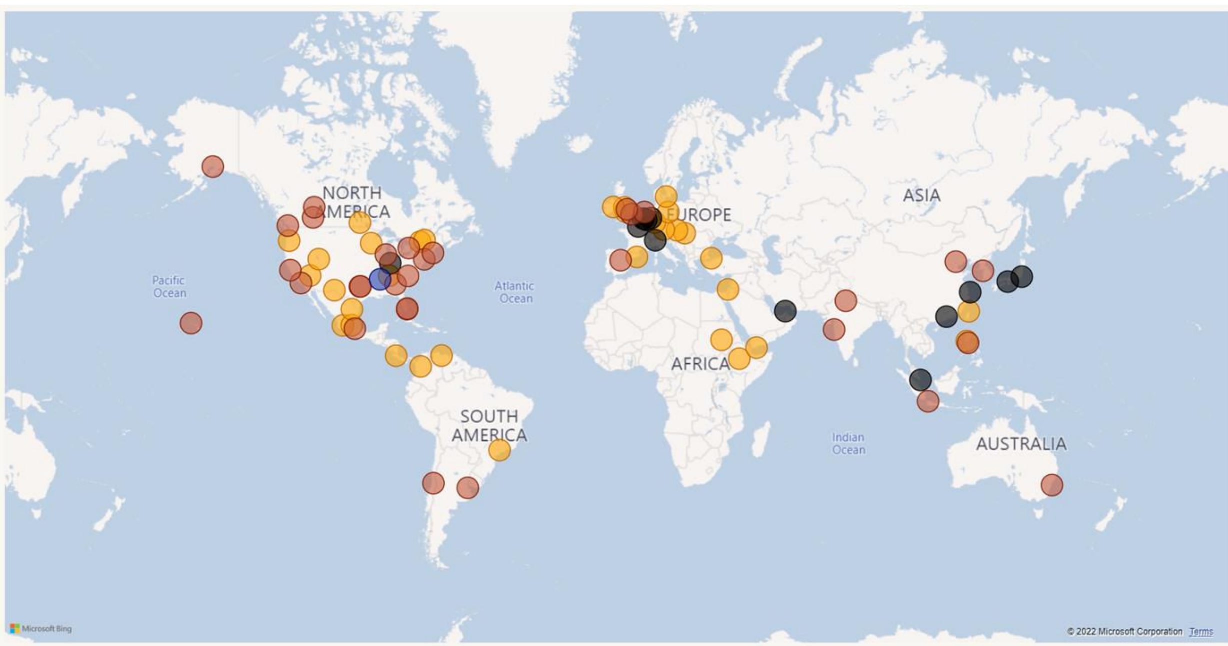
Source: Cargo Facts Consulting analysis of company financial data

The drop of more than 50% in TDD shipment counts in 2014 reflects the shift of operations in several countries, from the Express unit to the PeP or Global Forwarding units. In the recent years, Blue Dart in India and the domestic express business in the Netherlands, Luxembourg, Belgium, Spain, Portugal and Poland were reassigned from Express to the PeP division while the Sky Courier subsidiary in the United States was transferred to the Global Forwarding/Freight division. DHL ended all domestic operations in China, Canada, Australia and New Zealand between 2011 and 2013; and some or all domestic operations were ended in prior years in the United Kingdom and France.

4.6 FedEx Express

Since commencing operations in 1973, FedEx has grown to become one of the world's largest integrated air express carrier in revenue terms, and a pioneer in the implementation of expedited services on a global basis. FedEx's Express division, which accounts for most of its international revenues, offers time-critical, door-to-door delivery in over 220 countries and territories, featuring customs clearance and money-back guarantees. FedEx Corp's four principal business segments are: FedEx Express (now including acquired TNT Express) the world's largest express transportation company; FedEx Ground, a North American provider of small-package ground delivery services; FedEx Freight, a U.S. provider of less-than-truckload operation; and FedEx Services, which includes FedEx Office. Figure 36 provides a current overview of FedEx hubs and focus cities across its air express network. In 2022, FedEx expanded its capabilities in the Asia-Pacific and European markets with the addition of 12 new origin markets for service to the US and Canada.

Figure 36 – FedEx Hubs and Focus Cities – 2022



Source: Cargo Facts Consulting analysis of company and flight data

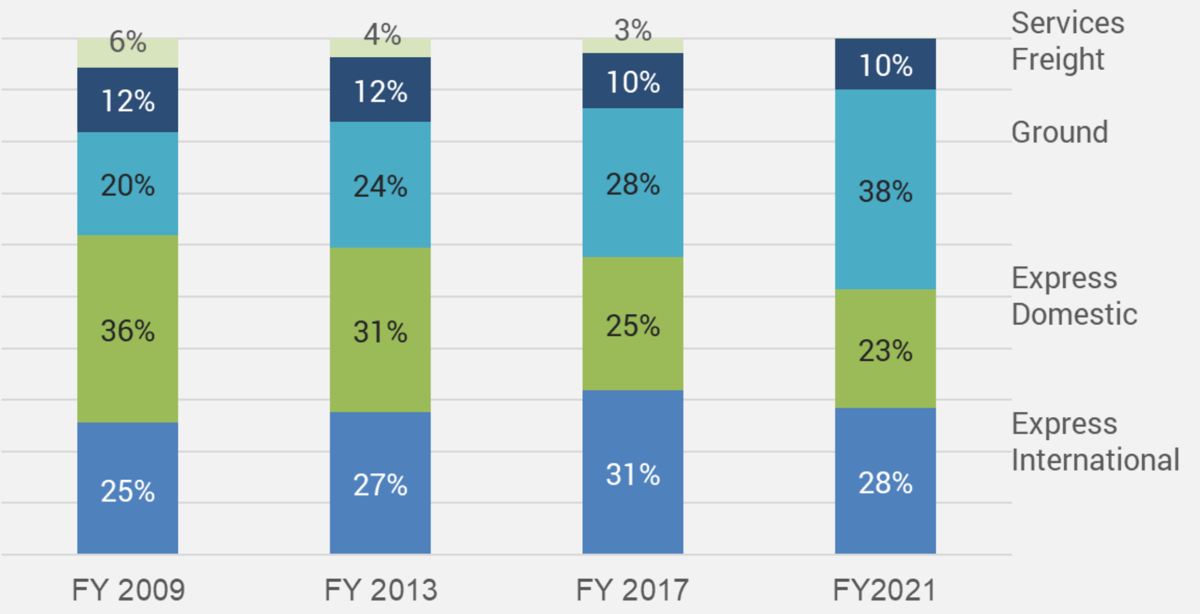
One of the most significant historical events at FedEx was the acquisition of TNT Express which took place in May 2016. Before the acquisition, the revenue share in Europe accounted for about 20% of all international revenues. This share has doubled, and it now accounts for approximately 40% of all international revenues. Starting fiscal year 2018 (period between June 1, 2017 and May 31, 2018), TNT Express and FedEx Express were combined in the FedEx Express reportable segment for financial reporting purposes. FedEx expected to finalize all integration activities by the end of FY2022. The successful integration of TNT Express in FedEx Express operations remains a challenge, especially in the scheduled timeframe and without incurring additional costs. Nevertheless, in the recent years, FedEx growth initiatives have come in the surface freight and ground package segments of the US market, and in expanding its international operations. In 2021, FedEx expanded its international portfolio by enhancing its service options. An example was the launch of FedEx International Connect Plus, a contractual e-commerce service offered from 10 origin countries to 25 destination countries which guarantees same-day delivery in less than five business days.

FedEx reported revenues of $83.96 billion in FY2021, a 11% increase from FY2020 while the consolidated operating income also rose by 142% to $5.8 billion year-over-year. The surge in e-commerce demand resulted in volume growth. This impact paired with yield improvements related to price initiatives led to the high figures in revenue and operating income. FedEx Express drove the improvement in operating income as a result of the US domestic and international export package volume growth.

Figure 37 shows how in FY2009, approximately 61% of FedEx corporate-wide revenue came from the Express unit but as the Ground and Freight segments expanded, the Express share kept dropping to about 51% in FY2020. This trend mainly reflected much stronger growth in FedEx Ground unit revenues than in Express unit revenues, especially after the 2008/09 recession. Another clear trend is how the International Express revenue has risen and it is now larger than the Domestic revenue share within the division and the significant gain between FY2015 and FY2020 was partly due to the TNT acquisition.

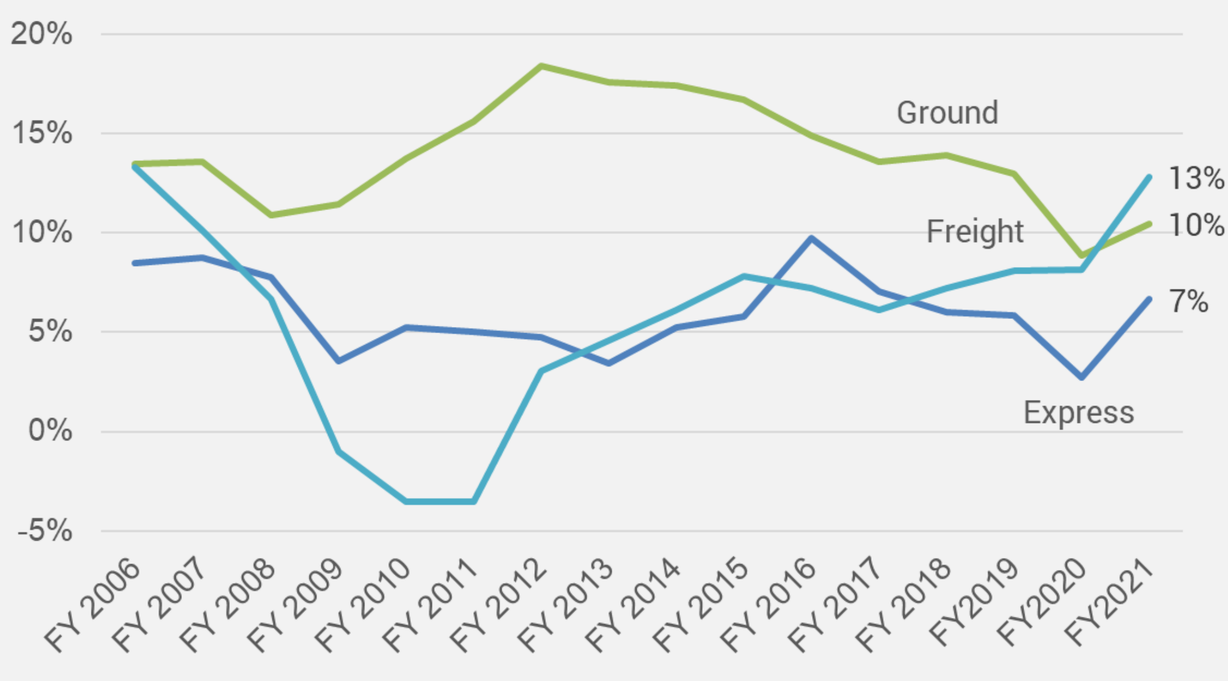
Figure 38 shows the profit margin (EBIT) development by division where the Express unit has seen margins between 4% and 10% in the last twelve years. The growth has not been consistent among its business segments and FedEx Freight and Ground have grown at a faster pace than Express. Of note is the fact that the Ground unit profit margin continued to grow even during the recession period of FY09 and FY10 and until FY2020, it showed the best operating margin performance out of all divisions, only surpassed by FedEx Freight in the latest fiscal year. FedEx Ground maintains its competitive position thanks to their low structure and efficient use of automation systems and information technology and last year they moved to a seven-day operation.

Figure 37 – FedEx Revenue by Business Segment FY2009 – FY2021



Source: Cargo Facts Consulting analysis of company financial data

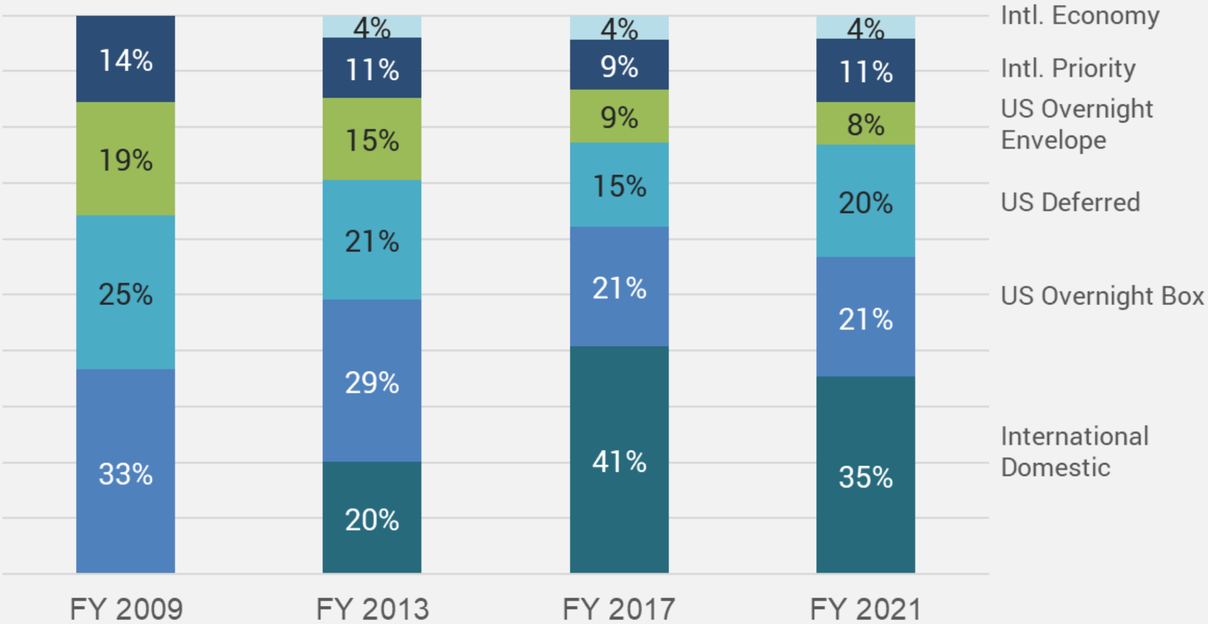
Figure 38 – FedEx Profit Margin (EBIT) by Business Segment FY2006 – FY2021



Source: Cargo Facts Consulting analysis of company financial data

Figure 39 shows the volume share by product and how this has changed over time. FedEx introduced its International Economy product in 2011 and its International Domestic services in 2007, which consists of the transportation of packages within a country excluding the US. Over the years FedEx has increased its international domestic business through acquisitions, which have helped drive increases in international domestic revenues and volumes and in the last fiscal year, the International Domestic product represented a 35% share of the total annual shipments in the Express division. However, it is important to note that International Domestic shipments are often low-yield and are transported via ground.

Figure 39 – FedEx Express Volume Distribution by Product FY2009 – FY2021



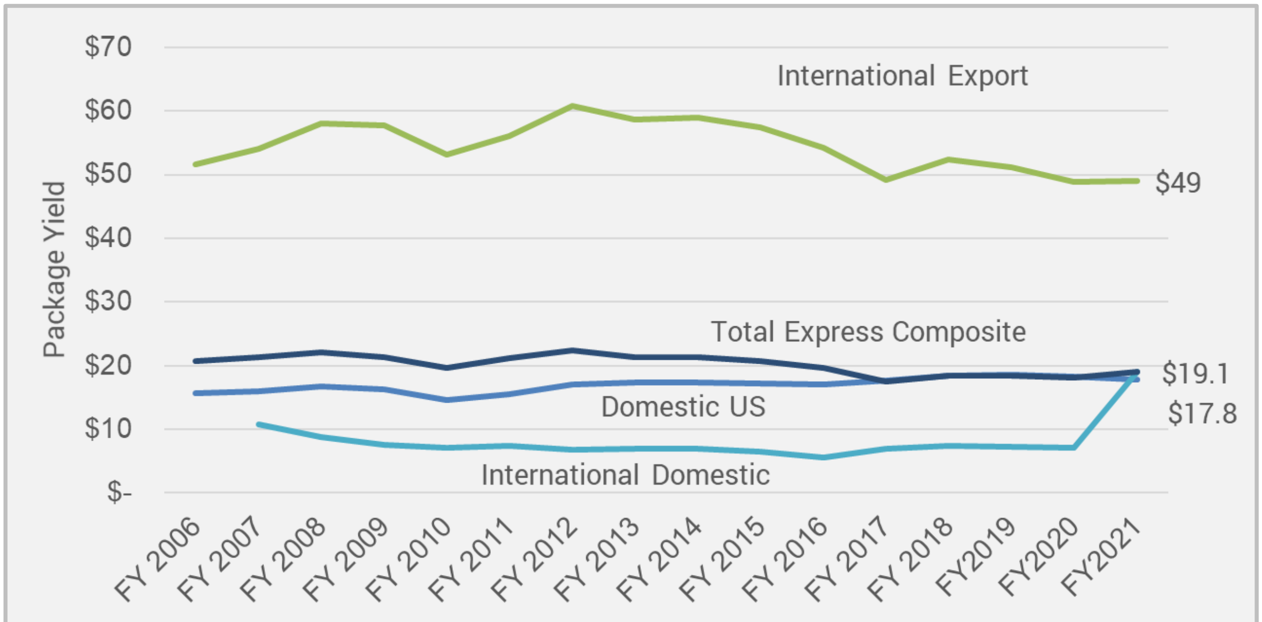
Source: Cargo Facts Consulting analysis of company financial data

Much of the recent International sector increase has come from acquisition-induced growth in the International Domestic category, in which FedEx handled almost seven-times as many shipments in FY2021 as in FY2009. The TNT acquisition disrupted FedEx Express product volume share and the International Domestic volumes grew considerably at the expense of the US domestic overnight and deferred services. However, international package (Economy & Priority) volume growth has slowed across most regions due to the weakening economic conditions and investment priorities across other products.

Regarding FedEx Express international economy shipments, we know that these along with other less-urgent shipments are being moved to third party transportation providers (placing them in the bellies of passenger aircraft), granting FedEx a better leverage capacity within its international network. Additionally, FedEx saw a mix shift from international economy to international priority, mainly driven by lack of capacity and the prioritization of premium-yield products. International export package yield rose in 2021 due to pricing initiatives resulting from air freight capacity constraints, partially offset by base yield declines and lower fuel surcharges.

In the US Domestic Segment, package yields also decreased by 3%, driven by the volume decrease due to lower fuel surcharges and package weight with volumes increasing by 21% mainly driven by a surge in deferred service offerings. Figure 40 summarizes the revenue per package development by Product Line. The composite package yield for all products at $19.10 is in fact, equal to the US domestic composite package yield.

Figure 40 – FedEx Express Yield by Product FY2006 – FY2021



Source: Cargo Facts Consulting analysis of company financial data

Historically, the overall composite yield for the Express division was higher than the US Domestic but the yield drop that we have seen in the International segment in the last few years has resulted in a decline of the overall composite product yield. The highest yield comes from the International Export shipments, at $49 in FY2021.

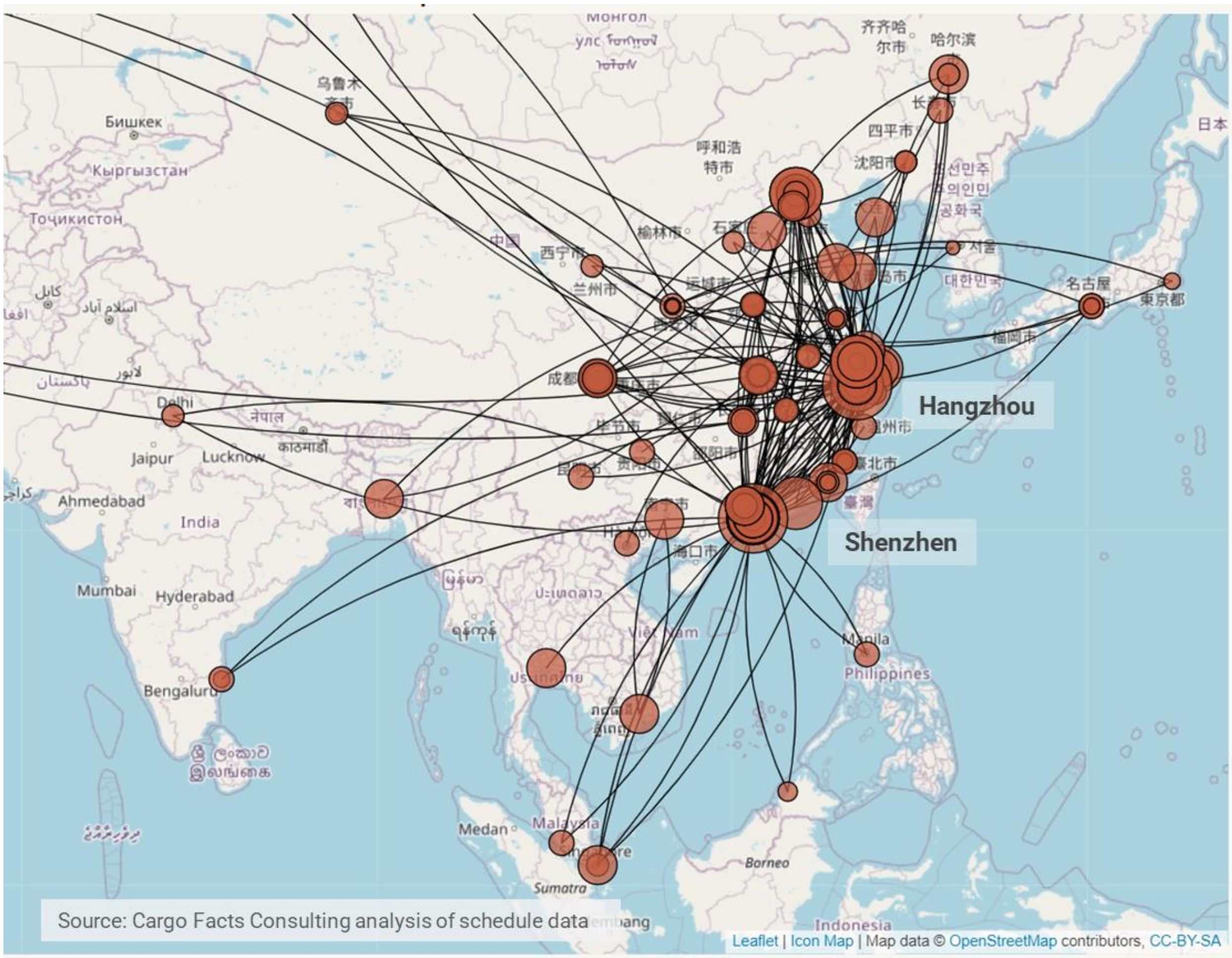
Even though its profit margins are lower than the other two integrators, FedEx Express continues to be an established profitable business and it is now implementing a series of initiatives to reduce cost improve efficiency. An example was the launching of FedEx Dataworks and acquisition of ShopRunner, an e-commerce platform that links merchants and online shoppers. The new partnership with Adobe will also Allow the integration of ShopRunner with Adobe Commerce’S Magento.

4.7 SF Express

SF Express is China's largest air express operator and second largest express company behind China Post. The company was founded in 1993 and began operating its own aircraft in 2010. The company has been listed on the Shenzhen Stock exchange since mid-2017. In 2021, the company generated revenue of $32.09 billion, a 42% increase from the same period in 2020. So far, in 2022, the company has reported revenues of $40.82 billion.

RMB 153.9b ($24.13 b), 98% of which is from Express and Logistics. During the same year, SF moved 8.1 billion packages representing a growth of 68% from the previous year with an average revenue of RMB 17.77 ($2.79) per package, a drop of 19% from 2019. For the time being SF Express remains primarily a Chinese domestic operation, with flight activity focused on its main hubs in Shenzhen and Hangzhou (see Figure 41). SF is building an international logistics hub in Hubei while Ezhou Huahu Airport will serve as the first cargo hub airport in China, forming an express logistics

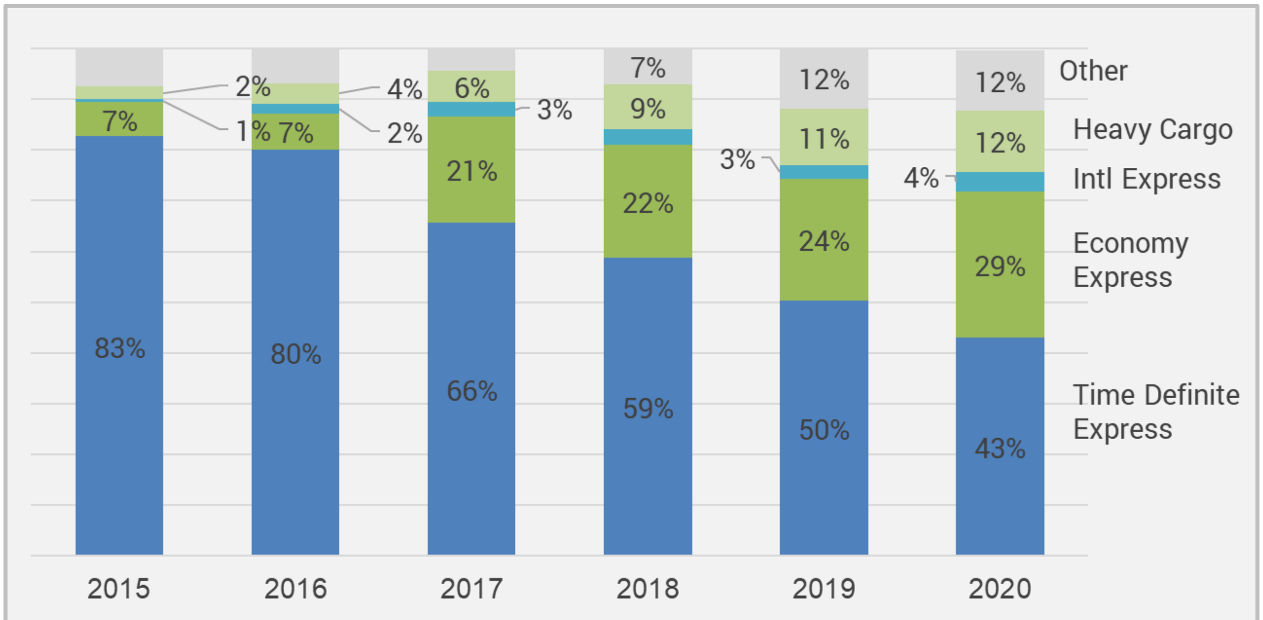
Figure 41 – SF Express Hubs 2022



Source: Cargo Facts Consulting analysis of schedule data

Between 2015 and 2020 overall annual revenues grew by over 25% per year. However, SF has seen a fundamental change in the product mix, with economy express products outgrowing time definite express services (see Figure 42). Economy Express product now account for almost one third of total revenues while the time definite express segment keeps losing share and it decreased within the last year by 14%.

Figure 42 – SF Express Revenue Distribution by Product 2015 – 2020



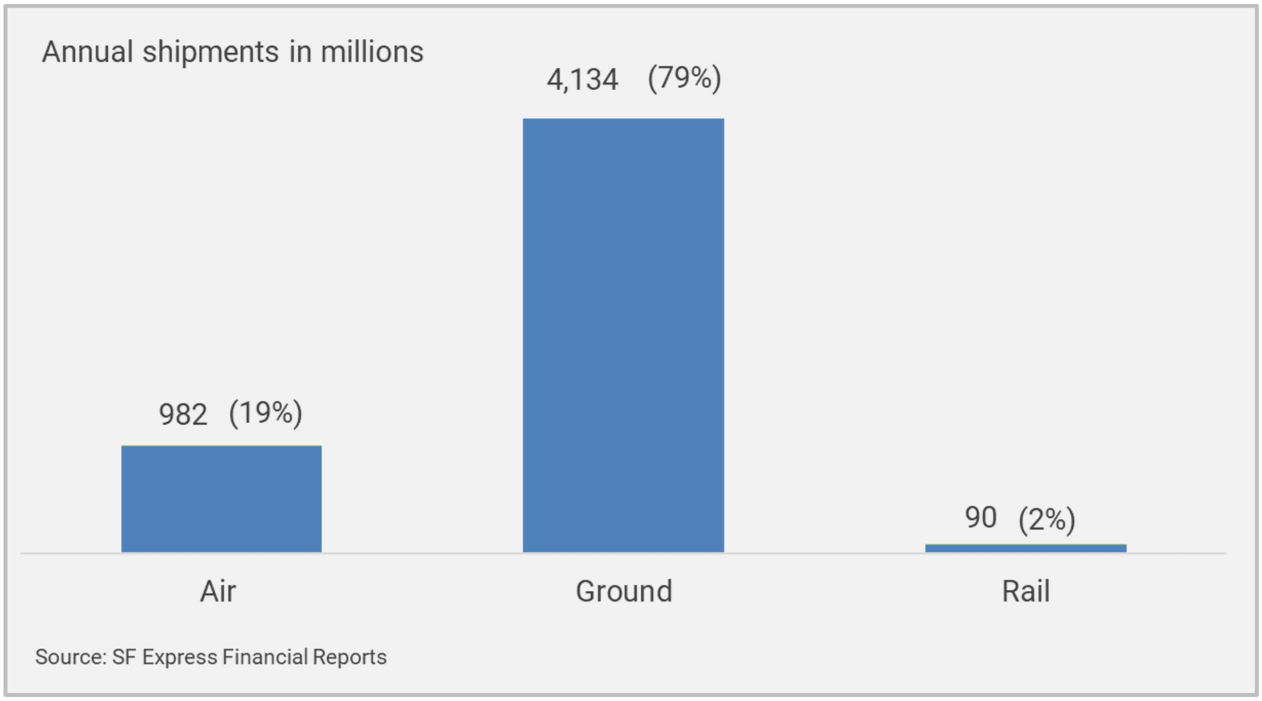
Source: Cargo Facts Consulting analysis of company financial data

SF's operating profits were back in positive space with RMB 1.45 billion ($230 million) in 2020. In terms of profitability there is insufficient data available to conduct an analysis of long-term profitability. We note, however that operating profit margin dropped from 9% in 2017 to 6.3% in 2018, it was flat with 6.6% in 2019 and it dropped again to 4.5% in 2020.

SF Express has reported strong results in the first six months of 2021, generating RMB 88.34 billion ($13.85 b) in operating revenue, a 24% increase from the same period last year. Its express volumes registered a growth of 40% while SF International Express operations revenue reached RMB 3.28 billion ($0.51 b), up 13% from the same period in 2020. During the first six months of 2021, SF opened 9 new international all-cargo routes.

Air accounts for 19% of total shipment volumes (compared to 22% in 2018 and 18% in 2019), with ground and rail accounting for the bulk of the rest (see Figure 43). SF expects high speed rail to take a higher share of shipments over time at the ultimate expense of air shipment growth. SF has states that over time it plans to shift volumes from air to high speed rail and added new services during the last financial year. The company is also pioneering the development of an unmanned feeder aircraft.

Figure 43 – SF Express Shipment Share by Mode 2020



SF has secured passenger belly capacity from more than 100 airlines within and outside China allowing the company to operate over 1.3 million flights in 2020 or an average of about 3,700 flights daily. The total air cargo volume handled was about 1.6 million tones, an increase of 47% over the same period in 2019.

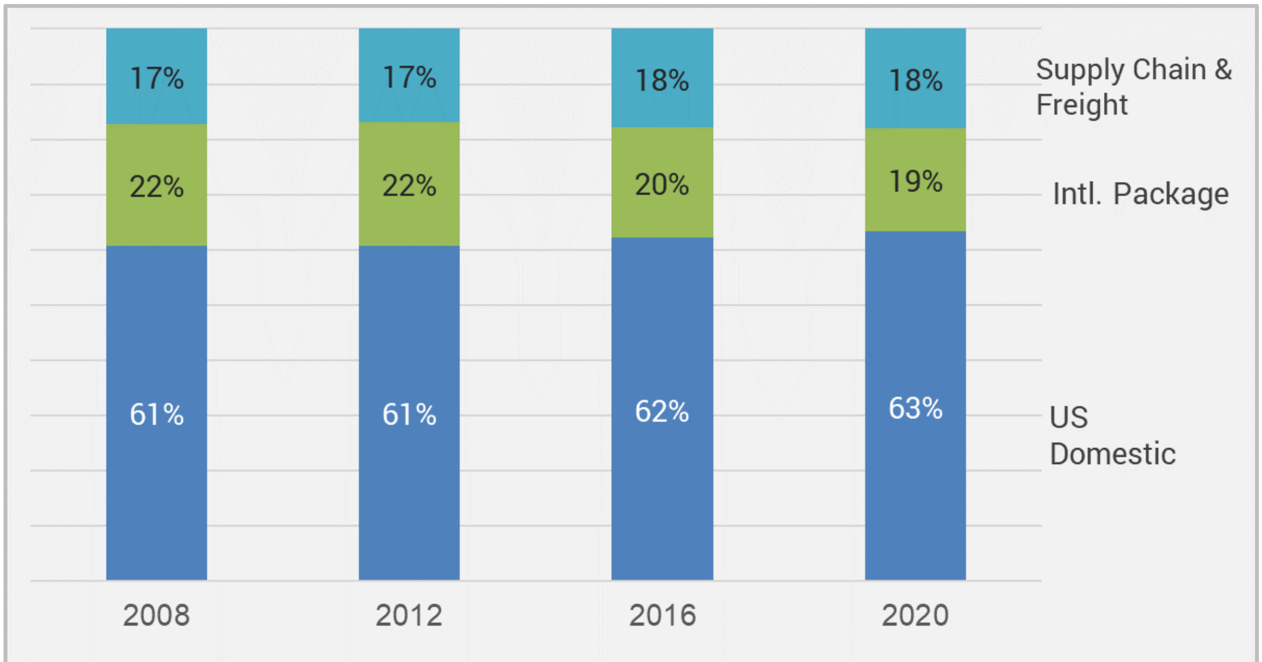
4.8 United Parcel Service (UPS)

UPS is the world's largest package delivery company measured in terms of shipments, a provider of global supply chain management solutions and a leader in the domestic US LTL (less-than-truckload) market. In 2020, UPS delivered an average of 24.7 million packages per day, an annual total of 6.3 billion pieces. For most of its 100+ year history UPS was a ground delivery company. It maintains a dominant position in the US ground delivery market, but from the 1980s has evolved to also become one of the leading providers of air express services both in the US and internationally. UPS moves as many business to business as business to consumer packages, thanks to its increasing exposure to e-commerce. UPS employs 543,000 people, of which 458,000 are in the US and 85,000 are located internationally.

UPS reports its results in three segments: US Domestic Package, International Package, and Supply Chain & Freight operations. The company reported a record $84.6 billion in consolidated revenue in 2020, up 14.2% from 2019 while consolidated operating profit declined by 1.5% to $7.6 billion. The pandemic impacted the mix of demand for UPS services while B2B business declined and B2C increased quickly.

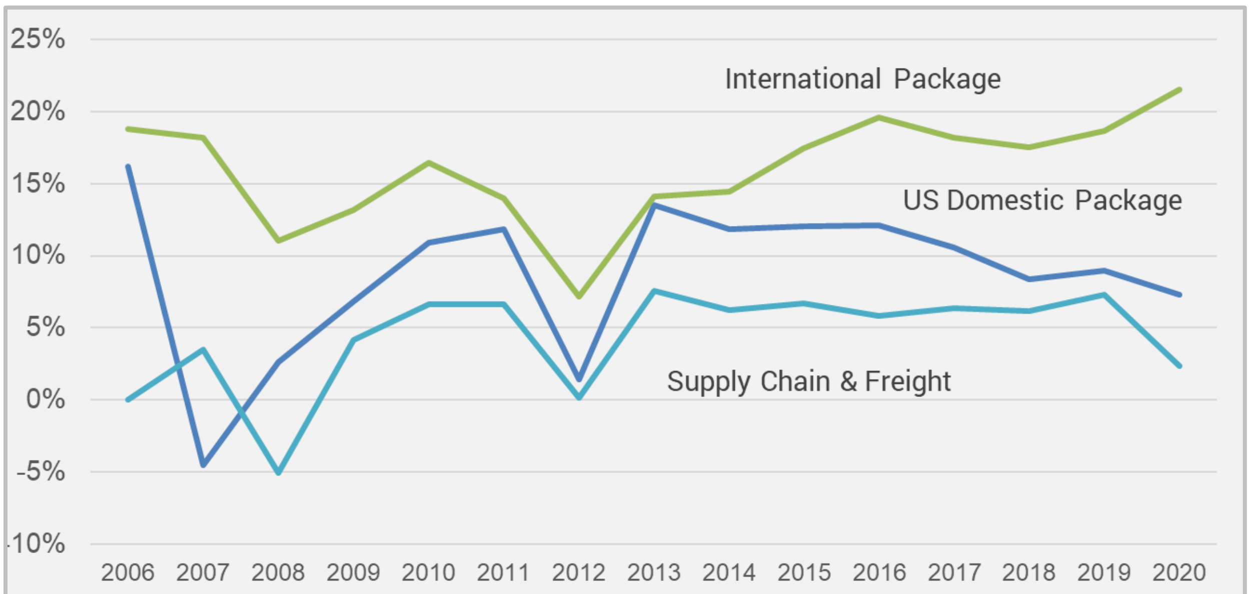
Figure 44 shows the shares of revenue UPS gets from its three reportable business segments. Interestingly, the share of total revenue that UPS gets from its International Package operation (including both Domestic and Export components) and from its Supply Chain & Freight segment were on the rise before the recession but have been stable recently. Together, they represented 36% of all corporate revenues in 2006 while the US package segment (air and ground) represented 64% of revenue at that time. The combined share from International and Supply Chain & Freight has since then remained in the 37%-40% and the US Domestic package segment has a 63% share of the total revenue in 2020 and the distribution is not likely to change in the short-term. It is important to note that for the year ended in December 31, 2020, business from Amazon accounted for 13.3% of the total consolidated revenue of UPS. Figure 45 provides the profit margin development by business segment where the international business segment grew its operating profit and leads the industry with a 22% margin. The Supply Chain & Freight division still has the lowest profit margins of the three units, decreasing from 7% to 2% in the last year. The US Domestic segment keeps declining and in 2020, this margin was around 7%.

Figure 44 – UPS Revenues by Business Segment 2008 – 2020



Source: Cargo Facts Consulting analysis of company financial data

Figure 45 – UPS Profit Margin (EBIT) by Segment 2006 – 2020



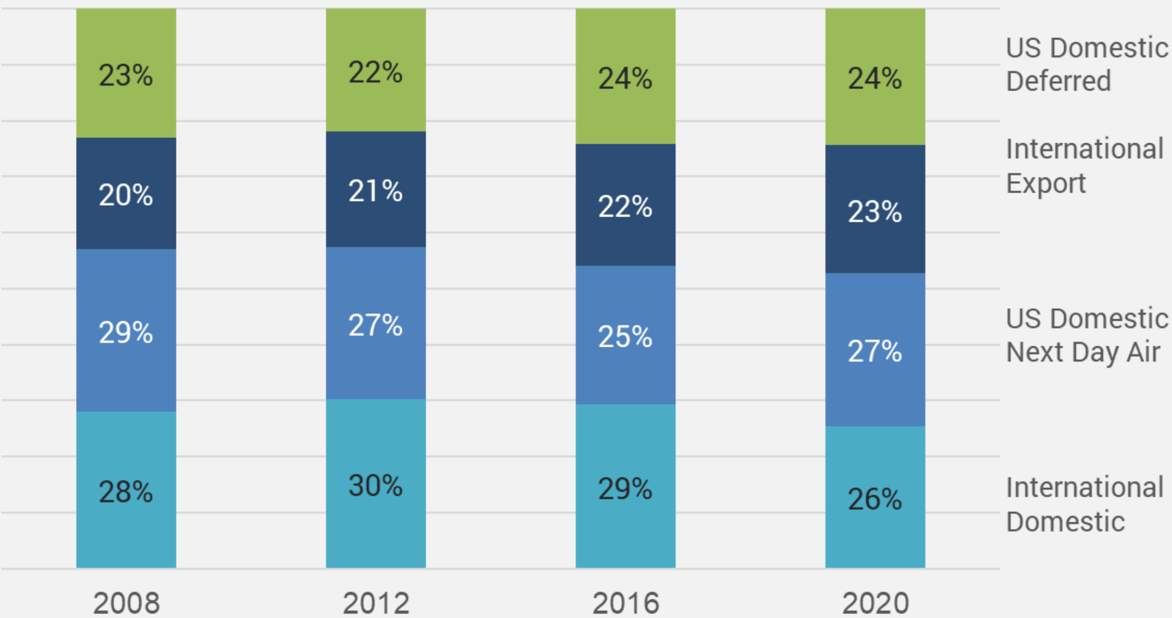
Source: Cargo Facts Consulting analysis of company financial data

The US Domestic segment has shown declining profits in the recent years primarily associated with higher pension expenses and investment projects as part of UPS's transformation strategy. This transformation strategy planned to concentrate the company's efforts on four main areas: international expansion, profitable growth in B2C and B2B e-commerce delivery, and, most importantly, growth in the healthcare and small and medium-sized (SMB) business markets. Our observations in 2021 indicate that UPS has improved its revenue per piece and in the first three quarters of 2021 and this segment has generated higher profits in YTD Q1 than in the full year of 2020.

In early 2021, UPS announced that they were selling UPS Freight, their LTL business segment due to its low-returning, capital investment nature. The result of the UPS Freight divestment will mean that UPS will be smaller overall, but the expectation is that their operating margins and ROI will grow. UPS has stated that its primary goal is not to chase the e-commerce volume growth but to improve its existing assets and control volume through pricing and other actions.

Figure 46 shows the volume distribution development by product for UPS. At the moment, the largest portion of all shipments is attributed to the US Domestic Next Day Air, with a 27% share. This is followed by the International Domestic service with a 26% share. Figure 46 demonstrates how the International Export segment has increased its share over time with a 23% share in 2019. The remaining share goes to for the US Domestic Deferred, a component that has remained stable since 2008 with a share in between 22% and 24%.

Figure 46 – UPS Volume Share by Product 2008 – 2020

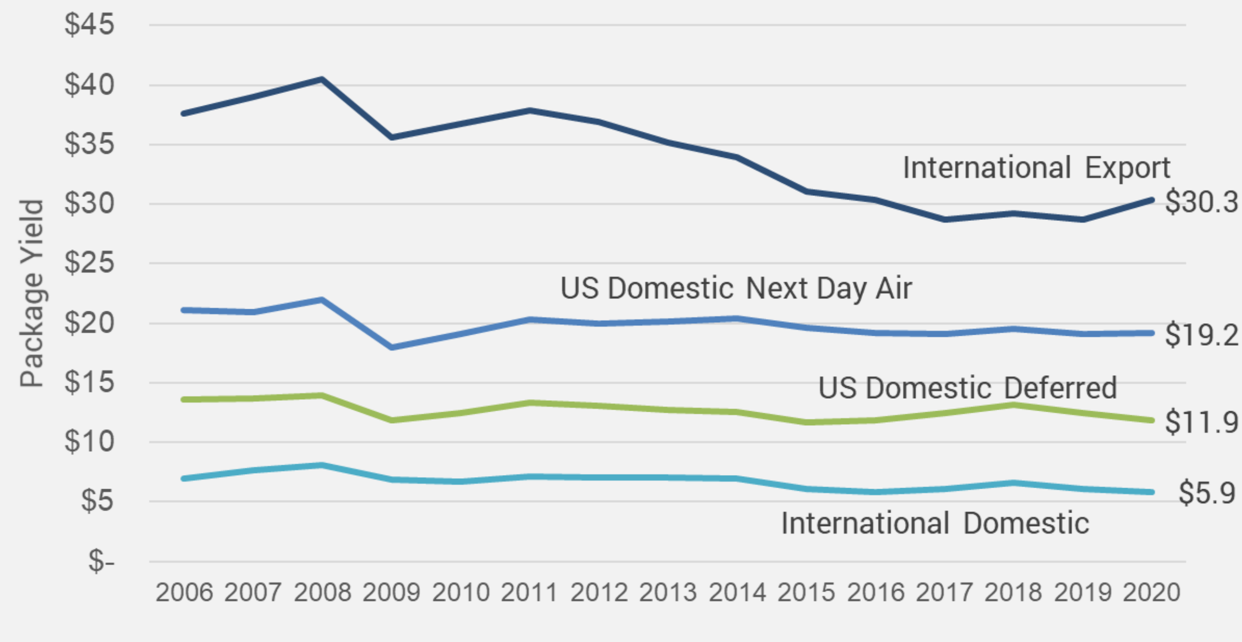


Source: Cargo Facts Consulting analysis of company financial data

It is important to note that most International Domestic products are often surface and since UPS does not have a dedicated "Express division", the services related to UPS "Air Express" are: US Next Day, US Deferred and International Export.

Figure 47 displays the package yield for the main UPS components in the Domestic and International market. The average revenue per piece varies by type of service provided with Next Day Air shipments generating about $19 each, significantly higher than Deferred (air) shipments at $11.9 or International Domestic at $5.9 (mostly surface). The highest yield comes from International Export shipments at about $30.3 each.

Figure 47 – UPS Yield by Product 2006 - 2020



Source: Cargo Facts Consulting analysis of company financial data

Figure 48 provides an overview of the geographical distribution of UPS's global network. While the company is obviously strong in the North and Central America, Europe and East Asia, its footprint in other regions is smaller.

Figure 48 – UPS Hubs and Focus Cities

Source: Cargo Facts Consulting analysis of company and flight data

UPS continues investing in the expansion of its services and capabilities across the industry. UPS recently announced the launch of a healthcare facility in Dublin, Ireland. The Dublin location of UPS Healthcare will assist Ireland's pharmaceutical and medical device sectors in providing patients around the world with next-generation biologics, essential vaccinations, and essential medical equipment. This announcement comes at a time when transportation under temperature control and cold-chain logistical support are needed for 80% of pharmaceutical drugs in the European Union. Modern biomedical pharmaceuticals, such as vaccinations, which are frequently temperature-sensitive, make up more than 50% of all new medications in the world's pharmaceutical pipeline. Even though UPS does not split its revenue by geographical region, we understand that Europe accounts for about 50% of its international revenue and it is currently one of their primary drivers for shipment growth.

5. Emerging Competitors, Disruptors, and the Express Response

Key Findings:

- Express carriers have traditionally played an important role in the distribution of e-commerce, both in their regional and cross border networks.
- Business to consumer traffic share in express networks surged from around 48% in 2019 to 65% in 2020.
- Express carriers are investing heavily in capacity and service improvements to counter this threat. This strategy will only work if unit costs go down.

5.1 From B2B to B2C – Disrupting the Express Business Model

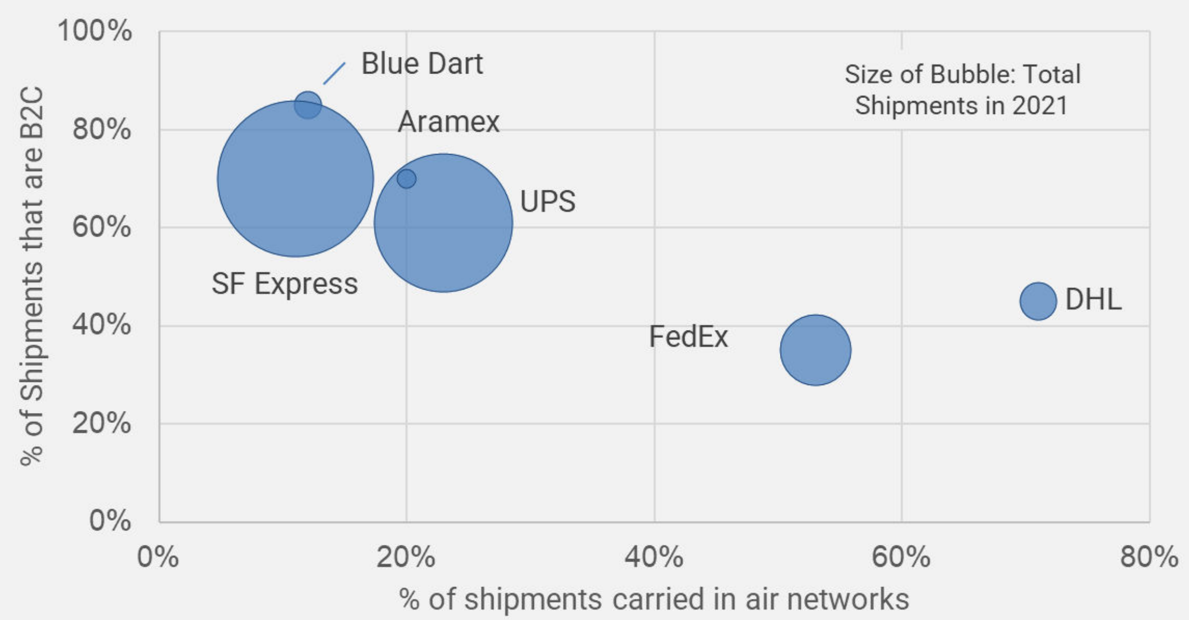
Express services have traditionally been geared towards pick up from and delivery to businesses, but in the last five years business to consumer shipments have accounted for most growth. While all express carriers agree that the e-commerce is the key driver of future growth, they are less specific about the current level exposure of their businesses to this type of (primarily business-to-consumer) traffic. Our research has found that the biggest dependence on e-commerce traffic is in ground rather than air networks and that intercontinental and regional air networks carry a more diverse mix of traffic with business-to-business volumes outweighing business-to-consumer volumes.

Across the express business, the share of business-to-consumer shipments that is increasing faster than business-to-business shipments currently stand at approximately 65% of shipment volumes. This is higher than in 2019, where closer to 48% of express traffic was B2C, primarily due to a pandemic induced surge in online shopping and drop in business-to-business traffic.Figure 49 illustrates our analysis of the share of business-to-consumer vs shipments carried by air for key global and regional express carriers in 2020, while see Figure 50 provides an overview of 2019. The lack of air capacity and supply chain disruptions have been good for international air express volumes and yields. Domestic U.S. volume growth has underperformed international growth, but per-package yields have also increased. Part of this is due to the changing mix of B2B vs B2C traffic.

UPS, for example, mentioned in its earnings release that it expects full-year B2C share to come out at around 61%. This compares to about 64% in 2020 and 50% in 2021. Meanwhile, SF Express, which as a company is now 50% bigger in revenue terms thanks to the Kerry Logistics acquisition, saw Chinese domestic express volumes increase by 31%. Yields, however, did not increase thanks to an increasing B2C and ground share. SF's share of air express has dropped from around 20% of total volumes to around 10% over the past few years.

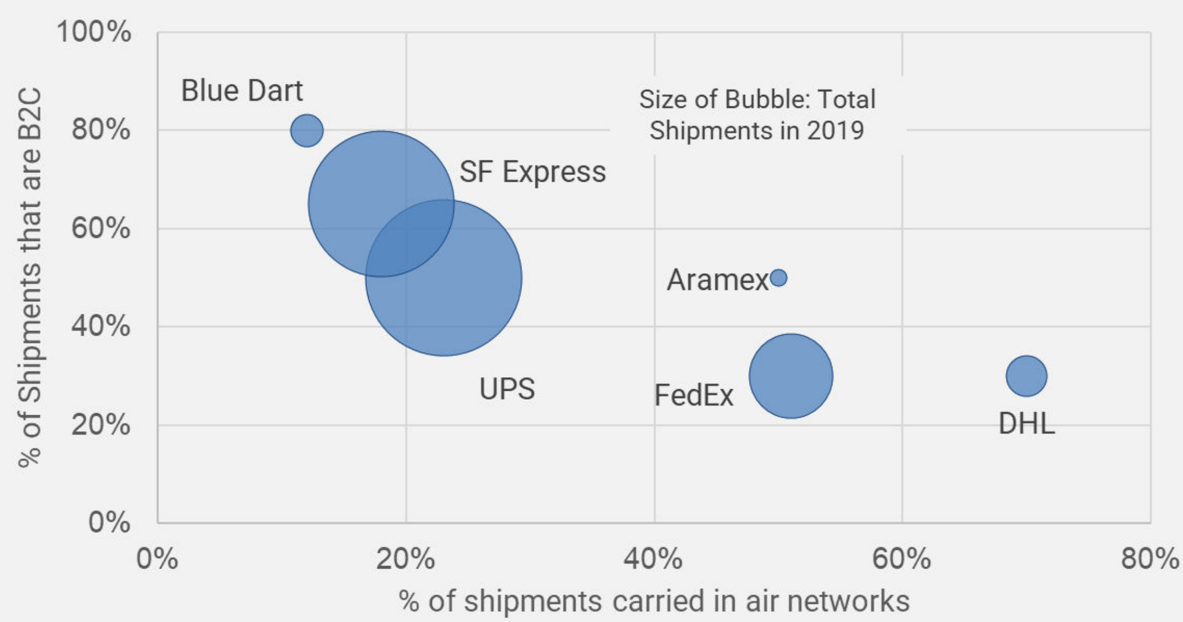
While there are differences between express operators, the general rule is that that the bigger the ground network, the higher the share of business to consumer shipments This change in business mix is having a profound effect on express networks. On the one hand the increase in volumes has been good for utilization of air networks, but this has increased ground distribution costs. Home deliveries are less efficient due to lower number of packages per courier run and a larger share of missed deliveries.

Figure 49 – Express Carrier Share of B2C vs Share of Shipments Carried by Air 2021



Source: Cargo Facts Consulting analysis of financial reports and estimates

Figure 50 – Express Carrier Share of B2C vs Share of Shipments Carried by Air 2019



Source: Cargo Facts Consulting analysis of financial reports and estimates

On the topic of UPS, in 2021 the company generated $11.4 billion or about 11.7% of its revenue with Amazon. In terms of exposure that is less than the 13% share in 2020, but still represents a growth of 3.4%. Even as Amazon continues to expand its own network, the two companies still remain tied together. Overall revenue growth for UPS in 2020 was 15% to $97.2 billion, with the international package business growing at 23%. For 2022, UPS expects growth of about 5.5% in U.S. domestic and 7.7% in its international business, and as a consequence expects to meet its 2023 targets a year early.

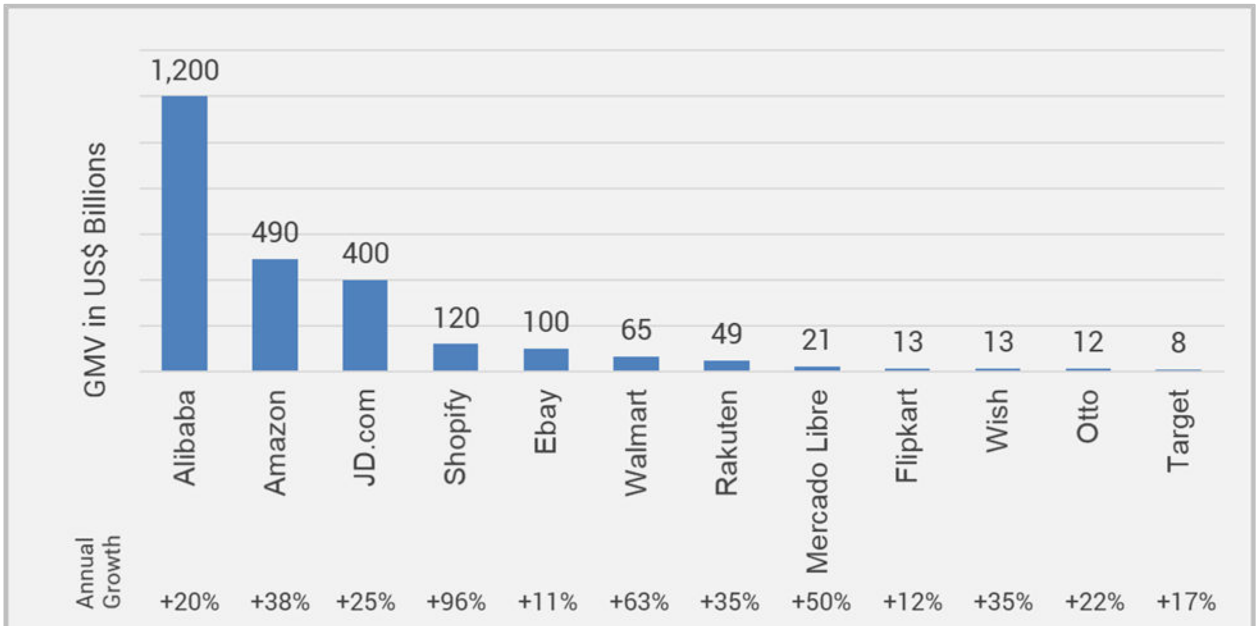
The differences in air share between companies are largely historical: DHL has been primarily and international air express company since its founding in the 1970s, while FedEx grew from an air only to a ground-based operation through FedEx Ground and TNT. UPS has for most of its history been a ground-based company. SF, China's main express providers has grown as a combined air and ground express company. Business to business traffic growth in 2021 has been improving and as such we see the business to consumer share coming back down closer to 2019 levels in the coming years.

5.2 E-Commerce Platforms – the integrators of the future?

The top global as well as regional e-commerce platforms continue to reshape the express industry. These platforms control so much traffic that they can profoundly affect carrier market share. Figure 51 provides an overview of 14 of the most important e-commerce platforms. Collectively, they account for 50% of global e-commerce, with the top three Alibaba, Amazon and Jd.com alone making up 40% of worldwide sales.

All of platforms below (with the exception of Spotify and Wish) have their own logistics networks that are key to their sourcing and fulfillment strategy. Some, such as Otto (through Hermes) and Jd.com provide services to the general public and in direct competition to postal and express companies.

Figure 51 – Key Global and Regional E-Commerce Platforms 2020



Source: Cargo Facts Consulting analysis and estimates, Company Financials

Figure 52 focuses on the three key e-commerce platform trends that we feel are important in driving the need for express companies to redefine their relationship with what has hitherto been a source of revenue growth, but which may become full-fledged competitors.

Figure 52 – Three E-Commerce Platforms Trends and their Consequences

Own-controlled logistics is seen as a major source of competitive advantage and some have started becoming logistics providers themselves.	Logistics subcontractor requirements have changed as platforms have made moves to **insource volumes** carried by third parties.
A shift from two day to faster overnight and same day **shipping** has seen fulfilment costs growing faster than revenues.	Rising costs are accelerating a **review of subcontractor arrangements** and networks.
Increased reliance on 3rd party sellers with growth in 3rd party sales outpacing own sales.	E-tailers are becoming **integrated commerce, logistics platforms** and finance providers.

6. The Demand for Aircraft Capacity and Contract Services

Key Findings

- Almost two thirds of the world's jet freighter and 90% of the world's feeder freighter fleet are operated by or for integrators.
- Approximately 2800 freighter aircraft will be required over the next 20 years to cater for retirements of older aircraft and growth in the air express business.
- Integrators make use of a mix of own operated, third party contracted and purchased cargo capacity on commercial flights, but only DHL Express is a large-scale customer of contracted capacity.

6.1 Aircraft Demand Today

Currently the world's freighter fleet comprises approximately 1900 jets and 240 feeder aircraft. Almost two thirds of the world's jet freighter fleet and almost 90% of the world's feeder freighter fleet are operated by or on behalf of integrators, and increasingly, also e-commerce platforms such as Amazon. The share of aircraft operated directly by integrators or by contract ("ACMI") carriers on behalf of integrators varies by segment (see Figure 53)

Most aircraft operated in express networks are primarily narrowbody and medium widebody jets. The most popular aircraft types in the narrowbody segment are the 757-200, 737-300/400, and more and more 737-800s. The first A321-200P2F are also being redelivered to the market and will be operating with Australia Post, and two European contract carriers, Titan Airways (UK) and Smartlynx (part of Avia Solutions Group). In the medium widebody segment, the most popular aircraft types are the 767-300, A300-600 and 767-200. In the large widebody segment, the most popular aircraft are the MD-11, 777-200F and the 747-400F/8F. In the feeder segment, ATR42 and ATR72 aircraft are the most commonly used types. In our definition of feeder aircraft, we exclude aircraft smaller than Saab 340s.

Figure 53 – World Freighter Fleet by Operator Business Model (1Q 2021)

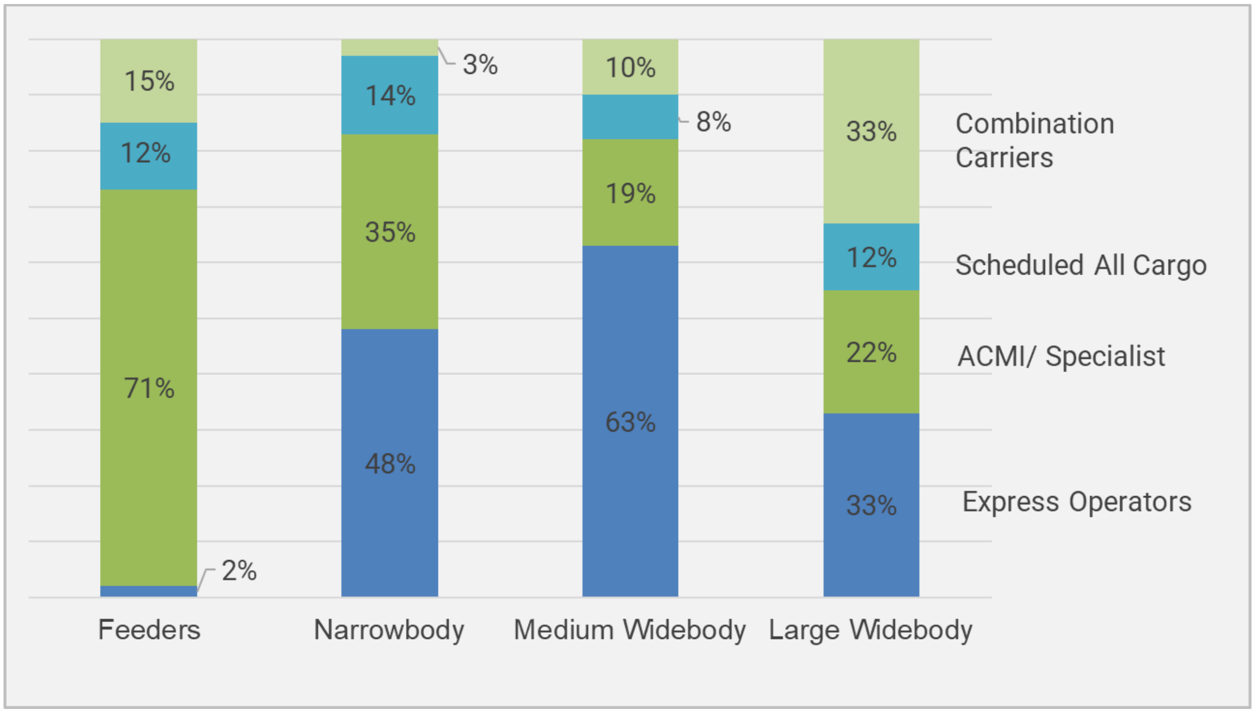
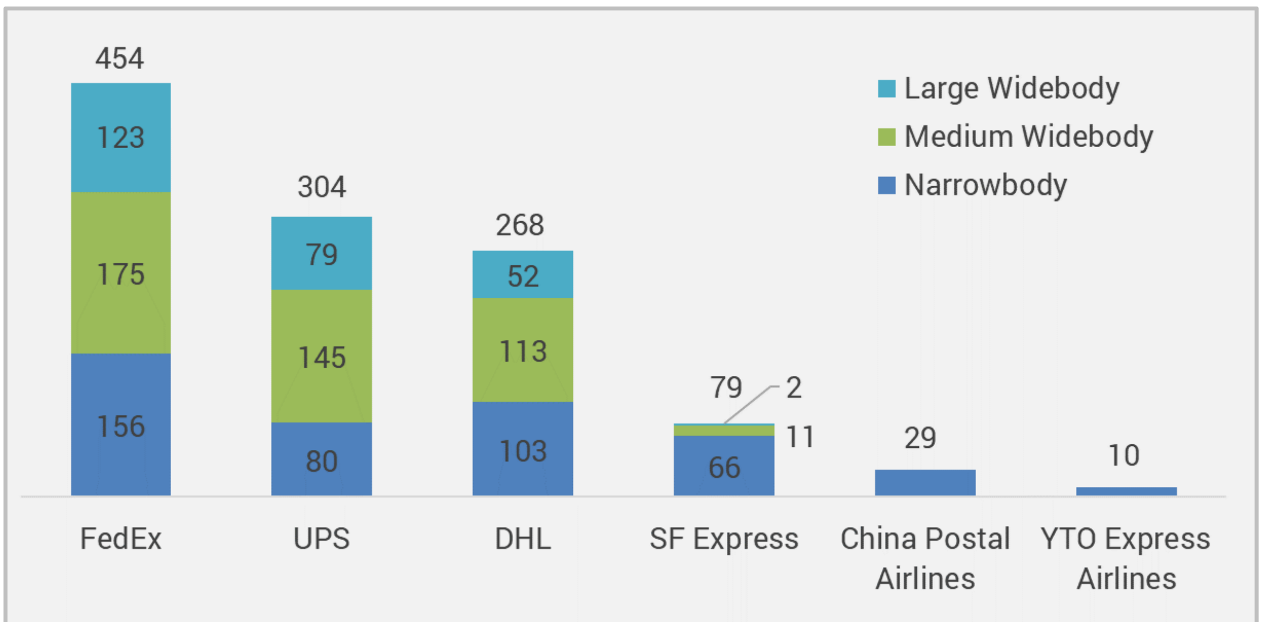


Figure 54 – Integrator Own and Third-Party Operated Jet Fleets October 2021



Source: Operators, Lessors, Cargo Facts Database

Most of the world's freighter fleet operating for express operators is flying for either FedEx, UPS, DHL or SF Express. Figure 54 provides an overview of the jet fleets operated by and for integrators. Aircraft operated by Blue Dart are included in the DHL fleet count. SF also states that in addition to its own fleet, it operates 13 chartered aircraft including by Longhao and Suparna Airlines, which are included in the SF Express tally.

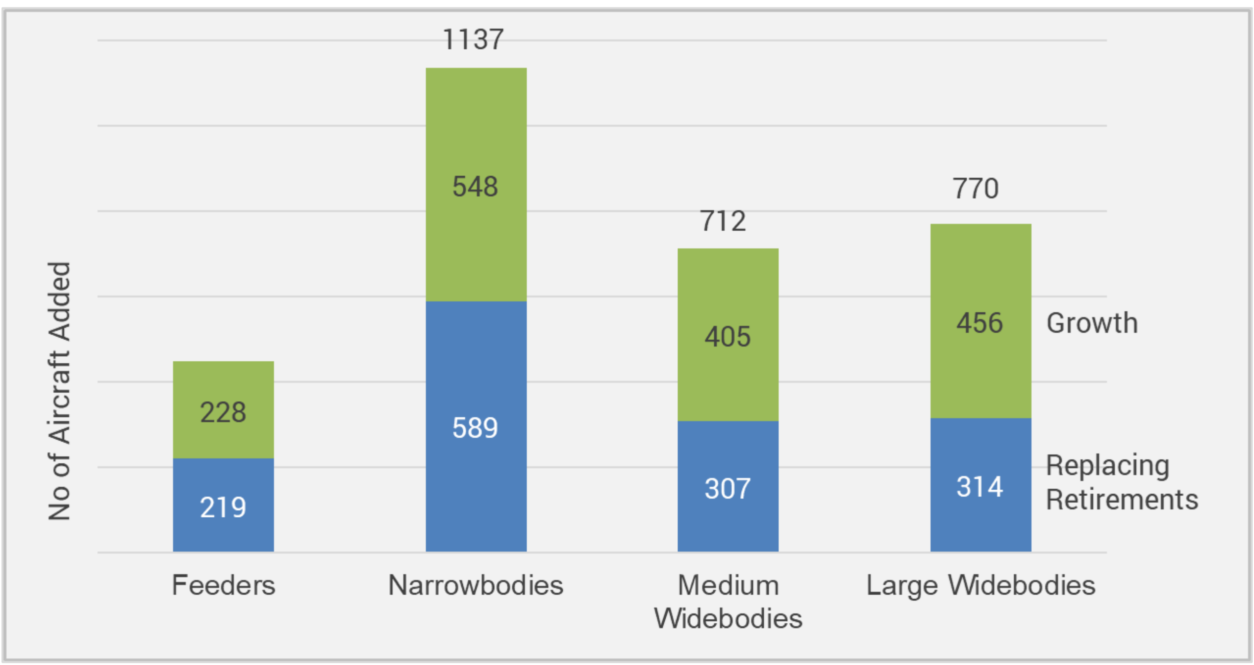
Other express companies not included in the above also operate dedicated freighter capacity. Toll Express operates a fleet of feeder aircraft (ATR 42 and Metro) and accesses capacity operated by Express Freighters Australia, a Qantas subsidiary. Estafeta, a Mexican express carrier which also have a JV with UPS has increased its fleet in recent years and now has five 737 classics and two CRJ-100 freighters in operation.

Aircraft operated Purolator Courier (91% owned by Canada Post), Express Freighters Australia (operating for Australia Post and for Toll) as well as capacity operating for La Poste (France), Royal Mail (UK), Post Italiane (Italy) or other postal companies have not been included in this overview. China Postal Airlines we have chosen to include because of the large-scale express service offering in China. As indicated in Chapter 2 the lines between different segments freight, express and mail are often blurry.

6.2 Forecast Aircraft Demand

Over the next 20 years we expect the world's jet freighter fleet to grow by about 71%, from 1,981 units today to 3,390 units at the end of 2040. The biggest change compared to previous years forecasts is that we are much more bullish on the demand for large widebody freighters. The primary driver for this is that we no longer believe that the freighter share of total traffic will decline but remain constant over the forecast period at approximately 50% of all traffic carried. This has a large impact on the demand for aircraft particularly in the large widebody segment, where the competition with belly capacity is the greatest. The net growth in fleet size is 1,409 (of all sizes), which when combined with 1,210 retirements, produces the overall need for 2,619 freighters through 2040. This total fleet requirement equates to an average of 131 units per year. Figure 55 shows the details of the new and replacement aircraft added for each size category through 2040.

Figure 55 – Forecast Freighter Aircraft Demand Forecast 2020 – 2040



Across all categories we expect that 75% of fleet additions and replacements will be to serve the express and e-commerce business.

DHL and Ups have reported volume growths in the international segment of 23% and 20% respectively in the first six months of 2021 and this translated into an 8% growth in the number for aircraft in the active fleets of DHL, FedEx and UPS.

In the near term we expect the net increase of jet aircraft operating for FedEx and UPS to be small. Most near term growth will come from SF Express, DHL and Amazon (see Table 3 for more detail).

Table 3 – Integrators' Planned Near to Medium Aircraft Fleet Growth

Company	Near – Medium Term Growth Plans
FedEx	• Plans to retire all the MD-10 fleet by end of 2023 • Plans to take delivery of 39 767Fs by end of 2024 • Plans to take delivery of 10 777Fs by the end of 2025 • A further 80 feeder aircraft (50 Cessna 408 and 30 ATR 42-600F) will be added over five years.
UPS	• 13 aircraft on order, including 3 767-300Fs, 2 MD-11s and 8 747-8Fs.
DHL	• DHL ordered eight 777Fs and four options in early 2021 to be delivered over the next 3 years • DHL has an order for 9 additional converted 767-300 freighters
SF Express	• Plans to grow aircraft fleet from approximately 66 aircraft to 100 to 105 by the end of 2022
Amazon	• The current fleet of 98 aircraft is expected to increase by 7 units in the next 12 months.
Total	Net increase of approximately 135 jet aircraft.

Source: CFC analysis of fleet and company data, November 2021

While we do not view Amazon as an express provider, its fleet and overall network plans have the potential to affect express carrier volumes, particularly for UPS.

6.3 Demand for Contract Flying Services

Large scale jet flying opportunities for express companies is limited to DHL Express. Approximately 60% of the company's dedicated fleet is operated by approximately 25 third party carriers. The largest are ABX Air, Atlas Air (including Polar Air Cargo and Southern Air), ASL Airlines (Group), West Atlantic, Air Hong Kong and Aerologic, a 50:50 joint venture with Lufthansa Cargo. While FedEx and to a lesser extent UPS make use of ASL Aviation, West Atlantic and Star Air capacity in Europe, among others, the ability to make use of third party capacity on US routes is severely limited by the so called "scope clauses" in their contracts with their pilots. The contracts are based on the principle that all company traffic must be carried by aircraft flown by company pilots. DHL does not have any restrictions of this sort.

By its own count, SF Express operates a fleet of 79 aircraft, of which 13 are chartered capacity from other (mainly Chinese) airlines. Toll Express operates a fleet of turboprop aircraft and previously operated a fleet of 737 freighters, but now buys capacity on services operated by third parties. Aramex generally relies on commercial air capacity and charter flights on some routes. We think Aramex could potentially expand to dedicated capacity in the future.

Feeder flying opportunities are available with all express carriers in all regions and most feeder aircraft are operated by third parties, although the integrators may actually own the aircraft asset. Both FedEx and UPS each operate a contracted fleet of about 280 feeder and smaller turboprop aircraft ranging from Cessna 208 Caravans to ATR-72 and Convair 480s.

Going forward, we do not expect significant wet leasing opportunities to emerge with FedEx and UPS outside the feeder segment, but DHL continues to pursue a global aviation strategy focused on a mix of own operated and contracted air capacity as well as purchasing general cargo capacity on key routes where passenger and freighter schedules support required service levels. The believe the largest growth in contracting opportunities will continue to come from e-commerce support flying.

Amazon is unique in its large-scale push into dedicated and branded air capacity, but other platforms also make use of air capacity – either indirectly through use of express or postal distribution channels or though dedicated charters. Not all platforms have sufficient scale in the markets they operate to be able to justify large scale dedicated air operations. Alibaba and Jd.com do but have so far and they both keep expanding their air freight operations through different strategic partnerships.

7. About Cargo Facts Consulting

Cargo Facts Consulting is a specialised air logistics advisory and research firm. Formerly also known as Air Cargo Management Group, we have been in business since 1978. Since 2019, we are based in Luxembourg, with offices in New York and Seattle.

Our clients turn to us for deep advice, data and insights on key aspects that effect product development, marketing, fleet planning and strategy in air logistics. These clients come from across the whole air cargo and express business and include financial institutions and investment firms, leasing companies, government, aircraft manufacturers and conversion companies, airlines, express companies, airports and other service providers.

Our consulting experience spans projects that encompass airline network planning, fleet planning, due diligence, route development, investment assessment, air cargo and express market analysis, and aircraft technology. Our data and forecasts populate financial models related to many facets of the business, and our analysis is used in product development by a wide range of company. We also provide deep analytics for the type of data- and mission-related marketing in the aviation sector.

We strive to be the most knowledgeable and highly valued provider of strategic advice to the global air freight transportation and logistics industry. We provide actionable solutions, not just data and research based on critical needs and business objectives. We facilitate business evolution that yields greater profits and efficiency. And we do so often through long-term relationships that create a deep and more-meaningful dialogue with our customers.

Through Cargo Facts and Air Cargo World, our sister media organizations, we have a unique and high-visibility insight into industry trends and market developments as they happen.

Appendix - Express Carrier Profiles

Appendix A contains e-commerce focused profiles of the top three and selected regional express companies. In general, data refers to the most recent full financial year, but where specified has been updated to reflect most recent available quarterly filings.

The profiles include a description of the activities of each company and key metrics relating to revenue, profitability, number of shipments, and information on the geographical scope of operations, main competitors, and their air and ground networks. In relation to E-commerce, we have included a summary of each company's relevant product offering, percentage of business linked to e-commerce, relationship and exposure to key e-commerce platforms and our assessment on how e-commerce will impact each company's business going forward.

Profiles are displayed in alphabetical order for ease of reference. These include:

- Aramex (Table 4, Page 84)
- Blue Dart (Table 5, Page 86)
- DHL Express (Table 6, Page 87)
- EMS/China Postal Airlines (Table 7, Page 89)
- FedEx Express (Table 8, Page 90)
- SF Express (Table 9, Page 92)
- UPS (Table 10, Page 94)

Data included in the profiles has been compiled from a range of public and semi-public sources as well as being based on our own assessment and analysis. While we have taken great care in preparing these profiles, we take no responsibility for their accuracy. We welcome your feedback and suggestions, including broadening the scope to include additional profiles

Subscribers of the report will have access to periodic updates to these profiles through the Cargo Facts Consulting Insights analytics platform (www.cfcinsights.com) for the first six months following publication of the report.

Table 4 – Aramex profile

Company	Aramex (2020 & 2021YTD)
Description	Middle East focused Express, Freight Forwarding and Logistics company, founded in 1982
Headquarters	Dubai
Revenue	AED 5.510b ($1.5b). International Express accounts for 45% of total revenue (FY2020). In H1 2021, Revenues were up 23% YoY to AED 2,996 million ($816 m), compared to AED 2,445 million ($666 m) in H1 2020. H1 2021 Net Profit decreased 31% to AED 111.5 million ($31 m), compared to AED 161.8 million ($44 m) in H1 2020. In Q3 2021, Operating Profit reached to AED 12.2 million ($3.3 m) which represents 124% growth YoY. In Q3 2021, revenues reached 1.46 billion ($1.2 b), a 14% increase.
Profitability and growth	9% overall revenue growth in 2020, with Domestic and International Express showing 21% growth during 2020. Net Income was AED 285 million ($78m), down by 42.7% from AED 497.4 million ($135m) for the period. Express (Domestic + International) has increased its share of total business from 51% to 65% since 2013 while the freight forwarding share has decreased.
Main geographical markets	Middle East (primarily GCC) and Africa (60%), Asia and Others (26%), Europe (12%), North America (2%)
Main competitors	DHL Express, UPS
Shipments and tonnage	122m shipments in 2020. Aramex saw a significant increase in cost per kilo of shipment due to constrained sea freight and air freight capacity and higher overall line haul costs.
Air Network Overview	Air capacity provided by third parties. No dedicated air network
Ground Linehaul Network Overview	Not available
First and Last Mile Network Overview	Own controlled and third-party franchisee fleet. Vehicle maintenance and running expenses accounted for 13% of operating expenses. Aramex cost base witnessed an unexpected increase as line haul costs rose and the cost to scale last mile operations to accommodate the surge in Express volumes from e-commerce also increased.

Company	Aramex (2020 & 2021YTD)
Product Offering	International express: includes delivery of small packages across the globe to both, retail and wholesale customers.
Other business segments	Freight forwarding includes forwarding of loose or consolidated freight through air, land and ocean transport, warehousing, customer clearance and break-bulk services. Domestic express: includes express delivery of small parcels and pick up and deliver shipments within the country. Logistics: includes warehousing and its management distribution, supply chain management, inventory management as well as other value-added services. Other operations: includes catalogue shipping services, document storage, airline ticketing and travel, visa services, and publication and distribution.
Aircraft capacity	Some dedicated charter activities
E-Commerce Strategy and product offering	Focus on micro brands across the Gulf, Levant, Asia and Africa. E-commerce consolidation through shop and ship product providing physical addresses in 24 countries to deliver global online shopping. Fulfillment services to e-commerce platforms. Also operates e-commerce fulfillment centers. Previously operated a joint venture with Australia Post (Aramex Global Solutions)
% of business linked to e-commerce	E-Commerce is the main growth driver of express and logistics business. Focuses on sellers who want a full package or just fulfillment, as well as customers who purchase e-commerce
Relationship and exposure Key E-Commerce Platforms	Not available
E-Commerce Outlook and impact on business	E-commerce growth is central to business expansion. Lower yields on E-commerce vs traditional business expected to depress margins

Reflects financial data up to Q3 2021

Table 5 – Blue Dart profile

Company	**Blue Dart (FY ended March 2021)**
Description	Main Indian express operator, now part of the DHL Group. Began operations in 1983.
Headquarters	Mumbai, India
Revenue	INR 32,797m ($443m)
Profitability and growth	Median EBITDA margins 11% over last 10 years, but profitability dropped to 4% in the latest fiscal year. Profit before tax of $17 million with total revenues of $443 million.
Main geographical markets	Domestic India
Main competitors	FedEx, Gati LTD
Shipments and tonnage	A total of 274 million domestic shipments and 0.75 million international shipments.
Air Network Overview	Operates across a scheduled network of seven airports (Kolkata, Delhi, Mumbai, Bangalore, Chennai, Ahmedabad and Hyderabad)
Ground linehaul network overview	Network of approx. 95 hubs and sub hubs
First and Last Mile Network Overview	25,000 vehicles supporting 2,400 facilities and servicing over 36,000 locations
Product Offering	Express Mail & Express Delivery
Other Business Segments	Freight Forwarding, Third-Party Logistics
Aircraft Capacity	Blue Dart operates with 6 Boeing 757 freighter aircraft offering a payload of 500 tonnes per night.
E-Commerce Strategy and product offering	Primary focus on express delivery only
% of business linked to e-commerce	Not available
Relationship and exposure Key E-Commerce Platforms	Amazon’s introduction in India has fueled Blue Dart’s growth
E-Commerce Outlook and impact on business	Blue Dart has launched a logistics firm (Ecom Express) that will focus exclusively on Indian’s e-commerce support.

Reflects financial data through to 30 March 2021

Table 6 – DHL Express profile

Company	DHL Express (2020 & 2021YTD)
Description	Express division of the DHL Group, it provides urgent documents and goods in over 200 countries and territories serving 2.6 million customers
Headquarters	Bonn, Germany
Revenue	19,135 million € ($22.3 b) in 2020 for the Express division, 29% of DHL's total revenue of 63,806 million € ($81.4 b) During the first 9 months of 2021, Express revenues of EUR 17,361 ($19.6 b), with international business revenue continuing to rise sharply.
Profitability and growth	2,751 million € ($3.3 b) in 2020 for the Express division, 56% of DHL's total profit of 4,847 million € ($5.7 b) in 2020. Main growth drivers were B2C and B2B in the first 9 months of 2021. EBIT for express in the first 9 months of EUR 970 million ($1.01 b).
Main geographical markets	Germany, Western Europe, Latin America, Africa, Middle East & Asia-Pacific
Main competitors	FedEx, UPS
Shipments and tonnage	1.5 billion express shipments per year of which 70% are time definite international (TDI) shipments.
Air Network Overview	DHL's global air network is present in 500 airports worldwide with 22 major hubs connected through. Their dedicated air network includes a fleet of 250 aircraft with 17 owned and partner airlines with over 600 daily flights. Additionally, DHL Express has agreements with 300 airlines, operating around 1,800 daily flights. Air hubs in Miami, Singapore, Leipzig, East Midlands, Chennai, Bahrain, Panama City, Hong Kong
Ground linehaul network overview	DHL continues investing in its vehicle fleet and in the expanded production of StreetScooter electric vehicles
First and last mile network overview	17,000 vehicles servicing over 120,000 destinations in all continents. DHL is focused on developing solutions to help e-commerce companies reach their end-costumers quickly and efficiently, from using machine learning to route shipments to adding automation to delivery networks
Product offering	Time definite international (TDI) Time definite domestic (TDD)

Company	DHL Express (2020 & 2021YTD)
Other Business segments	Not available
Aircraft Capacity	234 aircraft, including 39 737Fs, 55 757Fs, 38 A300-600Fs, 8 A330Fs, 49 767Fs, 21 777Fs, 23 747Fs. 6 more 777S planned for delivery in 2020.
E-Commerce Strategy and product offering	In 2019, DHL established a new eCommerce solutions division which is separate to DHL Express. Core activities include national last-mile parcel delivery in selected European and Asian countries and in the USA. DHL also suppliers cross-border non-TDI services especially, to, from and within Europe.
% of business linked to e-commerce	30% of Time definite international volumes are B2C (compared to 10% in 2013). We estimate 50% of time definite domestic (TDD) volume are B2C.
Relationship and exposure Key E-Commerce Platforms	Limited, but are a key provider to Mercado Libre in LATAM and Amazon in Europe.
E-Commerce Outlook and impact on business	Experience shows that growth in the international express market is highly dependent upon the economy. In 2021, DHL Express revenue included foreign currency gains of EUR 84 million ($95 million).

Reflects financial data through Q3 2021

Table 7 – EMS (China Postal Express & Logistics Company) Profile

Company	EMS (China Postal Express and Logistics Company, 2020)
Description	Largest integrated express and logistics provider in China. Encompasses China Postal Airlines and China Post Logistics. Service offering covers international and domestic express, contract logistics and trucking.
Headquarters	Beijing, China
Revenue	China Post Group overall: RMB 612.13 billion ($96b)
Profitability and growth	Net profit in 2020 was RMB 29.33 billion ($4.6 billion), a yoy increase of 5.8%;
Main geographical markets	Domestic China, Taiwan, Hong Kong, Macau, and international to Japan and Korea
Main competitors	YTO, SF Express, Yunda, ZTO, 4PX, Best, STO, Deppon, TTK
Shipments and tonnage	Estimated Air Shipments 875 million in 2020.
Air Network Overview	560flights every week between 52 city pairs and 36 cities. Main hub in Namjig (NKG)
Ground Linehaul Network Overview	Not available
First and Last Mile Network Overview	55,000 business outlets
Product Offering	Not available
Other Business Segments	Not available
Aircraft Capacity	Not available
E-Commerce Strategy and product offering	Domestic e- Commerce product (e-EMS and eYoubao) and added services including warehousing, sorting, delivery and payment
% of business linked to e-commerce	Not available
Relationship and exposure Key E-Commerce Platforms	Not available
E-Commerce Outlook and impact on business	Not available

Table 8 – FedEx Express profile

Company	FedEx Express (Financial Year ended 31 May 2020 and FY 2022 YTD)
Description	US based express and ground operator. Largest subcontractor to the United States Postal Service.
Headquarters	Memphis, TN
Revenue	FedEx reported revenues of $84 billion in FY2021, a 21% increase from FY2020. The Express division reported revenues of $42.1 billion (+17%) FY2022 Q2 revenue of $22 billion (+14%)
Profitability and growth	FY2020: Consolidated Operating income was up 142% to $5.86 billion. Express operating income of $2.81 b (+182%)
Main geographical markets	United States, Europe, Middle East, Latin America, Africa, Asia-Pacific
Main competitors	DHL Express, UPS
Shipments and tonnage	2.2 billion Express shipments (US + International), 10.5 billion lbs.
Air Network Overview	Fleet of 684 aircraft and 12 air hubs in their air network (Paris, Narita, Cologne, Newark, Guangzhou, Indianapolis, Oakland, Miami, Liege, Dubai, Toronto). Plans to shift more FedEx express volumes to former TNT ground network.
Ground linehaul network overview	96,000 vehicles in its global network
First and last mile network overview	85,000 vehicles, 52,250 access points (offices, authorized shipping centers, lockers and drop box locations). By end of 2020 adding 8000 Dollar General stores to ground already consisting of 9000 Walgreens and Walmart outlets. This will replace the SmartPost arrangement with USPS which FedEx announced in May 2019 that it would cancel. FedEx
Product offering	International Priority: door-to-door, customs cleared products (1-3 business days), delivery by 15:00 International First: door-to-door, customs cleared products (1-3 business days), delivery by 9:00. Available from the US to major key points in 20 global markets International Economy: door-to-door, customs-cleared product (2-5 business days) US Overnight Box, US Overnight Envelope, US Deferred

Company	FedEx Express (Financial Year ended 31 May 2020 and FY 2022 YTD)
Other Business segments	FedEx Services provides sales, marketing, information technology, communications, customer service, technical support, billing and collection services, and certain back-office functions that support FedEx transportation segments.
Aircraft Capacity	406 aircraft (jets) including 119 757Fs, 68 A300-600Fs, 102 767Fs, 57 MD11Fs, 13 MD-10s and 47 777Fs
E-Commerce Strategy and product offering	FedEx Express is focused on e-commerce growth with a new division dedicated to infrastructure improvement across offices and sorting locations. Actions to improve service offering include extending Ground deliveries to 7 days per week beginning moving to seven-day operations at FedEx Ground. Also, FedEx is insourcing SmartPost volume to become FedEx Ground Economy, growing their large package network, offering the first FedEx-branded through-the-door service options with FedEx Freight Direct, and accelerating the expansion of our retail convenience network including new hotel, convention center, and OnCampus locations for FedEx Office.
% of business linked to e-commerce	Not available
Relationship and exposure Key E-Commerce Platforms	Previously FedEx generated less than 1.3% of total revenues with Amazon. In 2019, FedEx cancelled its Express and Ground contracts with the US E-tailer. However, Fedex carries substantial Amazon volumes through its contract with the USPS to move priority mail and priority mail express.
E-Commerce Outlook and impact on business	FedEx is focused on digital innovation and opportunities to serve the rapidly growing e-commerce market. In 2020 they acquired ShopRunner, a platform that shares our vision of creating digital solutions that help brands and merchants of all sizes compete in e-commerce.

Reflects financial data through September 2022

Table 9 – SF Express profile

Company	SF Express (2020)
Description	2nd largest Chinese Express operator mainly focused on the domestic Chinese market. Operates both a warehouse and distribution network. SF has the largest domestic air network which is approximately 2x the scale of China Postal Airlines. 24% share of Chinese domestic air cargo market (in 2019).
Headquarters	Hangzhou, Zhejiang, China
Revenue	RMB 153.98b ($24.04b, +37%), 98% of which is from Express and Logistics. Average revenue per shipment RMB 21.04 ($3.30). In 2020, Express and Economy products accounted for 55% and 27.0%, of revenue, respectively, compared to 62% and 22% in 2019
Profitability and growth	Overall revenue growth of 37% in 2019 (23% in 2019). Net profit margin 4% in 2019 and between 5% and 7% in the preceding years.
Main geographical markets	Domestic China. International express accounted about 3% of revenue in 2020. Growth of general cargo and supply chain products has been strong. Has 280m individual users and 1.5 m key account customers.
Main competitors	China Postal Airlines (EMS), YTO Express are the only other Chinese integrators with dedicated air networks, but there are a multitude of courier operators in the market including Yunda, ZTO, 4PX, Best, STO, Deppon, TTK, US, Sure, 2JS and GTO. SF states that is had a 25% share in 2020 (up from 23% in 2018) of total Chinese cargo and mail volumes. Has a JV with UPS for international services.
Shipments and tonnage	Air: 982 m shipments (+14%), out of a total of 83.36 billion (+31%).
Air Network Overview	Total of 82 routes (+10) and it operated 3,580 flights in 2020 (353%). A total of 22 international routes were launched in 2020 and in the first six months of 2021 as well. By its own account has arrangements with ca. 100 commercial airlines to move freight. 43 cities in China (including in Hong Kong, Macau and Taiwan) and 11 international cities. Long haul services to New York (JFK) and Germany (HHN). Main hubs in Hangzhou (HGH) and Shenzhen (SZX). Pioneering the development of unmanned feeder aircraft.
Ground Linehaul Network Overview	58,000 (+12,000) directly-operated and outsourced vehicles for more than 130,000 (+20,000) long-haul and branch routes.

Company	SF Express (2020)
First and Last Mile Network Overview	19,000 (+2000) directly-operated service points and 146 franchisee warehouses.
Product Offering	Full suite of products. Express same day (by 20:00), next morning (by 12:00), Next day (by 18:00), cold chain express, economy express (2 day), instant delivery (30 min – 1h), international standard express, economy express, e-parcel (for cross border e-commerce).
Other Business Segments	Heavy parcels (20-100kg), heavy cargo (general cargo), LTL, cold chain and pharmaceutical delivery.
Aircraft Capacity	Fleet of 73 aircraft (Oct 2020), including 28 737-300/400F, 30 757-200F, 10 767-300F, 4 747-400F. Based on own information (End of Dec 2019) operates a fleet of 71 aircraft of which 13 are chartered.
E-Commerce Strategy and product offering	Offers B2C delivery services in China and abroad. Operates e-commerce warehouses across China. International E-Parcel product which provides customs clearance and delivery for cross border e-commerce
% of business linked to e-commerce	Not available
Relationship and exposure Key E-Commerce Platforms	Not available. Started JV with Russian e-commerce platform J in Aug 2019.
E-Commerce Outlook and impact on business	Not available

Reflects financial data through to end of 2022, as well as monthly reporting

Table 10 – United Parcel Service (UPS) profile

Company	United Parcel Service (2020 & 2021YTD)
Description	Multinational package delivery and supply chain management provider
Headquarters	Atlanta, Georgia
Revenue	\$84.63 billion in 2020, \$53.5 b US Domestic Package, \$15.9 b International Package, \$15.2 b Supply Chain Freight. Q1 2021: consolidated revenue increased to \$22.9 billion (+27%) while net income was \$4,700 million (+396%) Q2 2021: consolidated revenue increased to \$23.4 billion (+14.5%) and net income was \$2.6 billion (51%) Q3 2021: consolidated revenue increased to \$20.5 billion (+13.4%) and net income was \$2.3 billion (19%)
Profitability and growth	Operating profit was \$7.8 billion in 2020; adjusted operating profit was \$8.7 billion, up 7.0% Profits by division: Domestic (8%), International (22%) and Supply Chain (7%).
Main geographical markets	North America, Europe, Asia-Pacific, Latin America, Middle East & Africa. Europe accounts for 50% of international package segment revenue.
Main competitors	DHL Express, FedEx
Shipments and tonnage	6.3 billion packages and documents annually, serving more than 200 countries and territories
-*Air Network Overview	Aircraft fleet of 277 aircraft and 2,500 daily flight segments Air hubs in Louisville, Cologne, Shanghai, Hong Kong, Shenzhen, Hamilton, Miami, Rockford, Philadelphia, Dubai, Anchorage, Dallas
Ground linehaul network overview	130,000 vehicles in delivery fleet. UPS wholly-owned and partnered global network offers roughly 150,000 entry points where customers can tender a package to at a location or time convenient
First and last mile network overview	1,800 operating facilities, 40,000 access points and 14,000 stores, customer centers and outlets. Around 130,000 vehicles
Product Offering	Express Critical; same day delivery Worldwide Express Plus: 1-3 business days by 9:00 Worldwide Express: 1-3 business days, delivery by 10:30 or noon

Company	United Parcel Service (2020 & 2021YTD)
	Worldwide Express Saver: 2-5 business days, delivery by end of the day Worldwide Expedited: 2-5 business days, delivery during the day Standard: day definite by date scheduled, delivery during the day US Next Day Air: guaranteed next-business-day by 10:30
Other business segments	International air and ocean freight forwarding, customs brokerage, distribution and post-sales services, mail and consulting service. UPS Freight offers a variety of LTL and TL services to customers in North America. Coyote offers truckload brokerage services primarily in the United States. Marken is a global provider of supply chain solutions to the life sciences industry.
Aircraft capacity	277 aircraft, including 75 757Fs, 52 A300-600Fs, 77 767Fs, 40 MD11s and 33 747Fs
E-Commerce Strategy and product offering	UPS has expanded the UPS Access Point network to about 21,000 locations within the US and 40,000 globally.
% of business linked to e-commerce	Business-to-consumer shipments represented over 65% of the total US Domestic Package volume
Relationship and exposure Key E-Commerce Platforms	UPS is retaining close ties to Amazon, one of its largest customers and accounts for 13.3% of their consolidated services (2020).
E-Commerce Outlook and impact on business	UPS recently unveiled a transformation strategy to handle the package handling growth and cross-border e-commerce volumes including renovated facilities and new aircraft

Reflects financial data up to Q3 2022