Sage Therapeutics, Inc.
Form S-1
April 07, 2015
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As filed with the Securities and Exchange Commission on April 6, 2015.

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

SAGE THERAPEUTICS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**2834**	**27-4486580**
(State or Other Jurisdiction of	**(Primary Standard Industrial**	**(I.R.S. Employer**

Incorporation or Organization)	Classification Code Number)	Identification Number)

215 First Street

Cambridge, Massachusetts 02142

(617) 299-8380

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant s Principal Executive Offices)

Jeffrey M. Jonas, M.D.

President and Chief Executive Officer

Sage Therapeutics, Inc.

Cambridge, Massachusetts 02142

(617) 299-8380

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent For Service)

Copies to:

Mitchell S. Bloom, Esq.	**Jeffrey M. Jonas, M.D.**	**Patrick O Brien, Esq.**
Michael H. Bison, Esq.	**President and Chief Executive Officer**	**Ropes & Gray LLP**
Laurie A. Burlingame, Esq.	**Sage Therapeutics, Inc.**	**Prudential Tower**
Goodwin Procter LLP	**215 First Street**	**800 Boylston Street**
Exchange Place	**Cambridge, Massachusetts 02142**	**Boston, Massachusetts 02199-3600**
Boston, Massachusetts 02109	**(617) 299-8380**	**(617) 951-7000**
(617) 570-1000		

Approximate date of commencement of proposed sale to public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box: ¨

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: ¨

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

Large Accelerated Filer ¨	Accelerated Filer ¨
Non-Accelerated Filer x (Do not check if a smaller reporting company)	Smaller Reporting Company ¨

CALCULATION OF REGISTRATION FEE

Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, par value $0.0001 per share	$115,000,000	$13,363

(1) Includes shares that the underwriters have the option to purchase.
(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated April 6, 2015.

Preliminary prospectus

Shares

$100,000,000

Common Stock

We are selling shares of common stock.

Our common stock is listed on The NASDAQ Global Market under the symbol SAGE. The closing price of our common stock on The NASDAQ Global Market on April 2, 2015, was $46.87 per share.

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012, and, as such, we have elected to take advantage of certain reduced reporting requirements for this prospectus and may elect to comply with certain reduced public company reporting requirements for future filings.

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions[(1)]	$	$
Proceeds to Sage Therapeutics, Inc. before expenses	$	$

(1) See Underwriting beginning on page 159 for additional information regarding underwriting compensation.

We have granted the underwriters an option to purchase up to additional shares of our common stock at the offering price less the underwriting discount. The underwriters can exercise this right at any time within 30 days after the date of this prospectus.

Investing in our common stock involves a high degree of risk. See Risk Factors beginning on page 11.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to purchasers on or about , 2015.

J.P. Morgan **Goldman, Sachs & Co.**

Leerink Partners **Cowen & Company**

Prospectus dated , 2015

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Prospectus

We and the underwriters have not authorized anyone to provide any information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside of the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes included elsewhere in this prospectus. You should also consider, among other things, the matters described under Risk Factors and Management s Discussion and Analysis of Financial Condition and Results of Operations, in each case appearing elsewhere in this prospectus. Unless otherwise stated, all references to us, our, SAGE, we, the Company and similar designations refer to Sage Therapeutics, Inc. and its subsidiary.

Overview

We are a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system, or CNS, disorders, where there are inadequate or no approved existing therapies. We are targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined and development pathways are feasible.

Our initial product candidates, which are summarized in the table below, are aimed at treating different stages of status epilepticus, or SE, a life-threatening condition in which the brain is in a state of persistent seizure, as well as other seizure and non-seizure disorders. The lead product candidate in our SE program, SAGE-547, is an intravenous, or IV, agent entering Phase 3 clinical development as an adjunctive therapy, a therapy combined with current therapeutic approaches, for the treatment of super-refractory SE, or SRSE. The current standard of care for SRSE is empiric, and there are no therapies at present that have been specifically approved for this indication. Over the course of 2014, the U.S. Food and Drug Administration, or FDA, granted us orphan drug designation and Fast Track designation for our investigational new drug application for SAGE-547 as a treatment for SRSE. On April 2, 2015, we announced that at a recent End-of-Phase 2 meeting with the FDA, general agreement was reached on the design and key elements for our planned Phase 3 clinical program for SAGE-547 for the treatment of SRSE and we expect to initiate the Phase 3 trial in mid-2015. If successful, we believe the results from this Phase 3 clinical trial, together with other clinical data obtained from the SAGE-547 development program, could form the basis of a New Drug Application, or NDA, submission for SAGE-547.

We continue to use SAGE-547 to explore additional potential uses of $GABA_A$ receptor modulators in clinical trials for essential tremor, a debilitating neurological disorder that causes involuntary, rhythmic shaking with no known cause, and severe post-partum depression, a distinct and readily identified form of major depressive disorder estimated to affect up to 20% of women following childbirth. If these exploratory trials are successful, we plan to use the data from them to help guide the design of second-generation $GABA_A$ receptor modulators for the chronic treatment of these diseases.

Our next-generation product candidates, SAGE-689 and SAGE-217, utilize similar mechanistic pathways as SAGE-547 and are designed to have pharmaceutical properties which optimize both their non-clinical profiles and potential clinical profiles for the treatment of different stages of SE, as well as other seizure and non-seizure disorders.

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Status Epilepticus

SE is diagnosed when a patient has a seizure lasting longer than five minutes, and is associated with substantial morbidity and mortality. We estimate that in the United States each year there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that there are 35,000 patients with SE in the United States that are hospitalized in the intensive care unit, or ICU, each year. This results in an overall inpatient cost of $3.8 billion to $7.0 billion per year in the United States. An SE patient is first treated with benzodiazepines, or BDZs, and if no response then treated with other, second-line, anti-seizure drugs. If the seizure persists after second-line therapy the patient is diagnosed as having refractory SE, or RSE, admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE.

SAGE-547 Clinical Development Programs

Super Refractory Status Epilepticus (SRSE) Program Summary and Recent Developments

Prior to the start of our Phase 1/2 clinical trial of SAGE-547, we began to collect data in emergency-use cases of SAGE-547 that we believe supports the safety and activity of SAGE-547 for treatment of SRSE. This emergency-use program continues in parallel with our ongoing Phase 1/2 clinical trial. As of January 9, 2015, ten patients were treated with SAGE-547 by independent centers under emergency-use Investigational New Drug applications, or INDs. Each individual case of SRSE arose from a variety of underlying etiologies, the patients were of varying ages, and all patients had been placed in a long-duration medically induced coma prior to the administration of SAGE 547. We

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experienced an overall response rate of 78% in seven of the nine evaluable patients.

In January 2014, we commenced our Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in adult patients with SRSE. This clinical trial is designed as an open-label trial in at least ten patients diagnosed with SRSE. In October 2014, the FDA approved a protocol amendment for our Phase 1/2 trial that enables us to treat pediatric patients as young as two years old, increase the dose of SAGE-547 being administered to patients and increase treatment duration. As of February 28, 2015, there were 17 active trial sites in the United States. We are continuing to enroll patients as an expansion cohort in this trial and we anticipate reporting final clinical data from this Phase 1/2 trial at the Antiepileptic Drug and Device Trials XIII Conference, which is taking place May 13-15, 2015.

On January 9, 2015, we reported results from our Phase 1/2 clinical trial. Consistent with topline data announced in November 2014, the primary endpoint of safety and tolerability, was achieved in all patients. Of the 20 patients enrolled in the Phase 1/2 clinical trial, 17 patients were evaluable for efficacy. 71% of evaluable patients met the key efficacy endpoint of being successfully weaned off their anesthetic agents while SAGE-547 was being administered. In addition, 71% of evaluable patients were successfully weaned off SAGE-547 without recurrence of SRSE. As a group, patients who responded to SAGE-547 generally demonstrated rapid improvement over the first five days following treatment. Patients who responded also continued to improve over the 30-day follow-up period. SAGE-547 was generally well-tolerated and no drug-related serious adverse events, as determined by the Safety Review Committee, were reported in treated patients. In the 20 patients treated with SAGE-547, the mean exposure level of SAGE-547 was approximately 200nM.

On April 2, 2015, we announced that at a recent End-of-Phase 2 meeting with the FDA, general agreement was reached on the design and key elements for our planned Phase 3 clinical program for SAGE-547 for the treatment of SRSE. Subject to submission and review by the FDA of a final protocol for the planned Phase 3 clinical trial and updated chemistry, manufacturing and controls information, we expect to initiate the trial in mid-2015. If successful, we believe the results from this Phase 3 clinical trial, together with other clinical data obtained from the SAGE-547 development program, could form the basis of an NDA submission for SAGE-547.

Additional SAGE 547 Exploratory Development Programs

We continue to use SAGE-547 to explore additional potential uses of $GABA_A$ receptor modulators in clinical trials for additional indications. In October 2014 we began patient enrollment in an exploratory Phase 2a clinical trial of SAGE-547 in patients with essential tremor. This trial is designed to evaluate the safety, tolerability, pharmacokinetics and activity of SAGE-547 in patients with essential tremor. In January 2015, we initiated a Phase 2a clinical trial of SAGE-547 in women with severe postpartum depression, or PPD. This trial is designed to evaluate the safety, tolerability, pharmacokinetics and efficacy of SAGE-547 for the treatment of severe PPD. We plan to use the data from these exploratory trials to help guide the design of second-generation $GABA_A$ receptor modulators for the chronic treatment of these diseases.

Follow-On Product Candidates

SAGE-689 and SAGE-217 are two additional product candidates in our pipeline, which are currently in IND-enabling toxicology and safety pharmacology testing. SAGE-689 is being developed

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as an adjunctive second-line therapy for the treatment of SE. We are currently conducting IND-enabling studies of SAGE-689, with a plan to file an IND in late 2015 and to begin a Phase 1 clinical trial thereafter. SAGE-217 is being developed as an oral monotherapy for orphan epilepsies, such as Dravet syndrome and Rett syndrome. The chemical characteristics of SAGE-217 potentially allow formulation as both an intravenous and oral medication. In addition, we believe related molecules from our portfolio may be useful in the treatment of a variety of neurological and psychiatric disorders, including, for example, fragile X syndrome, anxiety and tremor. We are currently conducting IND-enabling studies of SAGE-217 with a plan to file an IND by late 2015 and to begin a Phase 1 clinical trial thereafter.

Understanding the Foundations of Our Approach

Neurotransmission

The CNS is composed of a vast and complex network of different structures and cell types, most of which serve directly or indirectly to provide a means for the nervous system to signal or communicate with other nerve cells in order to regulate and control all brain function. The cell type responsible for this signaling is called a neuron. Chemical or electrical signals can exert their effects on neurons by traveling across a physical gap located between two neurons, called a synapse. Presynaptic neurons transmit signals, whereas postsynaptic neurons react to the signals.

Neurotransmission is the process by which signaling molecules, called neurotransmitters, are released by a presynaptic neuron, travel over the synaptic space and bind to and interact with receptors on a postsynaptic neuron. Synaptic receptors are primarily located inside the synaptic cleft, or the space where the neurons communicate, and have been historically considered to be the most important part of the neuron. However, recent understanding of neurotransmission and brain function has shown there are many extrasynaptic receptors that also respond to neurotransmitters to exert their effects.

Allosteric modulation

We are focused on developing drugs based on selective allosteric modulation of key CNS synaptic and extrasynaptic receptors. Molecules that function directly on synaptic or extrasynaptic receptors at the site where the native, or natural, molecule binds to inhibit or activate them are known as orthosteric. Alternatively, allosteric modulators are a class of small molecules very different from classical orthosteric drugs, as they interact at a site different from the native site and allow for fine-tuning of neuronal signals. As a result, our drugs under development are capable of varying degrees of desired activity rather than complete activation or inhibition of the receptor as typically observed with orthosteric drugs. We believe this greater selectivity and modulatory control at extrasynaptic $GABA_A$ receptors may allow us to develop CNS drugs that offer significant therapeutic and safety advantages over orthosteric drugs.

Allosteric modulation of extrasynaptic $GABA_A$ receptors to treat SE

Our current near-term product candidates are allosteric modulators of both synaptic and extrasynaptic, or existing outside of the synapse, $GABA_A$ receptors, a characteristic important in distinguishing our approach from current therapies. While altering the level of synaptic $GABA_A$ receptor activity can be beneficial in stopping seizures, this approach has limitations for the treatment of SE. As SE progresses in many patients, select synaptic $GABA_A$ receptors are down-regulated, or removed from the neuronal synaptic surface. As a result, drugs that target down-regulated receptors, such as

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BDZs, often are not effective in stopping SE. In contrast, our product candidates work at both the synaptic and extrasynaptic $GABA_A$ receptors. Non-clinical studies suggest that these extrasynaptic $GABA_A$ receptors remain fully active during SE, offering the potential for drugs that impact GABA via the extrasynaptic $GABA_A$ receptor to alter $GABA_A$ activity and abate seizure. We believe that by creating compounds that target both these receptors, we may be successful in treating seizures that do not respond to BDZ therapy.

Allosteric modulation of $GABA_A$ and NMDA receptors to address other CNS conditions

Now and in the foreseeable future, our product development pipeline will be focused on allosteric modulation of two important receptor systems in the brain $GABA_A$ and NMDA. These receptor systems regulate inhibitory and excitatory neurotransmission, respectively, and are broadly accepted as impacting many psychiatric and neurological disorders. $GABA_A$ and NMDA receptor systems are widely regarded as validated drug targets for a variety of CNS disorders, with decades of research and multiple approved drugs targeting these receptor systems. Drugs approved to modulate these receptor systems have had safety and efficacy limitations related to their poor pharmaceutical properties and adverse side effects. We believe that we will have the opportunity to develop molecules from our internal portfolio to more effectively address many of these disorders in the future.

Our proprietary chemistry platform

Our ability to identify and develop such novel CNS therapies is enabled by our proprietary chemistry platform that is centered on a scaffold of chemically modified endogenous neuroactive steroid compounds. We believe our know-how around the chemistry and activity of allosteric modulators allows us to efficiently design molecules with different characteristics by enabling us to control important properties such as half-life, brain penetration and the types of receptors with which our drugs interact. Therefore, we believe our product candidates will have the potential to bind with targets in the brain with more precision, increased safety and tolerability, and fewer off-target side effects than either current CNS therapies or previous therapies, which have often failed in development.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on development and commercialization of novel proprietary therapies for the treatment of life-threatening, rare CNS disorders. Key elements of our strategy are to:

- Rapidly advance SAGE-547 as a treatment for SRSE.
- Utilize SAGE-547 in exploratory trials to help guide the development of second-generation $GABA_A$ receptor modulators for the applicable diseases.
- Develop our next generation product candidates, SAGE-689 and SAGE-217, in parallel with SAGE-547.
- Enhance the probability of success in treating SE by developing unique assets with differentiated features.
- Grow our pipeline more broadly utilizing the strengths of our proprietary chemistry platform and scientific know-how, to lessen our long-term reliance on a single franchise and facilitate long-term growth.
- Focus our internal development activities on CNS indications where we can make well-informed, rapid go/no-go decisions.

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Build a commercial capability to bring our CNS therapeutics to physicians and patients for rare target indications.

Selectively partner our programs to enhance our value.

Risk Factors

Our business is subject to many risks and uncertainties of which you should be aware before you decide to invest in our common stock. These risks are discussed more fully under Risk Factors in this prospectus. Some of these risks include:

We depend heavily on the success of the product candidates within our seizure programs, of which SAGE-547 is entering Phase 3 clinical development and SAGE-689 and SAGE-217 are in non-clinical development. We cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, any of our product candidates.

Prior to commencing enrollment in our planned Phase 3 clinical trial of SAGE-547, we must provide to the FDA additional information. If the additional information we provide is not satisfactory to the FDA, it could delay the start of, or change the design of, our planned Phase 3 clinical trial.

The number of patients suffering from SE, RSE or SRSE is small and has not been established with precision. If the actual number of patients with SE, RSE or SRSE is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development of our product candidates, and if any of our product candidates are approved, we believe our revenue and ability to achieve profitability would be materially adversely affected.

Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates.

If serious adverse events or other undesirable side effects are identified during the use of SAGE-547 in emergency-use cases, investigator sponsored trials or exploratory clinical trials of SAGE-547, our development of SAGE-547 for SRSE may be adversely effected.

Failures or delays in the commencement or completion of our planned clinical trials of our product candidates could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.

Even though we have obtained orphan drug designation for SAGE-547 as a treatment for SE, there may be limitations to the exclusivity afforded by such designation.

We rely, and expect that we will continue to rely, on third parties to conduct any clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing our product candidates, if approved.

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If we are unable to adequately protect our proprietary technology, or to obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.

Our future success depends on our ability to retain our President and Chief Executive Officer and to attract, retain and motivate qualified personnel.

Implications of being an emerging growth company

We qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

reduced disclosure about our executive compensation arrangements;

no non-binding advisory votes on executive compensation or golden parachute arrangements; and

exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock. Also, we have irrevocably elected to opt out of the exemption for the delayed adoption of certain accounting standards and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Corporate History and Information

We were incorporated under the laws of the state of Delaware in April 2010. Our principal executive office is located at 215 First Avenue, Cambridge, Massachusetts, and our telephone number is (617) 299-8380. Our website address is www.sagerx.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

We own various U.S. federal trademark registrations and applications and unregistered trademarks, including our corporate logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

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THE OFFERING

Common stock offered by us	Shares
Common stock to be outstanding after this offering	Shares
Underwriters option to purchase additional shares	We have granted the underwriters an option to purchase a maximum of additional shares of common stock from us. The underwriters can exercise this option at any time within 30 days from the date of this prospectus.
Use of proceeds	We estimate that we will receive net proceeds from the sale of shares of our common stock in this offering of approximately $ million, or $ million if the underwriters fully exercise their option to purchase additional shares, assuming a public offering price of $46.87 per share, which was the last reported sale price of our common stock on The NASDAQ Global Market on April 2, 2015, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering (i) to fund the planned Phase 3 development of SAGE-547 for SRSE and costs associated with initial NDA preparatory work, (ii) to fund Phase 1 development activities for SAGE-217, and the remaining proceeds to fund new and ongoing research and development activities, early planning and pre-launch investments in commercial infrastructure, working capital and other general corporate purposes. See Use of Proceeds for additional information.
Risk factors	You should read carefully Risk Factors beginning on page 11 and other information included in this prospectus for a discussion of factors that you should consider before deciding to invest in shares of our common stock.
The NASDAQ Global Market symbol	SAGE

The number of shares of common stock to be outstanding after this offering is based on 25,808,688 shares of common stock outstanding as of February 28, 2015, which includes 148,715 shares that are subject to repurchase by us and are not considered outstanding for accounting purposes until vested, and excludes:

- 2,841,775 shares of common stock issuable upon exercise of outstanding options as of February 28, 2015 at a weighted average exercise price of $16.58 per share;
- 1,421,807 shares of common stock reserved for future issuance under our 2014 Stock Option and Grant Plan, as of February 28, 2015; and

282,000 shares of common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan, as of February 28, 2015.

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Except as otherwise indicated, all information in this prospectus assumes or gives effect to:

- no exercise of the outstanding options described above; and
- no exercise by the underwriters of their option to purchase up to an additional shares of our common stock in this offering.

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SUMMARY CONSOLIDATED FINANCIAL DATA

You should read the following summary consolidated financial data together with our consolidated financial statements and the related notes appearing at the end of this prospectus and the Selected Consolidated Financial Data and Management s Discussion and Analysis of Financial Condition and Results of Operations sections of this prospectus. We have derived the consolidated statements of operations data for the years ended December 31, 2014, 2013, and 2012 and the consolidated balance sheet data as of December 31, 2014 from our audited consolidated financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of results that should be expected in the future.

	Years Ended December 31,		
	2014	2013	2012
	(in thousands, except for per share amounts)		
Consolidated statements of operations data:			
Operating expenses:			
Research and development	$ 24,100	$ 14,357	$ 7,229
General and administrative	9,710	3,922	2,402
Total operating expenses	33,810	18,279	9,631
Loss from operations	(33,810)	(18,279)	(9,631)
Interest income (expense), net	8	1	
Other income (expense), net	(9)	(3)	(1)
Net loss and comprehensive loss	(33,811)	(18,281)	(9,632)
Accretion of redeemable convertible preferred stock to redemption value	(2,294)	(7)	(4)
Net loss attributable to common stockholders	$ (36,105)	$ (18,288)	$ (9,636)
Net loss per share attributable to common stockholders basic and diluted[1]	$ (1.67)	$ (12.26)	$ (8.62)
Weighted average common shares outstanding basic and diluted[1]	21,574	1,492	1,118

	As of December 31, 2014	
	Actual	As Adjusted[3]
	(in thousands)	
Consolidated balance sheet data:		
Cash and cash equivalents	$ 127,766	$
Working capital[2]	121,065	
Total assets	129,665	
Total stockholders equity (deficit)	121,885	

(1) See Note 8 to our consolidated financial statements for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.

(2) We define working capital as current assets less current liabilities.

(3) As adjusted consolidated balance sheet data gives effect to the sale by us of shares of our common stock in this offering at an assumed public offering price of $46.87 per share, which was the last reported sales price of our common stock on The NASDAQ Global Market on April 2, 2015 after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all other information in this prospectus, including our consolidated financial statements and related notes, before investing in our common stock. Any of the risk factors we describe below could adversely affect our business, financial condition or results of operations. The market price of our common stock could decline if one or more of these risks or uncertainties actually occur, causing you to lose all or part of the money you paid to buy our common stock. Additional risks that we currently do not know about or that we currently believe to be immaterial may also impair our business. Certain statements below are forward-looking statements. See Cautionary Note Regarding Forward-Looking Statements in this prospectus.

Risks Related to Product Development, Regulatory Approval and Commercialization

We depend heavily on the success of the product candidates within our seizure programs, of which SAGE-547 is entering Phase 3 clinical development and SAGE-689 and SAGE-217 are in non-clinical development. We cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, any of our product candidates.

We currently have no drug products for sale and may never be able to develop marketable drug products. Our business depends heavily on the successful non-clinical and clinical development, regulatory approval and commercialization of the product candidates in our lead program in status epilepticus, or SE, of which only one product candidate, SAGE-547, is entering Phase 3 clinical development for the treatment of super-refractory SE, or SRSE, and our other product candidates, SAGE-689 and SAGE-217, are in non-clinical development. SAGE-547 will require substantial additional clinical development, testing and regulatory approval before we are permitted to commence its commercialization. The non-clinical studies and clinical trials of our product candidates are, and the manufacturing and marketing of our product candidates will be, subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to test and, if approved, market any product candidate. Before obtaining regulatory approvals for the commercial sale of any product candidate, we must demonstrate through non-clinical studies and clinical trials that the product candidate is safe and effective for use in each target indication. Drug development is a long, expensive and uncertain process, and delay or failure can occur at any stage of any of our clinical trials. This process can take many years and may include post-marketing studies and surveillance, which will require the expenditure of substantial resources beyond the proceeds we raise in this offering. Of the large number of drugs in development in the United States, only a small percentage will successfully complete the U.S. Food and Drug Administration, or FDA, regulatory approval process and will be commercialized. Accordingly, even if we are able to obtain the requisite financing to continue to fund our development and non-clinical studies and clinical trials, we cannot assure you that any of our product candidates will be successfully developed or commercialized.

Both SAGE-689 and SAGE-217 are in non-clinical development and have yet to begin the clinical development process. We plan to file Investigational New Drug Applications, or INDs, for both SAGE-689 and SAGE-217 late in 2015 and to begin a Phase 1 clinical trial for each of SAGE-689 and SAGE-217 thereafter.

We are not permitted to market our product candidates in the United States until we receive approval of a New Drug Application, or an NDA, from the FDA, or in any foreign countries until we receive the requisite approval from such countries. Obtaining approval of an NDA is a complex, lengthy, expensive and uncertain process, and the FDA may delay, limit or deny approval of any of our product candidates for many reasons, including, among others:

- we may not be able to demonstrate that our product candidates are safe and effective in treating SE, refractory SE, or RSE, or SRSE, as applicable, to the satisfaction of the FDA;

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the results of our non-clinical studies and clinical trials may not meet the level of statistical or clinical significance required by the FDA for marketing approval;

the FDA may disagree with the number, design, size, conduct, implementation of or differing drug formulations used in our non-clinical studies and clinical trials;

the FDA may require that we conduct additional non-clinical studies and clinical trials;

the FDA or the applicable foreign regulatory agency may not approve the formulation, labeling or specifications of any of our product candidates;

the contract research organizations, or CROs, that we retain to conduct our non-clinical studies and clinical trials may take actions outside of our control that materially adversely impact our non-clinical studies and clinical trials;

the FDA may find the data from non-clinical studies and clinical trials insufficient to demonstrate that our product candidates clinical and other benefits outweigh their safety risks;

the FDA may disagree with our interpretation of data from our non-clinical studies and clinical trials;

the FDA may not accept data generated at our non-clinical studies and clinical trial sites;

if our NDA, if and when submitted, is reviewed by an advisory committee, the FDA may have difficulties scheduling an advisory committee meeting in a timely manner or the advisory committee may recommend against approval of our application or may recommend that the FDA require, as a condition of approval, additional non-clinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions;

the FDA may require development of a Risk Evaluation and Mitigation Strategy, or REMS, as a condition of approval or post-approval;

the FDA or the applicable foreign regulatory agency may determine that the manufacturing processes or facilities of third-party contract manufacturers with which we contract do not conform to applicable requirements, including current Good Manufacturing Practices, or cGMPs; or

the FDA or applicable foreign regulatory agency may change its approval policies or adopt new regulations.

Any of these factors, many of which are beyond our control, could jeopardize our ability to obtain regulatory approval for and successfully market our product candidates. Any such setback in our pursuit of regulatory approval would have a material adverse effect on our business and prospects.

We cannot be certain that our planned Phase 3 clinical trial of SAGE-547 will be sufficient to support the submission of an NDA for this product candidate, and in any event we must obtain additional clinical and non-clinical data before an NDA may be submitted.

In general, the FDA requires two pivotal trials to support approval of an NDA, but in certain circumstances, will approve an NDA based on only one pivotal trial. If successful, we believe the results from our planned Phase 3 clinical trial of SAGE-547, together with safety and efficacy data from the SAGE-547 development program, could form the basis of an NDA submission for SAGE-547. However depending upon the outcome of the current program, the FDA may require that we conduct additional pivotal trials before we can submit an NDA for SAGE-547. To allow dosing in patients below the age of two we would need to either conduct additional clinical trial(s) or amend the protocol for our planned Phase 3 clinical trial.

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Furthermore, we will need to complete several other clinical studies prior to submitting an NDA to the FDA, potentially including an absorption, metabolism, and excretion pharmacokinetics study in healthy volunteers, studies to test the effect of SAGE-547 on exposure to phenytoin and in patients with severe renal impairment and patients with hepatic impairment, as well as a study to test the abuse potential of SAGE-547. If the result of these additional clinical studies are not positive or yield unanticipated results, it may delay or prevent the submission or approval of an NDA for SAGE-547.

While we believe we and the FDA are in general agreement on the design and key elements of our planned Phase 3 clinical trial for SAGE-547, before beginning the trial, the FDA must review the final protocol for the trial. Concurrent with starting the Phase 3 clinical trial, the FDA will review certain updated chemistry, manufacturing and controls, or CMC, information, that we are required to submit. We also plan to share with the FDA the results of our long-term toxicity studies in two animal species, the first segment of which we submitted to the FDA in the second quarter of 2014. Additional long-term toxicity studies, required for an NDA submission, are ongoing. If the FDA does not approve the protocol for the planned trial in the form we submit it, or if the FDA is not satisfied with the additional CMC information we plan to provide, the start or continuation of the planned Phase 3 trial may be delayed or the design of the trial may change. The FDA may require that we conduct additional toxicity studies and other non-clinical studies before submitting an NDA for SAGE-547.

A Fast Track designation by the FDA may not actually lead to a faster development or regulatory review or approval process.

We have received Fast Track designation for our investigational new drug application, or IND, for SAGE-547 for the treatment of SRSE, and in the future we may seek Fast Track designation for other product candidates as well. If a product is intended for the treatment of a serious or life-threatening condition and the product demonstrates the potential to address unmet medical needs for this condition, the sponsor may apply for the FDA Fast Track designation. Fast Track designation does not necessarily lead to a faster development pathway or regulatory review process and does increase the likelihood of regulatory approval. The FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development programs.

The number of patients suffering from SE, RSE and SRSE is small or has not been established with precision. If the actual number of patients with SE, RSE and SRSE is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development of our product candidates, and if any of our product candidates are approved, we believe our revenue and ability to achieve profitability would be materially adversely affected.

There is no precise method of establishing actual number of patients with SE, RSE or SRSE in any geography over any time period. Moreover, SE, RSE and SRSE are acute episode conditions. If we are not able to identify patients at the time of SE, RSE or SRSE onset, we will have difficulty completing our clinical trials. We estimate that the annual incidence of SE, RSE and SRSE in the United States is up to 150,000, 35,000 and 25,000 patients, respectively. If the actual number of patients with SE, RSE or SRSE is lower than we believe, we may experience difficulty in enrolling patients in our clinical trials, thereby delaying development of our product candidates. Further, if any of our product candidates are approved, the markets for our product candidates for these indications would be smaller than we anticipate which could limit our ability to achieve profitability.

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Favorable results from the emergency-use cases of SAGE-547 do not ensure that clinical trials will be successful and the results in any future emergency-use cases may not be positive and could adversely impact our clinical development plans.

SAGE-547 has been administered to a small number of patients as part of emergency-use cases, which permitted the administration of SAGE-547 outside of clinical trials. No assurance can be given that positive results observed to date in these emergency-use cases are attributable to SAGE-547, as they were not carried out in the controlled environment of a clinical trial. Further, no assurance can be provided that administration of SAGE-547 to other patients in any future emergency-use cases or otherwise will have positive results. Emergency use is a term that is used to refer to the use of an investigational drug outside of a clinical trial to treat a patient with a serious or immediately life-threatening disease or condition and who has no comparable or satisfactory alternative treatment options. Regulators often allow emergency use on a case-by-case basis for an individual patient or for defined groups of patients with similar treatment needs. In the event there are negative results in future emergency-use cases, it could adversely affect or delay our clinical development of SAGE-547.

If serious adverse events or other undesirable side effects are identified during the use of SAGE-547 in emergency-use cases, investigator sponsored trials or exploratory clinical trials of SAGE-547, it may adversely effect our development of SAGE-547 for SRSE.

In addition to use in emergency cases as described above, SAGE-547 is currently being tested in an investigator sponsored clinical trial for the treatment of traumatic brain injury, or TBI, by one of our collaborators and may be subjected to testing for other indications in additional investigator sponsored trials. Currently, we are also testing SAGE-547 in a proof of concept trial in patients with essential tremor and a proof of concept trial in patients with severe postpartum depression, or PPD. If serious adverse events or other undesirable side effects, or unexpected characteristics of SAGE-547 are observed in emergency-use cases or in investigator sponsored clinical trials of SAGE-547 or our exploratory clinical trials, it may adversely affect or delay our clinical development of SAGE-547, or we may need to abandon its development for SRSE entirely, and the occurrence of these events would have a material adverse effect on our business.

Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates.

Positive results from our non-clinical studies of our product candidates, and any positive results we may obtain from our early clinical trials of our product candidates, may not necessarily be predictive of the results from required later non-clinical studies and clinical trials. Similarly, even if we are able to complete our planned non-clinical studies or clinical trials of our product candidates according to our current development timeline, the positive results from our non-clinical studies and clinical trials of our product candidates may not be replicated in subsequent non-clinical studies or clinical trial results. For example, although 12 of the first 17 patients treated with SAGE-547 and evaluable for efficacy in our Phase 1/2 clinical trial met the key efficacy endpoint and none of the 20 patients enrolled in the study have yet experienced any severe adverse events related to SAGE-547, future patients enrolled and treated with SAGE-547 in later-stage clinical trials may not have the same outcome. Also, our later-stage clinical trials will differ in important ways from our ongoing Phase 1/2 clinical trial of SAGE-547, which could cause the outcome of these later-stage trials to differ from our earlier stage clinical trials. For example, our planned Phase 3 clinical trial of SAGE-547 will be a placebo-controlled trial, while our Phase 1/2 clinical trial was open-label, and intent-to-treat statistical analysis will be employed in our

planned Phase 3 clinical trial. In addition, the formulation of SAGE-547 we intend to use in our planned Phase 3 trial is somewhat different than the formulation used in the Phase 1/2 trial. We do not believe the change will negatively affect trial results, but we cannot be sure. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, non-clinical findings made while clinical trials were underway or safety or efficacy observations made in non-clinical studies and clinical trials, including previously unreported adverse events. Moreover, non-clinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in non-clinical studies and clinical trials nonetheless failed to obtain FDA approval. We have not completed any clinical trials for our product candidates yet, and if we fail to produce positive results in our planned non-clinical studies or clinical trials of any of our product candidates, the development timeline and regulatory approval and commercialization prospects for our product candidates, and, correspondingly, our business and financial prospects, would be materially adversely affected.

Failures or delays in the commencement or completion of our planned clinical trials of our product candidates could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.

We have an ongoing Phase 1/2 clinical trial of SAGE-547 as a treatment for SRSE and ongoing proof of concept studies of SAGE-547 for patients with essential tremor and severe PPD. We will need to complete at least one additional trial prior to the submission of an NDA for SAGE-547 as a treatment for SRSE. Successful completion of our clinical trials is a prerequisite to submitting an NDA to the FDA and, consequently, the ultimate approval and commercial marketing of SAGE-547 for SRSE and our other product candidates. We do not know whether any of our clinical trials will begin or be completed on schedule, if at all, as the commencement and completion of clinical trials can be delayed or prevented for a number of reasons, including, among others:

- the FDA may deny permission to proceed with our planned clinical trials or any other clinical trials we may initiate, or may place a clinical trial on hold;
- delays in filing or receiving approvals of additional INDs that may be required;
- negative results from our ongoing non-clinical studies;
- delays in reaching or failing to reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- inadequate quantity or quality of a product candidate or other materials necessary to conduct clinical trials, for example delays in the manufacturing of sufficient supply of finished drug product;
- difficulties obtaining Institutional Review Board, or IRB, approval to conduct a clinical trial at a prospective site or sites;
- challenges in recruiting and enrolling patients to participate in clinical trials, including the small size of the patient population, acute nature of SRSE, the proximity of patients to trial sites;
- eligibility criteria for the clinical trial, the nature of the clinical trial protocol, the availability of approved effective treatments for the relevant disease and competition from other clinical trial programs for similar indications;
- severe or unexpected drug-related side effects experienced by patients in a clinical trial;

delays in validating any endpoints utilized in a clinical trial;

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- the FDA may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials;

- our inability to satisfy the CMC requirements of the FDA or file amendments to our IND as requested by the FDA prior to the initiation of a clinical trial;

- reports from non-clinical or clinical testing of other CNS therapies that raise safety or efficacy concerns; and

- difficulties retaining patients who have enrolled in a clinical trial but may be prone to withdraw due to rigors of the clinical trials, lack of efficacy, side effects, personal issues or loss of interest.

Clinical trials may also be delayed or terminated as a result of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, the FDA, the IRBs at the sites where the IRBs are overseeing a clinical trial, a data and safety monitoring board, or DSMB, overseeing the clinical trial at issue or other regulatory authorities due to a number of factors, including, among others:

- failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;

- inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities that reveals deficiencies or violations that require us to undertake corrective action, including the imposition of a clinical hold;

- unforeseen safety issues, including any that could be identified in our ongoing non-clinical carcinogenicity studies, adverse side effects or lack of effectiveness;

- changes in government regulations or administrative actions;

- problems with clinical supply materials; and

- lack of adequate funding to continue clinical trials.

Changes in regulatory requirements, FDA guidance or unanticipated events during our non-clinical studies and clinical trials of our product candidates may occur, which may result in changes to non-clinical studies and clinical trial protocols or additional non-clinical studies and clinical trial requirements, which could result in increased costs to us and could delay our development timeline.

Changes in regulatory requirements, FDA guidance or unanticipated events during our non-clinical studies and clinical trials may force us to amend non-clinical studies and clinical trial protocols or the FDA may impose additional non-clinical studies and clinical trial requirements. Amendments or changes to our clinical trial protocols would require resubmission to the FDA and IRBs for review and approval, which may adversely impact the cost, timing or successful completion of clinical trials. Similarly, amendments to our non-clinical studies may adversely impact the cost, timing, or successful completion of those non-clinical studies. For example, we intend to seek a waiver from the need to perform a study of SAGE-547 on certain cardiac measures. If the FDA does not grant the waiver, we will be required to conduct such a study, the results of which could delay the filing of an NDA for SAGE-547. If we experience delays completing, or if we terminate, any of our non-clinical studies or clinical trials, or if we are required to conduct additional non-clinical studies or clinical trials, the commercial prospects for our product candidates may be harmed and our ability to generate product revenue will be delayed.

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We rely, and expect that we will continue to rely, on third parties to conduct any clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We do not have the ability to independently conduct clinical trials. We rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct clinical trials on our product candidates. We enter into agreements with third-party CROs to provide monitors for and to manage data for our ongoing clinical trials. We rely heavily on these parties for execution of clinical trials for our product candidates and control only certain aspects of their activities. As a result, we have less direct control over the conduct, timing and completion of these clinical trials and the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific requirements and standards, and our reliance on CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with regulations and guidelines, including current Good Clinical Practices, or cGCPs, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials. These regulations are enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for any products in clinical development. The FDA enforces cGCP regulations through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or our CROs fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that, upon inspection, the FDA will determine that any of our clinical trials comply with cGCPs. In addition, our clinical trials must be conducted with product candidates produced under cGMPs regulations and will require a large number of test patients. Our failure or the failure of our CROs to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process and could also subject us to enforcement action up to and including civil and criminal penalties.

Although we design our clinical trials for our product candidates, CROs conduct all of the clinical trials. As a result, many important aspects of our drug development programs are outside of our direct control. In addition, the CROs may not perform all of their obligations under arrangements with us or in compliance with regulatory requirements, but we remain responsible and are subject to enforcement action that may include civil penalties up to and including criminal prosecution for any violations of FDA laws and regulations during the conduct of our clinical trials. If the CROs do not perform clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development and commercialization of our product candidates may be delayed or our development

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program materially and irreversibly harmed. We cannot control the amount and timing of resources these CROs devote to our program or our clinical products. If we are unable to rely on clinical data collected by our CROs, we could be required to repeat, extend the duration of, or increase the size of our clinical trials and this could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, any clinical trials such CROs are associated with may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, we believe that our financial results and the commercial prospects for our product candidates in the subject indication would be harmed, our costs could increase and our ability to generate revenue could be delayed.

We rely completely on third-party suppliers to manufacture our clinical drug supplies for our product candidates, and we intend to rely on third parties to produce non-clinical, clinical and commercial supplies of any future product candidate.

We do not currently have, nor do we plan to acquire, the infrastructure or capability to internally manufacture our clinical drug supply of our product candidates, or any future product candidates, for use in the conduct of our non-clinical studies and clinical trials, and we lack the internal resources and the capability to manufacture any product candidates on a clinical or commercial scale. For example, SAGE-547 used in the emergency-use cases was manufactured at an academic site, the active pharmaceutical ingredient for SAGE-547 for our Phase 1/2 clinical trial was manufactured at an academic site and SAGE-547 as formulated for our Phase 1/2 clinical trial was manufactured at a third-party contract manufacturer s site. The facilities used by our contract manufacturers to manufacture the active pharmaceutical ingredient and final drug product must complete a pre-approval inspection by the FDA and other comparable foreign regulatory agencies to assess compliance with applicable requirements, including cGMPs, after we submit our NDA or relevant foreign regulatory submission to the applicable regulatory agency.

We do not control the manufacturing process of, and are completely dependent on, our contract manufacturers to comply with cGMPs for manufacture of both active drug substances and finished drug products. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or applicable foreign regulatory agencies, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no direct control over our contract manufacturers ability to maintain adequate quality control, quality assurance and qualified personnel. Furthermore, all of our contract manufacturers are engaged with other companies to supply and/or manufacture materials or products for such companies, which exposes our third-party contract manufacturers to regulatory risks for the production of such materials and products. As a result, failure to satisfy the regulatory requirements for the production of those materials and products may affect the regulatory clearance of our contract manufacturers facilities generally. If the FDA or an applicable foreign regulatory agency determines now or in the future that these facilities for the manufacture of our product candidates are noncompliant, we may need to find alternative manufacturing facilities, which would adversely impact our ability to develop, obtain regulatory approval for or market our product candidates. Our reliance on contract manufacturers also exposes us to the possibility that they, or third parties with access to their facilities, will have access to and may appropriate our trade secrets or other proprietary information.

We do not have long-term supply agreements in place with our contract manufacturers and each batch of our product candidates is individually contracted under a quality and supply agreement. If we

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engage new contract manufacturers, such contractors must complete an inspection by the FDA and other applicable foreign regulatory agencies. We plan to continue to rely upon contract manufacturers and, potentially, collaboration partners to manufacture commercial quantities of our product candidates, if approved. Our current scale of manufacturing is adequate to support all of our needs for non-clinical studies and clinical trial supplies.

Even if we receive marketing approval for our product candidates in the United States, we may never receive regulatory approval to market our product candidates outside of the United States.

We have not yet selected any markets outside of the United States where we intend to seek regulatory approval to market our product candidates. In order to market any product outside of the United States, however, we must establish and comply with the numerous and varying safety, efficacy and other regulatory requirements of other countries. Approval procedures vary among countries and can involve additional product candidate testing and additional administrative review periods. The time required to obtain approvals in other countries might differ from that required to obtain FDA approval. The marketing approval processes in other countries may implicate all of the risks detailed above regarding FDA approval in the United States as well as other risks. In particular, in many countries outside of the United States, products must receive pricing and reimbursement approval before the product can be commercialized. Obtaining this approval can result in substantial delays in bringing products to market in such countries. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process in others. Failure to obtain marketing approval in other countries or any delay or other setback in obtaining such approval would impair our ability to market our product candidates in such foreign markets. Any such impairment would reduce the size of our potential market, which could have a material adverse impact on our business, results of operations and prospects.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to generate any revenue.

We do not currently have an infrastructure for the sales, marketing and distribution of pharmaceutical products. In order to market our product candidates, if approved by the FDA or any other regulatory body, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, or if we are unable to do so on commercially reasonable terms, our business, results of operations, financial condition and prospects will be materially adversely affected.

Even if we receive marketing approval for our product candidates, our product candidates may not achieve broad market acceptance, which would limit the revenue that we generate from their sales.

The commercial success of our product candidates, if approved by the FDA or other applicable regulatory authorities, will depend upon the awareness and acceptance of our product candidates among the medical community, including physicians, patients and healthcare payors. Market acceptance of our product candidates, if approved, will depend on a number of factors, including, among others:

- the efficacy of our product candidates as demonstrated in clinical trials, and, if required by any applicable regulatory authority in connection with the approval for the applicable indications, to provide patients with incremental health benefits, as compared with other available CNS therapies;

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limitations or warnings contained in the labeling approved for our product candidates by the FDA or other applicable regulatory authorities;

the clinical indications for which our product candidates are approved;

availability of alternative treatments already approved or expected to be commercially launched in the near future;

the potential and perceived advantages of our product candidates over current treatment options or alternative treatments, including future alternative treatments;

the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;

the strength of marketing and distribution support and timing of market introduction of competitive products;

publicity concerning our products or competing products and treatments;

pricing and cost effectiveness;

the effectiveness of our sales and marketing strategies;

our ability to increase awareness of our product candidates through marketing efforts;

our ability to obtain sufficient third-party coverage or reimbursement; or

the willingness of patients to pay out-of-pocket in the absence of third-party coverage.

If our product candidates are approved but do not achieve an adequate level of acceptance by patients, physicians and payors, we may not generate sufficient revenue from our product candidates to become or remain profitable. Before granting reimbursement approval, healthcare payors may require us to demonstrate that our product candidates, in addition to treating these target indications, also provide incremental health benefits to patients. Our efforts to educate the medical community and third-party payors about the benefits of our product candidates may require significant resources and may never be successful.

Our product candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt non-clinical studies and clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate. If our product candidates receive marketing approval and we or others identify undesirable side effects caused by such product candidates (or any other similar products) after such approval, a number of potentially significant negative consequences could result,

including:

- regulatory authorities may withdraw or limit their approval of such product candidates;
- regulatory authorities may require the addition of labeling statements, such as a boxed warning or a contraindication;
- we may be required to change the way such product candidates are distributed or administered, conduct additional clinical trials or change the labeling of the product candidates;

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- we may be subject to regulatory investigations and government enforcement actions;
- we may decide to remove such product candidates from the marketplace;
- we could be sued and held liable for injury caused to individuals exposed to or taking our product candidates; and
- our reputation may suffer.

We believe that any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidates and could substantially increase the costs of commercializing our product candidates and significantly impact our ability to successfully commercialize our product candidates and generate revenues.

Even if we receive marketing approval for our product candidates, we may still face future development and regulatory difficulties.

Even if we receive marketing approval for our product candidates, regulatory authorities may still impose significant restrictions on our product candidates, indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies. For example, prior to product launch, the U.S. Drug Enforcement Agency, or DEA, needs to determine the controlled substance schedule of SAGE-547, taking into account the recommendation of the FDA**.** Our product candidates will also be subject to ongoing FDA requirements governing the labeling, packaging, storage and promotion of the product and record keeping and submission of safety and other post-market information. The FDA has significant post-marketing authority, including, for example, the authority to require labeling changes based on new safety information and to require post-marketing studies or clinical trials to evaluate serious safety risks related to the use of a drug. The FDA also has the authority to require, as part of an NDA or post-approval, the submission of a REMS. Any REMS required by the FDA may lead to increased costs to assure compliance with new post-approval regulatory requirements and potential requirements or restrictions on the sale of approved products, all of which could lead to lower sales volume and revenue.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMPs and other regulations. If we or a regulatory agency discover problems with our product candidates, such as adverse events of unanticipated severity or frequency, or problems with the facility where our product candidates are manufactured, a regulatory agency may impose restrictions on our product candidates, the manufacturer or us, including requiring withdrawal of our product candidates from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may, among other things:

- issue warning letters or untitled letters;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw marketing approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications submitted by us;
- suspend or impose restrictions on operations, including costly new manufacturing requirements; or

seize or detain products, refuse to permit the import or export of products, or require that we initiate a product recall.

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Competing therapies could emerge adversely affecting our opportunity to generate revenue from the sale of our product candidates.

The biopharmaceuticals industry is highly competitive. There are many public and private biopharmaceutical companies, universities, governmental agencies and other research organizations actively engaged in the research and development of products that may be similar to our product candidates or address similar markets. It is probable that the number of companies seeking to develop products and therapies similar to our products will increase.

Currently, there are no therapies specifically approved for RSE or SRSE. However, many products approved for other indications, general anesthetics and anti-seizure drugs, are used off-label for various stages of SE therapy. Additionally, though not indicated, acupuncture, hypothermia, and electroconvulsive therapy are sometimes used prior to withdrawal of care for patients with SRSE.

In the field of neuroactive steroids focused on modulation of $GABA_A$ or NMDA receptors, our principal competitor is Marinus Pharmaceuticals, Inc., which is developing a reformulated form of Ganaxolone, a known $GABA_A$ positive allosteric modulator neuroactive steroid, for potential treatment of drug-resistant partial complex seizures and fragile X syndrome.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

We may seek to establish collaborations, and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our drug development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. For some of our product candidates, we may decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator s evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such collaboration could be more attractive than the one with us for our product candidate. The terms of any collaboration or other arrangements that we may establish may not be favorable to us.

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We may also be restricted under existing collaboration agreements from entering into future agreements on certain terms with potential collaborators. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

In addition, any future collaborations that we enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations. Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. Collaborations with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect us financially and could harm our business reputation.

We may not be successful in our efforts to identify or discover additional product candidates or we may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

The success of our business depends primarily upon our ability to identify, develop and commercialize products based on our proprietary chemistry platform. Although some of our product candidates are in non-clinical and clinical development, our research programs may fail to identify other potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

Because we have limited financial and management resources, we focus on a limited number of research programs and product candidates and are currently focused on our SE program. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial drugs or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable drugs. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through future collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

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If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

We are subject to healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Although we do not currently have any products on the market, once we begin commercializing our products, we may be subject to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. Healthcare providers, physicians and others will play a primary role in the recommendation and prescription of our product candidates, if approved. Our future arrangements with third-party payors will expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our product candidates, if we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

The federal anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid.

The federal False Claims Act imposes criminal and civil penalties, including those from civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government.

The federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information.

The federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.

The federal transparency requirements, sometimes referred to as the Sunshine Act, under the Patient Protection and Affordable Care Act, require manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children s Health Insurance Program to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests.

Analogous state laws and regulations, such as state anti-kickback and false claims laws and transparency laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry s voluntary compliance guidelines and the relevant compliance.

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Guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and drug pricing.

Ensuring that our future business arrangements with third parties comply with applicable healthcare laws and regulations could be costly. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities to be conducted by our sales team, were found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines and exclusion from government funded healthcare programs, such as Medicare and Medicaid, any of which could substantially disrupt our operations. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. If we are found to have improperly promoted off-label uses, we may become subject to significant liability.

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, such as SAGE-547, SAGE-689, and SAGE-217, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product s approved labeling. For example, if we receive marketing approval for SAGE-547 as a treatment for SRSE, physicians may nevertheless prescribe SAGE-547 to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

SAGE-547 will, and our other product candidates may, contain controlled substances, the manufacture, use, sale, importation, exportation, prescribing and distribution of which are subject to regulation by the DEA.

Before we can commercialize SAGE-547, and potentially our other product candidates, the DEA will need to determine the controlled substance schedule, taking into account the recommendation of the FDA. This may be a lengthy process that could delay our marketing of a product candidate and could potentially diminish any regulatory exclusivity periods for which we may be eligible. SAGE-547 will, and our other product candidates may, if approved, be regulated as controlled substances as defined in the Controlled Substances Act of 1970, or CSA, and the implementing regulations of the DEA, which establish registration, security, recordkeeping, reporting, storage, distribution, importation, exportation, inventory, quota and other requirements administered by the DEA. These requirements are applicable to us, to our third-party manufacturers and to distributors, prescribers and dispensers of our product candidates. The DEA regulates the handling of controlled substances through a closed chain of distribution. This control extends to the equipment and raw materials used in their manufacture and packaging, in order to prevent loss and diversion into illicit channels of commerce. A number of states and foreign countries also independently regulate these drugs as controlled substances.

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The DEA regulates controlled substances as Schedule I, II, III, IV or V substances. Schedule I substances by definition have no established medicinal use, and may not be marketed or sold in the United States. A pharmaceutical product may be listed as Schedule II, III, IV or V, with Schedule II substances considered to present the highest risk of abuse and Schedule V substances the lowest relative risk of abuse among such substances.

We expect that SAGE-547 will, and our other product candidates may, be listed by the DEA as Schedule IV controlled substances under the CSA. Consequently, the manufacturing, shipping, storing, selling and using of the products will be subject to a high degree of regulation. Also, distribution, prescribing and dispensing of these drugs are highly regulated.

Annual registration is required for any facility that manufactures, distributes, dispenses, imports or exports any controlled substance. The registration is specific to the particular location, activity and controlled substance schedule.

Because of their restrictive nature, these laws and regulations could limit commercialization of our product candidates containing controlled substances. Failure to comply with these laws and regulations could also result in withdrawal of our DEA registrations, disruption in manufacturing and distribution activities, consent decrees, criminal and civil penalties and state actions, among other consequences.

Even if approved, reimbursement policies could limit our ability to sell our product candidates.

Market acceptance and sales of our product candidates will depend on reimbursement policies and may be affected by healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels for those medications. Cost containment is a primary concern in the U.S. healthcare industry and elsewhere. Government authorities and these third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that reimbursement will be available for our product candidates and, if reimbursement is available, the level of such reimbursement. Reimbursement may impact the demand for, or the price of, our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates.

In some foreign countries, particularly in Canada and European countries, the pricing of prescription pharmaceuticals is subject to strict governmental control. In these countries, pricing negotiations with governmental authorities can take six months or longer after the receipt of regulatory approval and product launch. To obtain favorable reimbursement for the indications sought or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidates with other available therapies. If reimbursement for our product candidates is unavailable in any country in which we seek reimbursement, if it is limited in scope or amount, if it is conditioned upon our completion of additional clinical trials, or if pricing is set at unsatisfactory levels, our operating results could be materially adversely affected.

Even though we have obtained orphan drug designation for SAGE-547 as a treatment for SE, there may be limits to the regulatory exclusivity afforded by such designation.

Even though we have obtained orphan drug designation for SAGE-547 for treatment of SE from the FDA, there are limitations to exclusivity afforded by such designation. In the United States, the company that first obtains FDA approval for a designated orphan drug for the specified rare disease or condition receives orphan drug marketing exclusivity for that drug for a period of seven years. This orphan drug exclusivity prevents the FDA from approving another application, including a full NDA to

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market the same drug for the same orphan indication, except in very limited circumstances, including when the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. For purposes of small molecule drugs, the FDA defines same drug as a drug that contains the same active moiety and is intended for the same use as the drug in question. To obtain orphan drug exclusivity for a drug that shares the same active moiety as an already approved drug, it must be demonstrated to the FDA that the drug is safer or more effective than the approved orphan designated drug, or that it makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition or if another drug with the same active moiety is determined to be safer, more effective, or represents a major contribution to patient care.

Our future growth may depend, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future profitability may depend, in part, on our ability to commercialize our product candidates in foreign markets for which we may rely on collaboration with third parties. If we commercialize our product candidates in foreign markets, we would be subject to additional risks and uncertainties, including:

- our customers ability to obtain reimbursement for our product candidates in foreign markets;
- our inability to directly control commercial activities because we are relying on third parties;
- the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements;
- different medical practices and customs in foreign countries affecting acceptance in the marketplace;
- import or export licensing requirements;
- longer accounts receivable collection times;
- longer lead times for shipping;
- language barriers for technical training;
- reduced protection of intellectual property rights in some foreign countries;
- the existence of additional potentially relevant third party intellectual property rights;
- foreign currency exchange rate fluctuations; and

the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

Foreign sales of our product candidates could also be adversely affected by the imposition of governmental controls, political and economic instability, trade restrictions and changes in tariffs.

Risks Related to Our Intellectual Property Rights

If we are unable to adequately protect our proprietary technology, or obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.

We strive to protect and enhance the proprietary technologies that we believe are important to our business, including seeking patents intended to cover our products and compositions, their

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methods of use and any other inventions that are important to the development of our business. We also rely on trade secrets to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce our patents, should they issue, preserve the confidentiality of our trade secrets and operate without infringing the valid and enforceable patents and proprietary rights of third parties. We also rely on know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen and maintain the proprietary position of our product candidates. Our owned and licensed patent applications relate to SAGE-547, $GABA_A$ receptor modulators, including genus and species claims to SAGE-689 and NMDA receptor modulators.

We currently have no issued patents covering any of our lead product candidates, SAGE-547, SAGE-689, or SAGE-217. We cannot provide any assurances that any of our pending patent applications will mature into issued patents and, if they do, that such patents will include, claims with a scope sufficient to protect our product candidates or otherwise provide any competitive advantage. For example, the patent applications that may provide coverage for SAGE-547, only cover particular formulations and particular methods of using such formulations to treat seizure conditions, such as SE. As a result, if a patent issues from such patent applications, it would not prevent third-party competitors from creating, making and marketing alternative formulations, that fall outside the scope of our patent claims or practicing alternative methods. There can be no assurance that any such alternative formulations will not be equally effective as our formulation of SAGE-547. Moreover, other parties have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications and may have received or may receive patents that may overlap or conflict with our patent applications, either by claiming the same methods or formulations or by claiming subject matter that could dominate our patent position. Such third-party patent positions may limit or even eliminate our ability to obtain patent protection for certain inventions.

The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, the issuance, scope, validity and enforceability of any patent claims that we may obtain cannot be predicted with certainty. Patents, if issued, may be challenged, deemed unenforceable, invalidated, or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, ex parte reexamination, or inter partes review proceedings, supplemental examination and challenges in district court. Patents may be subjected to opposition, post-grant review, or comparable proceedings lodged in various foreign, both national and regional, patent offices. These proceedings could result in either loss of the patent or denial of the patent application or loss or reduction in the scope of one or more of the claims of the patent or patent application. In addition, such proceedings may be costly. Thus, any patents, should they issue, that we may own or exclusively license may not provide any protection against competitors. Furthermore, an adverse decision in an interference proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates.

Furthermore, though a patent, if it were to issue, is presumed valid and enforceable, its issuance is not conclusive as to its validity or its enforceability and it may not provide us with adequate proprietary protection or competitive advantages against competitors with similar products. Even if a patent issues and is held to be valid and enforceable, competitors may be able to design around our patents, such as using pre-existing or newly developed technology. Other parties may develop and obtain patent protection for more effective technologies, designs or methods. We may not be able to prevent the unauthorized disclosure or use of our technical knowledge or trade secrets by consultants, vendors, former employees and current employees. The laws of some foreign countries do not protect

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our proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries. If these developments were to occur, they could have a material adverse effect on our sales.

Our ability to enforce our patent rights depends on our ability to detect infringement. It is difficult to detect infringers who do not advertise the components that are used in their products. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor s or potential competitor s product. Any litigation to enforce or defend our patent rights, even if we were to prevail, could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful.

In addition, proceedings to enforce or defend our patents, if and when issued, could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. If any of our patents, if and when issued, covering our product candidates are invalidated or found unenforceable, our financial position and results of operations would be materially and adversely impacted. In addition, if a court found that valid, enforceable patents held by third parties covered our product candidates, our financial position and results of operations would also be materially and adversely impacted.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our product candidates or any other products or product candidates;
- any of our pending patent applications will issue as patents at all;
- we will be able to successfully commercialize our product candidates, if approved, before our relevant patents expire;
- we were the first to make the inventions covered by each of our patents and pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not develop similar or alternative technologies that do not infringe our patents;
- others will not use pre-existing technology to effectively compete against us;
- any of our patents, if issued, will be found to ultimately be valid and enforceable;
- any patents issued to us will provide a basis for an exclusive market for our commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies or product candidates that are separately patentable; or

that our commercial activities or products will not infringe upon the patents or proprietary rights of others.

We rely upon unpatented trade secrets, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. It is possible that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees and consultants who are parties to these

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agreements breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could otherwise become known or be independently discovered by our competitors.

We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing our product candidates, if approved.

Our success will depend in part on our ability to operate without infringing the intellectual property and proprietary rights of third parties. We cannot assure you that our business, products and methods do not or will not infringe the patents or other intellectual property rights of third parties.

The pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that our product candidates or the use of our technologies infringes patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. As we continue to develop and, if approved, commercialize our current product candidates and future product candidates, competitors may claim that our technology infringes their intellectual property rights as part of business strategies designed to impede our successful commercialization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, third parties may have currently pending patent applications which may later result in issued patents that our product candidates may infringe, or which such third parties claim are infringed by our technologies. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our product candidates, products or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could have a material adverse effect on us. In addition, we may not have sufficient resources to bring these actions to a successful conclusion.

Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. Any claim relating to intellectual property infringement that is successfully asserted against us may require us to pay substantial damages, including treble damages and attorney s fees if we are found to be willfully infringing another party s patents, for past use of the asserted intellectual property and royalties and other consideration going forward if we are forced to take a license. In addition, if any such claim were successfully asserted against us and we could not obtain such a license, we may be forced to stop or delay developing, manufacturing, selling or otherwise commercializing our product candidates.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court, or redesign our products. Patent litigation is costly and time-consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, intellectual property litigation or claims could force us to do one or more of the following:

cease developing, selling or otherwise commercializing our product candidates;

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pay substantial damages for past use of the asserted intellectual property;

obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all; and

in the case of trademark claims, redesign, or rename, some or all of our product candidates to avoid infringing the intellectual property rights of third parties, which may not be possible and, even if possible, could be costly and time-consuming.

Any of these risks coming to fruition could have a material adverse effect on our business, results of operations, financial condition and prospects.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. For example, even if we have a consulting agreement in place with an academic advisor pursuant to which such academic advisor is required to assign any inventions developed in connection with providing services to us, such academic advisor may not have the right to assign such inventions to us, as it may conflict with his or her obligations to assign all such intellectual property to his or her employing institution.

Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The U.S. Patent and Trademark Office, or U.S. PTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.

Even if the patent applications we own or license are issued, competitors may infringe these patents. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid, is unenforceable and/or is not infringed, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

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Interference proceedings provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court.

If we or one of our licensing partners initiated legal proceedings against a third party to enforce a patent, if and when issued, covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for unenforceability assertions include allegations that someone connected with prosecution of the patent withheld relevant information from the U.S. PTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions, e.g., opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection would have a material adverse impact on our business.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States, assuming that rights are obtained in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. The statutory deadlines for pursuing patent protection in individual foreign jurisdictions are based on the priority date of each of our patent applications. For the

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patent families related to SAGE-689 and SAGE-217, and many of the other patent families that we own or license, the relevant statutory deadlines have not yet expired. For each of the patent families that we believe provide coverage for our lead product candidates, we will need to decide whether and where to pursue protection outside the United States.

Competitors may use our technologies in jurisdictions where we do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnology. This could make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Furthermore, proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing our product candidates, if approved. If we breach any of the agreements under which we license the use, development and commercialization rights to our product candidates or technology from third parties or, in certain cases, we fail to meet certain development deadlines, we could lose license rights that are important to our business.

We are a party to a number of license agreements under which we are granted rights to intellectual property that are important to our business and we expect that we may need to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose on us, various development, regulatory and/or commercial diligence obligations, payment of milestones and/or royalties and other obligations. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to market products covered by the license. Our business could suffer, for example, if any current or future licenses terminate, if the licensors fail to abide by the terms of the license, if the licensed patents or other rights are found to be

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invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. See Business Licenses for a description of our license agreements, which includes a description of the termination provisions of these agreements.

As we have done previously, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we cannot provide any assurances that third-party patents do not exist that might be enforced against our current product candidates or future products in the absence of such a license. We may fail to obtain any of these licenses on commercially reasonable terms, if at all. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could materially harm our business and the third parties owning such intellectual property rights could seek either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues. Disputes may arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations; and
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

We have entered into several licenses to support our various programs. We completed an exclusive license agreement with Washington University, or WU, under certain patent families that comprise a variety of small molecule allosteric modulators of $GABA_A$ receptors and for which we have the worldwide right to develop and commercialize. A patent family that discloses and claims SAGE-689 is licensed to us under this agreement. We are obligated to pay WU certain clinical/regulatory milestones and single-digit royalties on products developed from this technology. Termination of our license agreement with WU would have a material adverse impact on our ability to develop and commercialize SAGE-689.

We have also entered into an exclusive license agreement with CyDex Pharmaceuticals, Inc., or CyDex, a wholly owned subsidiary of Ligand Pharmaceuticals, Inc., to use its Captisol technology to develop SAGE-547 for the field of use, which includes all fields for the treatment, prevention or diagnosis of any disease or symptom in humans or animals. We are obligated to pay CyDex certain clinical/regulatory milestones and single-digit royalties on SAGE-547. In addition, we entered into a supply agreement with CyDex, pursuant to which they supply us with Captisol to formulate SAGE-547.

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Absent an alternative agreement by the parties, our rights under our exclusive license agreement terminate in the event that the supply agreement terminates. Currently, our SAGE-547 product candidate in clinical development is formulated in Captisol. Termination of our license agreement with CyDex would have a material adverse impact on our ability to develop and commercialize SAGE-547 in its current formulation.

We also entered into a non-exclusive license with The Regents of the University of California, or the Regents. Pursuant to this agreement the Regents granted us a non-exclusive, non-transferable license under all personal property rights of the Regents covering the tangible personal property in an IND application package owned by the Regents, or the Data, and a specified quantity of cGMP grade allopregnanolone, or the Material, to (i) use the Data for reference or incorporation in an IND for use of the Material as a treatment of SE, essential tremor and/or postpartum depression and (ii) use the Material or modifications of the Material to develop a pharmaceutical formulation for clinical trials for SE, essential tremor and/or postpartum depression. This agreement requires us to pay milestone payments in connection with the first derived product, which would include SAGE-547, that meets the relevant milestones and we must also pay single-digit royalties for each derived product for a period of 15 years following the first commercial sale of such derived product. Termination of our license agreement with the Regents would have a material adverse impact on our ability to develop and commercialize derived products, which would include SAGE-547.

We may enter into additional license(s) to third-party intellectual property that are necessary or useful to our business. Our current licenses and any future licenses that we may enter into impose various royalty payment, milestone, and other obligations on us. For example, as is the case for the Washington University license, the licensor may retain control over patent prosecution and maintenance under a license agreement, in which case, we may not be able to adequately influence patent prosecution or prevent inadvertent lapses of coverage due to failure to pay maintenance fees. If we fail to comply with any of our obligations under a current or future license agreement, our licensor(s) may allege that we have breached our license agreement and may accordingly seek to terminate our license with them. In addition, future licensor(s) may decide to terminate our license at will. Termination of any of our current or future licenses could result in our loss of the right to use the licensed intellectual property, which could materially adversely affect our ability to develop and commercialize a product candidate or product, if approved, as well as harm our competitive business position and our business prospects.

In addition, if our licensors fail to abide by the terms of the license, if the licensors fail to prevent infringement by third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms our business could suffer.

Some intellectual property which we have licensed may have been discovered through government funded programs and thus may be subject to federal regulations such as march-in rights, certain reporting requirements, and a preference for U.S. industry. Compliance with such regulations may limit our exclusive rights, subject us to expenditure of resources with respect to reporting requirements, and limit our ability to contract with non-U.S. manufacturers.

Some of the intellectual property rights we have licensed may have been generated through the use of U.S. government funding and may therefore be subject to certain federal regulations. For example, some of the intellectual property rights licensed to us under the license agreements with WU and the Regents may have been generated using U.S. government funds. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future product candidates pursuant to the Bayh-Dole Act of 1980, or Bayh-Dole Act. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In

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addition, the U.S. government has the right to require us to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if it determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations (also referred to as march-in rights). The U.S. government also has the right to take title to these inventions if we fail, or the applicable licensor fails, to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government may acquire title to these inventions in any country in which a patent application is not filed within specified time limits. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us, or the applicable licensor, to expend substantial resources. In addition, the U.S. government requires that any products embodying the subject invention or produced through the use of the subject invention be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for U.S. manufacturers may limit our ability to contract with non-U.S. product manufacturers for products covered by such intellectual property.

We currently do not plan to apply for additional U.S. government funding, but if we do, and we discover compounds or drug candidates as a result of such funding, intellectual property rights to such discoveries may be subject to the applicable provisions of the Bayh-Dole Act.

If we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation by extending the patent terms and obtaining data exclusivity for our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of FDA marketing approval of our product candidates, one or more of the U.S. patents we own or license may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, we may not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. For example, we may not be granted an extension if the active ingredient of SAGE-547, allopregnanolone, is used in another drug company s product candidate and that product candidate is the first to obtain FDA approval. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our ability to generate revenues could be materially adversely affected.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biotechnology companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biotechnology industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the United States has recently enacted and is currently implementing wide-ranging patent reform legislation: the Leahy-Smith America Invents Act, referred to as the America Invents Act. The America Invents Act includes a number of significant changes to U.S. patent law.

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These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. It is not yet clear what, if any, impact the America Invents Act will have on the operation of our business. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any patents that may issue from our patent applications, all of which could have a material adverse effect on our business and financial condition.

In addition, recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. The full impact of these decisions is not yet known. For example, on March 20, 2012 in *Mayo Collaborative Services, DBA Mayo Medical Laboratories, et al. v. Prometheus Laboratories, Inc.*, the Court held that several claims drawn to measuring drug metabolite levels from patient samples and correlating them to drug doses were not patentable subject matter. The decision appears to impact diagnostics patents that merely apply a law of nature via a series of routine steps and it has created uncertainty around the ability to obtain patent protection for certain inventions. Additionally, on June 13, 2013 in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, the Court held that claims to isolated genomic DNA are not patentable, but claims to complementary DNA molecules are patent eligible because they are not a natural product. The effect of the decision on patents for other isolated natural products is uncertain. In *Alice Corporation Pty. Ltd. v. CLS Bank International, et al.*, a case involving patent claims directed to a method for mitigating settlement risk, the Court held that the patent eligibility of claims directed to abstract ideas, products of nature, and laws of nature should be determined using the same framework set forth in *Prometheus*. The U.S. PTO recently issued a set of guidelines setting forth procedures for determining subject matter eligibility of claims directed to abstract ideas, products of nature, and laws of nature in line with the *Prometheus, Myriad*, and *Alice* decisions. The guidance does not limit the application of Myriad to DNA but, rather, applies the decision to other natural products.

In addition to increasing uncertainty with regard to our ability to obtain future patents, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on these and other decisions by the U.S. Congress, the federal courts and the U.S. PTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce any patents that may issue in the future.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Our employees have been previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We also engage advisors and consultants who are concurrently employed at universities or who perform services for other entities.

Although we are not aware of any claims currently pending against us, we may be subject to claims that we or our employees, advisors or consultants have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third party. We have and may in the future also be subject to claims that an employee, advisor or consultant performed work for us that conflicts with that person s obligations to a third party, such as an employer, and thus, that the third party has an ownership interest in the intellectual property arising out of work performed for us. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. If we fail in defending such claims, in addition to paying monetary claims, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our product candidates, which would materially adversely affect our commercial development efforts.

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Numerous factors may limit any potential competitive advantage provided by our intellectual property rights.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The following examples are illustrative:

- others may be able to develop and/or practice technology that is similar to our technology or aspects of our technology but that is not covered by the claims of patents, should such patents issue from our patent applications;
- we might not have been the first to make the inventions covered by a pending patent application that we own;
- we might not have been the first to file patent applications covering an invention;
- others may independently develop similar or alternative technologies without infringing our intellectual property rights;
- pending patent applications that we own or license may not lead to issued patents;
- patents, if issued, that we own or license may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- third parties may compete with us in jurisdictions where we do not pursue and obtain patent protection;
- we may not be able to obtain and/or maintain necessary or useful licenses on reasonable terms or at all;
- third parties may assert an ownership interest in our intellectual property and, if successful, such disputes may preclude us from exercising exclusive rights over that intellectual property;
- we may not develop or in-license additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business and results of operations.

General Company-Related Risks

As our product candidates reach later stage clinical development, we will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of February 28, 2015, we had 30 full-time employees and no part-time employees, and as our product candidates reach later stage clinical development, we expect to increase our number of employees and the scope of our operations. To manage our anticipated development and

expansion, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Also, our management may need to divert a disproportionate amount of its attention away from its day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure;

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give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and expansion of our company.

Our future success depends on our ability to retain our President and Chief Executive Officer and to attract, retain and motivate qualified personnel.

We are highly dependent on Dr. Jeffrey M. Jonas, our President and Chief Executive Officer. We have entered into an employment agreement with Dr. Jonas, but he may terminate his employment with us at any time. Although we do not have any reason to believe that we will lose the services of Dr. Jonas in the foreseeable future, the loss of his services might impede the achievement of our research, development and commercialization objectives. We also do not have any key-man life insurance on Dr. Jonas. We rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us and may not be subject to our standard non-compete agreements. Recruiting and retaining qualified scientific personnel and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific personnel from universities and research institutions. Failure to succeed in clinical trials may make it more challenging to recruit and retain qualified scientific personnel.

Our employees may engage in misconduct or other improper activities, including violating applicable regulatory standards and requirements or engaging in insider trading, which could significantly harm our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA and applicable non-U.S. regulators, provide accurate information to the FDA and applicable non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of, including trading on, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a code of conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may be ineffective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

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We face potential product liability exposure, and, if claims are brought against us, we may incur substantial liability.

The use of our product candidates in clinical trials and the sale of our product candidates, if approved, exposes us to the risk of product liability claims. Product liability claims might be brought against us by patients, healthcare providers or others selling or otherwise coming into contact with our product candidates. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, including as a result of interactions with alcohol or other drugs, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we become subject to product liability claims and cannot successfully defend ourselves against them, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in, among other things:

withdrawal of patients from our clinical trials;

substantial monetary awards to patients or other claimants;

decreased demand for our product candidates or any future product candidates following marketing approval, if obtained;

damage to our reputation and exposure to adverse publicity;

increased FDA warnings on product labels;

litigation costs;

distraction of management s attention from our primary business;

loss of revenue; and

the inability to successfully commercialize our product candidates or any future product candidates, if approved.

We maintain product liability insurance coverage for our clinical trials with a $10 million annual aggregate coverage limit. Nevertheless, our insurance coverage may be insufficient to reimburse us for any expenses or losses we may suffer. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses, including if insurance coverage becomes increasingly expensive. If and when we obtain marketing approval for our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may not be able to obtain this product liability insurance on commercially reasonable terms. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. The cost of any product liability litigation or other proceedings, even if resolved in our favor, could be substantial, particularly in light of the size of our business and financial resources. A product liability claim or series of claims brought against us could cause our stock price to decline and, if we are unsuccessful in defending such a claim or claims and the resulting judgments exceed our insurance coverage, our financial condition, business and prospects could be materially adversely affected.

We will incur increased costs as a result of operating as a public company, and our management team will be required to devote substantial time to new compliance initiatives.

Now that we are a public company, and particularly after we are no longer considered an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the Securities and Exchange Commission and The NASDAQ Stock Market have

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imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

As we continue to grow, we will need to hire additional qualified accounting and financial personnel with appropriate public company experience.

As we continue to grow our organization, we will need to establish and maintain effective disclosure and financial controls and make changes in our corporate governance practices. We will need to hire additional accounting and financial personnel with appropriate public company experience and technical accounting knowledge, and it may be difficult to recruit and maintain such personnel. Even if we are able to hire appropriate personnel, our existing operating expenses and operations will be impacted by the direct costs of their employment and the indirect consequences related to the diversion of management resources from product development efforts.

Our ability to use our net operating loss carryforwards and certain tax credit carryforwards may be subject to limitation.

As of December 31, 2014, we had federal and state net operating loss carryforwards of $55.8 million and $55.4 million, respectively, which begin to expire in 2031. As of December 31, 2014, we also had federal and state research and development tax credit carryforwards of $0.7 million and $0.3 million, respectively, which begin to expire in 2031 and 2027, respectively. As of December 31, 2014, we had federal orphan drug tax credit carryforwards of $3.6 million, which begin to expire in 2034. Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, changes in our ownership may limit the amount of our net operating loss carryforwards and tax credit carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of our company of more than 50% within a three-year period. Any such limitation may significantly reduce our ability to utilize our net operating loss carryforwards and tax credit carryforwards before they expire. The completion of this offering and our initial public offering, or IPO, together with private placements and other transactions that have occurred since our inception, may trigger such an ownership change pursuant to Section 382. Any such limitation, whether as the result of this offering, our IPO, prior private placements, sales of our common stock by our existing stockholders or additional sales of our common stock by us after this

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offering, could have a material adverse effect on our results of operations in future years. We have not completed a study to assess whether an ownership change for purposes of Section 382 has occurred, or whether there have been multiple ownership changes since our inception, due to the significant costs and complexities associated with such study.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. The recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, such as the recent global financial crisis, could result in a variety of risks to our business, including, weakened demand for our product candidates and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

We or the third parties upon whom we depend may be adversely affected by natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities of our third-party CMOs, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business.

Our internal computer systems, or those of our third-party CROs or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product candidates development programs.

Despite the implementation of security measures, our internal computer systems and those of our third-party CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our programs. For example, the loss of clinical trial data for our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our product candidates could be delayed.

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We may acquire businesses or products, or form strategic alliances, in the future, and we may not realize the benefits of such acquisitions.

We may acquire additional businesses or products, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expecing 737 MAX

4 4 0 0.2 166

Boeing 737-700

14 12 2 2.3 16.6 124/142

Boeing 737-800

68 41 27 3.3 6.4 154/160

Embraer 190

19 19 0 11.7 94/100

Total

105 76 29 3.2 8.5

The table below describes the expected size of our fleet at the end of each year set forth below, assuming delivery of all aircraft for which we currently have firm orders but not taking into account any aircraft for which we have purchase rights and options:

Aircraft Type	2019	2020	2021	2022	2023
737-700[1]	14	16	14	14	14
737-800	68	65	61	56	50
737-MAX[2]	13	22	34	46	58
Embraer 190[3]	14	13	13	13	13
Total Fleet	109	116	122	129	135

(1) Assumes the return of leased aircraft upon expiration of lease contracts.
(2) We have the flexibility to choose between the different members of the 737 MAX family.
(3) Include the sale of five E90 to Azorra Aviation.

The Boeing 737 aircraft currently in our fleet are fuel-efficient and suit our operations well for the following reasons:

They have simplified maintenance procedures.

They require just one type of standardized training for our crews.

They have one of the lowest operating costs in their class.

Our focus on profitable operations means that we periodically review our fleet composition. As a result, our fleet composition changes over time when we conclude that adding other types of aircraft will help us achieve this goal. Following our growth strategy, we placed an order for 71 Boeing 737 MAX aircraft, four of which were delivered in 2018. The 737 MAX will provide additional benefits to the current fleet such as fuel efficiency, longer range and additional capacity compared to the current Copa seat configuration.

Through several special purpose vehicles, we currently have beneficial ownership of 76 of our aircraft, including 19 Embraer 190s. In addition, we lease two of our Boeing 737-700s and 27 of our Boeing 737-800s under long-term operating lease agreements that have an average remaining term of 3.3 years. Leasing some of our aircraft provides us with flexibility to change our fleet composition if we consider it to be in our best interests to do so. We make monthly

rental payments, some of which are based on floating rates, but we are not required to make termination payments at the end of the lease. Currently, we do not have purchase options under any of our operating lease agreements. Under our operating lease agreements, we are required to make supplemental rent payments at the end of the lease that are calculated with reference to the aircraft s maintenance schedule. In either case, we must return the aircraft in the agreed-upon condition at the end of the lease term. Title to the aircraft remains with the lessor. We are responsible for the maintenance, servicing, insurance, repair and overhaul of the aircraft during the term of the lease.

To better serve the growing number of business travelers, we offer a business class (*Clase Ejecutiva*) configuration in our fleet. Our business class service features upgraded meal service, special check-in desks, bonus mileage for full-fare business class passengers and access to VIP lounges. In each of our Boeing 737-700 aircraft, we offer 12 business class luxury seats with 38-inch pitch. Our Boeing 737-800 aircraft currently have two different configurations, one with 16 business class seats with 38-inch pitch; and a second, with 49-inch pitch seats, which is currently being used in 36 of our 737-800s. In order to accommodate these luxury seats, a row from economy class was removed, decreasing the total number of seats in those aircraft from 160 to 154. On our Embraer 190s, we offer two different configurations, one with 12 business class seats in a four abreast configuration with 40-inch pitch, and one with 10 business class seats in a three abreast configuration with 38-inch pitch. The Boeing 737 MAX 9 aircraft feature 16 comfortable lie-flat seats in business class (Dreams) and a total of 166 seats.

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Also, within the Copa Holdings fleet, there are four 737-700s dedicated to the operations of Wingo. These aircraft are equipped with 142 economy class seats.

Each of our Boeing 737-Next Generation aircraft is powered by two CFM International Model CFM 56-7B engines. Each of our Embraer 190 aircraft is powered by two CF34-10 engines made by General Electric. Our Boeing 737 MAX 9 aircraft are powered by two CFM International Leap 1B engines. We currently have 14 spare engines for service replacements and for periodic rotation through our fleet.

Maintenance

The maintenance performed on our aircraft can be divided into two general categories: line and heavy maintenance. Line maintenance consists of routine, scheduled maintenance checks on our aircraft, including pre-flight, service visits, A-checks and any diagnostics and routine repairs. Copa s line maintenance is performed by Copa s own technicians at our main base in Panama and/or at the out stations by Copa Airlines and/or Copa Colombia employees or third-party contractors. Heavy maintenance consists of more complex inspections and overhauls, including C-checks , and servicing of the aircraft that cannot be accomplished during an overnight visit. Maintenance checks are performed intermittently as determined by the aircraft manufacturer through Copa Airlines AAC approved maintenance program. These checks are based on the number of hours, departures or calendar months flown. Historically we had contracted with certified outside maintenance providers, such as COOPESA. In October of 2010, Copa decided to begin performing a portion of the heavy maintenance work in-house. The hiring, training, facility and tooling setup, as well as enhancing certain support shops, were completed during a ten-month period. Ultimately, Copa acquired the required certifications by the local authorities to perform the first in-house C-Check in August 2011, followed by its second C-check in October of the same year. Today we are performing a continuous line of C-Checks in-house for the entire year, and on January 20, 2017 we held the ground-breaking of our new maintenance facility at Tocumen International Airport which allows us to perform up to three complete continuous lines of C-checks, as required. The new facility commenced operations in January 2019. In 2018, 18 heavy maintenance checks were successfully performed in-house. When possible, Copa attempts to schedule heavy maintenance during its lower-demand seasons in order to maximize productive use of its aircraft.

Copa has exclusive long-term contracts with GE Engines whereby they perform maintenance on all of our CFM-56 and CF-34 engines.

In October of 2014, Copa Airlines established its own maintenance technician training academy. Through this program, we recruit and train technicians through on-the-job training and formal classes. These future technicians stay in the program for four years total. After the first two years, each trainee will receive their airframe license and become a mechanic. After the next two years, each trainee will receive their power plant license and will be released as a mechanic into our work force. Presently, we have 95 students in the program.

Copa Airlines and Copa Colombia employ, system-wide, around 500 maintenance professionals, who perform maintenance in accordance with maintenance programs that are established by the manufacturers and approved and certified by international aviation authorities. Every mechanic is trained in factory procedures and goes through our own rigorous in-house training program. Every mechanic is licensed by the AAC and approximately 34 of our mechanics are also licensed by the FAA. Our safety and maintenance procedures are reviewed and periodically audited by the AAC (Panama), UAEAC (Colombia), the FAA (United States), IATA (IOSA) and, to a lesser extent, every foreign country to which we fly. Copa Airlines maintenance facility at Tocumen International Airport has been certified by the FAA as an approved repair station, and once a year the FAA inspects this facility to validate and renew the certification. Copa s aircraft are initially covered by warranties that have a term of four years, resulting in lower maintenance expenses during the period of coverage. All of Copa Airlines and Copa Colombia s mechanics are

trained to perform line maintenance on each of the Boeing 737-Next Generation, Boeing 737 MAX and Embraer 190 aircraft.

All of Copa Colombia s maintenance and safety procedures are certified by the *Aeronáutica Civil* of Colombia and BVQi, the institute that issues International Organization for Standardization, or ISO , quality certificates. All of Copa Colombia s maintenance personnel are licensed by the *Aeronáutica Civil* of Colombia. In December 2017, Copa Colombia received its IATA Operational Safety Audit, or IOSA , compliance certification, which will remain valid until December 2019.

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Safety

We place a high priority on providing safe and reliable air service. We are focused on continuously improving our safety performance by implementing internationally recognized best practices such as Safety Management System, or SMS , Flight Data Analysis (FDA), internal and external operational safety audits, and associated programs.

Our SMS provides operational leaders with reactive, proactive, and predictive data analyses that are delivered on a frequent and recurring basis. This program also uses a three-tiered meeting structure to ensure the safety risk of all identified hazards are assessed and corrective actions (if required) are implemented. At the lowest meeting level, the Operational Leaders review the risk assessments, assign actions, and monitor progress. At the middle meeting level, the Chief Operations Officer meets with the Operational Leaders to ensure all cross-divisional issues are properly addressed and funded. At the highest meeting level, the Chief Executive Officer monitors the performance of the SMS program and ensures the safety risk is being properly managed.

The SMS is supported by safety investigations and a comprehensive audit program. Investigations are initiated either by operational events or analyses of relevant trend information, such as via our Flight Data Analysis program. These investigations are conducted by properly qualified and trained internal safety professionals. Our audit program consists of three major components. The first serves as the aircraft maintenance quality assurance program and is supported by six dedicated maintenance professionals. The second team consists of an internal team dedicated to conducting standardized audits of airport, flight operations, and associated functions. The third component of our audit program is a biennial audit of all operational components by the internationally recognized standard IOSA (IATA Operational Safety Audit). We are happy to report that in 2019 Copa Airlines and Copa Colombia successfully completed IOSA audits by external providers.

Airport Facilities

We believe that our hub at Panama City s Tocumen International Airport (PTY) is an excellent base of operations for the following reasons:

Panama s consistently temperate climate is ideal for airport operations.

Tocumen is the only airport in Central America with two operational runways. Also, unlike some other regional airports, consistent modernization and growth of our hub has kept pace with our needs. In 2012, Tocumen Airport completed Phase II of an expansion project of the existing terminal. In 2013, Tocumen awarded the bid for the construction of a new south terminal, with an additional 20 gates and eight remote positions. Currently, this second terminal is under construction and is expected to open in 2019.

Panama s central and sea level location provides a very efficient base to operate our narrow body fleet, efficiently serving short and long-haul destinations in Central, North and South America, as well as the Caribbean.

Travelers can generally make connections seamlessly through Tocumen because of its manageable size and Panama s policies accommodating in-transit passengers.

Tocumen International Airport is operated by an independent corporate entity established by the government, where stakeholders have a say in the operation and development of the airport. The law that created this entity also provided for a significant portion of revenues generated at Tocumen to be used for airport expansion and improvements. We do not have any formal, written agreements with the airport management to govern access fees, landing rights or allocation of terminal gates. We rely upon our good working relationship with the airport s management and the Panamanian government to ensure that we have access to the airport resources we need at prices that are reasonable.

We provide most of our own ground services and handling of passengers and cargo at Tocumen International Airport. In addition, we provide services to several of the main foreign airlines that operate at Tocumen. In most of the other airports where we operate, airport support services are provided by external third parties.

We use a variety of facilities at Tocumen, including our maintenance hangars and our operations facilities in the airport terminal. In January 2019, we opened a new hangar next to our existing maintenance facility. This new hangar has an area of approximately 90,000 square feet and can accommodate up to three narrow body aircraft simultaneously.

Our Gold and higher PreferMember passengers have access to a Copa Club at the Tocumen International Airport in Panama. The capacity of the lounge is approximately 300 passengers and boasts a footprint of more than 13,000 square feet, offering, improved facilities and additional value to our passengers.

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These passengers also have access to five other Copa Clubs in the region, which are strategically located in San José, Guatemala City, Santo Domingo, Medellin and Bogota. The Copa Club in San José is located at the Juan Santa Maria International Airport and has a capacity of up to 135 passengers with an area of almost 6,400 square feet. The Copa Club in Guatemala City is located at the Aurora International Airport and has a capacity of 55 passengers with an area of almost 2,400 square feet. In Santo Domingo, the lounge is located at the Las Americas International Airport with a capacity in excess of 65 passengers and an area of almost 3,000 square feet. Additionally, the Copa Club in Medellin, located at Jose Maria Cordova International Airport, has an area close to 2,800 square feet and a capacity of more than 70 passengers. Lastly, our Copa Club in Bogota is located at the Dorado International Airport. It seats 107 passengers and has an area close to 3,500 square feet.

Fuel

Fuel costs are extremely volatile, as they are subject to many global economic, geopolitical, weather, environmental and other factors that we can neither control nor accurately predict. Due to its inherent volatility, aircraft fuel has historically been our most unpredictable unit cost. In the past, rapid increases in prices have come from increased demand for oil coupled with limited refinery capacity and instability in oil-exporting countries. Recently, prices have increased significantly due to the strong U.S. dollar, the costs of refining jet fuel and the strength of the U.S. economy.

Aircraft Fuel Data	2018	2017	2016
Average price per gallon of jet fuel into plane (excluding hedge) (in U.S. dollars)	$ 2.32	$ 1.85	$ 1.53
Gallons consumed (in millions)	328.1	307.0	284.3
Available seat miles (in millions)	25,817	23,936	22,004
Gallons per ASM (in hundredths)	1.27	1.28	1.29

In 2018, the average price of West Texas Intermediate or WTI crude oil, a benchmark widely used for crude oil prices that is measured in barrels and quoted in U.S. dollars, increased by 27.6% from $50.9 per barrel to $64.9 per barrel. In 2018, we did not hedge any of our fuel needs, and we have not hedged any part of our fuel needs for 2019. Although we have not added hedge positions since August of 2015, we continue to evaluate various hedging strategies and may enter into additional hedging agreements in the future, as any substantial and prolonged increase in the price of jet fuel will likely materially and negatively affect our business, financial condition and results of operation. In the past, we have managed to offset some of the increases in fuel prices with higher load factors, fuel surcharges and fare increases. In addition, our relatively young, winglet-equipped fleet also helps us mitigate the impact of higher fuel prices.

Tocumen International Airport has limited fuel storage capacity. In the event there is a disruption in the transport of fuel to the airport, we may be forced to suspend flights until the fuel tanks can be refueled.

Insurance

We maintain passenger liability insurance in an amount consistent with industry practice, and we insure our aircraft against losses and damages on an all risks basis. We have obtained all insurance coverage required by the terms of our leases. We believe our insurance coverage is consistent with airline industry standards and appropriate to protect us from material losses in light of the activities we conduct. No assurance can be given, however, that the amount of insurance we carry will be sufficient to protect us from material losses. We have negotiated low premiums on our Copa Airlines insurance policies by leveraging the purchasing power of our alliance partner, UAL.

Environmental

Our operations are covered by various local, national, and international environmental regulations. These regulations cover, among other things, gas emissions into the atmosphere, disposal of solid waste and aqueous effluents, aircraft noise, and other activities that result from the operation of aircraft and our aircraft comply with all environmental standards applicable to their operations as described in this annual report. Currently, we maintain an Environmental Management and Adequacy Program (PAMA), in all our facilities, including our maintenance hangar and support facilities at the Tocumen International Airport, Administrative Offices in Costa del Este and Training Center in Clayton. This program was approved by the Panamanian National Environmental Authority (MiAmbiente), in 2013, and includes actions such as a recycling program, better use of natural resources and final disposition of the unfiltered water used for aircraft maintenance, among many others. Currently, the Copa Tocumen Airport s PAMA final report is

presented to MiAmbiente on an annual basis to monitor and report our environmental follow-up assessments. Copa Airlines is an active signatory company of the Global Compact of the United Nations with its local chapter of the Global Compact Network Panama, and have, thus, published our Communication on Progress (COP) since October 2001. This Global Compact agreement requires us to implement measures like maintaining a young fleet, incorporating new navigation technologies such as RNAV to reduce fuel consumption, installing latest generation winglets in our planes to reduce fuel consumption and recycling, among many others.

From January to December 2018 we collected a total of 765.6 tons of recycling materials in Panama s Copa facilities. In comparison to 2017, in 2018 our recycling program was increased by more than 200%, resulting in a significant reduction of waste sent to the landfill. During the same period, we recycled vehicle oil and fuel drained from aircraft, for which we outsourced the collection of 10,120 gallons of hydrocarbons for use as alternative fuel for other industries. We also outsourced the collection of 339,550 gallons of oil and/or water from aircraft cleaning and painting operations, and also from vehicle maintenance. The subsequent treatment of the collected water made it possible to recover 271,640 gallons of water which were then returned to nature. We have properly disposed of a total of 23,870 kilograms of chemical waste from Aircraft Maintenance operations. In comparison to 2017, in 2018 our environmental management reduced the generation of chemical waste and optimized the use of water during our operations.

Regulation

Panama

Authorizations and Certificates. Panamanian law requires airlines providing commercial services in Panama to hold an Operation Certificate and an Air Transportation License/Certificate issued by the AAC. The Air Transportation Certificate specifies the routes, equipment used, capacity, and frequency of flights. This certificate must be updated every time Copa acquires new aircraft, or when routes and frequencies to a particular destination are modified.

Panamanian law also requires that the aircraft operated by Copa Airlines be registered with the Panamanian National Aviation Registrar kept by the AAC, and that the AAC certifies the airworthiness of each aircraft in the fleet.

The Panamanian government does not have an equity interest in our Company. Bilateral agreements signed by the Panamanian government have protected our operational position and route network, allowing us to have a significant hub in Panama to transport traffic within and between the Americas and the Caribbean. All international fares are filed and, depending on the bilateral agreement, are technically subject to the approval of the Panamanian government. Historically, we have been able to modify ticket prices on a daily basis to respond to market conditions. Copa Airlines status as a private carrier means that it is not required under Panamanian law to serve any particular route and is free to withdraw service from any of the routes it currently serves, subject to bilateral agreements. We are also free to determine the frequency of service we offer across our route network without any minimum frequencies imposed by the Panamanian authorities.

Ownership Requirements. The most significant restriction on our Company imposed by the Panamanian Aviation Act, as amended and interpreted to date, is that Panamanian nationals must exercise effective control over the operations of the airline and must maintain substantial ownership . These phrases are not defined in the Aviation Act itself and it is unclear how a Panamanian court would interpret them. The share ownership requirements and transfer restrictions contained in our Articles of Incorporation, as well as the structure of our capital stock described under the caption Description of Capital Stock , are designed to ensure compliance with these ownership and control restrictions created by the Aviation Act. While we believe that our ownership structure complies with the ownership and control restrictions of the Aviation Act as interpreted by a decree by the Executive Branch, we cannot assure you that a

Panamanian court would share our interpretation of the Aviation Act or the decree or that any such interpretations would remain valid for the entire time you hold our Class A shares.

Although the Panamanian government does not currently have the authority to dictate the terms of our service, the government is responsible for negotiating the bilateral agreements with other nations that allow us to fly to other countries. Several of these agreements require Copa to remain effectively controlled and substantially owned by Panamanian nationals in order for us to use the rights conferred by the agreements. Such requirements are analogous to the Panamanian Aviation Act described above that requires Panamanian control of our business.

Antitrust Regulations. In 1996, the Republic of Panama enacted antitrust legislation, which regulates industry concentration and vertical anticompetitive practices and prohibits horizontal collusion. The Consumer Protection and Free Trade Authority is in charge of enforcement and may impose fines only after a competent court renders an adverse judgment. The law also provides for direct action by any affected market participant or consumer, independently or through class actions. The law does not provide for the granting of antitrust immunity, as is the case in the United States. In February 2006, the antitrust legislation was amended to increase the maximum fines that may be assessed to $1,000,000 for violations and $250,000 for minor infractions of antitrust law. In October 2007, the antitrust legislation was amended again to include new regulations.

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Colombia

Even though the Colombian aviation market continues to be regulated by the Colombian Civil Aviation Administration, *Unidad Especial Administrativa de Aeronáutica Civil*, or *Aeronáutica Civil*, the government policies have become more liberal in recent years.

Colombia has expanded its open-skies agreements with several countries in the last years. In addition to Aruba and the Andean Pact nations of Bolivia, Ecuador and Peru, open-skies agreements have been negotiated with Costa Rica, El Salvador, Panama and Dominican Republic. In the framework of liberalization between Colombia and Panama, any airline has the right to operate unlimited frequencies between any city pair of the two countries. As a result, Copa offers scheduled services between eight main cities in Colombia and Panama. In November 2010, Colombia signed an open-skies agreement with the United States, which took effect in January 2013. With respect to domestic aviation, airlines must present feasibility studies to secure specific route rights, and no airline may serve the city pairs with the most traffic unless that airline has at least five aircraft with valid airworthiness certificates. While *Aeronáutica Civil* has historically regulated the competition on domestic routes, in December 2012 it revoked a restriction requiring a maximum number of competing airlines on each domestic route.

In October 2011, *Aeronáutica Civil* announced its decision to liberalize air fares in Colombia starting April 1, 2012, including the elimination of fuel surcharges. However, airlines are required to charge an administrative fee (*tarifa administrativa*) for each ticket sold on domestic routes within Colombia through an airline s direct channels. Passengers in Colombia are also entitled by law to compensation in the event of delays in excess of four hours, over-bookings and cancellations. Currently, the San Andrés, Bogotá, Pereira, Cali, Cartagena, Medellin, Bucaramanga, Cucuta, and Santa Marta airports, among others, are under private management arrangements. The government s decision to privatize airport administration in order to finance the necessary expansion projects and increase the efficiency of operations has increased airports fees and facility rentals at those airports.

Authorization and Certificates. Colombian law requires airlines providing commercial services in Colombia to hold an operation certificate issued by the *Aeronáutica Civil,* which is automatically renewed every five years. Copa Colombia s operation certificate was automatically renewed in 2013.

Safety Assessment. On December 9, 2010, Colombia was re-certified as a Category 1 country under the FAA s IASA program.

Ownership Requirements. Colombian regulations establish that an airline satisfies the ownership requirements of Colombia if it is registered under the Colombian Laws and Regulations.

Antitrust Regulations. In 2009, an antitrust law was issued by the Republic of Colombia; however, commercial aviation activities remain under the authority of the *Aeronáutica Civil*.

Airport Facilities. The airports of the major cities in Colombia have been granted to concessionaries, who impose charges on the airlines for the rendering of airport services. The ability to contest these charges is limited, but contractual negotiations with the concessionaries are possible.

United States

Operations to the United States by non-U.S. airlines, such as Copa Airlines, are subject to Title 49 of the U.S. Code, under which the DOT, the FAA and the TSA exercise regulatory authority. The U.S. Department of Justice also has jurisdiction over airline competition matters under federal antitrust laws.

Authorizations and Licenses. The DOT has jurisdiction over international aviation with respect to air transportation to and from the United States, including regulation of related route authorities, the granting of which are subject to review by the President of the United States. The DOT exercises its jurisdiction with respect to unfair practices and methods of competition by airlines and related consumer protection matters as to all airlines operating to and from the United States. Copa Airlines is authorized by the DOT to engage in scheduled and charter air transportation services, including the transportation of persons, property (cargo) and mail, or combinations thereof, between points in Panama and points in the United States and beyond (via intermediate points in other countries). Copa Airlines holds the necessary authorizations from the DOT in the form of a foreign air carrier permit, an exemption authority and statements of authorization to conduct our current operations to and from the United States. The exemption authority was granted by the DOT in

February 1998 and was due to expire in February 2000. However, the authority remains in effect by operation of law under the terms of the Administrative Procedure Act pending final DOT action on the application we filed to renew the authority on January 3, 2000. There can be no assurance that the DOT will grant the application. Our foreign air carrier permit has no expiration date.

Copa Airlines operations in the United States are also subject to regulation by the FAA with respect to aviation safety matters, including aircraft maintenance and operations, equipment, aircraft noise, ground facilities, dispatch, communications, personnel, training, weather observation, air traffic control and other matters affecting air safety. The FAA requires each foreign air carrier serving the United States to obtain operational specifications pursuant to 14 CFR Part 129 of its regulations and to meet operational criteria associated with operating specified equipment on approved international routes. We believe that we are in compliance in all material respects with all requirements necessary to maintain in good standing our operations specifications issued by the FAA. The FAA can amend, suspend, revoke or terminate those specifications, or can temporarily suspend or permanently revoke our authority if we fail to comply with the regulations, and can assess civil penalties for such failure. A modification, suspension or revocation of any of our DOT authorizations or FAA operating specifications could have a material adverse effect on our business. The FAA also conducts safety audits and has the power to impose fines and other sanctions for violations of airline safety regulations. We have not incurred any material fines related to operations. The FAA also conducts safety International Aviation Safety Assessment, or IASA , as to Panama s compliance with ICAO safety standards. Panama is currently considered a Category 1 country that complies with ICAO international safety standards. As a Category 1 country, no limitations are placed upon our operating rights to the Unites States. If the FAA should determine that Panama does not meet the ICAO safety standards, the FAA and DOT would restrict our rights to expand operations to the United States.

Security. On November 19, 2001, the U.S. Congress passed, and the President signed into law, the Aviation and Transportation Security Act or the Aviation Security Act . This law federalized substantially all aspects of civil aviation security and created the TSA, an agency of the Department of Homeland Security, to which the security responsibilities previously held by the FAA were transitioned. The Aviation Security Act requires, among other things, the implementation of certain security measures by airlines and airports, such as the requirement that all passengers, their bags and all cargo be screened for explosives and other security-related contraband. Funding for airline and airport security required under the Aviation Security Act is provided in part by a $2.50 per segment passenger security fees for flights departing from the United States, subject to a $10 per roundtrip cap; however, airlines are responsible for costs incurred to meet security requirements beyond those provided by the TSA. The United States government is considering increases to this fee as the TSA s costs exceed the revenue it receives from these fees. Implementation of the requirements of the Aviation Security Act has resulted in increased costs for airlines and their passengers. Since the events of September 11, 2001, the U.S. Congress has mandated and the TSA has implemented numerous security procedures and requirements that have imposed and will continue to impose burdens on airlines, passengers and shippers.

Passenger Facility Charges. Most major U.S. airports impose passenger facility charges. The ability of airlines to contest increases in these charges is restricted by federal legislation, DOT regulations and judicial decisions. With certain exceptions, air carriers pass these charges on to passengers. However, our ability to pass through passenger facility charges to our customers is subject to various factors, including market conditions and competitive factors. Passenger facility charges are capped at $4.50 per flight segment with a maximum of two PFCs charged on a one-way trip or four PFCs on a round trip, for a maximum of $9 or $18 total, respectively.

Airport Access. Two U.S. airports at which we operate, O Hare International Airport in Chicago (O Hare) and John F. Kennedy International Airport in New York, or JFK , were formerly designated by the FAA as high density traffic airports subject to arrival and departure slot restrictions during certain periods of the day. From time to time, the FAA

has also issued temporary orders imposing slot restrictions at certain airports. Although slot restrictions at JFK were formally eliminated as of January 1, 2007, on January 15, 2008, the FAA issued an order limiting the number of scheduled flight operations at JFK during peak hours to address the over-scheduling, congestion and delays at JFK. The FAA is currently contemplating the implementation of a long-term congestion management rule at LaGuardia Airport, JFK and Newark Liberty International Airport, which would replace the order currently in effect at JFK. We cannot predict the outcome of this potential rule change on our costs or ability to operate at JFK.

On July 8, 2008, the DOT also issued a revised Airport Rates and Charges policy that allows airports to establish non-weight based fees during peak hours and to apportion certain expenses from reliever airports to the charges for larger airports in an effort to limit congestion.

Noise Restrictions. Under the Airport Noise and Capacity Act of 1990 and related FAA regulations, aircraft that fly to the United States must comply with certain Stage 3 noise restrictions, which are currently the most stringent FAA operating noise requirements. All of our Copa aircraft meet the Stage 3 requirement.

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Other Regulation. U.S. laws and regulations have been proposed from time to time that could significantly increase the cost of airline operations by imposing additional requirements or restrictions on airlines. There can be no assurance that laws and regulations currently enacted or enacted in the future will not adversely affect our ability to maintain our current level of operating results.

Other Jurisdictions

We are also subject to regulation by the aviation regulatory bodies that set standards and enforce national aviation legislation in each of the jurisdictions to which we fly. These regulators may have the power to set fares, enforce environmental and safety standards, levy fines, restrict operations within their respective jurisdictions or any other powers associated with aviation regulation. We cannot predict how these various regulatory bodies will perform in the future, and the evolving standards enforced by any of them could have a material adverse effect on our operations.

C. Organizational Structure

The following is an organizational chart showing Copa Holdings and its principal subsidiaries.

* Includes ownership by us held through wholly-owned holding companies organized in the British Virgin Islands. Copa Airlines is our principal airline operating subsidiary that operates out of our hub in Panama and provides passenger service in North, South and Central America and the Caribbean. Copa Airlines Colombia is our operating subsidiary that provides air travel from Colombia to Copa Airlines Hub of the Americas in Panama, and operates a low-cost business model within Colombia and various cities in the region. Oval Financial Leasing, Ltd. controls the special purpose vehicles that have a beneficial interest in the majority of our fleet.

D. Property, plants and equipment

Headquarters

Our headquarters are located six miles away from Tocumen International Airport. We have leased six floors consisting of approximately 121,686 square feet of the building from *Desarollo Inmobiliario Del Este, S.A.*, an entity controlled by the same group of investors that controls CIASA, under a ten-year lease that began in January 2015 at a rate of $0.2 million per month.

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Other Property

At Tocumen International Airport, we lease a maintenance hangar, operations offices in the terminal, counter space, parking spaces and other operational properties from the entity that manages the airport. We pay approximately $164,386 per month for this leased property. Around Panama City, we also lease various office spaces, parking spaces and other properties from a variety of lessors, for which we pay approximately $104,949 per month in the aggregate.

In each of our destination cities, we also lease space at the airport for check-in, reservations and airport ticket office sales, and we lease space for CTOs in those cities.

Copa Colombia leases most of its airport offices and CTOs. Owned properties only include one CTO and a warehouse close to the Bogota airport.

See also our discussion of Aircraft and Airport Facilities above.

Item 4A. Unresolved Staff Comments

None.

Item 5. Operating and Financial Review and Prospects

A. Operating Results

You should read the following discussion in conjunction with our consolidated financial statements and the related notes and the other financial information included elsewhere in this annual report.

We are a leading Latin American provider of airline passenger and cargo service through our two principal operating subsidiaries, Copa Airlines and Copa Colombia. Copa Airlines operates from its strategically located position in the Republic of Panama, and Copa Colombia provides air travel from Colombia to Copa Airlines Hub of the Americas in Panama and operates a low-cost business model within Colombia and various cities in the region.

Copa currently offers approximately 363 daily scheduled flights among 80 destinations in 32 countries in North, Central, South America and the Caribbean from its Panama City hub. Copa provides passengers with access to flights to more than 200 other destinations through code-share arrangements with our Star Alliance partners and other carriers including Air France, KLM, Iberia, Emirates, Gol, Azul, Tame, Cubana and Aeromexico. Through its Panama City hub, Copa Airlines is able to consolidate passenger traffic from multiple points to serve each destination effectively.

As of December 31, 2018, Copa Airlines and Copa Colombia operate a modern fleet of 86 Boeing 737 aircraft and 19 Embraer 190 aircraft. To meet growing capacity requirements, we have firm orders, including purchase and lease commitments. The Company had one purchase contract with Boeing which entails 67 firm orders of Boeing 737 MAX aircraft, agreed to be delivered between 2019 and 2025.

We began our strategic alliance with Continental, now UAL, in 1998. Since then, we have conducted joint marketing and code-sharing arrangements. We believe that Copa s co-branding and joint marketing activities with UAL have enhanced our brand in Latin America, and that the relationship with UAL has afforded cost-related benefits, such as improved purchasing power in negotiations with aircraft vendors and insurers. In May 2016, after mutually beneficial negotiations, we signed an updated alliance agreement with UAL that will continue to support the company s performance and strategic development. In addition, on November 30, 2018, we disclosed that we have entered into a

three-way joint business agreement (JBA) with UAL and Avianca that is intended to cover our combined network between the United States and Latin America (except Brazil). We, UAL and Avianca intend to apply for regulatory approval of the JBA and an accompanying grant of antitrust immunity from the DOT and other relevant agencies. However, we can provide no assurances as to whether or when the parties will receive such approvals, and we do not plan to implement the JBA until we have received such approvals.

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Factors Affecting Our Results of Operations

Fuel

In 2018, the average price of WTI crude oil, a benchmark widely used for crude oil prices that is measured in barrels and quoted in U.S. dollars, increased by 27.6% from $50.9 per barrel to $64.9 per barrel. In 2018, we did not hedge any of our fuel needs. For 2019 although we have not hedged any part of our anticipated fuel needs, we continue to evaluate various hedging strategies and may enter into additional hedging agreements in the future, as any substantial and prolonged increase in the price of jet fuel will likely materially and negatively affect our business, financial condition and results of operation. In the past, we have managed to offset some of the increases in fuel prices with higher load factors, fuel surcharges and fare increases. In addition, our relatively young, winglet-equipped fleet also helps us mitigate the impact of higher fuel prices.

Regional Economic Environment

Our historical financial results have been, and we expect them to continue to be, materially affected by the general level of economic activity and growth of per capita disposable income in North, South and Central America and the Caribbean, which have a material impact on discretionary and leisure travel (drivers of our passenger revenue) and the volume of trade between countries in the region (the principal driver of our cargo revenue). As an example, passenger revenue totaled $2.6 billion in 2018, a 5.9% increase over passenger revenue of $2.4 billion in 2017 mainly driven by a 6.8% increase in passenger traffic compared to 2017. However, yield decreased 2.1% to 12.02 cents in 2018. This decrease was mainly driven by weaker Latin American currencies, specifically during the second half of the year.

In Colombia, real GDP growth, at constant prices, was approximately 2.8% in 2018, which represented a faster growth rate than in 2017. Average inflation of consumer prices in Colombia rose approximately 3.2% in 2017, according to the IMF.

In previous years our yields in Venezuela were negatively impacted by exchange controls, along with high inflation and political uncertainty, which led us to restrict ticket sales for passengers paying in Venezuelan bolivars. Today, sales in Venezuela are very limited (0.1% of our total sales) and operational feasibility of Venezuela flights is closely monitored in order to deliver optimal profitability and avoid accumulations of Venezuelan bolivars. According to data from the IMF, Venezuela s GDP contracted by 18% in 2018. Exact data regarding inflation rates in Venezuela varies significantly, depending on the source. In response to continued hyperinflation, the Venezuelan government introduced the Bolivar Soberano on August 20, 2018, replacing the Bolivar Fuerte at a rate of 1 to 100,000.

Copa Airlines flights between Panama and Venezuela were cancelled during April 2018, as a result of a temporary suspension of diplomatic and commercial relations between the two countries. For the year ended December 31, 2018, revenue from Copa Airlines flights to Venezuela, including connecting traffic, represented about 5.8% of consolidated revenues and direct flights revenue between Panama and Venezuela, excluding connections, represented about 0.6% of consolidated revenues.

According to data from The Preliminary Overview of the Economies of Latin America and the Caribbean, an annual United Nations publication prepared by the Economic Development Division, the economy of Latin America (including the Caribbean) increased by 1.3% in 2017 and is estimated to increase by 1.2% in 2018. In recent years, the Panamanian economy has outpaced the economic growth of the United States and of Latin America as a whole. According to the Comptroller General of the Republic of Panama *Contraloría General de la República de Panamá*, in 2018 the Panamanian economy grew by 3.7% (versus 5.4% in 2017). Headline inflation in Panama (as indicated by the consumer price index) rose by 2.0% in 2018. Additionally, the Colombian economy has experienced relatively

stable growth. The Colombian gross domestic product grew by 2.8% in 2018 and is estimated to grow by 3.6% in 2019, while headline inflation (as indicated by the consumer price index) rose by 32% in 2018.

Revenues

We derive our revenues primarily from passenger transportation, which represented 96.6% of our revenues for the year ended December 31, 2018. In addition, 2.3% of our total revenues are derived from cargo and 1.0% from other revenues.

We recognize passenger revenue from tickets when transportation is provided rather than when a ticket is sold. Passenger revenues reflect the capacity of our aircraft on the routes we fly, load factor and yield. Our capacity is measured in terms of available seat miles, or ASMs , which represents the number of seats available on our aircraft multiplied by the number of miles the seats are flown. Our usage is measured in terms of RPMs, which is the number of revenue passengers multiplied by the miles these passengers fly. Load factor, or the percentage of our capacity that is actually used by paying customers, is calculated by dividing RPMs by ASMs. Yield is the

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average amount that one passenger pays to fly one mile. We use a combination of approaches, taking into account yields, flight load factors and effects on load factors of connecting traffic, depending on the characteristics of the markets served, to arrive at a strategy for achieving the best possible revenue per available seat mile, balancing the average fare charged against the corresponding effect on our load factors.

We recognize cargo revenue when transportation is provided. Historically our other revenue consists primarily of commissions earned on tickets sold for flights on other airlines, special charges, charter flights and services provided to other airlines.

Overall demand for our passenger and cargo services is highly dependent on the regional economic environment in which we operate, including the GDP of the countries we serve and the disposable income of the residents of those countries. Approximately 40% of our passengers travel at least in part for business reasons, and the growth of intraregional trade greatly affects that portion of our business. The remaining 60% of our passengers are tourists or travelers visiting friends and family.

The following table sets forth our capacity, load factor and yields for the periods indicated.

	2018	2017	2016	2015	2014
Capacity (in available seat miles, in millions)	25,817	23,936	22,004	21,675	20,757
Load factor	83.4%	83.2%	80.4%	75.2%	76.7%
Yield (in cents)	12.02	12.27	12.15	13.40	16.58

Seasonality

Generally, our revenues from and the profitability of our flights peak during the northern hemisphere s summer season in July and August and again during the December and January holiday season. Given our high proportion of fixed costs, this seasonality is likely to cause our results of operations to vary from quarter to quarter.

Operating Expenses

The main components of our operating expenses are aircraft fuel, wages, salaries, benefits and other employees expenses, sales and distribution and airport facilities and handling charges. A common measure of per unit costs in the airline industry is cost per available seat mile, or CASM , which is generally defined as operating expenses divided by ASMs.

Fuel. The price we pay for aircraft fuel varies significantly from country to country primarily due to local taxes. While we purchase aircraft fuel at most of the airports to which we fly, we attempt to negotiate fueling contracts with companies that have a multinational presence in order to benefit from volume purchases. During 2018, as a result of the location of its hub, Copa purchased 54% of its aircraft fuel in Panama. Copa has 22 suppliers of aircraft fuel across its network. In some cases, we tanker fuel in order to minimize our cost, by fueling in airports where fuel prices are lowest. Our aircraft fuel expenses are variable and fluctuate based on global oil prices.

Aircraft Fuel Data	**2018**	**2017**	**2016**
Average price per gallon of jet fuel into plane (excluding hedge) (in U.S. dollars)	$ 2.32	$ 1.85	$ 1.53

Gallons consumed (in millions)	328.1	307.0	284.3
Available seat miles (in millions)	25,817	23,936	22,004
Gallons per ASM (in hundredths)	1.27	1.28	1.29

Wages, salaries and other employees expenses. Salary and benefit expenses have historically increased at the rate of inflation and by the growth in the number of our employees. In some cases, we have adjusted the salaries of our employees to correspond to changes in the cost of living in the countries where these employees work. We do not increase salaries based on seniority.

Passenger servicing. Our passenger servicing expenses consist of catering, in-flight entertainment and liability insurance among others. These expenses are generally directly related to the number of passengers we carry or the number of flights we operate.

Airport facilities and handling charges. Our airport facility and handling charges consist of take-off/landing charges, aircraft parking charges, baggage handling, and airport security charges. These charges are mainly driven by the number of flights we operate.

Sales and distribution. Our sales and distribution expenses are driven mainly by passenger revenues, indirect channel penetration performance, agreed commission rates, and from payments to global distribution systems GDS , such as Amadeus and Sabre. Our commission expenses consist primarily of payments for ticket sales made by travel agents and commissions paid to credit card companies. depending on the country. During the last few years we have reduced our commission expense per available seat mile as a result of an industry-wide trend of paying lower commissions to travel agencies and by increasing the proportion of our sales made through direct channels. We expect this trend to continue as more of our customers become accustomed to purchasing through our website at www.copaair.com, mobile app and call centers. While increasing direct sales may increase the commissions we pay to credit card companies, we expect that the savings from the corresponding reduction in travel agency commissions will more than offset this increase. In recent years, base commissions paid to travel agents have decreased significantly. At the same time, we have encouraged travel agencies to move from standard base commissions to incentive compensation based on sales volume and fare types. In addition, the GDS or reservation systems tend to raise their rates periodically, but we expect that if we are successful in encouraging our customers to purchase tickets through our direct sales channels, these costs will decrease as a percentage of our operating costs. A portion of our reservations and sales expenses is also comprised of our licensing payments for the SHARES reservation and check-in management software we use, which is not expected to change significantly from period to period.

Maintenance, materials and repairs. Our maintenance, materials and repairs expenses consist of aircraft repair expenses and charges related to the line maintenance of our aircraft, including maintenance materials, and aircraft return costs. As the age of our fleet increases and our warranties expire, our maintenance expenses will increase. We conduct line and heavy maintenance internally and outsource some of the heavy maintenance to independent third-party contractors. In 2015, we restructured the original contract negotiated with GE Engine Services in 2003 for the repair and maintenance of our CFM-56 engines which power our Boeing 737-Next Generation fleet. Our engine maintenance costs are also aided by the sea-level elevation of our hub and the use of winglets which allow us to operate the engines on our Boeing 737-Next Generation aircraft with lower thrust, thus putting less strain on the engines. In 2011, we negotiated a maintenance agreement with GE Engine Services for the repair and maintenance of our CF-34 engines.

Depreciation, amortization and impairment. These expenses correspond primarily to the depreciation of aircraft owned by the company, engines, maintenance components and other related flight equipment.

Flight operations. These expenses are generally related to the charges that the countries which we overfly levy on our aircraft as overflight charges. These fees are generally related to the number of flights we operate.

Aircraft rentals and other rentals. Our aircraft rental expenses are generally fixed by the terms of our operating lease agreements. We currently have 29 operating leases, 24 of which are operating leases with fixed rates not subject to fluctuations in interest rates; the remaining five operating leases are tied to LIBOR. Our aircraft rent expense also includes rental payments related to any wet-leasing of freighter aircraft to supplement our cargo operations.

Cargo and courier expenses. Cargo and courier expenses consist of expenses related to handling of cargo and courier and are driven by the volume of cargo transported.

Other operating and administrative expenses. Other expenses include mainly overhead expenditures and miscellaneous expenses.

Taxes

We pay taxes in the Republic of Panama and in other countries in which we operate, based on regulations in effect in each respective country. Our revenues come principally from foreign operations, and according to the Panamanian Fiscal Code income from these foreign operations are not subject to income tax in Panama.

The Panamanian Fiscal Code for the airline industry states that tax is based on net income earned for traffic whose origin or final destination is the Republic of Panama. The applicable tax rate is currently 25%. Dividends from our Panamanian subsidiaries, including Copa, are separately subject to a 10% percent withholding tax on the portion attributable to Panamanian sourced income and a 5% withholding tax on the portion attributable to foreign sourced income. Additionally, a 7% value added tax is levied on tickets issued in Panama for travel commencing in Panama and going abroad, irrespective of where such tickets were ordered.

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We are also subject to local tax regulations in each of the other jurisdictions where we operate, the great majority of which are related to the taxation of our income. In some of the countries to which we fly, we do not pay any income taxes because we do not generate income under the laws of those countries either because they do not have income taxes or due to treaties or other arrangements those countries have with Panama. In the remaining countries, we pay income tax at rates ranging from 22% to 34% of our income attributable to those countries. Different countries calculate our income in different ways, but they are typically derived from our sales in the applicable country multiplied by our net margin or by a presumed net margin set by the relevant tax legislation.

The determination of our taxable income in several countries is based on a combination of revenues sourced to each particular country and the allocation of expenses to that particular country. The methodology for multinational transportation company sourcing of revenue and expense is not always specifically prescribed in the relevant tax regulations, and therefore is subject to interpretation by both ourselves and the respective tax authorities. Additionally, in some countries, the applicability of certain regulations governing non-income taxes and the determination of our filing status are also subject to interpretation. We cannot estimate the amount, if any, of the potential tax liabilities that might result if the allocations, interpretations and filing positions we use in preparing our income tax returns were challenged by the tax authorities of one or more countries. If taxes were to increase, our financial performance and results of operations could be materially and adversely affected. Due to the competitive revenue environment, many increases in fees and taxes have been absorbed by the airline industry rather than being passed on to the passenger. Any such increases in our fees and taxes may reduce demand for air travel and thus our revenues.

Under a reciprocal exemption confirmed by a bilateral agreement between Panama and the United States, we are exempt from the U.S. source transportation income tax derived from the international operation of aircraft.

Our income tax expense totaled approximately $34.5 million in 2018, $49.3 million in 2017 and $38.3 million in 2016.

Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements in conformity with IFRS as issued by the IASB requires our management to adopt accounting policies and make estimates and judgments to develop amounts reported in our consolidated financial statements and related notes. We strive to maintain a process to review the application of our accounting policies and to evaluate the appropriateness of the estimates required for the preparation of our consolidated financial statements. We believe that our estimates and judgments are reasonable; however, actual results and the timing of recognition of such amounts could differ from those estimates. In addition, estimates routinely require adjustments based on changing circumstances and the receipt of new or better information.

Our critical accounting policies and estimates are described below as those that are reflective of significant judgments and uncertainties and potentially result in materially different results under different assumptions and conditions. For a discussion of these and other accounting policies, see notes 3 and 4 to our annual consolidated financial statements.

Goodwill. Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred over the net identifiable assets acquired and liabilities assumed of the acquired subsidiary at the date of acquisition. After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Company s CGU or group of CGU s that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquire are assigned to those units. When the recoverable amount of the CGU is less than its carrying amount, an impairment loss is recognized.

The Company performed its annual impairment test in September 2018 and the recoverable amount was estimated at $5.2 billion, an amount far in excess of the $20.4 million of goodwill recorded.

Provision for return condition. The Company records a maintenance provision to accrue for the cost that will be incurred in order to return certain aircraft to their lessors in the agreed-upon condition. The methodology applied to calculate the provision requires management to make assumptions, including the future maintenance costs, discount rate, related inflation rates and aircraft utilization. Any difference in the actual maintenance cost incurred and the amount of the provision is recorded in maintenance expense in the period. The effect of any changes in estimates, including changes in discount rates, inflation assumptions, cost estimates or lease expiries, is also recognized in maintenance expense in the period.

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Accounting for Property and Equipment. Property and equipment, including rotable parts, are recorded at cost and are depreciated to estimated residual values over their estimated useful lives using the straight-line method.

When a major maintenance inspection or overhaul cost is embedded in the initial purchase cost of an aircraft, the Company estimates the carrying amount of the component. These initial built-in maintenance assets are depreciated over the estimated time period until the first maintenance event is performed. The cost of major maintenance events completed after the aircraft acquisition are capitalized and depreciated over the estimated time period until the next major maintenance event. The remaining value of the previously capitalized component, if any, is charged to expense upon completion of the subsequent maintenance event.

Pre-delivery deposits refer to prepayments made based on the agreements entered into with the Boeing Company for the purchase of aircraft and include interest and other finance charges incurred during the manufacture of aircraft. Interest costs incurred on borrowings that fund progress payments on assets under construction, including pre-delivery deposits to acquire new aircraft, are capitalized and included as part of the cost of the assets through the earlier of the date of completion or aircraft delivery.

The residual values, useful lives and methods of depreciation of property and equipment are reviewed at each financial year-end and adjusted prospectively through depreciation and amortization expense, as required by the IFRS.

We evaluate annually whether there is an indication that our property, plant and equipment may be impaired. Factors that would indicate potential impairment may include, but are not limited to technological obsolescence, significant decreases in the market value of long-lived asset(s), a significant change in physical condition or useful life of long-lived asset(s) and operating or cash flow losses associated with the use of long-lived asset(s). In 2018, we recognized a $188.6 million non-recurring impairment charge related to the Embraer fleet.

Revenue recognition Expired tickets. The Company recognizes estimated fare revenue for tickets that are expected to expire based on departure date (unused tickets), based on historical data and experience. Estimating the expected expiration tickets requires management s judgment, among other things, the historical data and experience is an indication of future customer behavior.

Frequent Flyer Program. The Company s frequent flyer program objective, is to reward customer loyalty through the earning of miles whenever the program members make certain flights. The miles or points earned can be exchanged for flights on Copa or any of other Star Alliance partners airlines.

When a passenger elects to receive Copa s frequent flyer miles in connection with a flight, the Company recognizes a portion of the tickets sale as revenue when the air transportation is provided and recognizes a deferred liability (Frequent flyer deferred revenue) for the portion of the ticket sale representing the value of the related miles as a separate performance obligation. To determine the amount of revenue to be deferred, the Company estimates and allocates the fair value of the miles that were essentially sold along with the airfare, based on a weighted average ticket value, which incorporates the expected redemption of miles including factors such as redemption pattern, cabin class, loyalty status and geographic region.

A statistical model that estimates the percentages of points that will not be redeemed before expiration is used to estimate breakage. The breakage and the fair value of the miles are reviewed annually, and any adjustments are reflected on a prospective basis to passenger revenues.

The Company calculates the short and long-term portion of the frequent flyer deferred revenue, using a model that includes estimates based on the members´ redemption rates projected by management due to clients behavior.

Currently, when a member of another carrier frequent flyer program redeems miles on Copa Airlines or Copa Colombia flights, those carriers pay to the Company a per mile rate. The rates paid by them depend on the class of service, the flight length and the availability of the reward, and is included in passenger revenues.

In addition, the Company recognizes, in other operating revenues, the marketing component of mileage sales to co-branded card and other partners, in addition to other marketing related payments.

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The Company sells miles to non-airline businesses with which it has marketing agreements. The main contracts to sell miles are related to co-branded credit card relationships with major banks in the region. The Company determined the selling prices of miles according to a method which allocates consideration based upon the relative selling price of the deliverables. The relative selling price of the deliverables is determined based upon the estimated standalone selling prices of each deliverable in the arrangement and is allocated between the miles sold to the passenger (as described above) and the marketing elements. Revenue allocated to the performance obligations, related to marketing components, is recorded in other operating revenue when miles are delivered.

Lease accounting. The Company enters into lease contracts on some of the aircraft it operates. The Company assesses, based on the terms and conditions of the arrangements, whether or not substantially all risks and rewards of ownership of the aircraft it leases have been transferred/retained by the lessor to determine the appropriate accounting classification of the contracts as an operating or finance lease.

Finance lease assets are measured initially at an amount equal to the lower of their fair value and the present value of the minimum lease payments. Minimum lease payments made under finance leases are apportioned between the finance cost and the reduction of the outstanding liability. The finance expense is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability; these are recognized as finance cost in the consolidated statement of profit or loss. Lease agreements that do not transfer the risks and benefits to us are classified as operating leases. Operating leases are accounted as a rental and the minimum lease expense is recognized through the straight line method.

Lease accounting is critical for us because it requires an extensive analysis of the lease agreements in order to classify and measure the transactions in our financial statements and significantly impacts our financial position and results of operations. Changes in the terms of our outstanding lease agreements and the terms of future lease agreements may impact the accounting for the lease transactions and our future financial position and results of operations.

Deferred taxes. Deferred taxes are recognized for tax losses, tax credits, and temporary differences between tax bases and carrying amounts for financial reporting purposes of our assets and liabilities. Recognition and measurement of deferred taxes is a critical accounting policy for us because it requires a number of assumptions and is based on our best estimate of our projections related to future taxable profit. In addition, because the preparation of our business plan is subject to a variety of market conditions, the results of our operations may vary significantly from our projections and as such, the amounts recorded as deferred tax assets may be impacted significantly in the future.

Recently Issued Accounting Pronouncements

The standards and interpretations that are issued, but not yet effective, up to date of issuance of the Company s financial statements are disclosed below. The Company intends to adopt these standards, if applicable, when they become effective.

IFRS 16, *Leases*

IFRS 17, *Insurance Contracts*

Amendment to IFRS 9, *Financial instruments,* on prepayment features with negative compensation

Amendment to IAS 28, *Investments in Associates and Joint Ventures*

Amendments to IAS 19 - *Employee benefits on plan amendment, curtailment or settlement*

Amendments to IFRS 3 - *Definition of a business*

Amendments to IAS 1 and IAS 8 - *Definition of material*

Amendments to IFRS 10 and IAS 28 - *Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*

Annual Improvements Cycle 2015 - 2017

For a discussion of these improvements to IFRS, see note 6 to our annual consolidated financial statements.

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Results of Operation

The following table shows each of the line items in our statement of profit or loss for the periods indicated as a percentage of our total operating revenues for that period:

	2018	2017	2016
Operating revenues:			
Passenger revenue	96.6%	96.9%	96.8%
Cargo and mail revenue	2.3%	2.2%	2.4%
Other operating revenue	1.0%	0.9%	0.8%
Total operating revenues	100.0%	100.0%	100.0%
Operating expenses:			
Fuel	28.6%	21.4%	23.8%
Wages, salaries, benefits and other employees expenses	16.6%	16.5%	16.7%
Passenger servicing	3.9%	3.9%	3.9%
Airport facilities and handling charges	7.0%	6.8%	7.2%
Sales and distribution	7.8%	7.9%	8.7%
Maintenance, materials and repairs	4.2%	5.2%	5.5%
Depreciation, amortization and impairment	13.4%	6.6%	7.6%
Flight operations	4.0%	4.0%	4.0%
Aircraft rentals and other rentals	4.9%	5.3%	6.3%
Cargo and courier expenses	0.4%	0.3%	0.3%
Other operating and administrative expenses	3.8%	3.8%	4.2%
Total operating expenses	94.6%	83.2%	88.1%
Operating income	5.4%	16.8%	11.9%
Non-operating income (expense):			
Finance cost	-1.3%	-1.4%	-1.7%
Finance income	0.9%	0.7%	0.6%
Gain (loss) on foreign currency fluctuations	-0.4%	0.2%	0.6%
Net change in fair value of derivatives	0.0%	0.1%	5.0%
Other non-operating income (expense)	0.0%	-0.1%	-0.2%
Total non-operating income (expense)	-0.8%	-0.4%	4.4%
Income/(loss) before income taxes	0.0%	0.0%	0.0%
Income taxes	-4.6%	-16.4%	-16.3%
Net profit (loss)	3.3%	14.4%	14.6%

Year 2018 Compared to Year 2017

Our consolidated net profit in 2018 totaled $88.1 million, a 75.8% decrease from net profit of $364.0 million in 2017. In addition, we had consolidated operating profit of $145.0 million in 2018, a 65.8% decrease over operating profit of $424.0 million in 2017. Our consolidated operating margin in 2018 was 5.4%, a decrease of 11.4 percentage points versus 2017. The 2018 results include a $188.6 million non-cash and non-recurrent impairment charge related to the Embraer fleet.

Operating revenue

Our consolidated revenue totaled $2.7 billion in 2018, a 6.2% increase over operating revenue of $2.5 billion in 2017, mainly due to an increase of 5.9% in passenger revenue. This was driven by a 6.8% increase in passenger traffic partially offset by a 2.1% decrease in passenger yield compared to 2017.

Passenger revenue. Passenger revenue totaled $2.6 billion in 2018, a 5.9% increase over passenger revenue of $2.4 billion in 2017. This was driven by a 6.8% increase in passenger traffic, partially offset by a decrease of 2.1% in passenger yield compared to 2017.

Cargo and mail revenue. Cargo and mail revenue totaled $62.5 million in 2018, a 13.0% increase from cargo and mail revenue of $55.3 million in 2017, driven by more capacity.

Other operating revenue. Other operating revenue totaled $27.8 million in 2018, a 24.8% increase from other revenue of $22.2 million in 2017 driven by an increase in revenues from services to other airlines.

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Operating expenses

Our consolidated operating expenses totaled $2.5 billion in 2018, a 20.7% increase over operating expenses of $2.1 billion in 2017. This resulted mainly from an increase in fuel, labor, and depreciation expenses.

An overview of the major variances on a consolidated basis follows:

Fuel. Aircraft fuel totaled $765.8 million in 2018, an 33.7% increase from aircraft fuel of $572.7 million in 2017, mainly due to a 24.6% higher effective fuel price and a 6.0% increase in block hours.

Wages, salaries and other employees expenses. Salaries and benefits totaled $443.3 million in 2018, a 6.8% increase over salaries and benefits of $415.1 million in 2017, mainly driven by a headcount increase to support additional capacity and the full year effect of inflationary salary adjustments.

Passenger servicing. Passenger servicing totaled $104.3 million in 2018 compared to $99.4 million in 2017. This represented a 4.9% increase driven by passenger traffic growth, partly offset by a lower effective rate per passenger.

Airport facilities and handling charges. Airport facilities and handling charges totaled $186.4 million in 2018, a 9.0% increase over $171.0 million in 2017. This increase was driven mainly by a 4.4% departures increase and higher effective rates related to airport services and handling charges in North America.

Sales and Distribution. Sales and distribution totaled $210.2 million in 2018, a 4.9% increase compared to $200.3 million in 2017, due to 5.9% higher passenger revenue, offset by lower commission rates.

Maintenance, materials and repairs. Maintenance, materials and repairs totaled $111.7 million in 2018, a 15.5% decrease over maintenance, materials and repairs of $132.1 million in 2017. This decrease was primarily a result of lower lease return expenses.

Depreciation, amortization and impairment. Depreciation totaled $358.1 million in 2018, a 114.0% increase over $167.3 million in 2017, mainly due to a $188.6 million non-recurring impairment charge related to the Embraer fleet.

Flight operations. Flight operations amounted to $108.4 million in 2018, a 6.7% increase compared to $101.6 million in 2017, mainly due to 6.0% more block hours and higher overflight rates.

Aircraft rentals and other rentals. Aircraft rental expense amounted to $132.5 million in 2018, a 1.5% decrease from $134.5 million reported in 2017. This decrease was primarily a result of fewer leased aircraft, and lower lease rates.

Cargo and courier expenses. Cargo and courier expenses amounted to $10.1 million in 2018, a 36.6% increase compared to $7.4 million in 2017, mainly due to an increase in transported kilos.

Other operating and administrative expenses. Other expenses totaled $101.8 million in 2018, a 6.0% increase from $96.1 million in 2017, mainly due to taxes and overhead expenses.

Total Non-operating Income (Expense)

Non-operating expense totaled $22.4 million in 2018, as compared to non-operating expense of $10.7 million in 2017 mainly due to a translational loss in foreign exchange rates.

Finance cost. Finance cost totaled $35.9 million in 2018, an 1.8% increase over finance cost of $35.2 million in 2017, as a result of a lower average debt balance with higher rates that were offset by lower factoring interest rate flows.

Finance income. Finance income totaled $23.6 million in 2018, a 31.7% increase over finance income of $17.9 million in 2017 due to an increase in investments and higher interest rates.

Other non-operating income (expense). Other non-operating expense totaled $0.2 million in 2018, compared to $2.3 million in 2017 mainly due to fix asset disposition.

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Year 2017 Compared to Year 2016

Our consolidated net profit in 2017 totaled $364.0 million, a 12.6% increase from a net profit of $323.4 million in 2016. In addition, we had consolidated operating profit of $424.0 million in 2017, a 60.0% increase over operating profit of $265.0 million in 2016. Our consolidated operating margin in 2017 was 16.8%, an increase of 4.9 percentage points versus 2016.

Operating revenue

Our consolidated revenue totaled $2.5 billion in 2017, a 13.6% increase over operating revenue of $2.2 billion in 2016, due to an increase in passenger revenue. This increase was driven by a 1.5% increase in passenger yield, and a 2.8 percentage point increase in load factor, compared to 2016.

Passenger revenue. Passenger revenue totaled $2.4 billion in 2017, a 13.8% increase over passenger revenue of $2.1 billion in 2016. This increase was driven by a 1.5% increase in passenger yield, and a 2.8 percentage point increase in load factor, compared to 2016.

Cargo and mail revenue. Cargo and mail revenue totaled $55.3 million in 2017, a 2.4% increase from cargo and mail revenue of $54.0 million in 2016, driven by an increase in courier services, compared to 2016.

Other operating revenue. Other operating revenue totaled $22.2 million in 2017, a 33.2% increase from other operating revenue of $16.7 million in 2016, driven by an increase in revenues from services to other airlines.

Operating expenses

Our consolidated operating expenses totaled $2.1 billion in 2017, a 7.3% increase over operating expenses of $2.0 billion in 2016. This resulted from an increase in fuel and wages, salaries, benefits and other employees expenses.

An overview of the major variances on a consolidated basis follows:

Fuel. Aircraft fuel totaled $572.7 million in 2017, an 8.3% increase from aircraft fuel of $529.0 million in 2016, mainly due to an 8.0% higher fuel consumption.

Wages, salaries and other employees expenses. Wages, salaries and benefits totaled $415.1 million in 2017, a 12.1% increase over salaries and benefits of $370.2 million in 2016, mainly driven by variable compensation, full year effects on salary adjustments and headcount increases to support additional capacity.

Passenger servicing. Passenger servicing totaled $99.4 million in 2017 compared to $86.3 million in 2016. This represented a 15.2% increase driven mainly by passenger traffic growth and an effective rate per passenger related to longer flights.

Airport facilities and handling charges. Airport facilities and handling charges totaled $171.0 million in 2017, a 7.1% increase over $159.8 million in 2016. This increase was driven mainly by a 3.1% departures increase and higher effective rates related to airport services.

Sales and distribution. Sales and distribution totaled $200.3 million in 2017, a 3.3% increase compared to $193.8 million in 2016 due to 14.3% higher passenger revenue, offset by lower commission rates.

Maintenance, materials and repairs. Maintenance, materials and repairs totaled $132.1 million in 2017, an 8.5% increase over maintenance, materials and repairs of $121.8 million in 2016. This increase was primarily a result of more components and maintenance expenses due to 8.4% more hours flown, offset by fewer aircraft lease returns.

Depreciation, amortization and impairment. Depreciation totaled $167.3 million in 2017, a 0.3% decrease over $167.9 million in 2016, mainly as a result fewer maintenance events capitalized.

Flight operations. Flight operations amounted to $101.6 million in 2017, a 15.3% increase compared to $88.2 million in 2016, mainly due to 8.1% more block hours and higher overflight rates.

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Aircraft rentals and other rentals. Aircraft rentals and other rentals expenses amounted to $134.5 million in 2017, a 3.1% decrease from $138.9 million in 2016. This decrease was primarily a result of fewer leased aircraft.

Cargo and courier expenses. Cargo and courier expenses amounted to $7.4 million in 2017, a 20.9% increase compared to $6.1 million in 2016, mainly due to a higher volume transported in courier services.

Other operating and administrative expenses. Other operating and administrative expenses totaled $96.1 million in 2017, a 4.2% increase from $92.2 million in 2016, mainly due to more expenses in legal fees, software and equipment.

Total Non-operating Income (Expense)

Non-operating expenses totaled $10.7 million in 2017, as compared to non-operating income of $96.7 million in 2016, mainly due to fewer mark to market contracts (a net change in fair values of derivatives).

Finance cost. Finance cost totaled $35.2 million in 2017, an 4.9% decrease over finance cost of $37.0 million in 2016, as a result of a lower average debt balance and a lower factoring interest rate offset by higher flows.

Finance income. Finance income totaled $17.9 million in 2017, a 38.0% increase over finance income of $13.0 million in 2016, due to higher investments.

Net Change in fair value derivatives. In 2017 the net change in fair value of derivatives decreased from $111.6 million in 2016 to $2.8 million in 2017 as a result of fewer mark to market contracts.

Other non-operating income (expense). Other non-operating expense totaled $2.3 million in 2017, compared to $4.0 million in 2016, mainly due to less maintenance scrap during 2017.

B. Liquidity and Capital Resources

Our cash, cash equivalents, and short-term investments at December 31, 2018 decreased by $221.5 million, to $722.4 million. As part of our financing policy, we expect to continue to finance our liquidity needs with cash from operations. We forecast our cash requirements weekly. As of the date hereof, our current unrestricted cash exceeds our forecasted cash requirements to carry out operations, including payment of debt service for fiscal year 2018.

Our cash, cash equivalent and short-term investment position represented 27.0% of our revenues for the year ended December 31, 2018; 17.7% of our total assets and 39.2% of our total equity as of December 31, 2018, which we believe provides us with a strong liquidity position.

In recent years, we have been able to meet our working capital requirements through cash from our operations. Our capital expenditures, which consist primarily of aircraft purchases, are funded through a combination of our cash from operations and long-term financing. From time to time, we finance pre-delivery payments related to our aircraft with short or medium-term financing in the form of commercial bank loans and/or bonds privately placed with commercial banks. In our opinion, the Company s working capital is sufficient for the Company s present requirements.

Copa Holdings, S.A., through its subsidiaries, has short term unsecured credit facilities with financial institutions in the aggregate amount of $212.3 million. These lines of credit have been put in place to finance aircraft delivery pre-delivery payments and for working capital purposes. As of December 31, 2018, our outstanding borrowings under these credit lines were $140.0 million (2017: $127.8 million).

Operating Activities

We rely primarily on cash flows from operations to provide working capital for current and future operations. Net cash flows provided by operating activities for the year ended December 31, 2018 were $436.8 million, a decrease of $290.6 million over the $727.3 million in 2017. Our principal source of cash is receipts from ticket sales to customers, which for the year ended December 31, 2018 increased by $73.0 million over receipts in the year 2017.

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Net cash flows provided by operating activities for the year ended December 31, 2017 were $727.3 million, an increase of $132.7 million over $594.6million in 2016. Our principal source of cash is receipts from ticket sales to customers, which for the year ended December 31, 2017 increased by $334.4 million over receipts in the year 2016.

Investing Activities

Net cash flow used in investing activities was $149.6 million in 2018 compared to a net cash flow used in investing activities of $578.2 million in 2017 and net cash flow used in investing activities of $179.9 million in 2016. During 2018, we made capital expenditures of $33.7 million, which consisted of expenditures related to the net of acquisition of property and equipment and reimbursements of advance payments on aircraft purchase contracts, compared to $81.1 million in 2017 and $50.9 million in 2016. In 2018, the Company used $63.7 million in acquiring investments compared to $287.1 million in 2017 and $67.1 million from net proceeds on investments in 2016.

Financing Activities

Net cash flow used in financing activities were $323.9 million in 2018 compared to net cash flows used in financing activities of $204.8 million in 2017 and $248.6 million in 2016. During 2018, $225.0 million of proceeds from borrowings were offset by the repayment of $401.3 million in debt and $147.6 million in dividends paid. During 2017, $147.8 million of proceeds from financing were offset by the repayment of $246.3 million in debt and $106.8 million in dividends declared. During 2016, $164.4 million of proceeds from borrowing were offset by the repayment of $327.0 million in debt, $86.1 million in dividends paid.

Over the years, we have financed the acquisition of 40 Boeing 737-Next Generation aircraft through syndicated loans provided by international financial institutions with the support of partial guarantees issued by the Export-Import Bank of the United States, or Ex-Im , with repayment profiles of 12 years. The Ex-Im guarantees support 80% of the net purchase price and are secured with a first priority mortgage on the aircraft in favor of a security trustee on behalf of Ex-Im. The documentation for each loan follows standard market forms for this type of financing, including standard events of default. Our Ex-Im supported financings amortize on a quarterly basis, are denominated in dollars and originally bear interest at a floating rate linked to LIBOR. Our Ex-Im guarantee facilities typically offer an option to fix the applicable interest rate. We have exercised this option with respect to $178.3 million as of December 31, 2018 at an average weighted interest rate of 3.15%, $119.5 million bears interest at a floating weighted average interest rate of 3.01% representing a spread of 20 bps over the 3 month LIBOR of December 31, 2018. At December 31, 2018, the total amount outstanding under our Ex-Im-supported financings totaled $298 million.

We have effectively extended the maturity of certain of our Boeing aircraft financing to 15 years through the use of a Stretched Overall Amortization and Repayment, or SOAR , structure which provides serial draw-downs calculated to result in a 100% loan accreting to a recourse balloon at the maturity of the Ex-Im guaranteed loan. The SOAR portions of our facilities require us to maintain certain financial covenants, including an EBITDAR to fixed-charge ratio, a long-term obligation to EBITDAR ratio and a minimum unrestricted cash balance. To comply with the first ratio, our EBITDA plus aircraft rent expense, or EBITDAR, for the prior year must be at least 2.0 times our fixed-charge expenses (including interest, commission, fees, discounts and other finance payments) for that year. To comply with the second ratio, our long-term obligations must be no more than six times EBITDAR. Third, our cash, cash equivalents and short-term investment balance should be at least $50.0 million. We also pay a commitment fee on the unutilized portion of our SOAR loans.

Since 2014, we have financed our aircraft through a mix of Japanese Operating Leases with Call Options, or JOLCO , and sale-leasebacks.

JOLCO is a Japanese-sourced lease transaction that provides for 100% financing, and is typically used to finance new aircraft and has a minimum lease term of 10 years. In a JOLCO, the aircraft is purchased by a Japanese equity investor. The Japanese equity investor funds approximately 30% of the acquisition cost of the aircraft and becomes the owner of the aircraft via a Special Purpose Entity. An international bank with on-shore lending capabilities provides the balance of the aircraft purchase price via a senior secured mortgage loan. JOLCOs have a call option, which lessees often expect the lessor to exercise. Under IFRS, these transactions are accounted for as financial leases. We have financed 19 Boeing 737 Next Generation and 737 MAX aircraft since 2014 through JOLCO financing. As of December 31, 2018 JOLCO financed debt outstanding was $776.8 million.

Our Embraer aircraft have all been financed via commercial loans. As of December 31, 2018 the total amount outstanding is $57.6 million.

We complied with all required covenants in 2018.

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Capital resources. We finance our aircraft through long-term debt and operating lease financings. Although we expect to finance future aircraft deliveries with a combination of similar debt arrangements and financing leases, we may not be able to secure such financing on attractive terms. To the extent we cannot secure financing, we may be required to modify our aircraft acquisition plans or incur higher than anticipated financing costs. We expect to meet our operating obligations as they become due through available cash and internally generated funds, supplemented as necessary by short-term or medium term credit lines.

As of December 31, 2018, the Company had one purchase contract with Boeing which entails 67 firm orders of Boeing 737 MAX aircraft, agreed to be delivered between 2019 and 2025. The aircraft under this contract have an approximate value of $8.8 billion based on aircraft list prices, including estimated amounts for contractual price escalation and pre-delivery deposits.

We meet our pre-delivery deposit requirements for our Boeing 737 aircraft by using cash from operations, or by using short or medium-term borrowing facilities and/or vendor financing for deposits required between three years and six months prior to delivery.

The Company maintained letters of credit with several banks with a value of $25.9 million as of December 31, 2018 ($25.5 million as of December 31, 2017). These letters of credit are pledged mainly for operating lessors, maintenance providers and airport operators.

Copa Airlines has lines of credit for a total of $262.3 million, in which it has committed lines of credit totaling $20.0 million, including one line of credit for $15.0 million and one overdraft line of credit of $5.0 million with Banco General. Copa Airlines also has uncommitted lines of credit for a total of $192.3 million, including one line of credit of $100.0 million with Bladex, one line of credit of $77.3 million with Citibank, and one line of credit of $15.0 million with Banco Nacional de Panama. These lines of credit have been put in place to bridge liquidity gaps and for other potential contingencies.

As of December 31, 2018, the Company has a balance of outstanding lines of credit of $140.0 million. As of December 31, 2017, the Company s balance from lines of credit was $127.8 million.

C. Research and Development, Patents and Licenses, etc.

We believe that the Copa brand has strong value and indicates superior service and value in the Latin American travel industry. We have registered the trademarks Copa , Copa Airlines and Wingo with the trademark offices in Panama, the United States, and the majority of the countries in which we operate. We license certain brands, logos and trade uniforms under the trademark license agreement with UAL related to our alliance. We will have the right to continue to use our current logos on our aircraft for up to five years after the end of the alliance agreement term. Copa Colombia , Copa Airlines Colombia and Wingo are registered names and trademarks in Colombia, Panama, Ecuador, Venezuela, Mexico, Dominican Republic, and Guatemala.

We operate many software products under licenses from our vendors, including our passenger services system, booking engine, revenue management software and our cargo management system. Under our agreements with Boeing, we also use a large amount of Boeing s proprietary information to maintain our aircraft. The loss of these software systems or technical support information from our vendors could negatively affect our business.

D. Trend Information

Beginning in the middle of 2018, we have experienced a soft yield environment driven primarily by weak macro-economic factors in the region, especially in Brazil and Argentina. We expect to continue seeing weak unit revenues in the first half of 2019 driven by low yields, particularly when compared to a very strong first quarter in 2018. By the second half of 2019 we expect the environment to stabilize or even modestly recover.

We intend to continue developing initiatives to improve our operational efficiency and performance, including a continued focus on maintaining our industry leading on-time performance and completion factor.

Wingo had a successful 2018 both operationally and financially. It achieved profitability in Colombia earlier than planned, and was recognized as the Best Budget Carrier in Latin America according to Kayak users. In 2019, Wingo will significantly increase its capacity and expects to improve both its unit costs and profitability. During 2019, Wingo s four 737-700 aircraft will be transitioned to Copa Airlines livery and configuration, and Copa will send five 737-800 to Wingo. The fifth Wingo aircraft will most likely be based in Panama.

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E. Off-Balance Sheet Arrangements

Our only off-balance sheet arrangements are operating leases, which are summarized in the contractual obligations table in F. Tabular disclosure of Contractual Obligations below. We are responsible for all maintenance, insurance and other costs associated with operating these aircraft; however, we have not made any residual value or other guarantees to our lessors.

We have no other off-balance sheet arrangements.

F. Tabular Disclosure of Contractual Obligations

Our non-cancelable contractual obligations at December 31, 2018 included the following:

At December 31,	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
		(in thousands of dollars)			
Aircraft and engine purchase commitments	8,878,648	1,130,899	2,754,003	3,197,842	1,795,904
Aircraft operating leases	454,825	113,233	199,949	122,334	19,309
Other operating leases	109,247	15,222	45,835	30,027	18,163
Short-term debt and long-term debt(1)	1,287,248	311,965	240,311	188,392	546,580
Total	10,729,968	1,571,319	3,240,098	3,538,595	2,379,956

(1) Includes actual interest and estimated interest for floating-rate debt based on December 31, 2018 rates.
Most contract leases include renewal options. Non-aircraft related leases have renewable terms of one year, and their respective amounts included in the table above have been estimated through 2019, but we cannot estimate amounts with respect to those leases for later years. Our leases do not include residual value guarantees.

G. Safe harbor

Not applicable.

Item 6. Directors, senior management and employees

A. Directors and Senior Management

Currently, our Board of Directors is comprised of eleven members. The number of directors elected each year varies. Messrs. Stanley Motta, Jose Castañeda Velez, Jaime Arias and Josh Connor were re-elected as directors for two-year terms at our annual shareholders meeting held in 2017. Messrs. Pedro Heilbron, Ricardo A. Arias, Alvaro Heilbron, Carlos A. Motta, John Gebo, Roberto Artavia and Andrew Levy were each re-elected for two-year terms at our annual shareholders meeting held in 2018.

The following table sets forth the name, age and position of each member of our Board of Directors as of March 31, 2019. A brief biographical description of each member of our Board of Directors follows the table:

Name	Position	Age
Pedro Heilbron	Chief Executive Officer and Director	61
Stanley Motta	Chairman and Director	74
Alvaro Heilbron	Director	54
Jaime Arias	Director	85
Ricardo Alberto Arias	Director	80
Carlos A. Motta	Director	47
John Gebo	Director	49
Jose Castañeda Velez	Director	75
Roberto Artavia Loria	Director	60
Andrew Levy	Director	50
Josh Connor	Director	45

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Mr. Pedro Heilbron. See Executive Officers .

Mr. Stanley Motta has been one of the directors of Copa Airlines since 1986 and a director of Copa Holdings since it was established in 1998. Since 1990, he has served as the President of Motta Internacional, S.A. an international importer and distributor of consumer goods. Mr. Motta is father of Mr. Carlos A. Motta. He serves on the boards of directors of Motta Internacional, S.A., BG Financial Group, S.A., ASSA Compañía de Seguros, S.A., Televisora Nacional, S.A., Inversiones Bahía, Ltd. and GBM Corporation. Mr. Motta is a graduate of Tulane University.

Mr. Alvaro Heilbron was elected as director of Copa Holdings in 2012. Mr. Heilbron is the brother of Mr. Pedro Heilbron, our chief executive officer. He is an Executive Director at Editora del Caribe, S.A. and a director at Panama Star Tours, S.A. Mr. Heilbron holds a BS in Business Administration from George Washington University, and a Post-Graduate degree in Management from INCAE Business School. Mr. Heilbron also served as Vice-President of Commercial for Copa Airlines between the years of 1988 and 1999.

Mr. Jaime Arias has been one of the directors of Copa Airlines since 1983 and a director of Copa Holdings since it was established in 1998. He is a founding partner of Galindo, Arias & Lopez. Mr. Arias holds a BA from Yale University, a JD from Tulane University and completed legal studies at the University of Paris, Sorbonne. He serves on the boards of directors of Televisora Nacional, S.A., ASSA Compañía de Seguros, S.A., Empresa General de Inversiones, S.A., Petroleos Delta, S.A., BAC International Bank, Inc., Direct Vision, S.A. and Promed, S.A.

Mr. Ricardo Arias has been one of the directors of Copa Airlines since 1985 and a director of Copa Holdings since it was established in 1998. He is a founding partner of Galindo, Arias & Lopez. Mr. Arias is the former Panamanian ambassador to the United Nations. Mr. Arias holds a BA in international relations from Georgetown University, an LL.B. from the University of Puerto Rico and an LL.M. from Yale Law School. He serves on the boards of directors of Banco General, S.A. and Empresa General de Inversiones, S.A., which is the holding company that owns Banco General, S.A. Mr. Arias is also listed as a principal or alternate director of several subsidiary companies of Banco General, S.A. and Empresa General de Inversiones, S.A. Mr. Arias is a former Director and President of the Panamanian Stock Exchange.

Mr. Carlos A. Motta was elected as a director of Copa Holdings in 2014. He has held several positions within Motta Internacional, S.A. and is currently a director and part of the executive committee. He is the son of Mr. Stanley Motta. Mr. Motta serves on the board of Inversiones Bahia, Copa Holdings, Motco Inc., Latamel SLU, Cable Onda, Fundación Alberto C. Motta, and IFF Panama (Panama Film Festival) among others. He is on the international advisory board of the IAE Business School, Universidad Austral in Buenos Aires, Argentina, and is a member of Young Presidents Organization (YPO) and Entrepreneurs Organization (EO). Mr. Motta received a bachelor s degree in marketing from Boston College and an MBA from Thunderbird (The American Graduate School of International Management) in 2000.

Mr. John Gebo was elected as a director of Copa Holdings in 2015. He is Senior Vice President of Alliances for United Airlines. Prior to his current position, Mr. Gebo was United s Senior Vice President of Financial Planning and Analysis. Mr. Gebo joined United in 2000, and has held positions of increasing responsibility. Prior to joining United, Mr. Gebo worked at General Motors Corporation in manufacturing engineering. Mr. Gebo received his bachelor s degree in mechanical engineering from the University of Texas and his master s degree in business administration from the University of Michigan. Mr. Gebo is also Vice Chairman of the board of directors of the Alliant Credit Union.

Mr. Jose Castañeda Velez is one of the independent directors of Copa Holdings. He is currently a director on the boards of MMG Bank Corporation and MMG Trust S.A. Previously, Mr. Castañeda Velez was the chief executive

officer of Banco Latinoamericano de Exportaciones, S.A. BLADEX and has held managerial and officer level positions at Banco Río de la Plata, Citibank, N.A., Banco de Credito del Peru and Crocker National Bank. He is a graduate of the University of Lima.

Mr. Roberto Artavia Loria is one of the independent directors of Copa Holdings. He is Chairman of Viva Trust and Viva Services, President of the Fundacion Latinoamérica Posible in Panama and Costa Rica, Board Member and visiting professor of INCAE Business School, and Director of MarViva Foundation in Panama. Mr. Artavia Loria is also an advisor to the governments of five countries in Latin America, and a strategic advisor to Purdy Motor, S.A., the Panama Canal Authority, Coyol Free Zone and Business Park, Grupo Nación and FUNDESA, among other organizations in the region. Mr. Artavia Loria also serves on the board of directors of the World Resources Institute and the Foundation for Management Education in Central America, both in Washington, Compañía Cervecera de Nicaragua, OBS Americas in Costa Rica, and the IDC of Guatemala.

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Mr. Andrew Levy is one of the independent directors of Copa Holdings. Previously, he served as CFO of UAL. He also served as President, Chief Operating Officer and a member of the Board of Directors of Allegiant Travel Company. He joined Allegiant in early 2001, and during his tenure, his executive responsibilities included strategy, planning, finance, commercial, people and operations. Mr. Levy became President in 2009, served as Chief Financial Officer from 2007 to 2010, and was its Treasurer from 2001 through 2010. Mr. Levy started his airline career in 1994 at ValuJet Airlines, Inc. and then joined Savoy Capital, an investment, banking and advisory firm specializing in the airline industry in 1996. He holds a Juris Doctor degree from Emory University School of Law and a BA degree in Economics from Washington University in St. Louis.

Mr. Josh Connor is one of the independent directors of Copa Holdings. He is the founding partner of the investment firm Connor Capital SB. He was a Managing Director and the Head of the Industrials Banking Group at Barclays until July 2015, and was a member of the firm s Operating Committee. Prior to joining Barclays in 2011, he was with Morgan Stanley for 15 years and was the Co-Head of Morgan Stanley s Transportation & Infrastructure Investment Banking Group, a member of the firm s Investment Banking Management Committee, and was on the Board of Trustees for the Morgan Stanley Foundation. He has a BA degree in Economics from Williams College, is on the Board of Directors of Frontier Airlines, is a strategic adviser to Oaktree Capital Management s Infrastructure Fund, and is a Trustee of the Pingry School.

The following table sets forth the name, age and position of each of our executive officers as of March 31, 2019. A brief biographical description of each of our executive officers follows the table.

Name	Position	Age
Pedro Heilbron	Chief Executive Officer and Director	61
José Montero	Chief Financial Officer	49
Daniel Gun	Senior Vice-President of Operations	51
Dennis Cary	Senior Vice-President of Commercial and Planning	55
Vidalia de Casado	Vice-President of Human Resources	62
Julio Toro	Vice-President of Technology	45
Ahmad Zamany	Vice-President of Technical Operations	61
Bolívar Domínguez	Vice-President of Flight Operations	44
Timothy Manoles	Loyalty Vice-President	59
Christophe Didier	Vice-President of Sales	55
Christopher Amenechi	Vice-President of Pricing and Revenue Management	53
Eduardo Lombana	Chief Executive Officer of Copa Colombia	57

Mr. Pedro Heilbron has been our Chief Executive Officer since 1988. He received an MBA from George Washington University and a BA from College of the Holy Cross. Mr. Heilbron is the brother of Mr. Alvaro Heilbron, a member of our Board of Directors.

Mr. Jose Montero has been our Chief Financial Officer since March 2013. He started his career with Copa Airlines in 1993 and has held various technical, supervisory, and management positions including Manager of Flight Operations, Director of System Operations Control Center (SOCC), and, between 2004 and 2013, Director of Strategic Planning. He has a BS in Aeronautical Studies from Embry-Riddle Aeronautical University and an MBA from Cornell University.

Mr. Daniel Gunn has been our Senior Vice-President of Operations since February 2009. Prior to this Mr. Gunn had served as Vice-President of Commercial and Planning and Vice-President of Planning and Alliances. Prior to joining Copa in 1999, he spent five years with American Airlines holding positions in Finance, Real Estate and Alliances. Mr. Gunn received a BA in Business & Economics from Wheaton College and an MBA from the University of Southern California.

Mr. Dennis Cary has been our Senior Vice-President of Commercial and Planning, since April 2015. Prior to joining Copa Airlines, Mr. Cary held Senior Vice-President position in various industries, including aviation. Mr. Cary served as Senior Vice-President, Chief Marketing and Customer Officer at United Airlines, and several other top management positions in United Airlines and American Airlines. Mr. Cary graduated from California State University, Northridge with a bachelor s degree in Computer Sciences and holds an MBA from Duke University.

Ms. Vidalia de Casado has been our Vice-President of Human Resources since January 2016. Prior to this, she was our Vice-President of On-Board Services. She joined Copa in 1989, serving as Passenger Services Manager from 1989 to 1995 and Vice-President of Passenger Services from 1995 to 2010. Prior to joining Copa, she spent seven years as Human Resource and Service Director with Air Panama Internacional, S.A. Ms. de Casado received a BS in Business from *Universidad Latina* and an MBA from the University of Louisville.

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Mr. Julio Toro has been our Vice-President of Technology since October 2015. He joined Copa in May 2011 as Director of the Project Management Office. Before joining Copa, he served as Operations Manager and Vice-President of Information Systems for Cable & Wireless Panama. He received a BS in Electrical Engineering from Texas A&M University, a Master in Renewable Energy from *Universidad Tecnológica*, and an MBA jointly issued by New York University Stern School of Business, London School of Economics and Political Science, and HEC Paris School of Management.

Mr. Ahmad Zamany joined Copa Airlines in August of 2010 as Vice-President of Technical Operations, ultimately responsible for the maintenance, engineering and technical purchasing of the Company. Mr. Zamany started his aviation career with Pan Am and has held several key roles with other carriers. He was previously with Atlas Air & Polar Air Cargo as Vice President of Technical Operations, and Gemini Air Cargo as Senior Vice President and Chief Operating Officer. Mr. Zamany graduated from Parks College of Saint Louis University with a bachelor s degree in Aeronautics concentrated in Aircraft Maintenance Engineering in 1985.

Captain Bolivar Dominguez G. has been our Vice President of Flight Operations since December 2017. He began his career with Copa Airlines in 2000 as a Copilot in the Boeing 737-200, and throughout his career within the Company, he has held roles of increased responsibility, such as Head of Training on the Embraer fleet, Director of System Operations Control Center (SOCC), and most recently Chief Pilot. Bolivar holds an Airline Transport Pilot License, with Type Ratings on the Boeing 727, Embraer 190, and Boeing 737, and received a BS in Industrial Engineering from *Universidad Latina* and a MBA from the University of Louisville.

Mr. Timothy Manoles has been our Loyalty Vice-President since October 2016. Prior to joining Copa, he was a senior Partner, Vice President for The Lacek Group, a specialty loyalty marketing agency of Ogilvy and Mather. He has over 30 years of experience in loyalty marketing having led engagements and helped devise, negotiate and manage strategic alliances with a variety of recognized category leaders, including Northwest Airlines, Delta Airlines, US Bank, Polo Ralph Lauren, American Express Travel, Disney, Cox Communications, Swissôtel, American Family Insurance, Foundation Health Systems, American Family Insurance, and Ford Motor Company. He holds a degree in economics from Westmont College, California, and in management information systems from the University of Minnesota.

Mr. Christophe Didier has been our Vice-President of Sales since September 2016. Prior to joining Copa Airlines, Mr. Didier held several sales and marketing positions in the airline industry since 1990, including Air France, Delta Air Lines and Etihad Airways, based in Europe and the Americas. He served as Delta s Vice-President for Latin America and the Caribbean during Delta s significant expansion in the region, merger with Northwest Airlines and Transatlantic joint venture implementation with Air France / KLM. Mr. Didier, a French and Brazilian National, holds a Master in Management from ESCP Europe business school based in Paris and speaks English, Spanish, Portuguese and French.

Mr. Christopher Amenechi has been our Vice-President of Pricing and Revenue Management since May 2016. Prior to joining Copa, Mr. Amenechi was Vice-President of Revenue Management and Porter Escapes at Porter Airlines in Toronto, Canada. He also served as Vice President of E-Commerce and Merchandising at United Airlines where he held several top management positions over a 20-year career. Mr. Amenechi graduated from Embry Riddle Aeronautical University, Daytona Beach with a bachelor s degree in Aeronautical Engineering and a Masters in Aviation Management.

Mr. Eduardo Lombana joined the Company in May 2005 as Chief Operating Officer and was appointed as Chief Executive Officer of Copa Colombia as of February 2012. He served three years at Avianca as Vice-President of Network, responsible for revenue management, network planning and revenue accounting during the company s

bankruptcy turn over. Prior to that, he served as VicePresident of Flight Operations for ACES before it merged with Avianca. Mr. Lombana holds a BS in Aviation Technology and an AS in Aviation Maintenance Technology from Embry Riddle Aeronautical University.

The business address for all of our senior management is c/o Copa Airlines, Avenida Principal y Avenida de la Rotonda, Urbanización Costa del Este, Complejo Business Park, Torre Norte, Parque Lefevre Panama City, Panama.

B. Compensation

In 2018, we paid an aggregate of approximately $6.1million in cash compensation to our executive officers. In addition, members of committees of the Board of Directors receive additional compensation per committee meeting. All of the members of our Board of Directors and their spouses receive benefits to travel on Copa flights as well.

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Incentive Compensation Program

In 2005, the Compensation Committee of our Board of Directors eliminated the then-existing Long Term Retention Plan and approved a one-time non-vested stock bonus award program for certain executive officers or the Stock Incentive Plan . Non-vested stock delivered under the Stock Incentive Plan may be sourced from treasury stock or authorized un-issued shares. In accordance with this program, the Compensation Committee of our Board of Directors had granted restricted stock awards to our senior management and to certain named executive officers and key employees. Normally, these shares vest over three to five years in yearly installments equal to one-third of the awarded stock on each anniversary of the grant date, 100% of the awarded stock at the third anniversary of the grant date or in yearly installments equal to 15% of the awarded stock on each of the first three anniversaries of the grant date, 25% on the fourth anniversary and 30% on the fifth anniversary.

The following table shows shares granted

	2018	2017	2016
Shares	43,355	36,229	291,872
Fair value	135.81	$107.29	$59.94 to $63.3
Contractual life	3 to 5 years	3 years	3 to 5 years

The Compensation Committee plans to make additional equity-based awards under the plan from time to time, including additional non-vested stock and stock option awards. While the Compensation Committee will retain discretion to vary the exact terms of future awards, we anticipate that future employee non-vested stock and stock option awards granted pursuant to the plan will generally vest over a three-year period and the stock options will carry a ten-year term.

The total compensation cost recognized for non-vested stock and options awards amounts to $7.1 million, $7.4 million, and $7.5 million in 2018, 2017, and 2016, respectively, and was recorded as a component of Wages, salaries, benefits and other employees expenses within operating expenses.

During the first quarter of 2019, the Compensation Committee of the Company s Board of Directors approved three awards. Awards under these plans will grant approximately 30,412 shares of non-vested stock, which will vest over a period of three years. The Company estimates the fair value of these awards to be approximately $2.7 million and the 2019 compensation cost for these plans will be $1.4 million.

Please also see Item 6D. Employees for a description of the bonus plan implemented by the Company.

C. Board Practices

Our Board of Directors currently meets quarterly. Additionally, informal meetings with UAL are held on an ongoing basis, and are supported by annual formal meetings of an Alliance Steering Committee , which directs and reports on the progress of the Copa and UAL Alliance. Our Board of Directors is focused on providing our overall strategic direction and as a result is responsible for establishing our general business policies and for appointing our executive officers and supervising their management.

Currently, our Board of Directors is comprised of eleven members. The number of directors elected each year varies. Messrs. Stanley Motta, Jose Castañeda Velez, Jaime Arias and Josh Connor were re-elected as directors for two-year terms at our annual shareholders meeting held in 2017. Messrs. Pedro Heilbron, Ricardo A. Arias, Alvaro Heilbron,

Carlos A. Motta, John Gebo, Roberto Artavia and Andrew Levy were each re-elected for two-year terms at our annual shareholders meeting held in 2018.

Pursuant to contractual arrangements with us and CIASA, UAL is entitled to designate one of our directors. Currently, Mr. John Gebo is the UAL-appointed director.

None of our Directors has entered into any service contract with the Company or its subsidiaries.

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Committees of the Board of Directors

Audit Committee. The primary function of the Audit Committee is to assist the Board of Directors in fulfilling its oversight responsibilities by reviewing:

- the integrity of financial reports and other financial information made available to the public or any regulator or governmental body;
- the effectiveness of our internal financial control and risk management systems, including cybersecurity and privacy risks and the Company s procedures and policies for assessing and managing such risks;
- the effectiveness of our internal audit function, and the independent audit process including the appointment, retention, compensation, and supervision of the independent auditor; and
- the compliance with laws and regulations, as well as the policies and ethical codes established by management and the Board of Directors.

The Audit Committee is also responsible for implementing procedures for receiving, retaining and addressing complaints regarding accounting, internal control and auditing matters, including the submission of confidential, anonymous complaints from employees regarding questionable accounting or auditing matters.

Messrs. Roberto Artavia, Jose Castañeda and Josh Connor, all independent non-executive directors under the applicable rules of the New York Stock Exchange, are the current members of the committee, which is chaired by Mr. Roberto Artavia. All members are financially literate and have been determined to be financial experts by the Board of Directors.

Compensation Committee. Our Compensation Committee is responsible for the selection process of the Chief Executive Officer and the evaluation of all executive officers (including the CEO), recommending the level of compensation and any associated bonus. The charter of our Compensation Committee requires that all its members shall be non-executive directors, of which at least one member will be an independent director under the applicable rules of the New York Stock Exchange. Messrs. Stanley Motta, Jaime Arias and Jose Castañeda are the members of our Compensation Committee, and Mr. Stanley Motta is the Chairman of the Compensation Committee.

Nominating and Corporate Governance Committee. Our Nominating and Corporate Governance Committee is responsible for developing and recommending criteria for selecting new directors, overseeing evaluations of the Board of Directors, its members and committees of the Board of Directors and handling other matters that are specifically delegated to the Nominating and Corporate Governance Committee by the Board of Directors from time to time. Our charter documents require that there be at least one independent member of the Nominating and Corporate Governance Committee until the first shareholders meeting to elect directors after such time as the Class A shares are entitled to full voting rights. Messrs. Ricardo Arias, Carlos A. Motta, Alvaro Heilbron and Roberto Artavia are the members of our Nominating and Corporate Governance Committee, and Mr. Ricardo Arias is the Chairman of the Nominating and Corporate Governance Committee.

Independent Directors Committee. Our Independent Directors Committee is created by our Articles of Incorporation and consists of any directors that the Board of Directors determines from time to time meet the independence requirements of the NYSE rules applicable to audit committee members of foreign private issuers. Our Articles of Incorporation provide that there will be no fewer than three independent directors at all times, subject to certain exceptions. Under our Articles of Incorporation, the Independent Directors Committee must approve:

any transactions in excess of $5 million between us and our controlling shareholders;

the designation of certain primary share issuances that will not be included in the calculation of the percentage ownership pertaining to the Class B shares for purposes of determining whether the Class A shares should be converted to voting shares under our Articles of Incorporation; and

the issuance of additional Class B shares or Class C shares to ensure Copa Airlines compliance with aviation laws and regulations.

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The Independent Directors Committee shall also have any other powers expressly delegated by the Board of Directors. Under the Articles of Incorporation, these powers can only be changed by the Board of Directors acting as a whole upon the written recommendation of the Independent Directors Committee. The Independent Directors Committee will only meet regularly until the first shareholders meeting at which the Class A shareholders will be entitled to vote for the election of directors and afterwards at any time that Class C shares are outstanding. All decisions of the Independent Directors Committee shall be made by a majority of the members of the committee. See Item 10B. Memorandum and Articles of Association Description of Capital Stock .

Messrs. Josh Connor, Roberto Artavia, Jose Castañeda and Andrew Levy, all independent non-executive directors under the applicable rules of the New York Stock Exchange, are the current members of the committee.

D. Employees

We believe that our growth potential and the achievement of our results-oriented corporate goals are directly linked to our ability to attract, motivate and maintain the best professionals available in the airline business. In order to help retain our employees, we encourage open communication channels between our employees and management. Our CEO meets quarterly with all of our Copa employees in Panama in town hall-style meetings during which he explains the Company s performance and encourages feedback from attendees. A similar presentation is made by our senior executives at each of our foreign stations. Our compensation strategy reinforces our determination to retain talented and highly motivated employees and is designed to align the interests of our employees with our shareholders through profit-sharing.

Approximately 76.8% of the Company s employees are located in Panama, while the remaining 23.2% are distributed among our foreign stations. Copa s employees can be categorized as follows:

December 31,	2018	2017	2016
Pilots	1,426	1,290	1,183
Flight attendants	2,358	2,204	2,043
Mechanics	440	512	477
Customer service agents, reservation agents, ramp and others	2,905	2,919	2,954
Management and clerical	2,321	2,120	2,076
Total employees	9,450	9,045	8,733

Our profit-sharing program reflects our belief that our employees will remain dedicated to our success if they have a stake in that success. We identify key performance drivers within each employee s control as part of our annual objectives plan, or Path to Success . Typically, we pay bonuses in the first quarter of the year based on our performance during the preceding calendar year. For members of management, 75% of the bonus amount is based on our performance as a whole and 25% is based on the achievement of individual goals. Bonuses for non-management employees are based on the Company s performance and payment is typically a multiple of the employee s weekly salary. The bonus payments are approved by our compensation committee. We typically make accruals each month for the expected annual bonuses, which are reconciled to actual payments at their dispersal within the first half of the following year.

We provide training for all of our employees, including technical training for our pilots, dispatchers, flight attendants and other technical staff. In addition, we provide recurrent customer service training to frontline staff, as well as leadership training for managers. We currently have four flight simulators at our training facility in Panama s City of Knowledge. In 2005, we leased a Level B flight simulator for Boeing 737-Next Generation training that served 80% of our initial training, transition and upgrade training, and 100% of our recurrent training needs relating to that aircraft. During 2007, we upgraded this simulator to provide 100% of our initial training. We leased a similar flight simulator for Embraer 190 until April 2017, when we decided to buy this simulator to serve our initial and recurrent training needs. In 2010, Copa bought a second 737-Next Generation Full Flight Simulator, or FFS , Level D. The Level D qualification is the highest certification provided by the Federal Aviation Administration (FAA) to any Flight Training Device. Another important acquisition in 2011 was the second B737 Virtual Procedure Trainer (VPT), which complements the new FFS training. In October 2012, the lease on our first B737 Next Generation simulator expired and we bought a new FFTX technology training device accompanied by a new Virtual Procedure Trainer (VPT). In 2014, Copa bought a new Boeing 737-800 Full Flight Simulator (FFS-X) compliant with regulatory Qualification Level D, and two new B737-800 Cockpit Procedure Trainers (CPTs) compliant with regulatory Qualification FTD Level 4 to provide 100% of our initial, recurrent, transition and upgrade training needs. We bought a new Boeing 737 MAX Full Flight Simulator compliant with regulatory qualification Level D to provide 100% of our training needs which is expected to be available for use in May of 2019.

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Approximately 63.2% of the Company s 9,450 employees are unionized. Our employees currently belong to eight union organizations; four covering employees in Panama and four covering employees in Colombia, in addition to union organizations in other countries to which we fly. Copa Airlines has traditionally had good relations with its employees and all the unions, and expects to continue to enjoy good relations with its employees and the unions in the future.

The four unions covering employees in Panama include: the pilots union (UNPAC); the flight attendants union (SIPANAB); the mechanics union (SITECMAP), and the industry union (SIELAS), which represents ground personnel, messengers, drivers, passenger service agents, counter agents and other non-executive administrative staff.

Copa entered into collective bargaining agreements with the pilots union in July 2017, the industry union in December 2017, the mechanics union in late first quarter 2018 and with the flight attendants union in third quarter of 2018. Collective bargaining agreements in Panama are typically between three and four-year terms.

The four unions covering employees in Colombia are: the pilots union (ACDAC), the flight attendants union (ACAV), the industry union in Colombia (SITRANAC), and the Mechanics Union in Colombia (ACMA).

Copa entered into collective bargaining with ACDAC and ACAV in January 2018. ACDAC has not yet resolved and ACAV ended with an arbitration process and we have a new arbitration collective document for terms of two years until September 2020.

Additionally, SINTRATAC and Copa entered into collective bargaining agreement in December 2017 for terms of four years until December 2021. Negotiations with ACMA were resolved by arbitration on December 31, 2015, extending the validation every 6 months from this date, until June 30, 2018. ACMA has not presented a new bill of petition.

Copa Colombia has traditionally experienced good relations with its unions.

In addition to the unions in Panama and Colombia, the Company s employees in Brazil are covered by industry union agreements that cover all airline industry employees in the country, employees in Uruguay are covered by an industry union, and airport employees in Argentina are affiliated with an industry union (UPADEP).

E. Share Ownership

The members of our Board of Directors and our executive officers as a group own less than one percent of our Class A shares. See Item 7A. Major Shareholders .

For a description of stock options granted to our Board of Directors and our executive officers, see Compensation Incentive Compensation Program .

Item 7. Major Shareholders and Related Party Transactions

A. Major Shareholders

The following table sets forth information relating to the beneficial ownership of our Class A shares as of December 31, 2018 by each person known to us to beneficially own 5% or more of our common shares and all our directors and officers as a group.

Class A shares are limited voting shares entitled only to vote in certain specified circumstances. See Item 10B. Additional Information Memorandum and Articles of Association Description of Capital Stock .

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Class A Shares

Beneficially Owned	Shares	(%)[1]
CIASA[2]	0	0.0%
Executive officers and directors as a group (15 persons)	92,761	0.3%
Others	31,164,925	99.7%
Total	**31,257,686**	

(1) Based on a total of 31,257,686 Class A shares outstanding.
(2) CIASA owns 100% of the Class B shares of Copa Holdings representing 25.9% of our total capital stock.
In June 2006, Continental reduced its ownership of our total capital stock from 27.3% to 10.0%. In May 2008, Continental sold down its remaining shares in the public market.

CIASA currently owns 100% of the Class B shares of Copa Holdings, representing 100% of the voting power of our capital stock. CIASA is controlled by a group of Panamanian investors representing several prominent families in Panama. This group of investors has historically acted together in a variety of business activities both in Panama and elsewhere in Latin America, including banking, insurance, real estate, telecommunications, international trade and commerce and wholesale. Members of the Motta, Heilbron and Arias families and their affiliated companies beneficially own approximately 90% of CIASA s shares. Our Chief Executive Officer, Mr. Pedro Heilbron, and several of our directors, including Messrs. Stanley Motta, Carlos A. Motta, Mr. Alvaro Heilbron, Mr. Jaime Arias and Mr. Ricardo Alberto Arias, and their immediate families as a group, beneficially owned approximately 78% of CIASA s shares, as of March 31, 2019. Such individual shareholders of CIASA have entered into a shareholders agreement that restricts transfers of CIASA shares to non-Panamanian nationals. Mr. Stanley Motta exercises effective control of CIASA.

In March 2010, CIASA converted a portion of its Class B shares into 1.6 million non-voting New York Stock Exchange-listed Class A shares and sold such Class A shares in an SEC-registered public offering. As a result, CIASA s ownership decreased from 29.2% to 25.1% of our capital stock. CIASA s current ownership is 25.9% of our capital stock. In the event CIASA seeks to reduce its ownership below 10% of our total share capital, our independent directors may decide to issue special voting shares solely to Panamanian nationals to maintain the ownership requirements mandated by the Panamanian Aviation Act.

The address of CIASA is Corporación de Inversiones Aéreas, S.A., c/o Copa Holdings, S.A., Boulevard Costa del Este, Avenida Principal y Avenida de la Rotonda, Urbanización Costa del Este, Complejo Business Park, Torre Oeste, Parque Lefevre, Panama City, Panama.

It is not practicable for us to determine the number of Class A shares beneficially owned in the United States. As of March 31, 2019, we had 337 registered record holders of our Class A shares.

B. Related Party Transactions

Registration Rights Agreement

Under the registration rights agreement, as amended by the supplemental agreement, CIASA continues to have the right to make one demand on us with respect to the registration and sale of our common stock held by them. The registration expenses incurred in connection with a demand registration requested after the date hereof, which

expenses exclude underwriting discounts and commissions, will be paid ratably by each security holder participating in such offering in proportion to the number of their shares that are included in the offering.

Agreements with our controlling shareholders and their affiliates

Our directors and controlling shareholders have many other commercial interests within Panama and throughout Latin America. We have commercial relationships with several of these affiliated parties from which we purchase goods or services, as described below. In each case we believe our transactions with these affiliated parties are consistent with market rates and terms.

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Banco General, S.A.

We have a strong commercial banking relationship with Banco General, S.A., a Panamanian bank partially owned by our controlling shareholders. We have obtained financing from Banco General under short to medium-term financing arrangements for part of the commercial loan tranche of one of the Company s Export-Import Bank facilities. We also maintain general lines of credit and time deposit accounts with Banco General. Interest received from Banco General amounted to $3.8 million, $3.0 million and $1.3 million in 2018, 2017, and 2016, respectively. There have not been any material interest payments for the last three years. There was no outstanding debt balance at December 31 2018, 2017, or 2016. These amounts are included in Current maturities of long-term debt and Long-term debt in the consolidated statement of financial position.

ASSA Compañía de Seguros, S.A.

Panamanian law requires us to maintain our insurance policies through a local insurance company. We have contracted with ASSA, an insurance company controlled by our controlling shareholders, to provide substantially all of our insurance. ASSA has, in turn, reinsured almost all of the risks under those policies with insurance companies around the world. The payments to ASSA totaled $9.7 million in 2018, $8.5 million in 2017 and $7.1 million in 2016.

Petróleos Delta, S.A.

During 2005, we entered into a contract with Petróleos Delta, S.A. to supply our jet fuel needs. The price agreed to under this contract is based on the two-week average of the U.S. Gulf Coast Waterborne Mean index plus local taxes, certain third-party handling charges and a handling charge to Petróleos Delta, S.A. The contract term is two years and the last contract subscribed was in June 2016. While our controlling shareholders do not hold a controlling equity interest in Petróleos Delta, S.A., several of our directors are also board members of Petróleos Delta, S.A. Payments to Petróleos Delta totaled $398.7 million in 2018, $290.2 million in 2017 and $229.9 million in 2016.

Desarollo Inmobiliario del Este, S.A.

During January 2006, we moved into headquarters located six miles away from Tocumen International Airport. We lease six floors consisting of approximately 121,686 square feet of the building from Desarollo Inmobiliario Del Este, S.A., an entity controlled by the same group of investors that controls CIASA. This lease was renewed in 2015 for 10 more years at a rate of approximately $0.2 million per month. Payments to Desarrollo Inmobiliario Del Este, S.A. totaled $3.8 million, $3.6 million and $3.8 million in 2018, 2017 and 2016, respectively.

Galindo, Arias & Lopez

Most of our legal work is carried out by the law firm Galindo, Arias & Lopez. Messrs. Jaime Arias and Ricardo Alberto Arias, partners of Galindo, Arias & Lopez, are indirect shareholders of CIASA and serve on our Board of Directors. Payments to Galindo, Arias & Lopez totaled $0.5 million, $0.4 million and $0.3 million in 2018, 2017 and 2016, respectively.

Cable Onda, S.A.

The Company is responsible for providing television and internet broadcasting services in Panama. A member of the Company s Board of Directors is shareholder of Cable Onda, S.A. Payments to Cable Onda, S.A. totaled $1.7 million. $1.4 million, and $1.6 million in 2018, 2017 and 2016, respectively.

Panama Air Cargo Terminal

Provides cargo and courier services in Panama, an entity controlled by the same group of investors that controls CIASA. Payments to Panama Air Cargo Terminal totaled $5.8 million in 2018 and $4.9 million in 2017.

Other Transactions

We also purchase most of the alcohol and some of the other beverages served on our aircraft from Motta Internacional, S.A. and Global Brands, S.A., both of which are controlled by our controlling shareholders. We do not have any formal contracts for these purchases, but pay wholesale prices based on price lists periodically submitted by those importers and comparisons to other options in the marketplace. We paid these entities approximately $1.6 million in 2018, $1.7 million in 2017 and $1.7 million in 2016.

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C. Interests of Experts and Counsel

Not applicable.

Item 8. Financial Information

A. Consolidated Statements and Other Financial Information

See Item 3A. Key Information Selected Financial Data and Item 18. Financial Statements .

Legal Proceedings

In the ordinary course of our business, we are party to various legal actions, which we believe are incidental to the operation of our business. While legal proceedings are inherently uncertain, we believe that the outcome of the proceedings to which we are currently a party is not likely to have a material adverse effect on our financial position, results of operations and cash flows.

Dividends and Dividend Policy

The payment of dividends on our shares is subject to the discretion of our Board of Directors. Under Panamanian law, we may pay dividends only out of retained earnings and capital surplus. So long as we do not default on our payments under our loan agreements, there are no covenants or other restrictions on our ability to declare and pay dividends. Our Articles of Incorporation provide that all dividends declared by our Board of Directors will be paid equally with respect to all of the Class A and Class B shares. See Item 10B. Additional Information Memorandum and Articles of Association Description of Capital Stock Dividends .

In February 2016, the Board of Directors approved a change to the dividend policy to limit aggregate annual dividends to an amount equal to 40% of the prior year s annual consolidated underlying net income, to be distributed in equal quarterly installments subject to board ratification each quarter. Our Board of Directors may, in its sole discretion and for any reason, amend or discontinue the dividend policy. Our Board of Directors may change the level of dividends provided for in this dividend policy or entirely discontinue the payment of dividends. Future dividends with respect to shares of our common stock, if any, will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions, business opportunities, provisions of applicable law and other factors that our Board of Directors may deem relevant.

Dividend for Fiscal Year:	Payment Date	Total Dividend Payment (U.S. Dollars)	Cash Dividend per Share
2018	December 14, 2018	$37 million	0.87
2018	September 14, 2018	$37 million	0.87
2018	June 15, 2018	$37 million	0.87
2018	March 15, 2018	$37 million	0.87
2017	December 15, 2017	$32 million	0.75
2017	September 12, 2017	$32 million	0.75
2017	June 15, 2017	$22 million	0.51
2017	March 13, 2017	$22 million	0.51
2016	15-dic-16	$22 million	0.51

2016	13-sep-16	$22 million	0.51
2016	16-jun-16	$21 million	0.51
2016	16-mar-16	$21 million	0.51
2015	December 15, 2015	$37 million	0.84
2015	September 15, 2015	$37 million	0.84
2015	June 15, 2015	$37 million	0.84
2015	March 16, 2015	$37 million	0.84

B. Significant Changes

None

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Item 9. The Offer and Listing

A. Offer and Listing Details

Our Class A shares have been listed on the New York Stock Exchange, or NYSE, under the symbol CPA since December 14, 2005. The following table sets forth, for the periods indicated, the high and low prices for the Class A shares on the NYSE for the periods indicated.

	Low	High
2014		
Annual	87.00	162.83
2015		
Annual	39.03	121.25
2016		
Annual	42.61	97.00
2017		
Annual	90.85	138.72
First Quarter	90.85	112.80
Second Quarter	107.90	125.78
Third Quarter	116.54	134.25
Fourth Quarter	120.22	138.72
2018		
Annual	67.38	141.34
First Quarter	122.03	141.34
Second Quarter	91.75	130.94
Third Quarter	74.77	99.78
Fourth Quarter	67.38	88.15
October	67.38	85.09
November	68.50	85.27
December	72.00	88.15
2019		
Annual	77.31	100.00
First Quarter	77.31	100.00
January	77.31	100.00
February	87.09	99.12
March	77.94	85.91

B. Plan of Distribution

Not applicable.

C. Markets

Our Class A shares have been listed on the NYSE under the symbol CPA since December 14, 2005. Our Class B shares are not listed on any exchange and are not publicly traded. We are subject to the NYSE corporate governance listing standards. The NYSE requires that corporations with shares listed on the exchange comply with certain corporate governance standards. As a foreign private issuer, we are only required to comply with certain NYSE rules

relating to audit committees and periodic certifications to the NYSE. The NYSE also requires that we provide a summary of the significant differences between our corporate governance practices and those that would apply to a U.S. domestic issuer. Please refer to Item 16 G. Corporate Governance for a summary of the significant differences between our corporate governance practices and those that would typically apply to a U.S. domestic issuer under the NYSE corporate governance rules.

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D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

Item 10. Additional Information

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

Copa Holdings was formed on May 6, 1998 as a corporation (*sociedad anónima*) duly incorporated under the laws of Panama with an indefinite duration. The Registrant is registered under Public Document No. 3.989 of May 5, 1998 of the Notary Number Eight of the Circuit of Panama and recorded in the Public Registry Office, Microfilm (Mercantile) Section, Microjacket 344962, Film Roll 59672, Frame 0023.

Objects and Purposes

Copa Holdings is principally engaged in the investment in airlines and aviation-related companies and ventures, although our Articles of Incorporation grant us general powers to engage in any other lawful business, whether or not related to any of the specific purposes set forth in the Articles of Incorporation (See Article 2 of the Company s Articles of Incorporation).

Description of Capital Stock

The following is a summary of the material terms of Copa Holding s capital stock and a brief summary of certain significant provisions of Copa Holding s Articles of Incorporation. This description contains all material information concerning the common stock but does not purport to be complete. For additional information regarding the common stock, reference is made to the Articles of Incorporation, a copy of which has been filed as an exhibit to this Form 20-F.

For purposes of this section only, reference to our or the Company shall refer only to Copa Holdings and references to Panamanians shall refer to those entities or natural persons that are considered Panamanian nationals under the Panamanian Aviation Act, as it may be amended or interpreted.

Common Stock

Our authorized capital stock consists of 80 million shares of common stock without par value, divided into Class A shares, Class B shares and Class C shares. As of December 31, 2018, we had 33,816,276 Class A shares issued and

31,257,686 Class A shares outstanding; 10,938,125 Class B shares issued and outstanding, and no Class C shares outstanding. Class A and Class B shares have the same economic rights and privileges, including the right to receive dividends, except as described in this section.

Class A Shares

The holders of the Class A shares are not entitled to vote at our shareholders meetings, except in connection with the following specific matters:

a transformation of Copa Holdings into another corporate type;

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a merger, consolidation or spin-off of Copa Holdings;

a change of corporate purpose;

voluntarily delisting Class A shares from the NYSE;

approving the nomination of Independent Directors nominated by our board of director s Nominating and Corporate Governance Committee; and

any amendment to the foregoing special voting provisions adversely affecting the rights and privileges of the Class A shares.

At least 30 days prior to taking any of the actions listed above, we must give notice to the Class A and Class B shareholders of our intention to do so. If requested by shareholders representing at least 5% of our outstanding shares, the Board of Directors shall call an extraordinary shareholders meeting to approve such action. At the extraordinary shareholders meeting, shareholders representing a majority of all of the outstanding shares must approve a resolution authorizing the proposed action. For such purpose, every holder of our shares is entitled to one vote per share. See below under Shareholders Meetings .

The Class A shareholders will acquire full voting rights, entitled to one vote per Class A share on all matters upon which shareholders are entitled to vote, if in the future our Class B shares ever represent fewer than 10% of the total number of shares of our common stock and the Independent Directors Committee shall have determined that such additional voting rights of Class A shareholders would not cause a triggering event referred to below. In such event, the right of the Class A shareholders to vote on the specific matters described in the preceding paragraph will no longer be applicable. The 10% threshold described in the first sentence of this paragraph will be calculated without giving effect to any newly issued shares sold with the approval of the Independent Directors Committee.

At such time, if any, as the Class A shareholders acquire full voting rights, the Board of Directors shall call an extraordinary shareholders meeting to be held within 90 days following the date as of which the Class A shares are entitled to vote on all matters at our shareholders meetings. At the extraordinary shareholders meeting, the shareholders shall vote to elect all 11 members of the Board of Directors in a slate recommended by the Nominating and Governance Committee. The terms of office of the directors that were serving prior to the extraordinary shareholders meeting shall terminate upon the election held at that meeting.

Class B Shares

Every holder of Class B shares is entitled to one vote per share on all matters for which shareholders are entitled to vote. Class B shares will be automatically converted into Class A shares upon the registration of transfer of such shares to holders which are not Panamanian as described below under Restrictions on Transfer of Common Stock; Conversion of Class B Shares .

Class C Shares

Upon the occurrence and during the continuance of a triggering event described below in Aviation Rights Protections , the Independent Directors Committee of our Board of Directors, or the Board of Directors as a whole if applicable, are

authorized to issue Class C shares to the Class B holders pro rata in proportion to such Class B holders ownership of Copa Holdings. The Class C shares will have no economic value and will not be transferable except to Class B holders, but will possess such voting rights as the Independent Directors Committee shall deem necessary to ensure the effective control of the Company by Panamanians. The Class C shares will be redeemable by the Company at such time as the Independent Directors Committee determines that such a triggering event shall no longer be in effect. The Class C shares will not be entitled to any dividends or any other economic rights.

Restrictions on Transfer of Common Stock; Conversion of Class B Shares

The Class B shares may only be held by Panamanians, and upon registration of any transfer of a Class B share to a holder that does not certify that it is Panamanian, such Class B share shall automatically convert into a Class A share. Transferees of Class B shares will be required to deliver to us written certification of their status as a Panamanian as a condition to registering the transfer to them of Class B shares. Class A shareholders will not be required or entitled to provide such certification. If a Class B shareholder intends to sell any Class B shares to a person that has not delivered a certification as to Panamanian nationality and immediately after giving effect to such proposed transfer the outstanding Class B shares would represent less than 10% of our outstanding stock (excluding newly issued shares sold with the approval of our Independent Directors Committee), the selling shareholder must inform the Board of Directors at least ten days prior to such transfer. The Independent Directors Committee may determine to refuse to register the transfer if the Committee reasonably concludes, on the basis of the advice of a reputable external aeronautical counsel, that such transfer would be reasonably likely to cause a triggering event as described below. After the first shareholders meeting at which the Class A shareholders are entitled to vote for the election of our directors, the role of the Independent Directors described in the preceding sentence shall be exercised by the entire Board of Directors acting as a whole.

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Also, the Board of Directors may refuse to register a transfer of stock if the transfer violates any provision of the Articles of Incorporation.

Tag-along Rights

Our Board of Directors shall refuse to register any transfer of shares in which CIASA proposes to sell Class B shares pursuant to a sale at a price per share that is greater than the average public trading price per share of the Class A shares for the preceding 30 days to an unrelated third-party that would, after giving effect to such sale, have the right to elect a majority of the Board of Directors and direct our management and policies, unless the proposed purchaser agrees to make, as promptly as possible, a public offer for the purchase of all outstanding Class A shares and Class B shares at a price per share equal to the price per share paid for the shares being sold by CIASA. While our Articles of Incorporation provide limited rights to holders of our Class A shares to sell their shares at the same price as CIASA in the event that a sale of Class B shares by CIASA results in the purchaser having the right to elect a majority of our board, there are other change of control transactions in which holders of our Class A shares would not have the right to participate, including the sale of interests by a party that had previously acquired Class B shares from CIASA, the sale of interests by another party in conjunction with a sale by CIASA, the sale by CIASA of control to more than one party, or the sale of controlling interests in CIASA itself.

Aviation Rights Protections

As described in Item 4. Information on the Company. Business Overview. Regulation Panama , the Panamanian Aviation Act, including the related decrees and regulations, and the bilateral treaties between Panama and other countries that allow us to fly to those countries require that Panamanians exercise effective control of Copa and maintain significant ownership of the airline. The Independent Directors Committee has certain powers under our Articles of Incorporation to ensure that certain levels of ownership and control of Copa Holdings remain in the hands of Panamanians upon the occurrence of certain triggering events referred to below.

In the event that the Class B shareholders represent less than 10% of the total share capital of the Company (excluding newly issued shares sold with the approval of our Independent Directors Committee) and the Independent Directors Committee determines that it is reasonably likely that Copa s or Copa Holdings legal ability to engage in the aviation business or to exercise its international route rights will be revoked, suspended or materially inhibited in a manner that would materially and adversely affect the Company, in each case as a result of such non-Panamanian ownership (each a triggering event), the Independent Directors Committee may take either or both of the following actions:

- authorize the issuance of additional Class B shares to Panamanians at a price determined by the Independent Directors to reflect the current market value of such shares or

- authorize the issuance to Class B shareholders such number of Class C shares as the Independent Directors Committee, or the Board of Directors if applicable, deems necessary and with such other terms and conditions established by the Independent Directors Committee that do not confer economic rights on the Class C shares.

Dividends

The payment of dividends on our shares is subject to the discretion of our Board of Directors. Under Panamanian law, we may pay dividends only out of retained earnings and capital surplus. Our Articles of Incorporation provide that all

dividends declared by our Board of Directors will be paid equally with respect to all of the Class A and Class B shares. Our Board of Directors has adopted a dividend policy that provides for the payment of equal quarterly dividends, which amounts up to 40% of the previous year s consolidated underlying net income to Class A and Class B shareholders. Our Board of Directors may, in its sole discretion and for any reason, amend or discontinue the dividend policy. Our Board of Directors may change the level of dividends provided for in this dividend policy or entirely discontinue the payment of dividends.

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Shareholder Meetings

Ordinary Meetings

Our Articles of Incorporation require us to hold an ordinary annual meeting of shareholders within the first five months of each fiscal year. The ordinary annual meeting of shareholders is the corporate body that elects the Board of Directors, approves the annual financial statements of Copa Holdings and approves any other matter that does not require an extraordinary shareholders meeting. Shareholders representing at least 5% of the issued and outstanding common stock entitled to vote may submit proposals to be included in such ordinary shareholders meeting, provided the proposal is submitted at least 45 days prior to the meeting.

Extraordinary Meetings

Extraordinary meetings may be called by the Board of Directors when deemed appropriate. Ordinary and extraordinary meetings must be called by the Board of Directors when requested by shareholders representing at least 5% of the issued shares entitled to vote at such meeting. Only matters that have been described in the notice of an extraordinary meeting may be dealt with at that extraordinary meeting.

Vote required

Resolutions are passed at shareholders meetings by the affirmative vote of a majority of those shares entitled to vote at such meeting and present or represented at the meeting.

Notice and Location

Notice to convene the ordinary annual meeting or extraordinary meeting is given by publication in at least one national newspaper in Panama and at least one national newspaper widely read in New York City not less than 30 days in advance of the meeting. We intend to publish such official notices in a national journal recognized by the NYSE.

Shareholders meetings are to be held in Panama City, Panama unless otherwise specified by the Board of Directors.

Quorum

Generally, a quorum for a shareholders meeting is established by the presence, in person or by proxy, of shareholders representing a simple majority of the issued shares eligible to vote on any actions to be considered at such meeting. If a quorum is not present at the first meeting and the original notice for such meeting so provides, the meeting can be immediately reconvened on the same day and, upon the meeting being reconvened, shareholders present or represented at the reconvened meeting are deemed to constitute a quorum regardless of the percentage of the shares represented.

Proxy Representation

Our Articles of Incorporation provide that, for so long as the Class A shares do not have full voting rights, each holder, by owning our Class A shares, grants a general proxy to the Chairman of our Board of Directors or any person designated by our Chairman to represent them and vote their shares on their behalf at any shareholders meeting, provided that due notice was made of such meeting and that no specific proxy revoking or replacing the general proxy has been received from such holder prior to the meeting in accordance with the instructions provided by the notice.

Other Shareholder Rights

As a general principle, Panamanian law bars the majority of a corporation s shareholders from imposing resolutions which violate its articles of incorporation or the law, and grants any shareholder the right to challenge, within 30 days, any shareholders resolution that is illegal or that violates its articles of incorporation or by-laws, by requesting the annulment of said resolution and/or the injunction thereof pending judicial decision. Minority shareholders representing at least 5% of all issued and outstanding shares have the right to require a judge to call a shareholders meeting and to appoint an independent auditor to examine the corporate accounting books, the background of the Company s incorporation or its operation.

Shareholders have no pre-emptive rights on the issue of new shares.

Our Articles of Incorporation provide that directors will be elected in staggered two-year terms, which may have the effect of discouraging certain changes of control.

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Listing

Our Class A shares are listed on the NYSE under the symbol CPA . The Class B shares and Class C shares will not be listed on any exchange unless the Board of Directors determines that it is in the best interest of the Company to list the Class B shares on the Panama Stock Exchange.

Transfer Agent and Registrar

The transfer agent and registrar for our Class A shares is Computershare Inc. Until the Board of Directors otherwise provides, the transfer agent for our Class B shares and any Class C shares is Galindo, Arias & Lopez, who maintains the share register for each class in Panama. Transfers of Class B shares must be accompanied by a certification of the transferee that such transferee is Panamanian.

Summary of Significant Differences between Shareholders Rights and Other Corporate Governance Matters Under Panamanian Corporation Law and Delaware Corporation Law

Copa Holdings is a Panamanian corporation (*sociedad anónima*). The Panamanian corporation law was originally modeled after the Delaware General Corporation Law. As such, many of the provisions applicable to Panamanian and Delaware corporations are substantially similar, including (1) a director s fiduciary duties of care and loyalty to the corporation, (2) a lack of limits on the number of terms a person may serve on the board of directors, (3) provisions allowing shareholders to vote by proxy and (4) cumulative voting if provided for in the articles of incorporation. The following table highlights the most significant provisions that materially differ between Panamanian corporation law and Delaware corporation law.

Panama	**Delaware**
Directors	
Conflict of Interest Transactions. Transactions involving a Panamanian corporation and an interested director or officer are initially subject to the approval of the board of directors. At the next shareholders meeting, shareholders will then have the right to disapprove the board of directors decision and to decide to take legal actions against the directors or officers who voted in favor of the transaction.	*Conflict of Interest Transactions*. Transactions involving a Delaware corporation and an interested director of that corporation are generally permitted if: (1) the material facts as to the interested director s relationship or interest are disclosed and a majority of disinterested directors approve the transaction; (2) the material facts are disclosed as to the interested director s relationship or interest and the stockholders approve the transaction; or (3) the transaction is fair to the corporation at the time it is authorized by the board of directors, a committee of the board of directors or the stockholders.
Terms. Panamanian law does not set limits on the length of the terms that a director may serve. Staggered terms are	*Terms*. The Delaware General Corporation Law generally provides for a one-year term for directors.

allowed but not required.	However, the directorships may be divided into up to three classes with up to three-year terms, with the years for each class expiring in different years, if permitted by the articles of incorporation, an initial by-law or a by-law adopted by the shareholders.
Number. The board of directors must consist of a minimum of three members, which could be natural persons or legal entities.	*Number*. The board of directors must consist of a minimum of one member.
Authority to Take Actions. In general, a simple majority of the board of directors is necessary and sufficient to take any action on behalf of the board of directors.	*Authority to Take Actions*. The articles of incorporation or by-laws can establish certain actions that require the approval of more than a majority of directors.
Shareholder Meetings and Voting Rights	
Quorum. The quorum for shareholder meetings must be set by the articles of incorporation or the by-laws. If the articles of incorporation and the notice for a given meeting so provide, if a quorum is not met a new meeting can be immediately called and a quorum shall consist of those present at such new meeting.	*Quorum*. For stock corporations, the articles of incorporation or bylaws may specify the number to constitute a quorum but in no event shall a quorum consist of less than one-third of shares entitled to vote at a meeting. In the absence of such specifications, a majority of shares entitled to vote shall constitute a quorum.

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Panama	Delaware
Action by Written Consent. Panamanian law does not permit shareholder action without formally calling a meeting.	*Action by Written Consent*. Unless otherwise provided in the articles of incorporation, any action required or permitted to be taken at any annual meeting or special meeting of stockholders of a corporation may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action to be so taken, is signed by the holders of outstanding shares having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and noted.
Other Shareholder Rights	
Shareholder Proposals. Shareholders representing 5% of the issued and outstanding capital of the corporation have the right to require a judge to call a general shareholders meeting and to propose the matters for vote.	*Shareholder Proposals*. Delaware law does not specifically grant shareholders the right to bring business before an annual or special meeting. If a Delaware corporation is subject to the SEC s proxy rules, a shareholder who has continuously owned at least $2,000 in market value, or 1% of the corporation s securities entitled to vote for at least one year, may propose a matter for a vote at an annual or special meeting in accordance with those rules.
Appraisal Rights. Shareholders of a Panamanian corporation do not have the right to demand payment in cash of the judicially determined fair value of their shares in connection with a merger or consolidation involving the corporation. Nevertheless, in a merger, the majority of shareholders could approve the total or partial distribution of cash, instead of shares, of the surviving entity.	*Appraisal Rights*. Delaware law affords shareholders in certain cases the right to demand payment in cash of the judicially-determined fair value of their shares in connection with a merger or consolidation involving their corporation. However, no appraisal rights are available if, among other things and subject to certain exceptions, such shares were listed on a national securities exchange or such shares were held of record by more than 2,000 holders.
Shareholder Derivative Actions. Any shareholder, with the consent of the majority of the shareholders, can sue on behalf of the corporation, the directors of the corporation for a breach of their duties of care and loyalty to the corporation or a violation of the law, the articles of incorporation or the by-laws.	*Shareholder Derivative Actions*. Subject to certain requirements that a shareholder make prior demand on the board of directors or have an excuse not to make such demand, a shareholder may bring a derivative action on behalf of the corporation to enforce the rights of the corporation against officers, directors and third parties. An individual may also commence a class action suit on behalf of himself and other similarly-situated stockholders if the requirements for maintaining a class action under the Delaware General Corporation Law have been met. Subject to equitable principles, a three-year period of limitations generally applies to such shareholder suits against officers and directors.

Inspection of Corporate Records. Shareholders representing at least 5% of the issued and outstanding shares of the corporation have the right to require a judge to appoint an independent auditor to examine the corporate accounting books, the background of the Company s incorporation or its operation.	*Inspection of Corporate Records*. A shareholder may inspect or obtain copies of a corporation s shareholder list and its other books and records for any purpose reasonably related to a person s interest as a shareholder.
Anti-Takeover Provisions	
Panamanian corporations may include in their articles of incorporation or by-laws classified board and super-majority provisions.	Delaware corporations may have a classified board, super-majority voting and shareholders rights plan.
Panamanian corporation law s anti-takeover provisions apply only to companies that are:	Unless Delaware corporations specifically elect otherwise, Delaware corporations may not enter into a business combination , including mergers, sales and leases of assets, issuances of securities and similar transactions, with an interested stockholder , or one that beneficially owns 15% or more of a corporation s voting stock, within three years of such person becoming an interested shareholder unless:
(1) registered with the Superintendence of the Securities Market (*Superintendencia del Mercado de Valores, or SMV*) for a period of six months before the public offering,	
(2) have over 3,000 shareholders, and	(1) the transaction that will cause the person to become an interested shareholder is approved by the board of directors of the target prior to the transactions;
(3) have a permanent office in Panama with full time employees and investments in the country for more than $1,000,000.	

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Panama	Delaware
These provisions are triggered when a buyer makes a public offer to acquire 5% or more of any class of shares with a market value of at least $5,000,000. In sum, the buyer must deliver to the corporation a complete and accurate statement that includes	(2) after the completion of the transaction in which the person becomes an interested shareholder, the interested shareholder holds at least 85% of the voting stock of the corporation not including shares owned by persons who are directors and also officers of interested shareholders and shares owned by specified employee benefit plans; or
(1) the name of the Company, the number of the shares that the buyer intends to acquire and the purchase price;	(3) after the person becomes an interested shareholder, the business combination is approved by the board of directors of the corporation and holders of at least 66.67% of the outstanding voting stock, excluding shares held by the interested shareholder.
(2) the identity and background of the person acquiring the shares;	
(3) the source and amount of the funds or other goods that will be used to pay the purchase price;	
(4) the plans or project the buyer has once it has acquired the control of the Company;	
(5) the number of shares of the Company that the buyer already has or is a beneficiary of and those owned by any of its directors, officers, subsidiaries, or partners or the same, and any transactions made regarding the shares in the last 60 days;	
(6) contracts, agreements, business relations or negotiations regarding securities issued by the Company in which the buyer is a party;	
(7) contracts, agreements, business relations or negotiations between the buyer and any director, officer or beneficiary of the securities; and	

(8) any other significant information. This declaration will be accompanied by, among other things, a copy of the buyer s financial statements.

If the board of directors believes that the statement does not contain all required information or that the statement is inaccurate, the board of directors must send the statement to the SMV within 45 days from the buyer s initial delivery of the statement to the SMV. The SMV may then hold a public hearing to determine if the information is accurate and complete and if the buyer has complied with the legal requirements. The SMV may also start an inquiry into the case, having the power to decide whether or not the offer may be made.

Regardless of the above, the board of directors has the authority to submit the offer to the consideration of the shareholders. The board should only convene a shareholders meeting when it deems the statement delivered by the offeror to be complete and accurate. If convened, the shareholders meeting should take place within the next 30 days. At the shareholders meeting, two-thirds of the holders of the issued and outstanding shares of each class of shares of the corporation with a right to vote must approve the offer and the offer is to be executed within 60 days from the shareholders approval. If the board decides not to convene the shareholders meeting within 15 days following the receipt of a complete and accurate statement from the offeror, shares may then be purchased. In all cases, the purchase of shares can take place only if it is not prohibited by an administrative or judicial order or injunction.

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Panama	Delaware
The law also establishes some actions or recourses of the sellers against the buyer in cases the offer is made in contravention of the law.	
Previously Acquired Rights	
In no event can the vote of the majority shareholders deprive the shareholders of a corporation of previously-acquired rights. Panamanian jurisprudence and doctrine has established that the majority shareholders cannot amend the articles of incorporation and deprive minority shareholders of previously-acquired rights nor impose upon them an agreement that is contrary to those articles of incorporation. Once a share is issued, the shareholders become entitled to the rights established in the articles of incorporation and such rights cannot be taken away, diminished or extinguished without the express consent of the shareholders entitled to such rights. If by amending the articles of incorporation, the rights granted to a class of shareholders is somehow altered or modified to their disadvantage, those shareholders will need to approve the amendment unanimously.	No comparable provisions exist under Delaware law.

C. Material Contracts

1998 Aircraft General Terms Agreement between The Boeing Company and Copa Airlines

In 1998, Copa entered into an agreement with Boeing for the purchase of aircraft, installation of buyer furnished equipment provided by Copa, customer support services and product assurance. In addition to the aircraft supplied, the Boeing Company will provide maintenance training and flight training programs, as well as operations engineering support. The agreement is still in effect and has been amended several times since then, most recently in March 2015.

Purchase Agreement between Empresa Brasileira de Aeronautica, S.A. and Copa Airlines

In 2003 and 2006, Copa entered into a purchase agreement with Empresa Brasileira de Aeronautica, S.A (Embraer) for the purchase of aircraft, customer support services and technical publications. This agreement is still in effect.

Engine Services Agreements between GE Engine Services, LLC and Copa Holdings, S.A.

Since May 2011, we have entered into three separate Rate per Engine Flight Hour Engine Services Agreements with GE Engine Services, LLC, pursuant to which GE shall be the exclusive provider of maintenance, repair and overhaul services to our CF-34 and CFM-56 aircraft engines. Most maintenance services are performed at a certain rate per engine flight hour incurred by our engines. These rates were set based on our predicted operating parameters and will be adjusted in case of variation of those parameters. Unless terminated, the agreement with respect to the CF-34 engines will continue through September 30, 2022 while the agreements with respect to the CFM-56 engines expire on December 31, 2021 and April 30, 2026, respectively, in each case unless renewed upon the parties mutual agreements. Either party may terminate the agreement in the event of insolvency of the other party or upon a material

breach by the other party which remains uncured. Any material breach by us of this agreement could, at the option of GE, trigger a cross-default of all our other contracts with GE. GE may also terminate this agreement if the number of engines covered decreases below the prescribed minimum. Upon early termination of the agreement for any reason, we shall pay GE for all services or work performed by GE up to the time of such termination by means of reconciliation.

MAX Aircraft purchase Agreement between the Boeing Company and Copa Airlines.

In April 2015, Copa finalized negotiations with the Boeing Company for the purchase of 737 MAX airplanes. These negotiations started in 2013, and the agreement has been amended several times since then, most recently in January 2019.

D. Exchange Controls

There are currently no Panamanian restrictions on the export or import of capital, including foreign exchange controls, and no restrictions on the payment of dividends or interest, nor are there limitations on the rights.

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E. Taxation

United States

The following summary describes the material United States federal income tax consequences of the ownership and disposition of our Class A shares as of the date hereof. The discussion set forth below is applicable to United States Holders (as defined below) that beneficially own our Class A shares as capital assets for United States federal income tax purposes (generally, property held for investment). This summary does not represent a detailed description of the United States federal income tax consequences applicable to you if you are subject to special treatment under the United States federal income tax laws, including if you are:

a bank;

a dealer in securities or currencies;

a financial institution;

a regulated investment company;

a real estate investment trust;

an insurance company;

a tax-exempt organization;

a person holding our Class A shares as part of a hedging, integrated or conversion transaction, a constructive sale or a straddle;

a trader in securities that has elected the mark-to-market method of accounting for your securities;

a person liable for alternative minimum tax;

a person who owns 10% or more of our stock (by vote of value);

a partnership or other pass-through entity (or investor therein) for United States federal income tax purposes; or

a person whose functional currency is not the United States dollar.

The discussion below is based upon the provisions of the Internal Revenue Code of 1986, as amended (the Code), and regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be replaced, revoked or modified so as to result in United States federal income tax consequences different from those discussed below.

If you are considering the purchase, ownership or disposition of our Class A shares, you should consult your own tax advisors concerning the United States federal income tax consequences to you in light of your particular situation as well as any consequences arising under state or local law or under the laws of any other taxing jurisdiction.

As used herein, United States Holder means a beneficial owner of our Class A shares that is for United States federal income tax purposes:

an individual citizen or resident of the United States;

a corporation (or other entity treated as a corporation for United States federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;

an estate the income of which is subject to United States federal income taxation regardless of its source; or

a trust if it (1) is subject to the primary supervision of a court within the United States and one or more United States persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable United States Treasury regulations to be treated as a United States person.

If a partnership holds our Class A shares, the tax treatment of a partner will generally depend upon the status of the partner and upon the activities of the partnership. An investor who is a partner of a partnership holding our Class A shares should consult its own tax advisor.

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Taxation of Dividends

Distributions on the Class A shares (including amounts withheld to reflect Panamanian withholding taxes, if any) will be taxable as dividends to the extent paid out of our current or accumulated earnings and profits, as determined under United States federal income tax principles. Such income (including withheld taxes) will be includable in your gross income as foreign-source ordinary income on the day actually or constructively received by you. Such dividends will not be eligible for the dividends received deduction allowed to corporations. Because we do not intend to keep earnings and profits in accordance with United States federal income tax principles, you should expect that distributions on the Class A shares will generally be treated as dividends.

With respect to non-corporate United States Holders, certain dividends received from a qualified foreign corporation may be subject to reduced rates of taxation. A foreign corporation generally is treated as a qualified foreign corporation with respect to dividends paid by that corporation on shares that are readily tradable on an established securities market in the United States. United States Treasury Department guidance indicates that our Class A shares, which are listed on the NYSE, are currently readily tradable on an established securities market in the United States. There can be no assurance, however, that our Class A shares will be considered readily tradable on an established securities market at a later date. Non-corporate United States Holders that do not meet a minimum holding period requirement during which they are not protected from the risk of loss or that elect to treat the dividend income as investment income pursuant to Section 163(d) (4) of the Code will not be eligible for the reduced rates of taxation regardless of our status as a qualified foreign corporation. In addition, the rate reduction will not apply to dividends if the recipient of a dividend is obligated to make related payments with respect to positions in substantially similar or related property. This disallowance applies even if the minimum holding period has been met. You should consult your own tax advisors regarding the application of these rules to your particular circumstances.

Subject to certain conditions and limitations, Panamanian withholding taxes on dividends may be treated as foreign taxes eligible for credit against your United States federal income tax liability. For purposes of calculating the foreign tax credit, dividends paid on the Class A shares generally will be treated as income from sources outside the United States and will generally constitute passive income. Further, in certain circumstances, if you:

- have held Class A shares for less than a specified minimum period during which you are not protected from risk of loss, or
- are obligated to make related to the payments with respect to positions in substantially similar or related property,

You will not be allowed a foreign tax credit for foreign taxes imposed on dividends paid on the Class A shares, if any. The rules governing the foreign tax credit are complex. You are urged to consult your tax advisors regarding the availability of the foreign tax credit under your particular circumstances.

Passive Foreign Investment Company

We do not believe that we were a passive foreign investment company (a PFIC) for United States federal income tax purposes for 2018, and we expect to operate in such a manner so as not to become a PFIC in 2019 or the foreseeable future. If, however, we are or become a PFIC, you could be subject to additional United States federal income taxes on gain recognized with respect to the Class A shares and on certain distributions, plus an interest charge on certain taxes treated as having been deferred under the PFIC rules. Further, non-corporate United States Holders will not be

eligible for reduced rates of taxation on any dividends received from us if we are a PFIC in the taxable year in which such dividends are paid or the preceding taxable year.

Taxation of Capital Gains

For United States federal income tax purposes, you will recognize taxable gain or loss on any sale or exchange of a Class A share in an amount equal to the difference between the amount realized for the Class A share and your tax basis in the Class A share. Such gain or loss will generally be capital gain or loss. Capital gains of individuals derived with respect to capital assets held for more than one year generally are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations. Any gain or loss recognized by you will generally be treated as United States source gain or loss.

Information Reporting and Backup Withholding

In general, information reporting will apply to dividends in respect of our Class A shares and the proceeds from the sale, exchange or redemption of our Class A shares that are paid to you within the United States (and in certain cases, outside the United States), unless you establish that you are an exempt recipient such as a corporation. A backup withholding tax may apply to such payments unless you provide an accurate taxpayer identification number and make any other required certification or otherwise establish an exemption.

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against your United States federal income tax liability provided the required information is timely furnished to the Internal Revenue Service.

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Panama

The following is a discussion of the material Panamanian tax considerations to holders of Class A shares under Panamanian tax law, and is based upon the tax laws and regulations in force and effect as of the date hereof, which may be subject to change. This discussion, to the extent it states matters of Panamanian tax law or legal conclusions and subject to the qualifications herein, represents the opinion of Galindo, Arias & Lopez, our Panamanian counsel.

Taxation of Dividends

Dividends paid by a corporation duly licensed to do business in Panama, whether in the form of cash, stock or other property, are subject to a 10% withholding tax on the portion attributable to Panamanian sourced income, and a 5% withholding tax on the portion attributable to foreign sourced income. Dividends paid by a holding company which correspond to dividends received from its subsidiaries for which the dividend tax was previously paid, are not subject to any further withholding tax under Panamanian law.

Therefore, distributions on the Class A shares would not be subject to withholding tax to the extent that said distributions are attributable to dividends received from any of our subsidiaries for which the dividend tax was previously paid.

Taxation of Capital Gains

As long as the Class A shares are registered with the SMV and are sold through an organized market, Panamanian taxes on capital gains will not apply either to Panamanians or other countries nationals. We have registered the Class A shares, with both the NYSE and the SMV.

Other Panamanian Taxes

There are no estate, gift or other taxes imposed by the Panamanian government that would affect a holder of the Class A shares, whether such holder were Panamanian or a national of another country.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on Display

We are subject to the informational requirements of the U.S. Securities Exchange Act of 1934, which is also known as the Exchange Act. Accordingly, we are required to file reports and other information with the Commission, including annual reports on Form 20-F and reports on Form 6-K. You may inspect and copy reports and other information to be filed with the Commission at the Public Reference Room of the Commission at 100 F Street, N.W., Washington D.C. 20549, and copies of the materials may be obtained there at prescribed rates. The public may obtain information on the operation of the Commission s Public Reference Room by calling the Commission in the United States at 1-800-SEC-0330. In addition, the Commission maintains a website at www.sec.gov, from which you can electronically access the registration statement and its materials.

As a foreign private issuer, we are not subject to the same disclosure requirements as a domestic U.S. registrant under the Exchange Act. For example, we are not required to prepare and issue quarterly reports. In 2016, the SEC approved a new rule and the NYSE published a new requirement for foreign private issuers to submit interim financials as of the end of and for the first two quarters of its fiscal year if they do not already furnish interim financials at least semi-annually. This new requirement will not affect us because we furnish our shareholders with annual reports containing financial statements audited by our independent auditors and make available to our shareholders quarterly reports containing unaudited financial data for the first three quarters of each fiscal year. We furnish such quarterly reports with the SEC within two months of each quarter of our fiscal year, and we file annual reports on Form 20-F within the time period required by the SEC, which is currently four months from December 31, the end of our fiscal year.

I. Subsidiary Information

Not applicable.

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Item 11. Quantitative and Qualitative Disclosures about Market Risk

The risks inherent in our business are the potential losses arising from adverse changes to the price of fuel, interest rates and the U.S. dollar exchange rate. Please also refer to note 28 of our financial statements.

Aircraft Fuel. Our results of operations are affected by changes in the price and availability of aircraft fuel. The Company has not entered into new fuel hedge contracts, and has adopted a new strategy of remaining unhedged, while regularly reviewing its policies based on market conditions and others factors. As of December 31, 2018, the Company did not have any outstanding fuel hedge contracts. Market risk is estimated as a hypothetical 10% increase in the December 31, 2018 cost per gallon of fuel. Based on projected 2018 fuel consumption, such an increase would result in an increase to aircraft fuel expense of approximately $58.0 million in 2019. There are no hedged contracts for 2019.

Interest. 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 operating leases and on interest income generated from our cash and investment balances. If interest rates average 10% more in 2019 than they did during 2018, our interest expense would increase by approximately $1.4 million and the fair value of the debt would decrease by approximately $10.2 million. If interest rates average 10% less in 2019 than they did in 2018, our interest income from marketable securities would decrease by approximately $1.4 million and the fair value of our debt would increase by approximately $10.2 million. These amounts are determined by considering the impact of the hypothetical interest rates on our variable-rate debt and marketable securities equivalent balances at December 31, 2018.

Foreign Currencies. The majority of our obligations are denominated in U.S. dollars. Since Panama uses the U.S. dollar as legal tender, the majority of our operating expenses are also denominated in U.S. dollars, approximately 44.7% of revenues and 55.3% of expenses are in U.S. dollars. A significant part of our revenue is denominated in foreign currencies, including the Brazilian real, Colombian peso, and Argentinian peso, which represented 22.7%, 11.3%, and 7.2% of our revenue in 2018, respectively.

On January 1, 2015, given the change in its business strategy focused on international markets, Copa Colombia concluded that the most appropriate functional currency of the Company would be U.S. dollars. This reflects the fact that the majority of the airline s business is influenced by pricing in international markets, with a dollar economic environment. In the same way, the major operating expenses such as fuel, leasing, airport services and sales commissions are dollarized. Until December 31, 2014, the previous functional currency of the Company was the Colombian peso.

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The following chart summarizes the Company s exchange risk exposure (assets and liabilities denominated in foreign currency) at December 31, 2018 and 2017:

	As of December 31, 2018	As of December 31, 2017
Assets		
Cash and cash equivalents	$ 53,123	$ 25,189
Investments	2	277
Accounts receivables, net	68,171	75,769
Other assets	19,107	29,459
Total assets	$ 140,403	$ 130,694
Liabilities		
Accounts payables suppliers and agencies	$ 48,501	$ 37,186
Accumulated taxes and expenses payables	40,243	50,922
Other liabilities	20,771	25,471
Total liabilities	$ 109,515	$ 113,579
Net position	$ 30,888	$ 17,114

Item 12. Description of Securities Other than Equity Securities

Not applicable.

A. Debt securities

Not applicable.

B. Warrants and rights

Not applicable.

C. Other securities

Not applicable.

D. American depositary shares

Not applicable.

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PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies

None.

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

None.

Item 15. Controls and Procedures

A. Disclosure Controls and Procedures

Disclosure controls and procedures are designed to ensure that information required to be disclosed by the Company in reports filed or submitted under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms. We carried out an evaluation under the supervision of our Management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2018. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. Based upon our evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the applicable rules and forms, and that it is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

B. Management s Annual Report on Internal Control over Financial Reporting

The Management of Copa Holdings, S.A. or the Company , is responsible for establishing and maintaining effective internal control over financial reporting as defined in Rules 13a-15(f) under the Securities Exchange Act of 1934. The Company s internal control over financial reporting is designed to provide reasonable assurance to the Company s management and board of directors regarding the preparation and fair presentation of published financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Management assessed the effectiveness of the Company s internal control over financial reporting as of December 31, 2018. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control Integrated Framework (2013).

Our 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. Our 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 our assets;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

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(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Based on this assessment, Management believes that, as of December 31, 2018, the Company s internal control over financial reporting is effective based on those criteria.

C. Attestation Report of the Registered Public Accounting Firm

The effectiveness of our internal controls over financial reporting as of December 31, 2018 has been audited by Ernst &Young, the independent registered public accounting firm who also audited the Company s consolidated financial statements. Ernst & Young s attestation report of the effectiveness of the Company s internal control over financial reporting is included herein.

D. Changes in Internal Control over Financial Reporting

During the last quarter of 2018, the Company migrated the its cargo activities into a new cargo system, and also initiated the phased implementation upgrade of the system supporting the sales and reservation program with the intention of automating internal procedures and controls, and increasing functionality to support operations. Our internal controls over financial reporting were adjusted to mitigate key risks regarding the quality of information produced from our cargo services processes which includes our service organization reports. In preparation for the adoption of IFRS 16 in January 2019, the Company designed an internal project to document, evaluate, design and implement changes to be produced thereinafter. A risk-based analysis was addressed and documented accordingly aligned with our internal control standards.

In relation with the material weakness in our internal control over financial reporting in the year ended December 31, 2017 related to the Company s flight equipment accounting treatment, we have remediated it by adjusting our policies accordingly and reflected the appropriate accounting treatment in our 2018 consolidated financial statements.

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders

COPA HOLDINGS, S.A. and Subsidiaries

Opinion on Internal Control over Financial Reporting

We have audited Copa Holdings, S.A. and subsidiaries internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Copa Holdings, S.A. and subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Company as of December 31, 2018 and 2017 and the related consolidated statements of profit or loss, comprehensive income (loss), changes in equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes, and our report dated April 24, 2019, expressed an unqualified opinion thereon.

Basis for Opinion

The Company s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management s Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company s internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 International Financial Reporting Standards, as issued by the International Accounting Standards Board. A company s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards, as issued by the

International Accounting Standards Board,

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and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) 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.

Ernst & Young Limited Corp.

A member practice of

Ernst & Young Global Limited

/s/ Ernst & Young

Panama City, Republic of Panama

April 24, 2019

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Item 16. Reserved

Item 16A. Audit Committee Financial Expert

Our Board of Directors has determined that Messrs. Jose Castañeda, Roberto Artavia and Josh Connor qualify as an audit committee financial experts as defined by current SEC rules and meet the independence requirements of the SEC and the NYSE listing standards. For a discussion of the role of our audit committee, see Item 6C. Board Practices Audit Committee .

Item 16B. Code of Ethics

Our Board of Directors has adopted a Code of Business Conduct and Ethics applicable to our directors, officers, employees and consultants. The Code of Business Conduct and Ethics can be found at www.copaair.com under the heading Investor Relations Corporate Governance . Information found on this website is not incorporated by reference into this document.

Item 16C. Principal Accountant Fees and Services

The following table sets forth by category of service the total fees for services performed by our independent registered public accounting firm Ernst & Young and its affiliates during the fiscal years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Audit Fees	$ 981,810	$ 1,025,000	$ 1,150,000
Audit-Related Fees			
Tax Fees			
All Other Fees			
Total	**$ 981,810**	**$ 1,025,000**	**$ 1,150,000**

Audit Fees

Audit fees for 2018, 2017 and 2016 included the audit of our annual financial statements and internal controls, and the review of our quarterly reports.

Audit-Related Fees

There were no audit-related fees for 2018, 2017 or 2016.

Tax Fees

There were no tax fees for 2018, 2017 or 2016.

All Other Fees

Other fees for 2018, 2017 and 2016 included amounts paid for permitted consulting services performed by Ernst & Young and pre-approved by our audit committee. There were no such fees in 2018, 2017 or 2016.

Pre-Approval Policies and Procedures

Our audit committee approves all audit, audit-related, tax and other services provided by Ernst & Young. Any services provided by Ernst & Young that are not specifically included within the scope of the audit must be pre-approved by the audit committee in advance of any engagement. Pursuant to Rule 201 of Regulation S-X, audit committees are permitted to approve certain fees for audit-related services, tax services and other services pursuant to a de minimis exception prior to the completion of an audit engagement. In 2018, none of the fees paid to Ernst & Young were approved pursuant to the de minimis exception.

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Item 16D. Exemptions from the Listing Standards for Audit Committees

None

Item 16E. Purchase of Equity Securities by the Issuer and Affiliated Purchasers

The following table provides information related to the share repurchase program executed by month:

Period	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced program	Maximum number of shares that may be yet be purchased under the program
Program 2014 (EOMR)				
December 2014	182,592	$ 101.84	182,592	2,274,440
January 2015	139,196	$ 104.13	321,788	2,084,941
February 2015	28,454	$ 109.65	350,242	1,951,529
ASR 2015				
September 2015	500,000		850,242	
December 2015	1,460,250		2,310,492	
Total	2,310,492			

In November 2014, the Board of Directors of the Company approved a $250 million share repurchase program. Purchases will be made from time to time, subject to market and economic conditions, applicable legal requirements, and other relevant factors.

During December of 2014 the Company repurchased 182,592 shares for a total amount of $18.4 million.

In the first quarter of 2015, the Company repurchased 167,650 shares for a total amount of $17.9 million.

During September 2015 the Company entered into an Accelerated Share Repurchase, or ASR , with Citibank for an approximate period of 3 months for a total amount of $100 million. On December 15, 2015, Citibank delivered 1,960,250 shares to the Company, recognized at the settlement price of $51.01 per share.

No transactions were made in 2016, 2017 or 2018.

Item 16F. Changes in Registrant s Certifying Accountant

None

Item 16G. Corporate Governance

Companies that are registered in Panama are required to disclose whether or not they comply with certain corporate governance guidelines and principles that are recommended by the Superintendence of the Securities Market (*Superintendencia del Mercado de Valores, or SMV*). Statements below referring to Panamanian governance standards

reflect these voluntary guidelines set by the SMV rather than legal requirements or standard national practices. Our Class A shares are registered with the SMV, and we comply with the SMV s disclosure requirements.

NYSE Standards	Our Corporate Governance Practice
Director Independence.	
Majority of board of directors must be independent. §303A.01	Panamanian corporate governance standards recommend that one in every five directors should be an independent director. The criteria for determining independence under the Panamanian corporate governance standards differs from the NYSE rules. In Panama, a director would be considered independent as long as the director does not directly or indirectly own 5% or more of the issued and outstanding voting shares of the Company, is not involved in the daily management of the Company and is not a spouse or related to the second degree by blood or marriage to the persons named above.

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NYSE Standards	Our Corporate Governance Practice
	Our Articles of Incorporation require us to have three independent directors as defined under the NYSE rules.
Executive Sessions. Non-management directors must meet regularly in executive sessions without management.	There are no mandatory requirements under Panamanian law that a company should hold, and we currently do not hold, such executive sessions.
Independent directors should meet alone in an executive session at least once a year. §303A.03	
Nominating/Corporate Governance Committee. Nominating/corporate governance committee of independent directors is required. The committee must have a charter specifying the purpose, duties and evaluation procedures of the committee. §303A.04	Panamanian corporate governance standards recommend that registered companies have a nominating committee composed of three members of the board of directors, at least one of which should be an independent director, plus the chief executive officer and the chief financial officer. In Panama, the majority of public corporations do not have a nominating or corporate governance committee. Our Articles of Incorporation require that we maintain a Nominating and Corporate Governance Committee with at least one independent director until the first shareholders meeting to elect directors after such time as the Class A shares are entitled to full voting rights.
Compensation Committee. Compensation committee of independent directors is required, which must approve or make a recommendation to the board regarding executive officer compensation. The committee must have a charter specifying the purpose, duties and evaluation procedures of the committee. §303A.05	Panamanian corporate governance standards recommend that the compensation of executives and directors be overseen by the nominating committee but do not otherwise address the need for a compensation committee.
	While we maintain a compensation committee that operates under a charter as described by the NYSE governance standards, currently only one of the members of that committee is independent.
Equity Compensation Plans. Equity compensation plans require shareholder approval, subject to limited exemptions.	Under Panamanian law, shareholder approval is not required for equity compensation plans.
Code of Ethics. Corporate governance guidelines and a code of business conduct and ethics is required, with disclosure of any waiver fordirectors or executive officers. §303A.10	Panamanian corporate governance standards do not require the adoption of specific guidelines as contemplated by the NYSE standards, although they do require that companies disclose differences between their practices and a list of specified practices recommended by the SMV.

We have not adopted a set of corporate governance guidelines as contemplated by the NYSE, although we will be required to comply with the disclosure requirement of the SMV.

Panamanian corporate governance standards recommend that registered companies adopt a code of ethics covering such topics as its ethical and moral principles, how to address conflicts of interest, the appropriate use of resources, obligations to inform of acts of corruption and mechanism to enforce the compliance with established rules of conduct.

Item 16H. Mine Safety Disclosure

None

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PART III

Item 17. Financial Statements

See Item 18. Financial Statements

Item 18. Financial Statements

See our consolidated financial statements beginning on page F-1.

Item 19. Exhibits

3.1**	English translation of the Amended Articles of Incorporation (*Pacto Social*) of the Registrant
10.1**	Aircraft Lease Agreement, dated as of October 1, 1998, between First Security Bank now Wells Fargo Bank Northwest, National association and Compañía Panameña de Aviación, S.A., in respect of Boeing Model 737-71Q Aircraft, Serial No. 29047
10.1 (2008)	Supplemental Agreement dated as of May 13, 2008 by and among Copa Holdings, S.A. Corporation de Inversiones Aereas, S.A. and Continental Airlines, Inc.
10.2**	Letter Agreement dated as of November 6, 1998 amending Aircraft Lease Agreement, dated October 1, 1998, between First Security Bank now Wells Fargo Bank Northwest, National association and Compañía Panameña de Aviación, S.A., in respect of One Boeing Model 737-71Q Aircraft, Manufacturer s Serial No. 29047
10.3**	Aircraft Lease Amendment Agreement dated as of May 21, 2003 to Aircraft Lease Agreement, dated October 1, 1998, between Wells Fargo Bank Northwest and Compañía Panameña de Aviación, S.A., in respect of Boeing Model 737-71Q Aircraft, Serial No. 29047
10.4**	Aircraft Lease Agreement, dated as of October 1, 1998, between First Security Bank and Compañía Panameña de Aviación, S.A., in respect of Boeing Model 737-71Q Aircraft, Serial No. 29048
10.5**	Letter Agreement dated as of November 6, 1998 amending Aircraft Lease Agreement, dated as of October 1, 1998, between First Security Bank and Compañía Panameña de Aviación, S.A., in respect of Boeing Model 737-71Q Aircraft, Serial No. 29048
10.6**	Aircraft Lease Amendment Agreement dated as of May 21, 2003 to Aircraft Lease Agreement, dated October 1, 1998, between Wells Fargo Bank Northwest and Compañía Panameña de Aviación, S.A., in respect of Boeing Model 737-71Q Aircraft, Serial No. 29048
10.7**	Aircraft Lease Agreement, dated as of November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 28607
10.8**	Letter Agreement No. 1 dated as of November 18, 1998 to Aircraft Lease Agreement, dated November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 28607
10.9**	Letter Agreement No. 2 dated as of March 8, 1999 to Aircraft Lease Agreement, dated November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A.,

	Boeing Model 737-700 Aircraft, Serial No. 28607
10.10**	Lease Extension and Amendment Agreement dated as of April 30, 2003, to Aircraft Lease Agreement, dated November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 28607
10.11**	Aircraft Lease Agreement, dated as of November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 30049

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10.12**	Letter Agreement No. 1 dated as of November 18, 1998 to Aircraft Lease Agreement, dated November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 30049
10.13**	Letter Agreement No. 2 dated as of March 8, 1999 to Aircraft Lease Agreement, dated November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 30049
10.14**	Lease Extension and Amendment Agreement dated as of April 30, 2003, to Aircraft Lease Agreement, dated November 18, 1998, between Aviation Financial Services Inc. and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 Aircraft, Serial No. 30049
10.15**	Aircraft Lease Agreement, dated as of November 30, 2003, between International Lease Finance corporation and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 or 800 Aircraft, Serial No. 30676
10.16**	Aircraft Lease Agreement, dated as of March 4, 2004, between International Lease Finance corporation and Compañía Panameña de Aviación, S.A., Boeing Model 737-700 or 800 Aircraft, Serial No. 32800
10.17**	Aircraft Lease Agreement, dated as of December 23, 2004, between Wells Fargo Bank Noorthwest, N.A. and Compañía Panameña de Aviación, S.A., Boeing Model 737- 800 Aircraft, Serial No. 29670
10.18**	Embraer 190LR Purchase Agreement DCT-006/2003 dated as of May 2003 between Embraer Empresa Brasileira de Aeronáutica S.A. and Regional Aircraft Holdings Ltd.
10.19**	Letter Agreement DCT-007/2003 dated as of May, 2003 to Aircraft Purchase Agreement DCT-006/2003 dated as of May, 2003, between Embraer Empresa Brasileira de Aeronáutica S.A. and Regional Aircraft Holdings Ltd.
10.20**	Letter Agreement DCT-008/2003 dated as of May, 2003 to Aircraft Purchase Agreement DCT-006/2003 dated as of May, 2003, between Embraer Empresa Brasileira de Aeronáutica S.A. and Regional Aircraft Holdings Ltd.
10.21**	Aircraft General Terms Agreement, dated November 25, 1998, between The Boeing Company and Copa Holdings, S.A.
10.22**	Purchase Agreement Number 2191, dated November 25, 1998, between The Boeing Company and Copa Holdings, S.A., Inc. relating to Boeing Model 737-7V3 & 737-8V3 Aircraft
10.23**	Suplemental agreement No. 1 dated 2001 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.24**	Supplemental Agreement No. 2 dated as of December 21, 2001 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.25**	Supplemental Agreement No. 3 dated as of June 14, 2002 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.26**	Supplemental Agreement No. 4 dated as of December 20, 2002 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.27**	Supplemental Agreement No. 5 dated as of October 31, 2003 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.28**	Supplemental Agreement No. 6 dated as of September 9, 2004 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.

10.29**	Supplemental Agreement No. 7 dated as of December 9, 2004 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.30**	Supplemental Agreement No. 8 dated as of April 15, 2005 to Purchase Agreement Number 2191 between The Boeing Company and Copa Holdings, S.A.
10.31**	Maintenance Cost per Hour Engine Service Agreement, dated March 5, 2003, between G.E. Engine Services, Inc. and Copa Holdings, S.A.

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10.32**	English translation of Aviation Fuel Supply Agreement, dated July 18, 2005, between Petróleos Delta, S.A. and Compañía Panameña de Aviación, S.A.
10.33**	Form of Amended and Restated Alliance Agreement between Continental Airlines, Inc. and Compañía Panameña de Aviación, S.A.
10.34**	Form of Amended and Restated Services Agreement between Continental Airlines, Inc. and Compañía Panameña de Aviación, S.A.
10.35**	Form of Second Amended and Restated Shareholders Agreement among Copa Holdings, S.A., Corporación de Inversiones Aéreas, S.A. and Continental Airlines, Inc.
10.36**	Form of Guaranteed Loan Agreement
10.37**	Form of Amended and Restated Registration Rights Agreement among Copa Holdings, S.A., Corporación de Inversiones Aéreas, S.A. and Continental Airlines, Inc.
10.38**	Form of Copa Holdings, S.A. 2005 Stock Incentive Plan
10.39**	Form of Copa Holdings, S.A. Restricted Stock Award Agreement
10.40*	Form of Indemnification Agreement with the Registrant s directors
10.41**	Form of Amended and Restated Trademark License Agreement between Continental Airlines, Inc. and Compañía Panameña de Aviación, S.A.
10.42*	Embraer 190 Purchase Agreement COM 0028-06 dated February 2006 between Embraer Empresa Brasileira de Aeronáutica S.A. and Copa Holdings, S.A. relating to Embraer 190LR aircraft
10.43*	Letter Agreement COM 0029-06 to the Embraer Agreement dated February 2006 between Embraer Empresa Brasileira de Aeronáutica S.A. and Copa Holdings, S.A. relating to Embraer 190LR aircraft
10.44*	Supplemental Agreement No. 9 dated as of March 16, 2006 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.44 (2006)	Supplemental Agreement No. 11 dated as of August 30, 2006 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.45*	Supplemental Agreement No. 10 dated as of May 8, 2006 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.45 (2006)	Supplemental Agreement No. 12 dated as of February 26, 2007 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.46 (2006)	Supplemental Agreement No. 13 dated as of April 23, 2007 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.47(2007)	Supplemental Agreement No. 14 dated as of August 31, 2007 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.48(2007)	Supplemental Agreement No. 15 dated as of February 21, 2008 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.49(2008)	Supplemental Agreement No. 16 dated as of June 30, 2008 to the Boeing Purchase Agreement

	Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.50(2008)	Supplemental Agreement No. 17 dated as of December 15, 2008 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A.
10.51(2009)	Supplemental Agreement No. 18 dated as of July 15, 2009 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A
10.52(2009)	Supplemental Agreement No. 19 dated as of August 31, 2009 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A

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10.53(2009)	Supplemental Agreement No. 20 dated as of November 19, 2009 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A
10.54(2010)	Supplemental Agreement No. 21 dated as of May 28, 2010 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A
10.55(2010)	Supplemental Agreement No. 22 dated as of September 24, 2010 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A
10.56(2010)	Supplemental Agreement No. 23 dated as of October, 2010 to the Boeing Purchase Agreement Number 2191 dated November 25, 1998 between the Boeing Company and Copa Holdings, S.A
10.57(2011)	On Pointsm Solutions Rate per Engine Flight Hour Service Agreement dated as of May 22, 2011 between GE Engine Services, LLC., Compañía Panameña de Aviación, S.A., and Lease Management Services, LLC.
10.58(2012)	On Pointsm Solutions Rate per Engine Flight Hour Service Agreement dated as of April 15, 2012 between GE Engine Services, LLC., Compañía Panameña de Aviación, S.A., and Lease Management Services, LLC.
10.62(2017)	Purchase Agreement No. PA-03774 dated June 27, 2012 between The Boeing Company and Copa Holdings S.A. relating to Boeing Model 737 MAX Aircraft.
12.1	Certification of the Chief Executive Officer, pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934.
12.2	Certification of the Chief Financial Officer, pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934.
13.1	Certification of Chief Executive Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
13.2	Certification of the Chief Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
21.1**	Subsidiaries of the Registrant
101. INS	XBRL Instance Document.
101. SCH	XBRL Taxonomy Extension Schema Document.
101. CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101. LAB	XBRL Taxonomy Extension Label Linkbase Document.
101. PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
101. DEF	XBRL Taxonomy Extension Definition Document.

* Previously filed with the SEC as an exhibit and incorporated by reference from our Registration Statement on Form F-1, filed June 15, 2006, File No. 333-135031.

** Previously filed with the SEC as an exhibit and incorporated by reference from our Registration Statement on Form F-1, filed November 28, 2005, as amended on December 1, 2005 and December 13, 2005, File

No. 333-129967.

2006 Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed July 2, 2007, File No.001-07956031.

2007 Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed May 9, 2008, File No.001-08818238.

2008 Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed May 6, 2009, File No. 001- 09801609.

2009 Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed March 17, 2010, File No. 001- 10686910.

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2010	Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed May 17, 2011, as amended on December 22, 2011, File No. 001- 111276555
2011	Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed April 16, 2012, File No. 001- 12762135.
2012	Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed April 29, 2013, File No. 001- 13792566.
2017	Previously filed with the SEC as an exhibit and incorporated by reference from our Annual Report on Form 20-F, filed April 18, 2017, File No. 001-32696
	The Registrant was granted confidential treatment for portions of this exhibit.

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SIGNATURES

The Registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

COPA HOLDINGS, S.A.

By: /s/ Pedro Heilbron
Name: Pedro Heilbron
Title: Chief Executive Officer

By: /s/ Jose Montero
Name: Jose Montero
Title: Chief Financial Officer

Dated: April 24, 2019

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Consolidated Financial Statements

Copa Holdings, S. A. and Subsidiaries

Year ended December 31, 2018

with Report of the Independent Registered Public Accounting Firm

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

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Report of the Independent Registered Public Accounting Firm

To the Board of Directors and the Shareholders of

Copa Holdings, S.A. and subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Copa Holdings, S.A. and subsidiaries as of December 31, 2018 and 2017, and the related consolidated statements of profit or loss, comprehensive income (loss), changes in equity and cash flows for each of the three years in the period ended December 31, 2018 and the related notes (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2018 and 2017, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with International Financial Reporting Standards, as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company s internal control over financial reporting as December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated April 24, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on the Company s consolidated financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Ernst & Young Limited Corp.

A member practice of Ernst & Young Global Limited

/s/ Ernst & Young Limited Corp.

We have served as the Company s auditor since 1999.

Panama City, Republic of Panama

April 24, 2019

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Copa Holdings, S. A. and Subsidiaries

Consolidated statement of financial position

As of December, 31

(In US$ thousands)

	Notes	2018	2017 Restated*
ASSETS			
Current assets			
Cash and cash equivalents	8	$ 156,158	$ 238,792
Investments	9	566,200	705,108
Accounts receivable	10,23	116,054	115,641
Expendable parts and supplies	11	86,530	81,825
Prepaid expenses	12	74,384	45,421
Prepaid income tax		10,357	
Other currents assets	13,17	54,386	11,701
		1,064,069	1,198,488
Non-current assets			
Investments	9	138,846	65,953
Accounts receivable	10	1,177	2,444
Prepaid expenses	12	25,637	26,130
Property and equipment	13	2,701,322	2,617,407
Net pension asset	15	5,091	3,185
Intangible assets	16	101,168	81,115
Deferred tax assets	22	16,041	19,099
Other non-current assets	17	33,899	31,140
		3,023,181	2,846,473
Total assets		$ 4,087,250	$ 4,044,961
LIABILITIES AND EQUITY			
Current liabilities			
Current maturities of long-term debt	18	$ 311,965	$ 298,462
Trade, other payables and financial liabilities	19,23	141,030	130,590
Air traffic liability	7.2	471,676	477,168
Frequent flyer deferred revenue	7.2	30,342	17,197
Taxes and interest payable		44,749	70,077
Accrued expenses payable	20	47,390	60,321
Income tax payable			3,700
		1,047,152	1,057,515

Non-current liabilities			
Long-term debt	18	975,283	876,119
Frequent flyer deferred revenue	7.2	37,472	33,115
Other long-term liabilities	21	137,724	130,621
Deferred tax liabilities	22	48,940	52,465
		1,199,419	1,092,320
Total liabilities		2,246,571	2,149,835
Equity	24		
Issued capital			
Class A common stock -33,816,276 (2017 -33,776,480) shares issued, 31,257,686 (2017 - 31,185,641) outstanding		21,087	21,038
Class B common stock - 10,938,125 (2017 - 10,938,125) shares issued and outstanding, no par value		7,466	7,466
Additional paid in capital		80,041	72,945
Treasury stock		(136,388)	(136,388)
Retained earnings		1,872,700	1,933,953
Accumulated other comprehensive loss		(4,227)	(3,888)
Total equity		1,840,679	1,895,126
Commitments and contingencies	27		
Total liabilities and equity		$ 4,087,250	$ 4,044,961

* *See in note 5.1*

The accompanying notes are an integral part of these consolidated financial statements.

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Copa Holdings, S. A. and Subsidiaries

Consolidated statement of profit or loss

For the year ended December, 31

(In US$ thousands)

	Notes	2018	2017 Restated*	2016 Restated*
Operating revenue				
Passenger revenue		$ 2,587,389	$ 2,444,251	$ 2,148,501
Cargo and mail revenue		62,483	55,290	53,989
Other operating revenue		27,755	22,245	16,696
	7	2,677,627	2,521,786	2,219,186
Operating expenses				
Fuel		765,781	572,746	528,996
Wages, salaries, benefits and other employees expenses		443,287	415,147	370,190
Passenger servicing		104,346	99,447	86,329
Airport facilities and handling charges		186,422	171,040	159,771
Sales and distribution		210,158	200,256	193,837
Maintenance, materials and repairs		111,677	132,148	121,781
Depreciation and amortization	13,16	169,436	167,324	167,894
Impairment of non financial assets	13	188,624		
Flight operations		108,437	101,647	88,188
Aircraft rentals and other rentals		132,534	134,539	138,885
Cargo and courier expenses		10,075	7,375	6,099
Other operating and administrative expenses		101,812	96,087	92,215
		2,532,589	2,097,756	1,954,185
Operating profit		145,038	424,030	265,001
Non-operating (expense) income				
Finance cost	18	(35,850)	(35,223)	(37,024)
Finance income	18	23,628	17,939	13,000
(Loss) Gain on foreign currency fluctuations		(9,952)	6,145	13,043
Net change in fair value of derivatives			2,801	111,642
Other non-operating expense		(239)	(2,337)	(3,982)
		(22,413)	(10,675)	96,679
Profit before taxes		122,625	413,355	361,680
Income tax expense	22	(34,530)	(49,310)	(38,271)
Net profit		$ 88,095	$ 364,045	$ 323,409

Earnings per share							
Basic and diluted	26	$	2.07	$	8.58	$	7.63

* *See in note 5.1*
The accompanying notes are an integral part of these consolidated financial statements.

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Copa Holdings, S. A. and Subsidiaries

Consolidated statement of comprehensive income

For the year ended December, 31

(In US$ thousands)

	2018	2017 Restated*	2016 Restated*
Net profit	$ 88,095	$ 364,045	$ 323,409
Other comprehensive loss			
Other comprehensive loss not to be reclassified to profit or loss in subsequent periods -			
Remeasurement of actuarial loss, net of amortization	(339)	(2,016)	(1,104)
Total comprehensive income for the year	$ 87,756	$ 362,029	$ 322,305

* *See in note 5.1*

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Copa Holdings, S. A. and Subsidiaries

Consolidated statement of changes in equity

For the year ended December, 31

(In US$ thousands)

		Common stock (Non - par value)		Issued capital		Additional paid in	Treasury	Retained	Accumulated other comprehensive income	Total
	Notes	Class A	Class B	Class A	Class B	capital	stock	earnings	(loss)	equity
At January 1, 2016		31,017,102	10,938,125	$ 20,924	$ 7,466	$ 57,455	$ (136,388)	$ 1,441,831	$ (768)	$ 1,390,520
Effect of adoption of IFRS 15	5.1							(2,354)		(2,354)
At January 1, 2016 (restated)		31,017,102	10,938,125	20,924	7,466	57,455	(136,388)	1,439,477	(768)	1,388,166
Net profit								323,409		323,409
Other comprehensive loss									(1,104)	(1,104)
Issuance of stock for employee awards		94,208		64		(64)				
Share-based compensation expense						7,539				7,539
Dividends paid								(86,116)		(86,116)
Other		1,046				56		(70)		(14)
At December 31, 2016 (restated)		31,112,356	10,938,125	$ 20,988	$ 7,466	$ 64,986	$ (136,388)	$ 1,676,700	$ (1,872)	$ 1,631,880
Net profit								364,045		364,045
Other comprehensive loss									(2,016)	(2,016)
Issuance of stock for employee awards		62,224		42		(42)				

Share-based compensation expense	25				7,422				7,422
Dividends paid	24						(106,792)		(106,792)
Share options exercised		11,061		8	579				587
At December 31, 2017 (restated)		31,185,641	10,938,125	$ 21,038	$ 7,466	$ 72,945	$ (136,388)	$ 1,933,953	$ (3,888)	$ 1,895,126
Adjustment on initial application of IFRS 9	5.2							(1,744)		(1,744)
Net profit								88,095		88,095
Other comprehensive loss									(339)	(339)
Issuance of stock for employee awards		72,045		49	(49)					
Share-based compensation expense	25				7,145					7,145
Dividends paid	24							(147,604)		(147,604)
At December 31, 2018		31,257,686	10,938,125	$ 21,087	$ 7,466	$ 80,041	$ (136,388)	$ 1,872,700	$ (4,227)	$ 1,840,679

The accompanying notes are an integral part of these consolidated financial statements.

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Copa Holdings, S. A. and Subsidiaries

Consolidated statement of cash flows

For the year ended December, 31

(In US$ thousands)

	Notes	2018	2017 Restated*	2016 Restated*
Operating activities				
Net profit		$ 88,095	$ 364,045	$ 323,409
Adjustments for:				
Income tax expense		34,530	49,310	38,271
Finance cost	18	35,850	35,223	37,024
Finance income	18	(23,628)	(17,939)	(13,000)
Depreciation and amortization	13,16	169,436	167,324	167,810
Impairment of non finacial assets		188,624		
Disposal of assets		3,746	3,316	4,743
Impairment of financial assets	10	1,409	879	1,511
Allowance for obsolescence of expendable parts and supplies		159	182	87
Derivative instruments mark to market			(2,801)	(111,642)
Share-based compensation expense	25	7,145	7,422	7,539
Net foreign exchange differences		43,090	26,654	35,525
Change in:				
Accounts receivable		(3,150)	(3,534)	(9,967)
Accounts receivable from related parties	10	95	181	143
Other current assets		(50,531)	25,770	(14,745)
Restricted cash				64,228
Other assets		(5,669)	(1,012)	10,202
Accounts payable		8,820	20,943	16,387
Accounts payable from related parties	19	2,584	4,199	3,076
Air traffic liability		(5,492)	77,372	45,551
Frequent flyer deferred revenue		17,502	13,630	17,579
Other liability		(23,548)	28,322	30,117
Cash from operating activities		489,067	799,486	653,848
Income tax paid		(38,698)	(51,077)	(33,364)
Interest paid		(35,147)	(35,312)	(37,420)
Interest received		21,537	14,235	11,526
Net cash from operating activities		436,759	727,332	594,590
Investing activities				
Acquisition of investments		(711,840)	(854,119)	(553,037)
Proceeds from redemption of investments		775,504	567,007	485,944
Advance payments on aircraft purchase contracts and other		(216,732)	(191,315)	(47,479)

Reimbursement of advance payments on aircraft purchase contracts		152,651	28,888	29,150
Acquisition of property and equipment		(118,997)	(109,945)	(88,345)
Proceeds from sale of property and equipment			6	8,332
Acquisition of intangible assets	16	(30,182)	(18,681)	(14,474)
Net cash used in investing activities		(149,596)	(578,159)	(179,909)
Financing activities				
Proceeds from new borrowings	18	225,000	147,798	164,400
Payments on loans, borrowings and finance leases	18	(401,333)	(246,349)	(326,965)
Dividends paid		(147,604)	(106,792)	(86,116)
Proceeds from exercise of share options			587	56
Net cash used in financing activities		(323,937)	(204,756)	(248,625)
Net (decrease) increase in cash and cash equivalents		(36,774)	(55,583)	166,056
Cash and cash equivalents at January 1		238,792	331,687	204,715
Effect of exchange rate change on cash		(45,860)	(37,312)	(39,084)
Cash and cash equivalents at December 31		$ 156,158	$ 238,792	$ 331,687

** See note 5.1*

The accompanying notes are an integral part of these consolidated financial statements.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

1. Corporate information

Copa Holdings, S. A. (the Company) was incorporated according to the laws of the Republic of Panama on May 6, 1988 with an indefinite duration. The Company is a public company listed in the New York Stock Exchange (NYSE) under the symbol CPA since December 14, 2005. The address of its registered office is Boulevard Costa del Este, Avenida Principal y Avenida de la Rotonda, Urbanización Costa del Este, Complejo Business Park, Torre Norte, Parque Lefevre, Panama City, Republic of Panama.

These consolidated financial statements comprise the Company and its subsidiaries: Compañía Panameña de Aviación, S. A. (Copa Airlines), Oval Financial Leasing, Ltd. (OVAL), AeroRepública, S. A. (Copa Colombia):

Copa Airlines: the Company s core operation is incorporated according to the laws of the Republic of Panama and provides international air transportation for passengers, cargo and mail, operating from its Panama City hub in the Republic of Panama.

Copa Colombia: is a Colombian air carrier, incorporated according to the laws of the Republic of Colombia which provides domestic and international air transportation for passengers, cargo, and mail.

In October 2016, Copa Colombia officially launched Wingo a new low-cost business model. Wingo operates administratively and functionally under Copa Colombia, with an independent structure for its commercialization, distribution systems and customer service. Wingo began operations on December 1st, 2016, currently flights to 14 destinations, 6 domestic and 8 international, in 8 countries in South and Central America and the Caribbean.

OVAL: incorporated according to the laws of the British Virgin Islands, it controls the special-purpose entities that have a beneficial interest in the majority of the Company s fleet, which is leased to either Copa Airlines or Copa Colombia.

The Company currently offers approximately 363 daily scheduled flights to 80 destinations in 32 countries in North, Central and South America and the Caribbean, mainly from its Panama City Hub. Additionally, the Company provides passengers with access to flights to more than 200 international destinations through codeshare agreements. The Company is part of Star Alliance, the leading global airline network since June 2012.

The Company has a broad commercial alliance with United Continental Holdings, Inc. (United), which was renewed during May 2016, for another five years. This Alliance includes an extensive and expanding code-sharing and technology cooperation. The Company participated in United s Mileage Plus frequent flyer loyalty program until June 30, 2015.

On July 1, 2015, Copa Airlines started its new loyalty program ConnectMiles , designed to strengthen the relationship with its frequent flyers and provide exclusive attention. The program maintains the mile accumulation and redemption model that Copa Airlines s passengers have enjoyed in recent years in United s Mileage Plus frequent flyer loyalty

program. ConnectMiles members are eligible to earn and redeem miles to any of Star Alliance s 1,317 (unaudited) destinations in 193 countries within 28 airlines members (unaudited).

As of December 31, 2018, the Company operates a fleet of 105 aircraft with an average age of 8.50 years, and consists of 68 Boeing 737-800 Next Generation aircraft, 14 Boeing 737-700 Next Generation aircraft, 4 Boeing 737 MAX-9 aircraft and 19 Embraer E190 aircraft.

The consolidated financial statements for the year ended December 31, 2018 have been authorized for issuance by the Company s Chief Executive Officer and Chief Financial Officer on April 24, 2019.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

2. Basis of preparation

Statement of compliance

The Company s consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

As used in these notes to consolidated financial statements, the terms the Company , we , us , our , and similar terms refer to Copa Holdings, S. A. and, unless the context indicates otherwise, its consolidated subsidiaries.

Basis of measurement

The consolidated financial statements have been prepared on a historical cost basis, except for the following:

certain financial assets, certain classes of property, plant and equipment and investment property measured at fair value

assets held for sale measured at fair value less cost of disposal, and

defined benefit pension plans plan assets measured at fair value.

Functional and presentation currency

These consolidated financial statements are presented in United States dollars (U.S. dollars $), which is the Company s functional currency and the legal tender of the Republic of Panama. The Republic of Panama does not issue its own paper currency; instead, the U.S. dollar is used as legal currency.

All values are rounded to the nearest thousand in U.S. dollars ($000), except when otherwise indicated.

3. Significant accounting policies

(a) Basis of consolidation

These consolidated financial statements comprise the financial statements of the Company and its subsidiaries. Control is achieved when the Company is exposed to, or has right to, variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Company controls the investee, when it has:

power over the investee,

exposure, or rights to, variable returns from its involvement with the investee, and

the ability to use its power over the investee to affect its returns.

The Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Company obtains control over the subsidiary and ceases when the Company loses control of the subsidiary.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. All intercompany balances, transactions, and dividends are eliminated in full.

The following are the significant subsidiaries included in these financial statements:

Name	Country of Incorporation	Ownership interest 2018	2017
Copa Airlines	Panama	99%	99%
Copa Colombia	Colombia	99%	99%
Oval	British Virgin Islands	100%	100%

(b) Current versus non-current classification

The Company presents assets and liabilities in the statement of financial position based on current/non-current classification.

An asset is current when it is:

- expected to be realized or intended to be sold or consumed in the normal operating cycle
- expected to be realized within twelve months after the reporting period, or
- cash or cash equivalent, unless restricted.

All other assets are classified as non-current.

A liability is current when:

- it is expected to be settled in the normal operating cycle
- it is due to be settled within twelve months after the reporting period, or

there is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period.

The Company classifies all other liabilities as non-current.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

(c) Foreign currencies

The Company s consolidated financial statements are presented in U.S. dollars, which is the Company s functional currency. The Company determines the functional currency for each entity, and the items included in the financial statements of each entity are measured using that functional currency.

Transactions and balances

Transactions in foreign currencies are initially recorded by the Company at the respective functional currency spot rates on the date when the transaction first qualifies for recognition.

Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot exchange rate at the reporting date. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

Foreign exchange gains and losses are included in the exchange rate difference line in the consolidated statement of profit or loss for the year.

(d) Revenue recognition

Revenue is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The consideration received or receivable is measured taking into account contractually defined terms of payment and excluding taxes or duties. The following specific recognition criteria must also be met before revenue is recognized:

Passenger revenue

Passenger revenue is primarily composed of passenger ticket sales, frequent flyer miles and ancillaries revenues performed in conjunction with a passenger s flight.

Passenger tickets

Passenger revenue from tickets is recognized when transportation is provided rather than when a ticket is sold. The amount of passenger ticket sales, to not yet recognized as revenue, is reflected under Air traffic liability in the consolidated statement of financial position. Refundable and nonrefundable tickets expire after one year from the date of issuance.The Company performs a monthly liability evaluation uses its historical experience with refundable and nonrefundable expired tickets and other facts, and a provision is recognized for tickets that are expected not to be used or redeemed. A year after the sales is made, all unredeemed sales are transferred from Air Traffic liability and recognized as revenue, and the provision is reversed.

The Company sells certain tickets with connecting flights with one or more segments operated by its other airline partners. For segments operated by other airline partners, the Company has determined that it is acting as an agent on behalf of the other airlines as they are responsible for their portion of the contract. The Company, as the agent, reduce from Air traffic liability when consideration is remitted to those airlines, and recognizes revenue for the net amount representing commission to be retained by the Company for any segments flown by other airlines.

Ticket Taxes

The Company is required to charge certain taxes and fees on its passenger tickets. These taxes and fees include transportation taxes, airport passenger facility charges, and certain governmentally imposed airport arrival and departure taxes. These taxes and fees are legal assessments on the customer. Since the Company has a legal obligation to act as a collection agent with respect to these taxes and fees, we do not include such amounts in passenger revenue. The Company records a liability when these amounts are collected and derecognizes the liability when payments are made to the applicable government agency or operating carrier.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

Frequent flyer program

Passenger revenue include income generated by the frequent flyer program. The Company s frequent flyer program objective, is to reward customer loyalty through the earning of miles whenever the programs members make certain flights. The miles or points earned can be exchanged for flights on Copa or any of other Star Alliance partners airlines.

When a passenger elects to receive Copa s frequent flyer miles in connection with a flight, the Company recognizes a portion of the tickets sale as revenue when the air transportation is provided and recognizes a deferred liability (Frequent flyer deferred revenue) for the portion of the ticket sale representing the value of the related miles as a separate performance obligation. To determine the amount of revenue to be deferred, the Company estimates and allocates the fair value of the miles that were essentially sold along with the airfare, based on a weighted average ticket value, which incorporates the expected redemption of miles including factors such as redemption pattern, cabin class, loyalty status and geographic region.

A statistical model that estimates the percentages of points that will not be redeemed before expiration is used to estimate breakage. The breakage and the fair value of the miles are reviewed annually, and any adjustments are reflected on a prospective basis to passenger revenues.

The Company calculates the short and long-term portion of the frequent flyer deferred revenue, using a model that includes estimates based on the members´ redemption rates projected by management due to clients behavior.

Currently, when a member of another carrier frequent flyer program redeems miles on a Copa Airlines or Copa Colombia flights, those carriers pay to the Company a per mile rate. The rates paid by them depend on the class of service, the flight length, and the availability of the reward and is included in passenger revenues.

Ancillaries revenues

Are primarily composed of services performed in conjunction with a passenger s flight, including administrative fees (such as ticket change fees), baggage fees, and other ticket-related fees. These ancillary fees are part of the travel performance obligation and, as such, are recognized as passenger revenue when the travel occurs.

Cargo and mail revenue

Cargo and mail revenue is recognized when the Company provides and completes the shipping services as requested by the client and the risks on the merchandise and goods are transferred.

Other operating revenue

Other revenue includes revenue associated with the frequent flyer program, which is comprised principally of the marketing component of mileage sales to co-branded card and other partners and other marketing related payments.

The Company sells miles to non-airline businesses with which it has marketing agreements. The main contracts to sell miles are related to co-branded credit card relationships with major banks in the region. The Company determined the selling prices of miles according to a method which allocates consideration based upon the relative selling price of the deliverables. The relative selling

(Continued)

COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

price of the deliverables is determined based upon the estimated standalone selling prices of each deliverable in the arrangement and is allocated between the miles sold to the passenger (as described above) and the marketing elements. Revenue allocated to the performance obligations related to, marketing components, is recorded in other operating revenue when miles are delivered.

The remaining amounts included within other revenue relate lease income, advertising and vacation-related services.

(e) Cash and cash equivalents

Cash and cash equivalents in the statement of financial position, comprise cash on hand and in banks, money market accounts, and time deposits with original maturities of three months or less from the date of purchase.

For the purpose of the consolidated statement of cash flows, cash and cash equivalents consist of cash net of outstanding bank overdrafts, if any. The Company has elected to present the statement of cash flows using the indirect method.

(f) Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets

The Company s financial assets include cash and cash equivalents, short and long-term investments and accounts receivable.

(i) Initial recognition and measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income (OCI), and fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial assets contractual cash flow characteristics and the Company s business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Company has applied the practical expedient, the Company initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Company has applied the practical expedient are measured at the transaction price.

In order for a financial asset to be classified and measured at amortized cost or fair value through OCI, it needs to give rise to cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

The Company s business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

All financial assets are recognized on the trade date, which is the date on which the Company becomes a party to the contractual provisions of an instrument.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

(ii) Subsequent measurement (policy applicable from January 1, 2018)

For purposes of subsequent measurement, financial assets are classified in four categories:

Financial assets at amortized cost (debt instruments)

Financial assets at fair value through OCI with recycling of cumulative gains and losses (debt instruments)

Financial assets designated at fair value through OCI with no recycling of cumulative gains and losses upon derecognition (equity instruments)

Financial assets at fair value through profit or loss

Financial assets at amortized cost

This category is the most relevant to the Company. The Company measures financial assets at amortized cost if both of the following conditions are met:

The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows; and

The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortized cost are subsequently measured using the effective interest rate (EIR) method and are subject to impairment. Gains and losses are recognized in profit or loss when the asset is derecognized, modified or impaired.

The Company s financial assets at amortized cost included the Company s investments and its receivables.

The Company invests in short-term deposits and bonds with original maturities of more than three months but less than one year, and invests in long-term deposits and bonds with maturities greater than one year. These investments are classified as short and long-term investments, respectively, in the accompanying consolidated statement of financial position.

Accounts receivable are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. These financial instruments are initially recognized and carried at the original invoice amount since recognition of interest under the amortized cost would be immaterial less a provision for impairment.

Financial assets at fair value through OCI

The Company measures debt instruments at fair value through OCI if both of the following conditions are met:

The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling; and

The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

For debt instruments at fair value through OCI, interest income, foreign exchange revaluation and impairment losses or reversals are recognized in the statement of profit or loss and computed in the same manner as for financial assets measured at amortized cost. The remaining fair value changes are recognized in OCI. Upon derecognition, the cumulative fair value change recognized in OCI is recycled to profit or loss.

The Company currently does not have assets classified under this category.

Financial assets designated at fair value through OCI

Upon initial recognition, the Company may elect to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under IAS 32 *Financial Instruments: Presentation and are not held for trading*. The classification is determined on an instrument-by-instrument basis.

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognized as other income in the statement of profit or loss when the right of payment has been established, except when the Company benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in OCI. Equity instruments designated at fair value through OCI are not subject to impairment assessment.

The Company currently does not have assets classified under this category.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include financial assets held for trading, financial assets designated upon initial recognition at fair value through profit or loss, or financial assets mandatorily required to be measured at fair value. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Derivatives, including separated embedded derivatives, are also classified as held for trading unless they are designated as effective hedging instruments. Financial assets with cash flows that are not solely payments of principal and interest are classified and measured at fair value through profit or loss, irrespective of the business model. Notwithstanding the criteria for debt instruments to be classified at amortized cost or at fair value through OCI, as described above, debt instruments may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduces, an accounting mismatch.

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognized in the statement of profit or loss.

The Company currently does not have assets classified under this category.

(iii) Derecognition

A financial asset is derecognized when:

the rights to receive cash flows from the asset have expired, or

the Company has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a pass-through arrangement, and either (a) the Company has transferred substantially all the risks and rewards of the asset, or (b) the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

When the Company has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates, if and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the asset is recognized to the extent of the Company s continuing involvement in the asset. In that case, the Company also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Company has retained.

(iv) Impairment of financial assets

The Company recognizes an allowance for expected credit losses (ECLs) on financial asset measured at amortized cost. Loss allowance for financial assets are deducted from the gross carrying amount on the assets.

ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Company expects to receive, discounted at an approximation of the original effective interest rate.

ECLs are recognized in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

Both, lifetime ECLs and 12-month ECLs, are calculated on either an individual basis or a collective basis, depending on the nature of the underlying portfolio of financial instruments.

The Company has established a policy to perform an assessment, at the end of each quarterly reporting period, of whether a financial instrument s credit risk has increased significantly since initial recognition, by considering the change in the risk of default occurring over the remaining life of the financial instrument.

For trade receivables the Company applies a simplified approach in calculating ECLs. Therefore, the Company does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each quarterly reporting date.

The Company has established a provision matrix to measure ECLs. Loss rates are calculated using a roll rate method based on the probability of a receivable progressing through successive stages of delinquency to write-off. To measure the ECLs, trade receivables have been grouped based on shared credit risk characteristics and the day past due.

Loss rates are based on actual credit loss experience over the last 12 months and adjusted for forward-looking factors specific to the debtors and the economic environment over the expected life of the receivables.

A financial assets is written off when there is a no reasonable expectation of recovering the contractual cash flows. The Company considers that there are no realistic prospects of recovery of the asset if any of the following indicators

are present:

the debtor is in a state of permanent disability

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the Company has exhausted all legal and/or administrative recourse

where the account exceeds one year without decreases

when there are not documents that establishing the debt

Losses arising from impairment are recognized under Other operating and administrative expenses in the consolidated statement of profit or loss.

Financial liabilities

(i) Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Company s financial liabilities include trade and other payables and loans and borrowings including bank overdrafts.

(ii) Subsequent measurement

The measurement of financial liabilities depends on their classification as described below:

Debt

Subsequent to initial recognition, all borrowings and loans are measured at amortized cost using the EIR method. Gains and losses are recognized in the consolidated statement of profit or loss when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included under finance cost in the consolidated statement of profit or loss.

(iii) Derecognition

Financial liabilities are derecognized when the obligation under the liability is discharged, cancelled, or expire. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in the consolidated statement of profit or loss.

Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount presented in the consolidated statement of financial position when, and only when, the Company has a legally enforceable right to set off the recognized amounts and it intends either to settle them on a net basis or to realize the asset and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the ordinary course of business and in the event of default, insolvency or bankruptcy of the Company or the counterparty.

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Derivative financial instruments and hedging activities

Derivative instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at their fair value.

Derivatives are carried as financial assets when the fair value results in a right to the Company and as financial liabilities when the fair value results in an obligation. The accounting for changes in value depends on whether the derivative is designated as a hedging instrument, and if so, the classification of the hedge.

For hedge accounting purposes, hedges are classified into:

Fair value hedges when hedging the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment

Cash flow hedges when hedging the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction or the foreign currency risk in an unrecognized firm commitment

hedges of a net investment in a foreign operation.

At the inception of a hedge relationship, the Company formally designates and documents the hedge relationship to which it wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation includes identification of the hedging instrument, the hedged item, the nature of the risk being hedged and how the Company will assess whether the hedging relationship meets the hedge effectiveness requirements. A hedging relationship qualifies for hedge accounting if it meets all of the following effectiveness requirements:

There is an economic relationship between the hedged item and the hedging instrument.

The effect of credit risk does not dominate the value changes that result from that economic relationship.

The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Company actually hedges and the quantity of the hedging instrument that the

Company actually uses to hedge that quantity of hedged item.

As of December 31, 2018 and 2017, the Company does not have financial instruments designated under hedge accounting.

(g) Impariment no financial assets

The Company assesses at each reporting date whether there is an indication that an asset or its cash-generating unit (CGU) may be impaired. If any such indication exists, or when annual impairment testing for an asset is required, the Company estimates the asset s or CGU s recoverable amount. The recoverable amount is the higher of an asset s or its CGU s fair value less costs to sell and its value in use. The recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or group of assets. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

Impairment losses of continuing operations, including impairment on inventories, are recognized in the consolidated statement of profit or loss in those expense categories consistent with the function of the impaired asset.

For assets, excluding goodwill, an assessment is made at each reporting date to determine whether there is any indication that previously recognized impairment losses no longer exist or may have decreased. If such indication exists, the Company estimates the asset s or CGU s recoverable amount.

A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset s recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the statement of profit or loss.

(h) Expendable parts and supplies

Expendable parts and supplies for flight equipment are carried at the lower of the average acquisition cost or replacement cost, and are expensed when used in operations. The replacement cost is the estimated purchase price in the ordinary course of business.

(i) Passenger traffic commissions

Passenger traffic commissions are recognized as expense when transportation is provided and the related revenue is recognized. Passenger traffic commissions paid but not yet recognized as expense are included under Prepaid expenses in the accompanying consolidated statement of financial position.

(j) Property and equipment

Property and equipment comprise mainly airframe, engines, and other related flight equipment. All property and equipment is stated at cost, net of accumulated depreciation and accumulated impairment losses, if any.

When a major maintenance inspection or overhaul cost is embedded in the initial purchase cost of an aircraft, the Company estimates the carrying amount of the component. These initial built-in maintenance assets are depreciated over the estimated time period until the first maintenance event is performed. The cost of major maintenance events completed after the aircraft acquisition are capitalized and depreciated over the estimated time period until the next major maintenance event. The remaining value of the previously capitalized component if any, is charged to expense

upon completion of the subsequent maintenance event.

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Notes to the consolidated financial statements

The Company recognizes the depreciation on a straight-line basis over the estimated useful lives of the assets. Depreciation is recognized in the consolidated statement of profit or loss from the date the property, and equipment is installed and ready for use.

Property and equipment	Estimate useful life (years)	Residual Value
Flight equipment -		
Airframe and engines	27	15%
Major maintenance events	3-16	
Ramp and miscellaneous -		
Ground equipment	10	
Furniture, fixture, equipment and other	5-10	
Leasehold improvements	Lesser of remaining lease term and estimated useful life of the leasehold improvement	

An item of property and equipment and any significant part initially recognized is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the statement of profit or loss when the asset is derecognized.

The costs of major maintenance events for leased aircraft (including operating leases) are capitalized and depreciated over the shorter of the scheduled usage period to the next major inspection event or the remaining life of lease term (as appropriate). The value of major maintenance inspection or overhaul embedded in the aircraft operating leases is not recognized as a separated component under IAS 17 *Leases*.

The residual values, useful life, and methods of depreciation of property and equipment are reviewed at each financial year-end and adjusted prospectively, if appropriate.

The land owned by the Company is recognized at cost less any accumulated impairment.

(k) Leases

The determination of whether an arrangement is or contains a lease is based on the substance of the arrangement at the inception date. The arrangement is assessed for whether the fulfillment of the agreement is dependent on the use of a specific asset or assets or the arrangement conveys a right to use the asset, even if that right is not explicitly specified in the arrangement.

A reassessment is made after inception of the lease only if one of the following applies:

there is a change in contractual terms, other than a renewal or extension of the arrangement;

a renewal option is exercised or extension granted, unless the term of the renewal or extension was initially included in the lease term;

there is a change in the determination of whether fulfillment is dependent on a specified asset; or

there is a substantial change to the asset.

Where a reassessment is made, lease accounting shall commence or cease from the date when the change in circumstances gave rise to the reassessment. When a renewal option is exercised or extension granted, lease accounting shall commence or cease at the date of renewal or extension.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

Notes to the consolidated financial statements

The Company as lessor

(i) Operating leases

When assets are leased under operating leases, the asset is included in the consolidated statement of financial position according to its nature. Revenue from operating leases is recognized over the lease term on a straight-line basis.

Initial direct costs incurred by the Company in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized as an expense over the lease term on the same basis as the related lease income.

The Company as lessee

(ii) Operating leases

Leases where the lessor effectively retains substantially all the risks and benefits of ownership of the leased item are classified as operating leases.

Operating lease payments are recognized as an expense in the consolidated statement of profit or loss on a straight-line basis over the lease term.

(iii) Finance leases

Leases where the lessor substantially transfers all the risks and benefits of ownership of the leased item are classified as finance leases.

The leased assets are measured initially at an amount equal to the lower of their fair value and the present value of the minimum lease payments. Minimum lease payments made under finance leases are apportioned between the finance cost and the reduction of the outstanding liability.

The finance expense is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability; these are recognized as finance costs in the consolidated statement of profit or loss.

Sale and leaseback transactions

The Company enters into transactions whereby aircraft are sold and subsequently leased back. The Company has not entered into sale and leaseback transactions that resulted in finance leases.

If a sale and leaseback transaction results in an operating lease, and it is clear that the transaction is established at fair value, any profit or loss is recognized immediately. If the sale price is below fair value any profit is recognized immediately. If the transaction is not at fair value, any resulting loss that is compensated for by future lease payments at below market rate is deferred and amortized over the lease term.

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(l) Intangible assets

Goodwill

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred over the net identifiable assets acquired and liabilities assumed of the acquired subsidiary at the date of acquisition.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Company s CGU or group of CGU s that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units. When the recoverable amount of the CGU is less than its carrying amount, an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods.

Other intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Internally generated intangible assets, excluding capitalized development costs, are not capitalized and the expenditure is reflected in the consolidated statement of profit or loss in the year in which the expenditure is incurred.

The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized over their useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are considered to modify the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization expense on intangible assets with finite life is recognized in the consolidated statement of profit or loss as the expense category that is consistent with the function of the intangible assets.

Intangible assets with indefinite useful lives are not amortized but are tested for impairment at least annually, either individually or at the CGU level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

Gains and losses arising from the derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognized in the consolidated statement of profit or loss when the asset is derecognized.

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Notes to the consolidated financial statements

The Company s intangible assets and the policies applied are summarized as follows:

Licenses and software rights

Acquired computer software licenses are capitalized on the basis of the costs incurred to acquire and bring to use the specific software. These costs are amortized using the straight-line method over their estimated useful lives (from three to eight years).

Costs associated with developing or maintaining computer software programs are recognized as an expense as incurred. Costs that are directly associated with the production of identifiable and unique software products controlled by the Company and that are estimated to generate economic benefits exceeding costs beyond one year, are recognized as intangible assets. Direct costs include the software development employee costs and an appropriate portion of relevant overheads. These costs are amortized using the straight-line method over their estimated useful lives (from five to fifteen years).

Computer software development costs recognized as assets are amortized on a straight-line basis over their estimated useful lives, which range between three and five years.

Licenses and software rights acquired by the Company have finite useful lives and are amortized on a straight-line basis over the term of the contract and the amortization is recognized in the consolidated statement of profit or loss.

(m) Taxes

Income tax expense

Income tax expense comprises current and deferred tax. It is recognized in profit or loss except when related to the items recognized directly in equity or in other comprehensive income (OCI).

Current income tax

The Company pays taxes in the Republic of Panama and in other countries in which it operates, based on regulations in effect in each respective country.

Revenue arise principally from foreign operations, and according to the Panamanian Tax Code, these foreign operations are not subject to income tax in Panama.

The Panamanian tax code for the airline industry states that tax is based on net income earned for passenger traffic with origin or final destination in the Republic of Panama. The applicable tax rate is currently 25.0%. Dividends from the Panamanian subsidiaries, are separately subject to a 10% withholding tax on the portion attributable to Panamanian sourced income and a 5% withholding tax on the portion attributable to foreign sourced income.

The Company is also subject to local tax regulations in each of the other jurisdictions where it operates, the great majority of which are related to income taxes.

Current income tax assets and liabilities are measured at the amount expected to be paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, at the reporting date in the countries where the Company operates and generates taxable income.

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Notes to the consolidated financial statements

Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions when appropriate.

Deferred tax

Deferred tax is calculated using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax assets are recognized for all deductible temporary differences, the carry forward of unused tax credits and unused tax losses. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary differences and the carry forward of unused tax credits and unused tax losses can be utilized, except:

- when the deferred tax asset relating to the deductible temporary difference arises from initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither accounting profit nor taxable profit or loss.

- in respect of deductible temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- when the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither accounting profit nor taxable profit or loss.

- in respect of taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in other comprehensive income or directly in equity.

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Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

(n) Borrowing costs

Borrowing costs directly attributable to the acquisition, construction, or production of any qualifying asset, that necessarily takes a substantial period of time to get ready for its intended use or sale, are capitalized as part of the cost of the asset during that period of time.

Other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

(o) Provisions

Provisions for costs, including restitution, restructuring and legal claims and assessments are recognized when:

the Company has a present legal or constructive obligation as a result of past events;

it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and

the amount of obligation can be reliably estimated.

For certain operating leases, the Company is contractually obliged to return the aircraft in a defined condition. The Company accrues a provision for restitution costs related to aircraft held under operating leases throughout the duration of the lease.

Restitution costs are based on the net present value of the estimated costs of returning the aircraft and are recognized in the consolidated statement of profit or loss under Maintenance, materials and repairs . These costs are reviewed annually and adjusted as appropriate.

(p) Employee benefits

Defined benefit plan

The Company sponsors a defined benefit plan, which requires contributions to be made to a separately administered fund.

The calculation of the defined benefit obligation is performed annually by a qualified actuary using the projected unit credit actuarial cost method (PUC).

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets and the effect of the asset ceiling (if any), are recognized immediately in other comprehensive income. The Company determines the net interest by applying the discount rate to the net defined benefit liability or asset. The Company recognizes the following changes in the net defined benefit obligation in the consolidated statement of profit or loss.

Share-based payments

Employees (including senior executives) of the Company receive compensation in the form of share-based payment transactions, whereby employees render services as consideration for equity instruments (equity-settled transactions).

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The cost of equity-settled transactions is recognized, together with a corresponding increase in additional paid in capital in equity, over the period in which the performance and/or service conditions are fulfilled. The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Company s best estimate of the number of equity instruments that will ultimately vest. Expense or credit for a period represents the movement in cumulative expense recognized as of the beginning and end of that period and is recognized under Wages, salaries, benefits and other employees expenses expense in the consolidated statement of profit or loss (note 25).

Termination benefits

Termination benefits are payable when employment is terminated by the Company before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Company recognizes termination benefits when it is demonstrably committed to either terminating the employment of current employees according to a detailed formal plan without realistic possibility of withdrawal, or providing termination benefits as a result of an offer made to encourage voluntary redundancy.

(q) Non-current assets held for sale and discontinued operations

The Company classifies non-current assets and disposal groups as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. Non-current assets and disposal groups classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell. Costs to sell are the incremental costs directly attributable to the disposal of an asset (disposal group), excluding finance costs and income tax expense.

The criteria for held for sale classification is regarded as met only when the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition. Actions required to complete the sale should indicate that it is unlikely that significant changes to the sale will be made or that the decision to sell will be withdrawn. Management must be committed to the plan to sell the asset and the sale expected to be completed within one year from the date of the classification.

Property and equipment and intangible assets are not depreciated or amortized once classified as held for sale.

All the financial statements include amounts for continuing operations. Additional disclosures about assets held for sale are provided in Note 13.

4. Significant accounting judgments, estimates and assumptions

The preparation of the Company s consolidated financial statements requires management to make judgments, estimates, and assumptions that affect the reported amounts of revenues, expenses, assets, and liabilities and the accompanying disclosures and the disclosure of contingent liabilities. Uncertainty about these assumptions and

estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities in future periods.

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Judgments

In the process of applying the Company s accounting policies, management has made judgments, which have the most significant effect on the amounts recognized in the consolidated financial statements in the following area:

Leases

The Company enters into lease contracts on some of the aircraft it operates. The Company assesses, based on the terms and conditions of the arrangements, whether or not substantially all risks and rewards of ownership of the aircraft it leases have been transferred/retained by the lessor to determine the appropriate accounting classification of the contracts as an operating or finance leases.

Estimates and assumptions

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below.

The Company based its assumptions and estimates on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the Company s control. Such changes are reflected in the assumptions when they occur.

Impairment of financial assets

The loss allowances for financial assets are based on assumptions about risk of default and expected loss rates. The Company uses judgement in making these assumptions and selecting the inputs to the impairment calculation, based on the Company s past history, existing market conditions as well as forward looking estimates at the end of each quarterly reporting period.

Impairment of non-financial assets

Impairment exists when the carrying amount of an asset or CGU exceeds its recoverable amount, which is the higher of its fair value less costs to sell and its value in use. The fair value less costs to sell calculation is based on available data from binding sales transactions, conducted at arm s length, for similar assets or observable market prices less incremental costs for disposing of the asset. The value in use calculation is based on a discounted cash flow model. The cash flows are derived from the budget for the next five years and do not include restructuring activities that the Company is not yet committed to or significant future investments that will enhance the asset s performance of the CGU being tested. The recoverable amount is most sensitive to the discount rate used for the discounted cash flow

model as well as the expected future cash-inflows and the growth rate used for extrapolation purposes (see note 16).

Property and equipment

The Company s management has determined that the residual value of the airframe, engines, and components (rotable parts) owned is 15% of the cost of the asset, so the depreciation of flight equipment is made accordingly. Annually, management reviews the useful life and residual value of each of these assets (see note 13).

Provision for return condition

The Company records a maintenance provision to accrue for the cost that will be incurred in order to return certain aircraft to their lessor in the agreed-upon condition. The methodology applied to calculate the provision requires management to make assumptions, including the future maintenance costs, discount rate, related inflation rates and aircraft utilization.

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Any difference in the actual maintenance cost incurred and the amount of the provision is recorded in maintenance expenses in the period. The effect of any changes in estimates, including those mentioned above, is also recognized in maintenance expenses for the period (see note 21).

Revenue recognition expired tickets

The Company recognizes estimated fare revenue for tickets that are expected to expire based on departure date (unused tickets), based on historical data and experience. Estimating the expected expiration rate requires management s judgment, among other things, the historical data and experience is an indication of the future customer behavior.

Multiple deliverable revenue arrangements Frequent flyer program

The frequent flyer program includes two major of transactions that are considered revenue arrangements with multiple performance obligations: (i) mileage credits earned with travel and (ii) mileage credits sold to co-branded credit card partner and other partners. The Company estimates the fair value of the miles in those transactions using a blended calculation of rates charged when miles are sold to other partners and the average value of a mile flown by a customer. Also, the Company estimates and reduces the liability for the value of miles earned but expected to expire unused, based on historical experience.

Taxes

The Company believes that taken tax positions, including transfer pricing between entities, are reasonable. However, in the event of an audit by the tax authorities, they may challenge the positions taken by the Company, resulting in additional taxes and interest liabilities.

The tax positions involve considerable judgment by management and are reviewed and adjusted to account for changes in circumstances, such as lapsing of applicable statutes of limitations, conclusion of tax audits, additional exposures based on identification of new issues, or court decisions affecting a particular tax issue. Actual results may differ from estimates (see note 22).

Fair value measurement

The Company measures financial instruments such as derivatives at fair value at the date of each statement of financial position. Fair values of financial instruments measured at amortized cost are disclosed in note 28.7.

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.

The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

in the principal market for the asset or liability, or

in the absence of a principal market, in the most advantageous market for the asset or liability.

The principal or the most advantageous market must be accessible to the Company.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

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A fair value measurement of a non-financial asset takes into account a market participant s ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole (see note 28.7 for further disclosures):

i) Level 1 Quoted (unadjusted) market prices in active markets for identical assets or liabilities.

ii) Level 2 Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable.

iii) Level 3 Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. Judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

For assets and liabilities that are recognized in the financial statements on a recurring basis, the Company determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

5. Changes in disclosures

Adoption of new and amended standards and interpretations

The Company applied for the first time the following standards and amendment, which are effective for annual periods beginning on or after January 1, 2018:

IFRS 9 *Financial instruments*

IFRS 15 *Revenue from contracts with customers*

Amendment to IFRS 15 *Revenue from contracts with customers*

The following amendments effective for annual periods beginning on or after January 1, 2018, had no impact on the company s financial statements:

Amendments to IFRS 2 *Share based payments*

Amendments to IFRS 4 *Insurance contracts*

Amendments to IAS 40 *Investment property*

Annual Improvements Cycle 2014-2016: IFRS 1 *Adoption for the first time of international financial reporting standards and* IAS 28 *Investments in associates and joint ventures.*

IFRIC 22 *Foreign currency transactions and advance consideration*

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The Company has not early adopted any standards, interpretations or amendments that have been issued but are not yet effective.

5.1 IFRS 15 Revenue from contracts with customers

The new standard provides a framework that replaces existing revenue recognition guidance in IFRS and establishes a five-step model to account for revenue arising from contracts with customers and requires that revenue be recognized at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer.

The model specifies that revenue should be recognized when (or as) an entity transfers control of goods or services to a customer at the amount to which the entity expects to be entitled.

Depending on whether certain criteria are met, revenue is recognized:

over time, in a manner that depicts the entity s performance; or

at a point in time, when control of the goods or services is transferred to the customer.

The Company adopted IFRS 15 using the full retrospective method of adoption, using the following practical expedients:

The effect of the transition on the current period has not been disclosed.

Not restate contracts that begin and end within the same annual reporting period.

Not disclose the amount of the remaining performance obligations for contracts since the original expected duration of the contacts are less or equal to one year.

The costs to obtain a contract are recognized as expense because the amortization period is one year or less.

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The effect of adopting IFRS 15 is, as follows:

Impact on statement of profit or loss

	2017	IFRS 15	2017 Restated
Operating revenue			
Passenger revenue	$ 2,462,419	$ (18,168)	$ 2,444,251
Cargo and mail revenue	55,290		55,290
Other operating revenue	9,847	12,398	22,245
	2,527,556	(5,770)	2,521,786
Operating expenses			
Other operating expenses	1,897,500		1,897,500
Sales and distribution	200,413	(157)	200,256
	2,097,913	(157)	2,097,756
Operating profit	429,643	(5,613)	424,030
Non operating (expense) income	(10,675)		(10,675)
Profit before taxes	418,968	(5,613)	413,355
Income tax expense	(49,310)		(49,310)
Net profit	369,658	(5,613)	364,045
Earnings per share			
Basic and diluted	$ 8.71	$ (0.13)	$ 8.58

	2016	IFRS 15	2016 Restated
Operating revenue			
Passenger revenue	$ 2,155,167	$ (6,666)	$ 2,148,501
Cargo and mail revenue	53,989		53,989
Other operating revenue	12,696	4,000	16,696
	2,221,852	(2,666)	2,219,186

Operating expenses			
Other operating expenses	1,760,348		1,760,348
Sales and distribution	193,984	(147)	193,837
	1,954,332	(147)	1,954,185
Operating profit	267,520	(2,519)	265,001
Non operating (expense) income	96,679		96,679
Profit before taxes	364,199	(2,519)	361,680
Income tax expense	(38,271)		(38,271)
Net profit	325,928	(2,519)	323,409
Earnings per share			
Basic and diluted	$ 7.69	$ (0.06)	$ 7.63

The nature of these adjustments are described below:

Ancillary services: considerations about these contracts are at what level and when revenues take place. This was evaluated under the performance obligations criteria, including services such as excess baggage fees, exchange fees, upgrades fees and other fees. The main change is the recognition of revenue from the sales date to the departure date, the moment when the performance obligations are fulfilled.

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Under the new standard these deliverables are considered a single performance obligation, which will not exist without the main performance obligation, the travel service that is fulfilled at departure date.

The Company recognized a decrease of $2.6 million and $1.4 million for the year ended as of December 2017 and 2016, respectively, in Passenger revenue due to the change in the timing of revenue recognition related to exchange fee and other ancillary, from the sales date, to the departure date.

Denied board compensation: considerations about whether this performance obligation should be recognized as an operational expense or be allocated against the revenue. This impact consists in the reclassification of this type of performance obligation from the operational expense to contra revenue.

The Company recognized a decrease of $0.2 million in each year ended as of December 2017 and 2016 in Passenger revenue, due the reclassification of denied board compensation from the Sales and distribution operating expenses.

Classification of revenue streams: certain revenues that was presented as passenger revenue has been reclassified to other revenue. This revenue has been reclassified between passenger revenue, other revenue and operational expenses for the adoption. This reclassification occurred due to the analysis and classification of each contract according to each associated performance obligations. Some of these concepts include charter flights, publicity and fees related to cobrand agreements.

The Company recognized a decrease of $15.4 million and $5.1 million for the year ended as of December 2017 and 2016 due to the reclassification from Passenger revenue to Other operating revenue of the revenue related to the sale and transfer of miles and cobrand agreements from our frequent flyer program, the sale of advertising space, and charter flight.

Loyalty program contract: considerations about loyalty point valuations, related to co-brand contracts. Multiple deliverable in this contract relate to points earn by the passenger and marketing related to the credit card with the financial entities were changed from a residual method to a method which allocates consideration based upon the relative selling price of the deliverables. The relative selling price of the deliverables is determined based upon the estimated standalone selling prices of each deliverable in the arrangement. Due to this assessment, the value applied to miles earned under the co-brand agreements have been be adjusted, changing the amount of revenue recognized from the inceptions of these contracts.

The Company recognized a decrease of $2.7 million and $1.1 million for the year ended as of December 2017 and 2016, respectively, in other operating revenue due to the change in the amount deferred for mileages credits due to sales from co-brand partner agreements resulting from the change from the residual method to the relative selling price method.

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Impact on the consolidated statement of financial position

	2017	IFRS 15	2017 Restated
ASSETS	$ 4,044,961		4,044,961
LIABILITIES AND EQUITY			
Current liabilities			
Air traffic liability	470,693	6,475	477,168
Frequent flyer deferred revenue	13,186	4,011	17,197
Other current liabilities	563,150		563,150
	1,047,029	10,486	1,057,515
Non current liabilities	1,092,320		1,092,320
Total liabilities	2,139,349	10,486	2,149,835
Equity			
Retained earnings	1,574,781	(4,873)	1,569,908
Net income	369,658	(5,613)	364,045
Equity	(38,827)		(38,827)
Total equity	1,905,612	(10,486)	1,895,126
Total liabilities and equity	$ 4,044,961		4,044,961

	2016	IFRS 15	2016 Restated
ASSETS	$ 3,640,595		3,640,595
LIABILITIES AND EQUITY			
Current liabilities			
Air traffic liability	396,237	3,559	399,796
Frequent flyer deferred revenue	9,044	1,314	10,358
Other current liabilities	457,401		457,401
	862,682	4,873	867,555
Non current liabilities	1,141,160		1,141,160
Total liabilities	2,003,842	4,873	2,008,715

Equity			
Retained earnings	1,355,645	(2,354)	1,353,291
Net income	325,928	(2,519)	323,409
Equity	(44,820)		(44,820)
Total equity	1,636,753	(4,873)	1,631,880
Total liabilities and equity	$ 3,640,595		3,640,595

The nature of these adjustments are described below:

An increase of $6.4 million and $3.6 million as of December 31, 2017 and 2016, respectively, due to the change in the timing of revenue recognition related to exchange fee and other ancillary, from the sales date, to the departure date

An increase of $4.0 and $1.3 million as of December 31, 2017 and 2016, respectively, in Frequent flyer deferred revenue, due the change in the amount deferred for mileages credits due to sales from co-brand partner agreements resulting from the change from the residual method to the relative selling price method product.

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A decrease of $4.9 million in retained earnings due to the impacts of the 2016 period. A decrease of $2.4 million in retained earnings by: $2.2 million due to the change in the timing of revenue recognition related to exchange fee and other ancillary, from the sales date, to the departure date; and $0.2 million due to the change in the amount deferred for mileages credits due to sales from co-brand partner agreements resulting from the change from the residual method to the relative selling price method. This effect is the product of the impact of the 2015 period.

The change did not have a material impact on OCI for the period. The impact on the statement of cash flows for the year ended 31 December 2017 and 2016, only relates to the changes in the net profit. There was no impact on the net cash flows from operating activities. The cash flows from investing and financing activities were not affected.

5.2 IFRS 9 Financial instruments

IFRS 9 *Financial Instruments* replaces IAS 39 *Financial Instruments: Recognition and Measurement* for annual periods beginning on or after January 1, 2018, bringing together all three aspects of the accounting for financial instruments: classification and measurement; impairment; and hedge accounting.

The Company adopted the new standard without restating comparative information. The adjustments arising from the new impairment rules are therefore recognized in the opening balance on January, 1, 2018. The adoption of IFRS 9 resulted in changes in accounting policies set out in note 3(f).

Classification and measurement

The classification and measurement requirements of IFRS 9 did not have an impact on the Company. Trade receivables and investments are held to collect contractual cash flows and are expected to give rise to cash flows representing solely payments of principal and interest. The Company analyzed the contractual cash flow characteristics of those instruments and concluded that they meet the criteria for amortized cost measurement under IFRS 9 therefore; reclassification for these instruments is not required.

There was not impact on the Company s accounting for financial liabilities, as the new requirements only affect the accounting for financial liabilities that are designated at fair value through profit or loss and the Company as of January 1, 2018 did not have any such liabilities.

Impairment of financial assets

The adoption of IFRS 9 has fundamentally changed the Company s accounting for impairment losses for financial assets by replacing IAS 39 s incurred loss approach with a forward-looking ECL approach. IFRS 9 requires the Company to recognize an allowance for ECLs for all financial assets not held at fair value through profit or loss.

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Set out below is the reconciliation of the ending impairment allowances in accordance with IAS 39 to the opening loss allowances determined in accordance with IFRS 9:

	Allowance for impairment under IAS 39 as at 31 December 2017	Remeasurement	ECL under IFRS 9 as at 1 January 2018
Investment	$	$ (1,120)	$ (1,120)
Account receivables	(3,673)	(624)	(4,297)
	(3,673)	(1,744)	(5,417)

Investments at amortized cost

Are considered to be low risk, and therefore the impairment provision is determined at 12-month ECLs using the general approach as prescribed by IFRS 9. Applying the expected credit risk model results in the recognition of a loss allowance of $1.1 million on January 1, 2018 and further increase of $0.1 million in the current period.

Accounts receivables

For accounts receivables, the Company applies the simplified approach, which requires the use of the lifetime expected loss provision for all trade receivables. Applying the simplified approach results in the recognition of a loss allowance of $0.6 million on January 1, 2018 and further increase of $1.3 million in the current period.

Further disclosures are provided in note 28.3.

Hedge accounting

At the date of initial application, January 1, 2018, the Company does not have financial instruments designated under hedge accounting.

6. New standards and interpretations not yet adopted

The standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Company s financial statements are disclosed below. The Company intends to adopt these standards, if applicable, when they

become effective.

IFRS 16 *Leases*

This standard was issued in January 2016 and sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract, i.e. the customer (lessee) and the supplier (lessor). IFRS 16 eliminates the classification of leases as either operating leases or finance leases for a lessee. Instead all leases are treated in a similar way to finance leases under IAS 17 *Leases*.

The lessee is required to recognize the present values of future lease payments and showing them either as lease assets (right-of-use assets ROU) or together with property, plant and equipment, and also recognizing a financial liability representing its obligation to make future lease payments. Lessees will be required to separately recognize the interest expense on the lease liability and the depreciation expense on the ROU. IFRS 16 does not require a company to recognize assets and liabilities for (a) short-term leases (i.e. leases of 12 months or less), and (b) leases of low-value assets.

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Notes to the consolidated financial statements

Lessor accounting under IFRS 16 is substantially unchanged from today s accounting under IAS 17. Lessors will continue to classify all leases using the same classification principle as in IAS 17 and distinguish between two types of leases: operating and finance leases.

Transition to IFRS 16

The Company plans to adopt IFRS 16 retrospectively to each prior reporting period presented.

The Company will elect to use the exemptions proposed by the standard on lease contracts for which the lease terms ends within 12 months as of the date of initial application, and lease contracts for which the underlying asset is of low value. The Company has leases of certain office equipment (i.e., personal computers, printing and photocopying machines) that are considered of low value.

The Company has set up a project team which has reviewed all of the Company s leasing arrangements over the last year in light of the new lease accounting rules in IFRS 16. The standard will affect primarily the accounting for the Company s operating leases (see note 14). Also, the Company has actively participated in a specialized airline industry accounting group, which is comprise of by various airline members, accounting firms and the staff of the International Air Transport Association (IATA). The objective of this group is to discuss the nature and volume of implementation questions to adopt uniform accounting policies about these new standards within the airline industry.

The Company s activities as a lessor are not material and the Company does not expect any significant impact on the financial statements. However, some additional disclosures will be required from next year.

During 2018, the Company has assessed the estimated impact that initial application of IFRS 16 will have on its consolidated financial statements. The Company expect that the adoption of this standard will result in the recognition of additional liabilities in a range of approximately $390.0 million to $430.0 million, this calculation excluded the impact that would occur if the lease return conditions are included in the ROU asset and lease liability for which the Company have not yet completed the evaluation.

The actual impacts of adopting the standard on January 1, 2019 may change because the new accounting policies are subject to change until the Company presents its first financial statements that include the date of initial application.

IFRS 17 ***Insurance Contracts***

In May 2017, the IASB issued IFRS 17 *Insurance Contracts*, a comprehensive new accounting standard for insurance contracts covering recognition and measurement, presentation and disclosure. Once effective, IFRS 17 will replace IFRS 4 *Insurance Contracts* that was issued in 2005. IFRS 17 applies to all types of insurance contracts (i.e., life, non-life, direct insurance and reinsurance), regardless of the type of entities that issue them, as well as to certain guarantees and financial instruments with discretionary participation features.

IFRS 17 is effective for reporting periods beginning on or after January 1, 2021 with comparative figures required. Early application is permitted; provided the entity also applies IFRS 9 and IFRS 15 on or before the date it first

applies IFRS 17. This standard is not applicable to the Company.

IFRIC 23 ***Uncertainty over income tax treatments***

This IFRIC was issue in June, 2017 and clarifies how the recognition and measurement requirements of IAS 12 Income taxes, are applied where there is uncertainty over income tax treatments.

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The IFRIC had clarified previously that IAS 12, not IAS 37 *Provisions, contingent liabilities and contingent assets*, applies to accounting for uncertain income tax treatments. IFRIC 23 explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment.

An uncertain tax treatment is any tax treatment applied by an entity where there is uncertainty over whether that treatment will be accepted by the tax authority. For example, a decision to claim a deduction for a specific expense or not to include a specific item of income in a tax return is an uncertain tax treatment if its acceptability is uncertain under tax law. IFRIC 23 applies to all aspects of income tax accounting where there is an uncertainty regarding the treatment of an item, including taxable profit or loss, the tax bases of assets and liabilities, tax losses and credits and tax rates.

The Interpretation is applicable for annual reporting periods beginning on or after January 1, 2019; it provides a choice of two transition approaches:

full retrospective using IAS 8, only if the application is possible without the use of hindsight; or

modified retrospective with the cumulative effect of the initial application recognized as an adjustment to equity on the date of initial application. In this approach, comparative information is not restated.

Since the Company does not have any uncertainty over income tax treatments, the amendments will not have an impact on its consolidated financial statements.

Amendment to IAS 28 ***Investments in Associates and Joint Ventures***

This amendment was issue in October, 2017 and clarify that companies account for long-term interests in an associate or joint venture to which the equity method is not applied using IFRS 9.

The amendment is mandatory for annual reporting periods beginning on or after January 1, 2019. Since the Company does not have such long-term interests in its associate and joint venture, the amendments will not have an impact on its consolidated financial statements.

Amendment to IFRS 9 ***Prepayment features with negative compensation***

This amendment was issue in October 2017 and clarify that a financial asset passes the SPPI criterion regardless of the event or circumstance that causes the early termination of the contract and irrespective of which party pays or receives reasonable compensation for the early termination of the contract.

The IASB also clarified in the Basis for Conclusions to the Amendment that, under IFRS 9, gains and losses arising on modifications of financial liabilities that do not result in derecognition should be recognised in profit or loss.

The amendments should be applied retrospectively and are effective from 1 January 2019, with earlier application permitted. These amendments have no impact on the consolidated financial statements of the Company.

Amendments to IAS 19 ***Employee benefits on plan amendment, curtailment or settlement***

The amendments to IAS 19 was issue in February 2018 and address the accounting when a plan amendment, curtailment or settlement occurs during a reporting period. The amendments specify that when a plan amendment, curtailment or settlement occurs during the annual reporting period, an entity is required to:

Determine current service cost for the remainder of the period after the plan amendment, curtailment or settlement, using the actuarial assumptions used to remeasure the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event.

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Determine net interest for the remainder of the period after the plan amendment, curtailment or settlement using: the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event; and the discount rate used to remeasure that net defined benefit liability (asset).

The amendments also clarify that an entity first determines any past service cost, or a gain or loss on settlement, without considering the effect of the asset ceiling. This amount is recognised in profit or loss. An entity then determines the effect of the asset ceiling after the plan amendment, curtailment or settlement. Any change in that effect, excluding amounts included in the net interest, is recognised in other comprehensive income.

The amendments apply to plan amendments, curtailments, or settlements occurring on or after the beginning of the first annual reporting period that begins on or after January 1, 2019, with early application permitted. These Amendments will apply only to any future plan amendments, curtailments, or settlements of the Company.

Amendments to IFRS 3 ***Definition of a business***

This amendment was issue in October 2018 and revises the definition of a business. According to the new guidance to be considered a business, an acquisition would have to include an input and a substantive process that together significantly contribute to the ability to create outputs.

The amendment is effective for reporting periods beginning on or after January 1, 2020 and the Company does not expect that those amendments have a material impact on its consolidated financial statements.

Amendments to IAS 1 and IAS 8 ***Definition of material***

The amendments to IAS 1 *Presentation of financial statements*, and IAS 8 *Accounting policies, changes in accounting estimates and errors* and consequential amendments to other IFRSs, were issue in October 2018 and revises:

i) the use of a consistent definition of materiality throughout IFRSs and the Conceptual Framework for Financial Reporting;

ii) clarify the explanation of the definition of material; and

iii) incorporate some of the guidance in IAS 1 about immaterial information.

These amendments should be applied for annual periods beginning on or after 1 January 2020. Earlier application is permitted. The Company does not expect that those amendments have a material impact on its consolidated financial statements.

Amendments to IFRS 10 and IAS 28 ***Sale or Contribution of Assets between an Investor and its Associate or Joint Venture***

The amendments address the conflict between IFRS 10 and IAS 28 in dealing with the loss of control of a subsidiary that is sold or contributed to an associate or joint venture. The amendments clarify that the gain or loss resulting from the sale or contribution of assets that constitute a business, as defined in IFRS 3, between an investor and its associate or joint venture, is recognized in full. Any gain or loss resulting from the sale or contribution of assets that do not constitute a business, however, is recognized only to the extent of unrelated investors interests in the associate or joint venture. The IASB has deferred the effective date of these amendments indefinitely, but an entity that early adopts the amendments must apply them prospectively. These amendments are not applicable to the Company.

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COPA HOLDINGS, S. A. AND SUBSIDIARIES

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Annual Improvements Cycle 2015 2017

These improvements include:

IFRS 3 *Business combinations*, a company remeasures its previously held interest in a joint operation when it obtains control of the business.

An entity applies those amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early application permitted. These amendments are currently not applicable to the Company.

IFRS 11 *Joint arrangements,* a company does not remeasure its previously held interest in a joint operation when it obtains joint control of the business.

An entity applies those amendments to transactions in which it obtains joint control on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early application permitted. These amendments are currently not applicable to the Company

IAS 12 *Income taxes,* all income tax consequences of dividends (including payments on financial instruments classified as equity) are recognized consistently with the transactions that generated the distributable profits.

An entity applies those amendments for annual reporting periods beginning on or after 1 January 2019, with early application is permitted. When an entity first applies those amendments, it applies them to the income tax consequences of dividends recognized on or after the beginning of the earliest comparative period. The Company is evaluating these amendments and plans to adopt it on the required effective date.

IAS 23 *Borrowing costs,* a company treats as part of general borrowings any borrowing originally made to develop an asset when the asset is ready for its intended use or sale.

An entity applies those amendments to borrowing costs incurred on or after the beginning of the annual reporting period in which the entity first applies those amendments. An entity applies those amendments for annual reporting periods beginning on or after 1 January 2019, with early application permitted. The Company is evaluating these amendments and plans to adopt it on the required effective date. The Company does not expect that those amendments have a material impact on its consolidated financial statements.

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7. Revenue from contract with customers

7.1 Revenue disaggregation

Operating revenues are comprised of passenger revenues, cargo and mail, and other operating revenues. The following table shows disaggregated operating revenues for the years ended as December 31, 2018, 2017 and 2016.

	2018	2017	2016
Passenger revenue			
Passenger revenue	$ 2,567,316	$ 2,434,820	$ 2,142,804
Miles redeemed	20,073	9,431	5,697
	2,587,389	2,444,251	2,148,501
Cargo and mail revenue	62,483	55,290	53,989
	62,483	55,290	53,989
Other operating revenue			
Frequent flyer program marketing services	16,291	13,332	5,378
Other operating revenue	11,464	8,913	11,318
	27,755	22,245	16,696
Total revenue	$ 2,677,627	$ 2,521,786	$ 2,219,186

7.2 Contract balances

The significant contract liabilities are comprises of ticket sales for transportation that has not yet been provided, record as Air traffic liability and outstanding loyalty program miles that may be redeemed for future travel, record as Frequent flyer deferred revenue .

The table below presents the changes in air traffic liability:

	2018	2017	2016
Balance at beginning of year	$ 477,168	$ 399,796	$ 352,110
Deferred of revenue	2,537,772	2,511,970	2,164,165
Recognition of revenue	(2,543,264)	(2,434,598)	(2,116,479)

Balance at end of year	$ 471,676	$ 477,168	$ 399,796

The contract duration of passenger tickets is one year. Accordingly, any revenue associated with ticket sold for future travel dates will be recognized within twelve months.

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The table below presents the activity of the current and non-current frequent flyer liability:

Frequent flyer liability

	2018	2017	2016
Balance at beginning of year	$ 50,312	$ 36,682	$ 18,884
Deferred of revenue	37,575	23,061	23,495
Recognition of revenue	(20,073)	(9,431)	(5,697)
Balance at end of year	**$ 67,814**	**$ 50,312**	**36,682**
Current	30,342	17,197	10,358
Non-current	37,472	33,115	26,324
	$ 67,814	**$ 50,312**	**$ 36,682**

Contract assets are reflected as account receivable. See note 10.

7.3 Segment reporting

The Company s business activities are conducted as one operating segment Air transportation, the reporting results of which are regularly reviewed by management for purposes of analyzing its performance and making decisions about resource allocations. Information concerning operating revenue by geographic area for the period ended December 31 is as follows (in millions):

	2018	2017	2016
North America	$ 707.2	$ 610.0	$ 638.9
Panama	432.6	407.7	369.0
Central America and the Caribbean	289.2	275.3	273.6
Brazil	319.5	363.7	245.4
Argentina	266.3	241.4	178.6
Colombia	214.4	197.9	146.1
Others South America	448.4	425.8	367.6
	$ 2,677.6	$ 2,521.8	$ 2,219.2

The Company attributes revenue to the geographic areas based on point of sales. Our tangible assets and capital expenditures consist primarily of flight and related ground support equipment, which is mobile across geographic markets and, therefore, has not been allocated.

8. Cash and cash equivalents

	2018	2017
Checking and saving accounts	$ 121,799	$ 208,440
Time deposits of no more than ninety days	34,000	30,000
Cash on hand	359	352
	$ 156,158	$ 238,792

As of December 31, 2018 and 2017, the Company s cash and cash equivalents are free of restriction or charges that could limit its availability.

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Time deposits earned interest based on rates determined by the banks in which the instruments are held, ranging between 2.45% and 2.90% for U.S. dollars investments until December 2018 (2017: between 1.49% and 1.58% for U.S. dollars investments).

9. Investments

	2018			2017		
	Current	Non Current	Total	Current	Non Current	Total
Time deposits	$ 531,002	$ 65,000	$ 596,002	$ 705,108	$ 65,953	$ 771,061
Bonds	35,895	74,367	110,262			
	566,897	139,367	706,264	705,108	65,953	771,061
Allowance for expected credit losses	(697)	(521)	(1,218)			
	$ 566,200	$ 138,846	$ 705,046	$ 705,108	$ 65,953	$ 771,061

Time deposits earned interest based on rates determined by the banks in which the instruments are held. The use of these instruments depends on the cash requirements of the Company. Time deposits denominated with a contractual maturity of less than 365 days, bear interest at rates ranging between 2.62% and 3.75% (2017: between 1.37% and 3.75%), and with a contractual maturity of more than 365 rate ranging between 3.35% and 4.38% (2017: between 3.20% and 3.75%).

During 2018, the Company acquired bonds with semiannual interest payment, the interest rates of these investments ranging between 2.53% and 3.32%.

All of the investment at amortized cost are denominated on U.S. dollar, as a result, there is no exposure to foreign currency risk. There is also no exposure to price risk as the investments will be held to maturity.

The information about the expected credit loss over these financial assets are disclosed in note 28.3.

10. Accounts receivable

	2018	2017
Credit cards	$ 56,446	$ 64,420
Travel agencies and airlines clearing house	32,978	36,640
Cargo and other travel agencies	11,766	6,798

Government	6,342	6,216
Trade receivables from related parties	223	318
Other	14,533	7,366
	122,288	121,758
Allowance for expected credit losses	(5,057)	(3,673)
	$ 117,231	$ 118,085
Current	116,054	115,641
Non-current	1,177	2,444
	$ 117,231	$ 118,085

Trade receivable are non-interest bearing and are generally on term of 30 to 90 days.

See detail of trade receivables from related parties in note 23.

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As of December 31, 2018, the Company maintained a non-current account receivable with a government institution in the amount of $2.2 million (2017: $2.4 million).

The category Other mainly includes $10.9 million of receivables from miles partners and $1.0 million of employees accounts (2017: $3.6 million and $1.1 million respectively).

The movement in the allowance for impairment in respect of account receivables during the year was as follows. Comparative amounts for 2017 represent the allowance account for impairment losses under IAS 39.

	2018	2017	2016
Balance at beginning of year	$ (3,673)	$ (3,739)	$ (2,997)
Adjustment on initial application of IFRS 9	(624)		
Balance at beginning of year under IFRS 9	(4,297)	(3,739)	(2,997)
Additions	(1,311)	(879)	(1,511)
Write-offs	551	945	769
Balance at end of year	$ (5,057)	$ (3,673)	$ (3,739)

The information about the credit exposures are disclosed in Note 28.3.

11. Expendable parts and supplies

	2018	2017
Material for repair and maintenance	$ 93,654	$ 79,424
Other inventories	3,315	3,058
	96,969	82,482
Allowance for obsolescence	(10,439)	(657)
	$ 86,530	$ 81,825

Expendable parts and supplies recognized as an expense in the accompanying consolidated statement of profit or loss under Maintenance, materials and repairs amount to $31.9 million, $28.1 million and $24.7 million, for the years ended December 31, 2018, 2017 and 2016, respectively.

During 2018, due the recognition of impairment over the Embraer 190 fleet (see note 13), the Company estimated the amount of inventory that is not expected to be consumed during the next 5 year, resulted in a loss of $9.6 million recognize as Impairment of non financial assets in the accompanying consolidated statement of profit or loss.

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12. Prepaid expenses

	2018	2017
Prepaid taxes	$ 40,504	$ 38,672
Prepaid commissions	4,694	5,297
Prepaid rent	6,849	7,479
Prepaid insurance	2,304	207
Prepaid to supplier	45,670	19,896
	$ 100,021	$ 71,551
Current	74,384	45,421
Non-current	25,637	26,130
	$ 100,021	$ 71,551

Prepaid taxes include $14.9 million of tax advance of VAT and withholdings taxes (2017: $12.5 million). The non-current portion of prepaid expenses corresponds to $11.2 million (2017: $12.9 million) of advance payments of taxes which are credited to future payments from tax dividends in Panama and $14.4 million in tax credits (2017: $13.2 million).

Prepaid to supplier mainly includes operating expenses related to management of fuel and maintenance services. As of December 31, 2018, includes $24.0 million (2017: $4.0 million) paid in advance to GE Engines Services, LLC, for the purpose of future maintenance services related to aircraft engines.

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13. Property and equipment

	Land	Flight equipment	Purchase deposits for flight equipment	Ramp and miscellaneous	Furniture, fixtures, equipment and other	Leasehold improvements	Construction in progress	Total
Cost -								
Balance at January 1, 2016	$ 6,301	$ 3,030,361	$ 243,070	$ 43,037	$ 25,947	$ 35,866	$ 10,054	$ 3,394,636
Transfer of pre-delivery payments		27,585	(27,585)					
Additions		94,348	34,680	3,026	1,878	73	7,435	141,440
Disposals		(36,812)		(604)	(1,226)	(98)		(38,740)
Adjustments		100			2,363			2,463
Reclassifications		(340)		(289)	645	9,140	(10,896)	(1,740)
Balance at December 31, 2016	$ 6,301	$ 3,115,242	$ 250,165	$ 45,170	$ 29,607	$ 44,981	$ 6,593	$ 3,498,059
Transfer of pre-delivery payments		28,674	(28,674)					
Additions		158,557	192,196	1,461	3,392	1,614	5,246	362,466
Disposals		(54,114)	(54)	(228)	(711)			(55,107)
Reclassifications		3,870		1,950	(4,764)	3448	(6,061)	(1,557)
Balance at December 31, 2017	$ 6,301	$ 3,252,229	$ 413,633	$ 48,353	$ 27,524	$ 50,043	$ 5,778	$ 3,803,861
Transfer of pre-delivery payments		156,305	(156,305)					
Additions		228,302	216,732	5,434	3,773	3,388	10,795	468,424
Disposals		(20,737)		(128)	(393)	(6,246)	(10)	(27,514)
Assets held for sale		(164,201)						(164,201)
Reclassifications		(2,371)		77	14	2,219	(2,310)	(2,371)
	$ 6,301	$ 3,449,527	$ 474,060	$ 53,736	$ 30,918	$ 49,404	$ 14,253	$ 4,078,199

Balance at December 31, 2018								
Accumulated depreciation -								
Balance at January 1, 2016	$	$ (868,326)	$	$ (28,549)	$ (21,891)	$ (22,119)	$	$ (940,885)
Depreciation for the year		(141,418)		(3,724)	(2,284)	(4,246)		(151,672)
Disposals		13,587		524	1,220	12		15,343
Adjustments		(14)			(2,667)			(2,681)
Reclassifications		(99)		(116)	41	174		
Balance at December 31, 2016	$	$ (996,270)	$	$ (31,865)	$ (25,581)	$ (26,179)	$	$ (1,079,895)
Depreciation for the year		(148,188)		(3,811)	(2,192)	(4,505)		(158,696)
Disposals		51,233		200	704			52,137
Reclassifications		(1,335)		(1,540)	4,110	(1,235)		
Balance at December 31, 2017	$	$ (1,094,560)	$	$ (37,016)	$ (22,959)	$ (31,919)	$	$ (1,186,454)
Depreciation for the year		(147,980)		(3,783)	(2,506)	(5,038)		(159,307)
Disposals		16,876		118	379	6,396		23,769
Assets held for sale		75,556						75,556
Reclassifications		268						268
Impairment		(130,709)						(130,709)
Balance at December 31, 2018	$	$ (1,280,549)	$	$ (40,681)	$ (25,086)	$ (30,561)	$	$ (1,376,877)
Carrying amounts -								
At December 31, 2016	$ 6,301	$ 2,118,972	$ 250,165	$ 13,305	$ 4,026	$ 18,802	$ 6,593	$ 2,418,164
At December 31, 2017	$ 6,301	$ 2,157,669	$ 413,633	$ 11,337	$ 4,565	$ 18,124	$ 5,778	$ 2,617,407
At December 31, 2018	$ 6,301	$ 2,168,978	$ 474,060	$ 13,055	$ 5,832	$ 18,843	$ 14,253	$ 2,701,322

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Flight equipment comprises aircraft, engines, aircraft components and major maintenance.

The amount of $216.7 million corresponds to the advance payments on aircraft purchase contracts during 2018 (2017: $192.2 million), which include $1.4 million of borrowing costs capitalized during the year ended December 31, 2018 (2017: $1.8 million and 2016: Nil). The rate used to determine the amount of borrowing costs eligible for capitalization was 3.54%, which is the interest rate of the specific borrowing (see note 18).

As of December 31, 2018, the carrying amount of the assets acquired under finance leases is $691.7 million (2017: $535.5 million).

During 2018, 6 new aircraft were capitalized, 2 Boeing 737-800 and 4 Boeing 737 MAX 9.

Aircraft with a carrying value of $1.3 billion are pledged as collateral for the obligation of the special purpose entities as of December 31, 2018 and 2017.

As of December 31, 2018 and 2017 construction in progress mainly comprises remodeling projects for airport facilities and offices, and the construction of the new hangar.

Impairment of property and equipment

During 2018 the Company reassessed the Embraer 190 assets given it updated fleet plan and other consdiderations, as consequence the expected useful life of the Embraer 190 fleet was shortened to 5 years from the year 2019. This review over the useful live triggered an evaluation of the recoverable amount of the Embraer 190 fleet, as the higher of the aircraft s fair value less costs to sell and its value in use. The value in use was determined using cash flow projections from financial budgets approved by senior management covering a five year period. The pre-tax discount rate applied to cash flow projections was 13.5%. As a result of this analysis, the Company determined the book value was in excess of its recoverable amount and recognized an impairment of $179.0 million over to the Embraer 190 fleet, and it was written down to its fair value less cost to sell, which include the amount listed below for the 5 Embrear 190 that are held for sale as of December 31, 2018.

The fair value of the Embraer 190 fleet was determine considering specific circumstances of the fleet such as aircraft age, maintenance requirements and condition and therefore classifies as Level 2 in the fair value hierarchy. The Company reassessed the Embraer 190 assets and adjusted the depreciable life and salvage value to align with the expected transition dates. The effect of theses change on the expected depreciation expense of this fleet amounts to $0.3 million per year.

On November 2018, the shareholders of the Company approved the plan to sell five aircraft Embraer 190. Efforts to sell the aircraft have started and the sale is expected to be completed within a year from the reporting date.

Asset held for sale are included under Other current assests in the accompanying consolidated statement of financial position (see note 17)

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14. Leases

Finance leases

The Company entered into finance leases of aircraft through Japanese Operating Leases with Call Option (JOLCO) arrangements. These arrangements establish semi-annual payments of obligations, and have a minimum lease term of 10 years, with a minimal purchase option at the end of the lease.

As of December 31, 2018, the scheduled future minimum lease payments required under finance leases are as follows:

	Future minimum lease payments	Interest	Present value of minimum lease payments
Up to one year	$ 67,743	$ 23,707	$ 66,548
One to five years	280,126	82,233	254,811
Over five years	577,164	42,371	456,661
Total minimum lease payments	$ 925,033	$ 148,311	$ 778,020

As of December 31, 2017, the scheduled future minimum lease payments required under finance leases are as follows:

	Future minimum lease payments	Interest	Present value of minimum lease payments
Up to one year	$ 46,274	$ 16,180	$ 45,416
One to five years	186,344	54,830	169,383
Over five years	388,005	26,924	310,388
Total minimum lease payments	$ 620,623	$ 97,934	$ 525,187

Assets acquired under finance leases are classified under property and equipment, and the finance leases are classified as long-term debt (see note 18).

Operating leases

As of December 31, 2018, the scheduled future minimum lease payments required under aircraft and non-aircraft operating leases that have initial non-cancellable lease terms in excess of one year are as follows:

	Aircraft	Others
Up to one year	$ 113,233	$ 15,222
One to five years	322,283	75,862
More than five years	19,309	18,163
Total minimum lease payments	$ 454,825	$ 109,247

Total lease expense amount to $132.5 million for the year ended December, 31 2018 (2017: $134.5 million and 2016: $138.8 million) included under Aircraft rentals and other rentals in the accompanying consolidated statement of profit or loss.

The Company leases some aircraft under long-term lease agreements with an average duration of 10 years. Aircraft under operating leases may be renewed in accordance with management s business plan.

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Other leased assets include real estate, airport and terminal facilities, sales offices, maintenance facilities, and general offices. Most lease agreements include renewal options; a few have escalation clauses, but no purchase options.

Because the lease renewals are not considered to be reasonably assured, the lease payments that would be due during the renewal periods are not included in the determination of lease expenses until the leases are renewed. Leasehold improvements are amortized over the contractually committed lease term, which does not include the renewal periods.

Since 2015, the Company is the lessor of two aircraft, as part of the strategy of fleet management, in order to optimize the use of aircraft in relation to the routes scheduled for that year. Each lease is scheduled to expire in 2020. The carrying amount of the two aircraft under operating leases is up to $30.7 million (2017: $32.6 million).

Total lease income amounts to $3.5 million for the year ended December 31, 2018 (2017: $3.5 million and 2016: $3.5 million), included under Other operating revenue in the accompanying consolidated statement of profit or loss.

As of December 31, 2018, future minimum lease receivables under non-cancellable leases are as follows:

	2018	2017
Up to one year	$ 3,480	$ 3,480
One to five years	1,595	5,075
Total minimum lease rental payments	$ 5,075	$ 8,555

15. Net pension assets

	2018	2017
Pension assets	$ 28,339	$ 23,794
Post-employment benefits	(22,568)	(19,997)
Other employee benefits	(680)	(612)
Total employee benefits liability	$ (23,248)	$ (20,609)
Net pension asset	$ 5,091	$ 3,185

In accordance with Panamanian law, the Company contributes to the following defined benefit plans:

Seniority premium plan: it covers all employees eligible for the seniority premium as provided by the Company. Employees are fully vested in their benefit upon leaving the Company. The benefits consist of 1.92% of eligible earnings accumulated for each year of service.

Indemnity plan: it covers all employees eligible for the indemnity plan as provided by the Company. The benefits consist of 6.54% of eligible earnings accumulated for each year of service.

The actuarial liability is recognized for the legal obligation under the formal terms of the plan, and for the implied projections as required under IAS 19R. These actuarial projections do not constitute a legal obligation for the Company.

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The following table summarizes the components of net benefit expense included under Wages, salaries, benefits and other employees expenses in the accompanying consolidated statement of profit or loss:

Year ended December 31, 2018	Defined benefit obligation	Fair value of assets	Defined benefit assets (liability)
Current service cost	(2,105)		(2,105)
Interest cost on net benefit obligation	(642)	666	24
Net benefit expense	$ (2,747)	$ 666	$ (2,081)

Year ended December 31, 2017	Defined benefit obligation	Fair value of assets	Defined benefit assets (liability)
Current service cost	(1,767)		(1,767)
Interest cost on net benefit obligation	(568)	778	210
Net benefit expense	$ (2,335)	$ 778	$ (1,557)

Year ended December 31, 2016	Defined benefit obligation	Fair value of assets	Defined benefit assets (liability)
Current service cost	(1,724)		(1,724)
Interest cost on net benefit obligation	(516)	689	173
Net benefit expense	$ (2,240)	$ 689	$ (1,551)

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The following table shows reconciliation from the opening balance to the closing balances for net pension asset and its components:

	Defined benefit obligation	Fair value of assets	Other employee benefits liability	Defined benefit assets (liability)
At January 1, 2016	$ (14,468)	$ 22,273	$ (1,755)	$ 6,050
Current service cost	(1,724)			(1,724)
Interest cost	(516)	689		173
Return on plan assets greater (less) than discount rate		518		518
Experience (gain) loss	(1,052)			(1,052)
Invesment return		27		27
Assumption changes	(67)			(67)
Employer contributions		3,970		3,970
Benefits paid	1,329	(1,531)	(75)	(277)
Adjustments			1,208	1,208
At December 31, 2016	$ (16,498)	$ 25,946	$ (622)	$ 8,826
Current service cost	(1,767)			(1,767)
Interest (cost) income	(568)	778		210
Return on plan assets greater (less) than discount rate		(21)		(21)
Experience gain (loss)	(2,033)			(2,033)
Invesment return		88		88
Assumption changes	(226)			(226)
Employer contributions		(1,677)		(1,677)
Benefits paid	1,095	(1,320)		(225)
Adjustments			10	10
As of December 31, 2017	$ (19,997)	$ 23,794	$ (612)	$ 3,185
Current service cost	(2,105)			(2,105)
Interest (cost) income	(642)	666		24
Return on plan assets greater (less) than discount rate		483		483
Experience gain (loss)	(1,943)			(1,943)
Invesment return		67		67
Assumption changes	877			877
Employer contributions	1,242	4,780		6,022
Benefits paid		(1,451)		(1,451)
Adjustments			(68)	(68)

As of December 31, 2018	$	(22,568)	$	28,339	$	(680)	$	5,091

As of December 31, 2018 and 2017, plan assets are comprised totally by fixed term deposits.

As of December 31, 2017 employer contributions is a net amount of regular contributions by $3.5 million and retirement of interest earned by $5.2 million.

For the year ended December 31, 2018 actuarial loss of $0.3 million (2017: $2.0 million and 2016: $1.1 million) where recognized in other comprehensive income.

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The following were the principal actuarial assumptions at the reporting date:

	2018	2017	2016
Economic assumptions -			
Discount rate	3.91%	3.15%	3.37%
Compensation salary increase	4%	4%	4%
Demographic assumptions -			
Mortality	RP - 2000 no collar		
Termination	13% all ages		
Retirement			
Males	62 years		
Females	57 years		

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amount shown below:

	December, 31 2018		December, 31 2017		December, 31 2016	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
Discount rate (0.5% movement)	$ (538)	$ 569	$ (506)	$ 537	$ (410)	$ 434
Salary rate (0.5% movement)	103	(93)	99	(89)	122	(117)

The following payments are expected contributions to the defined benefit plan in future years:

	2018	2017
Up to one year	$ 4,163	$ 3,424
One to five years	12,293	10,794
Over five years	13,076	11,401
Total expected payments	$ 29,532	$ 25,619

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16. Intangible assets

	Goodwill	Other intangibles assets: License and software rights	Other intangibles assets: Intangible in process	Total
Cost -				
Balance at January 1, 2016	$ 20,380	$ 63,809	$ 17,681	$ 101,870
Additions		73	14,401	14,474
Disposals		(1,546)		(1,546)
Impairment loss			(5,931)	(5,931)
Reclassifications		11,813	(10,073)	1,740
Balance at December 31, 2016	20,380	74,149	16,078	110,607
Additions		1,783	16,898	18,681
Disposals		(4,891)		(4,891)
Reclassifications		3,642	(2,085)	1,557
Balance at December 31, 2017	20,380	74,683	30,891	125,954
Additions		2,711	27,471	30,182
Reclassifications		16,730	(16,730)	
Balance at December 31, 2018	20,380	94,124	41,632	156,136
Amortization -				
Balance at January 1, 2016	$	$ (32,444)	$	$ (32,444)
Amortization for the year		(10,207)		(10,207)
Disposals		1,546		1,546
Balance at December 31, 2016		(41,105)		(41,105)
Amortization for the year		(8,628)		(8,628)
Disposals		4,894		4,894
Balance at December 31, 2017		(44,839)		(44,839)
Amortization for the year		(10,129)		(10,129)
Balance at December 31, 2018		(54,968)		(54,968)
Carrying amounts -				
At December 31, 2016	$ 20,380	$ 33,044	$ 16,078	$ 69,502
At December 31, 2017	$ 20,380	$ 29,844	$ 30,891	$ 81,115

At December 31, 2018	$ 20,380	$ 39,156	$ 41,632	$ 101,168

Goodwill

The Company performed its annual impairment test in September 2018 and 2107 and the recoverable amount was estimated at $5.2 billion (2017: $4.4 billion), an amount far in excess of the $20.4 million of goodwill recorded.

The cash flows beyond the five-year period are extrapolated using a 3.0% growth rate. It was concluded that no impairment charge is necessary since the estimated recoverable amount of the CGU exceed its carrying value by approximately 51%.

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Key assumptions used in value in use calculations

The calculations of value in use of the CGU are sensitive to the following main assumptions:

Revenue the Company calculated the projected passenger revenue based on the current beliefs, expectations, and projections about future events and financial trends affecting its business.

Cash flows determination of the terminal value is based on the present value of the Company s cash flows in perpetuity. When estimating the cash flows for use in the residual value calculation, it is essential to clearly define the normalized cash flows level, the appropriate discount rate for the degree of risk inherent in that return stream, and a constant future growth rate for the related cash flows. To estimate the value, the Gordon Growth Model was used.

Discount rates The selected pre-tax rate of 13.5% represents the current market assessment of the risks specific to the CGU, taking into consideration the time value of money and individual risks of the underlying assets that have not been incorporated in the cash flow estimates. The discount rate calculation is based on the specific circumstances of the Company and its operating segment and is derived from its pre-tax weighted average cost of capital (WACC). The WACC takes into account both debt and equity. The cost of equity is derived from the expected return on investment by the Company s investors. The cost of debt is based on the interest-bearing borrowings the Company is obliged to service. Segment-specific risk is incorporated by applying individual beta factors. The beta factors are evaluated annually based on publicly available market data.

Sensitivity to changes in assumptions

The Company estimated that a reduction to 12.5% or an increase to 14.5% in the discount rate would not cause the carrying amounts to exceed the recoverable amount.

Other intangible assets

Intangible assets in process

Intangible assets in process as of December 31, 2018 and 2017 mainly comprise improvements to the tickets reservation system, and other operational system.

During 2018, the Company capitalized a $16.7 million of a new internet booking engine, renew aircraft maintenance systems and other programs.

During 2016, the Company evaluated the recoverability of the development cost generated in a project in process related to some systems; as a result of this evaluation, the Company recognized an impairment of $5.9 million of incurred cost that will no longer generate probable future economic benefits.

During 2016, the Company capitalized an $11.8 million of a new operating and administrative systems and other program for ConnectMiles.

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17. Other assets

	2018	2017
Current -		
Asset held for sale	$ 40,330	$
Interest receivable	12,534	10,443
Other	1,522	1,258
	54,386	11,701
Non-current -		
Guarantee deposits	20,015	14,568
Deposits for litigation	10,672	12,390
Other	3,212	4,182
	33,899	31,140
	$ 88,285	$ 42,841

Guarantee deposits are mainly amounts paid to fuel suppliers, as required at the inception of the agreements (see note 23).

Deposit for litigation is cash deposited into the escrow account until the related dispute is settled (see note 21).

18. Debt

		2018	
	Due through	Effective rates ranged	Carrying Amount
Long-term fixed rate debt	2028	1.58% to 4.90%	779,592
Long-term variable rate debt	2028	2.67% to 3.91%	367,656
Loans payables	2019	3.41% to 3.71%	140,000
			1,287,248
Current maturities			(311,965)
Long-term debt			$ 975,283

	2017		
	Due through	Effective rates ranged	Carrying Amount
Long-term fixed rate debt	2025	1.81% to 5.58%	$ 626,150
Long-term variable rate debt	2027	1.54% to 3.04%	420,634
Loans payables	2018	2.33% to 2.58%	127,797
			1,174,581
Current maturities			(298,462)
Long-term debt			$ 876,119

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Maturities of long-term debt for the next five years are as follows:

Year ending December 31,	
2019	311,965
2020	128,842
2021	111,469
2022	104,893
2023	83,499
Thereafter	546,580
	$ 1,287,248

As of December 31, 2018, long-term fixed rate debt included $601.3 million (2017: $394.2 million) and long-term variable debt included $175.5 million corresponding to finance leases using a JOLCO structure (2017: $128.4 million) (see note 14).

As of December 31, 2018 the Company had $297.8 million (2017: $372.0 million) of outstanding indebtedness that is owed to financial institutions under financing arrangements guaranteed by the Export-Import Bank of the United States. The Export-Import Bank guarantees support 80% of the net purchase price of the aircraft and are secured with a first priority mortgage on the aircraft in favor of a security trustee on behalf of Export-Import Bank.

The Company s Export-Import Bank supported financings are amortized on a quarterly basis, are denominated in U.S. dollars, and originally bear interest at a floating rate linked to LIBOR. The Export-Import Bank guaranteed facilities typically offer an option to fix the applicable interest rate. The Company has exercised this option with respect to $178.3 million as of December 31, 2018 (2017: $231.9 million).

In the past, the Company has extended the maturity of some of its aircraft financing to 15 years through the use of a Stretched Overall Amortization and Repayment (SOAR), structure which provides serial draw-downs, calculated to result in a 100% loan accreting to a recourse balloon at the maturity of the Export-Import Bank guaranteed loan. The Company currently has 4 aircraft finance under SOAR structure which had an outstanding balance of $15.0 million as of December 31, 2018 (2017: $28.3 million).

As of December 31, 2018, the loan payable in the amount of $140.0 million (2017: $127.8 million) resulted from the use of the lines of credits (see note 27 for information regarding financial covenants related to the Company s financial agreement).

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The detail of finance cost and income is as follows:

	2018	2017	2016
Finance income -			
Interest income on short-term bank deposits	$ 1,670	$ 1,499	$ 675
Interest income on investment	21,958	16,440	12,325
	$ 23,628	$ 17,939	$ 13,000
Finance cost -			
Interests expense on bank loans	$ (34,687)	$ (32,599)	$ (32,647)
Interest on factoring	(1,163)	(2,624)	(4,377)
	$ (35,850)	$ (35,223)	$ (37,024)

Changes in liabilities arising from financing activities:

	2017	Cash flows	New debt	Non-cash transactions	2018
Debt					
Obligations under finance leases	$ 522,690	$ (34,899)	$	$ 289,000	$ 776,791
Debt	651,891	(366,434)	225,000		510,457
Total liabilities from financing activities	$ 1,174,581	$ (401,333)	$ 225,000	$ 289,000	$ 1,287,248

During 2018, the Company s non-cash investing and financing transactions are comprised of $289.0 million related to the acquisition of new aircraft that are financed using the JOLCO structure (see note 14).

19. Trade, other payables and financial liabilities

	2018	2017
Account payables	$ 124,962	$ 116,554
Account payables to related parties	15,464	12,880
	140,426	129,434

Others	604	1,156
	$ 141,030	$ 130,590

See details of the account due to related parties in note 23.

20. Accrued expenses payable

	2018	2017
Accruals and estimations	$ 4,500	$ 9,059
Labor related provisions	36,953	44,188
Liability for social security contributions	4,955	6,432
Other	982	642
	$ 47,390	$ 60,321

As of December 31, 2018, accruals and estimations include the estimated balance of the current portion of the provision for maintenance of $4.5 million (2017: 4.2 million) (see note 21).

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As of December 31, 2017 accruals and estimations include the estimated balance of the current portion of the provision for return condition of $4.9 million.

Labor related provisions include a profit-sharing program for both management and non-management staff. For members of management, profit-sharing is based on a combination of the Company s performance as a whole and the achievement of individual goals. Profit-sharing for non-management employees is based solely on the Company s performance. The accrual at year-end represents the amount expensed for the current year, which is expected to be settled within 12 months.

21. Other long-term liabilities

	Provision for litigations	Provision for return condition	Other long-term liabilities	Total
Balance at January 1, 2018	$ 15,152	$ 92,974	$ 31,554	$ 139,680
Increases	302	17,067	364	17,733
Used	(753)	(6,540)	(4,568)	(11,861)
Reclassification			(1,506)	(1,506)
Effect of movements in exchange rates	(1,822)			(1,822)
Balance at December 31, 2018	$ 12,879	$ 103,501	$ 25,844	$ 142,224
Current			4,500	4,500
Non-current	12,879	103,501	21,344	137,724
	$ 12,879	$ 103,501	$ 25,844	$ 142,224

Provision for litigation

Provisions for litigation in process and expected payments related to labor legal cases.

The Company is the plaintiff in an action in October 2003 against Empresa Brasileira de Infraestrutura Aeroportuária (INFRAERO), Brazil s airport operator, the legality of the Additional Airport Tariffs (*Adicional das Tarifas Aeroportuárias*, or ATAERO), which is a 50% surcharge imposed on all airlines which fly to Brazil. Similar suits have been filed against INFRAERO by other major airline carriers. In this case, the court of first instance ruled in favor of INFRAERO and the Company has appealed the judgment. While the litigation is still pending, the Company continues to pay the ATAERO amounts due into an escrow account and as of December 31, 2018, the aggregate amount in such account totaled $10.6 million (2017: $12.4 million).

In the event that the Company receives a final unfavorable judgment it will be required to release the escrowed fund to INFRAERO and will not be able to recover such amounts. The Company does not, however, expect the release of such amounts to have a material impact on its financial results since these amounts already had been expensed.

Provision for return condition

For operating leases, the Company is contractually obliged to return aircraft in an agreed-upon condition. The Company accrues for restitution costs related to aircraft held under operating leases throughout the duration of the lease. The Company has been not have planned aircrafts return on 2019. As of December 31, 2017, the Company presented the estimated balance of the current portion of this provision as Accrued expenses payable in the consolidated statement of financial position (see note 20).

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Other long-term liabilities

Other long-term liabilities include principally the provision for maintenance which mainly include the accrual of formal agreements with third parties for operational maintenance events. The cost of these agreements are billed by power by the hour and charged to the consolidated statement of profit or loss. As of December 31, 2018, the provision for maintenance amount to $22.9 million (2017: $28.9 million) and the Company has presented the estimated balance of the current portion of this provision as Accrued expenses payable in the consolidated statement of financial position (see note 20).

Other long-term liabilities also include the provision for the non-compete agreement created for payment to senior management related to covenants not to compete with the Company in the future (relative to the $2.6 million trust fund). This provision is accounted for as Other long-term employee benefits under IAS 19R *Employee benefits*. The accrued amount is revalued annually using the projected benefit method as required by IAS 19R.

22. Income taxes

	2018	2017	2016
Current taxes expense -			
Current period	$ (35,258)	$ (43,034)	$ (31,666)
Adjustment for prior period	261	455	(127)
	$ (34,997)	$ (42,579)	$ (31,793)
Deferred taxes expenses -			
Origination and reversal of temporary differences	467	(6,731)	(6,478)
Total income tax expense	$ (34,530)	$ (49,310)	$ (38,271)

During the year 2018, the deferred tax balances have been re-measured as a result of the change in Colombia s income tax rate, 33%, 32%, 31% and 30% for the taxable year 2019, 2020, 2021 and 2022, respectively according to the law N°1943 published on December 28, 2018. Deferred tax expected to reverse in the year 2019, has been measured using the effective rate that will apply in Colombia for the period (33%).

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The balances of deferred taxes are as follows:

	Statement of financial position		Statement of profit or loss		
	2018	2017	2018	2017	2016
Deferred tax liabilities					
Maintenance deposits	$ (29,863)	$ (26,586)	$ 3,277	$ 2,796	$ 2,286
Prepaid dividend tax	(8,859)	(14,103)	(5,244)	1,671	5,300
Property and equipment	(7,396)	(9,532)	(2,136)	2,107	(1,599)
Other	(4,691)	(4,050)	641	(1,962)	(10,147)
Set off tax	1,869	1,806	(63)	2,879	16,269
	$ (48,940)	$ (52,465)	$ (3,525)	$ 7,491	$ 12,109
Deferred tax assets					
Provision for return conditions	$ 7,136	$ 7,859	$ 723	$ (253)	$ 4,417
Air traffic liability	1,792	1,281	(511)	(266)	305
Fuel derivative				107	4,403
Other provisions	4,687	4,416	(271)	(272)	(3,059)
Tax loss	4,295	7,349	3,054	2,803	4,572
Set off tax	(1,869)	(1,806)	63	(2,879)	(16,269)
	$ 16,041	$ 19,099	$ 3,058	$ (760)	$ (5,631)
	$ (32,899)	$ (33,366)	$ (467)	$ 6,731	$ 6,478

At December 31, 2018 the deferred tax assets include an amount of $4.3 million ($7.3 million at December, 2017) which relates to carried forward tax losses of Copa Colombia. During 2018, the subsidiary generated a tax profit. The Company has concluded that the deferred assets will be recoverable using the estimated future taxable income based on the approved business plans for the subsidiary. The Company expects to use the remaining tax losses within the next three to five years, however, these tax losses can be carried forward indefinitely.

The aggregate amount of temporary differences associated with investments in subsidiaries, for which deferred tax liabilities have not been recognized, is $453.8 million as of December 31, 2018 (2017: $397.9 million).

Reconciliation of the effective tax rate is as follows:

	Tax rate	2018	Tax rate	2017	Tax rate	2016
Net income		$ 88,095		$ 364,045		$ 323,409

Total income tax expense		34,530		49,310		38,271
Profit excluding income tax		122,625		413,355		361,680
Income taxes at Panamanian statutory rates	25.0%	30,656	25.0%	103,339	25.0%	90,420
Stations - Taxable/Panama	(19.6%)	(23,986)	(7.8%)	(32,043)	(5.5%)	(20,150)
Stations - Taxable/Non Panama	9.2%	11,319	1.7%	6,856	0.9%	3,383
Stations - Non Taxable/Non panama	3.4%	4,106	(9.4%)	(38,684)	(9.8%)	(35,509)
Dividend tax	10.4%	12,696	2.5%	10,297	0.0%	
(Over) under provided in prior periods	(0.2%)	(261)	(0.1%)	(455)	0.04%	127
Provision for income taxes	28.2%	$ 34,530	11.9%	$ 49,310	10.6%	$ 38,271

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Notes to the consolidated financial statements

23. Accounts and transactions with related parties

	2018	2017
Account receivable -		
Panama Air Cargo Terminal	$ 102	$ 254
Banco General, S.A.	102	12
Petroleos Delta, S.A.	10	19
Editora del Caribe, S.A.	8	32
Lubricantes Delta, S.A.	1	
Assa Compañía de Seguros, S.A.		1
	$ 223	$ 318
Account payable -		
Petróleos Delta, S.A.	$ 12,150	$ 10,371
Assa Compañía de Seguros, S.A.	2,224	1,431
Desarrollos Inmobiliarios del Este, S.A.	811	650
Banco General, S.A.	135	
Panama Air Cargo Terminal	53	200
Galindo, Arias & López	43	31
Motta International, S.A.	48	81
Cable Onda, S.A.		112
Global Brands, S.A.		4
	$ 15,464	$ 12,880

Transactions with related parties for the year ended December 31 are as follows:

Related party	Transaction	Amount of transaction 2018	Amount of transaction 2017	Amount of transaction 2016
Petróleos Delta, S.A.	Purchase of jet fuel	398,733	290,172	229,899
ASSA Compañía de Seguros, S.A.	Insurance	9,735	8,527	7,128
Panama Air Cargo Terminal	Handling	5,849	4,869	
Profuturo Administradora de Fondos				
de Pensión y Cesantía	Payments	4,716	2,386	3,238
	Property leasing	3,838	3,625	3,795

Desarrollo Inmobiliario del Este, S.A.				
Motta International	Purchase	1,585	1,632	1,646
Cable Onda, S.A.	Communications	1,687	1,448	1,625
Galindo, Arias & López	Legal services	490	373	341
GBM International, Inc.	Technological support	231	273	272
Global Brands, S.A.	Purchase	55	79	67
Lubricantes Delta, S.A.	Fuel accesories			63
Editora del Caribe, S.A.	Advertising		4	(162)
Banco General, S.A.	Interest income	$ (3,781)	$ (2,986)	$ (1,284)

Banco General, S.A.: The Company s controlling shareholders have a vote and a decision within the board of directors of BG Financial Group, which is the controlling company of Banco General. Likewise, Banco General, S. A. owns ProFuturo Administradora de Fondos de Pensión y Cesantía S.A., which manage the Company s reserves for pension purposes.

Also the Company has interest receivable by $1.8 million (2017: $2.3 million) due to short and long term time deposits in this financial institution.

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Petróleos Delta, S.A.: Since 2005, the fuel company entered into a contract with the Company to meet its jet fuel needs. The contract s term is four years, and the last contract subscribed was on June, 2016.

As of December 31, 2018, the Company maintained guarantee deposits with Petróleos Delta, S.A. in the amount of $16.1 million (2017: $11.8 million), recorded as Other non-current assets in the consolidated statement of financial position. While the Company s controlling shareholders do not hold a controlling equity interest in Petróleos Delta, S. A., various members of the Company s Board of Directors are also board members of Petróleos Delta, S. A.

ASSA Compañía de Seguros, S. A.: An insurance company controlled by the Company s controlling shareholders that provide substantially all of the Company s insurance policies.

Desarrollo Inmobiliario del Este, S. A.: The Company leases six floors consisting of approximately 121,686 square feet of the building from Desarrollo Inmobiliario, an entity controlled by the same group of investors that controls Corporación de Inversiones Aéreas, S. A. (CIASA). CIASA owns 100% of the class B shares of the Company.

Motta Internacional, S.A. & Global Brands, S. A.: The Company purchases most of the alcohol and other beverages served on its aircraft from Motta Internacional, S. A. and Global Brands, S. A., both of which are controlled by the Company s controlling shareholders.

GBM International, Inc.: Provides systems integration and computer services, as well as technical services and enterprise management. A member of the Company s Board of Directors is shareholder of GBM International, Inc.

Galindo, Arias & López: Certain partners of Galindo, Arias & López (a law firm) are indirect shareholders of CIASA and serve on the Company s Board of Directors.

Editora del Caribe, S.A.: this Panamanian publisher is responsible for publishing the official journal of Copa Airlines Panorama of the Americas . A member of the Company s Board of Directors is shareholder of Editora del Caribe, S. A.

Cable Onda, S.A.: The Company is responsible for providing television and internet broadcasting services in Panama. A member of the Company s Board of Directors is shareholder of Cable Onda, S. A.

Panama Air Cargo Terminal: Provides cargo and courier services in Panama, an entity controlled by the same group of investors that controls CIASA.

Compensation of key management personnel

Key management personnel compensation is as follows:

	2018	2017	2016
Short-term employee benefits	$ 6,104	$ 5,133	$ 3,763

Post-employment pension	117	99	72
Share-based payments	5,092	5,524	5,799
	$ 11,313	$ 10,756	$ 9,634

The Company has not set aside any additional funds for future payments to executive officers, other than one pursuant to a non-compete agreement for $3.1 million established in 2006 (see note 21).

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Notes to the consolidated financial statements

24. Equity
Common stock

The authorized capital stock consists of 80 million shares of common stock without par value, divided into Class A shares, Class B shares, and Class C shares. As of December 31, 2018, the Company had 33,816,276 Class A shares issued (2017: 33,776,480) and 31,257,686 shares outstanding (2017: 31,185,641), 10,938,125 Class B shares issued and outstanding (2017: 10,938,125) and no Class C shares outstanding. Class A and Class B shares have the same economic rights and privileges, including the right to receive dividends.

Class A shares

The holders of the Class A shares are not entitled to vote at our shareholders meetings, except in connection with the following specific matters: (i) a transformation of the Company into another corporate type; (ii) a merger, consolidation, or spin-off of the Company, (iii) a change of corporate purpose; (iv) voluntarily delisting Class A shares from the NYSE; (v) and any amendment to the foregoing special voting provisions adversely affecting the rights and privileges of the Class A shares.

Class B shares

Every holder of Class B shares is entitled to one vote per share on all matters for which shareholders are entitled to vote. The Class B shares may only be held by Panamanians, and upon registration of any transfer of a Class B share to a holder that does not certify that it is Panamanian, such Class B share shall automatically convert into a Class A share.

Transferees of Class B shares will be required to deliver to the Company a written certification of their status as Panamanian as a condition to registering the transfer to them of Class B shares.

Class C shares

The Independent Directors Committee of the Board of Directors, or the Board of Directors as a whole if applicable, is authorized to issue Class C shares to the Class B holders pro rata in proportion to such Class B holders ownership of Copa Holdings. The Class C shares will have no economic value and will not be transferable except to Class B holders, but will possess such voting rights as the Independent Directors Committee shall deem necessary to ensure the effective control of the Company by Panamanians.

The Class C shares will be redeemable by the Company at such time as the Independent Directors Committee determines that such a triggering event shall no longer be in effect. The Class C shares will not be entitled to any dividends or any other economic rights.

Class A shares are listed on the NYSE under the symbol CPA. The Class B shares and Class C shares will not be listed on any stock exchange unless the Board of Directors determines that it is in the best interest of the Company to list the Class B shares on the Panama Stock Exchange.

Dividends

The payment of dividends on shares is subject to the discretion of the Board of Directors. Under Panamanian law, the Company may pay dividends only out of retained earnings and capital surplus. The Articles of Incorporation provides that all dividends declared by the Board of Directors will be paid equally with respect to all of the Class A and Class B shares.

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In February 2016, the Board of Directors of the Company approved to change the dividend policy to base the calculation of the payment of yearly dividends to shareholders in an amount of up to 40% of the prior year s annual consolidated underlying net income, distributed in equal quarterly installments upon board ratifications.

In 2018, the Company paid quarterly dividends in the amount of $0.87 per share (2017: $0.51 per share for the first and second quarters and $0.75 per share for the third and fourth quarter).

Treasury stock

When shares recognized as equity are repurchased, the amount of the consideration paid, which includes directly attributable cost net of any tax effects, is recognized as a deduction from equity and presented separately in the balance sheet. When treasury shares are sold or reissued subsequently, the amount received is recognized as an increase in equity, and the resulting surplus or deficit on the transaction is presented within share premium.

Since treasury stock is not considered outstanding for share count purposes, it is excluded from average common shares outstanding for basic and diluted earnings per share.

In November 2014, the Board of Directors of the Company approved a $250 million share repurchase program. Purchases will be made from time to time, subject to market and economic conditions, applicable legal requirements, and other relevant factors.

In the first quarter of 2015, the Company repurchased 167,650 shares for a total amount of $17.9 million.

During September 2015, the Company entered into an Accelerated Share Repurchase (ASR) with Citibank for a period of approximately three months for a total amount of $100 million. On December 15, 2015, the Bank delivered to the Company 1,960,250 shares, recognized at the settlement price of $51.01 per share.

25. Share-based payments

The Company has established equity compensation plans under which it administers restricted stock, stock options, and certain other equity-based awards to attract, retain, and motivate executive officers, certain key employees, and non-employee directors to compensate them for their contributions to the growth and profitability of the Company. Shares delivered under this award program may be sourced from treasury stock, or authorized unissued shares.

The Company s equity compensation plans are accounted for under IFRS 2 *Share-Based Payment* (IFRS 2). IFRS 2 requires companies to measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award or at fair value of the award at each reporting date, depending on the type of award granted. The resulting cost is recognized over the period during which an employee is required to provide service in exchange for the award, which is usually the vesting period.

The total compensation cost recognized for non-vested stock and options awards amounts to $7.1 million, $7.4 million, and $7.5 million in 2018, 2017, and 2016, respectively, and was recorded as a component of Wages, salaries, benefits and other employees expenses within operating expenses.

Non-vested Stock

The Company approved a non-vested stock bonus award for certain executive officers of the Company.

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A summary of the terms and conditions, properly approved by the Compensation Committee of our Board of Directors, relating to the grants of the non-vested stock award under the equity compensation plan is as follows:

Grant date	Number of instruments	Vesting conditions	Contractual life
February, 2015	13,709	One-third every anniversary	3 years
April, 2015	4,915	15% first three anniversaries 25% fourth anniversary 30% fifth anniversary	5 years
June, 2015	10,920	One-third every anniversary	3 years
June, 2015	4,912	Third anniversary	3 years
June, 2015	6,750	15% first three anniversaries 25% fourth anniversary 30% fifth anniversary	5 years
December, 2015	429	Third anniversary	3 years
February, 2016	19,012	One-third every anniversary	3 years
February, 2016	147,000	15% first three anniversaries 25% fourth anniversary 30% fifth anniversary	5 years
February, 2016	63,000	Fifth anniversary	5 years
May, 2016	7,899	15% first three anniversaries 25% fourth anniversary	5 years

		30% fifth anniversary	
May, 2016	4,739	One-third every anniversary	3 years
June, 2016	25,280	One-third every anniversary	3 years
June, 2016	7,925	Third anniversary	3 years
September, 2016	6,668	Third anniversary	3 years
September, 2016	5,005	One-third every anniversary	3 years
February, 2017	22,012	One-third every anniversary	3 years
June, 2017	11,980	One-third every anniversary	3 years
June, 2017	2,237	Third anniversary	3 years
February, 2018	21,556	7% first month 31% first three anniversaries	3 years
February, 2018	14,379	33% first three anniversaries	3 years
February, 2018	1,316	15% first three anniversaries 25% fourth 30% fifth anniversary	5 years
July, 2018	6,104	Third anniversary	3 years

Non-vested stock awards were measured at their fair value on the grant date. For the 2018 grants, the fair value of these non-vested stock awards amounts to $135.81 per share (2017: $107.29).

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A summary of the non-vested stock award activity under the plan as of December 31, 2018 and 2017 with changes during these years is as follows (in number of shares):

	2018	2017	2016
Non-vested as of January 1	304,153	333,183	139,962
Granted	43,355	36,229	291,872
Vested	(72,045)	(62,224)	(94,208)
Forfeited	(3,559)	(3,035)	(4,443)
Non-vested as of December 31	271,904	304,153	333,183

The Company uses the accelerated attribution method to recognize the compensation cost for awards with graded vesting periods. The Company estimates that the remaining compensation cost, not yet recognized for the non-vested stock awards, amounts to $9.8 million (2017: $9.3 million), with a weighted average remaining contractual life of 2.3 years (2017: 2.1 years). Additionally, the Company estimates that the 2019 compensation cost related to these plans amounts to $4.77 million.

The Company plans to make additional equity-based awards under the plan from time to time, including additional non-vested stock and stock option awards. The Company anticipates that future employee non-vested stock and stock option awards granted pursuant to the plan will generally vest over a three to five year period and the stock options will carry a ten-year term.

26. Earnings per share

Basic earnings per share amounts are calculated by dividing the net profit (loss) for the year attributable to ordinary equity holders of the parent by the weighted average number of shares outstanding during the year, increased by the number of non-vested dividend participating share-based payment awards outstanding during the period.

Diluted earnings per share amounts are calculated by dividing the net profit (loss) attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on conversion of all the dilutive potential ordinary shares into ordinary shares, when the effect of their inclusion is dilutive (decreases earnings per share or increases loss per share).

The computation of the income and share data used in the basic and diluted earnings per share is as follows:

	2018	2017	2016

Basic earnings per share -			
Net income	$ 88,095	$ 364,045	$ 323,409
Weighted-average shares outstanding	42,182	42,111	42,036
Non-vested dividend participating awards	274	308	322
	42,456	42,419	42,358
	2.07	8.58	7.63

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	2018	2017	2016
Diluted earnings per share -			
Net income	$ 88,095	$ 364,045	$ 323,409
Weighted-average shares outstanding used for basic earnings per share	42,456	42,419	42,358
Share options on issue			5
	$ 42,456	$ 42,419	$ 42,363
	2.07	8.58	7.63

27. Commitments and contingencies

Purchase contracts

As of December 31, 2018, the Company has subscribed a purchase contract with Boeing consisting of sixty seven (67) Boeing 737 MAX aircraft, which will be delivered between 2019 and 2025.

The firm orders have an approximate value of $8.8 billion based on aircraft list prices, including estimated amounts for contractual price escalation and pre-delivery deposits.

Covenants

As a result of the various aircraft financing contracts entered into by the Company, the Company is required to comply with certain financial covenants. These covenants, among other things, require the Company to maintain earnings before income taxes, depreciation, amortization, and restructuring, or rent cost (EBITDAR) to a fixed charge ratio of at least 2.5 times, a minimum tangible net worth of $16.0 million, an EBITDAR to a finance charge expense ratio of at least 2.0 times, a total liability plus operating leases minus operating cash to tangible net worth ratio of less than 5.5, a long-term obligations to an EBITDAR ratio of less than 6.0, a minimum unrestricted cash balance of $50 million, and a minimum of $75 million in available cash, cash equivalents, and short-term investments. Breaches in meeting the financial covenants would permit the bank to immediately call loans and borrowings.

As of December 31, 2018, the total of aircraft financing contracts with covenants were paid. As of December 21, 2017, the Company was in compliance with all required covenants.

Labor unions

Approximately 63.2% of the Company s 9,450 employees are unionized. There are currently eight (8) union organizations, four (4) covering employees in Panama and four (4) covering employees in Colombia. The Company traditionally had good relations with its employees and with all the unions and expects to continue to enjoy good relations with its employees and the unions in the future.

The four (4) unions covering employees in Panama include the pilots union (UNPAC); the flight attendants union (SIPANAB); the mechanics union (SITECMAP), and the industry union (SIELAS), which represents ground personnel, messengers, drivers, passenger service agents, counter agents, and other non-executive administrative staff.

Copa entered into collective bargaining agreements with the pilot s union in July 2017, the industry union in December 2017, the mechanics union in June 2018 and the flight attendants union in October 2018.

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Collective bargaining agreements in Panama typically have terms of four years.

The four (4) unions covering employees in Colombia are: the pilots union (ACDAC), the flight attendants union (ACAV), the industry union (SINTRATAC), and the Mechanics Union (ACMA).

Copa entered into collective bargaining with ACDAC and ACAV in January 2018. ACDAC has not yet resolved and ACAV ended with an arbitration process and we have a new arbitration collective document for terms of two years until September 2020. Additionally, SINTRATAC and Copa entered into collective bargaining agreement in December 2017 for terms of four years until December 2021. Negotiations with ACMA were resolved by arbitration on December 31, 2015, extending the validation every 6 months from this date, until June 30, 2018. ACMA has not presented a new bill of petition.

Typically, collective bargaining agreements in Colombia have terms of two to three years. Although Copa Colombia usually settles many of its collective bargaining agreement negotiations through arbitration proceedings, it has traditionally experienced good relations with its unions.

In addition to unions in Panama and Colombia, the Company s employees in Brazil are covered by industry union agreements that cover all airline industry employees in the country; employees in Uruguay are covered by an industry union, and airport employees in Argentina are affiliated to an industry union (UPADEP).

Lines of credit for working capital and letters of credit

The Company maintained letters of credit with several banks with a value of $25.9 million as of December 31, 2018 (2017: $25.5 million). These letters of credit are pledged mainly for operating lessors, maintenance providers and airport operators.

The Company, has short term unsecured credit facilities with financial institutions in the aggregate amount of $212.3 million. These lines of credit have been put in place to pre-delivery payments and for working capital purposes. As of December 31, 2018, our outstanding borrowings under these credit lines were $140.0 million (2017: $127.8 million).

Tax audit

In March 2016, the Company received notifications from the tax authorities in Colombia. The Company, along with its tax advisors, has concluded that it is not probable that an outflow of resources embodying economic benefits will be required to settle them, especially considering that the Company has enough arguments to support its position and also taking into consideration that both cases are in the preliminary stages.

28. Financial instruments Risk management and fair value

In the normal course of its operations, the Company is exposed to a variety of financial risks: market risk (especially cash flow, currency, commodity prices and interest rate risk), credit risks and liquidity risk. The Company has established risk management policies to minimize potential adverse effects on the Company s financial performance:

28.1 Fuel price risk

The Company has risks that are common in its industry, related to the price level of aircraft fuel, which can significantly affect its operations, financial position and liquidity.

In the past the Company has entered into financial derivative contracts in an effort to mitigate this risk, but with inconsistent results. The Company has not entered into new fuel hedge contracts, and has adopted a new strategy of remaining unhedged, while regularly reviewing its policies based on market conditions and others factors. As of December 31, 2018, The Company did not have any outstanding fuel hedge contracts.

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The Company s derivative in 2017 contracts did not qualify as hedges for financial reporting purposes. Accordingly, changes in fair value of such derivative contracts, which amounted to gains of in 2017 of $2.8 million and loss of $111.6 million in 2016, were recorded as a component of Net change in fair value of derivatives in the accompanying consolidated statement of profit or loss.

The Company s derivative contracts matured in December 2017, the fair value of derivative was recorded in Trade, other payables and financial liabilities in 2017 in the consolidated statement of financial position. The Company s purchases of jet fuel are made primarily from one supplier (see note 19).

Fuel price risk is estimated as a hypothetical 10% increase in the December 31, 2018 cost per gallon of fuel. Based on projected 2019 fuel consumption, such an increase would result in an increase to aircraft fuel expense of approximately $58.0 million in 2019 (unaudited).

28.2 Market risk

Foreign currency risk

Foreign exchange risk is originated when the Company performs transactions and maintains monetary assets and liabilities in currencies that are different from the functional currency of the Company. Assets and liabilities in foreign currency are translated using with the exchange rates at the end of the period, except for non-monetary assets and liabilities that are translated at the equivalent cost of the U.S. dollar at the acquisition date and maintained at the historical rate. The results of foreign operations are translated using the average exchange rates that were in place during the period. Gains and losses deriving from exchange rates are included within (Loss) Gain on foreign currency fluctuations in the consolidated statement of profit or loss.

The majority of the obligations are denominated in U.S. dollars. Since Panama uses the U.S. dollar as legal tender, the majority of the Company s operating expenses are also denominated in U.S. dollars, approximately 44.7% of revenues and 55.3% of expenses, respectively. A significant part of our revenue is denominated in foreign currencies, including the Brazilian real, Colombian peso and Argentinian peso, which represented 22.7%, 11.3% and 7.2%, respectively (2017: 16.5%, 11.4% and 7.8% respectively).

Generally, the Company s exposure to most of these foreign currencies, with the exception of the Venezuelan bolivar, is limited to the period of up to two weeks between the completion of a sale and the conversion to U.S. dollar.

Foreign companies operating in Venezuela, including airlines, have experienced increasing delays for approvals by the Venezuelan government to repatriate funds. To reduce the cash exposure in Venezuela, the Company processes its passenger tickets mainly in U.S. dollars, constantly monitors sales and adjusts capacity.

On July 25, 2018, the Venezuelan government published the official gazette No. 41,460 where is indicated the unit of the monetary system of the Bolivarian Republic of Venezuela has been restated. The Banco Central de Venezuela have introduced their new Bolivar Soberano since August 20, 2018. The new currency replaced the Bolivar Fuerte , the

older currency that was being used, and consists in the elimination of five zeros from it.

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The following chart summarizes the Company s foreign currency risk exposure (assets and liabilities denominated in foreign currency) as of December 31:

	2018	2017
Assets		
Cash and cash equivalents	$ 53,123	$ 25,189
Investments	2	277
Accounts receivable, net	68,171	75,769
Other assets	19,107	29,459
Total assets	$ 140,403	$ 130,694
Liabilities		
Accounts payable	48,501	37,186
Taxes payable	40,243	50,922
Other liabilities	20,771	25,471
Total liabilities	$ 109,515	$ 113,579
Net position	$ 30,888	$ 17,114

From time to time the, Company enters into factoring agreements on receivables outstanding on credit card sales in certain countries.

28.3 Credit risk

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Company is exposed to credit risk from its financing activities, including deposits with banks and investments in financial instruments and from its account receivables.

The carrying amounts of financial assets represent the maximum credit risk.

Short and long-term investments

To mitigate the credit risk arising from deposits in bank and investments in financial instruments, the Company only conducts business with financial institutions that have an investment grade above BBB-from Standard & Poor s, with strength and liquidity indicators aligning with or above the market average.

The Company has established a policy to perform an assessment, at the end of each quarterly reporting period, of whether a financial instrument s credit risk has increased significantly since initial recognition, by monitors changes in

credit risk ratings published by Standard & Poor s.

As the financial instruments are considered to be low risk, the impairment provision is determined at 12-month ECLs using the general approach as prescribed by IFRS 9.

The movement in the allowance for impairment for short and long-term investments at amortized cost during the year was as follows.

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	2018
Balance at beginning of year (under IAS 39)	$
Adjustment on initial application of IFRS 9	(1,120)
Balance at beginning of year under IFRS 9	(1,120)
Additions	(98)
Balance at end of year	$ (1,218)

Account receivables

Regarding credit risk originating from commercial accounts receivable, the Company does not consider it significant since most of the accounts receivable can be easily converted into cash, usually in periods no longer than one month. The risk is managed by each business unit subject to the Company s established policy, procedures and control relating to customer credit risk management. Specific credit limits and payment terms have been established according to periodic analysis of the client s payment capacity.

A considerable amount of the Company s tickets sales are processed through major credit cards, resulting in accounts receivable that are generally short-term and usually collected before revenue is recognized. The Company considers that the credit risk associated with these accounts receivable is controllable based on the industry s trends and strong policies and procedures established and followed by the Company.

As result of the previously explained, the Company evaluates the concentration of risk with respect to trade receivables as low.

An impairment analysis is performed at each quarterly reporting date using a provision matrix to measure expected credit losses. Loss rates are calculated using a roll rate method based on the probability of a receivable progressing through successive stages of delinquency to write-off. To measure the ECLs, trade receivables have been grouped based on shared credit risk characteristics and the day past due.

Loss rates are based on actual credit loss experience over the last 12 months and adjusted for forward-looking factors specific to the debtors and the economic environment over the expected life of the receivables.

The Company evaluates the concentration of risk with respect to trade receivables as low, as its customers are located in several jurisdictions and operate in largely independent markets.

Set out below is the information about the credit risk exposure on the Company s trade receivables using a provision matrix at December 31, 2018:

	Account receivables					
			Days past due			
	Total	Current	<30	30-60	60-90	>90
Expected credit loss rate		0.1%	16.8%	26.8%	48.1%	59.8%
Gross carrying amount	$ 122,288	$ 112,394	$ 1,799	$ 533	$ 312	$ 7,250
Expected credit loss	$ 5,057	$ 124	$ 303	$ 143	$ 150	$ 4,337

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The information as of December 31, 2017 under IAS 39 is as follows:

	2017
Neither past due nor impaired	$ 115,685
Past due 1 to 30 days	1,286
Past due 31 to 60 days	617
More than 60 days	497
	118,085
Impaired	3,673
Total accounts receivable	$ 121,758

28.4 Interest rate and cash flow risk

The income and operating cash flows of the Company are substantially independent of changes in interest rates, because the Company does not have significant assets that generate interest except for surplus cash and cash equivalents and short and long-term investments.

Interest rate risk is originates mainly from long-term debt related to aircraft financing. These long-term lease payments at variable interest rates expose the Company to cash flow risk. The Company mitigates this risk by entering into fixed rate financing agreements in at least half of its outstanding debt.

As of December 31, 2018 and 2017, fixed interest rates range from 1.58% to 4.90%, and the main floating rate is LIBOR.

The Company s earnings are affected by changes in interest rates due to the impact of those changes on interest expenses from variable-rate debt instruments and operating leases, and on interest income generated from cash and investment balances. If the interest rate average is 10% more in 2019 than in 2018, the interest expense would increase by approximately $1.4 million and the fair value of the debt would decrease by approximately $10.2 million. If interest rates average 10% less in 2019 than in 2018, the interest income from marketable securities would decrease by approximately $1.4 million and the fair value of the debt would increase by approximately $10.2 million. These amounts are determined by considering the impact of the hypothetical interest rates on the variable-rate debt and marketable securities equivalent balances at December 31, 2018.

28.5 Liquidity risk

The Company s policy requires having sufficient cash to fulfill its obligations. The Company maintains sufficient cash on hand and in banks or cash equivalents that are highly liquid. The Company also has credit lines in financial institutions that allow it to withstand potential cash shortages to fulfill its short-term commitments (see note 27).

The table below summarizes the Company s financial liabilities according to their maturity date. The amounts in the table are the contractual undiscounted cash flows. Balances due within twelve months equal their carrying balances as the impact of discounting is not significant.

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December 31, 2018

	Note	Carrying amount	Contractual cash flow	Less than twelve months	Between 1 and 4 years	More than 4 years
Non-derivative financial liabilities						
Debt	18	$ 1,287,248	$ 1,465,223	$ 348,654	$ 529,624	$ 586,945
Account payable	19	124,962	124,962	124,962		
Account payable to related parties	19	15,464	15,464	15,464		
		$ 1,427,674	$ 1,605,649	$ 489,080	$ 529,624	$ 586,945

December 31, 2017

	Note	Carrying amount	Contractual cash flow	Less than twelve months	Between 1 and 4 years	More than 4 years
Non-derivative financial liabilities						
Debt	18	$ 1,174,581	$ 1,313,191	$ 329,284	$ 549,726	$ 434,181
Account payable	19	116,554	116,554	116,554		
Account payable to related parties	19	12,880	12,880	12,880		
		$ 1,304,015	$ 1,442,625	$ 458,718	$ 549,726	$ 434,181

28.6 Equity risk management

The Company s objectives when managing equity are to safeguard the Company s ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal equity structure to reduce the cost of capital.

Consistent with others in the industry, the Company monitors equity on the basis of the gearing ratio. This ratio is calculated as net debt divided by total equity. Net debt is calculated as total borrowings (including current and non-current borrowings as shown in the consolidated statement of financial position), less cash and cash equivalents and short-term investments. Total capitalization is calculated as equity as shown in the consolidated statement of financial position plus net debt.

The Company s gearing ratio (unaudited) is a follows:

	2018	2017
Total debt (note 18)	$ 1,287,248	$ 1,174,581
Less: non-restricted cash and cash equivalents and short-term investments	(722,358)	(943,900)
Net debt	564,890	230,681
Total equity	1,840,679	1,895,126
Total capitalization	2,405,569	2,125,807
Gearing ratio	23.5%	10.9%

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28.7 Fair value measurement

The following table shows the carrying amount and fair values of financial assets and financial liabilities as of December 31:

		Carrying amount		Fair Value	
	Note	2018	2017	2018	2017
Financial assets					
Cash and cash equivalents	8	$ 156,158	$ 238,792	$ 156,158	$ 238,792
Short-term investments	9	566,200	705,108	566,200	705,108
Account receivable	10	117,231	118,085	117,231	118,085
Long-term investments	9	138,846	65,953	138,349	65,953
Financial liabilities					
Debt	18	1,287,248	1,174,581	1,147,248	1,053,070
Account payable	19	140,426	129,434	140,426	129,434

The fair value of the financial assets and liabilities is the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The following methods and assumptions were used to estimate the fair values:

Cash and cash equivalents, short-term investments approximate their carrying amounts largely due to the short-term maturities of these instruments.

Long-term investments in bonds are based on published price quotations in an active market at the reporting date.

Accounts receivable are evaluated by the Company based on parameters such as interest rates, and risk characteristics. Based on this evaluation, allowances are taken into account for the expected losses of these receivables.

Debt obligations, financial assets, and financial liabilities are estimated by discounting future cash flows using the Company s current incremental borrowing for a similar liability.

29. Subsequent events

Stock Grants

During the first quarter of 2019, the Compensation Committee of the Company s Board of Directors approved three awards. Awards under these plans will grant approximately 30,412 shares of non-vested stock, which will vest over a period of three years. The Company estimates the fair value of these awards to be approximately $2.7 million and the 2019 compensation cost for these plans will be $1.4 million.

Sale of aircraf

During the first quarter of 2019, the Company delivered the two first Embraer 190 aircraft classified as Other current asset in the consolidated statement of financial position (see note 13).

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Suspension of operations Max 9

During the first quarter of 2019, the Company temporarily suspended operations of its Boeing 737 MAX 9 aircraft during the investigation into the cause of the accident of Ethiopian Airlines involving a Boeing 737 MAX 8 aircraft. Regulatory authorities around the world grounded the aircraft. The Company estimates this suspension would increase the maintenance expenses and could cause flight cancellations and other interruptions in the services.

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