

ATLAS AIR WORLDWIDE HOLDINGS INC
Form 10-K
February 19, 2019

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF
1934

Commission file number 001-16545

Atlas Air Worldwide Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware	13-4146982
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
2000 Westchester Avenue, Purchase, New York	10577
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (914) 701-8000

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class
Common Stock, \$0.01 Par Value
Name of Each Exchange on Which Registered
The NASDAQ Global Select Market
SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

None

Indicate by check mark if the registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit). Yes No

Indicate by check mark whether disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes No

The aggregate market value of the registrant's Common Stock held by non-affiliates based upon the closing price of Common Stock as reported on The NASDAQ Global Select Market as of June 30, 2018 was approximately \$1,570.9 million. In determining this figure, the registrant has assumed that all directors, executive officers and persons known

to it to beneficially own ten percent or more of such Common Stock are affiliates. This assumption shall not be deemed conclusive for any other purpose. As of February 14, 2019, there were 25,748,988 shares of the registrant's Common Stock outstanding.

Documents Incorporated by Reference:

Certain portions of the registrant's Proxy Statement relating to the 2019 Annual Meeting of Stockholders, to be filed with the Securities and Exchange Commission, are incorporated by reference into Part III.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this “Report”), as well as other reports, releases and written and oral communications issued or made from time to time by or on behalf of Atlas Air Worldwide Holdings, Inc. (“AAWW”), contain statements that may constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Those statements are based on management’s beliefs, plans, expectations and assumptions, and on information currently available to management. Generally, the words “will,” “may,” “should,” “expect,” “anticipate,” “intend,” “plan,” “continue,” “believe,” “seek,” “project,” “estimate” and similar expressions used in this Report that do not relate to historical facts are intended to identify forward-looking statements.

The forward-looking statements in this Report are not representations or guarantees of future performance and involve certain risks, uncertainties and assumptions. Such risks, uncertainties and assumptions include, but are not limited to, those described in Item 1A, “Risk Factors.” Many of such factors are beyond AAWW’s control and are difficult to predict. As a result, AAWW’s future actions, financial position, results of operations and the market price for shares of AAWW’s common stock could differ materially from those expressed in any forward-looking statements. Readers are therefore cautioned not to place undue reliance on forward-looking statements. Such forward-looking statements speak only as of the date of this report. AAWW does not intend to publicly update any forward-looking statements that may be made from time to time by, or on behalf of, AAWW, whether as a result of new information, future events or otherwise, except as required by law and expressly disclaims any obligation to revise or update publicly any forward-looking statement to reflect future events or circumstances.

PART I

ITEM 1. BUSINESS

Glossary

The following represents terms and statistics specific to our business and industry. They are used by management to evaluate and measure operations, results, productivity and efficiency.

Block Hour	The time interval between when an aircraft departs the terminal until it arrives at the destination terminal.
C Check	“Heavy” airframe maintenance checks, which are more intensive in scope than Line Maintenance and are generally performed between 18 and 24 months depending on aircraft type.
D Check	“Heavy” airframe maintenance checks, which are the most extensive in scope and are generally performed every six or eight years depending on aircraft type.
Heavy Maintenance	Scheduled maintenance activities that are extensive in scope and are primarily based on time or usage intervals, which include, but are not limited to, C Checks, D Checks and engine overhauls. In addition, unscheduled engine repairs involving the removal of the engine from the aircraft are considered to be Heavy Maintenance.
Line Maintenance	Maintenance events occurring during normal day-to-day operations.
Non-heavy Maintenance	Discrete maintenance activities for the overhaul and repair of specific aircraft components, including landing gear, auxiliary power units and engine thrust reversers.
Yield Overview	The average amount a customer pays to fly one tonne of cargo one mile.

AAWW is a holding company with two wholly owned operating subsidiaries, Atlas Air, Inc. (“Atlas”) and, as of April 7, 2016, Southern Air, Inc. (“Southern Air”). It also has a 51% economic interest and 75% voting interest in Polar Air Cargo Worldwide, Inc. (“Polar”). In addition, AAWW is the parent company of several wholly owned subsidiaries related to our dry leasing services (collectively referred to as “Titan”). When used in this Report, the terms “we,” “us,” “our” and the “Company” refer to AAWW and all entities in our consolidated financial statements.

We are a leading global provider of outsourced aircraft and aviation operating services. We operate the world's largest fleet of 747 freighters and provide customers a broad array of 747, 777, 767, 757 and 737 aircraft for domestic, regional and international cargo and passenger applications. We provide unique value to our customers by giving them access to highly reliable new production freighters that deliver the lowest unit cost in the marketplace combined with outsourced aircraft operating services that we believe lead the industry in terms of quality and global scale. Our customers include express delivery providers, e-commerce retailers, airlines, freight forwarders, the U.S. military and charter brokers. We provide global services with operations in Africa, Asia, Australia, Europe, the Middle East, North America and South America.

Our primary service offerings include the following:

• **ACMI**, whereby we provide outsourced cargo and passenger aircraft operating solutions, including the provision of an aircraft, crew, maintenance and insurance, while customers assume fuel, demand and price risk. In addition, customers are generally responsible for landing, navigation and most other operational fees and costs;

• **CMI**, which is part of our ACMI business segment, whereby we provide outsourced cargo and passenger aircraft operating solutions, generally including the provision of crew, Line Maintenance and insurance, but not the aircraft. Customers assume fuel, demand and price risk, and are responsible for providing the aircraft (which they may lease from us) and generally responsible for Heavy and Non-Heavy Maintenance, landing, navigation and most other operational fees and costs;

• **Charter**, whereby we provide cargo and passenger aircraft charter services to customers, including the U.S. Military Air Mobility Command ("AMC"), brokers, freight forwarders, direct shippers, airlines, sports teams and fans, and private charter customers. The customer generally pays a fixed charter fee that includes fuel, insurance, landing fees, navigation fees and most other operational fees and costs; and

• **Dry Leasing**, whereby we provide cargo and passenger aircraft and engine leasing solutions. The customer operates, and is responsible for insuring and maintaining, the flight equipment.

We believe that the scale, scope and quality of our outsourced services are unparalleled in our industry. The relative operating cost efficiency of our current 747-8F, 747-400F and 777-200LRF aircraft, including their superior fuel efficiency, range, capacity and loading capabilities, creates a compelling value proposition for our customers and positions us well in the markets we operate. Our growing fleet of 767-300 freighter aircraft, in addition to our 737-400 freighter aircraft, are well-suited for regional and domestic operations.

We are focused on the further enhancement of our market-leading ACMI and CMI services. We are currently the only operator offering both 747-8 and 777 freighter aircraft under ACMI and CMI agreements, and we have the flexibility to expand our fleet in response to market conditions. We believe that our current fleet represents one of the most efficient, reliable freighter fleets in the market. Our primary placement for our 747-8F and 747-400F aircraft continues to be long-term ACMI outsourcing contracts with high-credit-quality customers.

During 2018, we continued to expand our CMI and Dry Leasing services with the placement into service of eight Boeing 767-300 freighter aircraft with Amazon.com, Inc. and its subsidiary, Amazon Fulfillment Services, Inc., (collectively "Amazon"), under agreements which involve, among other things, the leasing and operation of 20 aircraft. Between August 2016 and November 2018, we placed all 20 of these aircraft into service. In addition to those contracts, our Dry Leasing business includes eight 777 freighters, two of which were acquired in 2018, that are Dry Leased to customers on a long-term basis. Our Dry Leasing portfolio diversifies our business mix and enhances our predictable, long-term revenue and earnings streams.

AAWW was incorporated in Delaware in 2000. Our principal executive offices are located at 2000 Westchester Avenue, Purchase, New York 10577, and our telephone number is (914) 701-8000.

Operations

Introduction. Our business is organized into three operating segments based on our service offerings: ACMI, Charter and Dry Leasing. All segments are directly or indirectly engaged in the business of air transportation services but have different commercial and economic characteristics. Each operating segment is separately reviewed by our chief operating decision maker to assess operating results and make resource allocation decisions. Additional information regarding our reportable segments can be found in Note 14 to our consolidated financial statements included in Item 8 of Part II of this Report (the “Financial Statements”).

ACMI. The core of our business is generally providing cargo aircraft outsourcing services to customers on an ACMI and CMI basis, in exchange for guaranteed minimum revenues at predetermined levels of operation for defined periods of time. ACMI and CMI contracts generally provide a predictable annual revenue and cost base by minimizing the risk of fluctuations such as price, fuel and demand risk in the air cargo business. Our revenues and most of our costs under ACMI and CMI contracts are denominated in U.S. dollars, minimizing currency risks associated with international business.

All of our ACMI and CMI contracts provide that the aircraft remain under our exclusive operating control, possession and direction at all times. These contracts further provide that both the contracts and the routes to be operated may be subject to prior and periodic approvals of the U.S. or foreign governments. The original length of these contracts generally ranges from two to seven years, although we do offer contracts of shorter or longer duration. In addition, we have also operated short-term ACMI cargo and passenger services and we expect to continue to provide such services.

Charter. Our Charter business primarily provides full planeload cargo and passenger aircraft to customers, including the AMC, brokers, freight forwarders, direct shippers, airlines, sports teams and fans, and private charter customers. Charters are for one or more flights based on a specific origin and destination. Atlas also provides limited airport-to-airport cargo services to select markets, including several cities in South America. In addition, we occasionally earn revenue on subcontracted Charter flights. Atlas typically bears all direct operating costs for both cargo and passenger charters, which include fuel, insurance, landing and navigation fees, and most other operational fees and costs.

Dry Leasing. Our Dry Leasing business provides aircraft and engines to customers, including some CMI customers, for compensation that is typically based on a fixed monthly amount (a “Dry Lease”). This business is primarily operated by Titan, which is principally a cargo aircraft dry lessor, but also owns and manages aviation assets such as passenger narrow-body aircraft, engines and related equipment. Titan also markets its expertise in asset management, passenger-to-freighter conversion and other aviation-related technical services.

Other Revenue. Other revenue includes administrative and management support services and flight simulator training.

DHL Investment and Polar

DHL Network Operations (USA), Inc. (“DHL”) holds a 49% equity interest and a 25% voting interest in Polar (see Note 3 to our Financial Statements). AAWW owns the remaining 51% equity interest and 75% voting interest. Under a 20-year blocked space agreement that expires in 2027 (the “BSA”), Polar provides air cargo capacity to DHL. Atlas and Polar also have a flight services agreement, whereby Atlas is compensated by Polar on a per Block Hour basis, subject to a monthly minimum Block Hour guarantee, at a predetermined rate with the opportunity for performance premiums that escalate annually. Under the flight services agreement, Atlas provides Polar with crew, maintenance and insurance for the aircraft. Under separate agreements, Atlas and Polar supply administrative, sales and ground support services to one another. Deutsche Post AG (“DP”) has guaranteed DHL’s (and Polar’s) obligations under the various

agreements described above. AAWW has agreed to indemnify DHL for and against various obligations of Polar and its affiliates. Collectively, these agreements are referred to in this Report as the “DHL Agreements”. The DHL Agreements provide us with a minimum guaranteed annual revenue stream from aircraft that have been placed in service with Polar for DHL and other customers’ freight over the life of the agreements. DHL provides financial support and also assumes the risks and rewards of the operations of Polar.

Combined with Polar, we provide ACMI, CMI, Charter and Dry Leasing services to support DHL's transpacific-express, North American, intra-Asian, and global networks. In addition, we fly between the Asia Pacific region, the Middle East and Europe on behalf of DHL and other customers. Atlas also provides incremental charter capacity to Polar and DHL from time to time. The following table summarizes the aircraft types and services provided to Polar and DHL as of December 31, 2018:

Aircraft	Service	Total
747-8F	ACMI	6
747-400F	ACMI	9
777-200LRF	CMI	4
777-200LRF	CMI and Dry Leasing	2
767-300	CMI and Dry Leasing	4
767-200	CMI	9
737-400F	CMI	5
757-200F	Dry Leasing	1
Total		40

Amazon

In May 2016, we entered into certain agreements with Amazon, which involve, among other things, CMI operation of 20 Boeing 767-300 freighter aircraft for Amazon by Atlas, as well as Dry Leasing by Titan. The Dry Leases have a term of ten years from the commencement of each agreement, while the CMI operations are for seven years from the commencement of each agreement (with an option for Amazon to extend the term to ten years). Between August 2016 and November 2018, we placed all 20 freighter aircraft into service for Amazon.

In conjunction with these agreements, we granted Amazon a warrant providing the right to acquire up to 20% of our outstanding common shares, after giving effect to the issuance of shares pursuant to the warrants, at an exercise price of \$37.50 per share. A portion of the warrant, representing the right to purchase 3.75 million shares, vested upon issuance of the warrant. The remainder of the warrant, representing the right to purchase 3.75 million shares, vested in increments of 375,000 when the lease and operation of each of the 11th through 20th aircraft commenced. The warrant is exercisable in accordance with its terms through 2021. As of December 31, 2018, no portion of the warrant has been exercised.

The agreements also provide incentives for future growth of the relationship as Amazon may increase its business with us. In that regard, we granted Amazon a warrant to acquire up to an additional 10% of our outstanding common shares, after giving effect to the issuance of shares pursuant to the warrants, for an exercise price of \$37.50 per share. This warrant to purchase 3.75 million shares would vest in conjunction with payments by Amazon for additional business with us. As of December 31, 2018, no portion of this warrant has vested. Upon vesting, the warrant would become exercisable in accordance with its terms through 2023.

Sales and Marketing

We have regional sales offices in various locations around the world that cover the Americas, Asia Pacific, Europe, Africa and Middle East regions. These offices market our ACMI, CMI and Dry Leasing services to express delivery providers, e-commerce retailers, airlines and freight forwarders. They also market our cargo and passenger Charter services to charter brokers, the U.S. military, freight forwarders, direct shippers and airlines.

Fuel

Historically, aircraft fuel is one of the most significant expenses for us. During 2018, 2017 and 2016, fuel costs represented 19.5%, 17.4%, and 16.5%, respectively, of our total operating expenses. Fuel prices and availability are subject to wide price fluctuations based on geopolitical issues, supply and demand, which we can neither control nor accurately predict.

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Our exposure to fluctuations in fuel price is limited to the commercial portion of our Charter business only, but this risk is partially mitigated by using indexed fuel price adjustments for certain commercial charter contracts. The ACMI and Dry Leasing segments have no direct fuel price exposure because our customers are required to pay for aircraft fuel. Similarly, we generally have no fuel price risk for AMC charters because the price is set under our contract with the AMC, and we receive or make payments to adjust for price increases and decreases from the contractual rate.

In the past, we have not experienced significant difficulties with respect to fuel availability. Although we do not currently anticipate a significant reduction in the availability of aircraft fuel, a number of factors, such as geopolitical uncertainties in oil-producing nations and shortages of and disruptions to refining capacity or transportation of aircraft fuel from refining facilities, make accurate predictions unreliable. For example, hostilities and political turmoil in oil-producing nations could lead to disruptions in oil production and or to substantially increased oil prices. Any inability to obtain aircraft fuel at competitive prices would materially and adversely affect our results of operation and financial condition.

Employees

Our business depends on highly qualified management, operations and flight personnel. As a percentage of our consolidated operating expenses, salaries, wages and benefits accounted for approximately 22.4% in 2018, 23.8% in 2017 and 25.4% in 2016. As of December 31, 2018, we had 3,275 employees, 1,890 of whom were pilots. We maintain a comprehensive training program for our pilots in compliance with U.S. Federal Aviation Administration (“FAA”) requirements, in which each pilot regularly attends recurrent training programs.

Pilots of Atlas and Southern Air, and flight dispatchers of Atlas and Polar, are represented by the International Brotherhood of Teamsters (the “IBT”). These employees represented approximately 58.5% of our workforce as of December 31, 2018. We have a five-year collective bargaining agreement (“CBA”) with our Atlas pilots, which became amendable in September 2016; and a four-year CBA with the Southern Air pilots, which became amendable in November 2016. We also have a five-year CBA with our Atlas and Polar dispatchers, which was extended in April 2017 for an additional four years, making the CBA amendable in November 2021.

After we completed the acquisition of Southern Air in April 2016, we informed the IBT of our intention to pursue (and we have been pursuing) a complete operational merger of Atlas and Southern Air. Pursuant to the merger provisions in both the Atlas and Southern Air CBAs, joint negotiations for a single CBA for Atlas and Southern Air should commence promptly. Further to this process, once a seniority list is presented to us by the unions, it triggers an agreed-upon timeframe to negotiate a new joint CBA with any unresolved issues submitted to binding arbitration. After the merger process began, the IBT filed an application for mediation with the National Mediation Board (“NMB”) on behalf of the Atlas pilots, and subsequently the IBT filed a similar application on behalf of Southern Air pilots. We have opposed both mediation applications as they are not in accordance with the merger provisions in the parties’ existing CBAs. The Atlas and Southern Air CBAs have a defined and streamlined process for negotiating a joint CBA when a merger occurs, as in the case with the Atlas and Southern Air merger. The NMB conducted a premediation investigation on the IBT’s Atlas application in June 2016, which is currently pending (along with the IBT’s Southern Air application). Due to a lack of meaningful progress in such merger discussions, in February 2017, we filed a lawsuit against the IBT to compel arbitration on the issue of whether the merger provisions in Atlas and Southern Air’s CBAs apply to the bargaining process. On March 13, 2018, the Southern District Court of New York (“NY Court”) granted the Company’s motion to compel arbitration on this issue. The IBT appealed the NY Court’s decision, which is currently pending. The Company and the IBT conducted the Atlas and Southern Air arbitrations for this issue in October 2018. The Company expects to receive the arbitration decisions in the first half of 2019. The Company and the IBT continue to move the process forward and will start bargaining in good faith for a new joint CBA during the first quarter of 2019, subject to a framework agreement, until the Atlas and Southern Air arbitrations

are decided.

In August 2018, the Southern Air pilots ratified an agreement between Southern Air and the IBT for interim enhancements to the Southern Air pilots' CBA. The agreement enhances the wages and work rules of the Southern Air pilots and provides similar terms and conditions of employment to those provided to Atlas pilots in the Atlas CBA. The Southern Air pilot agreement became effective in September 2018.

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In September 2017, the Company requested the U.S. District Court for the District of Columbia (the “DC Court”) to issue a preliminary injunction to require the IBT to meet its obligations under the Railway Labor Act of 1926 (the “Railway Labor Act”) and stop the intentional and illegal work slowdowns and service interruptions. In late November 2017, the Court granted the Company’s request to issue a preliminary injunction to require the IBT to meet its obligations under the Railway Labor Act and stop “authorizing, encouraging, permitting, calling, engaging in, or continuing” any illegal pilot slowdown activities, which were intended to gain leverage in pilot contract negotiations with the Company. In addition, the Court ordered the IBT to take affirmative action to prevent and to refrain from continuing any form of interference with the Company’s operations or any other concerted refusal to perform normal pilot operations consistent with its status quo obligations under the Railway Labor Act. In December 2017, the IBT appealed the DC Court’s decision to the U.S. Court of Appeals for the District of Columbia Circuit and oral arguments were held in September 2018. Pending the outcome of the appeal, the preliminary injunction remains in effect. The Company believes the IBT’s appeal will be unsuccessful and expects the preliminary injunction to remain in effect.

We are subject to risks of work interruption or stoppage as permitted by the Railway Labor Act and may incur additional administrative expenses associated with union representation of our employees.

Maintenance

Maintenance represented our third-largest operating expense for the year ended December 31, 2018. Primary maintenance activities include scheduled and unscheduled work on airframes and engines. Scheduled maintenance activities encompass those activities specified in our maintenance program approved by the FAA. The costs necessary to adhere to these maintenance programs may increase over time, based on the age of the equipment or due to FAA airworthiness directives (“ADs”).

Under the ADs issued pursuant to the FAA’s Aging Aircraft Program, we are subject to extensive aircraft examinations and may be required to undertake structural modifications to our fleet from time to time to address any problems of corrosion and structural fatigue. The FAA has issued increased inspection and maintenance requirements depending on aircraft type and ADs requiring certain additional aircraft modifications. We believe all aircraft in our fleet are in compliance with all existing ADs. It is possible, however, that additional ADs applicable to the types of aircraft or engines included in our fleet could be issued in the future and that the cost of complying with such ADs could be substantial.

Under our FAA-approved maintenance programs, all Heavy Maintenance is currently performed by third-party service providers that are compensated on a time-and-material basis as we believe they provide the most reliable and efficient means of maintaining our aircraft fleet.

Insurance

We maintain insurance of the types and in amounts deemed adequate and consistent with current industry standards. Principal coverage includes: liability for injury to members of the public, including passengers; injury to crewmembers and ground staff; damage to our property and that of others; and loss of, or damage to, flight equipment, whether on the ground or in flight.

Aviation insurance premiums historically have fluctuated based on factors that include the loss history of the industry in general and the insured carrier in particular. We participate in an insurance pooling arrangement with DHL and its partners. This allows us to obtain aviation hull and liability, war-risk hull and cargo loss, crew, third-party liability insurance and hull deductible coverage at reduced rates from the commercial insurance providers.

Governmental Regulation

General. Atlas, Polar and Southern Air (the “Airlines”) are subject to regulation by the U.S. Department of Transportation (the “DOT”) and the FAA, among other U.S. and foreign government agencies. The DOT primarily regulates economic issues affecting air service, such as certification, fitness and citizenship, competitive practices, insurance and consumer protection. The DOT has the authority to investigate and institute proceedings to enforce its economic regulations and may assess civil penalties, revoke operating authority or seek criminal sanctions. The Airlines hold DOT-issued certificates of public convenience and necessity plus exemption authority to engage in scheduled air transportation of property and mail in domestic, as well as enumerated international markets, and charter air transportation of property and mail on a worldwide basis. Atlas additionally holds worldwide passenger charter authority.

The DOT conducts periodic evaluations of each air carrier’s fitness and citizenship. In the area of fitness, the DOT seeks to ensure that a carrier has the managerial competence, compliance disposition and financial resources needed to conduct the operations for which it has been certificated. Additionally, each U.S. air carrier must remain a U.S. citizen by (i) being organized under the laws of the United States or a state, territory or possession thereof; (ii) requiring its president and at least two-thirds of its directors and other managing officers to be U.S. citizens; (iii) allowing no more than 25% of its voting stock to be owned or controlled, directly or indirectly, by foreign nationals; and (iv) not being otherwise subject to foreign control. The DOT broadly interprets “control” to exist when an individual or entity has the potential to exert substantial influence over airline decisions through affirmative action or the threatened withholding of consents and or approvals. We believe the DOT will continue to find the Airlines’ fitness and citizenship favorable.

In addition, the Airlines are required to hold valid FAA-issued air carrier certificates and FAA-approved operations specifications authorizing operation in specific regions with specified equipment under specific conditions and are subject to extensive FAA regulation and oversight. The FAA is the U.S. government agency primarily responsible for regulation of flight operations and, in particular, matters affecting air safety, such as airworthiness requirements for aircraft, operating procedures, mandatory equipment and the licensing of pilots, mechanics and dispatchers. The FAA monitors compliance with maintenance, flight operations and safety regulations and performs frequent spot inspections of aircraft, employees and records. The FAA also has the authority to issue ADs and maintenance directives and other mandatory orders relating to, among other things, inspection of aircraft and engines, fire retardant and smoke detection devices, increased security precautions, collision and windshear avoidance systems, noise abatement and the mandatory removal and replacement of aircraft parts that have failed or may fail in the future. In addition, the FAA mandates certain record-keeping procedures. The FAA has the authority to modify, temporarily suspend or permanently revoke an air carrier’s authority to provide air transportation or that of its licensed personnel, after providing notice and a hearing, for failure to comply with FAA rules, regulations and directives. The FAA is empowered to assess civil penalties for such failures or institute proceedings for the imposition and collection of monetary fines for the violation of certain FAA regulations and directives. The FAA is also empowered to modify, suspend or revoke an air carrier’s authority on an emergency basis, without providing notice and a hearing, where significant safety issues are involved.

International. Air transportation in international markets (the vast majority of markets in which the Airlines operate) is subject to extensive additional regulation. The ability of the Airlines to operate in other countries is governed by aviation agreements between the United States and the respective countries (in the case of Europe, the European Union (the “EU”)) or, in the absence of such an agreement, by principles of reciprocity. Sometimes, aviation agreements restrict the number of airlines that may operate, their frequency of operation, or the routes over which they may fly. This makes it necessary for the DOT to award route and operating rights to U.S. air carrier applicants through competitive route proceedings. International aviation agreements are periodically subject to renegotiation, and changes in U.S. or foreign governments could result in the alteration or termination of such agreements, diminish

the value of existing route authorities or otherwise affect Atlas and Polar's international operations. Foreign government authorities also impose substantial licensing and business registration requirements and, in some cases, require the advance filing and or approval of schedules or rates. Moreover, the DOT and foreign government agencies typically regulate alliances and other commercial arrangements between U.S. and foreign air carriers, such as the ACMI and CMI arrangements that Atlas maintains. Approval of these arrangements is not guaranteed and may be conditional. In addition, approval during one time period does not guarantee approval in future periods.

A foreign government's regulation of its own air carriers can also affect our business. For instance, the EU places limits on the ability of EU carriers to use ACMI aircraft operated by airlines of non-EU member states. The regulations have a negative impact on our ACMI business opportunities.

Airport Access. The ability of the Airlines to operate suitable schedules is dependent on their ability to gain access to airports of their choice at commercially desirable times and on acceptable terms. In some cases, this is constrained by the need for the assignment of takeoff and landing "slots" or comparable operational rights. Like other air carriers, the Airlines are subject to such constraints at slot-restricted airports in cities such as Chicago and a variety of foreign locations (e.g., Incheon, Hong Kong, Shanghai and Tokyo). The availability of slots is not assured and the inability of the Airlines or their ACMI carrier customers to obtain additional slots could inhibit efforts to provide expanded services in certain international markets. In addition, nighttime flight restrictions have been imposed or proposed by Hong Kong and various airports in Europe, Canada and the U.S. These could have an adverse operational and or economic impact.

Access to the New York airspace presents an additional challenge. Because of congestion in the New York area, especially at John F. Kennedy International Airport ("JFK"), the FAA imposes hourly limits on JFK operations of those carriers offering scheduled services and potentially could place limits on Charter flights.

As a further means to address congestion, the FAA allows U.S. airports to raise landing fees to defray the costs of airfield facilities under construction or reconstruction. Any landing fee increases implemented would have an impact on airlines generally.

Security. The U.S. Transportation Security Administration ("TSA") and international regulatory bodies extensively regulate aviation security through rules, regulations and security directives that are designed to prevent unauthorized access to passenger and freighter aircraft and the introduction of prohibited items including firearms and explosives onto an aircraft. Atlas and Polar currently operate pursuant to a TSA-approved risk-based security program that, we believe, adequately maintains the security of all aircraft in the fleet. We utilize the TSA, the intelligence community and the private sector as resources for our aggressive threat-based risk-management program. There can be no assurance, however, that we will remain in compliance with existing or any additional security requirements imposed by TSA or by U.S. Congress without incurring substantial costs, which may have a material adverse effect on our operations. To mitigate any such increase, we are working closely with the Department of Homeland Security and other government agencies to ensure that a risk-based management approach is utilized to target specific "at-risk" cargo. Additionally, foreign governments and regulatory bodies (such as the European Commission) impose their own aviation security requirements and have increasingly tightened such requirements. This may have an adverse impact on our operations, especially to the extent the new requirements may necessitate redundant or costly measures or be in conflict with TSA requirements. We have successfully implemented all European Commission security programs allowing us unimpeded access to European markets.

Environmental. We are subject to various federal, state and local laws relating to the protection of the environment and health and safety matters, including the discharge of pollution, the disposal of materials and chemical wastes, the cleanup of contamination and the regulation of aircraft noise, which are administered by numerous state, local, federal and foreign agencies. For instance, the DOT and the FAA have authority under the Aviation Safety and Noise Abatement Act of 1979 and under the Airport Noise and Capacity Act of 1990 to monitor and regulate aircraft engine noise. We believe that all aircraft in our fleet materially comply with current DOT, FAA and international noise standards.

We are also subject to the regulations in the U.S., by the U.S. Environmental Protection Agency (the "EPA"), and the international jurisdictions in which we operate regarding air quality. We believe that all of our aircraft meet or exceed applicable fuel venting requirements and other air emissions standards.

Various jurisdictions, including the EU, U.S. and other international governments and bodies, have implemented or are considering measures to respond to climate change and greenhouse gas emissions.

For instance, in October 2013, the International Civil Aviation Organization (“ICAO”) reached a nonbinding agreement to address climate change by developing global market-based measures to assist in achieving carbon-neutral growth. In October 2016, ICAO approved a resolution to adopt a global market-based measure known as the Carbon Offsetting and Reduction Scheme for International Aviation (“CORSA”), which is designed to offset any annual increases in total carbon emissions from international civil aviation above a baseline level determined by the average of 2019 and 2020 emissions. Although various details regarding the implementation of CORSA still need to be finalized, a pilot phase will run from 2021 to 2023. Starting in 2019, the airlines of participating countries, including the United States, will begin monitoring and reporting fuel burn during international flights. As a result, starting in 2024, covered airlines may need to purchase allowances to offset their assigned share of emissions overages based on the reporting for the 2021 to 2023 compliance period. For subsequent compliance periods, a similar procedure will apply.

Additionally, the EU continues to address climate change through its Emissions Trading Scheme (“ETS”). Following the end of every year, to the extent the ETS applies, each airline must tender the number of carbon emissions allowances (“Allowances”) corresponding to carbon emissions generated by its covered flight activity during the year. If the airline’s flight activity during the year has produced carbon emissions exceeding the number of Allowances that it has been awarded, the airline must acquire Allowances from other airlines in the open market. In recognition of ICAO’s recent adoption of CORSA, the ETS suspension with respect to flights to and from non-European countries continues through December 31, 2023. However, the ETS remains applicable to intra-European flights.

In the United States, various constituencies have continued to advocate for controls on greenhouse gas emissions. On August 15, 2016, the EPA issued a final rule finding that greenhouse gas emissions from aircraft cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare. It is possible that these or other developments could lead to the future regulation of greenhouse gas emissions from aircraft in the U.S.

Brexit. On March 29, 2019, the United Kingdom (“U.K.”) is expected to leave the EU. As U.S. airlines, the Airlines will remain covered by the U.S.-EU air services agreement, which broadly accords traffic rights between the U.S. and the EU, via intermediate points and beyond. In December 2018, the U.S. and U.K. governments reached agreement on the terms of an open skies agreement governing U.S. and U.K. airlines after the U.S.-EU agreement ceases to apply to the U.K. Nevertheless, practical difficulties could arise with respect to operations in the post-Brexit environment. These issues are not expected to have a material adverse effect on our operations.

Other Regulations. Air carriers are also subject to certain provisions of the Communications Act of 1934 because of their extensive use of radio and other communication facilities and are required to obtain an aeronautical radio license from the Federal Communications Commission. Additionally, we are subject to U.S. and foreign antitrust requirements and international trade restrictions imposed by U.S. presidential determination and U.S. government agency regulation, including the Office of Foreign Assets Control of the U.S. Department of the Treasury. We endeavor to comply with such requirements at all times. We are also subject to state and local laws and regulations at locations where we operate and at airports that we serve. Our operations may become subject to additional international, U.S. federal, state and local requirements in the future.

We believe that we are in material compliance with all currently applicable laws and regulations.

Civil Reserve Air Fleet. As part of our Charter business, Atlas and Polar both participate in the U.S. Civil Reserve Air Fleet (“CRAF”) Program, which permits the U.S. Department of Defense to utilize participants’ aircraft during national emergencies when the need for military airlift exceeds the capability of military aircraft. Participation in the CRAF Program could adversely restrict our commercial business in times of national emergency. Under the CRAF Program, contracts with the AMC are for two-years with an option for the AMC to extend the contract for two additional two-year periods. We have made a substantial number of our aircraft available for use by the U.S. military in support

of their operations and we operate such flights pursuant to cost-based contracts. Atlas bears all direct operating costs for both passenger and cargo aircraft, which include fuel, insurance, overfly, landing and ground handling expenses. The contracted charter rates (per mile) and fuel prices (per gallon) are fixed by the AMC periodically. We receive reimbursements from the AMC each month if the price of fuel paid by us to vendors for the AMC Charter flights exceeds the fixed price. If the price of fuel paid by us is less than the fixed price, then we pay the difference to the AMC.

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Airlines may participate in the CRAF Program either alone or through a teaming arrangement. We are a member of the team led by FedEx Corporation (“FedEx”). We pay a commission to the FedEx team, based on the revenues we receive under our AMC contracts. The AMC buys cargo capacity on two bases: a fixed basis, which is awarded both annually and quarterly, and expansion flying, which is awarded on an as-needed basis throughout the contract term. While the fixed business is predictable, Block Hour levels for expansion flying are difficult to predict and thus are subject to fluctuation.

Future Regulation. The U.S. Congress, the DOT, the FAA, the TSA and other government agencies are currently considering, and in the future may consider, adopting new laws, regulations and policies regarding a wide variety of matters that could affect, directly or indirectly, our operations, ownership and profitability. It is impossible to predict what other matters might be considered in the future and to judge what impact, if any, the implementation of any future proposals or changes might have on our businesses.

Competition

The market for ACMI and CMI services is competitive. We believe that the most important basis for competition in this market is the efficiency and cost-effectiveness of the aircraft assets and the scale, scope and quality of the outsourced operating services provided. Atlas is currently the only provider of ACMI and CMI services with the modern 747-8 and 777 freighter aircraft. Our primary competitors providing ACMI and CMI services for 747-400 and 767 aircraft include the following: Air Atlanta Icelandic; Air Transport Services Group, Inc.; Kalitta Air, LLC; and Western Global Airlines.

The Charter market is competitive, with a number of cargo operators that include AirBridge Cargo Airlines; Cargolux; Kalitta Air, LLC; National Air Cargo; and passenger airlines providing similar services utilizing 747-8Fs and 747-400s. We believe that we offer a superior long-haul aircraft in the 747-8F and 747-400, and we will continue to develop new opportunities in the Charter market for aircraft not otherwise deployed in our ACMI business.

The Dry Leasing business is also competitive. We believe that we have an advantage over other cargo aircraft lessors in this business as a result of our relationships in the cargo market and our insights and expertise as an operator of aircraft. Titan also competes in the passenger aircraft leasing market to develop key customer relationships, enter strategic geographic markets, and or acquire feedstock aircraft for future freighter conversion. Our primary competitors in the aircraft leasing market include GE Capital Aviation Services; Altavair Air Finance; and Air Transport Services Group, Inc.

Available Information

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and all amendments to those reports, filed with or furnished to the Securities and Exchange Commission (the “SEC”), are available free of charge through our corporate internet website, www.atlasairworldwide.com, as soon as reasonably practicable after we have electronically filed such material with, or furnished it to, the SEC. In addition, the SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov.

The information on our website is not, and shall not be deemed to be, part of this Report or incorporated into any other filings we make with the SEC.

ITEM 1A. RISK FACTORS

You should carefully consider each of the following Risk Factors and all other information in this Report. These Risk Factors are not the only ones facing us. Our operations could also be impaired by additional risks and uncertainties. If any of the following risks and uncertainties develops into actual events, our business, financial condition and results of operations could be materially and adversely affected.

RISKS RELATED TO OUR BUSINESS

Risks Related to Our Business Generally

Deterioration in the airfreight market, global economic conditions or financial markets could adversely affect our business, results of operations, financial condition, liquidity and ability to access capital markets.

Airfreight demand has historically been highly dependent on global economic conditions, which could be negatively impacted by changes in U.S. and foreign government trade policies and global economies, among other things. If demand for our services, Yields or lease rates deteriorate, it could have a material adverse effect on our business, results of operations and financial condition.

In addition, we may face significant challenges if conditions in the financial markets deteriorate. Our business is capital intensive and growth depends on the availability of capital for new aircraft, among other things. If capital availability deteriorates, we may be unable to raise the capital necessary to finance business growth or other initiatives or to repay our debt when it matures. Our ability to access the capital markets may be restricted at a time when we would like, or need, to do so, which could have an impact on our flexibility to react to changing economic and business conditions.

We could be adversely affected if any of our existing aircraft are underutilized or we fail to redeploy or deploy aircraft with customers at favorable rates. We could also be adversely affected from the loss of one or more of our aircraft for an extended period of time.

Our operating revenues depend on our ability to effectively deploy the aircraft in our fleet and maintain high utilization of our aircraft at favorable rates. If we have underutilized aircraft, we would seek to redeploy those aircraft in our other lines of business or sell them. If we are unable to successfully redeploy our existing aircraft at favorable rates or sell them on favorable terms, it could have a material adverse effect on our business, results of operations and financial condition. In addition, if one or more of our aircraft are out of service for an extended period of time, our operating revenues would decrease and we may have difficulty fulfilling our obligations under one or more of our existing contracts. The loss of revenue resulting from any such business interruption, and the cost and potentially long lead time and difficulties in sourcing a replacement aircraft, could have a material adverse effect on our business, results of operations and financial condition.

In addition to the litigation described above, we are subject to a number of Brazilian customs claims, as well as other claims, lawsuits and pending actions which we consider to be routine and incidental to our business (see Note 15 to our Financial Statements). If we were to receive an adverse ruling or decision on any such claims, it could have an adverse effect on our business, results of operations and financial condition.

Global trade flows are typically seasonal, and our business, including our ACMI customers' business, experiences seasonal variations.

Global trade flows are typically seasonal in nature, with peak activity occurring during the retail holiday season, which generally begins in September/October and lasts through most of December. Our ACMI and CMI contracts generally have contractual utilization minimums that typically allow our customers to cancel an agreed-upon percentage of the guaranteed hours of aircraft utilization over the course of a year. Our ACMI and CMI customers often exercise those cancellation options early in the first quarter of the year, when the demand for air cargo capacity is historically low following the seasonal holiday peak in the fourth quarter of the previous year. While our revenues typically fluctuate seasonally as described above, a significant proportion of the costs associated with our business, such as debt service, aircraft rent, depreciation and facilities costs, are fixed and cannot easily be reduced to match the seasonal drop in demand. In addition, we typically incur a higher proportion of Heavy Maintenance during the first half of the year. As a result, our net operating results are typically lower in the first quarter and increase as the year progresses.

As a U.S. government contractor, we are subject to a number of procurement and other rules and regulations that affect our business. A violation of these rules and regulations could lead to termination or suspension of our government contracts and could prevent us from entering into contracts with government agencies in the future.

To do business with government agencies, including the AMC, we must comply with, and are affected by, many rules and regulations, including those related to the formation, administration and performance of U.S. government contracts. These rules and regulations, among other things:

- require, in some cases, procurement from small businesses;
- require disclosure of all cost and pricing data in connection with contract negotiations;
- give rise to U.S. government audit rights;
- impose accounting rules that dictate how we define certain accounts, define allowable costs and otherwise govern our right to reimbursement under certain cost-based U.S. government contracts;
- establish specific health, safety and doing-business standards; and
- restrict the use and dissemination of information classified for national security purposes and the exportation of certain products and technical data.

These rules and regulations affect how we do business with our customers and, in some instances, add costs to our business. A violation of these rules and regulations could result in the imposition of fines and penalties or the termination of our contracts. In addition, the violation of certain other generally applicable rules and regulations could result in our suspension or debarment as a government contractor.

Our financial condition may suffer if we experience unanticipated costs as a result of ongoing lawsuits and claims related to alleged pricing practices or other legal and regulatory matters.

In the Netherlands, Stichting Cartel Compensation, successor in interest to claims of various shippers, has filed suit in the district court in Amsterdam against British Airways Plc (“British Airways”), KLM, Martinair, Air France, Lufthansa and Singapore Airlines seeking recovery for damages purportedly arising from alleged improper matters related to the use of fuel surcharges and other rate components for air cargo services prior to and during 2006. In response, British Airways, KLM, Martinair, Air France and Lufthansa filed third-party indemnification lawsuits against Polar Air Cargo LLC (“Old Polar”), formerly named Polar Air Cargo, Inc., a consolidated subsidiary, and Polar seeking indemnification in the event the defendants are found to be liable in the main proceedings.

If Old Polar, Polar or the Company were to incur an unfavorable outcome in the litigation described above or in similar litigation, it could have a material adverse effect on our business, results of operations and financial condition.

Fuel availability and price volatility could adversely affect our business and operations.

The price of aircraft fuel is unpredictable and can be volatile. Our exposure to fluctuations in fuel price is limited to the commercial portion of our Charter business only, but this risk is partially mitigated by using indexed fuel price adjustments for certain commercial charter contracts. Our ACMI and CMI contracts require our customers to pay for aircraft fuel. Regardless, if fuel costs increase significantly, our customers may reduce the volume and frequency of cargo shipments or find less costly alternatives for cargo delivery, such as land and sea carriers. Such actions could have a material adverse effect on our business, results of operations and financial condition.

In the past, we have not experienced significant difficulties with respect to fuel availability. Although we do not currently anticipate a significant reduction in the availability of aircraft fuel, a number of factors, such as geopolitical uncertainties in oil-producing nations and shortages of and disruptions to refining capacity, make accurate predictions unreliable. Any inability to obtain aircraft fuel at competitive prices could have a material adverse effect on our business, results of operations and financial condition.

We are party to collective bargaining agreements covering pilots of Atlas and Southern Air and a collective bargaining agreement covering our Atlas and Polar flight dispatchers. This could result in higher labor costs and or result in a work interruption or stoppage.

Pilots of Atlas (who operate Atlas and Polar flights) and Southern Air and flight dispatchers of Atlas and Polar are represented by the IBT. We have a five-year CBA with our Atlas pilots, which became amendable in September 2016 and a four-year CBA with our Southern Air pilots, which became amendable in November 2016. Initial negotiations commenced in January of 2016, nine months prior to the amendable date. Negotiations have continued as governed by a July 6, 2017 framework agreement, which was established to accommodate a joint CBA, and the parties have continued to meet regularly since then. We also have a five-year CBA with our Atlas and Polar dispatchers, which was extended in April 2017 for an additional four years, making the CBA amendable in November 2021. We are subject to risks of increased labor costs associated with having a partially unionized workforce, as well as a greater risk of work interruption or stoppage, which could negatively impact our ability to conduct business. We cannot provide assurance that disputes, including disputes with certified collective bargaining representatives of our employees, will not arise in the future or will result in an agreement on terms satisfactory to us. In addition, the costs associated with resolving such disputes could have a material adverse effect on our business, results of operations and financial condition.

Insurance coverage may become more expensive and difficult to obtain and may not be adequate to insure all of our risks. In addition, if our Dry Lease customers have inadequate insurance coverage or fail to fulfill their indemnification obligations, it could have a material adverse effect on our business, results of operations and financial condition.

Aviation insurance premiums historically have fluctuated based on factors that include the loss history of the industry in general, and the insured carrier in particular. Adverse events involving aircraft could result in increased insurance costs and could affect the price and availability of such coverage.

We participate in an insurance pooling arrangement with DHL and its partners. This allows us to obtain aviation hull and liability, war-risk hull and cargo loss, crew, third-party liability and hull deductible coverage at reduced rates from the commercial insurance providers. If we are no longer included in this arrangement for any reason or if pool members have coverage incidents, we may incur higher insurance costs.

There can be no assurance that we will be able to maintain our existing coverage on terms favorable to us, that the premiums for such coverage will not increase substantially or that we will not bear substantial losses and lost revenue from accidents or other adverse events. Substantial claims resulting from an accident in excess of related insurance coverage or a significant increase in our insurance expense could have a material adverse effect on our business, results of operations and financial condition. Additionally, while we carry insurance against the risks inherent to our operations, which we believe are consistent with the insurance arrangements of other participants in our industry, we cannot provide assurance that we are adequately insured against all risks, including coverage for weapons of mass destruction.

Lessees are required under our Dry Leases to indemnify us for, and insure against, liabilities arising out of the use and operation of the aircraft, including third-party claims for death or injury to persons and damage to property for which we may be deemed liable. Lessees are also required to maintain public liability, property damage and all-risk hull and war-risk hull insurance on the aircraft at agreed-upon levels. If our lessees' insurance is not sufficient to cover all types of claims that may be asserted against us or if our lessees fail to fulfill their indemnification obligations, we would be required to pay any amounts in excess of our insurance coverage, which could have a material adverse effect on our business, results of operations and financial condition.

We rely on third parties to provide certain essential services. If these service providers do not deliver the high level of service and support required in our business at commercially reasonable terms, it could have a material adverse effect on our business, results of operations and financial condition.

We rely on third parties to provide certain essential services on our behalf, including maintenance, ground handling and flight attendants. In certain locations, there may be very few sources, or sometimes only a single source, of supply for these services. If we are unable to effectively manage these third parties, they may provide inadequate levels of support or charge commercially unreasonable amounts for their services, which could harm our customer relationships and ability to remain competitive. Any material problems with the quality, timeliness and cost of our contracted services, or an unexpected termination of those services, could have a material adverse effect on our business, results of operations and financial condition.

Some of our aircraft are periodically deployed in potentially dangerous situations, which may result in business interruption or harm to our passengers, employees or contractors and or damage to our aircraft/cargo.

Some of our aircraft are deployed in potentially dangerous locations and carry hazardous cargo incidental to the services we provide in support of our customers' activities. Some areas through which our flight routes pass are subject to geopolitical instability, which increases the risk of death or injury to our passengers, employees or contractors, business interruption or a loss of, or damage to, our aircraft and or its cargo. While we maintain insurance to cover injury to our passengers, employees and contractors as well as the loss/damage of aircraft/cargo, except for limited situations, we do not have insurance against the loss arising from business interruption. It may be difficult to replace lost or substantially damaged aircraft due to the high capital requirements and long delivery lead times for new aircraft or to locate appropriate in-service aircraft available for lease or sale. Any injury to passengers, employees or contractors or loss/damage of aircraft/cargo could have a material adverse effect on our business, results of operations and financial condition.

We could be adversely affected by a significant data breach or disruption of our information technology systems.

We are heavily and increasingly dependent on technology to operate our business. Our information technology systems or those of third parties on which we rely could be disrupted due to various events, some of which are beyond our control, including natural disasters, power failures, terrorist attacks, equipment failures, software failures, computer viruses, security breaches and cyber attacks. In addition, there are numerous and evolving risks to cybersecurity and privacy, including criminal hackers, hactivists, state-sponsored intrusions, industrial espionage, employee malfeasance and human or technological error. A significant disruption could result in a range of potentially material negative consequences for us, including unauthorized access to, disclosure, modification, misuse, loss or destruction of company systems or data; theft of sensitive, regulated or confidential data; the loss of functionality of critical systems through ransomware, denial of service or other attacks; and business delays, service or system disruptions, damage to equipment and injury to persons or property.

We have taken numerous steps to implement business resiliency and cybersecurity, as well as, obtained cyber business interruption insurance to help reduce the risk and impact of some of the potential disruptions discussed above. There can be no assurance, however, that the measures we have taken are adequate to prevent or remedy disruptions or failures of our systems.

A cybersecurity incident could also impact our brand, harm our reputation and adversely impact our relationships with our customers, employees and stockholders. In addition, a failure of certain of our vital systems could limit our ability to operate our flights for an extended period of time. Failure to appropriately address these issues could have a material adverse effect on our business, results of operations and financial condition.

Our ability to utilize net operating loss carryforwards for U.S. income tax purposes may be limited. In addition, we operate in multiple jurisdictions and may become subject to a wide range of income and other taxes.

As of December 31, 2018, we had \$1.3 billion of federal net operating loss carryforwards ("NOLs") for U.S. income tax purposes, net of unrecognized tax benefits and valuation allowance, most of which will expire through 2037, if not utilized. Section 382 of the Internal Revenue Code ("Section 382") imposes an annual limitation on the amount of a corporation's U.S. federal taxable income that can be offset by NOLs if it experiences an "ownership change," as defined by Section 382. We experienced ownership changes, as defined by Section 382, in 2004 and 2009. In addition, the acquisition of Southern Air in 2016 constituted an ownership change for that entity. Accordingly, the use of our NOLs generated prior to these ownership changes is subject to an annual limitation. If certain changes in our ownership occur prospectively, there could be an additional annual limitation on the amount of utilizable NOLs, which could have a material adverse effect on our business, results of operations and financial condition.

We operate in multiple jurisdictions and may become subject to a wide range of income and other taxes. If our operations become subject to significant income and other taxes, this could have a material adverse effect on our business, results of operations and financial condition.

Risks Related to Our ACMI Business

We depend on a limited number of significant customers for our ACMI business and the loss of one or more of such customers could materially adversely affect our business, results of operations and financial condition.

Our ACMI business depends on a limited number of customers. We typically enter into long-term ACMI and CMI contracts with our customers. The terms of our existing contracts are generally scheduled to expire on a staggered basis. There is a risk that any one of our significant ACMI or CMI customers may not renew their contracts with us on favorable terms or at all, perhaps due to reasons beyond our control. For example, certain of our airline ACMI customers may not renew their ACMI contracts with us because they decide to exit the dedicated cargo business or as they take delivery of new aircraft in their own fleet. Select customers have the opportunity to terminate their long-term agreements in advance of the expiration date, following notice to allow for remarketing of the aircraft.

Entering into ACMI and CMI contracts with new customers sometimes requires a long sales cycle, and as a result, if our contracts are not renewed, and there is a resulting delay in entering into new contracts, it could have a material adverse effect on our business, results of operations and financial condition.

Our agreements with several ACMI and CMI customers require us to meet certain performance targets, including certain departure/arrival reliability standards. Failure to meet these performance targets could adversely affect our financial results.

Our ability to derive the expected economic benefits from our transactions with certain ACMI and CMI customers depends substantially on our ability to successfully meet strict performance standards and deadlines for aircraft and ground operations. If we do not meet these requirements, we may not be able to achieve the projected revenues and profitability from these contracts, and we could be exposed to certain remedies, including termination of the agreements with Amazon and the BSA with DHL in the most extreme of circumstances, as described below.

Risks Related to the Agreements with Amazon

Our agreements with Amazon confer certain termination rights which, if exercised or triggered, may result in our inability to realize the full benefits of the agreements.

The agreements give Amazon the option to terminate in certain circumstances and upon the occurrence of certain events of default, including a change of control or our failure to meet certain performance requirements. In particular, Amazon will have the right to terminate without cause the agreement providing for CMI operations upon providing us at least 180 days' prior written notice of termination.

Upon termination, Amazon will generally, subject to certain exceptions, retain the warrants that have vested prior to the time of termination and, depending on the circumstances giving rise to the termination, may have the right to accelerated vesting of the remaining warrants upon a change of control of our company. Upon termination, Amazon or we may also have the right to receive a termination fee from the other party depending on the circumstances giving rise to the right of termination.

If Amazon exercises any of these termination rights, it could have a material adverse effect on our business, results of operations and financial condition.

Our future earnings and earnings per share, as reported under generally accepted accounting principles, could be adversely impacted by the warrants granted to Amazon.

The warrants granted to Amazon increase the number of diluted shares reported, which has an effect on our fully diluted earnings per share. Further, the warrants are presented as liabilities in our consolidated balance sheets and are subject to fair value measurement adjustments during the periods that they are outstanding. Accordingly, future fluctuations in the fair value of the warrants could have a material adverse effect on our results of operations.

If Amazon exercises its right to acquire shares of our common stock pursuant to the warrants, it will dilute the ownership interests of our then-existing stockholders and could adversely affect the market price of our common stock.

If Amazon exercises its right to acquire shares of our common stock pursuant to the warrants, it will dilute the ownership interests of our then-existing stockholders and reduce our earnings per share. In addition, any sales in the public market of any common stock issuable upon the exercise of the warrants by Amazon could adversely affect prevailing market prices of our common stock.

If Amazon exercises its right to acquire shares of our common stock pursuant to the warrants, Amazon may become a significant stockholder and may be entitled to appoint a director to our board of directors.

The warrants issued by us to Amazon grant Amazon the right to purchase up to 30%, in the aggregate, of our common stock on a post-issuance basis. If the warrants granted to Amazon are exercised, Amazon may become a significant stockholder of our company. We have entered into a stockholders agreement with Amazon, pursuant to which Amazon's ability to vote in its discretion will generally be capped at 14.9% with the remainder to be voted in accordance with our board of directors' recommendation. In addition, under the stockholders agreement, Amazon will be entitled to appoint one director to our board of directors when Amazon owns 10% or more of our common stock. Until such time, Amazon is entitled to designate a non-voting observer to our board of directors.

Risk Related to the BSA with DHL

Our agreements with DHL confer certain termination rights to them which, if exercised or triggered, may result in our inability to realize the full benefits of the BSA with DHL.

The BSA gives DHL the option to terminate the agreements for convenience by giving notice to us before the twelfth or fifteenth anniversary of the agreement's commencement date, which was October 27, 2008. Further, DHL has a right to terminate the BSA for cause following a specified management resolution process if we default on our performance or we are unable to perform for reasons beyond our control. If DHL exercises any of these termination rights, it could have a material adverse effect on our business, results of operations and financial condition.

Risks Related to Our Charter Business

We derive a significant portion of our revenues from the AMC, and a substantial portion of these revenues have been generated pursuant to expansion flying, as opposed to fixed contract arrangements with the AMC. Revenues from the AMC are volatile and may decline from current levels.

As a percentage of our total operating revenue, revenue derived from the AMC was approximately 23.7% in 2018, 23.0% in 2017 and 23.7% in 2016. Historically, the revenues derived from expansion (or ad-hoc) flights for the AMC significantly exceeded the value of the fixed flight component of our AMC contract.

Revenues from the AMC are derived from two-year contracts with an option for the AMC to extend the contract for two additional two-year periods. Changes in national and international political priorities can significantly affect the volume of business from the AMC. Any decrease in U.S. military activity could reduce revenue from the AMC. In addition, our share of the total business from the AMC depends on several factors, including the total fleet size we commit to the CRAF program and the total number of aircraft deployed by our teaming arrangement partners and competitors in the program.

The AMC also holds all carriers to certain on-time performance requirements as a percentage of flights flown and, as a result of AMC demand volatility, it has become more difficult to comply with those requirements. To the extent that we fail to meet those performance requirements or if we fail to pass biennial AMC audits, revenues from our business with the AMC could decline through a suspension or termination of our AMC contract. Our revenues could also decline due to a reduction in the revenue rate we are paid by the AMC, a greater reliance by the AMC on its own fleet or a reduction in our allocation of AMC flying. Any reduction in our AMC flying could also negatively impact our Charter revenue from commercial customers for trips related to one-way AMC missions. We expect revenues and profitability from our business with the AMC to continue to remain volatile as the U.S. military continues to move troops and cargo to and from areas of conflict around the world. If we are unable to effectively deploy any resultant capacity during periods of reduced flying, it could have a material adverse effect on our business, results of operations and financial condition.

Our business with the AMC is sensitive to teaming arrangements which affect our relative share of AMC flying and the associated revenue. If one of our team members reduces its commitments or withdraws from the program, or if other carriers on other teams commit additional aircraft, our share of AMC flying may decline. In addition, any changes made to the commissions that we pay or receive for AMC flying or changes to the contracting mechanism could impact the revenues or profitability of this business.

Each year, the AMC allocates its air capacity requirements to different teams of participating airlines based on a mobilization value point system that is determined by the amount and types of aircraft that each team of airlines pledges to the program. We participate in the program through a teaming arrangement with other airlines, led by FedEx. Our team is one of two major teams participating in the program during our current contract year. Several factors could adversely affect the amount of AMC flying that is allocated to us, including:

- changes in the contracting mechanism;
- the formation of new competing teaming arrangements;
- the withdrawal of any of our team's current partners, especially FedEx;
- a reduction of the number of aircraft pledged by us or other members of our team; or
- increased participation of other carriers on other teams.

Any changes that would result in a reduction in our share of, or profitability from, AMC flying could have a material adverse effect on our business, results of operations and financial condition.

Risk Related to Our Dry Leasing Business

Any default by our Dry Lease customers, including (but not limited to) failure to make timely payments, failure to maintain insurance or failure to properly maintain our aircraft, could adversely affect our financial results

Our Dry Leasing business depends on the ability of our customers to satisfy their obligations under our leases, which may be affected by factors outside our control, including but not limited to: supply and demand of aircraft; competition; economic conditions; the price and availability of aircraft fuel; government regulations; the availability and cost of financing; failure to maintain insurance; and their overall financial condition and cash flow. Any default by our customers can result in reduced cash flow, termination of the lease and repossession of the related aircraft, any of which could have a material adverse effect on our business, results of operations and financial condition.

Dry Leasing customers are primarily responsible for maintaining our aircraft. Although we require many of our customers to pay us amounts for supplemental maintenance, failure of a customer to perform required maintenance during the lease term could result in higher maintenance costs, a decrease in the value of our aircraft, the inability to re-lease aircraft at favorable rates, if at all, or impairment charges, which could have a material adverse effect on our business, results of operations and financial condition.

RISKS RELATED TO OUR INDUSTRY

The market for air cargo services is competitive and if we are unable to compete effectively, we may lose current customers or fail to attract new customers. We could also be adversely affected if a large number of long-haul freighter aircraft or freighter aircraft of different equipment types are introduced into the market.

Each of the markets in which we participate is competitive and fragmented. We offer a broad range of aviation services and our competitors vary by geographic market and type of service and include other international and domestic contract carriers, regional and national ground handling and logistics companies, internal cargo units of major airlines and third-party cargo providers. Competition in the air cargo and transportation market is influenced by several key factors, including quality, price and availability of assets and services. Regulatory requirements to operate

in the U.S. domestic air cargo market have been reduced, facilitating the entry into domestic markets by foreign air cargo companies. If we were to lose any major customers and or fail to attract customers, it could have a material adverse effect on our business, results of operations and financial condition.

Additionally, an increase in the number of aircraft in the freight market could cause Yields and rates to fall and or could negatively affect our customer base. If either circumstance were to occur, our business, results of operations and financial condition could be materially and adversely affected.

We are subject to extensive governmental laws and regulations and failure to comply with these laws and regulations in the U.S. and abroad, or the adoption of any new laws, policies or regulations or changes to such regulations, may have an adverse effect on our business.

Our operations and our customers' operations are subject to complex aviation and transportation laws and regulations, including Title 49 of the U.S. Code, under which the DOT and the FAA exercise regulatory authority over air carriers. In addition, our business activities and our customers' business activities fall within the jurisdiction of various other federal, state, local and foreign authorities, including the U.S. Department of Defense, the TSA, U.S. Customs and Border Protection, the U.S. Treasury Department's Office of Foreign Assets Control and the U.S. EPA and similar state agencies. In addition, other jurisdictions in which we operate have similar regulatory regimes to which we are subjected. These laws and regulations may require us to maintain and comply with the terms of a wide variety of certificates, permits, licenses, noise abatement standards, maintenance and other requirements and our failure to do so could result in substantial fines or other sanctions. These U.S. and foreign aviation regulatory agencies have the authority to modify, amend, suspend or revoke the authority and licenses issued to us for failure to comply with provisions of law or applicable regulations and may impose civil or criminal penalties for violations of applicable rules and regulations. Such fines, sanctions or penalties, if imposed, could have a material adverse effect on our mode of conducting business, results of operations and financial condition. In addition, U.S. and foreign governmental authorities may adopt, amend or interpret accounting standards, tax laws, regulations or treaties that could require us to take additional and potentially costly compliance steps or result in our inability to operate some of our aircraft in certain countries, which could have a material adverse effect on our business, results of operations and financial condition.

International aviation is increasingly subject to requirements imposed or proposed by foreign governments. This is especially true in the areas of transportation security, aircraft noise and emissions control, and greenhouse gas emissions. These may be duplicative of, or incompatible with U.S. government requirements, resulting in increased compliance efforts and expense.

Foreign governments also place temporal and other restrictions on the ability of their own airlines to use aircraft operated by other airlines. For example, the European Aviation Safety Agency ("EASA") requires that the aircraft capacity secured from and operated by non-EU airlines meet internationally set standards and additional EASA requirements. These and other similar regulatory developments could have a material adverse effect on our business, results of operations and financial condition.

Initiatives to address global climate change may adversely affect our business and increase our costs.

To address climate change, governments have implemented and continue to pursue various means to reduce aviation-related greenhouse gas emissions. Compliance with these or other measures that are ultimately adopted could result in substantial costs for us. For instance, in October 2013, the ICAO reached a nonbinding agreement to develop global market-based measures to assist in achieving carbon-neutral growth. In October 2016, the ICAO approved the CORSIA, which is designed to offset any annual increases in total carbon emissions from international civil aviation above a baseline level determined by the average of 2019 and 2020 emissions. Although various details regarding the implementation of CORSIA still need to be finalized, a pilot phase will run from 2021 to 2023. Starting in 2019, the airlines of participating countries will begin monitoring and reporting fuel burn during international flights. As a result, starting in 2024, covered airlines may need to purchase allowances to offset their assigned share of emissions overages based on the reporting for the 2021 to 2023 compliance period. For subsequent compliance

periods, a similar procedure will apply.

Additionally, the EU continues to pursue a parallel track to address climate change through the EU ETS. Following the end of every year, to the extent the ETS applies, each airline must tender the number of allowances corresponding to carbon emissions generated by its covered flight activity during the year. If the airline's flight activity during the year has produced carbon emissions exceeding the number of carbon emissions allowances that it has been awarded, the airline must acquire additional allowances from other airlines in the open market. In recognition of ICAO's recent adoption of CORSIA, the ETS suspension with respect to flights to and from non-European countries continues through December 31, 2023. However, the ETS remains applicable to intra-European flights.

In the U.S., various constituencies have continued to advocate for controls on greenhouse gas emissions. On August 15, 2016, the EPA issued a final rule finding that greenhouse gas emissions from aircraft cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare. It is possible that these or other developments could lead to the future regulation of greenhouse gas emissions from aircraft in the U.S.

It is possible that these or similar climate change measures will be imposed in a manner adversely affecting airlines. The costs of complying with potential new environmental laws or regulations could have a material adverse effect on our business, results of operations and financial condition.

The airline industry is subject to numerous security regulations and rules that increase costs. Imposition of more stringent regulations and rules than those that currently exist could materially increase our costs.

The TSA has increased security requirements in response to increased levels of terrorist activity, and has adopted comprehensive new regulations governing air cargo transportation, including all-cargo services, in such areas as cargo screening and security clearances for individuals with access to cargo. Additional measures, including a requirement to screen cargo, have been proposed, which, if adopted, may have an adverse impact on our ability to efficiently process cargo and would increase our costs and those of our customers. The cost of compliance with increasingly stringent regulations could have a material adverse effect on our business, results of operations and financial condition.

If we are unable to attract and retain qualified pilots, it could have an adverse effect on our ability to maintain or expand our business operations.

In 2013, as earlier directed in Public Law 111-216, the FAA issued a final rule increasing the stringency of pilot and cockpit crew qualification and training requirements. As a result of that rule, all airline pilots, including new hires, must have a minimum of 1,500 hours of operational experience. The FAA rule also has increased the required training time for new commercial pilots. These regulatory changes and other factors, including reductions in the number of military pilots being trained by the U.S. armed forces, have led to increased demand for pilots. If we are unable to hire, train and retain qualified pilots, it could have an adverse effect on our ability to maintain or expand our business operations.

RISKS RELATED TO OUR LEASE AND DEBT OBLIGATIONS

Our substantial lease and debt obligations, including aircraft leases and other obligations, could impair our financial condition and adversely affect our ability to raise additional capital to fund our aircraft purchases, operations or other capital requirements, all of which could limit our financial resources and ability to compete, and may make us vulnerable to adverse economic events.

As of December 31, 2018, we had total debt obligations of approximately \$2.6 billion and total aircraft operating leases and other lease obligations of \$0.7 billion. We cannot provide assurance that we will be able to obtain future financing arrangements or on terms attractive to us. Our outstanding financial obligations could have negative consequences, including:

- making it more difficult to satisfy our debt and lease obligations;
- requiring us to dedicate a substantial portion of our cash flows from operations for interest, principal and lease payments and reducing our ability to use our cash flows to fund working capital and other general corporate requirements;
- increasing our vulnerability to general adverse economic and industry conditions; and
- limiting our flexibility in planning for, or reacting to, changes in our business and in our industry.

Our ability to service our debt and meet our lease and other obligations as they come due is dependent on our future financial and operating performance. This performance is subject to various factors, including factors beyond our control, such as changes in global and regional economic conditions, changes in our industry, changes in interest or currency exchange rates, the price and availability of aircraft fuel and other costs, including labor and insurance. Accordingly, we cannot provide assurance that we will be able to meet our debt service, lease and other obligations as they become due and our business, results of operations and financial condition could be adversely affected under these circumstances.

Certain of our debt and lease obligations contain a number of restrictive covenants. In addition, many of our debt and lease obligations have cross-default and cross-acceleration provisions.

Restrictive covenants in certain of our debt and lease obligations, under certain circumstances, could impact our ability to:

- borrow under certain financing arrangements;
- consolidate or merge with or into other companies or sell substantially all our assets;
- expand significantly into lines of businesses beyond existing business activities or those which are cargo-related and or aviation-related and similar businesses; and or
- modify the terms of debt or lease financing arrangements.

In certain circumstances, a covenant default under one of our debt instruments could cause us to be in default of other obligations as well. Any unremedied defaults could lead to an acceleration of the amounts owed and potentially could cause us to lose possession or control of certain aircraft, either of which could have a material adverse effect on our business, results of operations and financial condition.

We may not have the ability to raise the funds necessary to settle conversions of our convertible notes or to repurchase the convertible notes upon either a fundamental change or a make-whole fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion or repurchase of the convertible notes.

We issued convertible senior notes in May 2017 and June 2015 (the “Convertible Notes”), which contain conditional conversion features that allow the holders of the Convertible Notes the option to convert if certain trading conditions are met or upon the occurrence of specified corporate events. In the event a conditional conversion feature of the Convertible Notes is triggered, holders of Convertible Notes will be entitled to convert the Convertible Notes at any time during specified periods at their option. If one or more holders elect to convert their Convertible Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock, we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Convertible Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Convertible Notes as current on the balance sheet instead of as noncurrent, which could result in a material reduction of our net working capital.

The holders of the Convertible Notes also may require us to repurchase their Convertible Notes upon the occurrence of a fundamental change (as defined in the indenture governing the Convertible Notes) at a price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus accrued and unpaid interest, if any. However, we may not have enough available cash to fund these obligations or be able to obtain financing on favorable terms, or at all, at the time we are required to make repurchases of Convertible Notes surrendered or Convertible Notes being converted. Our failure to repurchase Convertible Notes at a time when the repurchase is required by the applicable indenture or to pay any cash payable on future conversions of the Convertible Notes as required by the applicable indenture would constitute a default under such indenture, which could result in acceleration of the principal amount of the notes and additional funding obligations by us.

In addition, if a make-whole fundamental change (as defined in the applicable indenture), including specified corporate transactions, occurs prior to the maturity date, under certain circumstances, it would increase the conversion rate. The increase in the conversion rate would be determined based on the date on which the specified corporate transaction becomes effective and the price paid (or deemed to be paid) per share of our common stock in such transaction, but in no event would increase to greater than 16.3713 shares of our common stock for our convertible notes issued in 2017 and 13.5036 shares of common stock for our convertible notes issued in 2015 per \$1,000 of principal, subject to adjustment in the same manner as the conversion rates. The increase in the conversion rate for

Convertible Notes converted in connection with a make-whole fundamental change may result in us having to pay out additional cash in respect of the Convertible Notes upon conversion, or result in additional dilution to our shareholders if the conversion is settled, at our election, in shares of our common stock.

The Convertible Note hedge and warrant transactions may affect the value of our common stock.

In connection with the Convertible Notes offerings, we entered into Convertible Note hedge transactions with option counterparties. The Convertible Note hedge transactions are expected generally to reduce the potential dilution to our common stock upon any conversion of notes and or offset any cash payments we are required to make in excess of the principal amount of converted notes, as the case may be. We also entered into warrant transactions with the option counterparties. However, the warrant transactions could separately have a dilutive effect on our earnings per share to the extent that the market price per share of our common stock exceeds the applicable strike prices of the warrants. Accordingly, when the Convertible Note hedge transactions and the warrant transactions are taken together, the extent to which the Convertible Note hedge transactions reduce the potential dilution to our common stock (or the cash payments in excess of the principal amount of the notes) upon conversion of the notes is effectively capped by the warrant transactions at the strike price of the warrants.

The option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various hedging transactions, including (without limitation) derivatives, with respect to our common stock and or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the notes (and are likely to do so during any observation period related to a conversion of notes). This activity could cause or avoid an increase or a decrease in the market price of our common stock.

RISKS RELATED TO OWNERSHIP OF OUR COMMON STOCK

U.S. citizenship requirements may limit common stock voting rights.

Under U.S. federal law and DOT requirements, we must be owned and actually controlled by “citizens of the United States,” a statutorily defined term requiring, among other things, that not more than 25% of our issued and outstanding voting stock be owned and controlled, directly or indirectly, by non-U.S. citizens. The DOT periodically conducts airline citizenship reviews and, if it finds that this requirement is not met, may require adjustment of the voting rights of the airline’s issued shares.

As one means to effect compliance, our certificate of incorporation and by-laws provide that the failure of non-U.S. citizens to register their shares on a separate stock record, which we refer to as the “Foreign Stock Record,” results in a suspension of their voting rights. Our by-laws further limit the number of shares of our capital stock that may be registered on the Foreign Stock Record to 25% of our issued and outstanding shares. Registration on the Foreign Stock Record is made in chronological order based on the date we receive a written request for registration. As a result, if a non-U.S. citizen acquires shares of our common stock and does not or is not able to register those shares on our Foreign Stock Record, they may lose their ability to vote those shares.

Provisions in our restated certificate of incorporation and by-laws and Delaware law, and our issuance of warrants to Amazon, might discourage, delay or prevent a change in control of AAWW and, therefore, depress the trading price of our common stock.

Provisions of our restated certificate of incorporation, by-laws and Delaware law may render more difficult or discourage any attempt to acquire our company, even if such acquisition may be believed to be favorable to the interests of our stockholders. These provisions may also discourage bids for our common stock at a premium over market price or adversely affect the market price of our common stock. In addition, the vesting of warrants issued by us to Amazon will generally, subject to certain exceptions, be accelerated upon a change of control of our company, which may discourage attempts to acquire our company.

Our common stock share price is subject to fluctuations in value.

The trading price of our common shares is subject to material fluctuations in response to a variety of factors, including quarterly variations in our operating results, conditions of the airfreight market and global economic conditions or other events and factors that are beyond our control.

In the past, following periods of significant volatility in the overall market and in the market price of a company's securities, securities class action litigation has been instituted against these companies in some circumstances. If this type of litigation were instituted against us following a period of volatility in the market price for our common stock, it could result in substantial costs and a diversion of our management's attention and resources, which could have a material adverse effect on our business, results of operations and financial condition.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

Aircraft

The following tables provide information about AAWW's aircraft and customer-provided aircraft as of December 31, 2018:

AAWW Aircraft

The following table summarizes AAWW's aircraft as of December 31, 2018:

Segment and Aircraft Type	Configuration	Owned*	Leased**	Total***	Average Age Years
ACMI and Charter Segments					
747-8F	Freighter	10	-	10	6.1
747-400	Freighter	8	19	27	18.6
747-400BCF	Converted Freighter	2	2	4	25.4
747-400	Passenger	4	-	4	23.5
767-300ER	Passenger	5	-	5	25.5
767-300ER	Converted Freighter	2	-	2	27.1
Total		31	21	52	18.1
Dry Leasing Segment					
777-200LRF	Freighter	8	-	8	7.6
767-300ERF	Converted Freighter	22	-	22	23.1
757-200	Freighter	1	-	1	29.4
737-800	Passenger	1	-	1	10.9
737-300	Freighter	1	-	1	26.1
Total		33	-	33	19.2
Total Fleet		64	21	85	18.3

* See Note 10 to our Financial Statements for a description of our financing facilities.

** See Note 11 to our Financial Statements for a description of our lease obligations.

*** Not included in the table above are two owned aircraft used for training purposes only.

Lease expirations for our leased aircraft included in the above tables range from March 2020 to June 2032.

Customer-provided Aircraft for CMI Service

The following table summarizes customer-provided aircraft as of December 31, 2018:

Aircraft Type	Configuration	Provided by	Total
777-200	Freighter	DHL	4

747-400	Freighter	NCA*	2
747-400	Dreamlifter	Boeing**	4
767-300	Freighter	DHL	2
767-200	Freighter	DHL	9
767-200	Passenger	MLW***	1
737-400	Freighter	DHL	5
Total			27

* Aircraft owned by Nippon Cargo Airlines Co., Ltd. (“NCA”)

** Aircraft owned by The Boeing Company (“Boeing”)

*** Aircraft owned by MLW Air, LLC (“MLW Air”)

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Ground Facilities

Our principal office is located in Purchase, New York, where we lease approximately 120,000 square feet under a long-term lease, for which the current term expires in 2022. This office includes both operational and administrative support functions. We also lease approximately 37,000 square feet of office space in Florence, Kentucky for operational support functions under a long-term lease, for which the current term expires in 2021. In addition, we lease a variety of smaller offices and ramp space at various airport and regional locations generally on a short-term basis.

ITEM 3. LEGAL PROCEEDINGS

The information required in response to this Item is set forth in Note 15 to our Financial Statements, and such information is incorporated herein by reference. Such description contains all of the information required with respect hereto.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Since 2006, our common stock has been traded on The NASDAQ Global Select Market under the symbol "AAWW".

As of February 14, 2019, there were approximately 25.7 million shares of our common stock issued and outstanding, and 47 holders of record of our common stock.

See Note 18 to our Financial Statements for a discussion of our stock repurchase program.

Equity Compensation Plans

See Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for information regarding our equity compensation plans as of December 31, 2018.

Dividends

We have never paid a cash dividend with respect to our common stock and we do not anticipate paying a dividend in the foreseeable future. Moreover, certain of our financing arrangements contain financial covenants that could limit our ability to pay cash dividends.

Foreign Ownership Restrictions

Under our by-laws, U.S. federal law and DOT regulations, we must be controlled by U.S. citizens. In this regard, our President and at least two-thirds of our board of directors and officers must be U.S. citizens and not more than 25% of our outstanding voting common stock may be held by non-U.S. citizens. We believe that, during the period covered by this Report, we were in compliance with these requirements.

Performance Graph

The following graph compares the performance of AAWW common stock to the Russell 2000 Index and the Dow Jones Transportation Average for the period beginning December 31, 2013 and ending on December 31, 2018. The comparison assumes \$100 invested in each of our common stock, the Russell 2000 Index and the Dow Jones Transportation Average and reinvestment of all dividends.

Total Return between 12/31/13 and 12/31/18

Cumulative Return	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18
AAWW	\$ 100.00	\$ 119.81	\$ 100.46	\$ 126.73	\$ 142.53	\$ 102.53
Russell 2000 Index	\$ 100.00	\$ 103.53	\$ 97.62	\$ 116.63	\$ 131.94	\$ 115.89
Dow Jones Transportation Average	\$ 100.00	\$ 123.50	\$ 101.45	\$ 122.21	\$ 143.40	\$ 123.91

ITEM 6. SELECTED FINANCIAL DATA

The selected statements of operations data for the years ended December 31, 2018, 2017 and 2016 and the selected balance sheet data as of December 31, 2018 and 2017 have been derived from our audited Financial Statements included elsewhere in this Report. The selected balance sheet data as of December 31, 2016, 2015 and 2014, and selected statements of operations data for the years ended December 31, 2015 and 2014 have been derived from our audited Financial Statements not included in this Report.

In the following table, all amounts are in thousands, except for per share data.

	2018	2017	2016	2015	2014
Statement of Operations Data:					
Total operating revenues	\$2,677,724	\$2,156,460	\$1,839,627	\$1,822,659	\$1,799,198
Total operating expenses	2,394,182	1,914,486	1,671,316	1,699,154	1,623,226
Operating income	283,542	241,974	168,311	123,505	175,972
Income from continuing operations, net of taxes					
(a)	270,647	224,338	42,625	7,286	102,227
Loss from discontinued operations, net of taxes (b)	(80)	(865)	(1,109)	-	-
Net income	270,567	223,473	41,516	7,286	102,227
Less: Net income (loss) attributable to noncontrolling interests	-	-	-	-	(4,530)
Net income attributable to Common Stockholders	\$270,567	\$223,473	\$41,516	\$7,286	\$106,757
Earnings per share from continuing operations:					
Basic	\$10.60	\$8.89	\$1.72	\$0.29	\$4.08
Diluted	\$5.22	\$8.68	\$1.70	\$0.29	\$4.07
Loss per share from discontinued operations:					
Basic	\$(0.00)	\$(0.03)	\$(0.04)	\$-	\$-
Diluted	\$(0.00)	\$(0.03)	\$(0.04)	\$-	\$-
Earnings per share:					
Basic	\$10.60	\$8.85	\$1.67	\$0.29	\$4.08
Diluted	\$5.22	\$8.64	\$1.65	\$0.29	\$4.07
Balance Sheet Data:					
Total assets	\$5,534,792	\$4,955,462	\$4,247,379	\$4,164,403	\$4,007,277
Long-term debt (less current portion)	\$2,205,005	\$2,008,986	\$1,666,663	\$1,739,496	\$1,736,747
Total equity	\$2,067,964	\$1,789,856	\$1,517,338	\$1,454,183	\$1,417,795

(a) The results for 2017 included a \$130.0 million income tax benefit recorded as a result of the U.S. Tax Cuts and Jobs Act enacted on December 22, 2017 (see Note 12 to our Financial Statements).

(b) See Note 5 to our Financial Statements for the presentation of Florida West International Airways, Inc. as a discontinued operation.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with the Financial Statements included in Item 8 of this report.

Business Overview

We are a leading global provider of outsourced aircraft and aviation operating services. We operate the world's largest fleet of 747 freighters and provide customers a broad array of 747, 777, 767, 757 and 737 aircraft for domestic, regional and international cargo and passenger operations. We provide unique value to our customers by giving them access to highly reliable modern production freighters that deliver the lowest unit cost in the marketplace combined with outsourced aircraft operating services that we believe lead the industry in terms of quality and global scale. Our customers include express delivery providers, e-commerce retailers, airlines, freight forwarders, the U.S. military and charter brokers. We provide global services with operations in Africa, Asia, Australia, Europe, the Middle East, North America and South America.

We believe that the following competitive strengths will allow us to capitalize on opportunities that exist in the global airfreight industry:

Market leader with leading-edge technology and differentiated, value-creating solutions

The 747-8F and 777-200LRF aircraft are two of the most efficient long-haul wide-body commercial freighters available and we are currently the only operator offering both of these aircraft under ACMI and CMI agreements. Our operating model deploys our aircraft to drive maximum utilization and value from our fleet. The scale of our fleet enables us to have aircraft available globally to respond to our customers' needs, both on a planned and ad hoc basis. We believe this provides us with a commercial advantage over our competitors that operate smaller and less flexible fleets.

Our Dry Leasing business is primarily focused on a portfolio of eight 777-200LRF aircraft, two of which were acquired during 2018, and our fleet of 767-300 freighter aircraft for regional and domestic applications. These aircraft are dry leased to customers on a long-term basis, which further diversifies our business mix and enhances our predictable, long-term revenue and earnings streams.

Stable base of contractual revenue and reduced operational risk

Our focus on providing long-term contracted aircraft and operating solutions to customers stabilizes our revenues and reduces our operational risk. ACMI and CMI contracts with customers generally range from two to seven years, although some contracts have shorter or longer durations. Dry Leasing contracts with customers generally range from five to twelve years. Under ACMI, CMI and Dry Leasing, our customers assume fuel, demand and price risk resulting in reduced operational risk for AAWW. ACMI, CMI and Dry Leasing contracts typically provide us with a guaranteed minimum level of revenue and target level of profitability.

Focus on asset optimization

By managing the largest fleet of outsourced freighter aircraft, we achieve significant economies of scale in areas such as aircraft maintenance, crew efficiency, crew training, inventory management and purchasing.

Our mix of aircraft is closely aligned with our customer needs. By providing the broadest array of 747, 777, 767, 757 and 737 aircraft for domestic, regional and international applications, we believe that we are well-suited to meet the current and anticipated requirements of our customers.

We continually evaluate our fleet to ensure that we offer the most efficient and effective mix of aircraft to meet our customers' needs. Our service model is unique in that we offer a portfolio of operating solutions that complement our freighter aircraft businesses. We believe this allows us to improve the returns we generate from our asset base by allowing us to flexibly redeploy aircraft to meet changing market conditions, ensuring the maximum utilization of our fleet. Our Charter services complement our ACMI services by allowing us to increase aircraft utilization during open time and to react to changes in demand and Yield in these segments. We have employees situated around the globe who closely monitor demand for commercial charter services in each region, enabling us to redeploy available aircraft quickly. We also endeavor to manage our portfolio to stagger contract terms, which mitigates our remarketing risks and aircraft down time.

Long-term strategic customer relationships and unique innovative service offerings

We combine the global scope and scale of our efficient aircraft fleet with high-quality, cost-effective operations and premium customer service to provide unique, fully integrated and reliable solutions for our customers. We believe this approach results in customers that are motivated to seek long-term relationships with us. This has historically allowed us to command higher prices than our competitors in several key areas. These long-term relationships help us to build resilience into our business model.

Our customers have access to our innovative solutions, such as inter-operable crews, flight scheduling, fuel-efficiency planning, and maintenance spare coverage, which, we believe, set us apart from other participants in the outsourced aircraft and aviation operating services market. Furthermore, we have access to valuable operating rights to restricted markets such as Brazil, Japan and China. We believe our freighter services allow our customers to effectively expand their capacity and operate dedicated freighter aircraft without simultaneously taking on exposure to fluctuations in the value of owned aircraft and, in the case of our ACMI and CMI contracts, long-term expenses relating to crews and maintenance. Dedicated freighter aircraft enable schedules to be driven by cargo rather than passenger demand (for those customers that typically handle portions of their cargo operations via belly capacity on passenger aircraft), which we believe allows our customers to drive higher contribution from cargo operations.

We are focused on providing safe, secure and reliable services. Atlas, Polar and Southern Air all have successfully completed the International Air Transport Association's Operational Safety Audit (IOSA), a globally recognized safety and quality standard.

We provide outsourced aircraft and aviation services to some of the world's premier express delivery providers, e-commerce retailers, airlines and freight forwarders. We will take advantage of opportunities to maintain and expand our relationships with our existing customers, while seeking new customers and new geographic markets.

In 2016, we entered into agreements with Amazon, which involve, among other things, the lease and operation of 20 aircraft. Between August 2016 and November 2018, we placed all 20 of these into service. Also in 2016, we expanded our relationship with DHL through the acquisition of Southern Air which provided us with immediate entry into the 777 and 737 aircraft operating platforms, with ten aircraft and the potential for developing additional business with existing and new customers.

Experienced management team

Our management team has extensive operating and leadership experience in the airfreight, airline, aircraft leasing and logistics industries at companies such as United Airlines, US Airways, Lufthansa Cargo, GE Capital Aviation Services, Air Canada, Canadian Airlines, Cathay Pacific, Continental Airlines, ICF International, ASTAR Air Cargo, DHL and KLM Cargo, as well as the United States Army, Navy, Air Force and Federal Air Marshal Service. Our management team is led by William J. Flynn, who has over 40 years of experience in freight and transportation and

has held senior management positions with several transportation companies. Prior to joining AAWW more than 12 years ago, Mr. Flynn was President and CEO of GeoLogistics, a global transportation and logistics enterprise.

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Business Strategy

Our strategy includes the following:

Focus on securing long-term customer contracts

We will continue to focus on securing long-term contracts with fast-growing customers, including those in express, e-commerce and the fastest-growing regional markets, which provide us with stable revenue streams and predictable margins. In addition, these agreements limit our direct exposure to fuel and other costs and mitigate the risk of fluctuations in both Yield and demand in the airfreight business, while also improving the overall utilization of our fleet.

Aggressively manage our fleet with a focus on leading-edge aircraft

We continue to actively manage our fleet of leading-edge wide-body freighter aircraft to meet customer demands. Our 747-8F and 777-200LRF freighter aircraft are primarily utilized in our ACMI business, while our 747-400s are utilized in our ACMI and Charter business. We aggressively manage our fleet to ensure that we provide our customers with the most efficient aircraft to meet their needs.

Our Dry Leasing business is primarily focused on a portfolio of eight modern, efficient 777-200LRF aircraft and our fleet of 767-300 freighter aircraft for regional and domestic applications. We will continue to explore opportunities to invest in additional aircraft.

Drive significant and ongoing productivity improvements

We continue to enhance our organization through a cost saving and productivity enhancing initiative called “Continuous Improvement.” We created a separate department to drive the process and to involve all areas of the organization in the effort to reexamine, redesign and improve the way we do business.

Selectively pursue and evaluate future acquisitions and alliances

From time to time, we explore business combinations, such as our acquisition of Southern Air, and alliances with e-commerce providers, such as our agreements with Amazon, other cargo airlines, services providers, dry leasing and other companies to enhance our competitive position, geographic reach and service portfolio.

Appropriately managing capital allocation and delivering value to shareholders

Our commitment to creating, enhancing and delivering value to our shareholders reflects a disciplined and balanced capital allocation strategy. Our focus is on maintaining a strong balance sheet, investing in modern efficient assets, and returning capital to shareholders.

Business Developments

ACMI

Our ACMI results for 2018, compared with 2017, were positively impacted by increased flying from the following:

• Between August 2016 and November 2018, we began CMI flying 20 Boeing 767-300 freighter aircraft for Amazon that are also Dry Leased from Titan.

• During the first quarter of 2017, we began flying a 747-400 freighter for Nippon Cargo Airlines on transpacific routes. In September 2017, we began flying a second 747-400 freighter for them on similar routes.

• During the first quarter of 2017, we began flying a 747-400 freighter for Asiana Cargo on transpacific routes. In September 2018, we began flying a second 747-400 freighter for them on similar routes.

• During the second quarter of 2017, we began ACMI flying two 747-8F aircraft for Cathay Pacific Cargo to supplement capacity on its existing route network.

• In September 2017, we began ACMI flying a 747-400 freighter for DHL Global Forwarding on routes between the United States, Europe, and Asia. In May 2018, we began flying a second 747-400 freighter for them on similar routes.

• In February 2018, we signed long-term CMI and Dry Lease contracts with DHL for two 777-200 freighter aircraft. The first of the two aircraft was previously in CMI service with us and the second aircraft began CMI and Dry Lease service in July of 2018.

• In July 2018, we began ACMI flying a 747-400 freighter for Industria de Diseño Textil, S.A. (“Inditex”) on routes between the United States, Europe, and Asia.

• In October 2018, we began flying a 747-400 freighter for SF Express on transpacific routes.

In January 2019, we entered into an agreement to operate three incremental 747-400 freighters for Nippon Cargo Airlines on transpacific routes. One aircraft is expected to enter service during the second quarter and two are expected to enter service during the third quarter of 2019.

Charter

Charter results for 2018, compared with 2017, reflected an even stronger Charter market as cargo demand from the AMC and commercial cargo customers drove an increase in Block Hours and Yields (excluding fuel). In addition, Charter results were positively impacted by our acquisition of two 747-400 VIP passenger aircraft in 2018 to expand our passenger Charter business with sports teams and other VIP charter customers. We previously operated these aircraft for a former CMI customer.

During 2017 and 2018, we entered into seven operating leases for 747-400 freighter aircraft to meet increased customer demand in our ACMI and Charter businesses. Two aircraft entered service in 2017 and five aircraft entered service during 2018.

Dry Leasing

In February 2018, we acquired a 777-200 freighter aircraft and Dry Leased it to DHL on a long-term basis, as described above. We completed the acquisition of a second 777-200 freighter aircraft and placed it into service with DHL in July 2018. As described above, between August 2016 and November 2018, we began Dry Leasing 20 767-300 converted freighter aircraft to Amazon on a long-term basis.

Results of Operations

The following discussion should be read in conjunction with our Financial Statements and other financial information appearing and referred to elsewhere in this report.

Years Ended December 31, 2018 and 2017

Operating Statistics

The following tables compare our Segment Operating Fleet (average aircraft equivalents during the period) and total Block Hours operated:

Segment Operating Fleet	2018	2017	Inc/(Dec)
ACMI*			
747-8F Cargo	8.9	8.2	0.7
747-400 Cargo	17.2	14.8	2.4
747-400 Dreamlifter	3.0	3.0	-
777-200 Cargo	5.5	5.0	0.5
767-300 Cargo	21.4	10.4	11.0
767-200 Cargo	9.0	9.0	-
737-400 Cargo	5.0	5.0	-
747-400 Passenger	0.3	1.0	(0.7)
767-200 Passenger	1.0	1.0	-
Total	71.3	57.4	13.9
Charter			
747-8F Cargo	1.1	1.8	(0.7)
747-400 Cargo	12.3	9.7	2.6
747-400 Passenger	2.9	2.0	0.9
767-300 Cargo	0.2	-	0.2
767-300 Passenger	4.2	4.7	(0.5)
Total	20.7	18.2	2.5
Dry Leasing			
777-200 Cargo	7.3	6.0	1.3
767-300 Cargo	17.2	7.5	9.7
757-200 Cargo	1.0	1.0	-
737-300 Cargo	1.0	1.0	-
737-800 Passenger	1.0	1.0	-
Total	27.5	16.5	11.0
Less: Aircraft Dry Leased to CMI customers	(18.5)	(7.5)	(11.0)
Total Operating Average Aircraft Equivalents	101.0	84.6	16.4

* ACMI average fleet excludes spare aircraft provided by CMI customers.

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Block Hours	2018	2017	Inc/(Dec)	% Change	
Total Block Hours**	296,264	252,802	43,462	17.2	%

**Includes ACMI, Charter and other Block Hours.

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Operating Revenue

The following table compares our Operating Revenue (in thousands):

	2018	2017	Inc/(Dec)	% Change	
Operating Revenue					
ACMI	\$1,192,704	\$988,741	\$203,963	20.6	%
Charter	1,313,484	1,034,562	278,922	27.0	%
Dry Leasing	168,470	119,820	48,650	40.6	%
Customer incentive asset amortization	(16,176)	(5,261)	10,915	NM	
Other	19,242	18,598	644	3.5	%
Total Operating Revenue	\$2,677,724	\$2,156,460			

NM represents year-over-year changes that are not meaningful.

ACMI

	2018	2017	Inc/(Dec)	% Change	
ACMI Block Hours	225,665	189,248	36,417	19.2	%
ACMI Revenue Per Block Hour	\$5,285	\$5,225	\$60	1.1	%

ACMI revenue increased \$204.0 million, or 20.6%, primarily due to increased flying and an increase in Revenue per Block Hour. The increase in Block Hours was primarily driven by increased 767 flying for Amazon, the start-up of 747 flying for several new customers and the redeployment of a 747-8F aircraft from the Charter segment. Revenue per Block Hour increased primarily due to the impact of increased 747-8F and 747-400 flying for new customers, partially offset by increased smaller-gauge 767 flying.

Charter

	2018	2017	Inc/(Dec)	% Change	
Charter Block Hours:					
Cargo	50,798	42,625	8,173	19.2	%
Passenger	17,683	18,912	(1,229)	(6.5)	%
Total	68,481	61,537	6,944	11.3	%
Charter Revenue Per Block Hour:					
Cargo	\$19,136	\$17,015	\$2,121	12.5	%
Passenger	\$19,306	\$16,354	\$2,952	18.1	%
Charter	\$19,180	\$16,812	\$2,368	14.1	%

Charter revenue increased \$278.9 million, or 27.0%, primarily due to an increase in Revenue per Block Hour and increased flying. Revenue per Block Hour increased primarily due to higher fuel prices, higher Yields (excluding fuel) and the impact of Charter capacity purchased from our ACMI customers that had no associated Charter Block Hours. The increase in Charter Block Hours was primarily driven by increased cargo demand from the AMC and commercial cargo customers, partially offset by the redeployment of a 747-8F aircraft to the ACMI segment. In addition, Charter revenue was positively impacted by the expansion of our flying for sports teams.

Dry Leasing

Dry Leasing revenue increased \$48.7 million, or 40.6%, primarily due to the placement of 767-300 converted freighter aircraft during the second half of 2017 and throughout 2018, as well as the placement of one 777-200 freighter aircraft in February 2018 and a second 777-200 freighter aircraft in July 2018.

Operating Expenses

The following table compares our Operating Expenses (in thousands):

	2018	2017	Inc/(Dec)	% Change	
Operating Expenses					
Salaries, wages and benefits	\$536,120	\$456,075	\$80,045	17.6	%
Aircraft fuel	467,569	333,046	134,523	40.4	%
Maintenance, materials and repairs	359,300	273,676	85,624	31.3	%
Depreciation and amortization	217,340	166,713	50,627	30.4	%
Travel	166,487	144,699	21,788	15.1	%
Aircraft rent	162,444	142,945	19,499	13.6	%
Navigation fees, landing fees and other rent	158,911	116,318	42,593	36.6	%
Passenger and ground handling services	118,973	107,787	11,186	10.4	%
Gain on disposal of aircraft	-	(31)	(31)		NM
Special charge	9,374	106	9,268		NM
Transaction-related expenses	2,111	4,509	(2,398)		NM
Other	195,553	168,643	26,910	16.0	%
Total Operating Expenses	\$2,394,182	\$1,914,486			

Salaries, wages and benefits increased \$80.0 million, or 17.6%, primarily due to increased flying, fleet growth initiatives, as well as a ratification bonus and enhanced wages and work rules related to an interim agreement with the Southern Air pilots (see Note 15 to our Financial Statements).

Aircraft fuel increased \$134.5 million, or 40.4%, primarily due to an increase in the average fuel cost per gallon and an increase in consumption related to increased flying. We do not incur fuel expense in our ACMI or Dry Leasing businesses as the cost of fuel is borne by the customer. Average fuel cost per gallon and fuel consumption for 2018 and 2017 were:

	2018	2017	Inc/(Dec)	% Change	
Average fuel cost per gallon	\$2.36	\$1.89	\$0.47	24.9	%
Fuel gallons consumed (000s)	198,150	176,093	22,057	12.5	%

Maintenance, materials and repairs increased by \$85.6 million, or 31.3%, primarily reflecting \$49.5 million of increased Line Maintenance expense due to increased flying and additional repairs performed, and \$32.3 million of increased Heavy Maintenance expense. The higher Line Maintenance primarily reflected increases of \$25.1 million for 767 aircraft, \$22.7 million for 747-400 aircraft and \$5.7 million for 777 aircraft, partially offset by a decrease of \$5.7 million for 747-8F aircraft. Heavy Maintenance expense on 747-400 aircraft increased \$34.3 million primarily due to an increase in the number of engine overhauls and C Checks, partially offset by a decrease in the number of D Checks. Heavy Maintenance expense on 747-8F aircraft decreased \$3.0 million primarily due to a decrease in the number of C Checks. Heavy airframe maintenance checks and engine overhauls impacting Maintenance, materials and repairs for 2018 and 2017 were:

Heavy Maintenance Events	2018	2017	Inc/(Dec)
747-8F C Checks	4	6	(2)
747-400 C Checks	10	9	1
767 C Checks	2	4	(2)
747-400 D Checks	2	7	(5)
CF6-80 engine overhauls	20	5	15

Depreciation and amortization increased \$50.6 million, or 30.4%, primarily due to additional aircraft operating in 2018, an increase in the scrapping of rotatable parts and an increase in the amortization of deferred maintenance costs related to 747-8F engine overhauls (see Note 2 to our Financial Statements).

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Travel increased \$21.8 million, or 15.1%, primarily due to increased flying.

Aircraft rent increased \$19.5 million, or 13.6%, primarily due to additional operating leases for 747-400 freighter aircraft to meet increased customer demand.

Navigation fees, landing fees and other rent increased \$42.6 million, or 36.6%, primarily due to increased flying and other rent due to higher purchased capacity to meet increased Charter customer demand.

Passenger and ground handling services increased \$11.2 million, or 10.4%, primarily due to higher costs from flying to more expensive locations and increased Charter flying.

Special charge represents a \$9.4 million impairment loss on engines traded in as part of our engine acquisition program (see Note 6 to our Financial Statements). We may sell additional flight equipment, which could result in additional charges in future periods.

Other increased \$26.9 million, or 16.0%, primarily due to higher passenger taxes and commission expense on increased revenue from the AMC, the impact of fleet growth initiatives and increased freight related to an increase in the number of engine overhauls.

Non-operating (Income) Expenses

The following table compares our Non-operating (Income) Expenses (in thousands):

	2018	2017	Inc/(Dec)	% Change
Non-operating (Income) Expenses				
Interest income	\$(6,710)	\$(6,009)	\$701	11.7 %
Interest expense	119,378	99,687	19,691	19.8 %
Capitalized interest	(4,727)	(7,389)	(2,662)	(36.0)%
Loss on early extinguishment of debt	-	167	(167)	NM
Unrealized (gain) loss on financial instruments	(123,114)	12,533	(135,647)	NM
Other (income) expense	(10,659)	(387)	10,272	NM

Interest expense increased \$19.7 million, or 19.8%, primarily due to the financing of 767-300 aircraft purchases and conversions, the issuance of the 2017 Convertible Notes and the financing of two 777-200 aircraft acquired in 2018.

Capitalized interest decreased \$2.7 million, or 36.0%, primarily due to the decrease in the number of 767-300 aircraft undergoing passenger-to-freighter conversion.

Unrealized (gain) loss on financial instruments represents the change in fair value of a customer warrant liability (see Note 8 to our Financial Statements) primarily due to changes in our common stock price.

Other (income) expense increased primarily due to a refund of \$12.4 million for aircraft rent paid in previous years.

Income taxes. Our effective income tax rates were an expense of 12.5% for 2018 and a benefit of 56.5% for 2017. The effective income tax expense rate for 2018 differed from the U.S. statutory rate primarily due to nondeductible and nontaxable changes in the fair value of a customer warrant liability (see Note 8 to our Financial

Statements) and, to a lesser extent, the remeasurement of our deferred income tax liability for Singapore (See Note 12 to our Financial Statements). The effective income tax expense rate for 2018 also reflects the reduced U.S. federal corporate income tax rate of 21.0% as result of the enactment of the U.S. Tax Cuts and Jobs Act of 2017. In 2017, the effective income tax rate benefit differed from the U.S. statutory rate primarily due to the revaluation of our U.S. net deferred tax liability as a result of the U.S. Tax Cuts and Jobs Act. To a lesser extent, the 2017 effective tax rate was impacted by nondeductible and nontaxable changes in the fair value of a customer warrant liability (see Note 8 to our Financial Statements).

Segments

We use an economic performance metric (“Direct Contribution”) representing Income (loss) from continuing operations before income taxes excluding the following: Special charges, Transaction-related expenses, nonrecurring items, Losses (gains) on the disposal of aircraft, Losses on early extinguishment of debt, Unrealized (gains) losses on financial instruments, Gains on investments and Unallocated income and expenses, net. Direct Contribution shows the profitability of each segment after allocation of direct operating and ownership costs. We operate our service offerings through the following reportable segments: ACMI, Charter and Dry Leasing. The following table compares the Direct Contribution for our reportable segments (see Note 14 to our Financial Statements for the reconciliation to Operating income) (in thousands):

	2018	2017	Inc/(Dec)	% Change	
Direct Contribution:					
ACMI	\$235,706	\$229,498	\$6,208	2.7	%
Charter	211,661	150,144	61,517	41.0	%
Dry Leasing	48,904	39,939	8,965	22.4	%
Total Direct Contribution	\$496,271	\$419,581	\$76,690	18.3	%
Unallocated income and expenses, net	\$298,526	\$258,925	\$39,601	15.3	%

ACMI Segment

ACMI Direct Contribution increased \$6.2 million, or 2.7%, primarily due to increased flying and higher Revenue per Block Hour, partially offset by higher Heavy Maintenance costs, amortization of deferred maintenance costs and higher crew costs related to enhanced wages and work rules resulting from our interim agreement with the Southern Air pilots (see Note 15 to our Financial Statements). In addition, ACMI Direct Contribution was impacted by the redeployment of 747-400 VIP passenger aircraft to Charter after acquisition from a former CMI customer.

Charter Segment

Charter Direct Contribution increased \$61.5 million, or 41.0%, primarily due to higher Yields (excluding fuel) and increased cargo demand from the AMC and commercial cargo customers. In addition, Charter Direct Contribution was positively impacted by the expansion of our flying for sports teams. Partially offsetting these increases were higher Heavy Maintenance costs.

Dry Leasing Segment

Dry Leasing Direct Contribution increased \$9.0 million, or 22.4%, primarily due to the placement of additional aircraft.

Unallocated income and expenses, net

Unallocated income and expenses, net increased \$39.6 million, or 15.3%, primarily due to fleet growth initiatives, higher unallocated interest expense, increased amortization of a customer incentive asset and a ratification bonus related to an interim agreement with the Southern Air pilots (see Note 15 to our Financial Statements).

Years Ended December 31, 2017 and 2016

Operating Statistics

The following tables compare our Segment Operating Fleet (average aircraft equivalents during the period) and total Block Hours operated:

Segment Operating Fleet	2017	2016	Inc/(Dec)
ACMI*			
747-8F Cargo	8.2	8.1	0.1
747-400 Cargo	14.8	13.1	1.7
747-400 Dreamlifter	3.0	2.8	0.2
777-200 Cargo	5.0	3.7	1.3
767-300 Cargo	10.4	4.3	6.1
767-200 Cargo	9.0	9.0	-
737-400 Cargo	5.0	3.7	1.3
747-400 Passenger	1.0	1.0	-
767-200 Passenger	1.0	1.0	-
Total	57.4	46.7	10.7
Charter			
747-8F Cargo	1.8	1.9	(0.1)
747-400 Cargo	9.7	9.6	0.1
747-400 Passenger	2.0	2.0	-
767-300 Passenger	4.7	3.6	1.1
Total	18.2	17.1	1.1
Dry Leasing			
777-200 Cargo	6.0	6.0	-
767-300 Cargo	7.5	2.3	5.2
757-200 Cargo	1.0	1.0	-
737-300 Cargo	1.0	1.0	-
737-800 Passenger	1.0	1.0	-
Total	16.5	11.3	5.2
Less: Aircraft Dry Leased to CMI customers	(7.5)	(2.3)	(5.2)
Total Operating Average Aircraft Equivalents	84.6	72.8	11.8

* ACMI average fleet excludes spare aircraft provided by CMI customers.

Block Hours	2017	2016	Inc/(Dec)	% Change
Total Block Hours**	252,802	210,444	42,358	20.1 %

**Includes ACMI, Charter and other Block Hours.

Operating Revenue

The following table compares our Operating Revenue (in thousands):

	2017	2016	Inc/(Dec)	% Change	
Operating Revenue					
ACMI	\$988,741	\$834,997	\$153,744	18.4	%
Charter	1,034,562	881,991	152,571	17.3	%
Dry Leasing	119,820	105,795	14,025	13.3	%
Customer incentive asset amortization	(5,261)	(537)	(4,724)	NM	
Other	18,598	17,381	1,217	7.0	%
Total Operating Revenue	\$2,156,460	\$1,839,627	\$316,833	17.2	%

ACMI

	2017	2016	Inc/(Dec)	% Change
ACMI Block Hours	189,248	151,919	37,329	24.6 %
ACMI Revenue Per Block Hour	\$5,225	\$5,496	\$(272)	(4.9)%

ACMI revenue increased \$153.7 million, or 18.4%, primarily due to increased flying. The increase in Block Hours reflects the impact from the Southern Air acquisition, the start-up of 767 flying for Amazon and 747 flying for several new customers, as well as higher aircraft utilization. Revenue per Block Hour decreased primarily due to the impact of 777-200 and 737-400 CMI flying from the Southern Air acquisition and increased 767 and 747-400 CMI flying.

Charter

	2017	2016	Inc/(Dec)	% Change
Charter Block Hours:				
Cargo	42,625	40,376	2,249	5.6 %
Passenger	18,912	16,403	2,509	15.3 %
Total	61,537	56,779	4,758	8.4 %
Charter Revenue Per Block Hour:				
Cargo	\$17,015	\$14,861	\$ 2,155	14.5 %
Passenger	\$16,354	\$17,191	\$(837)	(4.9)%
Charter	\$16,812	\$15,534	\$ 1,278	8.2 %

Charter revenue increased \$152.6 million, or 17.3%, primarily due to higher Revenue per Block Hour and increased flying. Revenue per Block Hour increased primarily due to higher Yields for commercial cargo, higher fuel prices and the impact of Charter capacity purchased from our ACMI customers that had no associated Charter Block Hours, partially offset by lower rates from the AMC. The increase in Charter Block Hours was primarily driven by increased commercial cargo demand and increased cargo and passenger demand from the AMC.

Dry Leasing

Dry Leasing revenue increased \$14.0 million, or 13.3%, primarily due to the placement of 767-300 converted freighter aircraft, partially offset by lower maintenance payments received related to the scheduled return of an aircraft during 2016. There were no aircraft returned during 2017.

Operating Expenses

The following table compares our Operating Expenses (in thousands):

	2017	2016	Inc/(Dec)	% Change
Operating Expenses				

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Salaries, wages and benefits	\$456,075	\$424,332	\$31,743	7.5	%
Aircraft fuel	333,046	275,113	57,933	21.1	%
Maintenance, materials and repairs	273,676	206,106	67,570	32.8	%
Depreciation and amortization	166,713	148,876	17,837	12.0	%
Travel	144,699	127,748	16,951	13.3	%
Aircraft rent	142,945	146,110	(3,165)	(2.2)	%
Navigation fees, landing fees and other rent	116,318	78,441	37,877	48.3	%
Passenger and ground handling services	107,787	89,657	18,130	20.2	%
Loss (gain) on disposal of aircraft	(31)	(11)	20	NM	
Special charge	106	10,140	(10,034)	NM	
Transaction-related expenses	4,509	22,071	(17,562)	NM	
Other	168,643	142,733	25,910	18.2	%
Total Operating Expenses	\$1,914,486	\$1,671,316			

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Salaries, wages and benefits increased \$31.7 million, or 7.5%, primarily driven by the impact of the Southern Air acquisition, growth initiatives, increased flying and a special bonus granted to eligible employees below the officer level following the enactment of the U.S. Tax Cuts and Jobs Act. In addition, crewmember costs were negatively impacted by the aforementioned labor-related operational disruptions. Partially offsetting these items were costs resulting from a 2016 change in control, as defined under certain benefit plans, related to a customer transaction with warrants (see Note 8 to our Financial Statements) and lower costs related to crew training.

Aircraft fuel increased \$57.9 million, or 21.1%, primarily due to higher fuel consumption reflecting the increase in Charter Block Hours operated and a higher average fuel cost per gallon. We do not incur fuel expense in our ACMI or Dry Leasing businesses as the cost of fuel is borne by the customer. Average fuel cost per gallon and fuel consumption for 2017 and 2016 were:

	2017	2016	Inc/(Dec)	% Change	
Average fuel cost per gallon	\$1.89	\$1.68	\$0.21	12.5	%
Fuel gallons consumed (000s)	176,093	163,862	12,231	7.5	%

Maintenance, materials and repairs increased by \$67.6 million, or 32.8%, primarily reflecting \$41.9 million of higher Line Maintenance expense due to increased flying and additional repairs performed, the Southern Air acquisition, and \$25.1 million of higher Heavy Maintenance expense. The higher Line Maintenance primarily reflected increases of \$16.7 million for 767 aircraft, \$14.7 million for 747-400 aircraft, \$7.0 million for 747-8F aircraft and \$2.9 million for 777 aircraft. Heavy Maintenance expense on 747-400 aircraft increased \$22.4 million primarily due to an increase in the number of D Checks, engine overhauls and additional repairs performed. Heavy Maintenance expense on 767 aircraft increased \$4.5 million primarily due to an increase in the number of C Checks. Heavy Maintenance expense on 747-8F aircraft decreased \$3.0 million primarily due to a decrease in unscheduled engine repairs, partially offset by an increase in the number of C Checks. Heavy airframe maintenance checks and engine overhauls impacting Maintenance, materials and repairs for 2017 and 2016 were:

Heavy Maintenance Events	2017	2016	Inc/(Dec)
747-8F C Checks	6	4	2
747-400 C Checks	9	9	-
767 C Checks	4	1	3
747-400 D Checks	7	4	3
CF6-80 engine overhauls	5	3	2

Depreciation and amortization increased \$17.8 million, or 12.0%, primarily due to additional aircraft operating in 2017 and an increase in the amortization of deferred maintenance costs related to 747-8F engine overhauls (see Note 2 to our Financial Statements).

Travel increased \$17.0 million, or 13.3%, primarily due to the impact of the Southern Air acquisition and increased flying, partially offset by lower rates for crewmember travel.

Aircraft rent decreased \$3.2 million, or 2.2%, primarily due to the amendment and extension of a lease for a 747-400 freighter aircraft to a lower monthly lease rate (see Note 11 to our Financial Statements) and a reduction in the number of spare engines leased.

Navigation fees, landing fees and other rent increased \$37.9 million, or 48.3%, primarily due to an increase in purchased capacity and increased flying.

Passenger and ground handling services increased \$18.1 million, or 20.2%, primarily due to increased Charter flying.

Special charge in 2016 primarily represented a \$10.1 million loss on engines held for sale (see Note 6 to our Financial Statements). We may sell additional flight equipment, which could result in additional charges in future periods.

Transaction-related expenses in 2017 related to the Southern Air acquisition, which primarily included professional fees and integration costs. Transaction-related expenses in 2016 related to the Southern Air acquisition and a customer transaction with warrants and primarily included: compensation costs, including employee termination benefits; professional fees; and integration costs (see Notes 5 and 8 to our Financial Statements).

Other increased \$25.9 million, or 18.2%, primarily due to increased commission expense on higher revenue from the AMC, the impact of the Southern Air acquisition and other growth initiatives, and higher legal and professional fees related to our preliminary injunction to stop the aforementioned labor-related operational disruptions. Partially offsetting these items was an accrual for legal matters in 2016.

Non-operating (Income) Expenses

The following table compares our Non-operating (Income) Expenses (in thousands):

	2017	2016	Inc/(Dec)	% Change	
Non-operating Expenses (Income)					
Interest income	\$(6,009)	\$(5,532)	\$ 477	8.6	%
Interest expense	99,687	84,650	15,037	17.8	%
Capitalized interest	(7,389)	(3,313)	4,076	123.0	%
Loss on early extinguishment of debt	167	132	35	26.5	%
Unrealized loss on financial instruments	12,533	2,888	(9,645)	NM	
Other (income) expense	(387)	70	457	NM	

Interest expense increased \$15.0 million, or 17.8%, primarily due to the issuance of the 2017 Convertible Notes and the financing of 767-300 aircraft purchases and conversions.

Capitalized interest increased \$4.1 million, primarily due to an increase in the number of 767-300 aircraft undergoing passenger-to-freighter conversion.

Unrealized loss on financial instruments represents the change in fair value of a customer warrant liability (see Note 8 to our Financial Statements) primarily due to changes in our common stock price.

Income taxes. Our effective income tax rates were a benefit of 56.5% for 2017 and an expense of 52.3% for 2016. The effective income tax rate benefit for 2017 differed from the U.S. statutory rate primarily due to the enactment on December 22, 2017 of the U.S. Tax Cuts and Jobs Act, which among other things, reduces the U.S. federal corporate income tax rate from 35.0% to 21.0% resulting in a net income tax benefit of \$130.0 million related to the revaluation of our U.S. net deferred tax liability (see Note 12 to our Financial Statements). To a lesser extent, the 2017 effective tax rate was impacted by nondeductible and nontaxable changes in the fair value of a customer warrant liability (see Note 8 to our Financial Statements). The effective income tax expense rate for 2016 differed from the U.S. federal statutory rate primarily due to nondeductible expenses resulting from a change in control, as defined under certain of the Company's benefit plans, related to a customer transaction with warrants. The effective rates for both periods were impacted by our assertion to indefinitely reinvest the net earnings of foreign subsidiaries outside the U.S.

Segments

The following table compares the Direct Contribution for our reportable segments (see Note 14 to our Financial Statements for the reconciliation to Operating income) (in thousands):

	2017	2016	Inc/(Dec)	% Change	
Direct Contribution:					
ACMI	\$231,271	\$200,563	\$30,708	15.3	%
Charter	151,388	133,727	17,661	13.2	%
Dry Leasing	39,939	33,114	6,825	20.6	%
Total Direct Contribution	\$422,598	\$367,404	\$55,194	15.0	%
Unallocated income and expenses, net	\$261,942	\$242,768	\$19,174	7.9	%

ACMI Segment

ACMI Direct Contribution increased \$30.7 million, or 15.3%, primarily due to increased flying, the Southern Air acquisition and lower costs related to crew training. Partially offsetting these items were higher Heavy and Line Maintenance costs and the amortization of deferred maintenance costs. In addition, ACMI Direct Contribution was negatively impacted by the aforementioned labor-related operational disruptions.

Charter Segment

Charter Direct Contribution increased \$17.7 million, or 13.2%, primarily due to higher Yields and increased demand for commercial cargo and increased cargo and passenger demand from the AMC. Partially offsetting these items were higher Heavy Maintenance costs and lower rates from the AMC.

Dry Leasing Segment

Dry Leasing Direct Contribution increased \$6.8 million, or 20.6%, primarily due to the placement of 767-300 converted freighter aircraft and lower interest expense due to the scheduled repayment of debt related to Dry Leased 777-200LRF aircraft. Partially offsetting these items were maintenance payments received related to the scheduled return of an aircraft during 2016. There were no aircraft returned during 2017.

Unallocated income and expenses, net

Unallocated income and expenses, net increased \$19.2 million, or 7.9%, primarily due to higher costs in 2017 due to the Southern Air acquisition, unallocated interest expense, growth initiatives, amortization of a customer incentive asset, and legal and professional fees related to our preliminary injunction to stop the aforementioned labor-related operational disruptions. Partially offsetting these items were costs resulting from a 2016 change in control, as defined under certain benefit plans, related to a customer transaction with warrants (see Note 8 to our Financial Statements) and a 2016 accrual for legal matters.

Reconciliation of GAAP to non-GAAP Financial Measures

To supplement our Financial Statements presented in accordance with accounting principles generally accepted in the United States of America (“GAAP”), we present certain non-GAAP financial measures to assist in the evaluation of our business performance. These non-GAAP financial measures include Adjusted income from continuing operations, net of taxes, Adjusted Diluted EPS from continuing operations, net of taxes and Adjusted earnings before interest, taxes, depreciation and amortization (“Adjusted EBITDA”), which exclude certain noncash income and expenses, and items impacting year-over-year comparisons of our results. These non-GAAP financial measures may not be comparable to similarly titled measures used by other companies and should not be considered in isolation or as a substitute for Income from continuing operations, net of taxes and Diluted EPS from continuing operations, which are the most directly comparable measures of performance prepared in accordance with GAAP.

We use these non-GAAP financial measures in assessing the performance of our ongoing operations and in planning and forecasting future periods. These adjusted measures provide a more comparable basis to analyze operating results and earnings and are measures commonly used by shareholders to measure our performance. In addition, management’s incentive compensation is determined, in part, by using Adjusted Income from continuing operations, net of taxes and Adjusted EBITDA. We believe that these adjusted measures, when considered together with the corresponding GAAP financial measures and the reconciliations to those measures, provide meaningful supplemental information to assist investors and analysts in understanding our business results and assessing our prospects for future performance.

The following is a reconciliation of Income from continuing operations, net of taxes and Diluted EPS from continuing operations, net of taxes to the corresponding non-GAAP financial measures (in thousands, except per share data):

	2018	2017	Percent Change	
Income from continuing operations, net of taxes	\$270,647	\$224,338	20.6	%
Impact from:				
U.S. Tax Cuts and Jobs Act bonus (a)	-	3,684		
Gain on disposal of aircraft	-	(31)		
Special charge	9,374	106		
Costs associated with transactions (b)	11,325	4,772		
Accrual for legal matters and professional fees	963	4,129		
Noncash expenses and income, net (c)	33,028	17,934		
Charges associated with refinancing debt	-	167		
Unrealized (gain) loss on financial instruments	(123,114)	12,533		
Income tax effect of reconciling items (d)	2,103	(3,962)		
Income tax effect of U.S. Tax Cuts and Jobs Act (e)	-	(129,977)		
Adjusted income from continuing operations, net of taxes	\$204,326	\$133,693	52.8	%
Weighted average diluted shares outstanding	28,281	25,854		
Add: dilutive warrant	-	1,293		
effect of convertible notes hedges (f)	(180)	(27)		
Adjusted weighted average diluted shares outstanding	28,101	27,120		
Adjusted Diluted EPS from continuing operations, net of taxes	\$7.27	\$4.93	47.5	%

	2017	2016	Percent Change	
Income from continuing operations, net of taxes	\$224,338	\$42,625	426.3	%
Impact from:				
U.S. Tax Cuts and Jobs Act bonus (a)	3,684	-		
Gain on disposal of aircraft	(31)	(11)		
Special charge	106	10,140		
Costs associated with transactions (b)	4,772	45,598		
Accrual for legal matters and professional fees	4,129	6,465		
Noncash expenses and income, net (c)	17,934	8,111		
Charges associated with refinancing debt	167	132		
Unrealized loss on financial instruments	12,533	2,888		
Income tax effect of reconciling items (d)	(3,962)	(1,651)		
Income tax effect of U.S. Tax Cuts and Jobs Act (e)	(129,977)	-		
Adjusted income from continuing operations, net of taxes	\$133,693	\$114,297	17.0	%
Weighted average diluted shares outstanding	25,854	25,120		
Add: dilutive warrant	1,293	299		
effect of convertible notes hedges (f)	(27)	-		
Adjusted weighted average diluted shares outstanding	27,120	25,419		
Adjusted Diluted EPS from continuing operations, net of taxes	\$4.93	\$4.50	9.6	%

The following is a reconciliation of Income from continuing operations, net of taxes to Adjusted EBITDA (in thousands):

	2018	2017	Percent Change	
Income from continuing operations, net of taxes	\$270,647	\$224,338	20.6	%
Income tax expense (benefit)	38,727	(80,966)		
Income from continuing operations before income taxes	309,374	143,372		
U.S. Tax Cuts and Jobs Act bonus (a)	-	3,684		
Gain on disposal of aircraft	-	(31)		
Special charge	9,374	106		
Costs associated with transactions (b)	11,325	4,772		
Accrual for legal matters and professional fees	963	4,129		
Noncash expenses and income, net (c)	33,028	17,934		
Charges associated with refinancing debt	-	167		
Unrealized (gain) loss on financial instruments	(123,114)	12,533		
Adjusted pretax income	240,950	186,666		
Interest (income) expense, net	92,981	75,631		
Other non-operating expenses (income)	(10,659)	(387)		
Adjusted operating income	323,272	261,910		
Depreciation and amortization	217,340	166,713		
Adjusted EBITDA	\$540,612	\$428,623	26.1	%

	2017	2016	Percent Change	
Income from continuing operations, net of taxes	\$224,338	\$42,625	426.3	%
Income tax expense (benefit)	(80,966)	46,791		
Income from continuing operations before income taxes	143,372	89,416		
U.S. Tax Cuts and Jobs Act bonus (a)	3,684	-		
Gain on disposal of aircraft	(31)	(11)		
Special charge	106	10,140		
Costs associated with transactions (b)	4,772	45,598		
Accrual for legal matters and professional fees	4,129	6,465		
Noncash expenses and income, net (c)	17,934	8,111		
Charges associated with refinancing debt	167	132		
Unrealized (gain) loss on financial instruments	12,533	2,888		
Adjusted pretax income	186,666	162,739		
Interest (income) expense, net	75,631	70,616		
Other non-operating expenses (income)	(387)	70		
Adjusted operating income	261,910	233,425		
Depreciation and amortization	166,713	148,876		
Adjusted EBITDA	\$428,623	\$382,301	12.1	%

- (a) U.S. Tax Cuts and Jobs Act bonus was granted to eligible personnel below the officer level following enactment.
- (b) Costs associated with transactions in 2018 include a ratification bonus related to an interim agreement with the Southern Air pilots (see Note 15 to our Financial Statements) and other costs associated with our acquisition of Southern Air. Costs associated with transactions in 2017 primarily related to our acquisition of Southern Air (see Note 5 to our Financial Statements). Costs associated with transactions in 2016 primarily related to a customer transaction with warrants, including costs resulting from a change in control under certain benefit plans related to a customer transaction with warrants (see Note 8 to our Financial Statements), and our acquisition of Southern Air (see Note 5 to our Financial Statements).
- (c) Noncash expenses and income, net in 2018 and 2017 primarily related to amortization of debt discount on the convertible notes (see Note 10 to our Financial Statements) and amortization of the customer incentive asset related to a customer warrant liability (see Note 8 to our Financial Statements). Noncash expenses and income, net in 2016 primarily related to amortization of debt discount on the convertible notes (see Note 10 to our Financial Statements).
- (d) Income tax effect of reconciling items in 2018 and 2017 is primarily impacted by a nondeductible customer incentive. Income tax effect of reconciling items in 2016 is primarily impacted by a nondeductible customer incentive and nondeductible compensation expenses resulting from a change in control, as defined under certain of the Company's benefit plans, both related to a customer transaction with warrants.
- (e) Income tax effect of U.S. Tax Cuts and Jobs Act is due to the revaluation of our U.S. net deferred tax liability (see Note 12 to our Financial Statements).
- (f) Impact of the economic benefit from the convertible note hedges in offsetting dilution from the Convertible Notes (see Note 10 to our Financial Statements).

Liquidity and Capital Resources

The most significant liquidity events during 2018 were as follows:

Debt Transactions

In March 2018, we borrowed \$19.4 million related to GENx engine upgrade kits and overhauls under an unsecured five-year term loan at a fixed interest rate of 3.12%.

In May 2018, we borrowed a total of \$167.0 million related to the purchase of two 777-200 aircraft under two separate secured ten-year term loans, both at a fixed interest rate of 4.63%.

In May 2018, we borrowed \$20.1 million related to GENx engine upgrade kits and overhauls under an unsecured five-year term loan at a fixed interest rate of 3.31%.

During the second quarter of 2018, we borrowed an aggregate of \$98.6 million through 12 separate term loans related to the purchase and passenger-to-freighter conversion of 767-300 aircraft at fixed rates ranging from 3.97% to 3.98% for \$62.7 million and 5.10% to 5.14% for \$35.9 million.

In July 2018, we borrowed \$20.4 million related to GENx engine upgrade kits and overhauls under an unsecured five-year term loan at a fixed interest rate of 3.38%.

In September 2018, we borrowed an aggregate of \$75.0 million through six separate term loans related to the purchase and passenger-to-freighter conversion of 767-300 aircraft at fixed rates of 4.04% for \$63.0 million and 5.19% for \$12.0 million.

In November 2018, we borrowed an aggregate of \$49.8 million through four separate term loans related to the purchase and passenger-to-freighter conversion of 767-300 aircraft at fixed rates of 4.24% for \$41.8 million and 5.40% for \$8.0 million.

In November 2018, we borrowed \$21.4 million related to GENx engine upgrade kits and overhauls under an unsecured five-year term loan at a fixed interest rate of 3.63%.

In December 2018, we amended and extended our revolving credit facility until December 2022. In addition, we increased the available amounts under the facility to \$200.0 million. As of December 31, 2018, no amounts are outstanding under our revolving credit facility.

Operating Activities. For 2018, Net cash provided by operating activities was \$425.6 million, which primarily reflected \$270.6 million of Net Income, noncash adjustments of \$265.6 million for Depreciation and amortization, \$42.6 million for deferred taxes and \$20.3 million for Stock-based compensation and a \$72.3 million increase in Accounts payable and accrued liabilities. Partially offsetting these items was a noncash adjustment of \$123.1 for Unrealized gain on financial instruments, a \$74.0 million increase in Accounts receivable and a \$57.1 million increase in Prepaid expenses, current assets, and other assets. For 2017, Net cash provided by operating activities was \$331.7 million, which primarily reflected \$223.5 million of Net Income, noncash adjustments of \$197.5 million for Depreciation and amortization, \$22.3 million for Stock-based compensation and \$12.5 million for Unrealized loss on financial instruments and a \$58.5 million increase in Accounts payable and accrued liabilities. Partially offsetting these items was a noncash adjustment of \$81.3 million for deferred taxes, a \$67.3 million increase in Prepaid expenses, current assets, and other assets, and a \$33.2 million increase in Accounts receivable.

Investing Activities. For 2018, Net cash used for investing activities was \$701.3 million, consisting primarily of \$599.4 million of payments for flight equipment and modifications, and \$114.4 million of core capital expenditures, excluding flight equipment. Payments for flight equipment and modifications during 2018 were primarily related to the purchase of 777-200 aircraft, 767-300 passenger aircraft and related freighter conversion costs, spare engines and GENx engine performance upgrade kits. All capital expenditures for 2018 were funded through working capital and the financings discussed above. For 2017, Net cash used for investing activities was \$541.6 million, consisting primarily of \$458.5 million of payments for flight equipment and modifications, and \$87.6 million of core capital expenditures, excluding flight equipment.

Financing Activities. For 2018, Net cash provided by financing activities was \$216.6 million, which primarily reflected proceeds from debt issuance of \$471.6 million, and \$15.6 million of customer maintenance reserves and deposits received, partially offset by \$250.0 million of payments on debt obligations. For 2017, Net cash provided by financing activities was \$363.5 million, which primarily reflected proceeds from debt issuance of \$620.6 million, \$38.1 million from the sale of convertible note warrants and \$25.8 million of customer maintenance reserves and deposits received, partially offset by \$207.1 million of payments on debt obligations, \$70.1 million for the purchase of convertible note hedges and \$18.5 million of customer maintenance reserves paid.

We consider Cash and cash equivalents, Short-term investments, Restricted cash and Net cash provided by operating activities to be sufficient to meet our debt and lease obligations, and to fund core capital expenditures for 2019 which are expected to range between \$140.0 to \$150.0 million. Core capital expenditures for 2019 exclude flight equipment and capitalized interest.

We may access external sources of capital from time to time depending on our cash requirements, assessments of current and anticipated market conditions, and the after-tax cost of capital. To that end, we filed a shelf registration statement with the SEC in May 2017 that enables us to sell a yet to be determined amount of debt and or equity securities over the subsequent three years, depending on market conditions, our capital needs and other factors. Our access to capital markets can be adversely impacted by prevailing economic conditions and by financial, business and other factors, some of which are beyond our control. Additionally, our borrowing costs are affected by market conditions and may be adversely impacted by a tightening in credit markets.

We do not expect to pay any significant U.S. federal income tax in this or the next decade. Our business operations are subject to income tax in several foreign jurisdictions. We do not expect to pay any significant cash income taxes in foreign jurisdictions for at least several years. Due to the U.S. Tax Cuts and Jobs Act, we may repatriate the unremitted earnings of our foreign subsidiaries to the extent taxes are insignificant.

Contractual Obligations

The table below provides details of our balances outstanding under credit agreements and future cash contractual obligations as of December 31, 2018 (in millions):

	Total Obligations	Payments Due by Period					
		2019	2020	2021	2022	2023	Thereafter
Debt and capital lease ⁽¹⁾	\$ 2,601.3	\$278.0	\$392.7	\$288.7	\$478.8	\$433.9	\$ 729.2
Interest on debt ⁽²⁾	377.9	87.7	77.4	62.8	50.9	37.6	61.5
Aircraft and engine operating leases	695.8	156.6	151.1	160.1	113.2	61.4	53.4
Other operating leases	27.0	10.0	8.3	6.0	2.4	0.3	-
Total Contractual Obligations	\$ 3,702.0	\$532.3	\$629.5	\$517.6	\$645.3	\$533.2	\$ 844.1

(1) Debt reflects gross amounts (see Note 10 to our Financial Statements for a discussion of the related unamortized discount).

(2) Amount represents interest on fixed and floating rate debt at December 31, 2018.

We maintain a noncurrent liability for unrecognized income tax benefits. To date, we have not resolved the ultimate cash settlement of this liability. As a result, we are not in a position to estimate with reasonable certainty the date upon which this liability, if any, would be payable.

Description of Our Debt Obligations

See Note 10 to our Financial Statements for a description of our debt obligations.

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Off-Balance Sheet Arrangements

As of December 31, 2018, 20 of our 85 aircraft are under operating leases (this excludes aircraft provided by CMI customers). Five are leased through trusts established specifically to purchase, finance and lease aircraft to us. These leasing entities meet the criteria for variable interest entities. All fixed price options reflect a fair market value purchase option, and as such, we are not the primary beneficiary of the leasing entities. We are generally not the primary beneficiary of the leasing entities if the lease terms are consistent with market terms at the inception of the lease and the leases do not include a residual value guarantee, fixed-price purchase option or similar feature that would obligate us to absorb decreases in value or entitle us to participate in increases in the value of the aircraft. We have not consolidated any of the aircraft-leasing trusts because we are not the primary beneficiary. In addition, we reviewed the other fifteen Atlas aircraft that are under operating leases but not financed through a trust and determined that none of them would be consolidated upon the application of accounting for consolidations. Our maximum exposure under all operating leases is the remaining lease payments, which amounts are reflected in the future lease commitments above and described in Note 11 to our Financial Statements.

Critical Accounting Policies and Estimates

General Discussion of Critical Accounting Policies and Estimates

An appreciation of our critical accounting policies and estimates is important to understand our financial results. Our Financial Statements are prepared in conformity with GAAP. Our critical policies require management to make estimates and judgments that affect the amounts reported. Actual results may differ significantly from those estimates. The following is a brief description of our current critical accounting policies involving significant management judgment:

Accounting for Long-Lived Assets

We record our property and equipment at cost, and once assets are placed in service, we depreciate them on a straight-line basis over their estimated useful lives to their estimated residual values over periods not to exceed forty years for flight equipment (from date of original manufacture) and three to five years for ground equipment.

We record finite-lived intangible assets acquired at fair value and amortize them over their estimated useful lives. The estimated useful lives are based on estimates of the period during which the assets are expected to generate revenue.

We record impairment charges on long-lived assets when events and circumstances indicate that the assets may be impaired, the undiscounted cash flows estimated to be generated by those assets are less than their carrying amount and the net book value of the assets exceeds their estimated fair value. In making these determinations, we use certain assumptions, including, but not limited to: (i) estimated fair value of the assets, and (ii) estimated future cash flows expected to be generated by these assets, which are based on additional assumptions such as asset utilization, revenue generated, associated costs, length of service and estimated residual values. To conduct impairment testing, we group assets and liabilities at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets and liabilities. For flight equipment used in our ACMI and Charter segments, assets are grouped at the operating fleet level. For flight equipment used in our Dry Leasing segment, assets are grouped on an individual basis.

For assets classified as held for sale, an impairment is recognized when the fair value less the cost to sell the asset is less than its carrying amount. Fair value is primarily determined using external appraisals.

In developing these estimates for flight equipment, we use external appraisal and industry data for the equipment types and our anticipated utilization of the assets.

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Heavy Maintenance

Except for engines used on our 747-8F aircraft, we account for heavy maintenance costs for airframes and engines used in our ACMI and Charter segments using the direct expense method. Under this method, heavy maintenance costs are charged to expense upon induction, based on our best estimate of the costs. When estimating the expected cost for each heavy maintenance event, management considers multiple factors, including historical costs and experience, and information provided by third party maintenance providers. These estimates may be subsequently adjusted for changes and the final determination of actual costs incurred. This method can result in expense volatility between quarterly and annual periods, depending on the number and type of heavy maintenance events performed.

We account for heavy maintenance costs for airframes and engines used in our Dry Leasing segment and engines used on our 747-8F aircraft using the deferral method. Under this method, we defer the expense recognition of scheduled heavy maintenance events, which are amortized over the estimated period until the next scheduled heavy maintenance event is required.

Income Taxes

Deferred income taxes are recognized for the tax consequences of reporting items in our income tax returns at different times than the items are reflected in our financial statements. These temporary differences result in deferred tax assets and liabilities that are calculated by applying enacted statutory tax rates applicable to future years to differences between the financial statement carrying amounts and the tax bases of existing assets and liabilities. If necessary, deferred income tax assets are reduced by a valuation allowance to an amount that is determined to be more likely than not recoverable. We must make significant estimates and assumptions about future taxable income and future tax consequences when determining the amount, if any, of the valuation allowance.

We have recorded reserves for income taxes that may become payable in future years. Although management believes that its positions taken on income tax matters are reasonable, we have nevertheless established tax reserves in recognition that various taxing authorities may challenge certain of the positions taken by us, potentially resulting in additional liabilities for taxes.

Goodwill

Goodwill represents the excess of an acquisition's purchase price over the fair value of the identifiable net assets acquired and liabilities assumed. Goodwill is not amortized, but tested for impairment annually during the fourth quarter of each year, or more frequently if certain events or circumstances indicate that an impairment loss may have been incurred. We may elect to perform a qualitative analysis on the reporting unit that has goodwill to determine whether it is more likely than not that fair value of the reporting unit is less than its carrying value. Under the qualitative approach, we consider various market factors to determine whether events and circumstances have affected the fair value of the reporting unit. If we determine that it is more likely than not that the reporting unit's fair value is less than its carrying amount, or if we elect not to perform a qualitative analysis, we perform a quantitative analysis to determine whether any goodwill impairment exists.

Fair value is determined using a discounted cash flow analysis based on key assumptions including, but not limited to, (i) a projection of revenues, expenses and other cash flows; (ii) terminal period revenue growth and cash flows; and (iii) an assumed discount rate. If the goodwill's carrying value exceeds its implied fair value calculated using the quantitative approach, an impairment charge is recorded for the difference in fair value and carrying value.

Legal and Regulatory Matters

We are party to legal and regulatory proceedings with respect to a variety of matters in multiple jurisdictions. We evaluate the likelihood of an unfavorable outcome of these proceedings each quarter. Our judgments are subjective and are based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with legal counsel.

Recent Accounting Pronouncements

See Note 2 to our Financial Statements for a discussion of recent accounting pronouncements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We currently do not hedge against foreign currency fluctuations or aircraft fuel. The potential loss arising from adverse changes to the price and availability of aircraft fuel and interest rates is discussed below. The sensitivity analyses presented herein do not consider the effects that such adverse changes might have on our overall financial performance, nor do they consider additional actions we may take to mitigate our exposure to such changes.

Aircraft Fuel. Our results of operations are affected by changes in the price and availability of aircraft fuel. Our exposure to fluctuations in fuel price is limited to the commercial portion of our Charter business only, but this risk is partially mitigated by using indexed fuel price adjustments for certain commercial charter contracts. The ACMI and Dry Leasing segments have no direct fuel price exposure because the related contracts require our customers to pay for aircraft fuel. Similarly, we generally have no fuel price risk for AMC charters because the price is set under our contract with the AMC, and we receive or make payments to adjust for price increases and decreases from the contractual rate.

Variable Interest Rates. Our earnings are affected by changes in interest rates due to the impact those changes have on interest expense from variable rate debt instruments and on interest income generated from our cash and investment balances. As of December 31, 2018, approximately \$75.5 million of our debt at face value had variable interest rates. If interest rates would have increased or decreased by a hypothetical 20% in the underlying rate as of December 31, 2018, our annual interest expense would have changed in 2018 by approximately \$0.8 million.

Foreign Currency. We have limited exposure to market risk from changes in foreign currency exchange rates, interest rates and equity prices that could affect our results of operations and financial condition. Our largest exposure comes from the Brazilian real.

Stock Price. Our earnings are affected by changes in our common stock price due to the impact those changes have on the fair value of our liability for warrants issued to a customer (See Note 8 to our Financial Statements for a description of the warrants). As of December 31, 2018, our customer warrant liability was \$99.0 million. If our stock price would have increased or decreased resulting in a hypothetical 20% change in the fair value of the customer warrant liability as of December 31, 2018, we would have recognized an additional unrealized loss or gain of approximately \$19.8 million in 2018.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

Atlas Air Worldwide Holdings, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Atlas Air Worldwide Holdings, Inc. and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, cash flows and stockholders' equity for each of the three years in the period ended December 31, 2018, including the related notes and the financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

New York, New York

February 19, 2019

We have served as the Company's auditor since 2007.

Atlas Air Worldwide Holdings, Inc.

Consolidated Balance Sheets

(in thousands, except share data)

	December 31, 2018	December 31, 2017
Assets		
Current Assets		
Cash and cash equivalents	\$ 221,501	\$ 280,809
Short-term investments	15,624	13,604
Restricted cash	11,240	11,055
Accounts receivable, net of allowance of \$1,563 and \$1,494, respectively	269,320	194,478
Prepaid maintenance	1,040	13,346
Prepaid expenses and other current assets	111,106	74,294
Total current assets	629,831	587,586
Property and Equipment		
Flight equipment	5,213,734	4,447,097
Ground equipment	75,939	70,951
Less: accumulated depreciation	(860,354)	(701,249)
Flight equipment modifications in progress	32,916	186,302
Property and equipment, net	4,462,235	4,003,101
Other Assets		
Long-term investments and accrued interest	635	15,371
Deferred costs and other assets	344,402	242,919
Intangible assets, net and goodwill	97,689	106,485
Total Assets	\$ 5,534,792	\$ 4,955,462
Liabilities and Equity		
Current Liabilities		
Accounts payable	\$ 87,229	\$ 65,740
Accrued liabilities	465,669	454,843
Current portion of long-term debt and capital lease	264,835	218,013
Total current liabilities	817,733	738,596
Other Liabilities		
Long-term debt and capital lease	2,205,005	2,008,986
Deferred taxes	256,970	214,694
Financial instruments and other liabilities	187,120	203,330
Total other liabilities	2,649,095	2,427,010
Commitments and contingencies		
Equity		
Stockholders' Equity		
Preferred stock, \$1 par value; 10,000,000 shares authorized; no shares issued	-	-
Common stock, \$0.01 par value; 100,000,000 shares authorized;	306	301
30,582,571 and 30,104,648 shares issued, 25,590,293 and 25,292,454		

shares outstanding (net of treasury stock), as of December 31, 2018

and December 31, 2017, respectively

Additional paid-in-capital	736,035	715,735
Treasury stock, at cost; 4,992,278 and 4,812,194 shares, respectively	(204,501)	(193,732)
Accumulated other comprehensive loss	(3,832)	(3,993)
Retained earnings	1,539,956	1,271,545
Total stockholders' equity	2,067,964	1,789,856
Total Liabilities and Equity	\$ 5,534,792	\$ 4,955,462

See accompanying Notes to Consolidated Financial Statements

Atlas Air Worldwide Holdings, Inc.
Consolidated Statements of Operations
(in thousands, except per share data)

	For the Years Ended December 31,		
	2018	2017	2016
Operating Revenue	\$2,677,724	\$2,156,460	\$1,839,627
Operating Expenses			
Salaries, wages and benefits	536,120	456,075	424,332
Aircraft fuel	467,569	333,046	275,113
Maintenance, materials and repairs	359,300	273,676	206,106
Depreciation and amortization	217,340	166,713	148,876
Travel	166,487	144,699	127,748
Aircraft rent	162,444	142,945	146,110
Navigation fees, landing fees and other rent	158,911	116,318	78,441
Passenger and ground handling services	118,973	107,787	89,657
Gain on disposal of aircraft	-	(31)	(11)
Special charge	9,374	106	10,140
Transaction-related expenses	2,111	4,509	22,071
Other	195,553	168,643	142,733
Total Operating Expenses	2,394,182	1,914,486	1,671,316
Operating Income	283,542	241,974	168,311
Non-operating (Income) Expenses			
Interest income	(6,710)	(6,009)	(5,532)
Interest expense	119,378	99,687	84,650
Capitalized interest	(4,727)	(7,389)	(3,313)
Loss on early extinguishment of debt	-	167	132
Unrealized (gain) loss on financial instruments	(123,114)	12,533	2,888
Other (income) expense	(10,659)	(387)	70
Total Non-operating (Income) Expenses	(25,832)	98,602	78,895
Income from continuing operations before income taxes	309,374	143,372	89,416
Income tax expense (benefit)	38,727	(80,966)	46,791
Income from continuing operations, net of taxes	270,647	224,338	42,625
Loss from discontinued operations, net of taxes	(80)	(865)	(1,109)
Net Income	\$270,567	\$223,473	\$41,516
Earnings per share from continuing operations:			
Basic	\$10.60	\$8.89	\$1.72
Diluted	\$5.22	\$8.68	\$1.70

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Loss per share from discontinued operations:			
Basic	\$ (0.00)	\$ (0.03)	\$ (0.04)
Diluted	\$ (0.00)	\$ (0.03)	\$ (0.04)
Earnings per share:			
Basic	\$ 10.60	\$ 8.85	\$ 1.67
Diluted	\$ 5.22	\$ 8.64	\$ 1.65
Weighted average shares:			
Basic	25,542	25,241	24,843
Diluted	28,281	25,854	25,120

See accompanying Notes to Consolidated Financial Statements

Atlas Air Worldwide Holdings, Inc.

Consolidated Statements of Comprehensive Income

(in thousands)

	For the Years Ended December		
	31,		
	2018	2017	2016
Net Income	\$270,567	\$223,473	\$41,516
Other comprehensive income:			
Reclassification to interest expense	1,485	1,621	1,770
Income tax expense	(354)	(621)	(700)
Other comprehensive income	1,131	1,000	1,070
Comprehensive Income	\$271,698	\$224,473	\$42,586

See accompanying Notes to Consolidated Financial Statements

Atlas Air Worldwide Holdings, Inc.

Consolidated Statements of Cash Flows

(in thousands)

	For the Years Ended December 31,		
	2018	2017	2016
Operating Activities:			
Income from continuing operations, net of taxes	\$270,647	\$224,338	\$42,625
Less: Loss from discontinued operations, net of taxes	(80)	(865)	(1,109)
Net Income	270,567	223,473	41,516
Adjustments to reconcile Net Income to net cash provided by operating activities:			
Depreciation and amortization	265,553	197,463	168,721
Accretion of debt securities discount	(888)	(1,172)	(1,277)
Provision for allowance for doubtful accounts	12	198	508
Special charge, net of cash payments	9,374	106	10,140
Loss on early extinguishment of debt	-	167	132
Unrealized (gain) loss on financial instruments	(123,114)	12,533	2,888
Gain on disposal of aircraft	-	(31)	(11)
Deferred taxes	42,580	(81,330)	47,381
Stock-based compensation	20,305	22,319	32,724
Changes in:			
Accounts receivable	(74,038)	(33,201)	22,974
Prepaid expenses, current assets and other assets	(57,081)	(67,341)	(29,455)
Accounts payable and accrued liabilities	72,310	58,535	(64,059)
Net cash provided by operating activities	425,580	331,719	232,182
Investing Activities:			
Capital expenditures	(114,415)	(87,555)	(46,717)
Payments for flight equipment and modifications	(599,401)	(458,464)	(316,993)
Acquisition of business, net of cash acquired	-	-	(105,392)
Investment in joint venture	(1,050)	-	-
Proceeds from investments	13,604	4,462	11,714
Net cash used for investing activities	(701,262)	(541,557)	(457,388)
Financing Activities:			
Proceeds from debt issuance	471,625	620,568	103,492
Payment of debt issuance costs	(9,622)	(14,664)	(4,034)
Payments of debt	(250,015)	(207,093)	(179,153)
Proceeds from revolving credit facility	135,000	150,000	-
Payment of revolving credit facility	(135,000)	(150,000)	-
Customer maintenance reserves and deposits received	15,590	25,784	15,105
Customer maintenance reserves paid	(250)	(18,538)	-
Proceeds from sale of convertible note warrants	-	38,148	-
Payments for convertible note hedges	-	(70,140)	-
Purchase of treasury stock	(10,769)	(10,613)	(11,275)

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Excess tax benefit from stock-based compensation	-	-	390
Net cash provided by (used for) financing activities	216,559	363,452	(75,475)
Net increase (decrease) in cash, cash equivalents and restricted cash	(59,123)	153,614	(300,681)
Cash, cash equivalents and restricted cash at the beginning of period	291,864	138,250	438,931
Cash, cash equivalents and restricted cash at the end of period	\$232,741	\$291,864	\$138,250

Noncash Investing and Financing Activities:

Acquisition of flight equipment included in Accounts payable and accrued liabilities	\$23,498	\$68,732	\$14,345
Acquisition of flight equipment under capital lease	\$-	\$30,419	\$10,800

See accompanying Notes to Consolidated Financial Statements

Atlas Air Worldwide Holdings, Inc.

Consolidated Statements of Stockholders' Equity

(in thousands, except share data)

	Common Stock	Treasury Stock	Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Equity
Balance at December 31, 2015	\$ 290	\$(171,844)	\$625,244	\$ (6,063)	\$1,006,556	\$1,454,183
Net Income	-	-	-	-	41,516	41,516
Other comprehensive income	-	-	-	1,070	-	1,070
Stock-based compensation	-	-	32,724	-	-	32,724
Purchase of 297,569 shares of treasury stock	-	(11,275)	-	-	-	(11,275)
Issuance of 678,160 shares of restricted stock	6	-	(6)	-	-	-
Tax benefit (expense) on restricted stock	-	-	(880)	-	-	(880)
Balance at December 31, 2016	\$ 296	\$(183,119)	\$657,082	\$ (4,993)	\$1,048,072	\$1,517,338
Net Income	-	-	-	-	223,473	223,473
Other comprehensive income	-	-	-	1,000	-	1,000
Stock-based compensation	-	-	22,319	-	-	22,319
Purchase of 195,831 shares of treasury stock	-	(10,613)	-	-	-	(10,613)
Issuance of 471,043 shares of restricted stock	5	-	(5)	-	-	-
Equity component of convertible notes, net of tax	-	-	43,256	-	-	43,256
Purchase of convertible note hedges, net of tax	-	-	(45,065)	-	-	(45,065)
Issuance of warrants	-	-	38,148	-	-	38,148
Balance at December 31, 2017	\$ 301	\$(193,732)	\$715,735	\$ (3,993)	\$1,271,545	\$1,789,856
Net Income	-	-	-	-	270,567	270,567
Other comprehensive income	-	-	-	1,131	-	1,131
Cumulative effect of change in accounting principle	-	-	-	-	(3,126)	(3,126)
Stock-based compensation	-	-	20,305	-	-	20,305
Purchase of 180,084 shares of treasury stock	-	(10,769)	-	-	-	(10,769)
Issuance of 477,923 shares of restricted stock	5	-	(5)	-	-	-
Reclassification of tax effect on other comprehensive loss	-	-	-	(970)	970	-
Balance at December 31, 2018	\$ 306	\$(204,501)	\$736,035	\$ (3,832)	\$1,539,956	\$2,067,964

See accompanying Notes to Consolidated Financial Statements

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Atlas Air Worldwide Holdings, Inc.
Notes to Consolidated Financial Statements
December 31, 2018

1. Basis of Presentation

Our consolidated financial statements include the accounts of the holding company, Atlas Air Worldwide Holdings, Inc. (“AAWW”), and its consolidated subsidiaries. AAWW is the parent company of Atlas Air, Inc. (“Atlas”) and Southern Air Holdings, Inc. (“Southern Air”). AAWW is also the parent company of several subsidiaries related to our dry leasing services (collectively referred to as “Titan”). AAWW has a 51% equity interest and 75% voting interest in Polar Air Cargo Worldwide, Inc. (“Polar”). We record our share of Polar’s results under the equity method of accounting.

Intercompany accounts and transactions have been eliminated. We account for investments in entities under the equity method of accounting when we hold between 20% and 50% ownership in the entity and exercise significant influence or when we are not the primary beneficiary of a variable interest entity. The terms “we,” “us,” “our,” and the “Company” mean AAWW and all entities included in its consolidated financial statements.

We provide outsourced aircraft and aviation operating services throughout the world, serving Africa, Asia, Australia, Europe, the Middle East, North America and South America through: (i) contractual service arrangements, including those through which we provide aircraft to customers and value-added services, including crew, maintenance and insurance (“ACMI”), as well as those through which we provide crew, maintenance and insurance, but not the aircraft (“CMI”); (ii) cargo and passenger charter services (“Charter”); and (iii) dry leasing aircraft and engines (“Dry Leasing” or “Dry Lease”).

Except for per share data, all dollar amounts are in thousands unless otherwise noted.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (“GAAP”) requires us to make estimates and judgments that affect the amounts reported in these financial statements and the related disclosures. Actual results may differ from those estimates. Estimates are used in determining, among other items, asset lives and residual values, cash flows for impairment analysis, heavy maintenance costs, income tax accounting, business combinations, intangible assets, warrants, contingent liabilities (including, but not limited to litigation accruals), valuation allowances (including, but not limited to, those related to receivables, expendable parts inventory and deferred taxes), revenue, stock-based compensation and self-insurance employee benefit accruals.

Revenue Recognition

ACMI and CMI Services

Our performance obligations under ACMI contracts involve outsourced cargo and passenger aircraft operating services, including the provision of an aircraft, crew, maintenance and insurance. Our performance obligations under CMI contracts also involve outsourced aircraft operating services, generally including the provision of crew, line maintenance and insurance, but not the aircraft. ACMI and CMI contracts generally provide for the transfer of the benefits from these performance obligations on a combined basis through the operation of the aircraft over time. The

time interval between when an aircraft departs the terminal until it arrives at the destination terminal is measured in hours and called “Block Hours.” Customers assume fuel, demand and price risk. Generally, customers are also responsible for landing, navigation and most other operational fees and costs and, in the case of CMI customers, the provision of the aircraft and heavy and non-heavy maintenance. When we act as an agent for costs reimbursed by customers, such reimbursed amounts are recorded as Operating Revenue, net of the related costs, when the costs are incurred. When we are responsible for any of these costs, such reimbursed amounts are recorded as Operating Revenue and the costs are recorded as Operating Expenses as incurred.

Revenue from ACMI and CMI contracts is typically recognized over time as the services are performed based on Block Hours operated on behalf of a customer during a given month. Revenue for contracts with scheduled rate changes, excluding inflationary adjustments, is recognized over the term of the contract using an estimated average rate per Block Hour, which requires significant judgment to estimate the total number of Block Hours expected. Any revenue adjustments, including those related to minimum contracted Block Hour guarantees and on-time performance targets, are recognized over the applicable measurement period for the adjustment.

ACMI and CMI customers are generally billed monthly based on Block Hours operated on behalf of a customer during a given month, as defined contractually. Payment terms and conditions vary by contract, although terms generally require partial payment for minimum contracted Block Hour guarantees in advance of the services being provided. Since advance payments are typically made shortly before the services are performed, such payments are not considered significant financing components.

Charter Services

Our performance obligations under Charter contracts involve the provision of cargo and passenger aircraft charter services to customers, including the U.S. Military Air Mobility Command (“AMC”), brokers, freight forwarders, direct shippers, airlines, sports teams and fans, and private charter customers. Our obligations are for one or more flights based on a specific origin and destination. We also provide limited airport-to-airport cargo services to select markets, including several cities in South America. The customer pays a fixed charter fee or a variable fee generally based on the weight of cargo flown and we typically bear all direct operating costs for both cargo and passenger charters, which include fuel, insurance, landing and navigation fees, and most other operational fees and costs. When we purchase cargo capacity from our ACMI customers for Charter flights, we are responsible for selling the capacity we purchase. We record revenue related to such purchased capacity as part of Charter revenue and record the related expenses in Navigation fees, landing fees and other rent.

Revenue from Charter contracts is typically recognized over time as the services are performed based on Block Hours operated on behalf of a customer. Any revenue adjustments related to on-time performance targets with the AMC are recognized over the applicable measurement period for the adjustment. We generally expense sales commissions when incurred because the amortization period is less than one year. Payment terms and conditions vary by charter contract, although many contracts require payment in advance of the services being provided. Since advance payments are typically made shortly before the services are performed, such payments are not considered significant financing components.

Dry Leasing

Our performance obligations under Dry Lease contracts involve the provision of aircraft and engines to customers for compensation that is typically based on a fixed monthly amount and are all accounted for as operating leases. We record Dry Lease rental income on a straight-line basis over the term of the operating lease. Rentals received but unearned under the lease agreements are recorded in deferred revenue and included in Accrued liabilities until earned.

Customer maintenance reserves are amounts received under our Dry Lease contracts that are subject to reimbursement to the lessee upon the completion of qualifying maintenance work on the specific Dry Leased aircraft and are included in Accrued liabilities. We defer revenue recognition for customer maintenance reserves until the end of the lease, when we are able to finalize the amount, if any, to be reimbursed to the lessee.

Other Services

Other services include administrative and management support services and flight simulator training. Revenue for these services is recognized when the services are provided.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, demand deposits and other cash investments that are highly liquid in nature and have original maturities of three months or less at acquisition.

Short-term Investments

Short-term investments are primarily comprised of certificates of deposit, current portions of debt securities and money market funds.

Restricted Cash

Cash that is restricted under secured aircraft debt agreements, whereby it can only be used to make principal and interest payments on the related debt secured by those aircraft, is classified as Restricted cash.

Accounts Receivable

We perform a monthly evaluation of our accounts receivable and establish an allowance for doubtful accounts based on our best estimate of probable credit losses resulting from the inability or unwillingness of our customers to make required payments. Account balances are charged off against the allowance when we determine that the receivable will not be recovered.

Expendable Parts

Expendable parts, materials and supplies for flight equipment are carried at average acquisition costs and are included in Prepaid expenses and other current assets. When used in operations, they are charged to maintenance expense. Allowances for excess and obsolescence for expendable parts expected to be on hand at the date aircraft are retired from service are provided over the estimated useful lives of the related airframes and engines. These allowances are based on management estimates, which are subject to change as conditions in the business evolve. The net book value of expendable parts inventory was \$49.4 million as of December 31, 2018 and \$34.7 million at December 31, 2017, net of allowances for obsolescence of \$33.0 million at December 31, 2018 and \$27.8 million at December 31, 2017.

Property and Equipment

We record property and equipment at cost and depreciate these assets to their estimated residual values on a straight-line basis over their estimated useful lives or average remaining fleet lives. We review these assumptions at least annually and adjust depreciation on a prospective basis. Expenditures for major additions, improvements and flight equipment modifications are generally capitalized and depreciated over the shorter of the estimated life of the improvement, the modified assets' remaining life or remaining lease term. Most of our flight equipment is specifically pledged as collateral for our indebtedness.

The estimated useful lives of our property and equipment are as follows:

	Range
Flight equipment	30 to 40 years
Computer software and equipment	3 to 5 years

Ground handling equipment and other 3 to 5 years

Depreciation expense related to property and equipment was \$196.6 million in 2018, \$153.1 million in 2017 and \$141.5 million in 2016.

The net book value of flight equipment on dry lease to customers was \$1,717.5 million as of December 31, 2018 and \$1,270.7 million as of December 31, 2017. The accumulated depreciation for flight equipment on dry lease to customers was \$232.4 million as of December 31, 2018 and \$152.7 million as of December 31, 2017.

Rotable parts are recorded in Property and equipment, net, and are depreciated over their average remaining fleet lives and written off when they are determined to be beyond economic repair. The net book value of rotatable parts inventory was \$240.7 million as of December 31, 2018 and \$184.8 million as of December 31, 2017.

Capitalized Interest

Interest on funds used to finance the acquisition of flight equipment up to the date the asset is ready for its intended use is capitalized and included in the cost of the asset. Included in capitalized interest is the interest paid on the purchase deposit borrowings directly associated with the acquisition of flight equipment. The remainder of capitalized interest recorded on the acquisition of flight equipment is determined by taking the weighted average cost of funds associated with our other debt and applying it against the amounts paid for flight equipment modifications and purchase deposits.

Goodwill

Goodwill represents the excess of an acquisition's purchase price over the fair value of the identifiable net assets acquired and liabilities assumed. Goodwill is not amortized, but tested for impairment annually during the fourth quarter of each year, or more frequently if certain events or circumstances indicate that an impairment loss may have been incurred. Goodwill is not deductible for tax purposes.

We may elect to perform a qualitative analysis on the reporting unit that has goodwill to determine whether it is more likely than not that fair value of the reporting unit is less than its carrying value. If the qualitative analysis indicates that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, or if we elect not to perform a qualitative analysis, we perform a quantitative analysis to determine whether a goodwill impairment exists. If the goodwill's carrying value exceeds its implied fair value calculated using the quantitative approach, an impairment charge is recorded for the difference.

Fair value is determined using a discounted cash flow analysis based on key assumptions including, but not limited to, (i) a projection of revenues, expenses and other cash flows; (ii) terminal period revenue growth and cash flows; and (iii) an assumed discount rate.

The total amount of goodwill was \$40.4 million, which is included in Intangible assets, net and goodwill in the consolidated balance sheets as of December 31, 2018 and 2017 (see Note 7). During the fourth quarter of 2018, we performed a qualitative analysis and determined that goodwill was not impaired.

Impairment of Long-Lived Assets

We record impairment charges on long-lived assets when events and circumstances indicate that the assets may be impaired, the undiscounted cash flows estimated to be generated by those assets are less than the associated carrying amount and the net book value of the assets exceeds the associated estimated fair value.

For flight equipment and finite-lived intangibles used in our ACMI and Charter segments, assets are grouped at the operating fleet level for impairment testing. For flight equipment and finite-lived intangibles used in our Dry Leasing segment, assets are assessed on an individual basis for impairment.

For assets classified as held for sale, an impairment is recognized when the fair value less the cost to sell the asset is less than its carrying amount.

In developing estimates for flight equipment and cash flows, we use external appraisals and other industry data for the various equipment types, anticipated utilization of the assets, revenue generated, associated costs and length of service.

Variable Interest Entities and Off-Balance Sheet Arrangements

We hold a 50% interest in GATS GP (BVI) Ltd. (“GATS”), a joint venture with an unrelated third party. The purpose of the joint venture is to purchase rotatable parts and provide repair services for those parts, primarily for our 747-8F aircraft. The joint venture is a variable interest entity and we have not consolidated GATS because we are not the primary beneficiary as we do not exercise financial control. Our investment in GATS was \$22.3 million as of December 31, 2018 and \$22.1 million as of December 31, 2017 and our maximum exposure to losses from the entity is limited to our investment, which is composed primarily of rotatable inventory parts. GATS does not have any third-party debt obligations. We had Accounts payable to GATS of \$0.5 million as of December 31, 2018 and \$0.4 million as of December 31, 2017.

A portion of our operating aircraft are owned or effectively owned and leased through trusts established specifically to purchase, finance and lease aircraft to us. We have not consolidated any aircraft in the related trusts because we are not the primary beneficiary. Our maximum exposure under these operating leases is the remaining lease payments, which amounts are reflected in the future lease commitments more fully described in Note 11.

Income Taxes

Deferred income taxes are recognized for the tax consequences of reporting items in our income tax returns at different times than the items are reflected in our financial statements. These temporary differences result in deferred tax assets and liabilities that are calculated by applying enacted statutory tax rates applicable to future years to differences between the financial statement carrying amounts and the tax bases of existing assets and liabilities. If necessary, deferred income tax assets are reduced by a valuation allowance to an amount that is determined to be more likely than not recoverable. We must make significant estimates and assumptions about future taxable income and future tax consequences when determining the amount, if any, of the valuation allowance.

We have recorded reserves for income taxes that may become payable in future years. Although management believes that its positions taken on income tax matters are reasonable, we have nevertheless established tax reserves in recognition that various taxing authorities may challenge certain of the positions taken by us, potentially resulting in additional liabilities for taxes.

Heavy Maintenance

Except for engines used on our 747-8F aircraft, we account for heavy maintenance costs for airframes and engines used in our ACMI and Charter segments using the direct expense method. Under this method, heavy maintenance costs are charged to expense upon induction, based on our best estimate of the costs. These estimates may be subsequently adjusted for changes and the final determination of actual costs incurred.

We account for heavy maintenance costs for airframes and engines used in our Dry Leasing segment and engines used on our 747-8F aircraft using the deferral method. Under this method, we defer the expense recognition of scheduled heavy maintenance events, which are amortized over the estimated period until the next scheduled heavy maintenance event is required. Amortization of deferred maintenance expense is included in Depreciation and amortization. The following table provides a summary of Deferred maintenance included within Deferred costs and other assets as of December 31:

	2018	2017
Beginning balance, net	\$63,868	\$19,100

Deferred maintenance costs	53,343	50,675
Amortization of deferred maintenance	(13,564)	(5,907)
Ending balance, net	\$103,647	\$63,868

Prepaid Maintenance Deposits

Certain of our aircraft financing agreements require security deposits to our finance providers to ensure that we perform major maintenance as required. These are substantially refundable to us and are accounted for as deposits and included in Prepaid maintenance and in Deferred costs and other assets. Such amounts were \$3.2 million as of December 31, 2018 and \$37.3 million at December 31, 2017.

Foreign Currency

While most of our revenues are denominated in U.S. dollars, our results of operations may be exposed to the effect of fluctuations in the U.S. dollar value of foreign currency-denominated operating revenues and expenses. Gains or losses resulting from foreign currency transactions are included within Non-operating (Income) Expense.

Stock-Based Compensation

We have various stock-based compensation plans for certain employees and outside directors, which are described more fully in Note 16. We recognize compensation expense, net of estimated forfeitures, on a straight-line basis over the vesting period for each award based on the fair value on grant date. We estimate restricted stock unit forfeitures at the time of grant and periodically revise those estimates in subsequent periods if actual forfeitures differ from those estimates. As a result, we record stock-based compensation expense only for those awards that are expected to vest.

Supplemental Cash Flow Information

Cash interest paid to lenders is calculated on the face amount of our various debt instruments based on the contractual interest rates in effect during each payment period.

The following table summarizes interest and income taxes paid:

	2018	2017	2016
Interest paid	\$86,168	\$73,872	\$66,306
Income taxes paid, net of refunds	\$695	\$563	\$1,160

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the consolidated balance sheets that sum to the total shown in the consolidated statements of cash flows:

	2018	2017
Cash and cash equivalents	\$221,501	\$280,809
Restricted cash	11,240	11,055
Total Cash, cash equivalents and restricted cash shown in Consolidated Statements of Cash Flows	\$232,741	\$291,864

Recent Accounting Pronouncements Adopted in 2018

In February 2018, the Financial Accounting Standards Board (“FASB”) amended its accounting guidance for the reporting of comprehensive income. The guidance permits entities to reclassify to retained earnings the excess tax

effects remaining in accumulated other comprehensive income/(loss) after the reduction in the federal corporate income tax rate from 35% to 21% as a result of the U.S. Tax Cuts and Jobs Act of 2017. The amended guidance is effective for interim and annual reporting periods beginning after December 15, 2018, with early adoption permitted. We early adopted the new guidance effective as of January 1, 2018. The adoption of this guidance did not have a material impact on our consolidated financial statements and related disclosures.

In May 2014, the FASB amended its accounting guidance for revenue recognition. Subsequently, the FASB issued several clarifications and updates. The fundamental principles of the new standard are that companies should recognize revenue in a manner that reflects the timing of the transfer of services to customers and consideration that a company expects to receive for the services provided. It also requires additional disclosures necessary for the financial statement users to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. We adopted the new guidance on January 1, 2018 using the modified retrospective approach, under which the guidance is applied beginning on the date of adoption. Comparative information has not been restated and continues to be reported under the accounting guidance in effect for those periods. The adoption did not have a material effect on our financial statements (see Note 4). As a result of adoption, revenue recognized under previous guidance based on flight departure is now recognized over time as the services are performed. In addition, revenue under certain ACMI and CMI contracts, such as revenue related to contracted minimum block hour guarantees, is now recognized in later periods, and some revenue adjustments related to meeting or exceeding on-time performance targets are now recognized in earlier periods. Revenue under our Dry Leasing contracts is explicitly excluded from the scope of the new guidance as it is covered by accounting guidance for leases.

Recent Accounting Pronouncements Not Yet Adopted

In February 2016, the FASB amended its accounting guidance for leases. Subsequently, the FASB issued several clarifications and updates. The guidance requires a lessee to recognize assets and liabilities on the balance sheet arising from leases with terms greater than 12 months. While lessor accounting guidance is relatively unchanged, certain amendments were made to conform with changes made to lessee accounting and the amended revenue recognition guidance. The new guidance will continue to classify leases as either finance or operating, with classification affecting the presentation and pattern of expense and income recognition, in the statement of operations. It also requires additional quantitative and qualitative disclosures about leasing arrangements. The guidance is effective as of the beginning of 2019 and upon adoption must be applied using a modified retrospective approach which allows entities to either apply the new guidance to all periods presented or only to the most current period presented. Effective January 1, 2019, we are adopting the new guidance and applying the modified retrospective approach to the most current period presented. We expect to recognize lease assets, net of existing deferred rent and operating lease intangibles, and liabilities on our consolidated balance sheets of approximately \$600 million and \$650 million, respectively, on the adoption date and we do not expect the adoption to have an impact to our consolidated statements of operations or cash flows.

3. DHL Investment and Polar

DHL Network Operations (USA), Inc. (“DHL”), a subsidiary of Deutsche Post AG (“DP”), holds a 49% equity interest and a 25% voting interest in Polar. Polar is a variable interest entity and we do not consolidate Polar because we are not the primary beneficiary as the risks associated with the direct costs of operation are with DHL. Under a 20-year blocked space agreement, which began in 2008 (the “BSA”), Polar provides air cargo capacity to DHL. Atlas and Polar also have a flight services agreement, whereby Atlas is compensated by Polar on a per Block Hour basis, subject to a monthly minimum Block Hour guarantee, at a predetermined rate with the opportunity for performance premiums that escalate annually. Under the flight services agreement, Atlas provides Polar with crew, maintenance and insurance for the aircraft. Under other separate agreements, we provide aircraft to Polar, and Atlas and Polar supply administrative, sales and ground support services to one another. DP has guaranteed DHL’s (and Polar’s) obligations under the various transaction agreements described above. AAWW has agreed to indemnify DHL for and against various obligations of Polar and its affiliates. Collectively, these agreements are referred to herein as the “DHL Agreements”. The DHL Agreements provide us with a minimum guaranteed revenue stream from aircraft that have been dedicated to Polar for DHL and other customers’ freight over the life of the agreements. DHL provides financial support and also assumes the risks and rewards of the operations of Polar.

In accordance with the DHL Agreements, Polar flies for DHL’s transpacific express network and DHL provides financial support and assumes the risks and rewards of the operations of Polar. In addition to transpacific routes, Polar also flies between the Asia Pacific region, the Middle East and Europe on behalf of DHL and other customers.

The BSA established DHL’s capacity purchase commitments on Polar flights. DHL has the right to terminate the 20-year BSA at the twelfth and fifteenth anniversaries of commencement, which was October 27, 2008. Either party may terminate for cause (as defined) at any time. With respect to DHL, “cause” includes Polar’s inability to meet certain departure and arrival criteria for an extended period of time and upon certain change-of-control events, in which case DHL may be entitled to liquidated damages from Polar. Except for any liquidated damages that we could incur as described above, we do not have any continuing financial exposure to fund debt obligations or operating losses of Polar.

Combined with Polar, we provide ACMI, CMI, Charter and Dry Leasing services to support DHL’s transpacific express, North American, intra-Asian, and global networks. In addition, we fly between the Asia Pacific region, the Middle East and Europe on behalf of DHL and other customers. Atlas also provides incremental charter capacity to

Polar and DHL from time to time.

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The following table summarizes the aircraft types, services and number of aircraft provided to Polar and DHL as of December 31, 2018:

Aircraft	Service	Total
747-8F	ACMI	6
747-400F	ACMI	9
777-200LRF	CMI	4
777-200LRF	CMI and Dry Leasing	2
767-300	CMI and Dry Leasing	4
767-200	CMI	9
737-400F	CMI	5
757-200F	Dry Leasing	1
Total		40

The following table summarizes our transactions with Polar:

	For the Year Ended December 31,		
	2018	2017	2016
Revenue and Expenses:			
Revenue from Polar	\$412,793	\$ 420,564	\$407,891
Ground handling and airport fees to Polar	2,301	2,746	1,667
	December 31,		
Accounts receivable/payable as of:	2018	2017	
Receivables from Polar	\$ 16,349	\$ 9,558	
Payables to Polar	2,527	2,751	
	December 31,		
Aggregate Carrying Value of Polar Investment as of:	2018	2017	
Aggregate Carrying Value of Polar Investment	\$4,870	\$ 4,870	

In addition to the amounts in the table above, Atlas recognized revenue of \$106.9 million in 2018, \$33.5 million in 2017, and \$24.6 million in 2016 from flying on behalf of Polar.

4. Revenue Recognition

Adoption

We adopted the new revenue recognition guidance using the modified retrospective method and applied it to all customer contracts, excluding Dry Leasing contracts, based on the contract terms in effect as of January 1, 2018. Revenue under our Dry Leasing contracts is explicitly excluded from the scope of the new guidance as it is covered by accounting guidance for leases. We recognized the cumulative effect of initially applying the new revenue recognition guidance as an adjustment to the opening balance of retained earnings as of January 1, 2018 as follows:

	Balance December 31, 2017	Adjustments	Balance January 1, 2018
Accounts receivable	\$ 194,478	\$ (407)	\$ 194,071
Accrued liabilities	454,843	3,614	458,457
Deferred taxes	214,694	(895)	213,799
Retained earnings	1,271,545	(3,126)	1,268,419

The following tables provide disclosure of the impact of adoption of the new revenue recognition guidance on our consolidated statement of operations and balance sheet:

	For the Year Ended December 31, 2018		
	Amounts		
	without		
	Adoption of	Effect of	
	New Revenue	Change	
	Recognition	Inc	
	As	Guidance	/(Dec)
	Reported		
Consolidated Statement of Operations			
Operating Revenue	\$2,677,724	\$ 2,674,790	\$2,934
Operating Expenses			
Other	195,553	194,534	1,019
Income from continuing operations before income taxes	309,374	307,459	1,915
Income tax expense	38,727	38,307	420
Income from continuing operations, net of taxes	270,647	269,152	1,495

	As of December 31, 2018		
	Amounts		
	without		
	Adoption of	Effect of	
	New Revenue	Change	
	Recognition	Inc/(Dec)	
	As	Guidance	
	Reported		
Consolidated Balance Sheet			
Assets			
Accounts receivable, net	\$269,320	\$ 268,590	\$ 730
Liabilities and Equity			
Accrued liabilities	465,669	466,854	(1,185)
Deferred taxes	256,970	256,550	420
Retained earnings	1,539,956	1,538,461	1,495

Deferred Revenue

Deferred revenue for customer contracts, excluding Dry Leasing contracts, represents amounts collected from, or invoiced to, customers in advance of revenue recognition. The balance of Deferred revenue will increase or decrease based on the timing of invoices and recognition of revenue.

Significant changes in our Deferred Revenue liability balances during the year ended December 31, 2018 were as follows:

	Deferred Revenue
Balance at beginning of period	\$ 14,958
Revenue recognized	(80,635)
Amounts collected or invoiced	78,684
Balance at end of period	\$ 13,007

Accounts Receivable

Accounts receivable, net of allowances related to customer contracts, excluding Dry Leasing contracts, was \$227.1 million as of December 31, 2018 and \$173.2 million as of December 31, 2017.

Estimated revenue expected to be recognized in the future is not presented because our contracts, excluding Dry Leasing contracts, typically involve either a duration or measurement period for revenue recognition of one year or less.

5. Southern Air Acquisition

On April 7, 2016, we completed the acquisition of Southern Air and its subsidiaries, including Southern Air Inc. and Florida West International Airways, Inc. (“Florida West”). The acquisition of Southern Air provided us with immediate entry into 777 and 737 aircraft operating platforms, with the potential for developing additional business with existing and new customers. We believe this augments our ability to offer the broadest array of aircraft and services for domestic, regional and international operations. Total consideration for Southern Air was \$105.8 million, net of cash acquired (see Note 7 for information regarding goodwill and intangible assets acquired).

For 2016, our consolidated results include Southern Air’s operating revenue of \$79.8 million. We incurred Transaction-related expenses of \$2.1 million in 2018 and \$4.5 million in 2017, primarily related to professional fees and integration costs, and \$17.7 million in 2016, primarily related to: certain compensation costs, including employee termination benefits; professional fees; and integration costs associated with the acquisition.

The unaudited pro forma operating revenue for 2016 was \$1,866.7 million. This pro forma information has been calculated as if the acquisition had taken place on January 1, 2015 and is not necessarily indicative of the net sales that actually would have been achieved. This information includes adjustments to conform with our accounting policies. The earnings of Southern Air were not material and, accordingly, pro forma and actual earnings information have not been presented.

As part of integrating Southern Air, management decided and committed to pursue a plan to sell Florida West. As a result, the financial results for Florida West are presented as a discontinued operation and the assets and liabilities of Florida West were classified as held for sale, since the date of acquisition. In February 2017, management determined that a sale of Florida West was no longer likely to occur and committed to a plan to wind down its operations. The wind-down of operations was completed in March 2017.

6. Special Charge and Other Income

During 2018 and 2016, we recognized \$9.4 million of impairment losses for five CF6-80 engines and \$10.1 million of impairment losses for six CF6-80 engines, respectively, to be traded in as part of our engine acquisition program that were classified as held for sale. Depreciation ceased on the engines when they were classified as held for sale. The carrying value of one CF6-80 engine held for sale at December 31, 2017 was \$1.3 million which was included within Prepaid expenses and other current assets in the consolidated balance sheets. All of the engines have been traded in as of December 31, 2018.

During 2018, we recognized a refund of \$12.4 million related to aircraft rent paid in previous years within Other (income) expense.

7. Intangible Assets, Net and Goodwill

The following table presents our Intangible assets, net and goodwill as of December 31:

	2018	2017
Goodwill	\$40,361	\$40,361
Fair value adjustments on operating leases	45,531	45,531
Lease intangible	54,891	54,891
Customer relationship	26,280	26,280
Trade name	700	700
Less: accumulated amortization	(70,074)	(61,278)
	\$97,689	\$106,485

Goodwill is primarily attributable to the expanded market opportunities expected from combining the service offerings of Southern Air with ours, as well as the employee work force acquired. Fair value adjustments on operating leases represent the capitalized discount recorded in prior years to adjust the lease commitments for our 747-400 aircraft to fair market value and are amortized on a straight-line basis over the life of the leases. Lease intangibles resulted from the acquisition of various aircraft with in-place Dry Leases to customers on a long-term basis and are amortized on a straight-line basis over the life of the leases. Customer relationship represents Southern Air's underlying relationship and agreements with DHL. The trade name relates to the Southern Air brand.

Amortization expense related to intangible assets amounted to \$8.8 million in 2018, \$9.5 million in 2017 and \$9.8 million in 2016.

The estimated future amortization expense of intangible assets as of December 31, 2018 is as follows:

2019	\$8,094
2020	8,047
2021	8,547
2022	8,862
2023	6,456
Thereafter	17,322
Total	\$57,328

8. Amazon

In May 2016, we entered into certain agreements with Amazon.com, Inc. and its subsidiary, Amazon Fulfillment Services, Inc., (collectively "Amazon"), which involve, among other things, CMI operation of 20 Boeing 767-300 freighter aircraft for Amazon by Atlas, as well as Dry Leasing by Titan. The Dry Leases have a term of ten years from the commencement of each agreement, while the CMI operations are for seven years from the commencement of each agreement (with an option for Amazon to extend the term to a total of ten years). Between August 2016 and November 2018, we placed all 20 freighter aircraft into service for Amazon.

In conjunction with these agreements, we granted Amazon a warrant providing the right to acquire up to 20% of our outstanding common shares, after giving effect to the issuance of shares pursuant to the warrants, at an exercise price of \$37.50 per share. A portion of the warrant, representing the right to purchase 3.75 million shares, vested upon issuance of the warrant. The remainder of the warrant, representing the right to purchase 3.75 million shares, vested in increments of 375,000 when the lease and operation of each of the 11th through 20th aircraft commenced. The warrant is exercisable in accordance with its terms through 2021. As of December 31, 2018, no portion of the warrant has been exercised.

The agreements also provide incentives for future growth of the relationship as Amazon may increase its business with us. In that regard, we granted Amazon a warrant to acquire up to an additional 10% of our outstanding common shares, after giving effect to the issuance of shares pursuant to the warrants, for an exercise price of \$37.50 per share. This warrant to purchase 3.75 million shares would vest in conjunction with payments by Amazon for additional business with us. As of December 31, 2018, no portion of this warrant has vested. Upon vesting, the warrant would become exercisable in accordance with its terms through 2023.

At a special meeting in September, 2016, the Company's shareholders, by a vote of approximately 99.9% of the votes cast, approved the issuance of warrants to acquire up to 30% of our outstanding common shares. This approval constituted a change in control, as defined under certain of the Company's benefit plans. As a result, we recognized \$23.5 million in expense, including accelerated compensation expense for restricted and performance share and cash awards, during 2016. The share-based portion of the compensation expense was \$13.3 million.

At the time of vesting, the fair value of the vested portion of the warrant issued to Amazon is recorded as a warrant liability within Financial instruments and other liabilities (the “Amazon Warrant”). This initial fair value of the vested portion of the warrant is also recognized as a customer incentive asset within Deferred costs and other assets, net and is amortized as a reduction of revenue in proportion to the amount of revenue recognized over the terms of the Dry Leases and CMI agreements. The following table provides a summary of the customer incentive asset as of December 31:

	2018	2017
Beginning balance	\$106,538	\$92,351
Initial value for vested portion of warrant	94,359	19,448
Amortization of customer incentive asset	(16,177)	(5,261)
Ending balance	\$184,720	\$106,538

The Amazon Warrant liability is marked-to-market at the end of each reporting period with changes in fair value recorded in Unrealized (gain) loss on financial instruments. We utilize a Monte Carlo simulation approach to estimate the fair value of the Amazon Warrant which requires inputs such as our common stock price, the warrant strike price, estimated common stock price volatility and risk-free interest rate, among others. We recognized a net unrealized gain of \$123.1 million in 2018, and net unrealized losses of \$12.5 million in 2017 and \$2.9 million in 2016 on the Amazon Warrant. The fair value of the Amazon Warrant liability was \$99.0 million as of December 31, 2018 and \$127.8 million as of December 31, 2017.

9. Accrued Liabilities

Accrued liabilities consisted of the following as of December 31:

	December 31, 2018	December 31, 2017
Maintenance	\$ 133,337	\$ 156,042
Customer maintenance reserves	104,454	89,037
Salaries, wages and benefits	82,809	65,546
Aircraft fuel	32,641	22,196
Deferred revenue	26,584	20,986
U.S. class action settlement	-	30,000
Other	85,844	71,036
Accrued liabilities	\$ 465,669	\$ 454,843

10. Debt

Our debt obligations, as of December 31:

Range of Maturity Dates	2018 Interest Balance	2017 Interest Balance
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		Rates (1)	Rates (1)
Ex-Im Guaranteed Notes	2021 to 2025	1.8% 1.8%	\$81,226
Term loans and capital leases	2020 to 2032	4.10% 4.10%	\$1,474,949
Private Placement Facility	2025 to 2026	3.21% 3.21%	\$29,482
Convertible Notes	2022 to 2024	2.04% 2.04%	\$13,500
EETC	2019	7.52% 7.52%	\$1,158
Total principal amount of debt and capital leases			2,601,315
Less: unamortized debt discount and issuance costs			(131,475)
Total debt			2,469,840
Less current portion of debt and capital leases			(264,835)
Long-term debt			\$2,205,005

(1) Interest rates reflect weighted-average rates as of year-end.

Many of our financing instruments have cross-default provisions and contain limitations on our ability to, among other things, consummate certain asset sales, merge or consolidate with any other person or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of our assets.

Description of our Debt Obligations

Ex-Im Guaranteed Notes

We have issued various notes guaranteed by the Export-Import Bank of the United States (“Ex-Im Bank”), each secured by a mortgage on a 747-8F or 777-200LRF aircraft (the “Ex-Im Guaranteed Notes”). In connection with the issuance of Ex-Im Guaranteed Notes, we paid usual and customary commitment and other fees associated with this type of financing. In addition, there are customary covenants, events of default and certain operating conditions that we must meet for the Ex-Im Guaranteed Notes. These notes accrue interest at a fixed rate with principal and interest payable quarterly.

Term Loans and Capital Leases

We have entered into various term loans to finance the purchase of aircraft, passenger-to-freighter conversion of aircraft, and for GEnx engine performance upgrade kits and overhauls. Each term loan requires payment of principal and interest quarterly in arrears. Funds available under each term loan are subject to usual and customary fees, and funds drawn typically bear interest at a fixed rate based on LIBOR, plus a margin. Each facility is guaranteed by us and subject to customary covenants and events of default.

In March 2017, we amended and extended a lease for a 747-400 freighter aircraft to June 2032 at a lower monthly lease payment. As a result of the extension, we determined that the lease qualifies as a capital lease. The present value of the future minimum lease payments was \$32.4 million.

The following table summarizes the terms for each term loan entered into during 2018 (in millions):

	Issue Date	Face Value	Collateral Type	Original Term	Interest Rate
First 2018 Term Loan	March 2018	\$19.4	None	60 months	3.12 %
Second 2018 Term Loan	May 2018	83.5	777-200	120 months	4.63 %
Third 2018 Term Loan	May 2018	83.5	777-200	120 months	4.63 %
Fourth 2018 Term Loan	May 2018	20.1	None	60 months	3.31 %
Fifth 2018 Term Loan	June 2018	21.1	767-300	108 months	3.97 %
Sixth 2018 Term Loan	June 2018	3.9	767-300	108 months	5.14 %
Seventh 2018 Term Loan	June 2018	20.7	767-300	108 months	3.98 %
Eighth 2018 Term Loan	June 2018	4.0	767-300	108 months	5.14 %
Ninth 2018 Term Loan	June 2018	20.9	767-300	108 months	3.98 %
Tenth 2018 Term Loan	June 2018	4.0	767-300	108 months	5.13 %

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Eleventh 2018 Term Loan	June 2018	4.0	767-300	98 months	5.10	%
Twelfth 2018 Term Loan	June 2018	4.0	767-300	104 months	5.11	%
Thirteenth 2018 Term Loan	June 2018	4.0	767-300	106 months	5.11	%
Fourteenth 2018 Term Loan	June 2018	4.0	767-300	106 months	5.11	%
Fifteenth 2018 Term Loan	June 2018	4.0	767-300	108 months	5.11	%
Sixteenth 2018 Term Loan	June 2018	4.0	767-300	108 months	5.11	%
Seventeenth 2018 Term Loan	July 2018	20.4	None	60 months	3.38	%
Eighteenth 2018 Term Loan	September 2018	21.0	767-300	108 months	4.04	%
Nineteenth 2018 Term Loan	September 2018	4.0	767-300	108 months	5.19	%
Twentieth 2018 Term Loan	September 2018	21.0	767-300	108 months	4.04	%
Twenty-first 2018 Term Loan	September 2018	4.0	767-300	108 months	5.19	%
Twenty-second 2018 Term Loan	September 2018	21.0	767-300	108 months	4.04	%
Twenty-third 2018 Term Loan	September 2018	4.0	767-300	108 months	5.19	%
Twenty-fourth 2018 Term Loan	November 2018	20.9	767-300	108 months	4.24	%
Twenty-fifth 2018 Term Loan	November 2018	4.0	767-300	108 months	5.40	%
Twenty-sixth 2018 Term Loan	November 2018	20.9	767-300	108 months	4.24	%
Twenty-seventh 2018 Term Loan	November 2018	4.0	767-300	108 months	5.40	%
Twenty-eighth 2018 Term Loan	November 2018	21.4	None	60 months	3.63	%
Total			\$471.7			

Private Placement Facility

In September 2017, we entered into a debt facility for a total of \$145.8 million through private placement to finance the purchase and passenger-to-freighter conversion of six 767-300 freighter aircraft dry leased to a customer (the “Private Placement Facility”). The Private Placement Facility consists of six separate loans (the “Private Placement Loans”). Each Private Placement Loan is comprised of an equipment note and an equipment term loan, both secured by the cash flows from a 767-300 freighter aircraft dry lease and the underlying aircraft. The equipment notes require payment of principal and interest at a fixed interest rate. The equipment term loans accrue interest, at a fixed rate, which is added to the principal balance outstanding until each equipment note is paid in full. Subsequently, the equipment term loans require payment of principal and interest over the remaining term of the loans. The Private Placement Loans are cross-collateralized, but not cross-defaulted, with each other and, except for certain specified events, are not cross-defaulted with other debt facilities of the Company.

In connection with entry into the Private Placement Facility, we have agreed to pay usual and customary commitment and other fees associated with this type of financing. The Private Placement Facility is guaranteed by us and subject to customary covenants and events of default.

Convertible Notes

In May 2017, we issued \$289.0 million aggregate principal amount of convertible senior notes that mature on June 1, 2024 (the “2017 Convertible Notes”) in an underwritten public offering. In June 2015, we issued \$224.5 million aggregate principal amount of convertible senior notes that mature on June 1, 2022 (the “2015 Convertible Notes”) in an underwritten public offering. The 2017 Convertible Notes and the 2015 Convertible Notes (collectively, the “Convertible Notes”) are senior unsecured obligations and accrue interest payable semiannually on June 1 and December 1 of each year. The Convertible Notes are due on their respective maturity dates, unless earlier converted or repurchased pursuant to their respective terms.

The following table lists certain key terms for the Convertible Notes:

	2017	2015
	Convertible Note	Convertible Note
Fixed interest rate	1.88 %	2.25 %
Earliest conversion date	September 1, 2023	September 1, 2021
Initial conversion price per share	\$ 61.08	\$ 74.05
Conversion rate (shares for each \$1,000 of principal)	16.3713	13.5036

During 2017, we used the majority of the net proceeds from the 2017 Convertible Notes to repay \$150.0 million then outstanding under our revolving credit facility and to fund the cost of the convertible note hedges described below.

During 2015, we used the majority of the proceeds from the 2015 Convertible Notes to refinance higher-rate equipment notes funded by enhanced equipment trust certificates (“EETCs”) related to five 747-400 freighter aircraft owned by us in the aggregate amount of \$187.8 million. The EETCs had an average cash coupon of 8.1%.

The Convertible Notes will initially be convertible into shares of our common stock based on the respective conversion rates, which are equal to the respective initial conversion prices per share. The conversion rates will be

subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest, except in certain limited circumstances. Upon the occurrence of a “make-whole fundamental change,” we will, in certain circumstances, increase the conversion rates by a number of additional shares of our common stock for the Convertible Notes converted in connection with such “make-whole fundamental change”. Additionally, if we undergo a “fundamental change,” holders will have the option to require us to repurchase all or a portion of their Convertible Notes for cash at a price equal to 100% of the principal amount of the Convertible Notes being repurchased plus any accrued and unpaid interest through, but excluding, the fundamental change repurchase date.

In connection with the offerings of the Convertible Notes, we entered into convertible note hedge transactions whereby we have the option to purchase a certain number of shares of our common stock at a fixed price per share. In addition, we sold warrants to the option counterparties whereby the holders of the warrants have the option to purchase a certain number of shares of our common stock at a fixed price per share.

The following table summarizes the convertible note hedges and related warrants:

	2017	2015
	Convertible Note	Convertible Note
Convertible Note Hedges:		
Number of shares ⁽¹⁾	4,731,306	3,031,558
Initial price per share	\$61.08	\$74.05
Cost of hedge	\$70,140	\$52,903
Convertible Note Warrants:		
Number of shares ⁽¹⁾	4,731,306	3,031,558
Initial price per share	\$92.20	\$95.01
Proceeds from sale of warrants	\$38,148	\$36,290

⁽¹⁾ Subject to adjustment for certain specified events

Taken together, the purchases of the convertible note hedges and the sales of the warrants are intended to offset any economic dilution from the conversion of each of the Convertible Notes when the stock price is below the exercise price of the respective warrants and to effectively increase the overall conversion prices from \$61.08 to \$92.20 per share for the 2017 Convertible Notes and from \$74.05 to \$95.01 per share for the 2015 Convertible Notes. However, for purposes of the computation of diluted earnings per share in accordance with GAAP, dilution typically occurs when the average share price of our common stock for a given period exceeds the conversion price. The net cost incurred in connection with the convertible note hedges and warrants was recorded as a reduction to additional paid-in capital, net of tax, in the consolidated balance sheets.

On or after the earliest conversion date until the close of business on the second scheduled trading day immediately preceding the maturity date, a holder may convert all or a portion of its Convertible Notes. Upon conversion, each of the Convertible Notes will be settled, at our election, in cash, shares of our common stock, or a combination of cash and shares of our common stock. Our current intent and policy is to settle conversions with a combination of cash and shares of common stock with the principal amounts of the Convertible Notes paid in cash.

Holders may only convert their Convertible Notes at their option at any time prior to the earliest conversion dates, under the following circumstances:

- during any calendar quarter (and only during such calendar quarter) if, for each of at least 20 trading days (whether or not consecutive) during the 30 consecutive trading day period ending on, and including, the last trading day of the immediately preceding calendar quarter, the last reported sale price of our common stock for such trading day is equal to or greater than 130% of the conversion price on such trading day;
- during the five consecutive business day period immediately following any five consecutive trading day period (the “measurement period”) in which, for each trading day of the measurement period, the trading price per \$1,000 principal amount of the convertible notes for such trading day was less than 98% of the product of the last reported sale price of our common stock for such trading day and the conversion rate on such trading day; or
- upon the occurrence of specified corporate events.

We separately account for the liability and equity components of convertible notes. The carrying amount of the liability component is determined by measuring the fair value of a similar liability that does not have an associated

conversion feature, assuming our nonconvertible unsecured debt borrowing rate. The carrying value of the equity component, the conversion option, which is recognized as additional paid-in-capital, net of tax, creates a debt discount on the convertible notes. The debt discount is determined by deducting the relative fair value of the liability component from the proceeds of the convertible notes and is amortized to interest expense using an effective interest rate of 6.14% and 6.44% over the term of the 2017 Convertible Notes and the 2015 Convertible Notes, respectively. The equity components will not be remeasured as long as they continue to meet the conditions for equity classification.

The debt issuance costs related to the issuance of the Convertible Notes were allocated to the liability and equity components based on their relative values, as determined above. Total debt issuance costs for the 2017 Convertible Notes were \$7.5 million, of which \$5.7 million was allocated to the liability component and \$1.8 million was allocated to the equity component. Total debt issuance costs for the 2015 Convertible Notes were \$6.8 million, of which \$5.2 million was allocated to the liability component and \$1.6 million was allocated to the equity component. The debt issuance costs allocated to the liability components are amortized to interest expense using the effective interest method over the term of each of the Convertible Notes.

The Convertible Notes consisted of the following as of December 31:

	2018		2017	
	2017	2015	2017	2015
	Convertible	Convertible	Convertible	Convertible
	Notes	Notes	Notes	Notes
Remaining life in months	65	41	77	53
Liability component:				
Gross proceeds	\$289,000	\$224,500	\$289,000	\$224,500
Less: debt discount, net of amortization	(56,652)	(28,807)	(65,187)	(36,108)
Less: debt issuance cost, net of amortization	(4,457)	(2,716)	(5,216)	(3,445)
Net carrying amount	\$227,891	\$192,977	\$218,597	\$184,947
Equity component ⁽¹⁾	\$70,140	\$52,903	\$70,140	\$52,903

(1) Included in Additional paid-in capital on the consolidated balance sheets.

The following table presents the amount of interest expense recognized related to the 2017 Convertible Notes and the 2015 Convertible Notes:

	2018	2017	2016
Contractual interest coupon	\$10,470	\$8,348	\$5,051
Amortization of debt discount	15,855	11,801	6,421
Amortization of debt issuance costs	1,487	1,132	677
Total interest expense recognized	\$27,812	\$21,281	\$12,149

EETC

In 1999, we issued an EETC secured by a 747-400F aircraft in the amount of \$109.9 million which matures in February 2019 with fixed interest rates on the underlying equipment notes ranging from 6.88% to 8.77% and an effective interest rate of 7.52%.

Revolving Credit Facility

In December 2018, we amended and extended our previous three-year \$150.0 million secured revolving credit facility into a new four-year \$200.0 million secured revolving credit facility (the "Revolver"). The Revolver is for general corporate purposes and is currently secured by mortgages against ten 747-400 and four 767-300 aircraft, and related engines. Amounts outstanding under the Revolver are subject to borrowing base calculations, collateral coverage and

fixed charge ratios. The Revolver accrues interest monthly at either LIBOR or an agreed upon rate plus a margin of 1.75% per annum for the first \$100.0 million and 2.00% per annum when utilization exceeds \$100.0 million. The Revolver includes a facility fee of 0.35% on the undrawn portion. In connection with entry into the Revolver, we paid usual and customary fees. There were no amounts outstanding at December 31, 2018 and 2017, and we had \$143.5 million of unused availability under the Revolver, based on the collateral borrowing base as of December 31, 2018.

Future Cash Payments for Debt and Capital Leases

The following table summarizes the cash required to be paid by year and the carrying value of our debt reflecting the terms that were in effect as of December 31, 2018:

2019	\$278,040
2020	392,657
2021	288,745
2022	478,789
2023	433,857
Thereafter	729,227
Total debt cash payments	2,601,315
Less: unamortized debt discount and issuance costs	(131,475)
Debt	\$2,469,840

11. Commitments

Leveraged Lease Structure

In three separate transactions, we issued EETCs to finance the acquisition of five 747-400F aircraft as leveraged leases. In a leveraged lease, the owner trustee is the owner of record for the aircraft. Wells Fargo Bank Northwest, National Association (“Wells Fargo”) serves as the owner trustee with respect to the leveraged leases in each of our EETC transactions. As the owner trustee of the aircraft, Wells Fargo serves as the lessor of the aircraft under the EETC lease between us and the owner trustee. Wells Fargo also serves as trustee for the beneficial owner of the aircraft, the owner participant. The original owner participant for each aircraft invested (on an equity basis) approximately 20% of the original cost of the aircraft. The remaining approximately 80% of the aircraft cost was financed with debt issued by the owner trustee on a nonrecourse basis in the form of equipment notes.

The equipment notes were generally issued in three series, for each aircraft, designated as Series A, B and C equipment notes. The loans evidenced by the equipment notes were funded by the public offering of EETCs. Like the equipment notes, the EETCs were issued in three series, with each EETC transaction designated as Series A, B and C EETCs. Each series of EETCs was issued by the trustee for separate Atlas pass-through trusts with the same designation as the series of EETCs issued (“PTCs”). Each of these pass-through trustees is also the holder and beneficial owner of the equipment notes bearing the same series designation.

These leasing entities meet the criteria for variable interest entities. We have not consolidated any of the aircraft-leasing trusts because we are not the primary beneficiary. We account for these leases as operating leases and have included them in our minimum annual rental commitments below.

Operating Leases

The following table summarizes rental expenses in:

2018	2017	2016
------	------	------

Aircraft and engines	\$162,444	\$142,945	\$146,110
Purchased capacity, office, vehicles and other	\$63,650	\$46,817	\$23,727

As of December 31, 2018, 20 of our 85 aircraft were under operating leases, with lease term expiration dates ranging from 2020 to 2025 and an average remaining lease term of 4.5 years. Certain of our operating leases contain renewal options and escalations. In addition, we lease engines under short-term lease agreements on an as-needed basis. We record rent expense on a straight-line basis over the lease term.

The following table summarizes our minimum annual rental commitments as of the periods indicated under non-cancelable aircraft, engine, real estate and other operating leases with initial or remaining terms of more than one year, reflecting the terms that were in effect as of December 31, 2018:

	Aircraft and Engine Operating Leases	Other Operating Leases	Total
2019	\$ 156,561	\$ 9,955	\$ 166,516
2020	151,064	8,319	159,383
2021	160,102	5,954	166,056
2022	113,164	2,427	115,591
2023	61,409	346	61,755
Thereafter	53,403	27	53,430
Total minimum rental payments	\$ 695,703	\$ 27,028	\$ 722,731

In addition to the aircraft we Dry Lease to customers, Polar subleases aircraft from us that are leased from a third party and are included in the table above under aircraft operating leases.

The following table summarizes the contractual amount of minimum income under Dry Leases reflecting the terms that were in effect as of December 31, 2018:

	Dry Lease Income
2019	\$ 180,366
2020	169,202
2021	148,413
2022	140,876
2023	107,248
Thereafter	257,248
Total minimum lease receipts	\$ 1,003,353

Guarantees and Indemnifications

In the ordinary course of business, we enter into numerous leasing and financing arrangements for real estate, equipment, aircraft and engines that have various guarantees included in the contracts. These guarantees are primarily in the form of indemnities. In both leasing and financing transactions, we typically indemnify the lessors and any financing parties against tort liabilities that arise out of the use, occupancy, manufacture, design, operation or maintenance of the leased premises or financed aircraft, regardless of whether these liabilities relate to the negligence of the indemnified parties. Currently, we believe that any future payments required under many of these guarantees or indemnities would be immaterial, as most tort liabilities and related indemnities are covered by insurance (subject to deductibles). However, payments under certain tax indemnities related to certain of our financing arrangements, if applicable, could be material, and would not be covered by insurance, although we believe that these payments are not probable. Certain leased premises, such as maintenance and storage facilities, typically include indemnities of such

parties for any environmental liability that may arise out of or relate to the use of the leased premises. We also provide standard indemnification agreements to officers and directors in the ordinary course of business.

Financings and Guarantees

Our financing arrangements typically contain a withholding tax provision that requires us to pay additional amounts to the applicable lender or other financing party, if withholding taxes are imposed on such lender or other financing party as a result of a change in the applicable tax law. These increased costs and withholding tax provisions continue for the entire term of the applicable transaction and there is no limitation on the maximum additional amount we could be required to pay under such provisions. Any failure to pay amounts due under such provisions generally would trigger an event of default and, in a secured financing transaction, would entitle the lender to foreclose upon the collateral to realize the amount due.

12. Income Taxes

The United States enacted the U.S. Tax Cuts and Jobs Act on December 22, 2017. The U.S. Tax Cuts and Jobs Act reduces the U.S. federal corporate income tax rate from 35.0% to 21.0% beginning in 2018, requires companies to pay a one-time deemed repatriation tax on unremitted foreign earnings, repeals the corporate alternative minimum tax, provides full expensing of new and used assets, creates new sources of taxable income and deductions related to foreign operations, repeals or modifies certain deductions and credits, and modifies the use of federal net operating loss carryforwards (“NOLs”).

On December 22, 2017, the SEC issued guidance which allowed us to record provisional amounts during a measurement period not to extend beyond one year following enactment. As a result of that guidance, and based on our interpretation of the U.S. Tax Cuts and Jobs Act, we recorded provisional income tax benefits of \$130.0 million in connection with the remeasurement of our U.S. net deferred tax liability in 2017 and updated these income tax benefits in 2018. Adjustments during the measurement period were not material and have been reflected in income tax expense. Although we no longer consider the amounts recorded to be provisional, the ultimate impact of the U.S. Tax Cuts and Jobs Act may differ from the amounts reflected in these financial statements due to additional regulatory guidance that may be issued, changes in interpretations and assumptions, additional analysis, and actions we may take as a result.

The significant components of the provision of income taxes are as follows:

	2018	2017	2016
Current:			
Federal	\$(4,518)	\$(133)	\$(376)
State and local	68	(99)	(298)
Foreign	597	596	84
Total current (benefit) expense	(3,853)	364	(590)
Deferred:			
Federal	43,167	(87,185)	46,391
State and local	1,780	1,868	(1,436)
Foreign	(2,367)	3,987	2,426
Total deferred expense (benefit)	42,580	(81,330)	47,381
Total income tax expense (benefit)	\$38,727	\$(80,966)	\$46,791

The domestic and foreign earnings before income taxes are as follows:

	2018	2017	2016
Domestic	\$257,726	\$104,321	\$61,006
Foreign	51,648	39,051	28,410
Income before income taxes	\$309,374	\$143,372	\$89,416

A reconciliation of the provision (benefit) for income taxes applying the statutory federal income tax rate of 21.0% for the year ended December 31, 2018 and 35.0% for the years ended December 31, 2017 and 2016, respectively, is as

follows:

	2018	2017	2016
U.S. federal statutory income tax rate	21.0%	35.0%	35.0%
State and local taxes based on income, net of federal benefit	0.8%	0.3%	1.1%
Change in deferred foreign and state tax rates	(3.0%)	0.6%	(2.2%)
Customer incentive	(5.1%)	5.0%	10.9%
Nondeductible expenses related to customer	-	-	13.0%
Other nondeductible expenses	1.2%	1.4%	4.3%
Tax effect of foreign operations	(2.2%)	(7.7%)	(9.4%)
Impact of U.S. Tax Cuts and Jobs Act	-	(90.7%)	-
Other	(0.2%)	(0.4%)	(0.4%)
Effective income tax rate	12.5%	(56.5%)	52.3%

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The effective income tax rate for the year ended December 31, 2018 differed from the U.S. statutory rate primarily due to the nondeductible and nontaxable changes in the fair value of a customer warrant liability (see Note 8) and, to a lesser extent, the benefit recorded on the remeasurement of our deferred income tax liability for Singapore (see below).

In 2017, we generated income tax benefits primarily due to the revaluation of our U.S. net deferred tax liability as a result of the U.S. Tax Cuts and Jobs Act. In 2016, we recorded a nondeductible customer incentive and nondeductible compensation expenses resulting from a change in control, as defined under certain of the Company's benefit plans, both related to the issuance of warrants (see Note 8).

Prior to the U.S. Tax Cuts and Jobs Act, we indefinitely reinvested outside of the U.S. the net earnings of our foreign Dry Leasing subsidiaries. We no longer indefinitely reinvest the earnings of our overseas Dry Leasing subsidiaries outside the U.S. As a result, we may repatriate those earnings in the future, and we recorded an immaterial amount of deferred tax expense related to state income taxes for the year ended December 31, 2018.

Deferred tax assets and liabilities represent the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities.

The net noncurrent deferred tax asset (liability) was comprised of the following as of December 31:

	Assets (Liabilities)	
	2018	2017
Deferred tax assets:		
Net operating loss carryforwards and credits	\$357,022	\$345,245
Accrued compensation	13,176	11,514
Accrued legal settlements	-	6,596
Aircraft leases	17,688	17,323
Goodwill and other intangibles	2,765	7,267
Interest rate derivatives	1,179	1,532
Long-term debt	1,593	1,923
Obsolescence reserve	6,771	5,734
Stock-based compensation	3,203	3,296
Other	508	977
Total deferred tax assets	403,905	401,407
Valuation allowance	(29,871)	(30,869)
Net deferred tax assets	\$374,034	\$370,538
Deferred tax liabilities:		
Fixed assets	\$(589,649)	\$(562,210)
Acquisition of EETC debt	20	(1,247)
Customer incentive	(15,894)	(6,709)
Deferred maintenance	(22,747)	(14,151)
Total deferred tax liabilities	\$(628,270)	\$(584,317)
Deferred taxes included within following balance sheet line items:		
Deferred taxes	\$(256,970)	\$(214,694)
Deferred costs and other assets	2,734	915
Net deferred tax assets (liabilities)	\$(254,236)	\$(213,779)

As of December 31, 2018 and 2017, we had U.S. NOLs, net of unrecognized tax benefits and valuation allowances, of approximately \$1.3 billion and \$1.2 billion, respectively, most of which will expire through 2037, if not utilized. We

had alternative minimum tax credits of \$4.5 million as of December 31, 2018 and 2017 with no expiration date. Pursuant to the U.S. Tax Cuts and Jobs Act, these credits are refundable on our income tax returns from 2018 through 2022 and are reflected as current and long-term receivables in the accompanying consolidated balance sheets. Additionally, we had foreign NOLs for Hong Kong and Singapore, net of unrecognized tax benefits of approximately \$591.9 million and \$465.3 million as of December 31, 2018 and 2017, respectively, with no expiration date.

We participate in an aircraft leasing incentive program in Singapore, which entitled us to a reduced income tax rate of 10.0% on our Singapore Dry Leasing income through July 31, 2018. We renewed our participation in this program at a reduced income tax rate of 8.0% through July 31, 2023, effective in the third quarter of 2018. As a result, we recorded a benefit of \$8.7 million related to the remeasurement of our deferred income tax liability for Singapore.

Section 382 of the Internal Revenue Code imposes an annual limitation on the amount of a corporation's U.S. federal taxable income that can be offset by NOLs if it experiences an "ownership change", as defined. We experienced ownership changes, as defined, in 2004 and 2009. In addition, the acquisition of Southern Air in 2016 (see Note 5) constituted an ownership change for that entity. Accordingly, the use of NOLs generated prior to these ownership changes is subject to an annual limitation. If certain changes in our ownership occur prospectively, there could be an additional annual limitation on the amount of utilizable NOLs.

On each reporting date, management assesses whether we are more likely than not to realize some or all of our deferred tax assets. After our assessment, we maintained a valuation allowance of \$29.9 million and \$30.9 million against our deferred tax assets as of December 31, 2018 and 2017, respectively. The valuation allowance decreased by \$1.0 million during the year ended December 31, 2018. The valuation allowance decreased by \$18.5 million during the year ended December 31, 2017, primarily due to the change in the federal income tax rate under the U.S. Tax Cuts and Jobs Act. The valuation allowance is attributable to a limitation on NOL utilization resulting from the ownership change under Section 382. Due to this limitation, we expect a portion of our NOLs generated in 2004 and prior years to eventually expire unused.

A reconciliation of the beginning and ending unrecognized income tax benefits is as follows:

	2018	2017	2016
Beginning balance	\$71,717	\$113,892	\$112,555
Additions for tax positions related to the current year	2,061	1,366	1,587
Additions for tax positions related to prior years	657	40	-
Reductions for tax positions related to prior years	(160)	(43,581)	(250)
Ending balance	\$74,275	\$71,717	\$113,892

If recognized, all of the unrecognized income tax benefits would favorably impact the effective income tax rate. We will maintain a liability for unrecognized income tax benefits until these uncertain positions are resolved or until the expiration of the applicable statute of limitations, if earlier.

Our policy is to record tax-related interest expense and penalties, if applicable, as a component of income tax expense. We recorded no interest benefit in 2018 or 2017. The cumulative liability for tax-related interest was \$0.1 million as of December 31, 2018 and 2017. We have not recorded any liability for income tax-related penalties, and the tax authorities historically have not assessed any.

For U.S. federal income tax purposes, the 2012 through 2018 income tax years remain subject to examination. The U.S. Internal Revenue Service is currently examining the 2015 tax year. It is reasonably possible that our unrecognized tax benefits could significantly decrease during 2019. Due to the uncertainty related to the potential outcome of this examination, we cannot estimate the amount of the potential decrease to our unrecognized tax benefits. Income tax examinations are also in progress in New Jersey and New York. The Company files income tax returns in multiple foreign jurisdictions, primarily in Singapore and Hong Kong. The 2013 through 2018 Singapore income tax years and 2012 through 2018 Hong Kong income tax years are subject to examination. The Company is

currently undergoing an income tax examination in Hong Kong for the 2015 tax year.

13. Financial Instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). Inputs used to measure fair value are classified in the following hierarchy:

- Level 1 Unadjusted quoted prices in active markets for identical assets or liabilities;
 - Level 2 Other inputs that are observable directly or indirectly, such as quoted prices in active markets for similar assets or liabilities, or inactive quoted prices for identical assets or liabilities in inactive markets;
 - Level 3 Unobservable inputs reflecting assumptions about the inputs used in pricing the asset or liability.
- We endeavor to utilize the best available information to measure fair value.

The carrying value of Cash and cash equivalents, Short-term investments and Restricted cash is based on cost, which approximates fair value.

Long-term investments consist of debt securities, maturing within five years, for which we have both the ability and the intent to hold until maturity. These investments are classified as held-to-maturity and reported at amortized cost. The fair value of our Long-term investments is based on a discounted cash flow analysis using the contractual cash flows of the investments and a discount rate derived from unadjusted quoted interest rates for debt securities of comparable risk. Such debt securities represent investments in PTCs related to EETCs issued by Atlas in 1998 and 1999. Interest on debt securities and accretion of discounts using the effective interest method are included in Interest income.

Term loans and notes consist of term loans, the Ex-Im Guaranteed Notes, the Private Placement Facility, the Revolver and EETCs. The fair values of these debt instruments are based on a discounted cash flow analysis using current borrowing rates for instruments with similar terms.

The fair value of our Convertible Notes is based on unadjusted quoted market prices for these securities.

The fair value of a customer warrant liability and certain long-term performance-based restricted shares are based on a Monte Carlo simulation which requires inputs such as our common stock price, the warrant strike price, estimated common stock price volatility, and risk-free interest rate, among others.

The following table summarizes the carrying value, estimated fair value and classification of our financial instruments as of:

	December 31, 2018				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
Assets					
Cash and cash equivalents	\$221,501	\$221,501	\$221,501	\$-	\$-
Short-term investments	15,624	15,624	-	-	15,624
Restricted cash	11,240	11,240	11,240	-	-
Long-term investments and accrued interest	635	1,138	-	-	1,138
	\$249,000	\$249,503	\$232,741	\$-	\$16,762
Liabilities					
Term loans and notes	\$2,048,972	\$1,976,373	\$-	\$-	\$1,976,373

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Convertible notes (1)	420,868	490,070	490,070	-	-
Customer warrant	99,000	99,000	-	99,000	-
	\$2,568,840	\$2,565,443	\$490,070	\$99,000	\$1,976,373

	December 31, 2017				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
Assets					
Cash and cash equivalents	\$280,809	\$280,809	\$280,809	\$-	\$-
Short-term investments	13,604	13,604	-	-	13,604
Restricted cash	11,055	11,055	11,055	-	-
Long-term investments and accrued interest	15,371	18,074	-	-	18,074
	\$320,839	\$323,542	\$291,864	\$-	\$31,678
Liabilities					
Term loans and notes	\$1,791,918	\$1,844,445	\$-	\$-	\$1,844,445
Convertible notes (1)	403,544	602,846	602,846	-	-
Customer warrant	127,755	127,755	-	127,755	-
	\$2,323,217	\$2,575,046	\$602,846	\$127,755	\$1,844,445

(1) Carrying value is net of debt discounts and debt issuance costs. Hedge transactions associated with the Convertible Notes are reflected in additional paid-in-capital (see Note 10).

Gross unrealized gains on our long-term investments and accrued interest were \$0.5 million at December 31, 2018 and \$2.7 million at December 31, 2017.

Our Long-term investments include investments in PTCs related to EETCs, and we intend to hold the investments to maturity.

14. Segment Reporting

Our business is organized into three operating segments based on our service offerings: ACMI, Charter and Dry Leasing. All segments are directly or indirectly engaged in the business of air transportation services but have different commercial and economic characteristics. Each operating segment is separately reviewed by our chief operating decision maker to assess operating results and make resource allocation decisions. We do not aggregate our operating segments and, therefore, our operating segments are our reportable segments.

We use an economic performance metric (“Direct Contribution”) that shows the profitability of each segment after allocation of direct operating and ownership costs. Direct Contribution represents Income (loss) from continuing operations before income taxes excluding the following: Special charges, Transaction-related expenses, nonrecurring items, Losses (gains) on the disposal of aircraft, Losses on early extinguishment of debt, Unrealized losses (gains) on financial instruments, Gains on investments and Unallocated income and expenses, net. Direct operating and ownership costs include crew costs, maintenance, fuel, ground operations, sales costs, aircraft rent, interest expense on the portion of debt used for financing aircraft, interest income on debt securities and aircraft depreciation. Unallocated income and expenses, net include corporate overhead, nonaircraft depreciation, noncash expenses and income, interest expense on the portion of debt used for general corporate purposes, interest income on nondebt securities, capitalized interest, foreign exchange gains and losses, other revenue and other non-operating costs.

Management allocates the costs attributable to aircraft operation and ownership for our operating fleet among the various segments based on the aircraft type and activity levels in each segment. Depreciation and amortization expense, aircraft rent, maintenance expense, and other aircraft-related expenses are allocated to segments based upon aircraft utilization because certain individual aircraft are utilized across segments interchangeably. Other allocation methods are standard activity-based methods that are commonly used in the industry.

The ACMI segment provides aircraft, crew, maintenance and insurance services to customers. Also included in the ACMI segment is CMI, whereby we provide crew, maintenance and insurance services but not the aircraft. Under ACMI and CMI contracts, customers generally guarantee a monthly level of operation at a predetermined rate

for a defined period of time. The customer bears the commercial revenue risk and the obligation for other direct operating costs, including fuel.

The Charter segment provides full-planeload air cargo and passenger aircraft charters to customers, including the AMC, brokers, freight forwarders, direct shippers, airlines, sports teams and fans, and private charter customers. Charter customers generally pay a fixed charter fee or a variable fee generally based on the weight of cargo flown and we bear the direct operating costs.

The Dry Leasing segment provides for the leasing of aircraft and engines to customers.

Other represents revenue for services that are not allocated to any segment, including administrative and management support services and flight simulator training.

The following table sets forth Operating Revenue and Direct Contribution for our reportable segments reconciled to Operating Income and Income from continuing operations before income taxes:

	2018	2017	2016
Operating Revenue:			
ACMI	\$1,192,704	\$988,741	\$834,997
Charter	1,313,484	1,034,562	881,991
Dry Leasing	168,470	119,820	105,795
Customer incentive asset amortization	(16,176)	(5,261)	(537)
Other	19,242	18,598	17,381
Total Operating Revenue	\$2,677,724	\$2,156,460	\$1,839,627
Direct Contribution:			
ACMI	\$235,706	\$229,498	\$200,563
Charter	211,661	150,144	133,727
Dry Leasing	48,904	39,939	33,114
Total Direct Contribution for Reportable Segments	496,271	419,581	367,404
Unallocated income and expenses, net	(298,526)	(258,925)	(242,768)
Loss on early extinguishment of debt	-	(167)	(132)
Unrealized gain (loss) on financial instruments	123,114	(12,533)	(2,888)
Special charge	(9,374)	(106)	(10,140)
Transaction-related expenses	(2,111)	(4,509)	(22,071)
Loss on disposal of aircraft	-	31	11
Income from continuing operations before income taxes	309,374	143,372	89,416
Add back (subtract):			
Interest income	(6,710)	(6,009)	(5,532)
Interest expense	119,378	99,687	84,650
Capitalized interest	(4,727)	(7,389)	(3,313)
Loss on early extinguishment of debt	-	167	132
Unrealized gain (loss) on financial instruments	(123,114)	12,533	2,888
Other (income) expense	(10,659)	(387)	70
Operating Income	\$283,542	\$241,974	\$168,311

For the years ended December 31, 2017 and 2016, the direct contribution amounts for the ACMI and Charter segments and the unallocated income and expenses, net above have been revised to correct for immaterial adjustments. The Company does not believe the impact to the previously issued consolidated financial statements was material.

The following table disaggregates our Charter segment revenue by customer and service type:

	2018			2017			2016		
	Cargo	Passenger	Total	Cargo	Passenger	Total	Cargo	Passenger	Total
Commercial customers	\$644,344	\$33,785	\$678,129	\$519,507	\$18,713	\$538,220	\$429,524	\$16,328	\$445,852
AMC	327,751	307,604	635,355	205,776	290,566	496,342	170,487	265,652	436,139
Total Charter Revenue	\$972,095	\$341,389	\$1,313,484	\$725,283	\$309,279	\$1,034,562	\$600,011	\$281,980	\$881,991

Given the nature of our business and international flying, geographic information for revenue, long-lived assets and total assets is not presented because it is impracticable to do so.

We are exposed to a concentration of revenue from the AMC, Polar and DHL (see Note 3 for further discussion regarding Polar). No other customer accounted for more than 10.0% of our Total Operating Revenue. Revenue from the AMC was \$635.4 million for 2018, \$496.3 million for 2017 and \$436.1 million 2016. Revenue from DHL was \$348.3 million for 2018, \$262.6 million for 2017 and \$195.1 million for 2016. We have not experienced any credit issues with either of these customers.

	2018	2017	2016
Depreciation and amortization expense:			
ACMI	\$93,706	\$71,097	\$61,630
Charter	38,531	36,539	37,239
Dry Leasing	73,868	47,426	40,164
Unallocated	11,235	11,651	9,843
Total Depreciation and Amortization	\$217,340	\$166,713	\$148,876

15. Labor and Legal Proceedings

Labor

Pilots of Atlas and Southern Air, and flight dispatchers of Atlas and Polar are represented by the International Brotherhood of Teamsters (the "IBT"). We have a five-year collective bargaining agreement ("CBA") with our Atlas pilots, which became amendable in September 2016, and a four-year CBA with the Southern Air pilots, which became amendable in November 2016. We also have a five-year CBA with our Atlas and Polar dispatchers, which was extended in April 2017 for an additional four years, making the CBA amendable in November 2021.

After we completed the acquisition of Southern Air in April 2016, we informed the IBT of our intention to pursue (and we have been pursuing) a complete operational merger of Atlas and Southern Air. Pursuant to the merger provisions in both the Atlas and Southern Air CBAs, joint negotiations for a single CBA for Atlas and Southern Air

should commence promptly. Further to this process, once a seniority list is presented to us by the unions, it triggers an agreed-upon timeframe to negotiate a new joint CBA with any unresolved issues submitted to binding arbitration. After the merger process began, the IBT filed an application for mediation with the National Mediation Board (“NMB”) on behalf of the Atlas pilots, and subsequently the IBT filed a similar application on behalf of Southern Air pilots. We have opposed both mediation applications as they are not in accordance with the merger provisions in the parties’ existing CBAs. The Atlas and Southern Air CBAs have a defined and streamlined process for negotiating a joint CBA when a merger occurs, as in the case with the Atlas and Southern Air merger. The NMB conducted a premediation investigation on the IBT’s Atlas application in June 2016, which is currently pending (along with the IBT’s Southern Air application). Due to a lack of meaningful progress in such merger discussions, in February 2017, we filed a lawsuit against the IBT to compel arbitration on the issue of whether the merger provisions in Atlas and Southern Air’s CBAs apply to the bargaining process. On March 13, 2018, the Southern District Court of New York (“NY Court”) granted the Company’s motion to compel arbitration on this issue. The IBT appealed the NY Court’s decision, which is currently pending. The Company and the IBT conducted the Atlas and Southern Air arbitrations for this issue in October 2018. The Company expects to receive the arbitration decisions in the first half of 2019. The Company and the IBT continue to move the process forward and will start bargaining in good faith for a new joint CBA during the first quarter of 2019, subject to a framework agreement until the Atlas and Southern Air arbitrations are decided.

In August 2018, the Southern Air pilots ratified an agreement between Southern Air and the IBT for interim enhancements to the Southern Air pilots’ CBA. The agreement enhances the wages and work rules of the Southern

Air pilots and provides similar terms and conditions of employment to those provided to Atlas pilots in the Atlas CBA. The Southern Air pilot agreement became effective in September 2018.

In September 2017, the Company requested the U.S. District Court for the District of Columbia (the “DC Court”) to issue a preliminary injunction to require the IBT to meet its obligations under the Railway Labor Act of 1926 (the “Railway Labor Act”) and stop the intentional and illegal work slowdowns and service interruptions. In late November 2017, the Court granted the Company’s request to issue a preliminary injunction to require the IBT to meet its obligations under the Railway Labor Act and stop “authorizing, encouraging, permitting, calling, engaging in, or continuing” any illegal pilot slowdown activities, which were intended to gain leverage in pilot contract negotiations with the Company. In addition, the Court ordered the IBT to take affirmative action to prevent and to refrain from continuing any form of interference with the Company’s operations or any other concerted refusal to perform normal pilot operations consistent with its status quo obligations under the Railway Labor Act. In December 2017, the IBT appealed the DC Court’s decision to the U.S. Court of Appeals for the District of Columbia Circuit and oral arguments were held in September 2018. Pending the outcome of the appeal, the preliminary injunction remains in effect. The Company believes the IBT’s appeal will be unsuccessful and expects the preliminary injunction to remain in effect.

We are subject to risks of work interruption or stoppage as permitted by the Railway Labor Act and may incur additional administrative expenses associated with union representation of our employees.

Matters Related to Alleged Pricing Practices

In the Netherlands, Stichting Cartel Compensation, successor in interest to claims of various shippers, has filed suit in the district court in Amsterdam against British Airways, KLM, Martinair, Air France, Lufthansa and Singapore Airlines seeking recovery for damages purportedly arising from allegedly unlawful pricing practices of such defendants. In response, British Airways, KLM, Martinair, Air France and Lufthansa filed third-party indemnification lawsuits against Polar Air Cargo, LLC (“Old Polar”), a consolidated subsidiary of the Company, and Polar, seeking indemnification in the event the defendants are found to be liable in the main proceedings. Another defendant, Thai Airways, filed a similar indemnification claim. Activities in the case have focused on various procedural issues, some of which are awaiting court determination. The Netherlands proceedings are likely to be affected by a decision readopted by the European Commission in March 2017, finding EU competition law violations by British Airways, KLM, Martinair, Air France and Lufthansa, among others, but not Old Polar or Polar. We are unable to reasonably predict the outcome of the litigation. If the Company, Old Polar or Polar were to incur an unfavorable outcome, such outcome may have a material adverse impact on our business, financial condition, results of operations or cash flows. We are unable to reasonably estimate a range of possible loss for this matter at this time.

Brazilian Customs Claim

Old Polar was cited for two alleged customs violations in Sao Paulo, Brazil, relating to shipments of goods dating back to 1999 and 2000. Each claim asserts that goods listed on the flight manifest of two separate Old Polar scheduled service flights were not on board the aircraft upon arrival and therefore were improperly brought into Brazil. The two claims, which also seek unpaid customs duties, taxes and penalties from the date of the alleged infraction, are approximately \$5.3 million in aggregate based on December 31, 2018 exchange rates.

In both cases, we believe that the amounts claimed are substantially overstated due to a calculation error when considering the type and amount of goods allegedly missing, among other things. Furthermore, we may seek appropriate indemnity from the shipper in each claim as may be feasible. In the pending claim for one of the cases, we have received an administrative decision dismissing the claim in its entirety, which remains subject to a mandatory appeal by the Brazil customs authorities. As required to defend such claims, we have made deposits pending resolution of these matters. The balance was \$4.1 million as of December 31, 2018 and \$5.1 million as of December

31, 2017, and is included in Deferred costs and other assets.

We are currently defending these and other Brazilian customs claims and the ultimate disposition of these claims, either individually or in the aggregate, is not expected to materially affect our financial condition, results of operations or cash flows.

Other

We have certain other contingencies incident to the ordinary course of business. Management does not expect that the ultimate disposition of such other contingencies will materially affect our financial condition, results of operations or cash flows.

16. Stock-Based and Long-term Incentive Compensation Plans

In 2007, our stockholders approved a Long-Term Incentive Plan (the “2007 Plan”). An aggregate of 0.6 million shares of common stock were reserved for issuance to participants under the 2007 Plan. The 2007 Plan provided for stock awards of up to approximately 2.8 million shares of AAWW’s common stock to employees in various forms, including cash awards and performance cash awards. Stock awards included nonqualified options, incentive stock options, share appreciation rights, restricted shares, restricted share units, performance shares and performance units, dividend equivalents and other share-based awards. In 2016, the stockholders approved a revised Long-Term Incentive Plan (the “2016 Plan”), which replaced the 2007 Plan. An aggregate of 0.8 million shares of common stock were reserved for issuance to participants under the 2016 Plan. No new awards have been made under the 2007 Plan since the adoption of the 2016 Plan in May 2016.

In 2018, the stockholders approved a revised Long-Term Incentive Plan (the “2018 Plan”), which replaced the 2016 Plan. An aggregate of 0.5 million shares of common stock were reserved for issuance to participants under the 2018 Plan. No new awards have been made under the 2016 Plan since the adoption of the 2018 Plan in May 2018. The portion of the 2018 Plan, the 2016 Plan and the 2007 Plan applicable to employees is administered by the compensation committee of the board of directors, which also establishes the terms of the awards. Awards outstanding under the 2007 Plan and 2016 Plan will continue to be governed by the terms of those plans and agreements under which they were granted. The 2018 Plan limits the terms of awards to ten years and prohibits the granting of awards more than ten years after the effective date of the 2018 Plan.

As of December 31, 2018, the 2016 Plan had a total of 0.6 million shares of common stock available for future award grants to management and members of the board of directors. Including the impact of the change in control as defined under the benefit plan in 2016 (see Note 8), our compensation expense for all plans was \$19.1 million in 2018, \$20.9 million in 2017 and \$30.9 million in 2016. Income tax benefits recognized for share-based compensation arrangements were \$4.8 million in 2018, \$5.3 million in 2017 and \$8.7 million in 2016.

Restricted Share and Time-based Cash Awards

Restricted share awards, which have been granted in units, and time-based cash awards generally vest and are expensed over one-, three- or four- year periods. As of December 31, 2018, a total of 4.0 million restricted shares have been granted under the 2007, 2016 and 2018 Plans. All shares were valued at their fair market value, which is the closing price of the Company's stock on the date of grant. Unrecognized stock compensation cost as of December 31, 2018 is \$18.2 million and will be recognized over the remaining weighted average life of 1.8 years.

In 2018, we granted time-based cash awards to employees and recognized compensation expense totaling \$2.1 million. For the time-based cash awards, we had accruals of \$2.1 million as of December 31, 2018 in Accrued liabilities.

A summary of our restricted shares as of December 31, 2018 and changes during the year then ended are presented below:

	Number of	Weighted-Average Grant-Date
Restricted Share Awards	Shares	Fair Value
Unvested as of December 31, 2017	772,157	\$ 44.95
Granted	159,763	60.47
Vested	(318,020)	42.28
Forfeited	(9,105)	48.32
Unvested as of December 31, 2018	604,795	\$ 50.34

The total fair value of shares vested on various vesting dates was \$13.4 million in 2018, \$14.8 million in 2017 and \$19.8 million in 2016. Weighted average grant date fair value was \$54.40 in 2017 and \$36.10 in 2016.

Performance Share and Performance Cash Awards

Performance share awards, which have been granted in units, and performance cash awards granted are expensed over three years, which generally is the requisite service period. Awards generally become vested if (1) we achieve certain specified performance levels compared with predetermined performance thresholds during a three-year period starting in the grant year and ending on December 31 three years later, and (2) the employee remains employed by us through the determination date which can be no later than four months following the end of the Performance Period. Full or partial vesting may occur for certain employee terminations. For performance share and performance cash awards granted in 2018, the Company included a relative total shareholder return (“TSR”) modifier which may impact the number of shares or cash earned at the end of the performance period. For these awards, the number of shares or cash earned based on the achievement of the predefined performance criteria will be reduced or increased if the Company's TSR over the performance period relative to a predefined comparator group of companies falls within defined ranges. The fair value of performance share units that include the TSR modifier is determined using a Monte Carlo valuation model on the date of grant. For the remaining awards that do not include a TSR modifier, the fair value of the performance share units is the quoted market value of the Company's stock on the date of grant and the fair value of performance cash awards is the value of the cash award on the date of grant.

The estimated compensation expense recognized for performance share and performance cash awards is net of estimated forfeitures. We assess the performance levels in the first quarter of each year for the prior year. We review the results, adjust the estimated performance level and record any change to compensation cost. For performance cash awards that include a TSR modifier, we assess the TSR component each quarter and record any change to compensation cost.

As of December 31, 2018, a total of 1.9 million performance shares have been granted. Unrecognized compensation cost as of December 31, 2018 is \$6.0 million and will be recognized over the remaining weighted average life of 1.4 years. For the performance cash awards, we had accruals of \$13.4 million as of December 31, 2018 and \$13.8 million as of December 31, 2017 in Other liabilities.

In 2016, as a result of a change in control as defined under the applicable benefit plan (see Note 8), the performance levels were deemed to be achieved for all performance share and performance cash awards outstanding as of September 20, 2016. Including the impact of this change in control, we recognized compensation expense associated with the performance cash awards totaling \$6.8 million in 2018, \$7.1 million in 2017 and \$13.9 million in 2016.

A summary of our performance shares as of December 31, 2018 and changes during the year then ended are presented below:

	Number of	Weighted-Average Grant-Date
Performance Share Awards	Shares	Fair Value
Unvested as of December 31, 2017	454,076	\$ 43.63

Granted	71,765	65.03
Vested	(162,726)	47.48
Forfeited	(4,729)	40.41
Unvested as of December 31, 2018	358,386	\$ 45.37

The total fair value of shares vested on various vesting dates in 2018 was \$7.7 million, \$10.6 million in 2017 and \$5.8 in 2016. Weighted average grant date fair value was \$54.20 in 2017 and \$37.21 in 2016.

17. Profit Sharing, Incentive and Retirement Plans

Profit Sharing and Incentive Plans

We have an annual incentive compensation program for management employees. The program provides for payments to eligible employees based upon our financial performance, service performance and attainment of individual performance goals, among other things. In addition, our profit sharing plan allows IBT-represented Atlas crewmembers to receive payments from the plan based upon Atlas' financial performance. The profit sharing plan is subject to a minimum financial performance threshold. For both plans, we had accruals of \$36.0 million as of December 31, 2018 and \$26.9 million as of December 31, 2017 in Accrued liabilities. Including the impact of the change in control as defined under the benefit plan in 2016 (see Note 8), we recognized compensation expense associated with both plans totaling \$35.8 million in 2018, \$26.9 million in 2017 and \$21.8 million in 2016.

401(k) and 401(m) Plans

Participants in our retirement plan may contribute a portion of their annual compensation to a 401(k) plan on a pretax basis, subject to aggregate limits under the Code. In addition to 401(k) contributions, participants may contribute a portion of their eligible compensation to a 401(m) plan on an after-tax basis. On behalf of participants in the plan who make elective compensation deferrals, we provide a matching contribution subject to certain limitations. Employee contributions in the plan are vested at all times and our matching contributions are subject to a three-year cliff vesting provision, except for employees who are represented by a collective bargaining agreement and are subject to a three-year graded vesting provision. We recognized compensation expense associated with the plan matching contributions totaling \$13.9 million in 2018, \$10.9 million in 2017 and \$10.5 million in 2016.

18. Stock Repurchases

We record the repurchase of our shares of common stock at cost based on the settlement date of the transaction. These shares are classified as treasury stock, which is a reduction to stockholders' equity. Treasury shares are included in authorized and issued shares but excluded from outstanding shares.

In 2008, we established a stock repurchase program authorizing the repurchase of up to \$100.0 million of our common stock. In November 2013, we announced an increase of \$51.0 million to our stock repurchase program. As of December 31, 2018, we had repurchased a total of 3,307,911 shares of our common stock for approximately \$126.0 million under this program, resulting in \$25.0 million of available authorization remaining. Purchases may be made at our discretion in the form of open market repurchase programs, privately negotiated transactions, accelerated share repurchase programs or a combination of these methods. The actual timing and amount of our repurchases will depend on Company and market conditions.

In addition, we repurchased 180,084 and 195,831 shares of common stock from management in 2018 and 2017, respectively, in connection with the vesting of equity awards to pay the statutory tax withholdings of employees, at an average price of \$59.80 per share in 2018 and \$54.20 per share in 2017, and held the shares as treasury shares.

19. Earnings Per Share

Basic earnings per share ("EPS") represents income divided by the weighted average number of common shares outstanding during the measurement period. Diluted EPS represents income divided by the weighted average number of common shares outstanding during the measurement period while also giving effect to all potentially dilutive common shares that were outstanding during the period using the treasury stock method.

The calculations of basic and diluted EPS were as follows:

	For the Years Ended December 31,		
	2018	2017	2016
Numerator:			
Income from continuing operations, net of taxes	\$270,647	\$224,338	\$42,625
Less: Unrealized gain on financial instruments, net of tax	(123,114)	-	-
Diluted income from continuing operations, net of tax	\$147,533	\$224,338	\$42,625
Denominator:			
Basic EPS weighted average shares outstanding	25,542	25,241	24,843
Effect of dilutive warrant	2,078	-	-
Effect of dilutive convertible notes	180	27	-
Effect of dilutive stock options and restricted stock	481	586	277
Diluted EPS weighted average shares outstanding	28,281	25,854	25,120
Earnings per share from continuing operations:			
Basic	\$10.60	\$8.89	\$1.72
Diluted	\$5.22	\$8.68	\$1.70
Loss per share from discontinued operations:			
Basic	\$(0.00)	\$(0.03)	\$(0.04)
Diluted	\$(0.00)	\$(0.03)	\$(0.04)
Earnings per share:			
Basic	\$10.60	\$8.85	\$1.67
Diluted	\$5.22	\$8.64	\$1.65

Anti-dilutive shares related to warrants issued in connection with our Convertible Notes that were out of the money and excluded were 7.8 million for 2018, 7.8 million in 2017 and 3.3 million in 2016. Diluted shares reflect the potential dilution that could occur from warrants and restricted shares using the treasury stock method. The calculation of EPS does not include restricted share units and warrants issued to a customer in which performance or market conditions were not satisfied of 3.9 million in 2018, 6.8 million in 2017 and 7.5 million in 2016.

20. Accumulated Other Comprehensive Income (Loss)

The following table summarizes the components of Accumulated other comprehensive income (loss):

	Interest Rate Derivatives	Foreign Currency Translation	Total
Balance as of December 31, 2016	\$ (5,002)	\$ 9	\$(4,993)
Reclassification to interest expense	1,621	-	1,621
Tax effect	(621)	-	(621)
Balance as of December 31, 2017	\$ (4,002)	\$ 9	\$(3,993)
Reclassification to interest expense	1,485	-	1,485

Tax effect	(354)	-	(354)
Reclassification of taxes	(970)	-	(970)
Balance as of December 31, 2018	\$ (3,841)	\$ 9	\$ (3,832)

Interest Rate Derivatives

As of December 31, 2018, there was \$5.0 million of unamortized net realized loss before taxes remaining in Accumulated other comprehensive income (loss) related to terminated forward-starting interest rate swaps, which had been designated as cash flow hedges to effectively fix the interest rates on two 747-8F financings in 2011 and three 777-200LRF financings in 2014. The net loss is amortized and reclassified into Interest expense over the remaining life of the related debt. Net realized losses reclassified into earnings were \$1.5 million and \$1.6 million for 2018 and 2017, respectively. Net realized losses expected to be reclassified into earnings within the next 12 months are \$1.3 million as of December 31, 2018.

21. Selected Quarterly Financial Information (unaudited)

The following table summarizes the 2018 and 2017 quarterly results:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2018*				
Total Operating Revenue	\$590,014	\$666,145	\$656,607	\$764,958
Operating Income	40,569	60,946	54,470	127,557
Income (Loss) from continuing operations, net of taxes	9,628	(21,123)	71,138	211,004
Loss from discontinued operations, net of taxes	(16)	(27)	(7)	(30)
Net Income (Loss)	\$9,612	\$(21,150)	\$71,131	\$210,974
Earnings (Loss) per share from continuing operations:				
Basic	\$0.38	\$(0.83)	\$2.78	\$8.25
Diluted**	\$0.37	\$(0.83)	\$0.84	\$2.73
Loss per share from discontinued operations:				
Basic	\$(0.00)	\$(0.00)	\$(0.00)	\$(0.00)
Diluted	\$(0.00)	\$(0.00)	\$(0.00)	\$(0.00)
Earnings (Loss) per share:				
Basic	\$0.38	\$(0.83)	\$2.78	\$8.25
Diluted**	\$0.37	\$(0.83)	\$0.84	\$2.73
2017***				
Total Operating Revenue	\$475,394	\$517,366	\$535,748	\$627,952
Operating Income	24,036	58,478	52,712	106,748
Income (Loss) from continuing operations, net of taxes	35	39,044	(24,195)	209,454
Income (Loss) from discontinued operations, net of taxes	(787)	(105)	33	(6)
Net Income (Loss)	\$(752)	\$38,939	\$(24,162)	\$209,448
Earnings (Loss) per share from continuing operations:				
Basic	\$0.00	\$1.55	\$(0.96)	\$8.28
Diluted****	\$0.00	\$0.92	\$(0.96)	\$6.71
Loss per share from discontinued operations:				
Basic	\$(0.03)	\$(0.00)	\$0.00	\$(0.00)
Diluted	\$(0.03)	\$(0.00)	\$0.00	\$(0.00)
Earnings (Loss) per share:				
Basic	\$(0.03)	\$1.54	\$(0.96)	\$8.28
Diluted****	\$(0.03)	\$0.92	\$(0.96)	\$6.71

*Included in the first and second quarters were unrealized losses on financial instruments of \$7.7 million and \$50.0 million, respectively. Included in the third and fourth quarters were unrealized gains on financial instruments of \$46.1 million and \$134.8 million, respectively.

** In 2018, the sum of quarterly diluted EPS amounts differs from the full year diluted EPS. The difference primarily relates to the exclusion from the calculation of diluted EPS of unrealized gains on financial

instruments in the third and fourth quarters, and anti-dilutive shares in the second quarter, both related to a warrant issued to a customer.

***Included in the first, second and third quarters were an unrealized loss on financial instruments of \$5.2 million, an unrealized gain on financial instruments of \$13.8 million and an unrealized loss on financial instruments of \$44.8 million, respectively. Included in the fourth quarter was an income tax benefit of \$130.0 million related to the U.S. Tax Cuts and Jobs Act (see Note 12) and an unrealized gain on financial instruments of \$23.7 million.

****In 2017, the sum of quarterly diluted EPS amounts differs from the full year diluted EPS. The difference primarily relates to the exclusion from the calculation of diluted EPS of unrealized gains on financial instruments in the second and fourth quarters, and anti-dilutive shares in the third quarter, both related to a warrant issued to a customer.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

We carried out an evaluation, under the supervision and with the participation of our management, including our President and Chief Executive Officer (“Principal Executive Officer”) and our Executive Vice President and Chief Financial Officer (“Principal Financial Officer”), of the effectiveness of our disclosure controls and procedures, as such term is defined under Rules 13a-15(e) and 15d-15(e) promulgated under the Exchange Act, as of the end of the period covered by this Report. Based on this evaluation, our Principal Executive Officer and our Principal Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2018.

Management’s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as defined in the Exchange Act Rule 13a-15(f). Management conducted an assessment of our internal control over financial reporting based on the framework established by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control — Integrated Framework (2013). Based on the assessment, management concluded that, as of December 31, 2018, our internal control over financial reporting is effective. Our internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Changes in Internal Control over Financial Reporting.

There has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended December 31, 2018, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The required information is incorporated by reference from our Proxy Statement to be filed with respect to our 2019 Annual Meeting of Stockholders. Information concerning the executive officers is included below. We have adopted a code of conduct that applies to all of our employees, along with a Code of Ethics applicable to our Chief Executive Officer, Chief Financial Officer, Corporate Controller, Treasurer and members of the board of directors (the “Code of Ethics”). The Code of Ethics is monitored by our Audit Committee, and includes certain provisions regarding disclosure of violations and waivers of, and amendments to, the Code of Ethics by covered parties. A copy of the Code of Ethics is available on our website at www.atlasair.com.

The following is a list of the names, ages and background of our current executive officers:

William J. Flynn. Mr. Flynn, age 65, has been our President and Chief Executive Officer since June 2006. Mr. Flynn has over a 40 year career in international supply chain management and freight transportation. Prior to joining us, Mr. Flynn served as President and Chief Executive Officer of GeoLogistics Corporation since 2002 where he led a successful turnaround of the company’s profitability and the sale of the company in September 2005. Prior to his tenure at GeoLogistics, Mr. Flynn served as a Senior Vice President at CSX Transportation, one of the largest Class 1 railroads operating in the U. S., from 2000 to 2002. Mr. Flynn spent over 20 years with Sea-Land Service, Inc., a global provider of container shipping services. He served in roles of increasing responsibility in the U.S., Latin America and Asia. Mr. Flynn ultimately served as head of the company’s operations in Asia. During the previous five years, he served as a director of Republic Services, Inc. Mr. Flynn holds a Bachelors degree in Latin American studies from the University of Rhode Island and a Masters degree in the same field from the University of Arizona.

John W. Dietrich. Mr. Dietrich, age 54, has been Executive Vice President and Chief Operating Officer since September 2006. In addition, he was named President and Chief Operating Officer of Atlas Air, Inc. effective October 2014. Prior to September 2006, Mr. Dietrich was Senior Vice President, General Counsel and Chief Human Resources Officer from February 2004. He was named Vice President and General Counsel in March 2003, where he was also responsible for our Human Resources and Corporate Communications functions. Mr. Dietrich joined Atlas in 1999 as Associate General Counsel. Prior to joining us, he was a litigation attorney at United Airlines from 1992 to 1999, where he provided legal counsel to all levels of management, particularly on employment and commercial litigation issues. He also serves as a director on the National Defense Transportation Association and the National Air Courier Association. Mr. Dietrich earned a Bachelors of Science degree from Southern Illinois University and received his Juris Doctorate, cum laude, from John Marshall Law School. He is a member of the New York, Illinois and Colorado Bars.

Adam R. Kokas. Mr. Kokas, age 47, has been Executive Vice President since January 2014 and General Counsel and Secretary since October 2006 and our Chief Human Resources Officer since November 2007. Prior to January 2014, he was Senior Vice President from October 2006. Mr. Kokas joined us from Ropes & Gray LLP, where he was a partner in their Corporate Department, focusing on general corporate, securities, transactions and business law matters. Prior to joining Ropes & Gray, Mr. Kokas was a partner at Kelley Drye & Warren LLP, where he joined as an associate in 2001. At both Kelley Drye and Ropes & Gray, Mr. Kokas represented us in a variety of matters, including corporate finance and merger and acquisition transactions, corporate governance matters, securities matters, and other general corporate issues. Mr. Kokas earned a Bachelor of Arts degree from Rutgers University and is a cum laude graduate of the Boston University School of Law, where he was an Edward M. Hennessey scholar. Mr. Kokas is a member of the New York and New Jersey Bars. Mr. Kokas has also been the Chairman of the Board of the Cargo Airline Association (a non-profit trade organization) since June 2011.

Michael T. Steen. Mr. Steen, age 52, has been Executive Vice President and Chief Commercial Officer since November 2010. In addition, he was named President and Chief Executive Officer of Titan Aviation Holdings, Inc. effective October 2014. Prior to November 2010, he was our Senior Vice President and Chief Marketing Officer from April 2007. Mr. Steen joined us from Exel plc where he served as Senior Vice President of Sales and Marketing. Mr. Steen led the sales and marketing activities for Exel Freight's management and technology sector. Following Exel's acquisition by Deutsche Post World Net, he held senior-level positions with the merged company

in global supply chain logistics. Prior to joining Exel, he served in a variety of roles with KLM Cargo over 11 years, including Vice President of the Americas, Head of Global Sales and Marketing for the Logistics Unit and Director of Sales for EMEA. Mr. Steen is a Director for CHC Helicopter since May 2017 and is the Vice Chairman for IATA's Cargo Committee. Mr. Steen earned a degree in economic science from Katrinelund in Gothenburg, Sweden, and is an alumnus of the Advanced Executive Program at the Kellogg School of Management at Northwestern University.

Spencer Schwartz. Mr. Schwartz, age 52, has been Executive Vice President since January 2014 and Chief Financial Officer since June 2010. Prior to January 2014, he was Senior Vice President from June 2010. Prior to June 2010, he was our Vice President and Corporate Controller from November 2008. Mr. Schwartz joined us from MasterCard Incorporated, where he was employed for over 12 years and served as Group Head of Global Risk Management; Senior Vice President and Business Financial Officer; Senior Vice President, Corporate Controller and Chief Accounting Officer; and Vice President of Taxation. Prior to joining MasterCard, Mr. Schwartz held financial positions of increasing responsibility with Price Waterhouse LLP (now PricewaterhouseCoopers LLP) and Carl Zeiss, Inc. Mr. Schwartz earned a Bachelors degree in Accounting from The Pennsylvania State University and a Masters degree in Business Administration, with a concentration in management, with honors, from New York University's Leonard N. Stern School of Business. He is a certified public accountant.

Keith H. Mayer. Mr. Mayer, age 53, has been Senior Vice President and Chief Accounting Officer since January 2018 and Corporate Controller since November 2010. Prior to January 2018, he was Vice President since November 2010. Mr. Mayer joined us from PepsiCo, Inc. ("PepsiCo"). In his most recent role at PepsiCo, he served as Chief Financial Officer of an international coffee partnership between PepsiCo and Starbucks Corporation. Mr. Mayer also served PepsiCo in a variety of roles since 1999, including Director of External Reporting, Assistant Controller for PepsiCo International, Senior Group Manager of Financial Accounting for Frito-Lay North America, and Group Manager of Technical Accounting. Prior to joining PepsiCo, Mr. Mayer held financial positions of increasing responsibility with Coopers & Lybrand LLP (now PricewaterhouseCoopers LLP). Mr. Mayer earned a Bachelors degree in Accounting from the University of Bridgeport where he graduated magna cum laude. He is a certified public accountant.

Executive Officers are elected by our board of directors, and their terms of office continue until the next annual meeting of the board of directors or until their successors are elected and have qualified. There are no family relationships among our executive officers.

ITEM 11. EXECUTIVE COMPENSATION

The required information is incorporated by reference from our Proxy Statement to be filed with respect to our 2019 Annual Meeting of Stockholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The required information is incorporated by reference from our Proxy Statement to be filed with respect to our 2019 Annual Meeting of Stockholders.

The following table summarizes the securities authorized for issuance under our equity compensation plans at December 31, 2018:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved			
by security holders	963,181	\$ -	(1) 641,616
Total	963,181	-	641,616

(1)Includes 963,181 of restricted and performance shares and units, which have no exercise price.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The required information is incorporated by reference from our Proxy Statement to be filed with respect to our 2019 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The required information is incorporated by reference from our Proxy Statement to be filed with respect to our 2019 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) 1. Financial Statements:

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2018 and 2017

Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016

Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016

Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016

Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017 and 2016

Notes to Consolidated Financial Statements

2. Financial Statement Schedule:

Schedule II—Valuation and Qualifying Accounts (in thousands)

Description	Balance at Beginning of Period	Additions Charged to Costs and Expenses	Deductions, net of recoveries	Balance at End of Period
For the Year ended December 31, 2018				
Allowances deducted in the balance sheet from the assets to which they apply:				
Allowance for doubtful accounts	\$ 1,494	\$ 12	\$ 57	\$ 1,563
For the Year ended December 31, 2017				
Allowances deducted in the balance sheet from the assets to which they apply:				
Allowance for doubtful accounts	\$ 997	\$ 198	\$ 299	\$ 1,494
For the Year ended December 31, 2016				
Allowances deducted in the balance sheet from the assets to which they apply:				
Allowance for doubtful accounts	\$ 1,247	\$ 508	\$ (758)	\$ 997

All other schedules have been omitted because they are not applicable, not required or the information is included elsewhere in the Financial Statements or Notes thereto.

3. Exhibits: (see accompanying Exhibit Index of this Report for a list of exhibits filed or furnished with or incorporated by reference in this Report).

EXHIBIT INDEX

Exhibit

Number Description

- 3.1(4) Certificate of Incorporation of the Company.
- 3.1.1(23) Atlas Air Worldwide Holdings, Inc. Certificate of Amendment of Certificate of Incorporation.
- 3.2(13) Atlas Air Worldwide Holdings, Inc. By-Laws, Amended and Restated as of September 19, 2014 and as Further Amended as of December 12, 2016.
- 4.1.1(3) 7.63% Atlas Air Pass Through Certificate 1999-1B-1, Certificate No. B-1.
- 4.1.2(3) 8.77% Atlas Air Pass Through Certificate 1999-1C-1, Certificate No. C-1.
- 4.1.3(2) Pass Through Trust Agreement, dated as of February 9, 1998, between Atlas Air, Inc. and Wilmington Trust Company, as Trustee, relating to the Atlas Air Pass Through Trust 1998-1B-0.
- 4.1.4(2) Pass Through Trust Agreement, dated as of February 9, 1998, between Atlas Air, Inc. and Wilmington Trust Company, as Trustee, relating to the Atlas Air Pass Through Trust 1998-1B-S.
- 4.1.5(2) Pass Through Trust Agreement, dated as of February 9, 1998, between Atlas Air, Inc. and Wilmington Trust Company, as Trustee, relating to the Atlas Air Pass Through Trust 1998-1C-0.
- 4.1.6(2) Pass Through Trust Agreement, dated as of February 9, 1998, between Atlas Air, Inc. and Wilmington Trust Company, as Trustee, relating to the Atlas Air Pass Through Trust 1998-1C-S.
- 4.1.7(3) Pass Through Trust Agreement, dated as of April 13, 1999, between Wilmington Trust Company, as Trustee, and Atlas Air, Inc.
- 4.1.8(3) Trust Supplement No. 1999-1B, dated April 13, 1999, between Wilmington Trust Company, as Trustee, and Atlas Air, Inc. to Pass Through Trust Agreement, dated as of April 1, 1999.
- 4.1.9(3) Trust Supplement No. 1999-1C, dated April 13, 1999, between Wilmington Trust Company, as Trustee, and Atlas Air, Inc. to Pass Through Trust Agreement, dated as of April 1, 1999.
- 4.1.10(2) Note Purchase Agreement, dated as of February 9, 1998, among the Company, Wilmington Trust Company and First Security Bank, National Association (“Note Purchase Agreement 1998”)
- 4.1.11(1) Form of Leased Aircraft Participation Agreement (Participation Agreement among Atlas Air, Inc., Lessee, First Security Bank, National Association, Owner Trustee, and Wilmington Trust Company, Mortgagee and Loan Participant) (Exhibit A-1 to Note Purchase Agreement 1998).
- 4.1.12(1) Form of Owned Aircraft Participation Agreement (Participation Agreement between Atlas Air, Inc., Owner, and Wilmington Trust Company, as Mortgagee, Subordination Agent and Trustee) (Exhibit C-1 to Note

Purchase Agreement 1998).

- 4.1.13(1) Form of Lease (Lease Agreement between First Security Bank, National Association, Lessor, and Atlas Air, Inc., Lessee) (Exhibit A-2 to Note Purchase Agreement 1998).
- 4.1.14(3) Note Purchase Agreement, dated as of April 13, 1999, among Atlas Air, Inc., Wilmington Trust Company, as Trustee, Wilmington Trust Company, as Subordination Agent, First Security Bank, National Association, as Escrow Agent, and Wilmington Trust Company, as Paying Agent (“Note Purchase Agreement 1999”).
- 4.1.15(3) Form of Leased Aircraft Participation Agreement (Participation Agreement among Atlas Air, Inc., Lessee, First Security Bank, National Association, Owner Trustee, and Wilmington Trust Company, Mortgagee and Loan Participant) (Exhibit A-1 to Note Purchase Agreement 1999).
- 4.1.16(3) Form of Lease (Lease Agreement between First Security Bank, National Association, Lessor, and Atlas Air, Inc., Lessee) (Exhibit A-2 to Note Purchase Agreement 1999).
- 4.1.17(3) Form of Owned Aircraft Participation Agreement (Participation Agreement between Atlas Air, Inc., Owner, and Wilmington Trust Company, as Mortgagee, Subordination Agent and Trustee) (Exhibit C-1 to Note Purchase Agreement 1999).

Exhibit

Number	Description
4.2(14)	<u>Participation Agreement, dated as of January 30, 2012, among Helios Leasing I LLC, as Lessor, Helios Leasing Trust, as Lessor Parent, Wilmington Trust Company, as Trustee, Atlas Air, Inc., as Lessee, Wilmington Trust Company, as Indenture Trustee, Apple Bank for Savings, as Initial Guaranteed Lender, Wells Fargo Bank Northwest, National Association, as Security Trustee, and Export-Import Bank of the United States. (Portions of this document have been redacted and filed separately with the Securities and Exchange Commission.).</u>
4.3(15)	<u>Indenture, dated as of May 1, 2012, by and among Helios Leasing I LLC, Apple Bank for Savings, Wilmington Trust Company, not in its individual capacity but solely as Indenture Trustee, Wells Fargo Bank Northwest, National Association, and Export-Import Bank of the United States.</u>
4.4(15)	<u>Secured Fixed Rate Global Note, dated June 19, 2012.</u>
4.5(15)	<u>Secured Fixed Rate Global Note, dated July 31, 2012.</u>
4.6(16)	<u>Secured Fixed Rate Global Note, dated October 10, 2012.</u>
4.7(16)	<u>Secured Fixed Rate Global Note dated, December 12, 2012.</u>
4.8(17)	<u>Secured Fixed Rate Global Note, dated May 28, 2013.</u>
4.9(19)	<u>Secured Fixed Rate Global Note, dated January 30, 2014.</u>
4.10.1(20)	<u>Indenture, dated June 3, 2015, between the Company and Wilmington Trust, National Association, as Trustee.</u>
4.10.2(20)	<u>First Supplemental Indenture, dated June 3, 2015, between the Company and Wilmington Trust, National Association, as Trustee.</u>
4.10.3(20)	<u>2.25% Convertible Senior Note due 2022.</u>
4.11.1(24)	<u>Senior Indenture, dated June 3, 2015, between the Company and Wilmington Trust, National Association, as Trustee.</u>
4.11.2(24)	<u>Second Supplemental Indenture, dated May 23, 2017, between the Company and Wilmington Trust, National Association, as Trustee.</u>
4.11.3(24)	<u>1.875% Convertible Senior Note due 2024.</u>
10.1(7)	<u>Employment Agreement, dated April 21, 2006, between Atlas Air, Inc. and William J. Flynn.</u>
10.1.1(11)	<u>Amendment, dated as of December 31, 2008, to the Employment Agreement between Atlas Air, Inc. and William J. Flynn.</u>
10.1.2(12)	

Amendment, dated as of July 1, 2011, to the Employment Agreement between Atlas Air, Inc. and William J. Flynn.

10.2(8) Amended and Restated Employment Agreement, dated as September 19, 2006, between Atlas Air, Inc. and John W. Dietrich.

10.2.1(11) Amendment, dated as of December 31, 2008, to the Amended and Restated Employment Agreement between Atlas Air, Inc. and John W. Dietrich.

10.2.2(12) Amendment, dated as of July 1, 2011, to the Employment Agreement between Atlas Air, Inc. and John W. Dietrich.

10.3(18) Atlas Air Worldwide Holdings, Inc. 2007 Incentive Plan (as amended).

10.4.1(26) Atlas Air Worldwide Holdings, Inc. Amended and Restated 2016 Incentive Plan.

10.5(23) Atlas Air Worldwide Holdings, Inc. 2018 Incentive Plan.

Exhibit

Number	Description
10.6(25)	<u>Atlas Air Worldwide Holdings, Inc. 2017 Long Term Cash Incentive Plan.</u>
10.6.1(27)	<u>Atlas Air Worldwide Holdings, Inc. 2018 Long Term Cash Incentive Plan.</u>
10.7(27)	<u>Atlas Air Worldwide Holdings, Inc. Annual Incentive Program for Senior Executives.</u>
10.8(27)	<u>Form of Performance Share Unit Agreement between Atlas Air Worldwide Holdings, Inc. and William J. Flynn.</u>
10.9(27)	<u>Form of Restricted Stock Unit Agreement between Atlas Air Worldwide Holdings, Inc. and William J. Flynn.</u>
10.10(27)	<u>Form of Performance Share Unit Agreement.</u>
10.11(27)	<u>Form of Restricted Stock Unit Agreement.</u>
10.11.1(27)	<u>Form of Restricted Stock Unit Agreement between Atlas Air Worldwide Holdings, Inc. and Non-Employee Members of the Board.</u>
10.12(27)	<u>Atlas Air Worldwide Holdings, Inc. Benefits Program for Senior Executives.</u>
10.13(29)	<u>Board of Directors Compensation Program.</u>
10.14(10)	<u>Atlas Air, Inc. Profit Sharing Plan.</u>
10.14.1(11)	<u>Amendment, dated as of December 31, 2008, to Atlas Air, Inc. Profit Sharing Plan.</u>
10.15(5)	<u>Form of Directors and Officers Indemnification Agreement.</u>
10.16(21)	<u>Atlas Air, Inc. 401(K) Restoration and Voluntary Deferral Plan, Restated effective as of February 11, 2011, and as Further Amended effective January 1, 2015.</u>
10.17(6)	<u>Agreement, dated October 1, 2018, among USTRANSCOM and the Company, among others.</u>
10.18(9)	<u>Blocked Space Agreement, dated June 28, 2007, between Polar Air Cargo Worldwide, Inc. and DHL Network Operations (USA), Inc. (Portions of this document have been redacted and filed separately with the Securities and Exchange Commission.).</u>
10.19(9)	<u>Amendment No. 1, dated as of July 30, 2007, to Blocked Space Agreement between Polar Air Cargo Worldwide, Inc. and DHL Network Operations (USA), Inc.</u>
10.20(9)	<u>Flight Services Agreement, dated as of June 28, 2007, between Atlas Air, Inc. and Polar Air Cargo Worldwide, Inc. (Portions of this document have been redacted and filed separately with the Securities and Exchange Commission.).</u>

- 10.21.1(20) Underwriting Agreement, dated May 28, 2015, between the Company and Morgan Stanley Co. LLC and BNP Paribas Securities Corp., as Managers of the Several Underwriters.
- 10.21.2(20) Base convertible hedge transaction confirmation, dated as of May 28, 2015, between Morgan Stanley & Co. International plc and the Company.
- 10.21.3(20) Base warrant transaction confirmation, dated as of May 28, 2015, between Morgan Stanley & Co. International plc and the Company.
- 10.21.4(20) Additional convertible note hedge transaction confirmation, dated as of June 1, 2015, between Morgan Stanley & Co. International plc and the Company.
- 10.21.5(20) Additional warrant transaction confirmation, dated as of June 1, 2015, between Morgan Stanley & Co. International plc and the Company.
- 10.21.6(20) Base convertible note hedge transaction confirmation, dated as of May 28, 2015, between BNP Paribas and the Company.
- 10.21.7(20) Base warrant transaction confirmation, dated as of May 28, 2015, between BNP Paribas and the Company.
- 10.21.8(20) Additional convertible note hedge transaction confirmation, dated as of June 1, 2015, between BNP Paribas and the Company.

Exhibit

Number	Description
10.21.9(20)	<u>Additional warrant transaction confirmation, dated as of June 1, 2015, between BNP Paribas and the Company.</u>
10.22.1(24)	<u>Underwriting Agreement, dated May 17, 2017, between the Company and Morgan Stanley & Co. LLC, BNP Paribas Securities Corp. and Citigroup Global Markets Inc., as Managers of the several Underwriters.</u>
10.22.2(24)	<u>Base convertible note hedge transaction confirmation, dated as of May 17, 2017, between Morgan Stanley & Co. International plc and the Company.</u>
10.22.3(24)	<u>Base warrant transaction confirmation, dated as of May 17, 2017, between Morgan Stanley & Co. International plc and the Company.</u>
10.22.4(24)	<u>Additional convertible note hedge transaction confirmation, dated as of May 18, 2017, between Morgan Stanley & Co. International plc and the Company.</u>
10.22.5(24)	<u>Additional warrant transaction confirmation, dated as of May 18, 2017, between Morgan Stanley & Co. International plc and the Company.</u>
10.22.6(24)	<u>Base convertible note hedge transaction confirmation, dated as of May 17, 2017, between Citibank, N.A. and the Company.</u>
10.22.7(24)	<u>Base warrant transaction confirmation, dated as of May 17, 2017, between Citibank, N.A. and the Company.</u>
10.22.8(24)	<u>Additional convertible note hedge transaction confirmation, dated as of May 18, 2017, between Morgan Stanley & Co. International plc and the Company.</u>
10.22.9(24)	<u>Additional warrant transaction confirmation, dated as of May 18, 2017, between Citibank N.A. and the Company.</u>
10.22.10(24)	<u>Base convertible note hedge transaction confirmation, dated as of May 17, 2017, between BNP Paribas and the Company.</u>
10.22.11(24)	<u>Base warrant transaction confirmation, dated as of May 17, 2017, between BNP Paribas and the Company.</u>
10.22.12(24)	<u>Additional convertible note hedge transaction confirmation, dated as of May 18, 2017, between BNP Paribas and the Company.</u>
10.22.13(24)	<u>Additional warrant transaction confirmation, dated as of May 18, 2017, between BNP Paribas and the Company.</u>
10.23.1(22)	<u>Investment Agreement, dated as of May 4, 2016, by and between Atlas Air Worldwide Holdings, Inc. and Amazon.com, Inc.</u>

- 10.23.2(22) Stockholders Agreement, dated as of May 4, 2016, by and between Atlas Air Worldwide Holdings, Inc. and Amazon.com, Inc.
- 10.23.3(22) Warrant to Purchase 7,500,000 shares of Common Stock of Atlas Air Worldwide Holdings, Inc., issued May 4, 2016.
- 10.23.4(22) Warrant to Purchase 3,750,000 shares of Common Stock of Atlas Air Worldwide Holdings, Inc., issued May 4, 2016.
- 14.1(28) Atlas Air Worldwide Holdings, Inc. Code of Ethics applicable to the Chief Executive Officer, Senior Financial Officers and members of the Board of Directors.
- 21.1 Subsidiaries' List, which is filed herewith as Exhibit 21.1.
- 23.1 Consent of PricewaterhouseCoopers LLP, which is filed herewith as Exhibit 23.1.
- 24.1 Power of Attorney, which is filed herewith as Exhibit 24.1.

Exhibit

Number Description

- 31.1 Rule 13a-14(a)/15d-14(a) Certification of the Chief Executive Officer, furnished herewith.
- 31.2 Rule 13a-14(a)/15d-14(a) Certification of the Chief Financial Officer, furnished herewith.
- 32.1 Certification of periodic financial report pursuant to Section 906 of Sarbanes Oxley Act of 2002, furnished herewith.
- 32.2 Certification of periodic financial report pursuant to Section 906 of Sarbanes Oxley Act of 2002, furnished herewith.
- 101.INS XBRL Instance Document. *
- 101.SCH XBRL Taxonomy Extension Schema Document. *
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document. *
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document. *
- 101.LAB XBRL Taxonomy Extension Labels Linkbase Document. *
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document. *

*Attached as Exhibit 101 to this report are the following, formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheets at December 31, 2018 and December 31, 2017, (ii) Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016, (iii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016, (v) Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017 and 2016 and (vi) Notes to Consolidated Financial Statements. In accordance with Rule 406T of Regulation S-T, the XBRL related information in Exhibit 101 to this Annual Report on Form 10-K shall not be deemed to be "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be part of any registration statement or other document filed under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

- (1) Incorporated by reference to the exhibits to Atlas Air's Registration Statement on Form S-4 (No. 333-36268).
- (2) Incorporated by reference to the exhibits to Atlas Air's Annual Report on Form 10-K for the year ended December 31, 1997.
- (3) Incorporated by reference to the exhibits to Atlas Air's Registration Statement on Form S-3 (No. 333-71833).
- (4) Incorporated by reference to the exhibits to the Company's Current Report on Form 8-K dated February 16, 2001.

- (5) Incorporated by reference to the exhibits to the Company's Current Report on Form 8-K dated November 14, 2005.
- (6) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018.
- (7) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006.
- (8) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2006.
- (9) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2007.
- (10) Incorporated by reference to the exhibits to the Company's Annual Report on Form 10-K for the year ended December 31, 2007.

Exhibit

Number Description

- (11) Incorporated by reference to the exhibits to the Company's Annual Report on Form 10-K for the year ended December 31, 2008.
- (12) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011.
- (13) Incorporated by reference to Exhibit 3 to the Company's Current Report on Form 8-K dated December 12, 2016.
- (14) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2012.
- (15) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012.
- (16) Incorporated by reference to the exhibits to the Company's Annual Report on Form 10-K for the year ended December 31, 2012.
- (17) Incorporated by reference to the exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2013.
- (18) Incorporated by reference to Exhibit 10 to the Company's Current Report on Form 8-K dated May 22, 2013.
- (19) Incorporated by reference to the exhibits in the Company's Annual Report on Form 10-K for the year ended December 31, 2013.
- (20) Incorporated by reference to exhibits in the Company's Current Report on Form 8-K dated June 3, 2015.
- (21) Incorporated by reference to exhibits in the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015.
- (22) Incorporated by reference to exhibits in the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016.
- (23) Incorporated by reference to exhibit B in the Company's definitive Proxy Statement dated April 18, 2018.
- (24) Incorporated by reference to exhibits in the Company's Current Report on Form 8-K dated May 23, 2017.
- (25) Incorporated by reference to exhibits in the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017.
- (26) Incorporated by reference to Exhibit B to the Company's definitive Proxy Statement dated April 18, 2017.
- (27) Incorporated by reference to the exhibits in the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.

- (28) Incorporated by reference to the exhibits in the Company's Annual Report on Form 10-K for the year ended December 31, 2017.
- (29) Incorporated by reference to the exhibits in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.

* Attached as Exhibit 101 to this report are the following, formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheets at December 31, 2018 and December 31, 2017, (ii) Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016, (iii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016, (v) Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017 and 2016 and (vi) Notes to Consolidated Financial Statements.

ITEM 16. FORM 10-K SUMMARY

None.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized on February 19, 2019.

ATLAS AIR WORLDWIDE
 HOLDINGS, INC.
 (Registrant)
 By: /s/ William J. Flynn
 William J. Flynn
 President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on February 19, 2019 on behalf of the Registrant and in the capacities indicated.

Signature	Capacity
* Robert F. Agnew Robert F. Agnew	Chairman of the Board
/s/ William J. Flynn William J. Flynn	President, Chief Executive Officer and Director (Principal Executive Officer)
/s/ Spencer Schwartz Spencer Schwartz	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Keith H. Mayer Keith H. Mayer	Senior Vice President, Chief Accounting Officer and Corporate Controller (Principal Accounting Officer)
* Timothy J. Bernlohr Timothy J. Bernlohr	Director
* Charles F. Bolden, Jr. Charles F. Bolden, Jr.	Director
* Bobby J. Griffin Bobby J. Griffin	Director
* Carol B. Hallett Carol B. Hallett	Director
* Jane H. Lute Jane H. Lute	Director

* Duncan J. McNabb Director
Duncan J. McNabb

* Sheila A. Stamps Director
Sheila A. Stamps

* John K. Wulff Director
John K. Wulff

*By: /s/ William J. Flynn
William J. Flynn, as Attorney-in-fact

for each of the persons indicated