

# BOC Aviation Investor Presentation 

DECEMBER 2023

3Q

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 document.




## Recent Developments



STRONG ASSET
QUALITY

- 681 aircraft owned, managed and on order
- 4.8 years $^{2}$ average fleet age; 7.8 years ${ }^{2}$ average remaining lease term
- >99\% aircraft utilisation rate


ROBUST
LIQUIDITY

- More than US $\$ 5$ billion of available liquidity ${ }^{3}$
- Additional US $\$ 650$ million of 5 Y bonds raised in November at yield of less than 6\%
- US\$208 million cash in Russian insurance settlement received in early November
- Covers future investment and maturing liabilities
> $0 \pi$
> PROACTIVE
> INVESTMENT STRATEGY
- Took delivery of 27 in 9 M (including one acquired by an airline customer on delivery)
- Signed 169 lease commitments Sep YTD
- Committed to acquire 64 aircraft in first 9 M
- Since 1 July, announced transactions with:
- IndiGo for 10 A320NEO aircraft
- JetBlue for seven A321NEO and 13 A220-300 aircraft,
- Cathay Pacific for nine A321NEO aircraft
- American Airlines for eight B737-8 and two B787-9 aircraft
- 30 of these are scheduled to close in 2023, 10 in 2024 and remaining nine after 2025


## Long-term sustainable growth

1H 2023: Returning to Growth





Significant improvement in all key metrics

## How We Invest



## 100\% of Orderbook Comprises Latest Technology Aircraft

| Our aircraft portfolio |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Aircraft type | Owned aircraft | Managed aircraft | Aircraft on order ${ }^{1}$ | Total |
| Airbus A220 family | 5 | 0 | 5 | 10 |
| Airbus A320CEO family | 95 | 15 | 0 | 110 |
| Airbus A320NEO family | 102 | 0 | 138 | 240 |
| Airbus A330CEO family | 8 | 1 | 0 | 9 |
| Airbus A330NEO family | 6 | 0 | 0 | 6 |
| Airbus A350 family | 9 | 0 | 0 | 9 |
| Boeing 737NG family | 72 | 13 | 0 | 85 |
| Boeing 737-8/9 | 56 | 0 | 85 | 141 |
| Boeing 777-300ER | 27 | 4 | 0 | 31 |
| Boeing 787 family | 28 | 1 | 5 | 34 |
| Freighters | 5 | 1 | 0 | 6 |
|  |  |  |  |  |
| Total | 413 | 35 | 233 | 681 |

## Rental Collection Consistently Above 100\%

Annual collection rate (\%)


- Long term cash collection from airline customers remains high, at an average rate of $99.2 \%$ since 2008
- Collections were severely affected by the Covid-19 outbreak in early 2020, but have been recovering quickly to pre-pandemic level
- Collection rate as at 30 June 2023 was high at $102 \%$

Record High Operating Cash Flow Net of Interest


High collection rate contributes to record high cash flow

## Airline Industry has Returned to 2019 Levels

Passenger traffic ${ }^{1}$


Capacity ${ }^{1}$


Passenger load factor

## Aircraft Supply: Lessor Supply of Used Aircraft is at Cycle Low

The off-lease aircraft have reduced significantly since 2022 and continues on a downward trajectory because of narrowbody shortage

## Monthly Narrowbody Lessor Aircraft Off Lease

Count by Aircraft Type, Aircraft under 12 years old remained off lease at month-end


## Aircraft Supply: PW Engines, A Key Dynamic For The Next Few Years

Powdered metal related GTF shop visits likely to extend well into 2026. AOG numbers will continue to rise over the next few months. Peak AOGs expected in 2024, but AOGs will remain high for some years

Inactive A320/1N \& A220-100/300 PW-powered Aircraft
Inactive refers to aircraft that has been on the ground for longer than 7 days


## Latest updates on situation

(1)

Pratt and Whitney expects peak AOGs at 650 in 2024, this is $46 \%$ of the fleet of PW powered A320/1 neo fleet
(2) The AOG issues are expected to extend well into 2026 and even new production engines will require inspections
(3)

Peak AOGs will be around $4 \%$ of total narrowbody aircraft
(4)

PW are providing guidance of 250-300 days from removal from aircraft to return of engine from shop

## Aircraft Supply: Lease Rates Have Seen a Step Change

Narrowbody aircraft market values are nearing $120 \%$ of base values, highlighting the robustness in this market. Despite recent strengthening, this trend might not have been fully acknowledged by appraisers yet, especially on used aircraft


[^0]
## Comments

- Used aircraft seem to have outperformed new aircraft
- Used narrowbody rates have gone up by $\sim 40 \mathrm{~K}$ per month since start of year
- Widebody market has shown a consistent and robust improvement with A350 lease backs back at pre-Covid level


## Global Fleet to Double to >48,000 Aircraft by 2042

By type (number of aircraft)


By region

Latin America | Africa |
| :---: |
| $2 \%$ |

5\%
2\%


Airlines' Capital Investments Are Projected to Exceed US\$125 Billion by 2025


## Operating Lessors' Share of the Market

Proportion of fleet on operating lease


## Lessors Offer Relatively Higher Returns in the Aerospace Industry

## Average returns

Simple average ROIC, percent


[^1]2. ROE instead of ROIC
3. WACC differs by aviation subsector. Hence median WACC in 2022 cannot be used to determine economic profit (ROIC less WACC) by subsector

Source: McKinsey \& Company Air Travel Value Chain Analysis

## Conclusion

- On track for $30^{\text {th }}$ year of unbroken profitability
- More than US $\$ 5.7$ billion of cumulative earnings ${ }^{1}$
- A very active 2023 so far
- 1 H 2023 net profit after tax (NPAT) rose $27 \%^{2}$ to US\$262 million
- Record high lease rental income of US $\$ 940$ million
- Record high operating cash flow net of interest of US\$721 million
- Maintained interim dividend at $30 \%$ of 1 H 2023 's NPAT
- Maintained credit ratings of A- from S\&P Global and Fitch Ratings
- Committed to acquire 84 aircraft in 2023 YTD - 46 of which are scheduled for delivery in $2023^{3}$
- Experienced management team to drive growth
- Global passenger traffic returned to 2019 levels
- Rebound in airline profits driving demand for new aircraft, lifting aircraft valuations and lease rates
- Significant future capex of US\$11 billion provides future balance sheet growth
- High liquidity of more than US\$5.7 billion to support further aircraft investments


## APPENDICES

## The BOC Aviation Journey - 30 Years in 2023



Market capitalisation of US\$4.8 billion ${ }^{1}$

## BOC Aviation - Who are We?

## Top 5

Global aircraft operating lessor ${ }^{1}$

## Listed on HKEX <br> HKEX code: 2588

## >US\$5.7 billion

Cumulative profits since inception ${ }^{2}$
>US\$5.7 billion
Available liquidity ${ }^{2}$
233
Aircraft on order ${ }^{3}$

## Bank of China

$70 \%$ owned by BOC

A- Investment grade credit ratings from S\&P and Fitch

## US\$22.9 billion

Total assets ${ }^{2}$

## 681

Aircraft in fleet ${ }^{4}$
4.8 years; 7.8 years

Average fleet age \& lease term remaining ${ }^{5}$

## Our Management Team

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Robert Martin <br> Managing Director \& Chief Executive Officer | Zhang Xiaolu Vice-Chairman \& Deputy Managing Director | Steven Townend <br> Deputy Managing Director \& Chief Financial Officer | Tom Chandler Chief Operating Officer | Deng Lei <br> Chief Commercial Officer (Asia Pacific \& the Middle East) | Paul Kent <br> Chief Commercial Officer (Europe, Americas \& Africa) |
|  | - 36 years of banking and leasing experience <br> - Managing Director and Board Director since July 1998 | 33 years of banking • <br> experience <br> In charge of Risk Management, Market• Research, Board Secretariat and Corporate Affairs departments | 32 years of banking • and leasing experience In charge of Finance, • Treasury, Tax, Investor Relations and Settlement | 26 years of airline, legal and banking experience In charge of Procurement, Technical, all operations and related departments | - 25 years of banking experience <br> - In charge of revenue activities for Asia Pacific and Middle East | 27 years of aircraft finance and leasing experience <br> In charge of revenue activities for Europe, Americas and Africa |
| Nationality |  | $\star$ * |  |  |  |  |

Highly experienced senior management team

## Core Competencies - BOC Aviation Track Record

Since inception in 1993:

- Purchasing More than 1,000 aircraft purchased totalling more than US $\$ 61$ billion
- Leasing More than 1,300 leases executed with 190 airlines in $>60$ countries and regions
- Financing ${ }^{1}$ More than US $\$ 40$ billion in debt raised
- Sales More than 420 owned and managed aircraft sold
- Transitions More than 130 transitions
- Repossessions ${ }^{2} 65$ aircraft in 19 jurisdictions

The outcome:

- Total number of aircraft delivered 847
- Proportion of aircraft sold ${ }^{3} \quad 50 \%$
- Proportion of transitions ${ }^{4} 10 \%$
- Proportion of repossessions ${ }^{4} 5 \%$

All data as at 30 September 2023, since inception unless otherwise indicated See Appendices - Endnotes

BOC Aviation Bonds Issued on the Tightest Spreads in 2023

| Issuer | Issue Date | Tenor (years) | Amt Issued (US\$ million) | Coupon (\%) | Yield (\%) | T-Spread at Issue (bps) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BOC Aviation Limited | 23/5/2023 | 5 | 500 | 4.500 | 4.627 | 120 |
| BOC Aviation USA Corp | 9/11/2023 | 5 | 650 | 5.750 | 5.917 | 130 |
| BOC Aviation USA Corp | 3/5/2023 | 10 | 500 | 4.875 | 5.015 | 160 |
| Aercap | 18/9/2023 | 7 | 850 | 6.150 | 6.262 | 185 |
| Air Lease Corp | 13/1/2023 | 5 | 700 | 5.300 | 5.560 | 190 |
| SMBC Aviation Capital Finance | 25/7/2023 | 10 | 1,000 | 5.700 | 5.745 | 195 |
| SMBC Aviation Capital Finance | 3/5/2023 | 5 | 650 | 5.450 | 5.489 | 200 |
| Aercap | 6/6/2023 | 5 | 1,000 | 5.750 | 5.977 | 217 |
| Aviation Capital Group LLC | 5/10/2023 | 5 | 500 | 6.750 | 6.810 | 225 |
| Aircastle | 18/7/2023 | 5 | 650 | 6.500 | 6.544 | 260 |
| Aviation Capital Group LLC | 3/4/2023 | 5 | 600 | 6.250 | 6.438 | 275 |
| Avolon Holdings Funding Ltd | 4/5/2023 | 5 | 750 | 6.375 | 6.624 | 300 |
| Griffin Global Asset Management | 15/11/2023 | 3 | 400 | 8.000 | 8.250 | 360 |
| Macquarie Airfinance Holdings Ltd | 11/9/2023 | 5 | 500 | 8.125 | 8.125 | 372 |
| Griffin Global Asset Management | 8/6/2023 | 5 | 600 | 8.000 | 8.000 | 421 |
| Macquarie Airfinance Holdings Ltd | 18/4/2023 | 5 | 500 | 8.375 | 8.375 | 479 |

Nearest comparable 5-year transaction priced almost 100 bp wider than our recent issue

## Growing Balance Sheet and Fleet



Continued aircraft investment supported by rising aircraft valuations

## Lease Rental Income Continues to Drive Revenue



## Long-Term Leases Enhance Revenue Visibility



| Well-dispersed scheduled lease expiries² |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 300 \\ & 200 \\ & 100 \end{aligned}$ | Average remaining lease term of 7.8 years |  |  |  |  | $79.7 \%$ | $\begin{aligned} & 100 \% \\ & -80 \% \\ & 60 \% \\ & 40 \% \\ & 20 \% \\ & 0 \% \end{aligned}$ |
|  |  |  |  |  |  |  |  |
|  | 2.6\% |  | 2.7\% | 2.3\% |  |  |  |
|  | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 and |  |

- Number of leases expiring (LHS)
-Percentage of aircraft NBV with leases expiring (RHS)
Industry-leading average remaining lease term ${ }^{3}$
Number of years



## Lease Rate Factor Trending Higher in 2023




## Globally Diversified Portfolio


$98.599 .4100 .999 .897 .2100 .499 .9100 .499 .899 .9100 .396 .9 \quad 94.0 \quad 96.6100 .8 \quad 101.8$
Average $=99.2 \%$

...and increasingly diversified by geography³,4


## Diverse Funding Channels Utilised in 1H 2023

## Sources and Uses of Cash



Flexible Capital Structure


## Record High Committed Capex



Total committed capex of US\$11 billion ${ }^{4}$

US\$ billion 8.2


## Robust capex provides future growth visibility

## ESG is a Key Focus

## Environmental

- $\mathbf{1 0 0 \%}$ carbon neutral for direct emissions
- 100\% latest technology aircraft in the orderbook
- More than 70\% of our owned fleet is latest technology aircraft ${ }^{1}$
- 4.8 years average fleet age ${ }^{2}$


## Social

- Supports Airlink and other global and local NGOs
- $\mathbf{1 , 3 0 0}$ volunteer hours in local communities
- More than 4,200 training hours across the company
- $\mathbf{5 0 \%}$ female representation in the workforce
- 20 nationalities across five offices


## Governance

- Three female Board of Directors out of 11
- Three nationalities on the Board
- 30\% females in the management team
- Nil regulatory breaches
- $100 \%$ completion of compliance training


## Aviation in a Low Carbon Environment

|  | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Commuter <br> " $9-50$ seats <br> " < 60 minute flights <br> " $<1 \%$ of industry $\mathrm{CO}_{2}$ | SAF | Electric and/or SAF | Electric and/or SAF | Electric and/or SAF | Electric and/or SAF | Electric and/or SAF | Electric and/or SAF |
| Regional <br> » 50-100 seats <br> » 30-90 minute flights <br> " $\sim 3 \%$ of industry $\mathrm{CO}_{2}$ | SAF | SAF | Electric or Hydrogen fuel cell and/or SAF | Electric or Hydrogen fuel cell and/or SAF | Electric or <br> Hydrogen fuel cell and/or SAF | Electric or <br> Hydrogen fuel cell and/or SAF | Electric or Hydrogen fuel cell and/or SAF |
| Short haul <br> " 100-150 seats <br> " 45-120 minute flights <br> " $\sim 24 \%$ of industry $\mathrm{CO}_{2}$ | SAF | SAF | SAF | SAF | Electric or Hydrogen combustion and/or SAF | Electric or Hydrogen combustion and/or SAF | Electric or Hydrogen combustion and/or SAF |
| Medium haul <br> " 100-250 seats <br> » 60-150 minute flights <br> » $\sim 43 \%$ of industry $\mathrm{CO}_{2}$ | SAF | SAF | SAF | SAF | SAF | SAF | SAF potentially some Hydrogen |
| Long haul <br> » 250+ seats <br> " 150 minute + flights <br> " $\sim 30 \%$ of industry $\mathrm{CO}_{2}$ | SAF | SAF | SAF | SAF | SAF | SAF | SAF |

## Endnotes (1)

- SLIDE 3: Recent Developments

1. Includes owned, managed and aircraft on order
2. Weighted by net book value of owned fleet
3. As at 30 June 2023

- SLIDE 4: 1H 2023: Returning to Growth

1. Excluding the net impact of aircraft in Russia in 1H 2022
2. Calculated as net cash flow from operating activities less finance expenses paid

- SLIDE 6: 100\% of Orderbook Comprises Latest Technology Aircraft

1. Includes all commitments to purchase aircraft including two where an airline customer has the right to acquire the relevant aircraft on delivery
2. Based on net book value and including aircraft subject to finance leases

- SLIDE 8: Record High Operating Cash Flow Net of Interest

1. Excluded the net impact of aircraft in Russia
2. Calculated as net cash flow from operating activities less finance expenses paid

- SLIDE 9: September Passenger Demand Provides Solid End to Third Quarter - Source: IATA, Air passenger market in detail - September 2023 1. Compared to 2019
- SLIDE 10: Aircraft supply: Lessor supply of used aircraft is at cycle low - Source: BOC Aviation analysis, Cirium fleet data
- SLIDE 11: Aircraft supply: PW engines, a key dynamic for the next few years - Source: BOC Aviation analysis, Cirium fleet data, ADSB flight tracking data
- SLIDE 12: Aircraft supply: Lease rates have seen a step change - Source: BOC Aviation analysis, Cirium
- SLIDE 13: Global Fleet to Double to >48,000 Aircraft by 2042 - Source: Boeing Commercial Market Outlook 2023 -2042 (15 June 2023 )
- SLIDE 14: Airlines' Capital Investments Are Projected to Exceed US\$125 Billion by 2025 - Source: BOC Aviation Analysis


## Endnotes (2)

- SLIDE 15: Operating Lessors' Share of the Market - Source: Ascend, as at 30 September 2023 based on aircraft of 100 seats Fleet data for 2020 onwards includes aircraft in service and aircraft additionally parked from end 2019 due to Covid 19 fleet grounding
- SLIDE 16: Lessors Offer Relatively Higher Returns in the Aerospace Industry - Source: IATA Sustainability \& Economics (13 October 2023)
- SLIDE 17: Conclusion

1. Since the Company's inception in 1993
2. Compared to core NPAT of US\$206 million in 1H 2022
3. As at 3 November 2023

- SLIDE 19: The BOC Aviation Journey - 30 Years in 2023

1. Source: Bloomberg (as at 30 September 2023)

- SLIDE 20: BOC Aviation - Who Are We?

1. By net book value of owned aircraft
2. As at 30 June 2023
3. Includes all commitments to purchase aircraft including two where an airline customer has the right to acquire the relevant aircraft on delivery
4. Includes owned, managed and aircraft on order
5. Weighted by net book value of owned fleet

- SLIDE 22: Core Competencies - BOC Aviation Track Record

1. Since 1 January 2007
2. Includes repossessions and consensual early returns
3. As a proportion of aircraft delivered
4. As a proportion of leases executed

- SLIDE 23: BOC Aviation Bonds Issued on the Tightest Spreads in 2023 - Sources: Bloomberg and BOC Aviation’s estimates


## Endnotes (3)

- SLIDE 24: Growing Balance Sheet and Fleet

1. Includes aircraft on leases classified as finance lease in accordance with IFRS 16 (Leases) as at 30 September 2023

- SLIDE 25: Lease Rental Income Continues to Dominate Revenue

1. Excludes income arising from termination of leases with airlines in Russia in 2022
2. Comprises aircraft depreciation and impairment charges (excludes the impairment of aircraft in Russia in 2022)

- SLIDE 26: Long-Term Leases Enhance Revenue Visibility

1. Weighted by net book value of owned fleet and finance lease receivables in respect of aircraft on leases classified as finance leases in accordance with IFRS 16 (Leases)
2. Owned aircraft with leases expiring in each calendar year, weighted by net book value including finance lease receivables in respect of aircraft on lease classified as finance leases in accordance with IFRS 16 (Leases), and excluding any aircraft for which the Company has sale, lease or lease extension commitments, and any off-lease aircraft as at 30 September 2023
3. Updated as at 30 September 2023 for BOC Aviation, Aercap, Air Lease and Avolon

- SLIDE 27: Lease Rate Factor Trending Higher in 2023

1. Calculated as operating lease rental income divided by average net book value of aircraft and multiplied by $100 \%$. Semi-annual lease rate factors are calculated on an annualised basis
2. Calculated as the sum of finance expenses and capitalised interest, divided by average total indebtedness. Total indebtedness represents loans and borrowings before adjustments for deferred debt issue costs, fair values, revaluations and discounts/premiums to medium term notes. Semi-annual cost of debt is calculated on an annualised basis
3. Calculated as operating lease rental income less finance expenses apportioned to operating lease rental income, divided by average of aircraft net book value. Semi-annual net lease yields are calculated on an annualised basis

- SLIDE 28: Globally Diversified Portfolio

1. Based on net book value (excluding off lease aircraft) and including finance lease receivables in respect of aircraft on leases classified as finance leases in accordance with IFRS 16 (Leases)
2. For certain airlines, the percentage includes leases to affiliated airlines whose obligations are guaranteed by the named airline

## Endnotes (4)

1. Based on net book value of aircraft including finance lease receivables in respect of aircraft on leases classified as finance leases in accordance with IFRS 16 (Leases)
2. Off lease aircraft are allocated to the region of the prospective operator if a lease commitment is in place or to the region of the prior operator if no lease commitment is in place
3. Fleet utilisation is the total days on-lease in the period as a percentage of total available lease days in the period, as at 30 September 2023

- SLIDE 29: Diverse Funding Channels Utilised in 1H 2023

1. Calculated as net cash flow from operating activities less finance expenses paid

- SLIDE 30: Flexible Capital Structure

1. Drawn debt only

- SLIDE 31: Record High Committed Capex

1. Includes all commitments to purchase aircraft including those where an airline customer has the right to acquire the relevant aircraft on delivery
2. Based on expected delivery dates as at 30 June 2023
3. Includes 16 aircraft delivered in 1 H 2023
4. As at 30 June 2023

- SLIDE 32: ESG is a Key Focus

1. As at 30 June 2023
2. As at 30 September 2023

- SLIDE 33: Aviation in a Low Carbon Environment - Source: ATAG Waypoint 2050 Report


## (ㄷ) bocaviation

## www.bocaviation.com


[^0]:    See Appendices - Endnotes

[^1]:    . After-tax ROIC incl. goodwil. ROIC as NOPAT/Invested capital

