



WORLD AIR CARGO FORECAST 2010-2011



WORLD AIR CARGO FORECAST 2010-2011 FOREWORD

The Boeing *World Air Cargo Forecast* (WACF) is our biennial assessment of the air cargo industry. We use the forecast data and analysis in developing our product strategy and in our long-term business planning. We share this information publically to help operators, suppliers, leasing companies, and the financial community make informed decisions.

The forecast summarizes the world's major air trade markets, identifies major trends, and forecasts the future performance and development of markets and the world air freighter fleet.

The 2010-2011 edition of the forecast depicts the resurgent growth of world air cargo traffic after the steep drop brought on by the retrenchment of manufacturing during the global economic downturn of 2008 and 2009. Traffic has grown 24% during the first eight months of 2010 relative to the same period in 2009. There is reason for optimism that 2010 world air cargo traffic volumes will exceed those of the previous peak traffic year of 2007.

Historical data presented in this document was compiled from many sources including, but not limited to, the Air Cargo Management Group (ACMG), Airports Council International (ACI), the Air Transport Association (ATA), the Association of Asia-Pacific Airlines (AAPA), the Association of European Airlines (AEA), Boeing Foreign Trade Database (TRADE), Eurostat, IHS Global Insight, the United Nations Council on Trade and Development (UNCTAD), the International Air Transport Association (IATA), the International Civil Aviation Organization (ICAO), the Civil Aviation Administration of China (CAAC), China Statistic Yearbook 2009, China Statistical Bulletin,

Centre for Asia Pacific Aviation, and US Department of Transportation (DOT) Form 41. Historical information is updated each year as individual sources revise their respective publications.

This document would not be possible without the efforts of several contributors. The Boeing *World Air Cargo Forecast* 2010-2011 production team included the Creative Services Group design, production, and Web teams; the Writing and Editing Services team; and our colleagues in the Market Analysis Group. Also, the following colleagues researched, forecasted, and authored the following chapters:

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The next update to the WACF will appear fourth quarter 2012. The authors welcome any questions or comments readers may have. All queries and suggestions should be directed to:

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WORLD AIR CARGO FORECAST 2010-2011

EXECUTIVE SUMMARY

Air cargo traffic rebounds with global economy

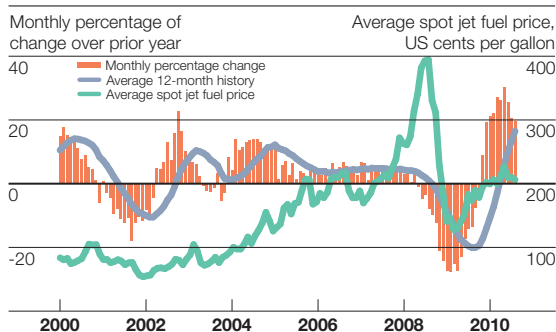
Demand for air cargo transport rebounded sharply in 2010 after a calamitous 18-month decline that began in May 2008. In spite of this downturn, world air cargo traffic will triple over the next 20 years, compared to 2009 levels, averaging 5.9% annual growth. The number of airplanes in the freighter fleet will increase by more than two-thirds over the same period.

In 2009, world air cargo traffic declined 11.3%, after declining 1.8% in 2008 and growing 3.3% in 2007. The 2008–2009 period marked the first time that air cargo traffic has contracted in two consecutive years. The decline affected nearly all geographic markets, but markets connected to industrial freight flows generally fared worse than markets less dependent on these flows. The rising price of fuel diverted air cargo to less expensive road transport and maritime modes beginning in 2005. Although the tepid rate of world air cargo traffic growth between 2005 and 2008 can be attributed in part to rising fuel prices, the nearly 13% drop in cargo traffic during the two years ending in 2009 reflects the steep plunge in industrial activity attendant to the global economic downturn.

The global economic downturn that began in the latter half of 2008 was the worst contraction since the Great Depression. World industrial production fell 9% in 2009, which produced the worst decline in freight transport in 80 years. Economic and industrial disruptions led to a drop in traffic for all freight transport modes—container-handling statistics for world ports also fell approximately 9% in 2009. For the first time ever, containership lines cut services, reduced frequencies at ports of call, and idled ships on a global scale.

In August 2009, industrial activity began to recover, particularly in Asia. The pace of air cargo traffic contraction, which had approached 30% in the first half of 2009, began to ease. Monthly air cargo traffic statistics turned positive in November 2009, and the first eight months of 2010 saw an estimated 24% growth in traffic, compared to the same period in 2009. The strong rebound is expected to propel world air cargo traffic to regain the peak it attained in 2007 by the end of 2010. Anecdotal evidence suggests that many industrial shippers have turned to air cargo in response to the overcorrection that constrained capacity in the other modes of transport, particularly in containerships.

WORLD AIR CARGO TRAFFIC REBOUNDED SHARPLY IN 2010



Economic activity, as measured by world GDP, remains the primary driver of air cargo traffic growth. World GDP fell 2.1% in 2009, following 1.9% growth in 2008. In the near term, GDP growth remains hesitant, reflecting high unemployment in developed economies and restrained consumer purchasing. In the longer term, world economic growth is forecast to average 3.2% over the next 20 years.

World air cargo traffic will expand at an average annual rate of 5.9% for the next two decades, tripling the 2009 levels. Asia’s air cargo markets will continue to lead the industry in average annual growth. The intra-Asia market alone is expanding 7.9% per year. Markets connecting developing economies to established economies will equal or exceed the average world growth rate.

Over the next 20 years, the number of airplanes in the freighter fleet is forecast to expand by more than two-thirds, from 1,755 airplanes in 2009 to 2,967 airplanes in 2029. Large freighter aircraft will lead fleet additions, growing from an overall share of 27% to 33% as traffic continues to build on long-haul, international trade lanes.

2009 AIR CARGO GROWTH BY MAJOR MARKET

World	-11.3%
Intra-North America	-12.6%
Latin America–North America	-14.5%
Latin America–Europe	-6.3%
Europe–North America	-21.0%
Intra-Europe	-10.7%
Middle East–Europe	-14.9%
Africa–Europe	-8.0%
Asia–North America	-12.9%
Europe–Asia	-10.3%
Intra-Asia	-7.5%
South Asia–Europe	-11.3%
Domestic China	12.3%

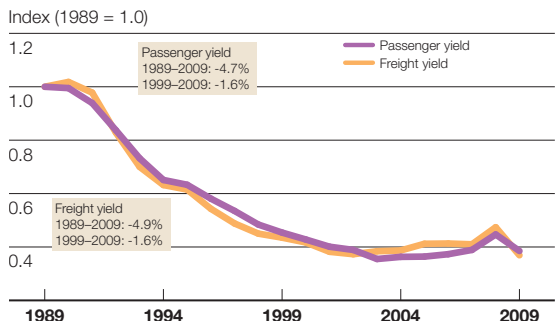
Yield trends

Freight yields have declined at an average rate of 4.9% per year over the past 20 years.

Continuing profit challenges at passenger airlines have focused airline attention on opportunities for lower-hold cargo revenue. On average, cargo revenue represents 15% of total traffic revenue, with some airlines earning well over half their revenue from this source. Continuing industrywide declines in yield for cargo and passenger services reflect productivity gains, technical improvements, and intense competition. Declining yields also create pricing pressure on all industry segments (e.g., lower aircraft acquisition and operating costs). Since 1989, scheduled freight yield has declined at an average rate of 4.9% per year, after adjusting for inflation. Although scheduled freight yield increased briefly from 1989 through 1990, the decline resumed through 2002.

From 2002 through 2008, freight yield increased approximately 4.1% per year. Much of the increase owes to fuel and security surcharges that were imposed beginning in 2003. In 2007, freight yield declined slightly, due to a great extent to price competition spawned by the proliferation of online booking systems, which allowed shippers to compare prices. Significant fuel surcharges were imposed in 2008 in response to the fuel crisis, and freight yield increased 16%. Freight yield fell 22% with the rapid decline in fuel prices (and corresponding surcharges) between mid-2008 and mid-2009. Total air cargo capacity increased faster than traffic, putting an additional damper on yields. However, over the entire decade, the average rate of decline slowed to 1.6% per year.

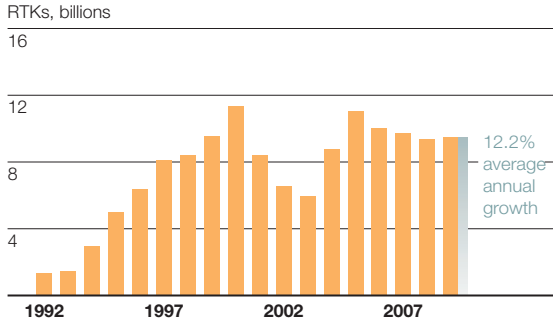
AIR FREIGHT YIELDS ROSE WITH FUEL PRICES IN 2008, THEN FELL IN 2009



Large widebody freighter ACMI services

In spite of the global economic downturn, large widebody ACMI traffic volumes have remained steady after contracting about 10% in 2006.

ABOUT 6% OF WORLD AIR CARGO TRAFFIC IS TRANSPORTED BY ACMI PROVIDERS



Aircraft, crew, maintenance, and insurance (ACMI) providers, sometimes called “wet lease providers,” offer cargo operators the flexibility to obtain lift on a trial basis, augment existing markets, and provide service in markets that are highly seasonal—all with no capital equipment investment required. Large freighters in long-haul markets account for the most significant segment of the air cargo ACMI business. The ACMI business is highly sensitive to changes in the air cargo business, but it has become an established industry subsector since the early 1990s. Several providers, representing about 14% of the large freighter ACMI traffic in 2007, exited the business in the 2007–2008 timeframe.

Annual growth for ACMI large freighter traffic has averaged 12.2% since 1992, although growth is uneven from year to year. After a strong recovery between 2003 and 2005, ACMI traffic contracted about 9.6% in 2006. The industry, however, remained fairly steady in terms of traffic volumes from 2007 through 2009, as some wet lease providers managed to expand their ACMI client bases during this time. As demand for dedicated freighter airplane capacity rebounded in late 2009 and 2010, this segment benefited greatly from the limited availability of long-haul freighters in operator fleets.

International express

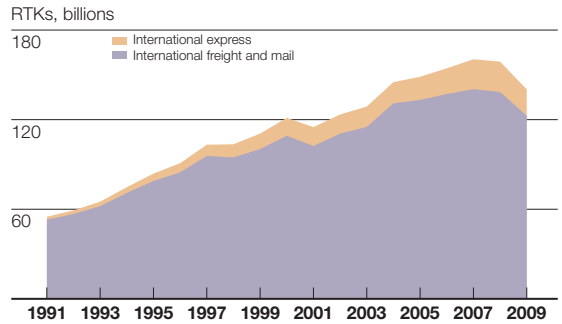
International express traffic, which expanded rapidly throughout the 1990s, has decelerated to about 4.4% growth per year since 2000.

The distinction between express and general air cargo continues to blur. Traditional providers are expanding their time-definite offerings, and express carriers, freight airlines, and postal authorities are consolidating. Ultimately, the air cargo customer benefits from increased service options and lower prices as market pressure brings competing products into the market.

Provider and service expansion spurred international express traffic to grow at nearly triple the rate of total worldwide air cargo traffic, averaging more than 22% annually from 1992 to 2000, as measured in revenue tonne-kilometers (RTKs). However, growth slowed considerably to about 6.8% between 2000 and 2008. This pattern parallels the express industry's strong double-digit US domestic growth during the 1970s and 1980s, followed by slower growth later. International express traffic fell 12.7% in 2009, however, as a result of the global economic downturn.

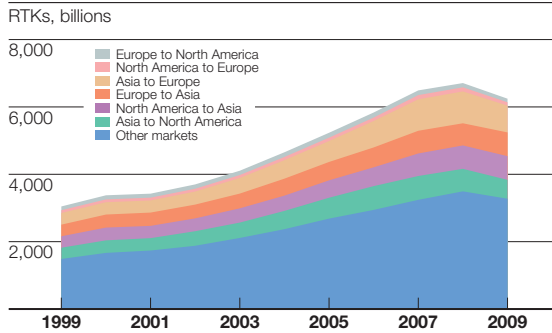
International express expanded from 4.1% of total international air cargo traffic in 1992 to 12.8% in 2008, reflecting higher-than-average annual growth. Because the decline in international express flows in 2009 was about the same magnitude as the drop in the overall world air cargo market, international express maintained its share at about 12.6% of total traffic. The average international express shipment size is estimated to have grown from 2.7 kg in 1992 to 5.3 kg in 2009, further bolstering the overall express component of international air freight traffic. As businesses continue to expand beyond domestic or nearby regional markets, the international express sector will continue to grow, albeit at more sustainable, long-term rates.

INTERNATIONAL EXPRESS TRAFFIC MAINTAINED MARKET SHARE THROUGH THE DOWNTURN

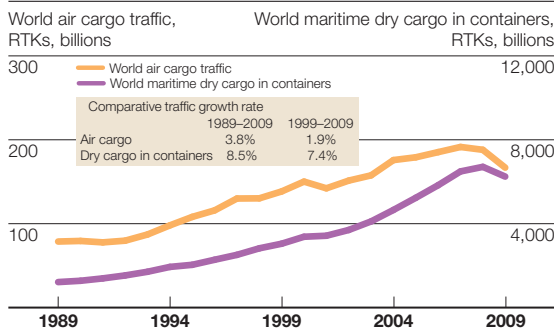


World air cargo and maritime traffic
 After years of growth, both maritime and air cargo traffic fell in 2009.

WORLD CONTAINERSHIP TRAFFIC HAS GROWN RAPIDLY



WORLD AIR CARGO AND CONTAINERSHIP TRAFFIC FELL IN 2009



Air cargo is only one part of the global goods distribution network. Shippers demand that shipments arrive at their destination on time, undamaged, and at a reasonable price, regardless of transportation mode. Different transport modes—road, rail, maritime, and air—can often move the same commodities. But shippers usually have only two choices for intercontinental freight: air and maritime. Maritime transport offers the primary benefit of low cost; air transport offers the benefits of speed and reliability.

The maritime industry, as measured in tonne-kilometers of goods transported, is much larger than the air cargo industry. In 2009, the world maritime industry generated an estimated total of 60 trillion RTKs compared to 166.8 billion RTKs for the air cargo industry. However, this maritime traffic includes the movement of bulk commodities such as oil, metal ores, and grains, most of which cannot be directly compared to the high-value dry commodities associated with transport by air. A better comparison of the air and maritime modes can be made using the remaining maritime dry cargo after bulk commodities have been subtracted, which totaled about 16.9 trillion RTKs in 2009.

Containership transport, a segment of maritime dry cargo, is one of the fastest growing forms of freight transport. Since the late 1980s, globalization and regional specialization of industry, particularly in Asia, have driven rapid growth in freight flows on containerships. As of 2009, worldwide containership traffic is estimated to have totaled 6.2 trillion RTKs, representing about a third of world maritime dry cargo. From 1999 to 2007, containership traffic averaged 9.9% growth per year in terms of tonne-kilometers.

The global economic downturn, which began in 2008, led to the worst freight transport downturn since the early 1930s. All major trade lanes were affected, and both air and maritime cargo had

major declines. In 2009, world air cargo traffic fell by 11.3%. According to preliminary estimates by the United Nations Conference on Trade and Development, total world maritime freight traffic fell by 4.5% in 2009 compared to 2008. Containership freight, which dropped 6.9%, was more adversely affected than maritime transport of bulk commodities. The ongoing infrastructure and construction boom in China and, to a lesser extent, in India partially offset decreased demand for bulk commodities in other regions.

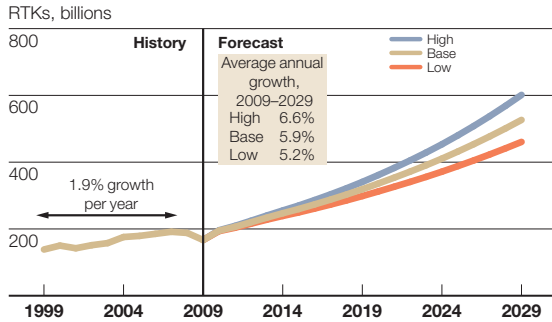
The containership industry responded to deteriorating economic conditions by reducing capacity. At the beginning of 2010, 11.6% of the world containership fleet was idle. Changes in operations such as “slow steaming,” decreased ports of call, reduced frequencies, and service consolidation with alliance partners also helped the industry cope with the decreased demand.

Starting in late 2009, an economic recovery began, which led to a shipping boom in the first half of 2010. Ships were returned to service, and by mid-2010 only 2% of the world containership fleet remained idle. As economic recovery continues, it is expected that growth of both the maritime and air cargo industries will return to previous levels. However, some changes in containership operations, such as slow steaming and reduced frequencies, remain in place. These practices, along with reduced capital available for trade finance, may lead to some supply chain restructuring. Restructured supply chains might include a larger air cargo component, although the extent and impact of any supply chain changes are not certain.

World air cargo traffic growth detail

International air freight will drive overall world air cargo growth through 2029.

WORLD AIR CARGO TRAFFIC WILL TRIPLE OVER THE NEXT 20 YEARS



HISTORICAL AND FORECAST AIR CARGO GROWTH RATES

	Historic 10 Years (1999-2009)	Forecast 20 Years (2009-2029)
World	1.9%	5.9%
Intra-North America	-2.5%	3.0%
Latin America-North America	-0.7%	5.7%
Latin America-Europe	2.5%	5.6%
Europe-North America	-1.5%	4.2%
Intra-Europe	0.1%	3.6%
Middle East-Europe	6.5%	6.0%
Africa-Europe	3.3%	5.1%
Asia-North America	1.4%	6.7%
Europe-Asia	4.1%	6.6%
Intra-Asia	3.4%	7.9%
South Asia-Europe	4.1%	6.5%
Domestic China	13.1%	9.2%

Over the next 20 years, world air cargo traffic will grow 5.9% per year. Air freight RTK growth, including express traffic, will average 6.0% annually. Airmail traffic will grow much more slowly, averaging only 1.4% growth annually through 2029. It should be noted that because of the dramatic 2009 drop, the historic 10-year world air cargo growth rate fell from 3.9% during the 1997-to-2007 period to only 1.9% during the 1999-to-2009 period. Overall, world air cargo traffic will increase from 166.8 billion RTKs in 2009 (down from its 2007 record of 191.4 billion) to more than 526.5 billion RTKs in 2029.

Asia's air cargo markets will continue to lead the world air cargo industry in average annual growth rates, with domestic China and intra-Asia markets expanding 9.2% and 7.9% per year, respectively. Markets linking Latin America with North America and Latin America with Europe, as well as markets between the Middle East and Europe, will grow at approximately the world average growth rate. The more mature North America and Europe markets reflect slower and thus lower-than-average traffic growth rates.

World freighter fleet

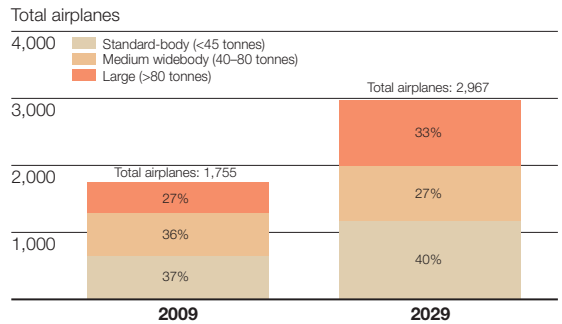
Over the next 20 years, the freighter fleet will grow by more than two-thirds, expanding from 1,755 airplanes in 2009 to 2,967 airplanes in 2029.

Due to a tripling in traffic levels and the preference among airlines and shippers for dedicated freighter service, the freighter fleet will increase by more than two-thirds, from 1,755 to 2,967 airplanes. Although 1,282 airplanes will be retired, 2,494 airplanes will be added to the freighter fleet by 2029. A shift toward widebody freighters will result in a fleetwide increase in average freighter airplane payload, which accounts for the disparity between growth in demand for cargo services and fleet growth. Well over half of all additions to the fleet will be in the widebody (medium and large freighter) categories.

Seventy percent of freighter fleet additions will come from modified passenger and combination airplanes, with 743 new production freighters entering the fleet during the forecast period. New production freighters predominate in the large freighter category, with many airlines preferring the technical advantages, reliability, fuel efficiency, and overall low unit costs of new airplanes. As a result, the large freighter category's share of the total fleet will expand from 27% to 33%. Although new airplanes will make up a minority of the total world freighter fleet, the value of all new freighters delivered will total \$180 billion in current US dollars.

In many cases, operators such as express carriers prefer medium widebodies as replacements for retiring standard-body freighters. Despite this preference, more than 1,084 standard-body airplanes will be delivered, nearly all conversions. As with production models, breadth of product family is important in the conversion market. Providers will therefore continue to expand their offerings. The freighter share of the total airplane fleet will decrease slightly from 9% to 8% during the forecast period.

FREIGHTER FLEET INCREASE REFLECTS WORLD TRAFFIC GROWTH



WORLD AIR CARGO FORECAST 2010-2011

WORLD OVERVIEW

World economic environment favors continued long-term growth

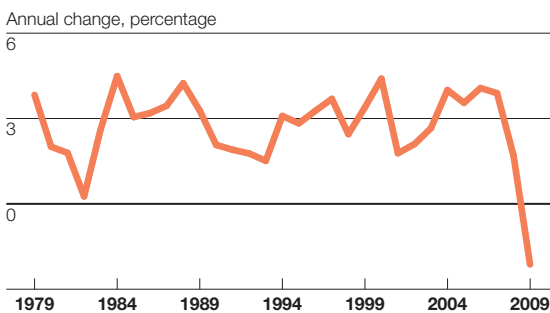
Despite the worst global economic downturn since the Great Depression, world economic activity, as measured by gross domestic product (GDP), is forecast to grow an average 3.2% per year through 2029. A major driver of international trade, GDP growth stimulates air freight, which will grow at nearly double the GDP growth rate.

A doubling of fuel prices over the 16 months culminating in mid-2008 and a worldwide financial crisis that plunged the world's economies into the worst downturn since the Great Depression resulted in the first decline in global GDP in more than 70 years. World GDP contracted 2.1% in 2009. Commodity prices rose rapidly from 2005 through 2008. The severe downturn in housing markets, significant losses in mortgage-related securities, and tightened credit that precipitated the global economic downturn profoundly weakened the world's interdependent financial network.

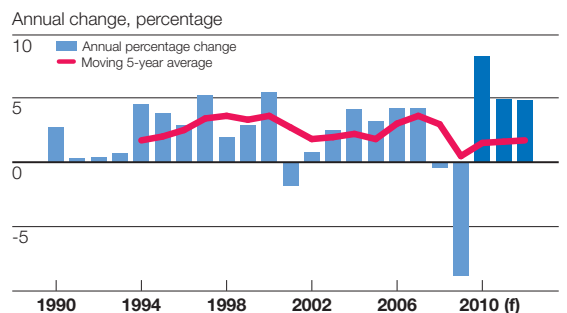
Nearly every geographic region of the world's economy was adversely affected—even robust economies that seemed immune to past recessions. The Asia-Pacific region, for example, had an annual GDP growth rate approaching 6% in both 2006 and 2007, but growth flattened in 2009.

Despite the global economic downturn, a discernible economic recovery began in the second half of 2009 and continued in 2010. By the third quarter of 2009, industrial and manufacturing activity, particularly in Asia, began to accelerate. World industrial production, a major component of world GDP, declined 8.8% in 2009, explaining the severity of the downturn in world air cargo traffic, which depends heavily on manufacturer shipping. Production is expected to rebound 8.2% in 2010—the strongest industrial growth in 20 years—which has already sparked a rebound in air cargo traffic. Growth is forecast to remain above the long-term trend for both 2011 and 2012, supporting the prospect for higher-than-average world air cargo traffic growth in the near term.

WORLD ECONOMIC GROWTH, GDP



WORLD INDUSTRIAL PRODUCTION



For the next 20 years, world GDP growth will average 3.2% per year. In general, developing economies suffered less from the downturn, and they will lead growth for the forecast period. Africa, Asia, the Middle East, and Latin America will all average 4% GDP growth or greater through 2029. North America, Europe, and Japan will grow slower than the world average. World industrial activity is forecast to expand at approximately 4% per year for the next two decades, which in turn supports the long-term outlook for continued world air cargo traffic growth.

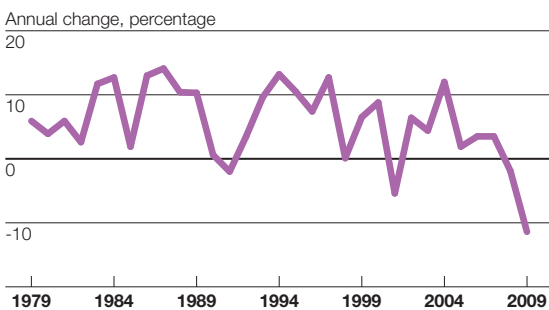
Air cargo is essential to global sourcing, manufacturing, assembling, and distribution of goods, which together account for much of the growth in air cargo traffic. Other factors affecting growth rates include available capacity, cargo yields, jet fuel prices, relative currency strengths, environmental regulations, and national industrial incentives.

Air freight markets expand and shift in response to economic growth in developing countries. When infrastructure development accompanies consumer spending, domestic demand becomes the primary engine of recovery and growth. Thus, economies in the late stages of development tend to become net importers, whereas economies in the early stages of development tend to be net exporters.

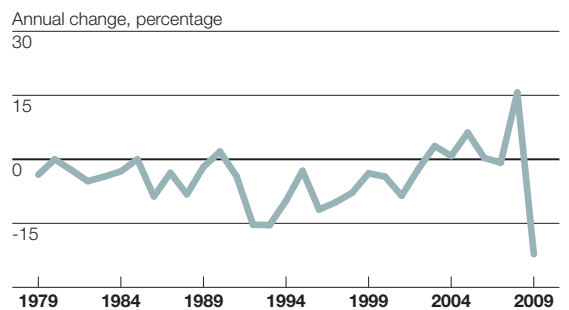
After growing 3.3% in 2007, world air cargo traffic continued to grow during the first quarter of 2008. However, rising fuel prices and falling confidence in the financial sector led to a drop in consumption, which dragged down the full-year air cargo traffic total for 2008 by 1.8%. The contraction in traffic volumes that continued through most of 2009 led to the worst-ever annual traffic decline of 11.3%. East-west markets—including Asia-North America, Europe-Asia, and Europe-North America—experienced the steepest drops in traffic. Conversely, north-south markets, such as Europe-Africa, were less adversely affected, primarily due to perishable content in these trade lanes (consumption of perishables tends to remain stable even during recessionary periods).

Air freight yields, adjusted for inflation, rose more than 15% in 2008. Fuel surcharges, which rose sharply in the first half of the year, accounted for most of the rise. Fuel prices and air traffic volumes dropped almost simultaneously as economic conditions worsened from mid-2008 to mid-2009, with yields following suit to culminate in a 22% decline for 2009 compared to 2008.

WORLD AIR FREIGHT TRAFFIC, RTKS



WORLD AIR FREIGHT YIELD



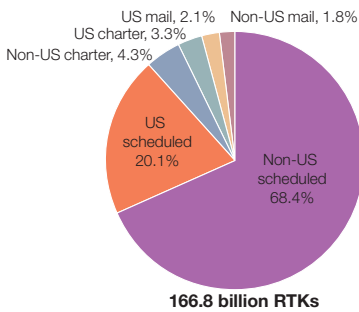
World air cargo components

World charter air freight contracted at nearly twice the rate of world scheduled air freight in 2009.

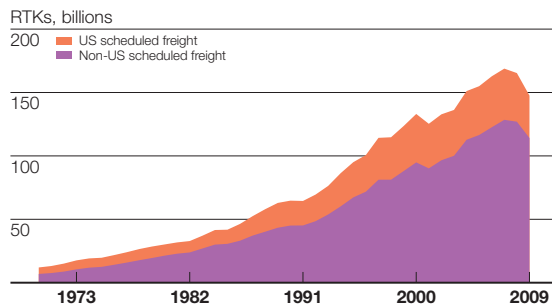
World air cargo comprises freight (scheduled, charter, and express) and mail, with scheduled freight and express being the largest components. For most of the past four decades, world air cargo traffic carried by non-US airlines has grown faster than traffic carried by US-domiciled carriers, reflecting both faster international air trade growth and slower US domestic growth.

Scheduled air cargo traffic accounts for approximately 90% of all world air freight. Most shippers try to use regularly scheduled cargo capacity to meet their transport requirements. The remaining world air freight traffic is provided either by charters or through ad hoc requests for cargo capacity, usually to meet urgent or special needs. Generally, charter freight share rises during times of strong world air cargo growth and, conversely, falls during times of slow or negative traffic growth. In keeping with this general trend, world charter air freight fell 18.4% in 2009, as the global economic downturn severely curbed demand for ad hoc cargo transport. By comparison, world scheduled air freight declined at a slower rate of 10.7%.

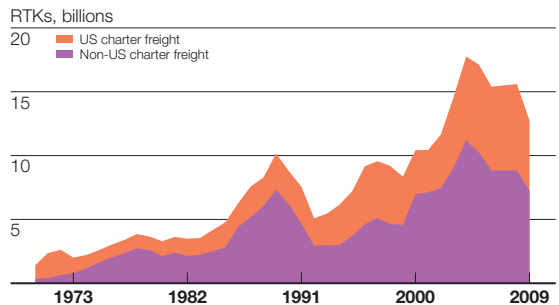
2009 AIR CARGO MARKET SHARE BY AIRLINE DOMICILE



WORLD SCHEDULED AIR FREIGHT FELL 10.7% IN 2009



WORLD CHARTER AIR FREIGHT FELL 18.4% IN 2009



Forecasting methods

Several approaches can be used to handle the range and complexity of forecasting challenges. Each approach is carefully matched to the specific issue and application.

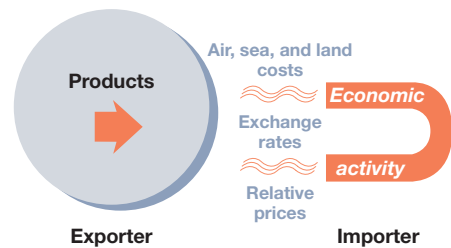
Four approaches—econometric modeling, judgmental evaluation, trend analysis, and potential analysis—provide useful forecasts. Econometric modeling helps determine the overall importance of underlying economic factors (e.g., GDP) and provides forecasts that are linked to expectations of those factors. This method is useful for medium- and long-range forecasts in regional markets.

The demand for air freight depends on the economic activity in the importing region or country, conditioned by transportation costs, exchange rates, and relative prices. Econometric modeling may be used to predict demand, assuming that adequate capacity will be in place to transport the demand and that factors not included in the model will exert the same influence as in the past. Judgmental modifications often account for expected changes in noneconometric growth factors. For example, estimating the effect of air service agreements, trade quotas, restrictions on night operations, and changes in trade patterns could be vital to an airline's strategic plan. Incorporation of anticipated increases in capacity, route restructuring, and market programs can contribute to more reasonable forecasts.

A simple trend analysis often is used to evaluate changes in economic factors. This approach is useful in evaluating general changes in the marketplace that can be attributed to the combined effects of a number of factors. Such trends can be extrapolated into the future. However, extrapolation from a small base with large growth can produce unrealistic results.

Potential analysis is useful, particularly for forecasting markets in their early stages of development. For example, commodities transported by air tend to be valued at more than \$16 per kilogram. It is therefore possible to project a potential air cargo market based on the percentage of traded goods (regardless of transport mode) that are valued above \$16 per kilogram.

DEMAND PULLS AIR CARGO TRAFFIC



Market environment

Although economic activity is the primary influence on world air cargo development, other factors must be considered.

The acquisition of aircraft and expansion of services have had particularly favorable effects on the express and small-package market. Factors beyond the control of airlines include inventory management techniques, modal competition, environmental regulations, globalization, market liberalization, national development programs, and the introduction of new air-eligible commodities. All these factors play significant roles in air cargo growth. Constraints to economic growth, primarily those originating outside the airline industry, can hinder air transport industry growth dramatically. A variety of air transport industry constituencies and policymakers address these interrelated growth issues.

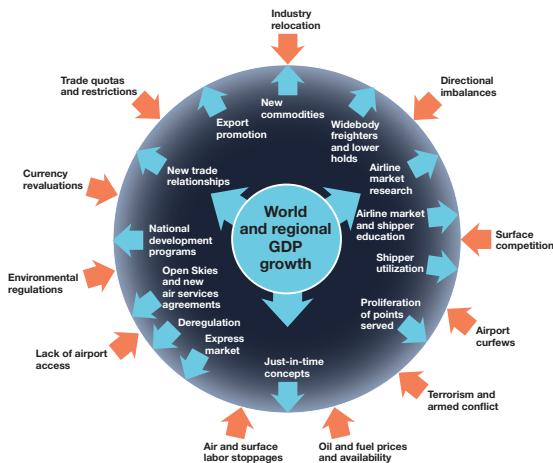
Strong relation of air cargo traffic to GDP

World GDP is the best single measure of global economic activity. World air cargo growth typically outpaces GDP growth by a factor of two.

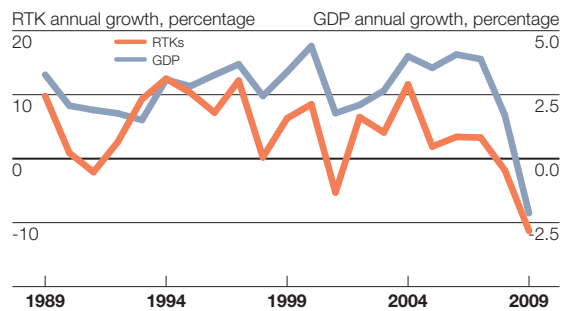
World GDP is the sum of all goods and services produced in the world, representing the best single measure of global economic activity. The resulting demand for transportation services provides opportunities for air cargo growth. Therefore, changes in world GDP and changes in world air cargo traffic are strongly correlated.

For nearly four decades, air cargo traffic, measured in RTKs, has expanded at more than twice the rate of GDP growth. Although the global economic downturn of 2008–2009 reduced this multiple, several factors are expected to drive the multiple closer to its historic norm of two. Service and economic efficiency improvements, further expansion of international express, and adoption of inventory management techniques are expected to stimulate faster air cargo growth. The crucial advantages of air cargo over surface transport suggest that air cargo growth will continue to outpace GDP growth.

FORCES AND CONSTRAINTS FOR AIR CARGO GROWTH



GDP GROWTH INFLUENCES AIR CARGO TRAFFIC GROWTH



World economic growth

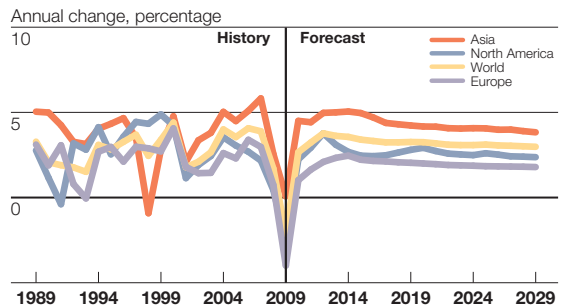
The world's economy is forecast to grow at an average annual rate of 3.2%.

The global economic downturn adversely affected all regions in 2009. Among major economic groupings, Europe declined most—nearly 4%, compared to the world average drop of just over 2%. North America slowed slightly less than the world average. Asia's economic growth was nearly flat, led by 8.6% growth in China but absorbing a 5.4% drop in Japan. In the developing world, only Africa managed positive growth in 2009, expanding 2.0% over 2008 levels.

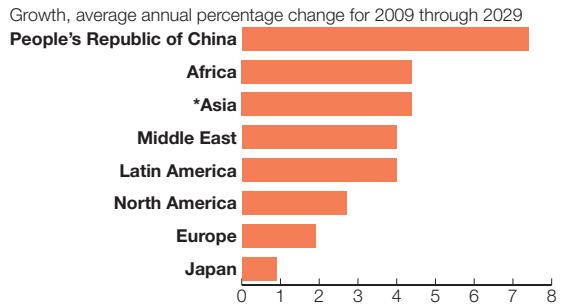
An increasingly integrated world economy is forecast to expand an average 3.2% annually through 2029. The long-term growth rate for North America is expected to average 2.7% per year over the same period. Europe's growth will average about 1.9% per year during the next 20 years.

Asia will continue to lead the world's major economies with projected growth of 4.4% per year between 2009 and 2029. China, in turn, leads individual country long-term growth with a 7.4% average annual increase. In contrast, Japan will average less than 1.0% per year. Asia's share of world GDP is projected to rise from 26% in 2009 to more than 33% by 2029. The world GDP share held by North America and Europe, which together currently account for about 60% of economic activity, will drop to about 50% by 2029.

WORLD ECONOMIC GROWTH BY REGION



FORECAST AVERAGE WORLD GDP GROWTH RATES



*Includes People's Republic of China and Japan

World air cargo traffic forecast

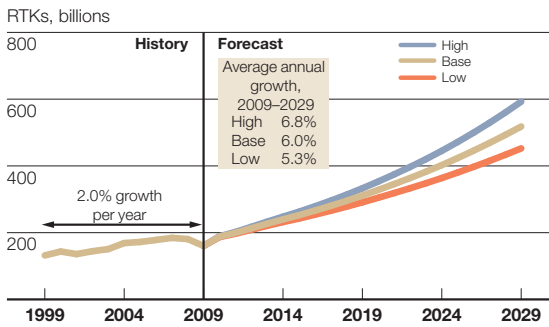
World air cargo is the sum of freight and mail. World air freight traffic is strongly related to GDP and average yield. The world airmail component, however, depends less on yield and therefore correlates most strongly with GDP.

Low, baseline, and high annual growth of 5.3%, 6.0%, and 6.8%, respectively, are forecast for world air freight traffic. High and low scenarios correspond to GDP growth of 0.5% above long-term projections and 0.5% below, respectively. Worldwide air freight is expected to more than triple over the next 20 years, increasing from 160.3 billion RTKs in 2009 to 518.0 billion RTKs by 2029.

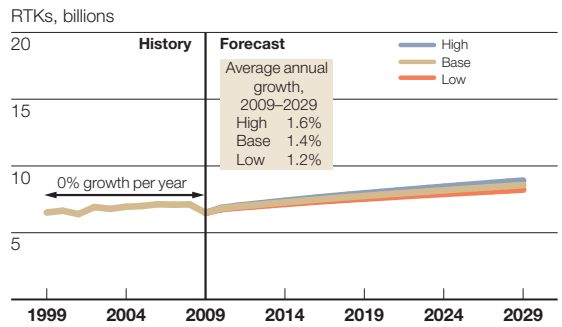
World airmail is forecast to grow at a consistent 1.4% per year. Risks that could affect future airmail growth include inroads by express operators into package mail, increasing reliance on Internet communication, entry of traditional postal services into express air freight operations, and more stringent security requirements.

The world baseline cargo forecast predicts that traffic will more than triple between 2009 and 2029. Worldwide air cargo traffic will grow from 166.8 billion RTKs in 2009 to more than 526.5 billion RTKs by 2029. Sustained economic growth, along with decreasing yields, contributes significantly to the growth of the air cargo industry.

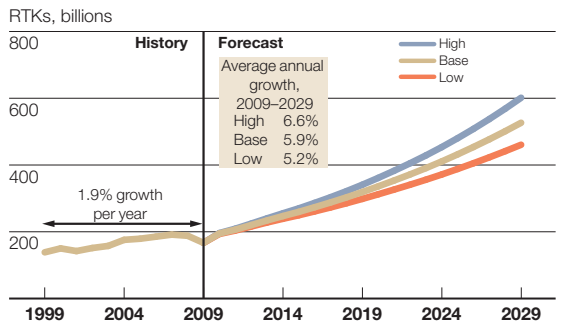
WORLD AIR FREIGHT WILL GROW 6.0% PER YEAR THROUGH 2029



WORLD AIRMAIL WILL GROW 1.4% PER YEAR THROUGH 2029



WORLD AIR CARGO (FREIGHT AND MAIL) WILL GROW 5.9% PER YEAR THROUGH 2029



Regional air cargo markets

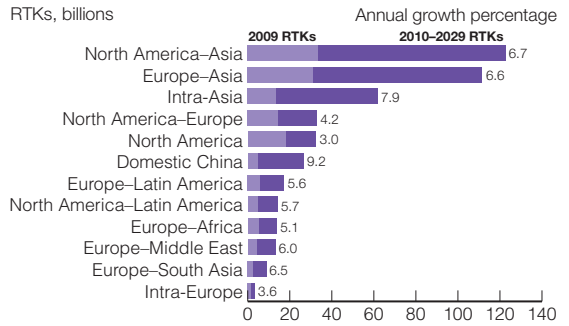
Air cargo markets linked to Asia, especially the Pacific Rim countries, will lead all other international markets in average annual growth between 2009 and 2029.

Intra-Asia will grow faster than any other international world market, averaging 7.9% growth per year. The Asia–North America and Europe–Asia markets will expand at average annual rates of 6.7% and 6.6%, respectively. Domestic China will be the fastest growing contiguous market in the world, averaging 9.2% growth per year for the forecast period.

The mature markets of North America and intra-Europe will grow slowly, with 20-year annual growth rates of 3.0% and 3.6%, respectively. Also projected to lag behind the world average growth rate are the markets of Latin America–North America at 5.7% growth and Europe–North America at 4.2% growth.

The Europe–South Asia market is forecast to exceed the world average at 6.5% annual growth per year. The Europe–Middle East market will grow at an annual average of 6.0%, Latin America–Europe at 5.6%, and Europe–Africa at 5.1%. Market shares will continue to change as a result of varying regional growth rates. Although it will grow 9.2% per year over the next 20 years, domestic China will still possess a relatively small market share, given its current size and the market’s relatively short average trip distance. Overall, the share of world air trade connected to Asia’s markets, including the domestic markets of China and Japan and all international markets, will increase from 52.1% in 2009 to 60.1% in 2029.

ASIA MARKETS WILL CONTINUE TO LEAD INDUSTRY GROWTH



REGIONAL OUTLOOK NORTH AMERICA

For the purposes of this forecast, we define North America as the United States and Canada.

Air cargo traffic declined sharply in 2009

Air cargo moving to, from, and within the United States and Canada accounts for 11.2% of the world's air cargo traffic in terms of tonne-kilometers and 16.3% in terms of tonnage.

North America market

The global economic downturn had a severe effect on the North American cargo market, which declined 9.7% in 2008 and fell a further 12.6% in 2009. US domestic air cargo, which accounts for 95.9% of the North American market, decreased 9.7% in 2008 and decreased a further 12.4% in 2009.

Canada's domestic air cargo traffic has been revised downward from previous editions of this publication for the years 2000–2007, based on a review of the Canadian domestic air cargo data.

Canada's domestic air cargo, which is 2% of the total North American market, declined 10.5% in 2008 and 9.4% in 2009. Transborder traffic northbound from the United States to Canada accounts for 1.4% of the 2007 North American market. Transborder traffic southbound from Canada to the United States accounts for 0.3% of the North American market.

It appears that an economic recovery has begun, resulting in a strong surge in North America's air cargo traffic. In the first seven months of 2010, North America air traffic grew 6.0% compared to the corresponding period of 2009.

US domestic air cargo market

The US domestic market decline totaled more than 20% during 2008 and 2009.

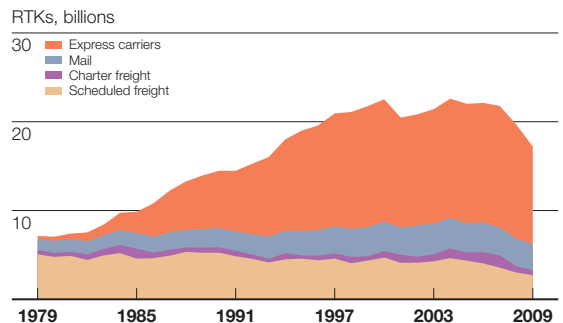
The US domestic market is mature and, in recent years, has been flat or slightly declining. The global economic downturn became evident in 2008 when the domestic air cargo market decreased 9.7%. In 2009, it declined an additional 12.4%. Traffic fell to 19.7 billion revenue tonne-kilometers (RTKs) in 2008 from 21.8 billion RTKs in 2007, and decreased further to 17.2 billion RTKs in 2009. The industry set a record of \$32.9 billion in revenue in 2007. Revenue was down 3% to \$31.9 billion in 2008, before falling to \$25.3 billion in 2009, a drop of 20.5%.

The express carriers' share of the domestic market rose from 62.9% in 2007 to 65.2% in 2008 before declining to 64.1% in 2009. Express carrier traffic decreased 6.4% from 13.7 billion RTKs in 2007 to 12.8 billion RTKs in 2008. Traffic fell further in 2009, declining 13.9% to 11.0 billion RTKs. After continuous increases during the 1980s and 1990s, the express carriers' shipment volume was generally flat from 2001 to 2007, reflecting maturing of the market. The express carrier shipment volume was 6.6 million shipments per day in 2007. There was a sharp decline of 14.3% to 5.7 million in 2008 and a further drop of 5.6% to 5.3 million shipments per day in 2009.

The market share of scheduled freight carriers in the US domestic market declined from 16.3% in 2007 to 15.4% in 2008. There was a slight increase in market share to 15.8% in 2009. While the market share for scheduled freight carriers was stable in 2009, the global economic downturn led to a sharp drop in demand for all air freight services, including scheduled freight. Scheduled freight traffic in the US domestic market decreased 12% in 2007, 15.1% in 2008, and 9.8% in 2009, to end at 2.7 billion RTKs. The 9/11 Commission Act of 2007, which required the screening of 100% of cargo transported on passenger aircraft by August 2010, was implemented with little disruption.

Scheduled mail accounted for 16.9% of the US market in 2009, with 2.9 billion RTKs. Chartered operations accounted for 3.2% of the US market with 0.6 billion RTKs in 2009. Mail traffic decreased by 0.1% in 2008 and 7.5% in 2009. After increasing 10.5% in 2007, charter operations declined 50.7% in 2008 and declined a further 19.1% in 2009.

EXPRESS SERVICE DOMINATES THE US AIR CARGO MARKET



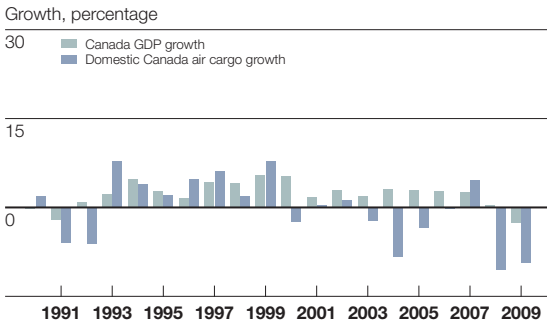
Canada domestic air cargo market

Canada's share of the region's air cargo market has remained steady.

Canada's domestic market accounted for 2.1% of the total North American air cargo market in 2009. Typical of a mature market, Canada's domestic traffic has been generally flat or slightly declining since 2002. The data indicates growth of 4.7% in 2007 and declines of 10.5% and 9.4% in 2008 and 2009, respectively, due to the global economic downturn. In 2009, traffic was 375 million RTKs. The historical relationship between air traffic and GDP has not been reestablished since the shock and aftermath of the 9/11 terrorist attacks.

Canada's economy grew at an annual average of 2.8% from 2004 to 2007. The economy essentially was flat in 2008, with only 0.4% growth before declining 2.6% in 2009.

CANADA GDP AND DOMESTIC CANADA AIR CARGO GROWTH



US-Canada transborder air cargo decreased in 2009

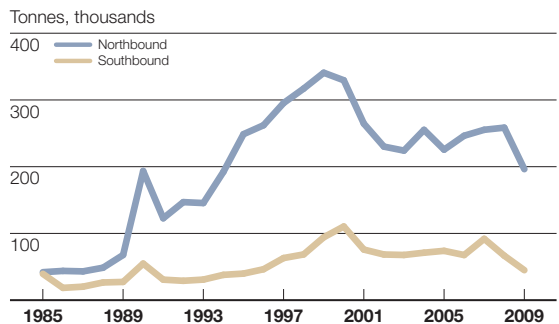
Canada's largest trading partner is the United States. In 2009, air cargo represented 2.4% of Canada's total trade with the United States in terms of value, compared with 3% in 2007.

The transborder air cargo market was 347,000 tonnes in 2007. It declined 6% in 2008 and dropped 26% in 2009. Northbound traffic from the United States to Canada was up 1.3% from 2007 to 2008 and fell 24.1% in 2009. Southbound traffic from Canada to the United States was down 27.6% in 2008 and down another 32.5% in 2009.

Northbound tonnage continued to exceed the southbound tonnage, as it has since the mid-1980s. The Air Transport Agreement between Canada and the United States was further liberalized in late 2006 and may have contributed to the rise in transborder traffic in 2007.

Commodities shipped north from the United States to Canada included small packages, industrial machinery, electrical machinery, and furniture. Commodities shipped south from Canada to the United States included telecommunications equipment, small packages, electrical machinery, and industrial machinery.

TRANSBORDER TONNAGE NORTHBOUND EXCEEDS TONNAGE SOUTHBOUND



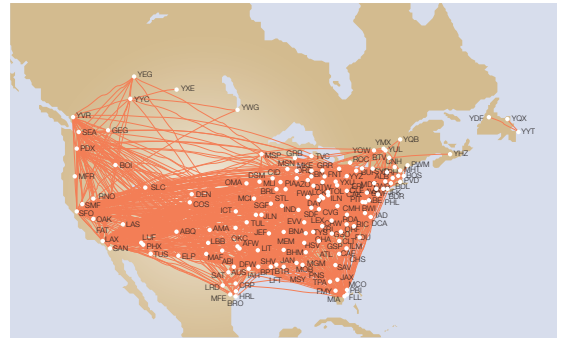
Air cargo carriers increase use of trucks

Reductions in the size of the passenger fleet, a continued shift to standard-body aircraft for domestic routes, and the demise of scheduled domestic air freight airlines have reduced the available North American domestic air cargo capacity.

Continuing the trend of the past few years, combination carriers have increasingly relied on trucks to offset the loss of domestic capacity that has resulted from reduced fleet size and shifting widebody aircraft from domestic to international markets. Truck flights allow combination carriers to offer service comparable to that of pure cargo carriers. Rising fuel costs have magnified the inherent cost advantages of ground transport over air transport. While the number of truck-flight routes did not increase from 2007 to 2009, the frequency of truck flights increased 42% during that period.

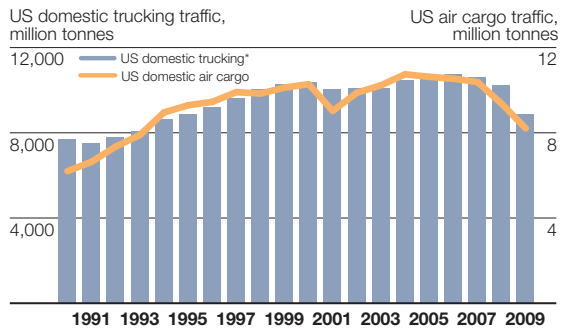
In 2008 and 2009, the global economic downturn dramatically decreased domestic shipping demand. After years of steady growth, the tonnage shipped by truck and air cargo traffic both declined significantly. The relative position in tonnage share has remained about the same.

AIRLINES SUPPLEMENT AVAILABLE CARGO CAPACITY WITH TRUCK FLIGHTS



Lines represent scheduled truck-flight cargo service routes as of May 2010

TRUCKING AND AIR CARGO TRAFFIC GROWTH HAS DECLINED



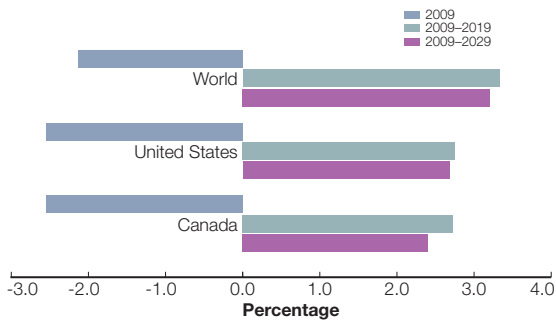
*Figures include for-hire and private carriage
Sources: IATA and American Trucking Associations

North America economy and forecast

The US and Canadian economies each declined 2.6% in 2009, following declines of 0.4% in 2008.

In 2008 and 2009, the world and North American economies suffered the most severe downturn since the Great Depression. During the first half of 2010, it appears that economic recovery has started, and the US and Canadian economies are forecast to grow 2.2% in 2010. A slow recovery is expected, and in the long term, average US GDP growth from 2009 to 2029 is forecast to be 2.3% per year. Canadian GDP growth is forecast to average 2.4% annually from 2009 to 2029.

A RETURN TO HISTORIC GDP GROWTH RATES IS FORECAST

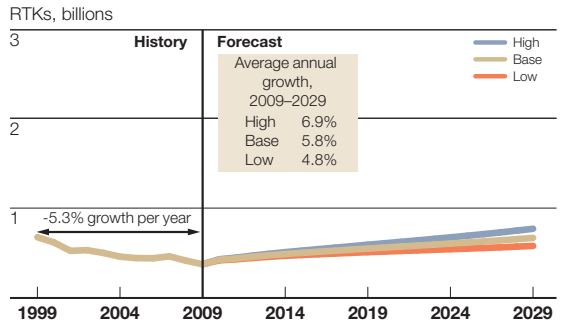


North America air cargo forecast

Air cargo traffic in North America declined 9.7% in 2008 and 12.6% in 2009, reflecting the severity of the global economic downturn. North America's air traffic is projected to sustain an average growth rate of 3.6% over the 10-year forecast period through 2019 and 3.0% over the 20-year period through 2029.

Transborder air cargo traffic growth is expected to exceed the GDP of both countries and is forecast to exceed the growth of either domestic market. Liberalization of the Air Transport Agreement will foster the continued use of relatively uncongested

US-CANADA TRANSBORDER AIR CARGO TRAFFIC WILL GROW 5.8% PER YEAR

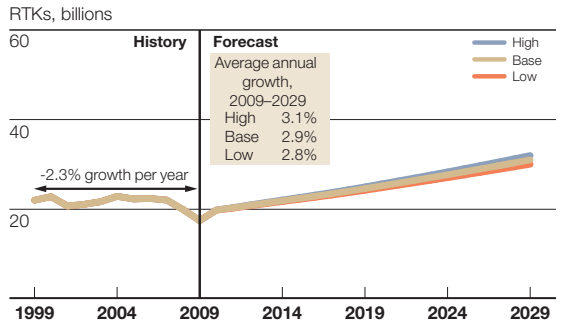


and accessible Canadian airports by US shippers to transport goods to Europe and Asia. Transborder air trade between Canada and the United States is projected to grow 5.8% annually from 2009 to 2029. Annual growth during the 10-year period from 2009 to 2019 is forecast to be 6.6%.

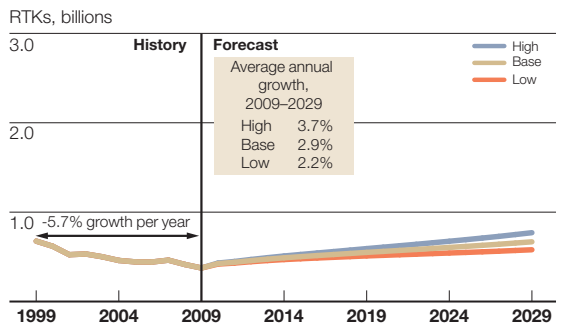
The US domestic market will maintain the dominant share of the total North American market at about 95% of the total RTKs. The US domestic market is forecast to grow at an annual average rate of 3.5% over the 10-year period from 2009 to 2019 and at an annual average rate of 2.9% over the 20-year period from 2009 to 2029.

Canada's domestic market is forecast to grow at an average annual rate of 3.9% from 2009 to 2019 and at an average annual rate of 2.9% from 2009 to 2029, roughly matching Canada's GDP growth. Overall, growth in both domestic air cargo markets could be limited by continued expansion of trucking services in the time-definite sector.

US DOMESTIC MARKET WILL GROW 2.9% PER YEAR



DOMESTIC CANADA AIR CARGO MARKET WILL GROW 2.9% PER YEAR



REGIONAL OUTLOOK

LATIN AMERICA AND NORTH AMERICA

For the purposes of this forecast, we define Latin America as South America; Central America, including Mexico; and the Caribbean Basin. We define North America as the United States and Canada.

Air cargo declined more than 14% in 2009

The Latin America–North America market, which represents 3.0% of the world’s air cargo traffic in terms of tonne-kilometers and 3.3% in pure tonnage, declined by 14.5% in 2009, following a contraction of 2.9% in 2008.

Market projected to rebound

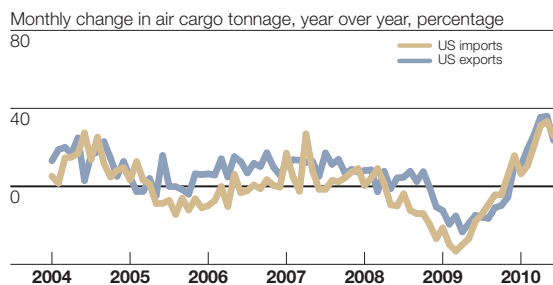
The Latin America–North America air cargo market contracted in 2008 and 2009, following 7.6% growth in 2007. Strong demand for foreign goods in South America drove air imports to grow 4.4% in 2008. However, as a result of the region’s slowing economy in 2009, air cargo imports declined by 12.9%. Air exports declined over two consecutive years, decreasing by 15.7% in 2009 and 7.8% in 2008. High fuel prices during the first half of 2008 caused demand for northbound air cargo to slow, followed by the downturn in the US economy.

Latin America–US air cargo market

The United States is Latin America’s most important trading partner, accounting for 95% of overall North American air trade with the region in 2009. The United States generated 95% of North America’s air exports to Latin America and 94% of the imports. Monthly Latin America–US trade therefore serves as a good approximation of month-to-month activity in the overall air cargo market.

Consistent with recent history, air cargo growth between North America and the three subregions of Latin America remained uneven in 2009. Of the more than 1.1 million tonnes of cargo transported by air in the aggregate market during 2009, South America accounted for 69.5%, Central America for 23.8%, and the Caribbean Basin for the remaining 6.7%.

LATIN AMERICA–US AIR TRADE BEGAN TO RECOVER IN LATE 2009



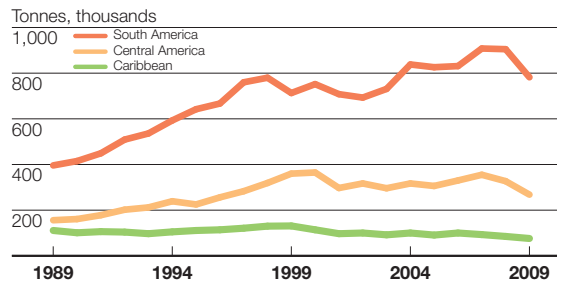
South American air trade with North America declined by 13.6% in 2009, due to the slowing world economy, following a modest decline of 0.4% in 2008, which was mainly due to weaker exports from the region. In 2009, Colombia remained South America's largest air trade partner with North America in terms of tonnage, accounting for 27% of the market, followed by Brazil and Chile, respectively.

Air trade between Central America and North America declined by 17.8% in 2009, following a decrease of 8.1% in 2008. Mexico remained North America's most important Central American air trade partner, accounting for 54.3% of tonnage transported between the two regions. Total air traffic tonnage to Mexico fell 24.4% in 2009, following a decline of 10.5% in 2008.

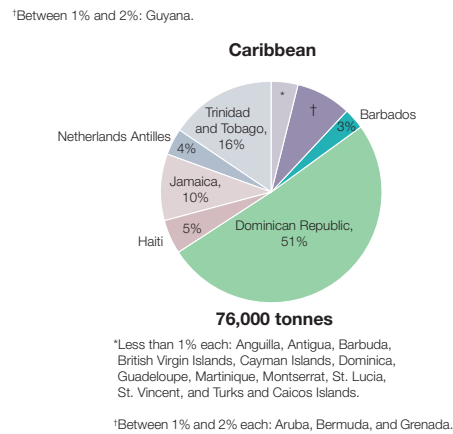
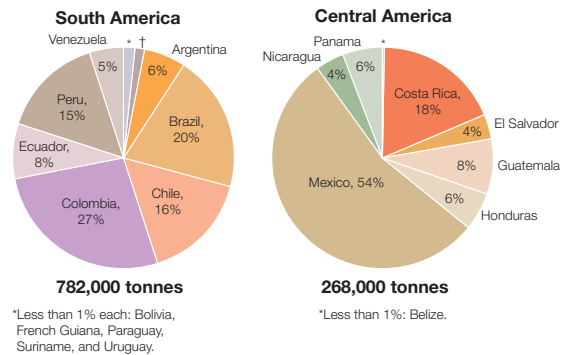
Air trade between North America and the Caribbean Basin contracted by 11.3% in 2009, following a decline of 8.0% in 2008. Of the larger economies in the region, air trade between the Dominican Republic and North America declined 6.8% during 2009, following a decline of 1.6% in 2008.

Despite two consecutive years of decline, the Latin America–North America market has experienced a strong rebound in air cargo volumes during the first half of 2010, fueled by inventory restocking and economic recovery in the two regions.

LATIN AMERICA–NORTH AMERICA AIR CARGO IS UNEVENLY DISTRIBUTED



LATIN AMERICA–NORTH AMERICA TRADE CAN BE CLASSIFIED INTO SUBREGIONS

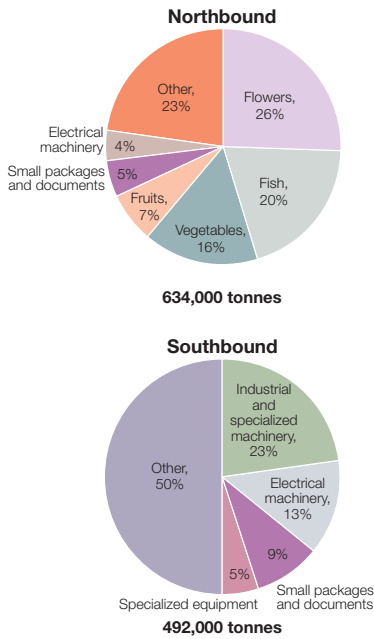


Air trade commodities

Consistent with recent history, in 2009 southbound flows constituted mostly higher value commodities, while northbound flows were made up of primarily perishables and small packages.

A few major commodities continue to dominate air commerce between the major trading partners. Although northbound flows accounted for slightly more than 56% of total traffic between Latin America and North America in 2009, southbound air cargo was made up of higher value commodities. Southbound flows included small packages and documents, industrial machinery and parts, computers, office machines, and specialized equipment. Perishables, electronics, and small packages and documents made up most northbound goods. Flowers were the main northbound commodity, accounting for 26% of the market.

LATIN AMERICA–NORTH AMERICA COMMODITIES



**Latin America–North America
air cargo market forecast**

The Latin America–North America air cargo market, exports and imports combined, is forecast to grow 5.7% per year from 2009 through 2029.

The regional economies of Latin America are expected to continue to grow over the next 20 years. GDPs for both South America and Central America are forecast to grow annually at 4.0% between 2009 and 2029. The economies in the Caribbean Basin are projected to grow 4.3% from 2009 to 2029.

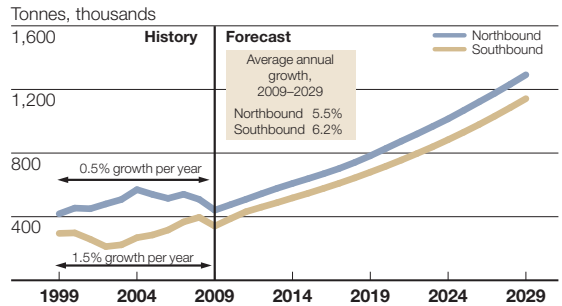
Northbound air trade between Latin America and North America is forecast to grow 5.6% per year over the next 20 years, while southbound air traffic will grow 5.8%.

The South America–North America air cargo market is projected to grow at an average annual rate of 5.8% over the next 20 years. Northbound traffic is forecast to grow 5.5%, and southbound traffic is expected to grow 6.2% through 2029. Such growth depends on the continued strength of the South American economies and a stable political environment.

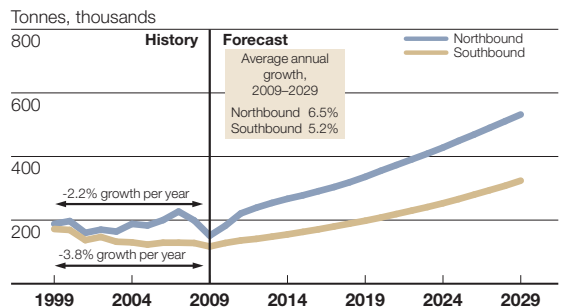
Led by Mexico, the Central America–North America air cargo market is forecast to be the fastest growing market in Latin America, growing at an annual average of 6.0% over the next 20 years. Air trade is projected to grow 6.5% annually northbound and 5.2% southbound.

Air trade between the Caribbean Basin and North America is projected to grow modestly over the next 20 years at a rate of 2.0% per year, as the relatively short transit times and lower costs make ocean shipping a more cost-effective option for many shippers in this market.

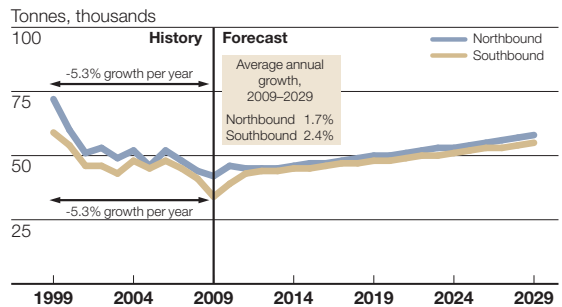
**SOUTH AMERICA–NORTH AMERICA
AIR TRADE WILL GROW 5.8% PER YEAR**



**CENTRAL AMERICA–NORTH AMERICA
AIR TRADE WILL GROW 6.0% PER YEAR**



**CARIBBEAN–NORTH AMERICA AIR TRADE
WILL GROW 2.0% PER YEAR**



REGIONAL OUTLOOK

LATIN AMERICA AND EUROPE

For the purposes of this forecast, we define Latin America as South America, Central America, including Mexico, and the Caribbean Basin. We define Europe as all 27 member countries of the European Union (EU) plus Switzerland, Norway, Iceland, Turkey, Albania, Gibraltar, and all the countries of the former Yugoslavia.

Latin America–Europe market contraction

The Latin America–Europe market, which represents approximately 3.6% of the world’s air cargo traffic in terms of tonne-kilometers and 2.0% in trade tonnage, declined 6.3% in 2009, following growth of 5.2% in 2008.

After growing 8% in 2007, the Latin America–Europe market grew 5.2% in 2008 before a contraction of 6.3% in 2009. Strong growth in air trade with Central America was the primary driver of the increase in 2008. The global economic downturn, however, adversely affected performance of the Latin America–Europe trade lane in 2009, as demand declined for all methods of goods transportation, including air freight. Air cargo imports to Latin America grew 5.3% in 2008, but declined 10.2% in 2009. Latin America’s exports to Europe grew 5.6% in 2007 and 5.2% in 2008, but declined 2.3% in 2009.

The EU remains an important trade partner for Latin America, second only to the United States. The EU is also the region’s leading source of foreign direct investment.

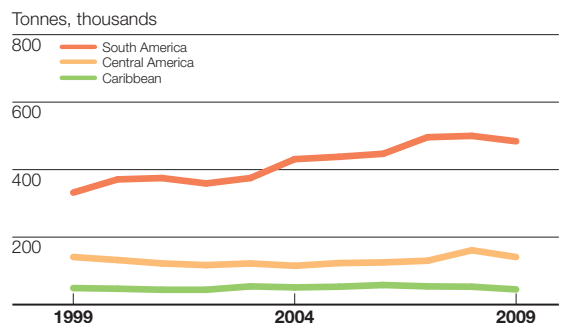
Air trade with Europe is uneven among the subregions in Latin America

Air trade between Europe and the subregions in Latin America is dominated by South America.

Of the more than 669,000 tonnes of cargo transported by air between Latin America and Europe in 2009, South America accounted for 72.3% of the market, followed by Central America with 21.0%, and the Caribbean with the remaining 6.7%.

South America’s air trade with Europe increased 1% in 2008, following a decline of 3.2% in 2009. Brazil, South America’s largest economy, accounted for 43.7% of the total air trade with Europe in 2009. Air imports to Brazil fell 7.2% in 2009, after contracting 4.3% in 2008. Brazil’s exports to Europe grew 1.1% in 2009, recovering moderately from a decline of 6.4% in 2008. Colombia and Ecuador’s air trade with the EU continued to increase through the cargo downturn, emerging as the second and third largest air cargo trade partners with the EU in the South American region. Argentina, which was Europe’s second largest air cargo partner in 2007, fell to fourth position, with a substantial decline of 20.2% in air cargo tonnage.

TRAFFIC BETWEEN LATIN AMERICA AND EUROPE IS UNEVENLY DISTRIBUTED

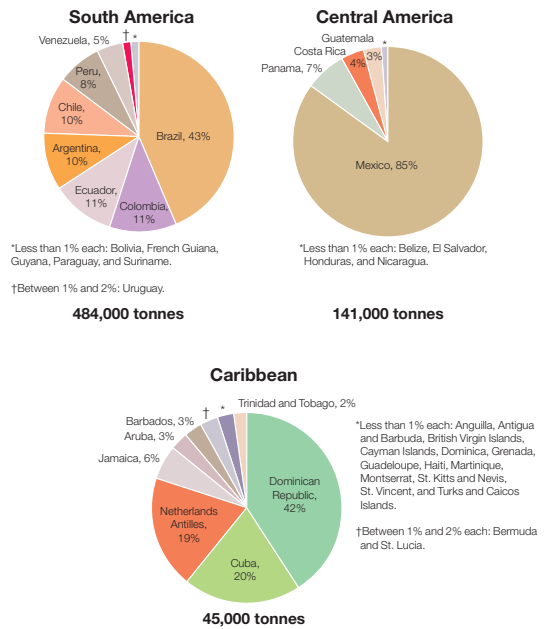


Air cargo between Central America and Europe declined 12.6% in 2009, following a dramatic increase of 24.0% in 2008. Mexico, Europe's most important Central American air trade partner, accounted for 85.9% of the air trade in tonnage between the two regions in 2009. Imports to Mexico declined 20.8% in 2009 after strong growth of 25.5% in 2008. Exports declined 4.3% in 2009, following growth of 20.5% in 2008.

Air trade between the Caribbean and Europe declined sharply in 2009, with a 16.4% reduction in tonnage, following a slight contraction of 0.8% in 2008. The Dominican Republic continued to be Europe's largest air trade partner in the Caribbean, accounting for 41.7% of the region's total trade with Europe in 2009.

Although eastbound flows were higher than westbound flows in 2009, the overall Latin America–Europe market was quite balanced. During 2009, eastbound traffic was more than 343,000 tonnes, with westbound volumes of 326,000 tonnes. In 2007 and 2008, the majority of air cargo flows were westbound, but that trend reversed itself in 2009.

EUROPE–LATIN AMERICA TRADE CAN BE CLASSIFIED INTO THREE SUBREGIONS



Economic outlook for Latin America and Europe

The regional economies of Latin America shrank by 2.4% in 2009 after 3.7% growth in 2008.

Despite the recent decline, the regional economies of Latin America are forecast to grow an average of 4% per year between 2009 and 2029. The South American economy is projected to match the average regional growth rate of 4% over the forecast period. Brazil is expected to remain the region's largest economy, with forecasted growth of 4.3% per year, accounting for 55.6% of South America's total GDP by 2029. Central America's economy is forecast to grow 4% per year during the 20-year forecast period, led by Mexico, Central America's largest economy. The Caribbean is projected to grow an average of 4.2% per year. Cuba is forecast to remain the largest economy in the region in terms of GDP through 2029, with forecasted growth of 6.2% per year over the 20-year period.

Over the next 20 years, the European economy is forecast to grow 1.9% per year.

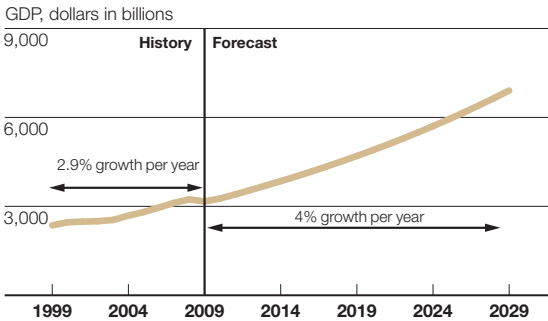
Latin America–Europe air cargo market forecast

Latin America and Europe continue to work toward increased trade liberalization.

Europe and Latin America have maintained strong relations over many decades based on historical, cultural, and economic ties. In an effort to further strengthen cooperation and trade, heads of state from the two regions have held regular summit meetings since 1999. The EU and the Central American countries of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama signed a free trade agreement in May 2010. The agreement still requires ratification by member countries and the European parliament prior to implementation. In May 2010, the EU also relaunched efforts to negotiate a free trade agreement with the Mercosur countries of Argentina, Brazil, Paraguay, and Uruguay. Trade negotiations with other Latin American trading blocs and individual countries are also ongoing. If successful, agreements will provide an additional boost to air cargo demand between the two regions.

After growing at an annual rate of 2.5% during the past 10 years, the Latin America–Europe air cargo market is projected to grow 5.6% per year from 2009 through 2029. Westbound air trade is forecast to grow 5.5% per year on average, and eastbound air trade is forecast to grow slightly faster, at 5.7%.

LATIN AMERICA'S ECONOMY WILL GROW 4% PER YEAR

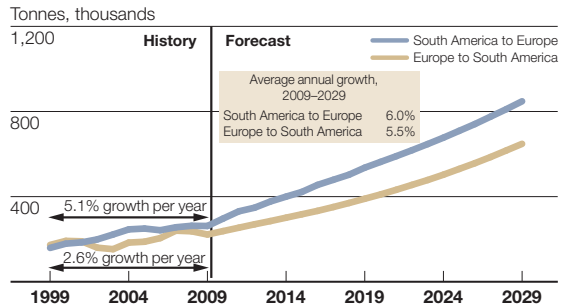


The South America–Europe air cargo market is forecast to grow the fastest among the regional markets. Air trade between South America and Europe is projected to grow on average at 5.8% over the next 20 years. Westbound traffic is forecast to grow 5.5% on average, while eastbound traffic grows 6.0%. This rate assumes steady growth in the European economy and continued political and economic stability in South America.

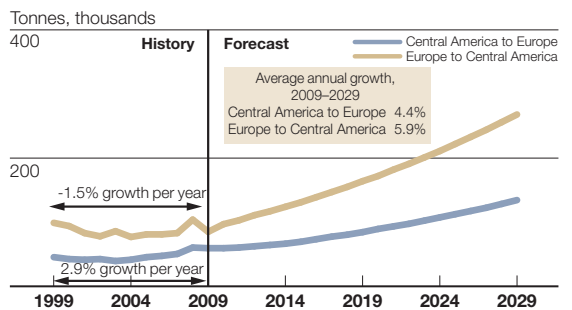
The Central America–Europe market is projected to grow 5.4% on average over the next 20 years. Westbound traffic is forecast to grow at the stronger rate of 5.9%, while eastbound traffic grows 4.4% per year through 2029.

Air trade between Europe and the Caribbean Basin is forecast to grow 4.0% annually over the next 20 years. Traffic growth rates for the Caribbean Basin will depend on continued political reform and integration in the region.

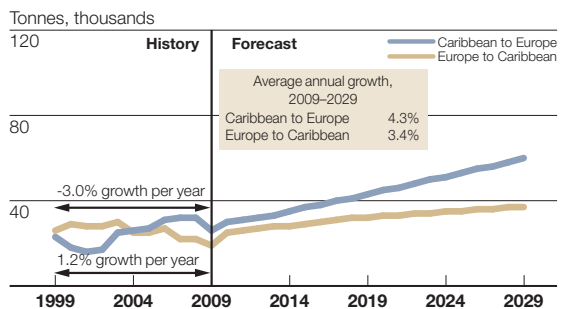
SOUTH AMERICA–EUROPE AIR TRADE WILL GROW 5.8% PER YEAR



CENTRAL AMERICA–EUROPE AIR TRADE WILL GROW 5.4% PER YEAR



CARIBBEAN–EUROPE AIR TRADE WILL GROW 4.0% PER YEAR



REGIONAL OUTLOOK

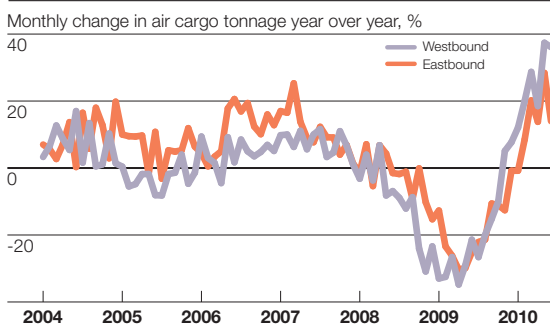
EUROPE AND NORTH AMERICA

For the purposes of this forecast, we define Europe as all 27 member countries of the European Union (EU) plus Switzerland, Norway, Iceland, Turkey, Albania, Gibraltar, and all the countries of the former Yugoslavia. We define North America as Canada and the United States.

Market contracted 26.0% between 2007 and 2009

The Europe–North America market, which accounts for approximately 6.6% of world air cargo tonnage and 8.9% of the world’s tonne-kilometers, contracted for two consecutive years, falling 6.7% in 2008 and 21.0% in 2009.

EUROPE–US AIR TRADE BEGAN TO RECOVER IN LATE 2009



Growth will resume at a slower pace

After growing 6.4% in 2006 and 8.3% in 2007, air trade between Europe and North America began to decline slightly during the second quarter of 2008. The decline accelerated during the remainder of 2008 and continued through 2009.

The United States accounted for 95% of North America’s air exports to Europe and 94% of the region’s air imports from Europe during 2009, so monthly Europe–US air trade closely approximates the overall North Atlantic air cargo market.

Both directions of Europe–US air cargo volumes declined 6.5% in 2008 and then dropped 20.7% in 2009. Westbound flows (Europe to the United States) fell 10.6% in 2008 and 22.1% in 2009. In November 2009, after 18 months of decline, westbound trade turned positive, rebounding nearly 24% during the first five months of 2010, compared to the first five months of 2009.

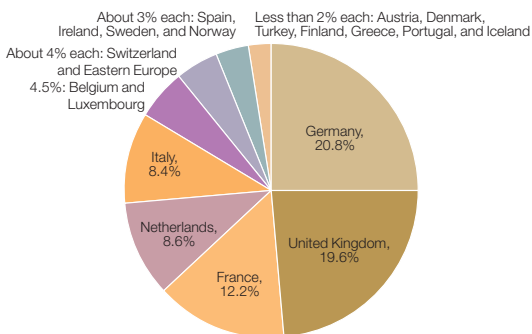
Eastbound flows (United States to Europe) were initially more resilient than the westbound flows, falling only 2.3% in 2008, before plunging an additional 19.5% in 2009. Although eastbound trade did not fall as deeply as westbound trade, its decline was more protracted. Growth did not return to eastbound flows until February 2010, after 21 months of continuous year-over-year decline.

Declines in Canadian air trade with Europe paralleled those of the United States. Europe–North America (United States and Canada combined) air trade declined 6.7% compared to 2007 as fuel prices rose in the first half of 2008 and economic activity dropped during the second half of the year. Economic and industrial activity continued to slow in 2009 and air trade fell another 21% compared to 2008. Altogether, by the end of 2009, North American air trade with Europe dipped 26% below the 2007 tonnage. Westbound flows suffered the most severe effects of the global economic downturn, dropping 10% in 2008 and then 22.5% in 2009. Eastbound trade fell only 3.2% in 2008 and then 19.6% in 2009.

Five European countries—Germany, the United Kingdom, France, Italy, and the Netherlands—have accounted for more than 70% of all European air trade with North America for the past three decades. All five of these countries experienced a decline in air trade with North America during 2008 and 2009. Italy’s decline was deepest at 31.9%, with Germany following closely at 31.0% for the two-year period.

Eastern European countries, which account for only 4% of total North Atlantic air trade, enjoyed strong growth in air trade with North America between 2002 and 2007. But in 2008 and 2009, these countries saw air trade declines similar to those of the larger European economies.

FIVE COUNTRIES ACCOUNT FOR 70% OF EUROPE–NORTH AMERICA AIR TRADE



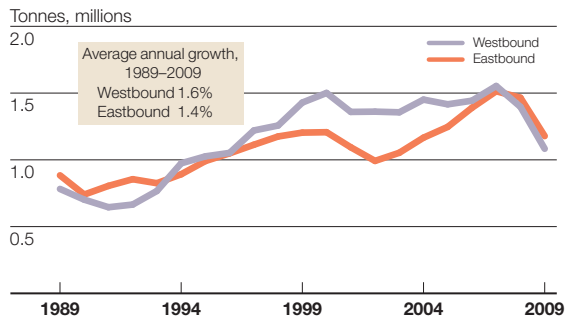
2,260,000 tonnes

Trade momentum shifts toward Asia

Annual North Atlantic air cargo tonnage declined in four of the past 10 years. The 2009 air trade tonnage of 2.26 million tonnes is only slightly above the 1996 total. Westbound air trade volume fell from 1.55 million tonnes in 2007 to 1.08 million tonnes in 2009. Eastbound air trade declined from 1.51 million tonnes to 1.18 million tonnes during the same timeframe.

On average, North Atlantic air trade has contracted 1.5% per year since 1999. Although the duration and depth of the global economic downturn are unprecedented, growth in this regional air cargo market has been slowing since the late 1990s. The slowdown may reflect the shift of investment and trade on both sides of the Atlantic toward Asia.

EUROPE–NORTH AMERICA AIR TRADE FELL 26% FROM 2007 TO 2009



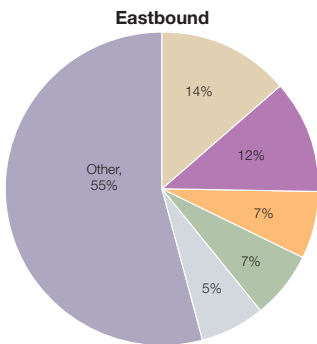
Air trade commodities

Five commodity categories account for approximately half of the air cargo flow between the major trading partners of Europe and North America. Industrial products and miscellaneous manufactured goods, which include work in progress shipped from manufacturing facilities on one continent to assembly facilities on the other, are key components of both eastbound and westbound flows.

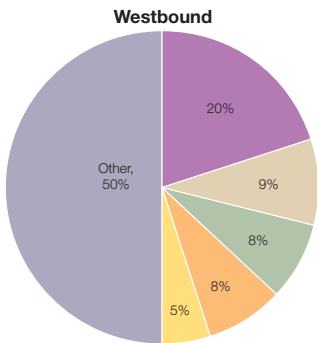
In the eastbound direction, express shipments—primarily document and small-parcel traffic and power-generation equipment—led all other commodity categories. Electrical machinery, scientific equipment, and miscellaneous manufactured articles followed, in that order. Other leading categories that do not figure among the top five eastbound categories include articles of iron and steel, pharmaceutical products, fish, and organic chemicals.

TOP COMMODITIES ACCOUNT FOR ABOUT HALF OF THE DIRECTIONAL FLOWS

- Documents and small packages
- Power-generation machinery
- Electrical machinery
- Scientific and specialized equipment
- Miscellaneous manufactured articles
- Fish and crustaceans



1,178,000 tonnes



1,082,000 tonnes

The top five commodity categories in the westbound direction were power-generation equipment, express packages, scientific equipment, electrical machinery, and fish. Air exports of Norwegian salmon to the United States were a noteworthy exception to the general decline, surging over 2008 totals by more than 20,000 tonnes in 2009. Other leading commodity categories that do not figure among the top five westbound categories include transportation equipment, pharmaceutical products, and miscellaneous manufactured plastic articles.

Air trade forecast

The baseline GDP projections through 2029 for Europe and North America anticipate average annual growth of 1.9% and 2.7%, respectively. GDP growth will continue to be the broadest based indicator of trade growth between Europe and North America. Low- and high-growth scenarios are based on projections of 0.5% below and 0.5% above baseline GDP growth rates.

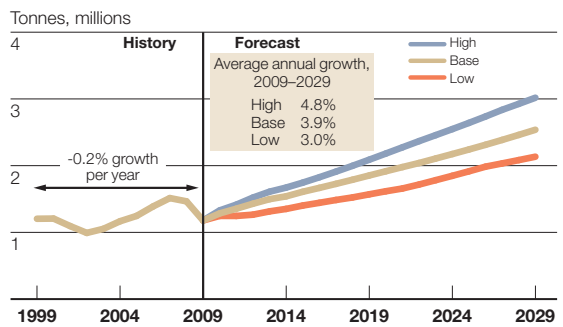
The historical growth rate for the 20 years prior to 2009 was 1.5%. Baseline air cargo growth for the forecast period of 2009 through 2029 averages 3.9% per year eastbound and 4.4% per year westbound, resulting in an overall market growth rate of 4.2%. This high growth rate is due in part to averaging the recovery from the record lows experienced during the past two years over the 20 years of the forecast period. The low-growth models predict average annual growth of 3.0% eastbound and 3.5% westbound. The high-growth scenarios envisage average annual growth of 4.8% eastbound and 5.3% westbound.

The low cargo growth rate projections assume that both continents will continue to focus on foreign direct investment (FDI) and trade with Asia, at the expense of transatlantic business development. The low-growth eastbound scenario assumes restrained capital spending, slow economic and labor market reform, and continued generous social entitlements in southern EU member states. The low-growth westbound scenario assumes poor management of deficits, lower capital investment, and continued weakness of the US dollar.

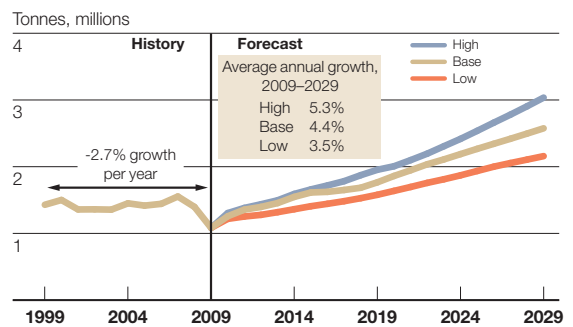
The high-growth eastbound scenario assumes an expanding European Union, substantive economic reform, deregulation in EU cross-border services, and increasingly flexible labor markets. The high-growth westbound trade scenario assumes increased capital spending, a slightly stronger dollar, and increased US fiscal discipline.

A country-by-country forecast was used to capture overall market growth in each direction. The effect of currency exchange rates figures in the forecast for each major country pair. The euro is projected to strengthen approximately 9% with respect to the US dollar during the forecast period. Aggregate continent-to-continent flows were modeled in a convergent top-down approach to validate the country-level forecasts.

NORTH AMERICA TO EUROPE AIR TRADE WILL GROW 3.9% PER YEAR



EUROPE TO NORTH AMERICA AIR TRADE WILL GROW 4.4% PER YEAR



REGIONAL OUTLOOK INTRA-EUROPE

For the purposes of this forecast, we define Europe as all 27 member countries of the European Union (EU) plus Switzerland, Norway, Iceland, Turkey, Albania, Gibraltar, and all the countries of the former Yugoslavia.

Air cargo traffic within Europe reflected the global economic downturn

The intra-Europe air cargo market comprises approximately 3.6% of the world’s air cargo tonnage, but because it is geographically compact, only 1.0% of tonne-kilometers.

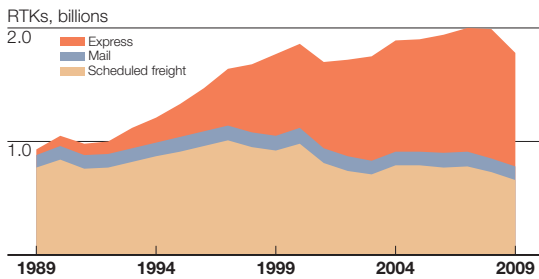
Approximately 72% of all air cargo moving into, within, and out of Europe passes through the northern European countries of Germany, France, the United Kingdom, the Netherlands, Belgium, and Luxembourg. These leading markets are geographically concentrated, so air cargo traffic within Europe is characterized by relatively short hauls, typically between 900 and 1,200 kilometers.

The intra-Europe air cargo market declined 10.1% (in revenue tonne-kilometers) in 2009, after falling 0.8% in 2008, following moderate growth of 3.7% in 2007. The market had grown rapidly between 1990 and 2000, averaging 6% per year, as express carriers built air networks and expanded service offerings. Since the late 1990s, however, relaxation of border controls and harmonization of transport regulations within the EU have allowed truck shipments to erode much air cargo traffic growth.

The three primary components of the intra-Europe market—scheduled freight, mail, and express—are characterized by highly unequal growth rates. The express segment averaged nearly 16% growth per year during the past 20 years. Growth in scheduled freight, on the other hand, declined about 1% on average and mail grew at a modest average rate of 1% per year during the same period.

During 2009, scheduled freight declined 8.7% and mail declined 1%. Measured in tonne-kilometers, both freight and mail have been declining slowly for the past two decades. In terms of tonnage alone, they have been declining since 1989. The decline of the scheduled freight and mail segments reflects an almost complete diversion of market growth to the express segment.

INTRA-EUROPE AIR CARGO MARKET DECLINED 10.1% IN 2009



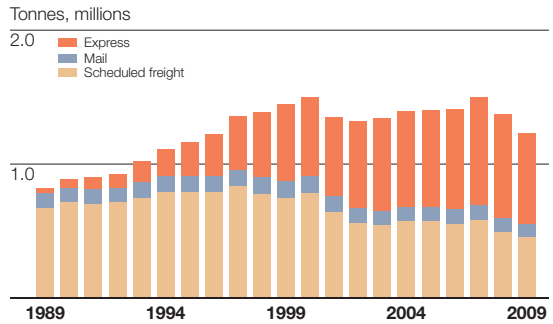
Express traffic declined 12% in 2009, compared to 2008. The entire decade that ended in 2009 saw the express-traffic growth average fall to only 3.4% per year, a marked decline from the previous decade, which averaged 30% annual growth.

Despite this slowdown, integrated express carriers now transport almost 56% of all intra-Europe air cargo. It should be emphasized, however, that the tonnage carried on express networks is not limited to the small-parcel and document traffic traditionally associated with express content. Rather, intra-Europe express traffic includes significant general freight, augmenting express freighter airplane loads in traffic lanes where other demand is light.

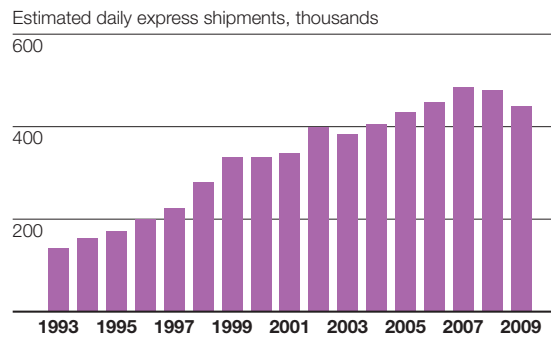
Nearly all air cargo growth in the past 20 years has resulted from the expansion of integrated air express carrier services. The Schengen Accord of June 1990, which removed customs inspection on goods moving between several countries in northern Europe (and later within most of the EU), facilitated intra-Europe truck transport and reduced the need for expedited scheduled air freight service. Consequently, trucking has become the preferred mode of transport for most freight and mail, even for small-parcel express shipments in short-range markets. As a result, overall intra-Europe traffic averaged a 1% decline over the five years from 2004 to 2009, a rate only slightly below the 0.1% average growth during the 10-year period from 1999 to 2009.

Air express tonnage and the estimated number of daily international express shipments have grown over the past decade, although the rate of express-traffic growth has slowed during the past five years. Intra-Europe express shipments have grown about 2.9% per year, from 333,300 shipments per day in 1999 to about 445,000 shipments per day in 2009. The prospects for continued growth in express shipments are bright; new and prospective member countries in the EU will bolster demand for such services.

EXPRESS OPERATORS CARRY OVER HALF THE AIR CARGO WITHIN EUROPE



INTRA-EUROPE EXPRESS SHIPMENT COUNTS DECLINED IN 2008 AND 2009



Trucks complement scheduled aircraft freight services

Air cargo has never been solely an airport-to-airport service. Rather, air cargo is a single component of a transportation infrastructure that links the shipper and the consignee. Trucking offers door-to-door and factory-to-distribution center dockside service, a feature that air transport alone cannot provide.

Scheduled airlines that serve the intra-Europe market have long used truck flights; that is, trucking services registered with their own flight number, to extend their networks and add scheduling flexibility.

Long-haul truck-flight operations in Europe supplement overall air logistics systems. Their dramatic rise over the past five years has clearly contributed to a decline in growth of scheduled freight carried by air. Between 2005 and 2010, weekly truck-flight frequencies offered by scheduled airlines grew from 8,263 to 19,752 per week, representing an average annual growth rate of 19%.

These truck-flight operations provide regularly scheduled freight service for high-value or work-in-progress goods between manufacturing facilities, especially to and from central and eastern Europe. Scheduled truck operations are often used where demand is too low or infrequent to warrant dedicated freighter aircraft service.

TRUCK FLIGHTS AUGMENT SCHEDULED AIRLINE CAPACITY

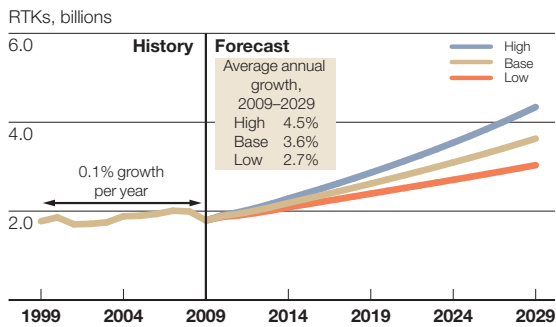


Lines represent scheduled truck-flight cargo service routes as of May 2010

Intra-Europe air cargo forecast

Led predominantly by express carriage and longer scheduled freight sectors to eastern and southern Europe, the intra-Europe air cargo market is forecast to expand at an average annual rate of 3.6% per year through 2029. The 20-year forecast growth in air cargo traffic is in contrast to the 1% decline during the five years leading to 2009 and slightly better than the 3.4% growth trend recorded during the previous 20-year period from 1989 to 2009.

INTRA-EUROPE AIR CARGO TRAFFIC WILL GROW 3.6% PER YEAR



Economic activity, as measured by GDP, and industrial activity will remain the primary drivers for traffic growth in this market. For the long term, the baseline GDP for Europe will average 1.9% growth per year through 2029. GDP projections of 0.5% below and above the baseline were assessed, and the results of these growth rates are reflected in the low- and high-growth scenarios. Intra-Europe air cargo growth is forecast to range between 2.7% and 4.5%.

Inflexible labor markets, an aging population, expensive pension systems, and slow economic reforms will limit long-term economic growth, especially in the countries of northern Europe. In the near term, tight fiscal and monetary policies will continue to curb economic growth and entrepreneurial activity, thereby slowing air cargo growth.

On a positive note, the more distant eastern and southern markets, where longer trucking times may be unacceptable for some shippers, offer air cargo traffic growth prospects for the next two decades. Furthermore, projected EU expansion should bolster intra-Europe air cargo growth during the forecast period.

REGIONAL OUTLOOK

MIDDLE EAST

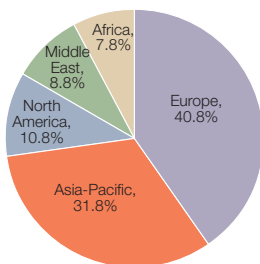
For the purposes of this forecast, we define the Middle East as Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates, and Yemen.

Air cargo traffic declined from its 2008 peak

Air cargo moving into, within, and out of the Middle East is estimated to have accounted for 7.7% of the world's tonnage and for 6.9% of the world's revenue tonne-kilometers during 2009.

Conflict and political instability in the Middle East have moderated somewhat recently, although they remain a threat to continued economic development. This situation, plus the unprecedented rise in oil prices in recent years, has provided an enormous economic boost to the region. The GDP of the Middle East region grew at an annual rate of 4.7% between 1999 and 2009. The projected annual growth rate for the next 20 years is 4.0%. The largest economies in the region—Iran, Israel, Saudi Arabia, and the United Arab Emirates—commanded 70% of the region's GDP in 2009. Not only have the oil exporters of the region benefited from the oil boom, but nearly all the other countries have as well.

EUROPE IS THE LARGEST MIDDLE EAST AIR TRADE PARTNER



2,637,000 tonnes

The Middle East has historically served as a crossroad for Africa, Asia, and Europe. This role has continued, with Dubai as one of the largest re-export hubs in the world. Dubai handles approximately 70% of the air cargo traffic for the Middle East. Many goods flowing between Africa and Asia and between Europe and Asia pass through the Middle East. Currently, Europe is the Middle East's largest trading partner.

The Middle East is starting to diversify beyond the oil industry to industrial and business development. An example is Dubai, where a long-term effort has produced an economy strong in logistics, tourism, banking, and construction. This expansion will lead to growing air cargo flows.

There also has been movement toward economic liberalization and cooperation between countries. These changes should improve the region's investment climate and economic competitiveness. New highways and trade agreements will facilitate increased intraregional cargo flows. Middle East nations should benefit from combining their strength as trading hubs and from the growth of their own markets.

Middle East–Europe traffic

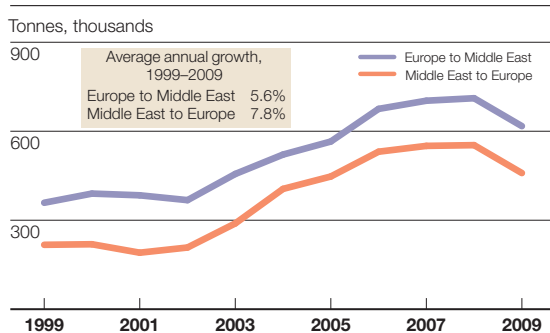
Air cargo growth between the Middle East and Europe has been strong since 1999, with the 7.8% annual growth of the smaller westbound market outpacing that of the eastbound market at 5.6%.

Trade with Europe accounted for 1,076,000 tonnes of air cargo in 2009 and represented 41% of the Middle East’s international air cargo market. The primary products shipped to Europe are garments and perishables. Leading eastbound commodities include telecommunication equipment, machinery, and finished goods. Air cargo growth in this market since 1999 has been strong, with the 7.8% growth of the smaller westbound market outpacing that of the eastbound market at 5.6%. However, total 2009 air cargo was down in this market 14.9% from its 2008 peak, as a result of the global economic downturn. Bidirectional air cargo growth in these markets has averaged an impressive 6.5% annually between 1999 and 2009.

The large volume of air cargo that flows through the Middle East, rather than originating or terminating there, reflects the region’s importance as a cargo hub. The region also has a significant sea-air market, in which goods from South Asia arrive in the Middle East on ships and continue to Europe by air. Disaggregating this component from the total air freight moved through the region is not possible with the information systems in place today.

New infrastructure will reinforce the region’s role as a hub. Dubai’s new Al Maktoum International Airport is planned to be the world’s largest cargo hub and received its first cargo flight in the summer of 2010. The airport will be home to an integrated operation, combining different transportation modes, logistics, manufacturing, and assembly in a single free-trade zone.

MIDDLE EAST–EUROPE AIR TRADE GREW 6.5% PER YEAR



Middle East–Asia traffic

In 2009, air cargo between the Middle East and Asia represented 32% of the total Middle East traffic at 839,000 tonnes.

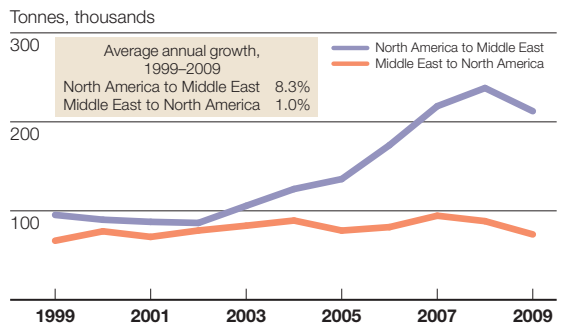
The most significant products exported to Asia are personal effects, machinery, chemicals, flowers, and perishable foods. Imports from Asia include apparel, luxury goods, electronics, finished goods, and perishables. In 2009, 839,000 tonnes of air cargo was shipped between Asia-Pacific and the Middle East. Liberalizing markets, economic growth, increasing numbers of direct flights, and lower costs will contribute to further expansion in this market, possibly diverting high-value shipments from surface transportation.

Middle East–North America traffic

In 2009, North America accounted for approximately 10% of the air cargo market in the Middle East at 285,500 tonnes.

Air cargo shipments arriving from North America consisted predominantly of fruits and vegetables, machinery, small packages, metals, and scientific equipment. Shipments to North America consisted mainly of manufactured goods, telecommunication equipment, apparel, medical supplies, and scientific equipment. Growth in the North America-to-Middle East market has been robust, with an annual growth rate of 8.3%, but this flow is still small compared to others in the Middle East region. Air cargo from the Middle East to North America has essentially remained flat for the past decade, averaging only 1% annual growth. Total Middle East–North America air cargo is down 12.5% from its 2008 peak. The main Middle East countries involved in air trade with North America are Israel, the United Arab Emirates, Saudi Arabia, and Kuwait.

MIDDLE EAST–NORTH AMERICA AIR TRADE GREW 5.8% PER YEAR



Middle East forecast

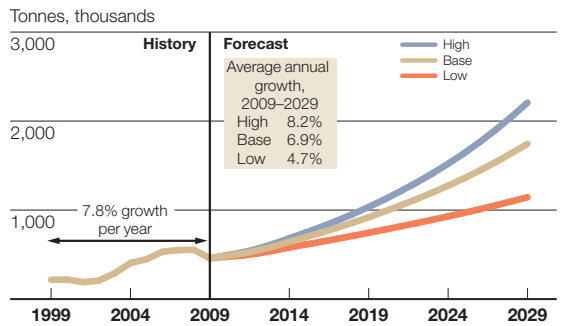
Overall air cargo between the Middle East and Europe is forecast to grow at an average annual rate of 6.0% from 2009 to 2029.

Europe, as the Middle East's largest air cargo partner, is crucial to understanding the future development of the Middle East market. The average annual growth in air exports from the Middle East to Europe has been 7.8% for 1999 to 2009. Air cargo traffic between the Middle East and Europe is at some risk from direct flights between production centers in Asia and Europe. Nevertheless, increasing local exports, coupled with the continued market in Europe for goods from Asia and Africa transhipped through the Middle East, should maintain healthy growth in this market.

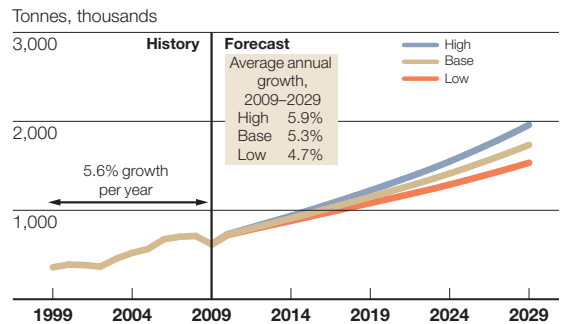
Traffic from Europe to the Middle East grew at an annual rate of 5.6% between 1999 and 2009. The annual rate for the next 20 years is expected to be 5.3%. The price of oil will have a significant effect on Middle East demand for products from Europe, as will the ability of the region's economies to diversify and become more competitive. In particular, the competitiveness of local products, including perishables, fish, and textiles, together with the products of emerging light industries, will affect long-term growth prospects.

Economic activity from 1999 to 2009 was augmented by the US military presence in the region. It is therefore reasonable for growth to slow as this changes. The forecasts assume that existing conflicts will not widen. Any material change for the worse in the region's political situation will significantly affect economic growth and air cargo traffic volumes.

MIDDLE EAST TO EUROPE AIR TRADE WILL GROW 6.9% PER YEAR



EUROPE TO MIDDLE EAST AIR TRADE WILL GROW 5.3% PER YEAR



REGIONAL OUTLOOK

AFRICA

For the purposes of this forecast, we define Africa as the entire continent of Africa plus the nations of Cape Verde, Madagascar, Reunion, the Seychelles, Mayotte, Mauritius, the Comoros Islands, and São Tomé and Príncipe. Data from ACI, IATA, ICAO, governments and airport authorities, the United Nations, and the US Department of Commerce was used to model air cargo flows associated with Africa.

Economic fundamentals are encouraging

GDP growth from 2004 to 2009 for Africa averaged 4.9% annually, despite the recent global economic downturn. Political stability, recovering commodity prices, and trade with Asia will continue to be vital to the region.

Economic growth rates in Africa continue to match or exceed those in other developing regions. Air cargo tonnage into, within, and out of Africa will rebound in response to the region's economic growth.

Between 2004 and 2009, the only country with double-digit growth was the oil-based economy of Angola, with 14.9% annual GDP growth. The only other oil-based economy included in Africa's top-five fastest growing economies is Sudan, with 7.7% annual GDP growth. The effects of commodity pricing will continue to influence both exports and import growth throughout the continent's oil-based economies. The remaining nations of Ethiopia, Uganda, and Mozambique depend primarily on agriculture, rather than extractive industries. Unlike crude oil and iron ore, agricultural products lend themselves to transport by air.

Welcoming political environments that allow outside investment continues to be key for the region. China's influence continues to correlate well with air cargo flows, especially related to industries in which Chinese companies have invested. China's continued investments in the region should certainly help economically, such as Chinese investment into Nigeria's Lekki Free Trade Zone, if successfully implemented.

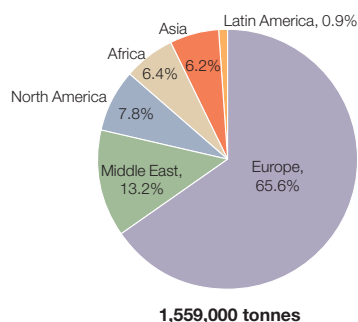
Air cargo traffic contracted 10.4% in 2009

The Africa–Europe market accounts for approximately 3.0% of the world's air cargo tonnage and 3.2% of the world's tonne-kilometers.

Although the region experienced negative growth in 2009, early results in 2010 with air trade to Europe, the region's major trade partner, suggest that recovery is already in place. Risk factors that could hamper growth include the global economy and a reduction of foreign direct investment, which has been vital to the region.

Governmental policies to promote air cargo growth in Africa can play a role in this recovery. New bilaterals and further implementation of the Yamoussoukro Declaration will encourage operators to develop new air cargo lanes. Targeted investments that encourage exports can contribute to the success of air cargo for the region. Investments in programs that improve the local population's overall skills and physical infrastructure can boost air cargo by decreasing the time perishables spend on the road getting to airports.

EUROPE REMAINS AFRICA'S PRIMARY AIR TRADE PARTNER



Europe continues to dominate African air cargo traffic. Perishables dominate African exports to Europe.

The balance between African imports and exports, which in recent years tilted toward exports, shifted to imports in 2008. This assessment reflects market and economic changes and improved data sources. Overall, trade has grown at an annual rate of 3.3% since 1999.

Africa–Europe traffic

Europe represents 66% of Africa’s market for international air cargo.

Principal northbound commodities are perishables and textiles. Southbound commodities are far more varied and include pharmaceuticals, machinery and transport equipment, oil-related supplies, and manufactured goods.

The uneven nature of development in Africa creates imbalances in air cargo for individual countries. For example, Nigeria and Angola lean heavily toward imports, whereas in Ethiopia exports dominate. The unequal directionality of air cargo flow can complicate the ability of operators to develop profitable roundtrip Africa–Europe routings for freighters.

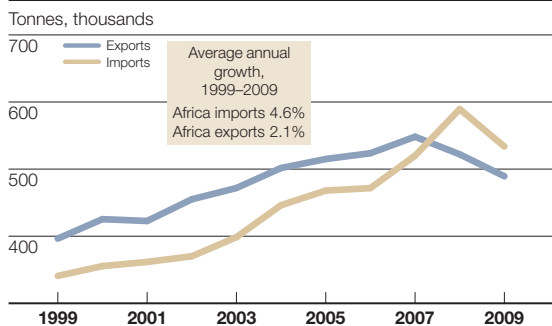
Sub-Saharan Africa dominates the Africa–Europe air trade lane, accounting for approximately 80% of northbound goods and 70% of southbound goods. For the North African nations of Morocco, Algeria, Tunisia, Libya, and Egypt, air trade often competes with slower but price-competitive surface transport modes. For example, trucking is a viable option for Morocco because the ferry crossing is relatively short. Egypt leads with an overall balanced (export-import) share of about 55% of North Africa’s air trade with Europe.

Africa–North America traffic

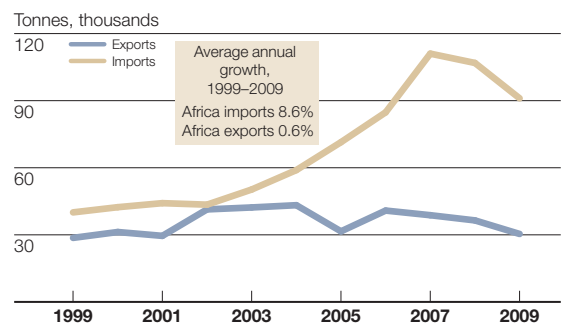
North America’s air trade is dominated by imports, which have grown 8.6% annually since 1999.

Air trade with North America represents 8% of Africa’s market for international air cargo. African exports have been stagnant in recent years, largely due to a reduction of US demand for miscellaneous manufactured articles (which accounted for 40% of the total tonnage drop since 2007), leading to a trade imbalance in this region. African imports represent 75% of this regional flow, dominated by machinery and oil-related equipment.

AFRICA–EUROPE AIR TRADE HAS GROWN 3.3% PER YEAR



AFRICA–NORTH AMERICA AIR TRADE HAS GROWN 5.9% PER YEAR



Africa-Asia traffic

Africa-Asia cargo is still driven by continued Asian investment and African consumer demand.

The developing Africa-Asia air cargo market has slowed in recent years, especially when compared to the tremendous triple-digit growth experienced in the earlier part of this decade. Growth rates have slowed substantially, with a bidirectional growth rate of 2.8% annually since 2004. Capital investments in African extractive industries (e.g., oil from Sudan and copper from Zambia) and growing African economies that demand more goods—especially from China—will continue to drive these markets. Air cargo flows are significantly imbalanced, with more than 7.5 times as much air cargo entering as leaving Africa.

Machinery, transportation equipment, and food and live animals account for nearly two-thirds of African exports. Africa’s most significant air imports from Asia are machinery, transportation equipment, and manufactured goods, accounting for 86% of imports.

Two prominent factors continue to complicate estimating the size of this market. First, trade lanes that include both sea and air, principally over Dubai, offer the possibility of lower cost transportation between Africa and Asia. As a result, a great deal of Asian cargo arrives in Africa as air cargo from the Middle East. Second, much air cargo from Asia arrives as the excess baggage of small traders who import goods for sale in Africa.

Africa-Middle East and Intra-Africa traffic

Traditional air trade patterns are supplemented by sea-air trade and by goods flowing from South Africa by air.

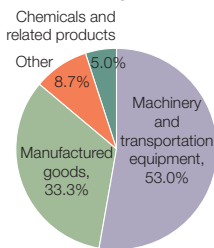
The Middle East market accounts for 13.2% of African air cargo. The most important characteristic of this trade lane is its role as a distribution hub for goods traveling to and from Africa. Traveling to the Middle East are goods such as meat products, fruits and vegetables, and flowers. Products related to the oil industry dominate westbound traffic to Africa, supplemented by pharmaceuticals and machinery.

Intra-Africa air cargo represents 6.4% of African air cargo. International air cargo flows are dominated by the diverse economy of South Africa, which functions as a manufacturing and trading hub for the continent. South African investment in other African economies also spurs air cargo growth. Ground infrastructure limitations will continue to drive a need for air cargo within Africa.

Domestic African air cargo is not included in this analysis, but is estimated to be 12.4% the size of the African international air cargo market. Domestic air cargo in Africa is strongest in some of the largest economies: Congo-Brazzaville, Democratic Republic of the Congo, Nigeria, South Africa, Angola, and Sudan. Air cargo often offers the most secure and reliable transit in these markets.

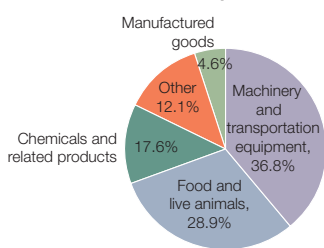
AFRICA AIR IMPORTS AND EXPORTS TO ASIA

African air imports from Asia



85,000 tonnes

African air exports to Asia



11,000 tonnes

Africa forecast

Overall, air trade between Africa and Europe will grow 5.1% per year, while air trade between Africa and North America will grow 6.9% per year.

The forecast for Africa–Europe air cargo reflects an expectation of economic recovery. GDP growth for the importing region drives the air cargo market. The Africa-to-Europe market is expected to grow 4.4%, with upper and lower bounds of 5.8% and 3.1%, based on GDP forecasts of 0.5% above and below the baseline. The forecast assumes continued growth in European demand for the products of African agriculture.

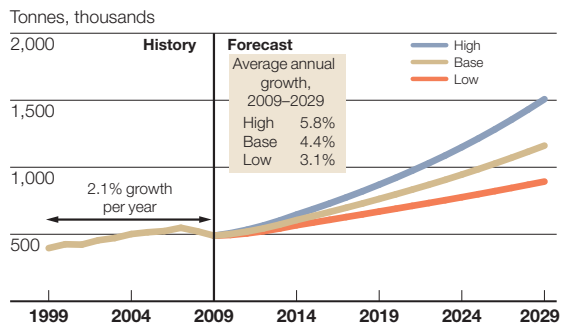
A higher level of growth is again forecast for the Europe-to-Africa market, reflecting the higher economic growth rates expected for Africa. At 5.7%, the base forecast reflects both African consumer buying power for goods that arrive by air and increased investment in industries that depend on air cargo for time-critical shipments. As the manufacturing base in Africa continues to develop, this should help increase the diversity of inbound air cargo and reduce its vulnerability to swings in commodity prices.

The air cargo market to and from North America will grow, aided by higher-than-world-average African economic growth and improved air connections that bypass Europe. Continued progress in trade liberalization will also help African economies, allowing products such as tuna from Senegal and Kenyan flowers to reach North American consumers more easily.

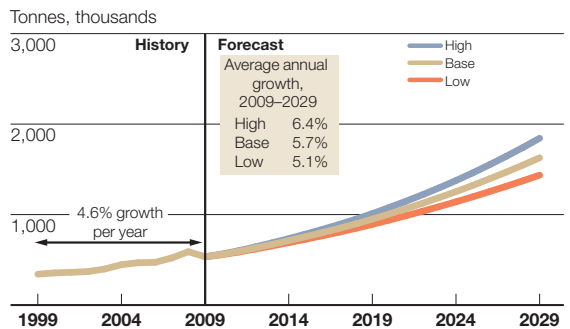
North America-to-Africa flows are also expected to grow 7.4% over this period, with upper and lower bounds of 8.3% and 6.6%, respectively. Although trade has contracted the last two years, data from the first half of 2010 suggests that this trade lane is recovering favorably. This flow is expected to triple in size during the forecast period.

With a substantially smaller tonnage base, Africa-to-North America flow is expected to grow 4.7% annually during the next 20 years, with upper and lower bounds of 5.6% and 3.8%, respectively. The market dropped sharply in 2005 when the WTO Agreement on Textiles and Clothing expired, mostly due to less US demand for African miscellaneous manufactured items, which in 2009 experienced a five-year low. This forecast expects recovery to begin this year, followed by growth in this trade lane.

AFRICA TO EUROPE AIR TRADE WILL GROW 4.4% PER YEAR



EUROPE TO AFRICA AIR TRADE WILL GROW 5.7% PER YEAR



REGIONAL OUTLOOK

ASIA AND NORTH AMERICA

For the purposes of this forecast, we define Asia as Japan, China, Hong Kong, Taiwan, Macau, Singapore, Thailand, Malaysia, the Philippines, Indonesia, Cambodia, Vietnam, South Korea, Australia, and New Zealand. We define North America as Canada and the United States.

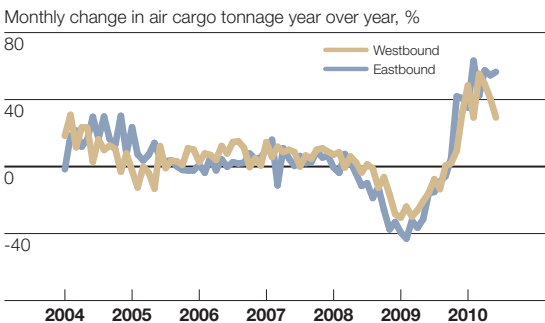
The Asia–North America market contracted nearly 13% in 2009

The Asia–North America market represents 20.9% of the world’s air cargo in terms of tonne-kilometers and 8.2% in terms of tonnage.

The Asia–North America market contracted 12.9% in 2009, compared to a 9.6% decline in 2008. Westbound air freight fell 11.4% in 2009, following a decline of 4.5% in 2008. Eastbound air cargo traffic, which accounts for 58% of the North America to Asia market, declined 14.0% in 2009, following a 12.9% decline in 2008. The overall decline in the Asia–North America market is a product of economic contraction and the decline in world industrial production in 2008 and 2009.

Asia–US air cargo traffic increased 47.1% during the first six months of 2010. Because the United States accounts for 95.3% of overall Asia–North America air trade, both to and from North America, US monthly market activity can be taken to approximate recent changes in the overall transpacific market.

ASIA–US AIR TRADE GREW 47.1% FOR JAN–JUNE 2010 COMPARED TO JAN–JUNE 2009

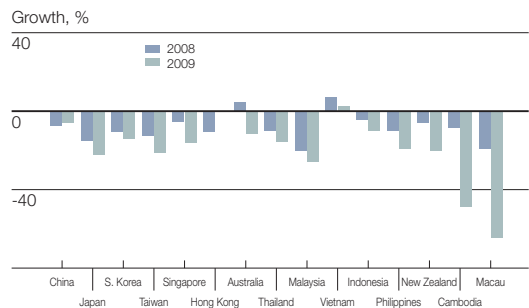


In the Asia to North America air freight market, westbound cargo totaled 1.2 million tonnes; eastbound cargo was more than 1.6 million tonnes.

China now accounts for the largest share of the Asia–North America air cargo market, growing at an average annual rate of 15% since 1989. China’s market share rose from 5.4% in 1989 to 16.2% in 1999, reaching 40.0% by 2009. Japan, the second largest air cargo market in Asia, has a 17.2% market share. As China’s market share rose, Japan’s declined, dropping from 38.2% in 1989, to 29.4% in 1999, and to 17.2% in 2009.

Investment in transportation infrastructure has increased Asia’s ability to accommodate air cargo growth, allowing the region to take advantage of trends toward global commerce and of the manufacturing capabilities of Southeast Asia, China, South Korea, and Japan.

ASIA–NORTH AMERICA AIR FREIGHT MARKET CONTRACTED 12.9% IN 2009

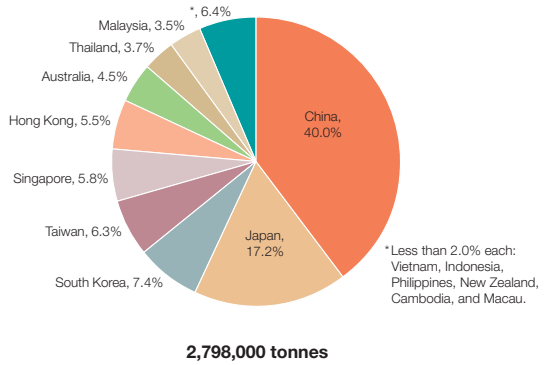


Total transpacific air tonnage is influenced by a combination of factors, including economic activity in North America and Asia, international trade patterns, and commodity mix. The directionality of the flow, on the other hand, is determined by economic growth and purchasing power in the importing region.

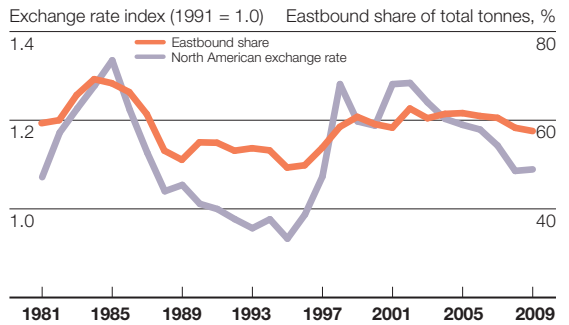
Imbalances in air trade continue to produce extreme disparities in the directional load factor. Exchange rates affect the price of imported goods in local currencies, which influences the directionality of cargo flows. A strengthening US dollar increases traffic eastbound from Asia to North America. Conversely, a weakening dollar increases westbound flows from North America to Asia. Long-term exchange rate forecasts anticipate a weakening of the US dollar relative to Asian currencies, which will help ease to some extent the imbalance that currently favors eastbound flows.

Illustrating the influence of exchange rate on flow directionality, eastbound traffic share dropped from 68.3% in 1985 to 49.3% in 1995, when the US dollar dropped approximately 30% compared to Pacific Rim currencies. Conversely, eastbound traffic share rose from 49.3% to 57.6% when the US dollar gained more than 16% against Asia's currencies from 1995 to 2009.

CHINA ACCOUNTS FOR 40% OF THE TRANSPACIFIC AIR CARGO MARKET



EXCHANGE RATE AFFECTS TRANSPACIFIC TRADE FLOW DIRECTIONALITY



Asia–North America air trade commodities

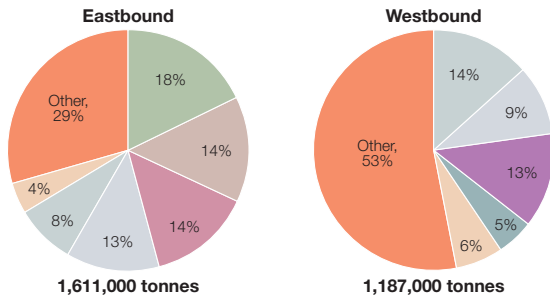
Six commodity categories account for 71% of eastbound air cargo traffic: office machines and computers, apparel, telecommunication equipment, electrical equipment, general industrial equipment, and specialized and scientific equipment.

Westbound, five categories account for 47% of the traffic: general industrial equipment, documents and small packages, electrical machinery, scientific and specialized equipment, and chemical materials.

From 2007 to 2009, Asia’s export segment contracted 27%; likewise, nearly all commodity groups saw dramatic contractions. Office machines was the smallest among major commodity categories, actually increasing volume in 2009 by 2.2%, after a decline of 5.6% in 2008. Telecommunication equipment, which boasted growth of 46.7% from 2006 to 2007, declined 17.3% in 2008, with another loss of 26.8% in 2009. Asia’s exports of apparel saw tonnage contract 23.6% in 2008 and another 14.1% in 2009.

CONSUMER GOODS DRIVE EASTBOUND TRANSPACIFIC FLOW; MANUFACTURING MATERIALS DRIVE WESTBOUND FLOW

- Apparel
- Documents and small packages
- Chemical materials
- Electrical machinery
- General industrial equipment
- Office machines and computers
- Scientific and specialized equipment
- Telecommunications equipment



North America’s document and small package exports declined 3.3% in 2009 after a large decline of 11.9% in 2008. General industrial equipment tonnage decreased 4.3% in 2009 following a decrease of 23.1% in 2008. Electrical machinery displays similar characteristics, with a precipitous drop in 2008 of 18.1%, followed by a smaller contraction of 4.1% in 2009. Scientific and specialized equipment declined 4.9% in 2008 and continued to contract 2.7% in 2009.

Asia–North America air cargo traffic forecast

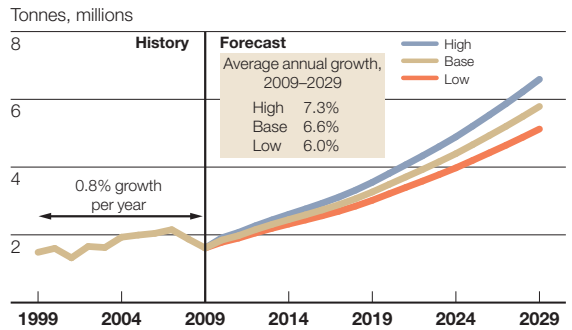
GDP for Asia will grow 4.4% annually over the next 20 years. China will continue to play a major role in Asia, buoyed by China’s membership in the World Trade Organization (WTO), the US–China civil aviation agreement, and China’s expected GDP growth of 7.4% per year over the next 20 years. Japan’s GDP will grow at a much slower rate, 0.9% per year. The mature economies of North America are expected to grow 2.7% per year.

The forecast assumes a global recovery; it also assumes that rapid economic growth in Asia will continue and that economic growth in North America will recover and then slow over the long term.

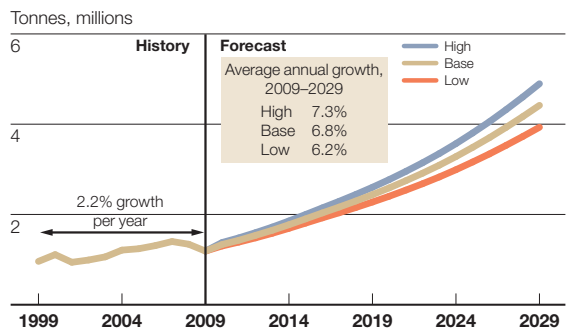
Air trade scenarios for Asia to and from North America were developed for baseline, low, and high economic growth rates. The low- and high-growth scenarios reflect GDP performance that falls 0.5% below and above baseline GDP projections.

Air trade flowing in both directions across the Pacific is forecast to grow an average of 6.7% per year over the next 20 years. The flow from Asia to North America is forecast to grow at an average rate of 6.6% per year. The flow from North America to Asia is forecast to grow at a slightly higher rate of 6.8% per year over the next 20 years.

ASIA TO NORTH AMERICA AIR TRADE WILL GROW 6.6% PER YEAR



NORTH AMERICA TO ASIA AIR TRADE WILL GROW 6.8% PER YEAR

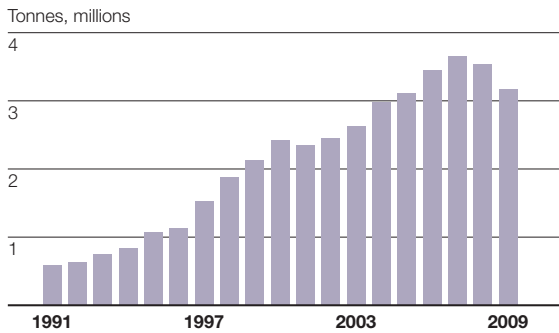


REGIONAL OUTLOOK EUROPE AND ASIA

For the purposes of this forecast, we define Europe as all 27 member countries of the European Union (EU) plus Switzerland, Norway, Iceland, Turkey, Albania, Gibraltar, and all the countries of the former Yugoslavia. Asia is defined as Japan, China, Hong Kong, Taiwan, South Korea, Singapore, the Philippines, Indonesia, Malaysia, Thailand, Vietnam, Macau, Cambodia, New Zealand, and Australia.

Air cargo traffic growth remains strong
The Europe–Asia market comprises approximately 19.3% of the world’s air cargo traffic in tonne-kilometers and 9.2% in tonnage.

EUROPE–ASIA AIR CARGO MARKET TRAFFIC HAS GROWN 9.8% PER YEAR

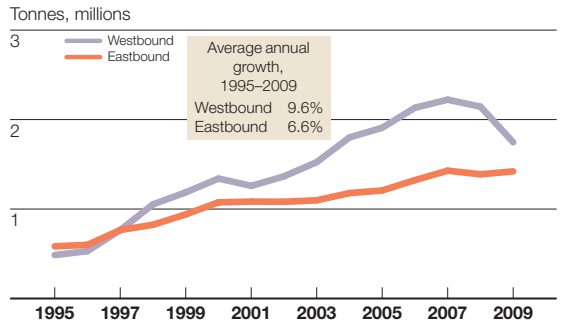


Europe–Asia air cargo traffic has averaged 9.8% growth per year since 1991. The Europe–Asia market declined 3.2% and 10.3% in 2008 and 2009, respectively. Due to the two consecutive years of traffic decline, the Europe–Asia air cargo market lost the equivalent of four years of growth: the 2009 Europe–Asia market is approximately the same size as it was in 2005. The Europe–Asia annual growth chart shows overall air traffic flows between Europe and Asia that also contain some “sixth freedom” traffic that flows into or out of other regions. The chart does not represent the actual trade flows by direction. Therefore, comparisons should not be made between the chart and the following air trade flow analysis.

Since 1995, Europe’s air imports of Asia’s goods, or westbound flows, have grown 9.6% per year, while Europe’s air exports, or eastbound flows, have grown 6.6%. During the early 1990s, Europe’s imports showed no growth as the recession that followed the 1991 Gulf War took a heavy toll on growth in the European economy.

At the same time, Asia's demand for Europe's goods increased dramatically. Since 1998, westbound flows have exceeded eastbound flows. However, the gap between Europe's imports and exports has narrowed significantly because Europe's imports declined 3.5% and 18.6% in 2008 and 2009, respectively. Europe's exports to Asia actually grew 2.3% due to more aggressive financial stimulus packages in Asia. China's stimulus package lead the way, with an equivalent of 3.2% GDP in 2009, above the 2% GDP level recommended by the International Monetary Fund.

EUROPEAN AIR IMPORTS FROM ASIA HAVE DRIVEN OVERALL MARKET GROWTH



Long-term air cargo growth has remained strong despite temporary reversals brought on by the bursting of the high-technology bubble, the severe acute respiratory syndrome (SARS) epidemic, and the global economic downturn that started in 2008 and lasted through 2009.

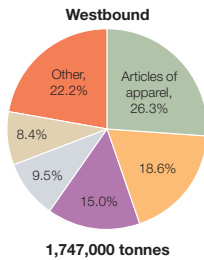
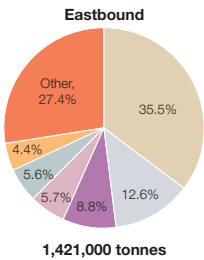
In 2009, the overall Europe-Asia cargo market declined 10.3%, following a decline of 3.2% in 2008. The Europe-to-Asia cargo flow grew 2.3% in 2009 after declining 2.8% in 2008. The Asia-to-Europe cargo market declined 18.6% and 3.5% in 2009 and in 2008, respectively.

Europe-Asia air trade commodities

The Asia-to-Europe flow consists primarily of consumer goods, while the Europe-to-Asia flow is primarily manufactured goods.

EUROPE-ASIA EASTBOUND FLOWS ARE MORE DIVERSE THAN WESTBOUND FLOWS

- Automobile parts and accessories
- Documents and small packages
- Electrical machinery and apparatus
- General industry machinery
- Miscellaneous manufactured articles
- Pharmaceutical products



In the eastbound direction, the top six commodity categories account for 72.6% of air cargo traffic. In descending order, the categories are general industrial machinery, electrical machinery and apparatus, express packages, pharmaceutical products, automobile parts and accessories, and miscellaneous manufactured goods (including work-in progress between manufacturing facilities). In the westbound direction, the top five commodity categories account for 77.8% of air trade. They include apparel, miscellaneous manufactured goods, express packages, electrical machinery and apparatus, and general industry machinery.

One particularly fast-growing segment of Europe-to-Asia air trade has been documents and small packages, sometimes referred to as “traditional express traffic.” This type of trade flow has averaged 8.5% annual growth in daily shipment counts since 1992, with the increased movement of business samples, legal documents, and other expedited small-batch items between Europe and Asia. The total bidirectional market averaged nearly 257,500 shipments per day in mid-2009.

Europe-Asia air cargo market forecast

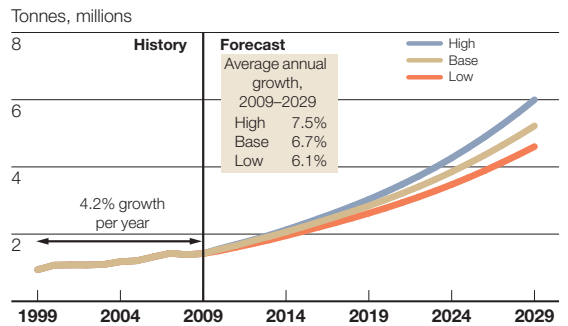
GDP for Asia will grow 4.4% per year over the next 20 years. China will continue to play a major role in Asia, buoyed by China's membership in the World Trade Organization (WTO) and the expected GDP growth of 7.4% per year over the next 20 years. The more mature economies of Europe are expected to grow 1.9% per year.

Base, low, and high models were developed to forecast the Europe-Asia air cargo market. GDP projections of 0.5% below and above the baseline were assessed, and the results of these growth rates are reflected in the low- and high-growth scenarios.

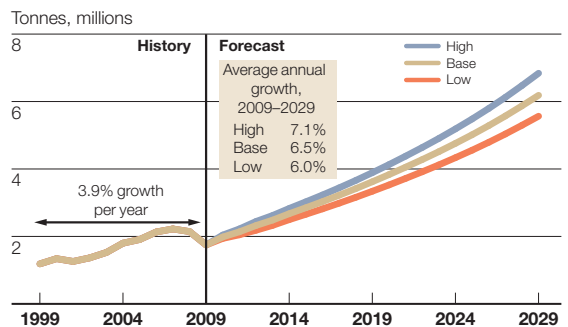
Eastbound Europe-to-Asia flows will average 6.7% growth as China continues to open its markets in accordance with WTO guidelines. Several hundred million people in Asia will become moderately affluent and are expected to eventually demand increasing quantities of goods from Europe.

Westbound Asia-to-Europe flows will grow slightly faster than the eastbound flows, with long-term growth averaging 6.5% during the forecast period. Continued investment and government spending on infrastructure improvements in south and east Europe will help bolster Asia's imports related to technology and light industry.

EUROPE TO ASIA AIR TRADE WILL AVERAGE 6.7% GROWTH PER YEAR



ASIA TO EUROPE AIR TRADE WILL AVERAGE 6.5% GROWTH PER YEAR



REGIONAL OUTLOOK INTRA-ASIA

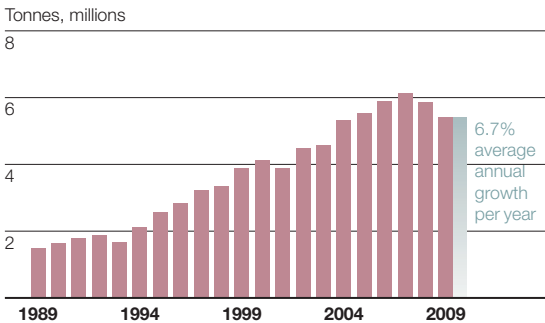
For the purposes of this forecast, we define the intra-Asia region as the economies on the eastern Pacific Rim of the Asian continent, including Japan, China (with Hong Kong and Macau unless otherwise indicated), South Korea, Taiwan, Thailand, Singapore, Malaysia, the Philippines, Indonesia, New Zealand, and Australia.

This section does not examine domestic flows of individual nations in Asia. The Regional Outlook, Domestic China section, provides analyses of flows within China.

Two-year traffic decline contrasts with record rebound

The global economic downturn results in a slowing export market and lower regional traffic. Initial 2010 intra-Asia market recovery is among the world's most dramatic. The intra-Asia air cargo market constitutes 15.8% of the world's air cargo traffic in tonnage and about 8.4% in tonne-kilometers.

INTRA-ASIA AIR CARGO GROWTH SLOWED BY RECENT ECONOMIC ENVIRONMENT



Air cargo traffic within Asia, mirroring similar regional market impacts from the severe two-year global economic downturn, declined for the first time since 2001, both in 2008, at -4.3%, and 2009, at -7.5%. While these reductions were significantly less than those for world traffic, they nonetheless brought tonnage back to 2006 and 2004–2005 levels, respectively. As a result, the 20-year average annual growth rate was lowered from 10.3% for 1987–2007 to 6.7% for 1989–2009, but it still exceeded the 20-year growth rate of most other regional markets. Declines for more specific markets throughout the region were mostly uniform, with the exception of China, which showed a marginal increase.

As the worldwide economy recovered, however, regional air cargo traffic rebounded a record 31.2% through mid-year 2010, third highest among the world's regional markets. This was the result of a maturing global production chain that moves semimanufactured work-in-progress components through various stages of completion in factories throughout Asia. Increasing consumer demand and new markets for consumer goods within the region will continue to be growth factors as disposable income levels rise and the region's economies mature.

Significant market considerations

Because of the region's geography, air cargo is an essential element of this market's development.

Differentiation between regional and intercontinental traffic is difficult because of the large volume of work-in-progress that passes through multiple airports before being shipped to a final destination. Air cargo remains an essential element of intra-Asia's economic development because most nations in the region are separated by large expanses of water. Ground transportation (trucking and rail), especially between countries, is generally not an option.

Consequently, truck-flight service is very limited, compared to that offered in the continental United States and Europe, where markets are geographically contiguous and surface infrastructure is well established. Exceptions include China, which represents well over half of all Asia's truck-flight frequencies. The number of points covered by this service expanded nearly three-fold over the last two years. Nonetheless, the critical significance and future potential for air cargo cannot be understated.

Considering its water-based geography, maritime transport offers an unusually competitive alternative to air cargo in the region. Maritime transport is particularly attractive because intercontinental cargo-ship schedules include stops at multiple ports, and well over half the region's cargo requirement comes from work-in-progress manufacturers. As economies continue to develop and per-capita incomes climb, much intraregional trade will disperse, including industrial and consumer goods and perishables, offering further growth and stimulation of intraregional transport.

INTRA-ASIA GEOGRAPHY MEANS AIR CARGO OPPORTUNITY, TRUCK-FLIGHT LIMIT



Lines represent scheduled truck-flight cargo service routes as of May 2010

THE TOP 10 ECONOMY PAIRS CONSTITUTE NEARLY HALF OF THE INTRA-ASIA MARKET



The top 10 pairs of trading economies constitute nearly half of total annual intra-Asia air cargo flows. China’s role is key, because eight of the top 10 pairs involve China, Hong Kong, or Taiwan. Hong Kong’s involvement in half the top 10 markets emphasizes its role as an intermediary for the mainland. Korea’s significance is demonstrated by its presence in the largest two markets. The China–Korea pairing leads the group with 365,000 tonnes. Japan–Korea is next, at 279,000 tonnes, followed by Hong Kong–Taiwan, at 235,000 tonnes for 2009. Abundant widebody passenger aircraft provide the lower-hold capacity equivalent, on average, of more than 50 weekly medium widebody freighters in these top 10 markets. This continuing large available capacity limits the requirement for regional freighters.

Although Asia’s air exports to North America and Europe continue to be a primary source of air cargo growth, air transportation also facilitates efficient production among the region’s integrated, independent industries. Supply-chain traffic carries raw materials, components, and subassemblies between manufacturing centers. This helps gain the advantage of local specialization, labor cost differentials, and optimized inventory management in achieving low prices and a diversity of goods.

Economic performance, outlook, and investment trends

Asia affected less severely by world economic and political uncertainty, with all-time-high 2008 investment rates and estimated 2009 levels near those of 2006.

The global economic downturn over the past two years is reflected in growth that was halved—5.6% in 2008 and 3.8% in 2009 (excluding Japan)—compared to more recent results. Weaker North American and European exports dampened regional growth. Overall Asian economic growth (including Japan) was a meager 2.7% in 2008 and marginally declined by 0.2% in 2009, compared to a worldwide reduction of more than 2.0%. China’s economic growth led all countries, with increases slightly above 7.5% in both years.

Asian economies (without Japan) are projected to grow at an average annual rate of nearly 6.0% during the forecast period, among the fastest regional economic growth rates in the world. China’s GDP is expected to grow 7.4% per year, compared to less than 1.0% for Japan, 1.9% for Europe, and 2.7% for North America. China will continue to buoy overall Asian economic growth during the forecast period, while competing with current trading partners for investment and market share. Free trade agreements, like that recently introduced between China and ASEAN signatories removing tariffs on 90% of traded goods, will act as a stimulus for long-term intraregional air cargo.

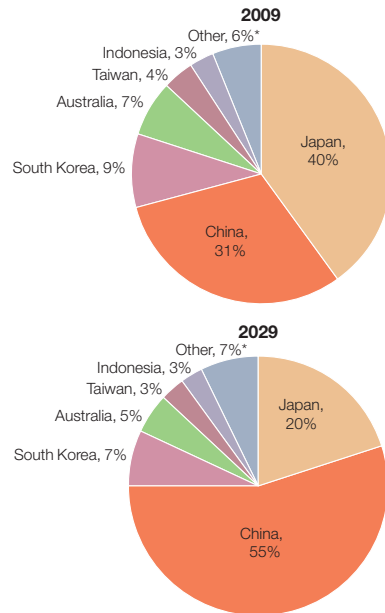
Risks to the region include uncertain resource prices; reliance on foreign consumption; global imbalances exacerbated by continuing structural rigidities in Asian economies; and the threat of a pandemic, major terrorist incident, or natural disaster.

The combined economies of Japan and China currently constitute more than 70% of Asia’s aggregate economy. China’s share alone has grown from low double digits in 2000 to more than 30% today, approaching Japan’s 40% share, and

remarkably is projected to represent well over half (55%) by the end of the forecast period in 2029. Other major economies in the region, apart from Japan, will nearly maintain their current shares as Asia’s overall GDP more than doubles.

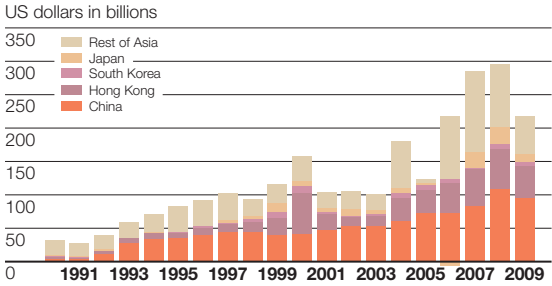
Besides GDP change, especially for an economically developing region like Asia, another significant harbinger of longer range air cargo traffic potential is foreign direct investment (FDI). Historically, high FDI levels have been instrumental in increasing and improving infrastructure and production capability, facilitating future high-growth intra-Asia air cargo traffic. Because of Japan’s economic challenges, its importance as a source of capital for the region has diminished. Consequently, the United States and Europe will continue to be leading providers of development funds.

ASIAN ECONOMIC POWER DISTRIBUTION SHIFTS DRAMATICALLY TOWARD CHINA



*Thailand, Malaysia, Singapore, the Philippines, and New Zealand.

FOREIGN DIRECT INVESTMENT IN ASIA REMAINS STRONG



Worldwide FDI in Asia reached a new all-time high in 2008, with a projected decline in 2009. This is due to the global economic downturn, but was only about half that experienced by the rest of the world. FDI flows were again the heaviest in China and Hong Kong (as the former’s “financial intermediary”), averaging around 60% of the region’s total the past two years. The “rest of Asia” segment continued strongly, even during the difficult environment, with about a quarter of the total. As the world’s leading manufacturer and fastest growing consumer market, China is not only the single largest FDI recipient in the region, but also is a leader among all developing countries.

Interestingly, studies suggest that historically strong FDI in China does not discourage flows to other Asian countries. Investors seeking to diversify their operations and an anticipation of growth opportunities in Asia keep FDI strong throughout the region. The emergence of intraregional investment also adds to the region’s FDI strength.

In the long term, global competition for scarce energy resources continues to present a threat. Regional economic integration, expansion of production networks, and relocation of production to lower cost areas within the region create favorable prospects for strong FDI flows to and within Asia as the worldwide economic climate improves. Risks include those cited previously relative to economic growth.

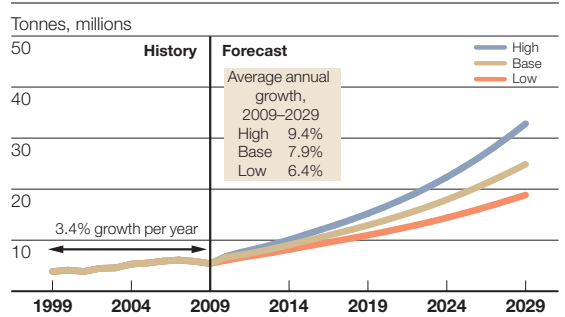
Intra-Asia air cargo traffic forecast

Strong regional economic growth, coupled with continuing demand from North America and Europe, are projected to sustain healthy long-term baseline annual air cargo growth of 7.9% through 2029.

GDP growth for intra-Asia countries of 4.4% per year during the forecast period is among the world's highest regional rates. China, with expected GDP growth of 7.4% over the next 20 years, drives the region, bolstering air trade prospects. Demand from intercontinental export markets, as well as increasing regional consumption, contributes to a forecasted baseline annual long-term regional air cargo average annual growth rate of 7.9%. While also among the world's highest forecasted average annual regional air cargo growth, this contrasts with more recent historical 20-year and 10-year rates of 6.7% and 3.4%, respectively, which were significantly reduced by two consecutive years of declines.

GDP projections of 0.5% below and above the baseline were assessed. The results of these growth rates are reflected in the low and high scenarios. The low-growth-rate scenario reflects slowing general regional and China growth over the next decade, and the high-growth rate forecasts even more vibrant growth through 2029.

INTRA-ASIA AIR CARGO MARKET WILL GROW 7.9% PER YEAR



REGIONAL OUTLOOK SOUTH ASIA

For the purposes of this forecast, South Asia (sometimes referred to as the Indian Subcontinent) comprises Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. Data from IATA, ICAO, European governments, the Indian government and airport statistics, the United Nations, and the US Department of Commerce are used to model South Asia air trade flows.

South Asia air cargo flow exceeds 1.7 million tonnes per year

The South Asia market constitutes approximately 5.0% of the world's air cargo traffic in tonnage and 5.3% in tonne-kilometers.

Global economic downturn affected South Asia air cargo flows unevenly

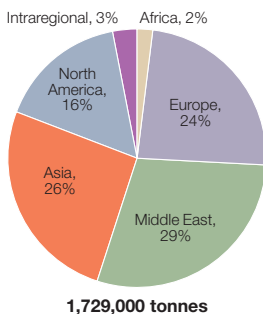
Total international air cargo flows into, within, and out of South Asia were nearly 1.73 million tonnes in 2009, down from 1.76 million tonnes in 2007. Historically, Europe has been South Asia's leading trade partner. But because the global economic downturn affected the various regions unevenly, the relative market share of the region's trade partners changed for the 2008-to-2009 period. While South Asia air trade with most regions declined in 2008 and 2009, air cargo between South Asia and the Middle East increased from 476,000 tonnes in 2007

to 500,000 tonnes in 2009. This boosted the Middle East share of the region's air cargo traffic to 29%, up from 27% in 2007, making the Middle East the region's largest trade partner in 2009.

Europe's share dropped to 24% in 2009 from 27% in 2007. Asia's and North America's shares remained very close to the 2007 levels, at 26% and 16%, respectively. The shares of the regions accounting for the remaining 5% of South Asia air trade also remained the same as in 2007.

Intraregional air trade among the eight nations of the region is estimated to have totaled about 52,000 tonnes in 2009. However, a large volume of European, Asian, North American, and intraregional air trade is transshipped through the Persian Gulf (either by air or by sea and air). Transshipment can blur the true origin of many regional air cargo flows.

EUROPE, ASIA, AND THE MIDDLE EAST ARE SOUTH ASIA'S PRIMARY AIR TRADE PARTNERS



Although Europe has been South Asia's leading air trade partner, trade volume with Asia was rising prior to 2007. In 2007 and 2008, trade between South Asia and Asia was flat at 460,000 tonnes each year. In 2009 air trade with Asia fell to 450,000 tonnes. As the global economy recovers, it is expected that previous trade relationships will be restored.

India leads the region in overall air cargo tonnage

With a population that exceeds 1.2 billion and a middle class approaching 100 million, India is the leading economy and international air trade hub of South Asia. Of the 1.73 million tonnes of international traffic that moved into and out of the region in 2009, more than 1.19 million tonnes moved through India. The other leading international freight markets of the region are Bangladesh (145,000 tonnes), Pakistan (208,000 tonnes), and Sri Lanka (139,000 tonnes).

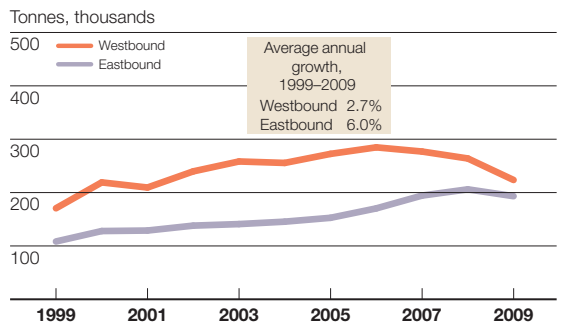
The region's primary air exports comprise textiles and apparel. Despite warnings to the contrary, phasing out the World Trade Organization (WTO) Agreement on Textiles and Clothing has not hurt South Asia air shipment of these goods. Air exports of textiles and garments have continued to be the top commodities shipped by air since the WTO agreement was lifted, even with unrestricted competition from producers based in China. Other smaller, yet growing, air export commodities for the region include industrial chemicals, consumer goods, pharmaceuticals, and electrical equipment. South Asia imports are led by computing equipment, small packages, capital equipment, electrical equipment, and telecommunication equipment.

Air trade with Europe fell 13% from 2007 to 2009

South Asia's air trade with Europe fell in 2008 and 2009 due to the global economic downturn. The total annual volume of air trade in this regional corridor had grown an average 5.7% per year between 1997 and 2007. In 2008 air trade between South Asia and Europe fell to 470,000 tonnes from more than 476,000 tonnes in 2007. In 2009 air trade decreased further to 415,000 tonnes.

Historically, the market between South Asia and Europe has been imbalanced. In 2007 South Asia's air export tonnage to Europe outweighed air import tonnage from Europe by a factor of 1.4. In 2009 the export-import imbalance dropped to a factor of 1.2. Leading air exports from South Asia to Europe are apparel, vegetables, fruit, industrial chemicals, recorded media, and pharmaceuticals. Leading air imports from Europe to South Asia are capital equipment (especially for garment and textile manufacture), industrial pumps, telecommunication equipment, power generating machinery, and electrical machinery.

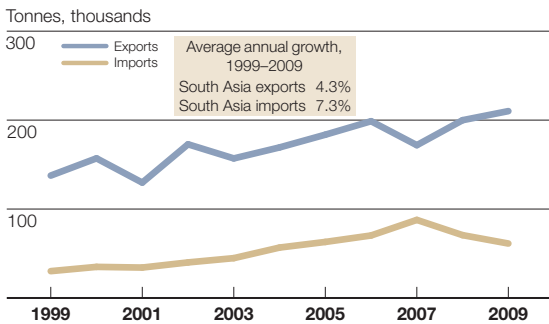
SOUTH ASIA AIR TRADE WITH EUROPE HAS GROWN 4.1% PER YEAR



South Asia air trade with North America

The imbalance in South Asia–North America air trade has increased. South Asia’s air exports to North America grew from 172,000 tonnes in 2007 to 200,000 tonnes in 2008, then to 210,000 tonnes in 2009. South Asia’s imports from North America decreased from 88,000 tonnes in 2007 to 71,000 tonnes in 2008, and then fell further to 61,000 tonnes in 2009. Overall air tonnage in 2009 remained the same as in 2008 at 271,000 tonnes, because the increase in exports offset the decline in imports. The leading South Asia air imports are express documents, industrial equipment, telecommunication hardware, and computers. Leading exports to North America are apparel, textiles, express documents, pharmaceuticals, and medical equipment.

SOUTH ASIA AIR TRADE WITH NORTH AMERICA HAS GROWN 4.9% PER YEAR



Domestic India air cargo declined, but international air cargo grew

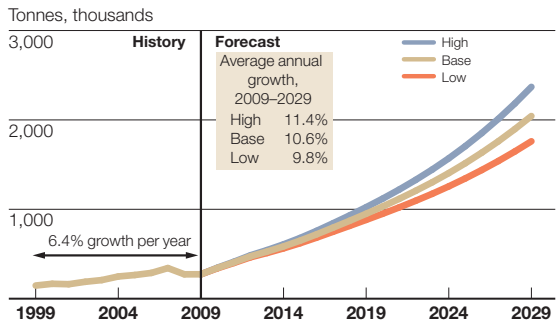
India’s air cargo market declined 20% in 2008, but leveled off in 2009 and appears to be recovering in 2010. The international air cargo market grew a total of 7% between 2007 and 2009.

India is the largest submarket in South Asia, comprising about 69% of international flows in the region. India also enjoys a significant domestic market. From 1999 to 2009, the total Indian air cargo market (domestic and international) has averaged 6.6% annual growth.

The Indian domestic market had been growing rapidly before the global economic downturn in 2008. In the 10 years between 1997 and 2007, the domestic air cargo market averaged 10.8% annual growth. In 2008, domestic air cargo fell 20% to 272,000 tonnes. The domestic air cargo market remained steady at 273,000 tonnes in 2009. In the first half of 2010, the air cargo market appears to be recovering from the downturn as growth returns to world economies. With the economic recovery, India’s domestic air cargo market will return to rapid growth, expanding 10.6% per year on average to reach 2 million tonnes per year by 2029.

Despite the global economic downturn, the Indian international market has expanded 7% from 1.11 million tonnes in 2007 to 1.19 million tonnes in 2009. The leading trade partners are Europe, the Middle

THE DOMESTIC INDIA AIR CARGO MARKET WILL GROW 10.6% PER YEAR



East, and Asia. Until 2007, Europe was India's biggest air trade partner. The effects of the global economic downturn have caused India–Europe air cargo to decline from 356,000 tonnes in 2007 to 310,000 tonnes in 2009. The economic downturn did not affect the Middle East as severely as other regions, and total air trade with India increased from 223,000 tonnes in 2007 to 310,000 tonnes in 2009. Air cargo between Asia and India also increased, from 267,000 tonnes in 2007 to 310,000 tonnes in 2009.

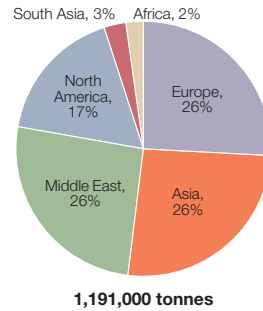
South Asia–Europe air cargo traffic forecast

South Asia's air trade with Europe is expected to recover as the global economy regains strength. The South Asia–Europe market expanded 5.7% per year in the 10 years to 2008. Long-term annual growth should return to that trend post-recovery.

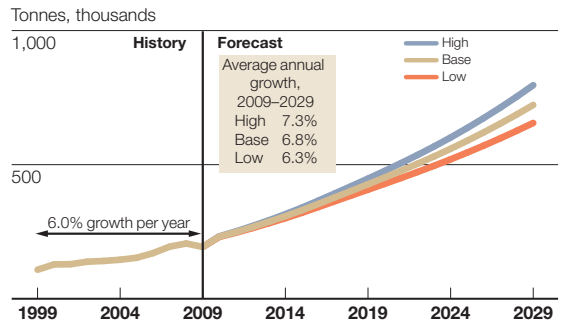
Base, low, and high models were developed to forecast the South Asia–Europe air cargo market. GDP projections of 0.5% below and above the baseline were assessed, and the results of these growth rates are reflected in the low- and high-growth scenarios. Flows from Europe to South Asia will grow an average 6.8% per year in the base model. This base model assumes global economic recovery leading to continued expansion of the business-process outsourcing sector; further privatization of India's industry; rapprochement between India and Pakistan; and ongoing peacekeeping, aid, and reconstruction efforts in Afghanistan.

Flows from South Asia to Europe will expand at approximately 6.3% per year for the forecast period. Continued privatization should make India's industry more cost competitive with its counterparts in South Asia, leading to increased demand for South Asia's goods in Europe. Diversification into other light industries—particularly into sectors other than textiles and garments—bodes well for this trade lane.

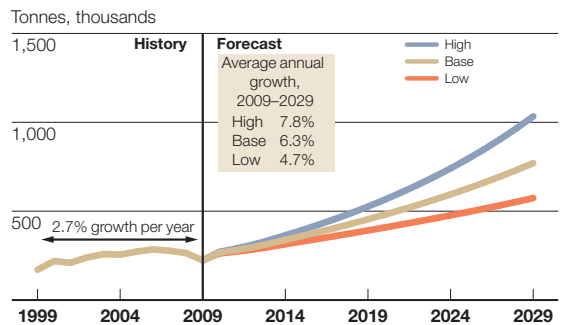
EUROPE, ASIA, AND THE MIDDLE EAST ARE INDIA'S PRIMARY AIR TRADE PARTNERS



EUROPE TO SOUTH ASIA AIR TRADE WILL GROW 6.8% PER YEAR



SOUTH ASIA TO EUROPE AIR TRADE WILL GROW 6.3% PER YEAR



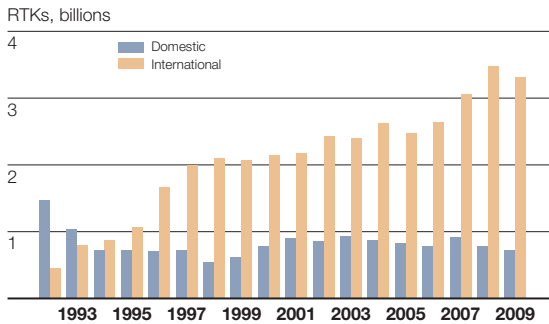
REGIONAL OUTLOOK COMMONWEALTH OF INDEPENDENT STATES

The Commonwealth of Independent States (CIS) comprises 12 of the 15 republics of the former Soviet Union: the Russian Federation, Ukraine, Belarus, Moldova, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

CIS-based carrier traffic contracted 5.2% in 2009

The combined CIS domestic and international air cargo market is estimated to account for approximately 1.4% of the world's total air cargo traffic in terms of tonne-kilometers and 2.4% in terms of pure tonnage.

INTERNATIONAL TRAFFIC ON CIS-BASED CARRIERS HAS TRIPLED SINCE 1995



During the past 17 years, international traffic on CIS-domiciled carriers, as measured in revenue tonne-kilometers, has grown to lead domestic traffic by a ratio of more than 3 to 1. Overall, CIS air cargo traffic fell 5.2% in 2009, after expanding 6.9% in 2008. CIS-domiciled carriers were able to grow their international traffic on non-CIS routings during the global economic downturn of 2008 and 2009, mitigating their overall traffic decline. Domestic CIS traffic contracted 15.4% and 7.3% in 2008 and 2009, respectively, effectively reducing traffic levels below those achieved in 1995.

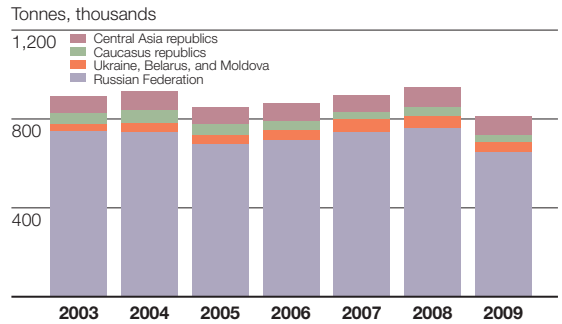
Total air cargo traffic on CIS-domiciled carriers, as measured in tonnes, including domestic and international flows, was about 858,000 tonnes in 2009. Because of its size and economic concentration, Russia commands the largest share of regional traffic, its airlines carrying 83% of all tonnage for carriers based in the CIS. International tonnage on CIS carriers reached 626,000 tonnes, with the remainder moving on domestic routes.

A large portion of the international cargo transported by CIS-based operators is carried for multinational firms and foreign governments as charter services to and from markets that are not connected to the CIS. For example, Russia's airlines carried about 202,000 tonnes of non-CIS-related international charter traffic in 2009, which represents approximately 40% of total international traffic on Russian carriers.

Some Russian carriers take advantage of where they are domiciled to carry traffic on fast-growing routes between Europe and Asia. In 2009, Russian carriers transported about 140,000 tonnes between Europe and Asia, transiting Russia without commercial stops inside the country. This tonnage represents more than a fivefold increase compared to such flights in 2004.

Despite a focus on market opportunities not connected with their home markets, overall true origin and destination CIS traffic totaled an estimated 811,000 tonnes in 2009, based on statistics published by the region's airports. This figure represents a 13.8% decline from the region's peak of 941,000 tonnes in 2008. In 2009, Russian domestic air freight comprised about 415,000 tonnes. The international component makes up the remaining 396,000 tonnes, and Russia-centric flows make up 53% of this number.

CIS AIRPORT AIR CARGO TRAFFIC FELL 13.8% IN 2009



Domestic air cargo flows hold steady

Air cargo traffic within the borders of CIS countries has grown very little since the mid-1990s.

Between 1990 and 1992, domestic Russia and intra-CIS air cargo fell 72% when activity between former state enterprises fell dramatically during the breakup of the Soviet Union. Since the mid-1990s, rising jet fuel prices and improved surface transport (trucking and rail) have suppressed growth in domestic air cargo within the region.

Domestic air trade is a vital part of commerce in the expanse of the region, particularly in Russia. The vast distances and relatively underdeveloped surface transportation links often necessitate the use of aircraft to move goods and industrial materials. In 2009, Russia's airlines transported about 225,500 tonnes on domestic routes. Besides Moscow, cities commanding large volumes of domestic air freight include St. Petersburg in western Russia and far-flung and remote cities in Siberia and other far eastern cities, including Mirnyy, Norilsk, Vladivostok, Krasnoyarsk, Yuzhno-Sakhalinsk, and Khabarovsk.

International air cargo traffic growth remains subdued

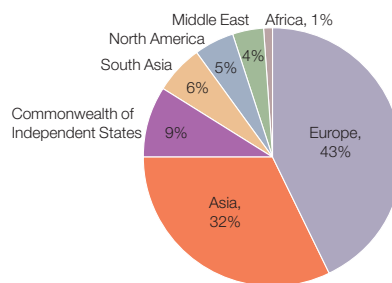
International air traffic growth to and from the CIS region has been curbed by Russian customs regulations and expanding containership trade.

The geographical distribution of Russia's air trade typifies the international air commerce of the entire CIS region. As is the case with Russia, international traffic focuses on Europe and Asia. Intra-CIS routes between the former Soviet republics account for a small amount of the international air cargo that CIS-domiciled carriers transport annually. As an example, Russia-domiciled carriers moved 13,700 tonnes on intra-CIS routes in 2009, which is about 9% of their total international carriage connected to their home market.

CIS-Asia traffic, especially that originating in China, Japan, Korea, or Thailand, was historically one of the largest international air trade segments in this region. Demand in Russia and the CIS for consumer electronics and apparel drove demand for air cargo services in this market. However, customs regulations that Russia has implemented since 2002 have reduced the tonnage carried by Russia's airlines on traffic lanes to Asia and Europe, particularly on flows to Russia from Asia. Russia's government, through various civil aviation policy revisions, has encouraged the diversion of traffic

EUROPE AND ASIA ARE THE BIGGEST MARKETS FOR RUSSIA-DOMICILED CARRIERS

Russian carrier traffic only; does not include transit or foreign military support



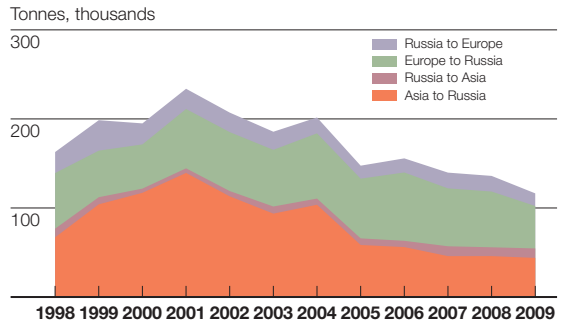
144,800 tonnes

from nonscheduled to scheduled carriers. Customs regulations have led some importers to transport Russia-bound freight to nearby countries by air. The freight then enters Russia by truck.

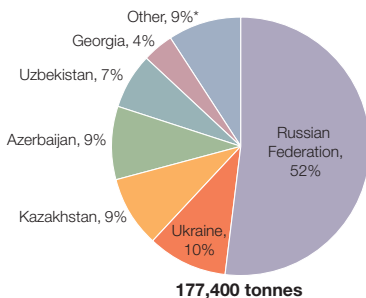
Another factor curbing Russian and Ukrainian air imports from Asia has been the rise of container ship ports, particularly in the Baltic Sea and Black Sea regions. Since 2002, container port activity in Russia and Ukraine has grown on average 13% per year (in spite of an estimated 40% fall in year 2009 over year 2008), which has reduced the need for air transport of relatively low-value consumer goods. Steady improvements in the region's port and road transport infrastructure have facilitated this diversion from air to container ship transport.

Europe is the other large market for this region. Total CIS air trade with Europe was 177,400 tonnes in 2009, with about 131,00 tonnes imported from Europe. CIS air imports consist primarily of industrial machinery, luxury consumer goods and apparel, pharmaceutical and medical goods, computing and telecommunication equipment, and oil and gas extraction equipment. CIS airborne exports to Europe now total about 46,000 tonnes annually. General industrial machinery, industrial chemicals and metals, scientific instruments, apparel, specialty sporting goods, and transportation equipment are the main products flown west to Europe.

RUSSIA-CENTRIC TRAFFIC ON RUSSIAN CARRIERS HAS DECREASED



RUSSIA AND THE UKRAINE LEAD OVERALL CIS AIR TRADE WITH EUROPE



*3% or less: Turkmenistan, Moldova, Belarus, Armenia, Kyrgyzstan, and Tajikistan.

Military-design freighters will remain essential to regional air trade

A large proportion of CIS-related air trade is carried on former Soviet military turboprop and jet-powered aircraft. These aircraft are typically rear-ramp loaders that require minimal ground support equipment. Their loading features are crucial in the more remote regions of the CIS, where airport infrastructure often is lacking.

The combined effect of a plentiful supply of used military aircraft, low acquisition costs, and lagging airport infrastructure investment will keep indigenous military aircraft in CIS fleets for the forecast period. Age, relatively high fuel expenditure, as well as community noise restrictions of these military-derived freighters, will eventually lead airlines in the CIS region to augment or upgrade their fleets with Western-built freighters. Approximately 360 CIS-built freighters domiciled in the region can carry a payload of 15 tonnes or more. Of these freighters, about 260 are airworthy and serving civilian air freight markets.

Use of military aircraft has allowed certain CIS cargo carriers to become the unique providers of outsize transport capacity in world air freight markets. Outsize air cargo is freight that is too large or too heavy for civilian widebody freighter aircraft. A select group of carriers in Russia and Ukraine uses very large ramp-loading military freighter aircraft to serve this specialized sector, which accounts for nearly 118,000 tonnes of freight annually worldwide. It should be emphasized that most of the outsize cargo traffic does not originate or terminate in the CIS.

Most outsize carriers fly charters, transporting industrial shipments between Europe, North America, and Asia. Typical industries served by these carriers include oil and gas extraction, aerospace manufacturing, electrical power generation, entertainment, and infrastructure development. These carriers also have transported materiel in support of US and European military forces in the Middle East and Afghanistan.

CIS–Europe air cargo forecast

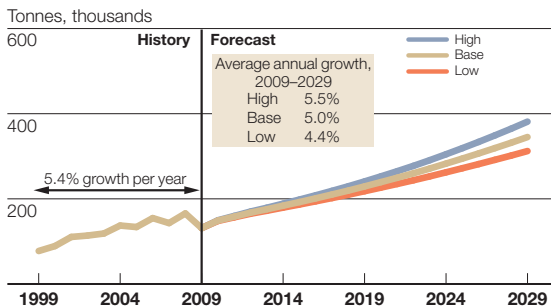
The CIS–Europe air cargo market, exports and imports combined, will grow at an overall average annual rate of 5.4% for the next two decades.

CIS air imports from Europe are forecast to grow 5.0% per year, expanding from 131,200 tonnes in 2009 to 345,000 tonnes by 2029. Growth in this traffic lane will continue to depend on petroleum prices and the development of the CIS middle class, particularly in Russia. If petroleum prices remain high by historical standards, CIS demand for European consumer goods, industrial equipment and spare parts, and oil and gas extraction equipment will remain strong. CIS air import traffic should then develop in accordance with the baseline forecast trend or even possibly the high forecast trend. Conversely, if petroleum prices return to pre-2005 levels, then traffic should develop in accordance with the low-growth scenario.

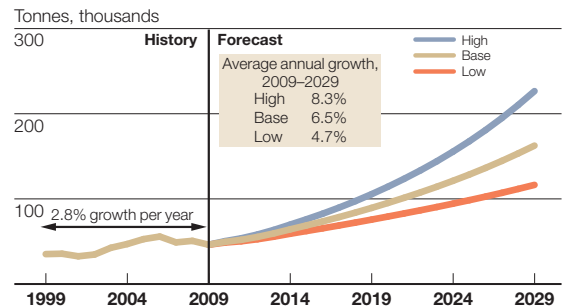
CIS air exports to Europe will grow at a rate of 6.5%—faster than air imports—to reach nearly 162,000 tonnes by 2029. European industrial demand for CIS-produced apparel, specialty chemicals and industrial metals, specialized scientific equipment, and aerospace goods will bolster growth for the entire forecast period.

Political stability, implementation of policies aimed at becoming a member of the World Trade Organization, and an improved foreign investment climate could promote an export-driven economy for a wide array of manufactured and semimanufactured goods. These developments would foster a high-growth scenario for CIS air exports. Conversely, political uncertainty, renationalization of industries, price competition with Asia’s manufacturers, and continuing regional conflicts would impede air trade growth, leading to the projection depicted in the low-growth scenario.

EUROPE TO CIS AIR TRADE WILL GROW 5.0% PER YEAR



CIS TO EUROPE AIR TRADE WILL GROW 6.5% PER YEAR



REGIONAL OUTLOOK

DOMESTIC CHINA

For the purposes of this forecast, we define domestic China as the mainland or what is commonly referred to as the People's Republic of China. The special administrative regions of Hong Kong and Macau are not examined in this chapter.

Domestic China air cargo traffic forecast to grow 9.2% annually

It is estimated that China's domestic air cargo traffic currently accounts for 9.3% of the world's total air cargo traffic by weight, but only about 2.9% of the world market in terms of cargo tonne-kilometers.

Throughout the 1990s, strong economic growth, rising foreign investment, and extremely competitive labor rates have stimulated the domestic air cargo market in China to grow an average of 18.1% per year.

China has rapidly become the world's premier manufacturing center, with key industries geared toward commodities such as computing, telecommunication equipment, and apparel. These commodities are traditionally transported by air.

Most of these goods are intended for export, and China has witnessed a tremendous increase in international air trade. Strong air export traffic to Asia, Europe, and North America drove much of China's domestic air cargo traffic growth. However, domestic demand in the region's rapidly developing large cities also became an important driver for growth during the past decade.

China's domestic air cargo market grew 12.3% in 2009, following growth of 6.2% in 2008 and 11.9% in 2007. Scheduled freight traffic accounts for 94% of the domestic China air cargo market; mail accounts for the remaining 6%. Domestic China's scheduled freight grew 12.3% in 2009, following growth of 6.2% and 11.5% in 2008 and 2007, respectively. Mail tonnage grew 12.3% in 2009, following growth of 7% and 18.9% in 2008 and 2007, respectively.

Since 1990, China's domestic air cargo growth was below double digits three times. The first slowdown occurred in 1997, immediately following Asia's economic crisis, when the domestic market only managed to grow approximately 8.8%. The second slowdown occurred in 2003, when growth dipped to 4.7% as a result of the severe acute respiratory syndrome (SARS) epidemic, during which a significant number of passenger flights were canceled. This situation dramatically reduced available lower-hold cargo capacity and depressed domestic air cargo traffic. The third slowdown occurred in 2008, with growth of only 6.2%, due to the global economic downturn as well as other domestic issues (e.g., earthquakes) that restricted growth.

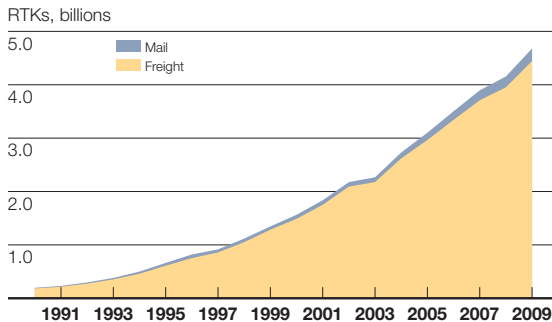
Most of China's air cargo activity is concentrated in the coastal and southern provinces, where the bulk of the country's 1.3 billion people and \$3.3 trillion economy are situated.

At 3.2 million tonnes transported annually, China's domestic air cargo market has become the second largest in the world, led only by the US domestic market.

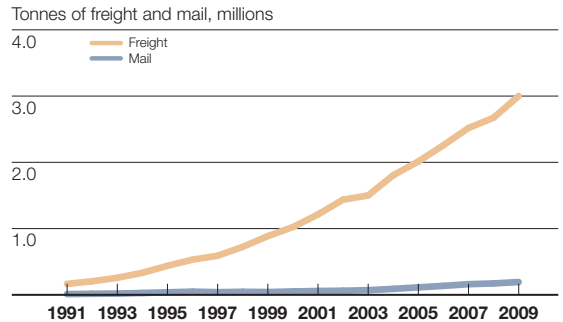
The types of goods transported on domestic routes vary by region. In the southeastern provinces, especially the Pearl River Delta region, domestic air cargo consists largely of apparel, home electronics, telecommunication equipment, and light industrial products. Goods transported from the eastern provinces include textiles, apparel, electronics, perishable foods, and live animals.

In the northern regions, apparel and electronics are supplemented by precision instruments. Pharmaceuticals, cashmere, cut flowers, and industrial equipment constitute the bulk of the cargo flow that originates in the western provinces.

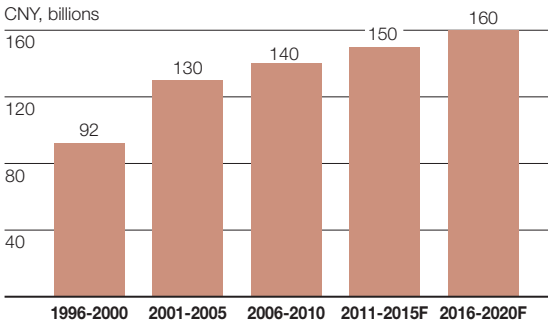
CHINA'S DOMESTIC AIR CARGO TRAFFIC HAS GROWN 18.1% PER YEAR SINCE 1990



CHINA'S DOMESTIC AIR CARGO TRAFFIC TOTALS 3.2 MILLION TONNES ANNUALLY



CAAC FIVE-YEAR AIRPORT DEVELOPMENT BUDGETS

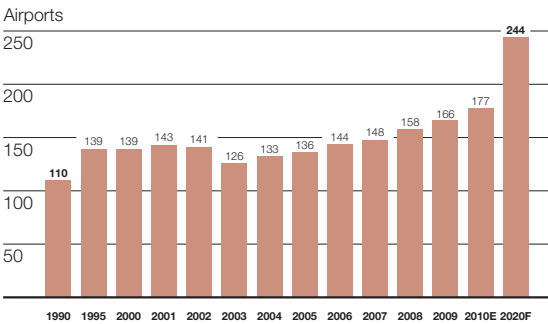


Infrastructure development will remain key to continued growth

In January 2008, the State Council announced its *National Airport Allocation Plan* aimed at ensuring that

- 82% of the country's massive population lives within 100 km of an airport by 2020, up from just 61% at present.
- 96% of GDP can be accessed via air services by 2020, up from 82% currently.

CHINA'S AIRPORTS OPEN FOR CIVIL SERVICES

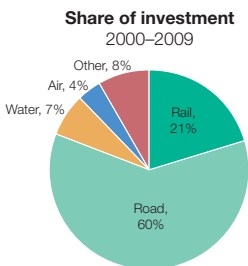
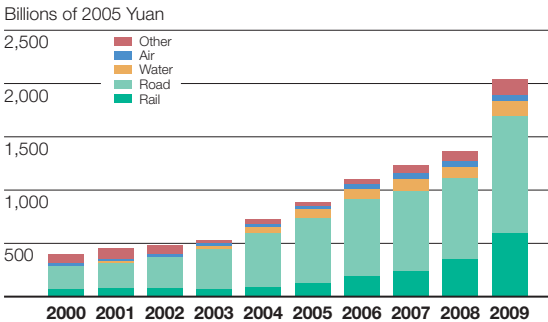


To achieve this goal, China will develop 45 new airports by the end of 2010, increasing the total to 177. Another 52 new airports will be developed by 2020, bringing the total to 244. This requires a total investment of \$67.1 billion through 2020, of which \$20.9 billion had been allocated by 2010. Of the 97 total new airports, 50 will be developed in the northern and northwest regions, including the second Beijing airport.

The near-term outlook work will focus on

- Strengthening the construction of major hub airports to improve services and competitiveness.
- Expanding and improving current strategic airports that are experiencing capacity shortages to mitigate the effect of lagging airport infrastructure construction.
- Developing new airports to improve the overall network.

URBAN FIXED-ASSETS INVESTMENT IN TRANSPORTATION



Completion of the road network could stimulate modal competition for time-definite, short- to medium-distance domestic transport services. New surface transport modes could divert traditional air cargo traffic from airplanes to trucks, as has happened in North America.

China has been investing in road infrastructure since the mid-1980s. It became a national priority, and infrastructure investment increased in the 1990s. The government invested heavily to develop road networks connecting major industrial centers in the coastal regions, as well as to improve roads in provinces and towns. Originally, most of the road infrastructure development resources went to the coastal regions. The government shifted its investment focus to the west as part of a strategy to develop that region.

A 2009 government stimulus plan significantly increased China's urban fixed-asset investment in transportation. Investment reached \$304 billion, an increase of 49.3% over 2008. Road and rail accounted for more than 80% of the fixed-asset investment in transportation.

The plan for China's high-speed rail network, covering 13,000 km, is scheduled to be completed by 2012. Over the next three years, \$293 billion will be invested in the network. Forty-two lines overall with eight trunk lines—four north to south and four east to west—will serve most major cities in China's east, west, and central regions.

The four north-south lines are Beijing–Shanghai, Beijing–Guangzhou–Hong Kong, Beijing–Harbin, and Hangzhou–Fuzhou–Shenzhen. The four east-west lines are Xuzhou–Lanzhou, Hangzhou–Changsha–Kunming, Shijiazhuang–Taiyuan, and Shanghai–Wuhan–Chengdu.

The high-speed train will run at 350 km/h on 8,000 km of network track and at 250 km/h on the remaining track. This train can run on both normal and fast tracks. Testing for an even faster high-speed train of 500 km/h will be conducted by the end of 2010. Operation of high-speed rail will make the existing rail system available for cargo transportation.

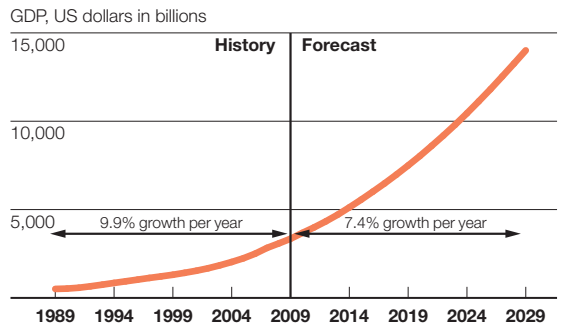
Domestic China air cargo traffic is forecast to expand

China's GDP is projected to grow 7.4% per year on average during the forecast period of 2009 to 2029. Considering population growth predictions, per capita GDP is expected to exceed its current level by a factor of 3.9 in 20 years.

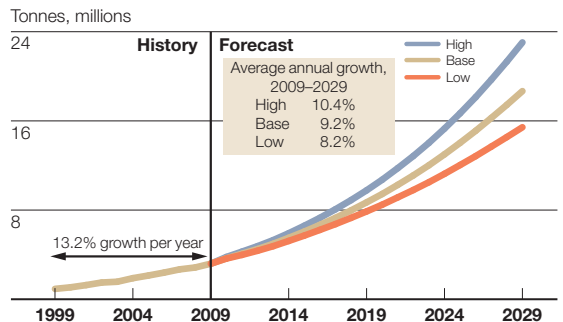
Base-, low-, and high-growth GDP models were developed to forecast China's domestic air cargo growth. The low- and high-growth air cargo scenarios reflect GDP projections for 0.5% below and 0.5% above the baseline GDP growth, respectively.

Overall air trade within China will grow 9.2% annually for the forecast period, with growth most rapid from 2011 to 2018.

CHINA'S GDP IS EXPECTED TO MORE THAN QUADRUPLE OVER THE NEXT 20 YEARS



DOMESTIC CHINA AIR CARGO MARKET WILL GROW 9.2% PER YEAR



WORLD AIR CARGO FORECAST 2010-2011

FREIGHTER FLEET

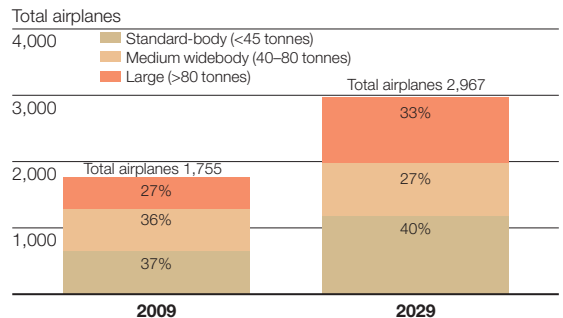
Air cargo fleet growth will recover strength

The number of airplanes in the worldwide freighter fleet will grow by more than two-thirds during the next 20 years as demand for air cargo services more than triples, compared to the depressed level of 2009. The percentage of large freighters in the fleet will climb dramatically from 27% today to 33% by 2029. Increased average freighter size will help carriers meet the projected tripling of demand without adding a proportionate number of airplanes.

Air cargo traffic declined precipitously during the global economic downturn of 2008 and 2009. Freighters utilization was drastically reduced, many of the newer airplanes in the fleet were temporarily grounded, and older freighters were retired early. Roughly 30% of the “Classic” 747 Freighters in the fleet were removed from service, with few expected to return. In the long run, however, the fleet will benefit from the removal of surplus capacity and the replacement of older freighters with more efficient airplanes.

By the end of 2009, the number of freighters in the world fleet had declined 10% to roughly equal the number of airplanes in the fleet at the end of 2001— a year also beset by a record drop in traffic. The declining numbers masked a significant industrywide shift toward larger freighters. The retirement rate for older freighters picked up markedly in 2009, while the delivery rate for widebody freighters remained fairly constant. Although a detailed comparison of the 2001 and 2009 fleets is complicated by our incorporation in 2007 of data on CIS-built freighters, the widebody share of the fleet grew from 39% to 63% during the eight-year period.

FREIGHTER FLEET INCREASE REFLECTS WORLD TRAFFIC GROWTH



The industry's oft-demonstrated resilience is projected to prevail over recent adverse pressures, with demand for air cargo services tripling by 2029 compared to the record low levels of 2009. This demand growth will spur the world freighter fleet to expand by more than two-thirds, from the current 1,755 airplanes to nearly 3,000 airplanes by the end of the forecast period. Considering that the number of grounded freighters rose from 15% of the fleet to a high of more than 20% in the two years between 2007 and 2009, the 20-year growth projection is particularly remarkable.

Nearly 2,500 freighters will join the fleet by 2029. About 1,300 of these will replace retiring airplanes, with the remaining 1,200 meeting fleet growth requirements. More than 70% of the deliveries will be freighter conversions. About 750 new production freighters will be delivered, with a total value of \$180 billion in 2009 US dollars. Over the next 20 years, the share of cargo capacity (measured in available tonne-kilometers [ATK]) supplied by dedicated freighters will rise steadily against lower-hold cargo capacity to reach nearly 50% of worldwide capacity.

Yet, even as the number of freighter airplanes grows, the freighter share of the total commercial fleet will fall slightly from 9% to 8%. The number of freighters will not grow in parallel with projected growth in demand for air cargo services because the average size of freighter aircraft will increase significantly and the newer, more efficient airplanes joining the fleet will facilitate higher utilization and load factors.

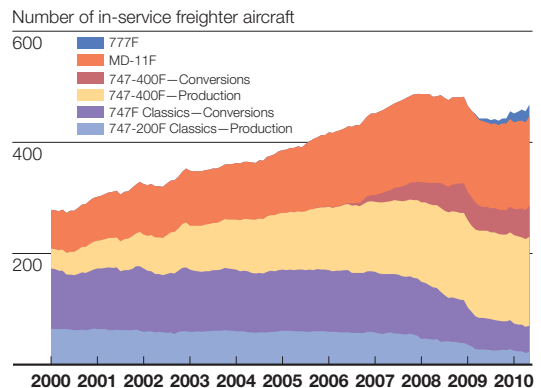
Significant developments and trends

Near-term events can exert contrary pressures on long-term freighter market growth. For example, higher fuel costs increase pressure on airlines to replace aging airplanes, which boosts demand for new freighters. Yet the resulting higher trip cost makes cargo rates more expensive, which weakens demand for air cargo services and, therefore, for additional freighter capacity.

Several factors, including some that exert conflicting pressures, affect world freighter fleet growth:

- The air cargo industry will rebound from its two-year slide as the world economy recovers. The below-trend performance figures from base year 2009 make the 20-year growth projection appear uncharacteristically high, masking an overall reduction in projected freighter lift requirement. The freighter lift requirement will be further challenged by an increase in lower-hold cargo capacity because passenger traffic did not decline to the same extent as cargo traffic.
- Three major new-production freighters (777F, A330F, and 747-8F) are entering the market during the 2009–2011 timeframe. The current widebody order backlog stands at about 200 airplanes, 70% of those in the large freighter category. Remarkably, there was little erosion of the huge backlog, even when air cargo traffic was at its lowest point during the slowdown in 2008

LARGE WIDEBODY FREIGHTER FLEET MODERNIZATION ACCELERATES



and 2009. While resurgent traffic and the need for greater efficiency will keep the backlog solid, new orders will be light in the near term as the fleet absorbs the capacity currently on order.

- Rising and uncertain fuel prices accelerate freighter retirements, which enhance the value of newer airplanes that offer higher operating efficiency. Aging first-generation widebody freighters (747F Classics as well as older A310Fs, A300Fs, and DC-10Fs) were among the major casualties during the recent market decline. This fleet transformation is expected to continue.
- Regulatory pressures on noise, emissions, and aircraft aging drive carriers to accelerate evaluation of their fleet requirements.
- Increased cargo security requirements for lower-hold cargo erode the pricing advantage of passenger airplanes, along with customer demand for service improvements that favors freighter operations.
- Growth of lower-hold cargo capacity will continue to lag behind rising cargo demand, despite the proliferation of widebody passenger airplanes that can carry more revenue cargo with a full passenger load than the aircraft they replace.
- Passenger carriers continue to emphasize the revenue potential of cargo. Airlines that also operate freighters typically enjoy 20% higher cargo load factors in the lower holds of their passenger airplanes than airlines that do not operate freighters.
- Regional freighter fleet growth will concentrate in a few large express carriers and developing markets where geography or lack of cost-effective ground transport alternatives favor air transport.

World freighter fleet by category

The model mix within the three freighter payload categories will remain about the same as projected in the 2007 World Freighter Fleet forecast, even as new production and conversion freighter models enter the fleet.

The current and projected fleet is divided into three payload categories by fuselage width and payload capability, regardless of range or presumed service markets. The three payload categories are standard-body (less than 45 tonnes) with no defined subcategories, medium widebody (40 to 80 tonnes), and large (greater than 80 tonnes). The forecast includes both general and outsized freighters manufactured in the CIS. The 777 Freighter is noteworthy because conversions of the major model type, currently a Boeing development study, cross category thresholds. The 777-A is a medium widebody, while the 777-200ER Converted Freighter and the 777 Production Freighter are in the large category.

FREIGHTER FLEET IS GROUPED INTO SIZE CATEGORIES

Standard-body (<45 tonnes)	Medium widebody (40–80 tonnes)	Large (>80 tonnes)
BAe 146	767*	MD-11
DC-9*	A300*	747*
737*	A310*	777
727*	L-1011SF	A350
Tu-204	DC-10*	A380
707*	787	IL-96T
DC-8*	A330*	AN-124
757-200	777-A SF	
A320*	IL-76 TD	
MD-80*		

*Represents a series.
Production and conversion (SF) models assumed for each type unless otherwise specified.

Integrated top-down/bottom-up forecast methodology

Our integrated top-down/bottom-up approach combines a thorough analysis of macro trends in the industry with detailed consideration of regional and operator-specific information, trends, and strategies.

FREIGHTER FLEET FORECAST METHODOLOGY

<i>World Air Cargo Forecast</i> Projected traffic	Total cargo Demand
minus	-
<i>Current Market Outlook</i> Passenger and combi airplane forecast	Lower hold lift Supply
equals	=
Freighter airplane requirement	Needed freighter lift Supply

First, a top-down forecast is built of world air cargo traffic flows. Next, current and projected lower-hold cargo capacity (adjusted for passenger baggage requirements) is subtracted from total air cargo demand, developed for the *World Air Cargo Forecast*. Analysis from the companion Boeing publication, *Current Market Outlook* (www.boeing.com/commercial/cmo), is used in evaluating available lower-hold lift for each carrier by region. More recent developments are also factored in, such as the imposition of checked baggage fees and the restrictive security requirements on lower-hold capacity. The freighter fleet lift requirement is calculated from the difference between total demand for air traffic services and the supply of revenue cargo capacity provided by the passenger fleet. Remaining air cargo traffic is apportioned to regional domiciles.

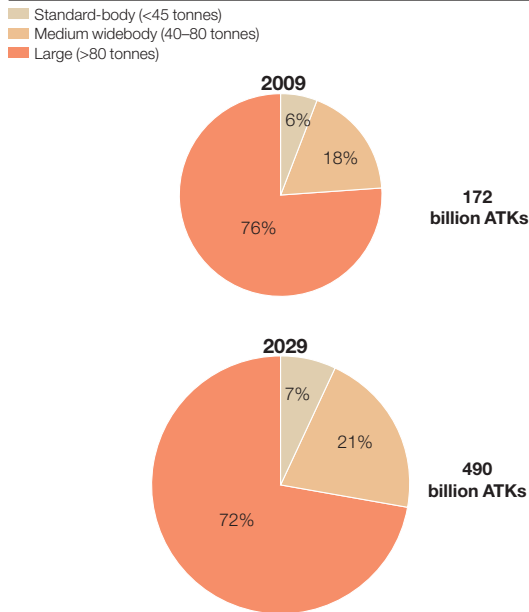
After identifying the likely nature and timing of future freighter offerings, an assessment is made of airplane capability, performance, and availability. At the regional domicile level for each airline (or from the bottom-up), such variables as fleet type and age, airplane size, retirements, utilization, load factor, market share, service, and market strategies are included. The exhaustive top-down/bottom-up analysis is rounded out, balancing these variables with total air cargo lift, traffic, and availability of passenger aircraft for conversion.

Freighter fleet development

Widebody freighters will continue to supply nearly 95% of the world's freighter capacity. The number of large freighters will grow and increasing numbers of medium widebody conversion freighters will join the fleet.

Widebody freighters will account for about 60% of the airplanes in the freighter fleet by 2029. The widebody share is sustained by a long-standing trend toward large freighters, which drove the large freighter share from 22% in 2001 to 27% today. The large freighter share will rise even higher to 33% by 2029.

WIDEBODY FREIGHTERS REPRESENT NEARLY 95% OF FUTURE FLEET CAPACITY



Given their higher payload capability and greater economic efficiency, it is not surprising that widebodies account for the dominant share of capacity in the freighter fleet. In particular, the large freighter share of fleet capacity has grown from 66% in 2001 to more than 75% today.

The 747 Freighter illustrates how strongly airplane size affects capacity share in the overall fleet and helps explain the continuing dominance of the large category. The largest line-haul freighter in service, the 747F represents only 18% of the freighter fleet, with more than 250 purpose-built and conversion freighters flying. Yet, its size, high utilization, and high load factors allow the 747F to provide more than half of the world's total freighter capacity. With a strong backlog, the worldwide popularity of production and conversion 747 Freighters will sustain their share of the world's large freighter fleet. This will occur despite continued retirement of Classics, even as newer large freighter models are added to the fleet during the next 20 years.

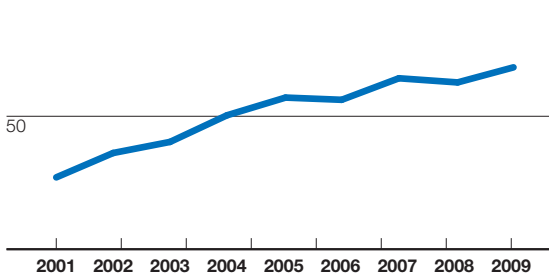
The medium widebody share of the fleet will increase more modestly from 18% to 21%. Two important factors drive this increase. First, one-for-one replacement of older IL-76 TDs, A300Fs, and 767Fs with larger, more capable A330Fs, 777-A SFs, and 787Fs will significantly increase fleet capacity. Second, newer passenger airplanes in this size category will become available for conversion in greater numbers as manufacturers accelerate delivery of widebody passenger airplanes to offset production delays.

The trend toward larger freighters can be seen by examining average payload growth between 2001 and 2009. During this eight-year period, average freighter payload increased about 18%—slightly more than 2% per year. For the 20-year forecast period, average freighter payload will increase less rapidly, under 1% per year, due to continuing market and fleet trends.

Significant projected increases in the world’s fleet of standard-body freighters should not be overlooked. Nearly 1,100 units will be added to the fleet, representing an 80% increase in the number of aircraft for this payload category. As a result, the standard-body share of fleet capacity will increase slightly from 6% to 7% during the forecast period. The wide availability of 737, A320, A321, and 757 passenger airplanes that are commonly configured makes these models attractive candidates for conversion.

EFFICIENCY DRIVES CONTINUING AVERAGE FREIGHTER SIZE INCREASE

Average freighter airplane capacity (tonnes)
60
50



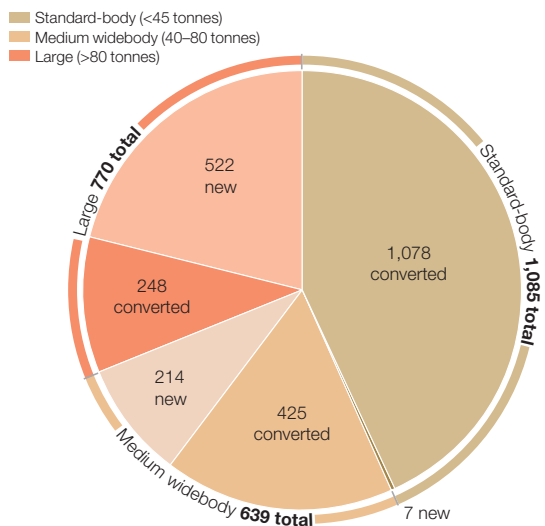
Production and conversion freighters

Operators targeting premium, long-range service often find production freighters more attractive than conversion freighters. Greater reliability, utilization, and capability can be significant competitive advantages.

During the next 20 years, more than 70% of fleet additions for replacement and market growth needs will come from modified passenger and combi airplanes. Yet, production freighters will continue to play an important role because their superior reliability, operating cost, and capability can outweigh the significant on-ramp acquisition cost advantages enjoyed by conversions.

The breadth of the airplane family can be as important in the conversion market as it is in the production freighter market. Therefore, aircraft manufacturers and conversion providers continue to expand their offerings.

THE PERCENTAGE OF NEW TO CONVERTED FREIGHTERS GROWS WITH AIRCRAFT SIZE



**Total 2,494 units delivered
(1,751 converted, 743 production)**

Because cargo payloads generate, on average, only half as much revenue by weight as passenger payloads, freighter profitability is extremely sensitive to airplane size. Thus, the smaller the airplane, the more significant acquisition cost becomes. Sensitivity to acquisition cost explains why the ratio of new freighters to conversions grows as freighter size increases. Only one-third of the large freighters added to the fleet will be conversions because production models offer higher aircraft utilization and better profit potential in higher yield, long-distance markets. The percentages are nearly reversed, however, for medium widebodies where two-thirds of fleet additions will be conversions. Because newer passenger airplanes are readily available, many of these will be converted well ahead of the historical 15- to 20-year prime window of opportunity. For standard-bodies, nearly all fleet additions will be conversions. Among widebodies in general, the 747, 777, 767, and A330 will be the most popular conversions. For standard-bodies, the 737, 757, A320, and A321 will predominate.

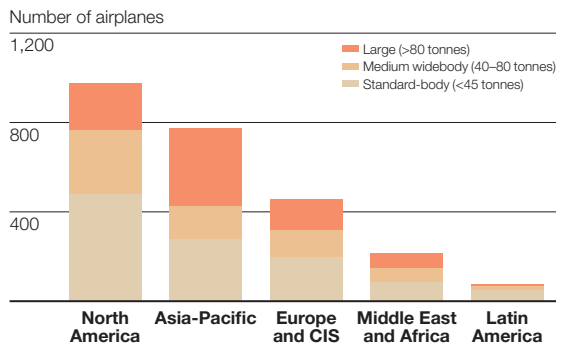
Freighter deliveries by carrier domicile and operational model

Asia-Pacific all-cargo/combination carriers will continue to receive the greatest number of large freighters, which are uniquely suited to their long-haul, intercontinental routes. A majority of medium widebodies support express carrier networks, generating higher yields against lower payload economics. Standard-bodies will serve emerging regional, niche, and express markets.

Nearly 40% of all freighter deliveries during the 20-year forecast period will be to carriers in North America, predominately express operations. Historically, up to 80% of medium widebodies, both production and converted, have supported express operations, where relatively low airplane utilization makes converted freighters economically attractive.

Asia-Pacific carriers will continue to receive the greatest number of large freighters in order to serve their long-haul, intercontinental routes. Standard-

NORTH AMERICA LEADS IN TOTAL DELIVERIES; ASIA, IN LARGE FREIGHTERS



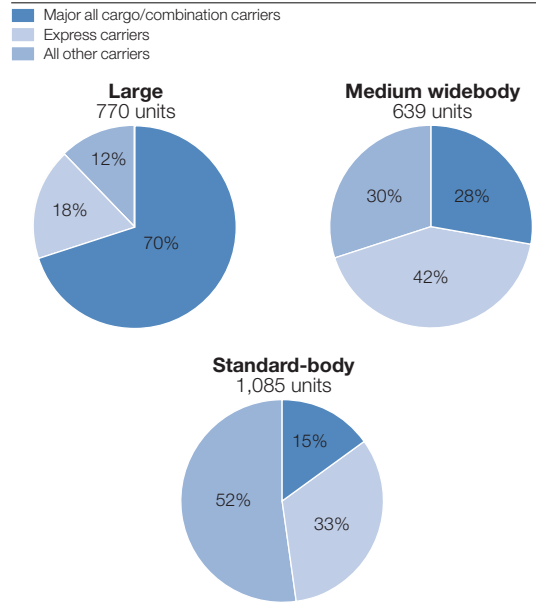
Deliveries include both production and conversion models.

bodies will continue to support the needs of emerging regions, niche segments, and express operations. Competitively priced surface transport and lower-hold air freight alternatives constrain expansion of the medium widebody fleet in Asia and Europe. The Middle East and Africa fleet will be more balanced in size of freighters delivered. Latin America is forecast to receive mostly standard-body freighters for use within the region and medium widebodies for service to other regions.

The majority of medium widebody freighters delivered during the next 20 years will go to dedicated express operators or airlines supporting express operations. The higher yield express-traffic growth rate exceeds the industry average, which helps make medium widebodies attractive for fleet growth and replacement of smaller freighters. Aircraft utilization tends to be relatively low for express carriers, so converted freighters are particularly suitable for these operations.

Long-distance and general cargo carriers tend to favor the economics of large freighters and the reliability of production freighters. Regional and niche carriers, challenged by cost-competitive ground transport modes, tend to favor standard-body converted freighters for their lower purchase price and low trip costs. The medium widebody market is therefore bounded on both sides. The large freighter category consequently enjoys the highest potential for new freighter market growth.

LARGE FREIGHTERS TO GENERAL CARRIERS; MEDIUM WIDEBODIES FOR EXPRESS



WORLD AIR CARGO FORECAST 2010-2011

GLOSSARY

ACI	Airports Council International
Agreement on Textiles and Clothing	A World Trade Organization agreement in place between 1995 and 2004 that required nations to remove gradually the textile quotas allowed under the Multifiber Arrangement
aircraft, crew, maintenance, and insurance (ACMI)	Package (or wet) lease of an airplane. The package includes the aircraft, crew, maintenance, and insurance but excludes fuel
ASEAN free trade signatories	Association of Southeast Asian Nations composed of Brunei, Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. Trade objectives include tariff reductions and customs harmonization with similar agreements concluded recently covering non-member nations such as China, India, Korea, and Japan
Asia's economic crisis	Major economic downturn lasting through 1998 and a portion of 1999. The downturn was precipitated by the mid-1997 Thai currency collapse and adversely affected most of Asia's banking, currency, and investment sectors
Asia's Pacific Rim (PAC-12)	The 12 major Asia-Oceania economies: Australia, Hong Kong, Indonesia, Japan, South Korea, Malaysia, New Zealand, the People's Republic of China, the Philippines, Singapore, Taiwan, and Thailand
ATA	Air Transport Association
available tonne-kilometer (ATK)	The number of tonnes that can be carried multiplied by the number of kilometers flown
bottom-up approach	Analysis technique that begins at the most detailed (micro) level and moves with less specificity toward the macro level only after considering complex, interrelated foundational effects
CAAC	Civil Aviation Administration of China
CAEP	Committee on Aviation Environmental Protection. An ICAO consultative body that studies the impact of aviation on the environment concerning noise and emissions consistent with the Kyoto Protocol framework to the United Nations
cargo	Freight, express, and airmail (for the purposes of this document)
CIS	Commonwealth of Independent States
combi (combination)	An aircraft capable of simultaneously carrying passengers and cargo on the main deck
European Union (EU)	A political and economic regional bloc in Europe that consists of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom
Eurozone	A currency union among European Union member states (Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovenia and Spain) that have adopted the euro as their sole official currency. The Eurosystem, headed by the European Central Bank, is responsible for monetary policy within the Eurozone

express	Cargo with a guaranteed or time-definite service component. Express carriers usually are characterized as “integrated” because, in addition to carrying mostly airport-to-airport, time-definite cargo, they also offer many other services, such as door-to-door pickup and delivery
foreign direct investment (FDI)	Investment in a country’s manufacturing or service sector by an entity domiciled in another country. Normally a holding of 10% or more in an enterprise
freight tonne-kilometer (FTK)	One tonne of cargo carried one kilometer
GDP	Gross domestic product; the total output of goods and services for a country
global economic downturn	The most severe period of economic contraction since the Great Depression. Exacerbated by the mid-2008 doubling of fuel prices, culminating in financial collapse during 2009. Full calendar-year aggregate worldwide GDP declined 2%
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICAO noise regulations	Noise certification standards adopted by an ICAO council and contained in Annex 16. Subsequent additions—currently up to Chapter 4 starting January 1, 2006, covering newly certificated and recertificated airplanes—define ever more stringent noise standards. A Chapter 3-compliant example is the Boeing 737-300/400
Indochina	Cambodia, Laos, and Vietnam
industrial production	An economic report that measures changes in output of manufacturing, mining, and utilities. It is an important component of GDP and economic performance
integrator	A cargo company that offers its customers complete services: pickup, airport-to-airport transport, delivery, and all the supporting ancillary services. Usually synonymous with a carrier that provides express services
jet fuel (spot market) price	Price for one-time open market transaction covering immediate delivery purchased at current market rates
just-in-time	A manufacturing and distribution approach that meets immediate needs as opposed to relying on large inventories
less than truckload (LTL)	A term used by motor carriers to designate smaller shipments handled as loose pieces as opposed to full truckloads
line-haul	Point-to-point basic cargo carriage that offers minimal additional services
load factor	Revenue tonne-kilometers divided by available tonne-kilometers
Mercosur	A regional trade agreement between Argentina, Brazil, Paraguay, and Uruguay established in 1991 to promote trade in the region
9/11 Commission Act of 2007	US Congressional legislation signed into law in August 2007 specifically implementing some 9/11 Commission recommendations including 100% inspection of all air and sea cargo entering the United States as well as redistributing antiterrorism funding
on-ramp acquisition cost	Total costs, including those for airframe, maintenance, upgrades, and conversion, to make a freighter ready for service
outsize cargo	Freight that is larger than can be accommodated on standard pallets, but often carried by nose-door-equipped 747 or purpose-built Russian freighters
revenue tonne-kilometer (RTK)	Usually used interchangeably with freight tonne-kilometer but can include passenger weight for total revenue

road feeder service (RFS)	Cargo that is transported by surface, usually by dedicated truck, on an airway bill. Carriage between origin and destination can be exclusively by air or surface. Also referred to as "truck flight"
Schengen Accord	An agreement initially ratified by Belgium, France, Germany, Luxembourg, and the Netherlands on June 19, 1990. The agreement exempts the citizens of signatory nations from customs inspections. Other EU countries have since ratified the agreement
sea-air market	Market in which cargo is transported from origin to destination by sea and air, taking advantage of the lower cost by ship between seaports and the speed of air over landmasses to balance time and cost
severe acute respiratory syndrome (SARS)	Highly communicable virus that originated in southern China. Negatively affected mostly China and Southeast Asia
sixth freedom	The right to carry passengers or cargo from a second country to a third country by stopping in one's own country
Southeast Asia	Thailand, Malaysia, Indonesia, and Singapore
time-definite shipment	Cargo services with a performance guarantee based on time. Often includes a refund of all or a portion of the payment made for same service if the advertised delivery time is not met
top-down approach	An analysis technique that begins with a broader (macro) perspective and applies trends and conclusions to more specific situations
truck flight	Also known as "road feeder service." Cargo that is transported by surface, usually by a dedicated truck, on an airway bill. Carriage between origin and destination can be exclusively by surface or also may feed into airport-to-airport or surface transportation
twenty-foot equivalent unit (TEU)	A unit of measure representing a standard, usually seaborne, shipping container approximately 20 feet long and 8 feet wide. Often transferred between modes of transportation
UAE	United Arab Emirates
US	United States
wet lease	An arrangement that covers all facets of operating an airplane on a carrier's behalf, including the airframe, crew, and most, if not all, of the airplane-related expense items
WTO	World Trade Organization
Yamoussoukro Declaration	A 1999 multilateral agreement among African states designed to liberalize air transport markets for the carriage of passengers, freight, and mail
yield	Airline charges as measured in units of aggregated weight and distance (e.g., revenue per tonne-kilometer). Inclusion of surcharges, usually security or fuel or both, varies by the carrier reporting



WORLD AIR CARGO FORECAST 2010-2011

APPENDIX

World Airlines RTKs, millions

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
US airlines											
Freight	39,298	41,640	38,470	40,441	41,694	44,955	45,379	46,767	47,055	45,102	38,997
Mail	4,030	4,086	3,748	4,210	4,192	4,128	4,004	4,121	3,890	3,928	3,523
Total	43,328	45,727	42,218	44,651	45,886	49,083	49,383	50,888	50,944	49,030	42,519
Non-US airlines											
Freight	92,623	101,863	97,284	103,985	109,113	123,910	126,743	131,385	137,284	135,820	121,307
Mail	2,482	2,562	2,645	2,709	2,594	2,816	2,993	3,011	3,205	3,195	2,965
Total	95,104	104,425	99,930	106,694	111,707	126,726	129,736	134,397	140,490	139,015	124,272
World airlines, US and non-US											
Freight	131,920	143,503	135,754	144,426	150,808	168,865	172,122	178,153	184,339	180,923	160,303
Mail	6,512	6,648	6,393	6,919	6,786	6,943	6,998	7,132	7,095	7,122	6,488
Total	138,432	150,152	142,147	151,345	157,593	175,808	179,119	185,285	191,434	188,045	166,791

US Airlines RTKs, millions

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
US domestic											
Scheduled freight	4,357	4,704	4,111	4,127	4,279	4,632	4,355	4,043	3,559	3,024	2,727
Charter freight	477	733	911	657	790	1,112	923	1,257	1,388	685	555
Mail	3,304	3,314	3,057	3,536	3,473	3,431	3,310	3,386	3,145	3,140	2,905
Express carriers	13,608	13,791	12,381	12,513	12,875	13,435	13,445	13,439	13,696	12,819	11,036
Total	21,746	22,542	20,460	20,834	21,418	22,611	22,032	22,124	21,789	19,667	17,223
US international											
Scheduled freight	17,560	19,695	18,668	19,599	19,010	20,332	20,700	22,719	23,125	22,495	19,741
Charter freight	3,295	2,717	2,399	3,545	4,739	5,443	5,957	5,309	5,286	6,081	4,938
Mail	726	772	691	674	719	697	695	735	745	787	617
Total	21,582	23,185	21,757	23,817	24,468	26,472	27,351	28,764	29,156	29,362	25,296
Total US airlines											
Scheduled freight	21,917	24,399	22,779	23,726	23,289	24,965	25,055	26,762	26,685	25,518	22,468
Charter freight	3,773	3,450	3,310	4,202	5,529	6,556	6,879	6,566	6,674	6,765	5,493
Mail	4,030	4,086	3,748	4,210	4,192	4,128	4,004	4,121	3,890	3,928	3,523
Express carriers	13,608	13,791	12,381	12,513	12,875	13,435	13,445	13,439	13,696	12,819	11,036
Grand total	43,328	45,727	42,218	44,651	45,886	49,083	49,383	50,888	50,944	49,030	42,519

*Preliminary

Non-US Airlines RTKs, millions

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
Europe (except CIS)											
Freight	30,511	33,082	31,595	31,692	32,771	35,606	36,420	37,826	39,035	38,320	31,921
Mail	927	995	1,011	974	984	1,052	1,077	1,031	1,028	1,035	946
Total	31,438	34,078	32,606	32,667	33,755	36,658	37,497	38,857	40,063	39,354	32,867
Western hemisphere											
Freight	6,105	6,274	5,810	5,519	5,503	6,347	6,093	5,918	6,258	6,669	6,288
Mail	270	234	219	235	104	106	221	197	204	211	204
Total	6,375	6,508	6,029	5,754	5,607	6,453	6,314	6,115	6,462	6,879	6,491
Middle East											
Freight	4,180	4,605	4,531	5,613	6,460	7,900	8,880	9,638	10,579	12,497	12,398
Mail	73	82	86	96	117	127	127	136	185	93	90
Total	4,253	4,688	4,617	5,710	6,577	8,027	9,006	9,774	10,764	12,590	12,489
Asia and Pacific											
Freight	44,142	47,596	45,041	50,637	52,041	59,086	61,140	64,674	68,000	64,894	59,101
Mail	1,130	1,159	1,228	1,305	1,285	1,409	1,453	1,542	1,672	1,707	1,576
Total	45,272	48,755	46,268	51,941	53,326	60,494	62,593	66,216	69,672	66,600	60,677
Africa											
Freight	2,056	2,107	2,057	1,831	1,980	2,168	2,240	2,394	2,218	2,010	1,815
Mail	42	46	50	42	43	48	52	37	40	71	71
Total	2,098	2,152	2,107	1,873	2,023	2,216	2,292	2,431	2,259	2,082	1,886
CIS											
Freight	1,050	1,224	1,124	1,248	1,324	1,599	1,710	2,107	2,368	2,591	2,537
Mail	41	45	52	56	60	74	63	68	76	78	78
Total	1,091	1,269	1,175	1,304	1,384	1,673	1,773	2,175	2,443	2,670	2,616
Total non-US scheduled cargo											
Freight	88,045	94,889	90,158	96,540	100,079	112,706	116,483	122,557	128,458	126,981	114,061
Mail	2,482	2,562	2,645	2,709	2,594	2,816	2,993	3,011	3,205	3,195	2,965
Total	90,526	97,451	92,804	99,249	102,673	115,521	119,476	125,568	131,663	130,175	117,026
Total non-US charter freight	4,578	6,974	7,126	7,445	9,034	11,205	10,260	8,829	8,827	8,840	7,246
Total non-US cargo (scheduled and charter)	95,104	104,425	99,930	106,694	111,707	126,726	129,736	134,397	140,490	139,015	124,272

*Preliminary





Boeing Commercial Airplanes

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