

Boeing Co. (BA)

In-Depth Backlog Analysis Adds Comfort to the Long Thesis

- Company Update
- Estimate Change

- **Year of Boeing?** — We were rather vocal in January that 2012 would belong to Boeing. Ramping production rates, 787 risk retirement, 737 MAX order flow, and an improving cash story underpinned our "Year of Boeing" thesis. While these fundamentals have played out, clearly our stock call has not given investor concern over the strength of the company's backlog and the potential for peaking order rates. In this report we address both of these issues in detail and offer up what we view to be compelling reasons to be a buyer of the stock at current levels.
- **What's in This Report** — **1)** An in-depth analysis of Boeing's backlog, **2)** An analysis of the correlation between orders and BA's share price, **3)** A fresh look at our commercial aerospace demand model, **4)** A preview of our expectations on the company's cash deployment announcement to be made by the end of the year, **5)** A detailed review of our long thesis.
- **Key Takeaways** — **1)** The company's backlog appears to support announced production rate increases given a bow-wave of aging planes and the efficiency gains offered by new products, **2)** Orders should be less important for the next several years as Boeing heads swiftly into a "backlog burn" era. In our view, building aircraft and cash deployment are what matter, **3)** The long-term demand outlook also supports production plans given the prospects of global economic growth and replacement rates, and **4)** We expect a 20% dividend hike in December and for the company to begin buying back ~5% of its float annually starting in 2013.
- **Paradigm Shift: Shareholder Cash Returns Come into Focus** — In our view, today's Boeing story is more about cash deployment and less about the near-term vagaries of daily order blips and 787 production rate speculation. The backlog and working capital are built, difficult development projects are coming to a close, and execution is in keen focus. Now it's time to generate cash returns for shareholders, and with free cash yields likely pushing the mid-teens by mid-decade (on current prices), we view this as highly likely. As such, we remain buyers of the stock and expect Board-level cash deployment decisions, continued 787 execution, and increasing investor confidence with the company's backlog to act as catalysts.

Buy	1
Price (10 Oct 12)	US\$70.34
Target price	US\$89.00
Expected share price return	26.5%
Expected dividend yield	2.9%
Expected total return	29.4%
Market Cap	US\$52,881M

Price Performance (RIC: BA.N, BB: BA US)



EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2011A	0.78A	1.25A	1.45A	1.83A	5.33A	5.33A
2012E	1.22A	1.27A	1.09E	1.13E	4.70E	4.73E
Previous	1.22A	1.27A	1.07E	1.12E	4.68E	na
2013E	1.26E	1.38E	1.44E	1.49E	5.57E	5.62E
Previous	1.27E	1.38E	1.44E	1.48E	5.57E	na
2014E	1.48E	1.63E	1.68E	1.72E	6.51E	6.55E
Previous	1.43E	1.59E	1.63E	1.68E	6.32E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

Jason Gursky
+1-415-951-1672
jason.gursky@citi.com

Jonathan Raviv
jonathan.raviv@citi.com

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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BA.N: Fiscal year end 31-Dec						Price: US\$70.34; TP: US\$89.00; Market Cap: US\$52,881m; Recomm: Buy					
Profit & Loss (US\$m)	2010	2011	2012E	2013E	2014E	Valuation ratios	2010	2011	2012E	2013E	2014E
Sales revenue	64,306	68,735	80,761	88,205	95,314	PE (x)	15.8	13.2	15.0	12.6	10.8
Cost of sales	-51,999	-55,539	-67,509	-73,517	-79,418	PB (x)	17.6	13.9	7.3	6.7	6.0
Gross profit	12,307	13,196	13,252	14,688	15,896	EV/EBITDA (x)	9.1	7.4	7.5	6.6	5.8
Gross Margin (%)	19.1	19.2	16.4	16.7	16.7	FCF yield (%)	3.6	4.5	7.0	8.5	12.1
EBITDA (Adj)	6,698	7,520	7,496	8,378	9,231	Dividend yield (%)	2.4	2.3	2.5	3.0	3.6
EBITDA Margin (Adj) (%)	10.4	10.9	9.3	9.5	9.7	Payout ratio (%)	38	31	37	38	39
Depreciation	-1,727	-1,675	-1,648	-1,600	-1,600	ROE (%)	130.2	124.0	68.1	57.8	59.5
Amortisation	0	0	0	0	0	Cashflow (US\$m)	2010	2011	2012E	2013E	2014E
EBIT (Adj)	4,971	5,845	5,848	6,778	7,631	EBITDA	6,698	7,520	7,496	8,378	9,231
EBIT Margin (Adj) (%)	7.7	8.5	7.2	7.7	8.0	Working capital	-5,010	-4,261	-1,664	-715	1,073
Net interest	-516	-498	-452	-439	-431	Other	1,268	757	-94	-1,611	-2,504
Associates	0	0	0	0	0	Operating cashflow	2,956	4,016	5,738	6,052	7,800
Non-op/Except	52	47	58	72	72	Capex	-1,062	-1,619	-1,964	-1,600	-1,600
Pre-tax profit	4,507	5,394	5,454	6,411	7,271	Net acq/disposals	-932	-42	-18	0	0
Tax	-1,196	-1,383	-1,870	-2,244	-2,545	Other	-2,837	4,030	-2,806	0	0
Extraord./Min.Int./Pref.div.	0	0	0	0	0	Investing cashflow	-4,831	2,369	-4,788	-1,600	-1,600
Reported net profit	3,311	4,011	3,583	4,167	4,726	Dividends paid	-1,253	-1,244	-1,330	-1,580	-1,840
Net Margin (%)	5.1	5.8	4.4	4.7	5.0	Financing cashflow	-1,977	-1,702	-2,573	-3,580	-3,840
Core NPAT	3,311	4,011	3,583	4,167	4,726	Net change in cash	-3,852	4,683	-1,623	871	2,360
Per share data	2010	2011	2012E	2013E	2014E	Free cashflow to s/holders	1,894	2,397	3,774	4,452	6,200
Reported EPS (\$)	4.45	5.33	4.70	5.57	6.51						
Core EPS (\$)	4.45	5.33	4.70	5.57	6.51						
DPS (\$)	1.68	1.65	1.74	2.11	2.53						
CFPS (\$)	3.97	5.33	7.53	8.09	10.74						
FCFPS (\$)	2.54	3.18	4.95	5.95	8.54						
BVPS (\$)	4.00	5.05	9.67	10.49	11.73						
Wtd avg ord shares (m)	715	715	715	715	715						
Wtd avg diluted shares (m)	744	753	762	748	726						
Growth rates	2010	2011	2012E	2013E	2014E						
Sales revenue (%)	-5.8	6.9	17.5	9.2	8.1						
EBIT (Adj) (%)	137.2	17.6	0.1	15.9	12.6						
Core NPAT (%)	148.0	21.1	-10.7	16.3	13.4						
Core EPS (%)	137.7	19.7	-11.7	18.4	16.9						
Balance Sheet (US\$m)	2010	2011	2012E	2013E	2014E						
Cash & cash equiv.	5,359	10,049	8,425	9,297	11,657						
Accounts receivables	5,422	5,793	7,047	7,521	8,018						
Inventory	24,317	32,240	36,168	39,147	40,351						
Net fixed & other tangibles	14,571	16,848	17,393	17,404	17,416						
Goodwill & intangibles	7,916	7,989	7,935	7,935	7,935						
Financial & other assets	10,980	7,067	9,448	9,448	9,448						
Total assets	68,565	79,986	86,417	90,752	94,824						
Accounts payable	21,517	20,645	23,491	25,417	27,097						
Short-term debt	948	2,353	2,466	2,466	2,466						
Long-term debt	11,473	10,018	8,735	8,735	8,735						
Provisions & other liab	31,765	43,362	44,812	46,635	48,140						
Total liabilities	65,703	76,378	79,504	83,253	86,438						
Shareholders' equity	2,862	3,608	6,912	7,499	8,386						
Minority interests	0	0	0	0	0						
Total equity	2,862	3,608	6,912	7,499	8,386						
Net debt	7,062	2,322	2,776	1,904	-456						
Net debt to equity (%)	246.8	64.4	40.2	25.4	-5.4						

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For definitions of the items in this table, please click [here](#).

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Road Map and Key Takeaways

There are plenty of interesting topics, tables, and figures in this note, but to make life easier for the reader we point to the following:

- **Backlog Analysis Shows Support for Announced Rate Hikes** –We do a deep dive on BA's backlog and find that announced production plans appear well supported given an aging fleet and new products that offer compelling fuel burn savings. In our view, this should provide comfort to those investors concerned about a cut to out year consensus estimates.
See page 5 for Details.
- **Orders Are Not as Important as They Seem** – Consensus view is that BA's stock trades in sympathy with orders. However, our analysis suggests that the stock has worked both during periods of backlog burn and backlog build. Now that we are about to enter a period of backlog burn, we believe execution will become the most important driver of the stock. And on this front, I think there is a positive story given the company's history of building profitable planes when it has mature designs – which we now have across Boeing's product portfolio.
See analysis starting on page 18.
- **Demand Model Appears in Balance** – We use a simplistic model to derive implied aircraft demand using assumptions on economic growth, traffic growth, and replacement rates. At this point, it seems aircraft supply and demand will be in equilibrium over the next several years.
See page 20 for details.
- **Boeing Becoming a Shareholder Friendly Cash Deployment Story** – By our estimate, Boeing will generate free cash flow equivalent to roughly 40% of its market capitalization by the end of 2015. In our view, this opens the door to an aggressive cash deployment story and at this point we expect the vast majority of this cash to be returned to shareholders (vs. debt holders and acquisitions) via increased dividends and share repurchases. The company's December Board meeting will offer a first look at the cash return policy and we currently expect a 20% dividend hike and a \$2B+ share repurchase program to be announced.
See page 21 for details.
- **Introducing 2015 Estimates** – With this report we are introducing our 2015 estimates – which reflect 6% revenue growth and 16% EPS growth 2012 to 2015. Furthermore, we expect the company to generate as much as \$10 per share in free cash flow in 2015 – representing a ~14% yield at the current share price.
See page 24 for details.
- **Preview of 3Q12 Earnings** – BA reports 3Q earnings Wednesday October 24 before the market opens. We're mildly below Street EPS (\$1.09 vs. \$1.12) likely due to our inclusion of lower 737 margins on the new block which includes end-of-line NGs and MAX. In our view, consensus estimates do not fully reflect this accounting change and believe investors will see through any weakness in EPS driven by it. At this point, we estimate 21% margins for the new 737 block, which is a 200 bps sequential headwind compared to our prior estimate and is worth about 7c in EPS. We've also adjusted our BCA sales and margin estimates to reflect recently disclosed 3Q deliveries which reflected a lower total, but a richer margin mix. We expect the 3Q delivery miss (unit-wise) to be largely made up in 4Q, so our 2012 delivery estimate is roughly unchanged save for one 747 we expect to slip into 2013.
See page 25 for details.

Backlog & Production Rate Analysis

Investors have shown concern all year about the health of Boeing's backlog and the associated risk to consensus estimates should production not increase to projected rates. In this section we demonstrate that demand is being driven increasingly by replacement needs vs. growth needs – which in our view means demand is getting increasingly sticky – and that cancellation rates remain at or below historic averages. Our contention is that these factors should offer investors comfort on the production outlook. Figure 1 provides a summary of the detailed analysis starting on page 8, and it demonstrates the Sale/EPS sensitivities to our 2014 estimates should production rates remain flat from here.

Across Boeing's platforms, the backlog offers strong visibility in terms of years represented in backlog, and consecutive months scheduled for deliveries matching production rate plans. Plus, two areas of concern (freight & Europe) do not play a large role in Boeing orders. Still, we've stressed 2014 #s in case Boeing doesn't hit its rate targets.

Figure 1. Key Stats

	Backlog Years	Consecutive Months Visibility	% Backlog		2014 downside	
			Non-freight	Non-Europe	Sales	EPS
737	5.7	15	100%	83%	(1.5%)	(4.2%)
747	2.9	27	42%	66%	(1.1%)	0.0%
767	3.7	17	28%	97%	(0.6%)	(0.4%)
777	3.1	21	82%	93%	(2.5%)	(11.6%)
787	6.6	70	100%	81%	(4.2%)	(2.2%)

Source: Citi Research, Ascend

Customer orders don't reflect overly aggressive growth

Below are the two OEs top customers ranked by units ordered. We measure customer "risk" by how much growth is built into their order book (measured by total orders vs. current fleet size). As one can see from the below data, some customers are looking to grow more aggressively than others. To be sure, in some cases aggressive growth is warranted given regional dynamics, such as the increasing preponderance of air travel in emerging markets.

Figure 2. Boeing Backlog

Rank	Customer	Boeing Orders	% of Boeing Backlog	Total Airline Orders vs. Fleet
1	Lion Air	335	8.0%	4.0x
2	Southwest Airlines	329	7.8%	0.5x
3	United Airlines	243	5.8%	0.4x
4	Norwegian	177	4.2%	4.1x
5	Unannounced	153	3.6%	NA
6	GOL	146	3.5%	1.5x
7	American Airlines	138	3.3%	0.2x
8	Air Lease Corporation	129	3.1%	NA
9	Delta Air Lines	118	2.8%	0.2x
10	GECAS	113	2.7%	NA
11	Aeroflot	92	2.2%	1.2x
12	Emirates Airline	86	2.0%	1.2x
13	China Southern	81	1.9%	0.3x
14	Air China	76	1.8%	0.4x
15	Virgin Australia	66	1.6%	1.0x
16	ILFC	64	1.5%	NA
17	ANA	63	1.5%	0.3x
18	China Eastern Airlines	61	1.5%	0.6x
19	airberlin	59	1.4%	0.6x
20	Aviation Capital Group	58	1.4%	NA
21	Jet Airways	56	1.3%	0.9x
22	FedEx	53	1.3%	0.2x
Boeing Total		4,199		0.5x

Source: Ascend

Figure 3. Airbus Backlog

Rank	Customer	Airbus Orders	% of Airbus Backlog	Total Airline Orders vs. Fleet
1	AirAsia	271	5.9%	4.7x
2	IndiGo	212	4.6%	3.5x
3	Qatar Airways	143	3.1%	1.7x
4	Emirates Airline	135	2.9%	1.2x
5	ILFC	116	2.5%	NA
6	GECAS	103	2.2%	NA
7	Spirit Airlines	102	2.2%	2.4x
8	Jetstar	101	2.2%	1.5x
9	Norwegian	100	2.2%	4.1x
10	TAM Linhas Aereas	100	2.2%	0.7x
11	Kingfisher Airlines	92	2.0%	11.5x
12	ALAFCO	91	2.0%	NA
13	ICBC Leasing Co	89	1.9%	NA
14	JetBlue Airways	88	1.9%	0.7x
15	LAN Airlines	82	1.8%	1.6x
16	US Airways	82	1.8%	0.3x
17	Frontier Airlines	80	1.7%	1.4x
18	GoAir	79	1.7%	6.1x
19	CIT Aerospace	76	1.7%	NA
20	Wizz Air	76	1.7%	2.1x
21	Aviation Capital Group	71	1.5%	NA
22	China Eastern Airlines	68	1.5%	0.6x
Airbus Total		4,602		0.5x

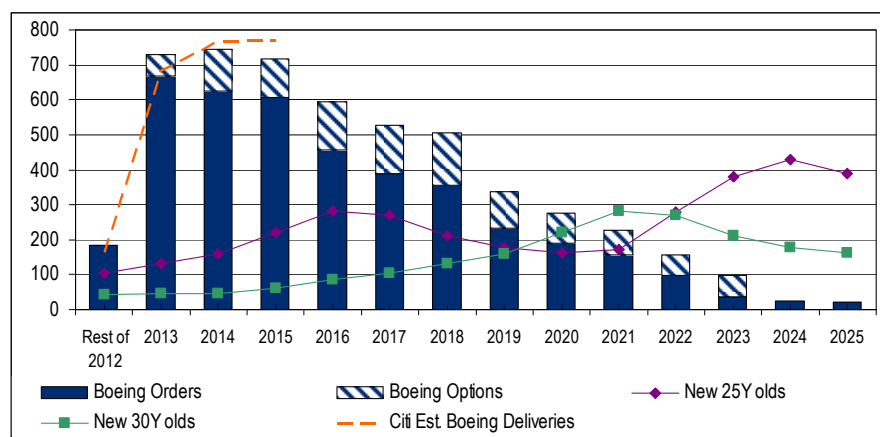
Source: Ascend

Replacement cycle becoming more important

Production rate increases 25Y ago means the addressable replacement market is set to grow throughout the next decade. In our view, aircraft are eligible to be replaced once they turn 25 years old. In some instances, even 20Y olds are efficiently replaced simply due to the efficiency gains offered by new aircraft. Based on today's in service fleet, there will be 28% more aircraft turning 25Y in 2013 vs. 2012, 20% more in 2014, and then 39% more in 2015. In 2024, there will be more aircraft turning 25 than industry deliveries in 2006. In Figure 4, we've assumed that Boeing can capture ~50% of the market by unit. We see that the growing number of aircraft birthdays support planned deliveries in the later part of this decade and augur for higher deliveries thereafter.

Aircraft continue to age, with more aircraft turning 25 in 2024 than deliveries in 2006.

Figure 4. Boeing Scheduled Deliveries vs. BA share of Aircraft Birthdays

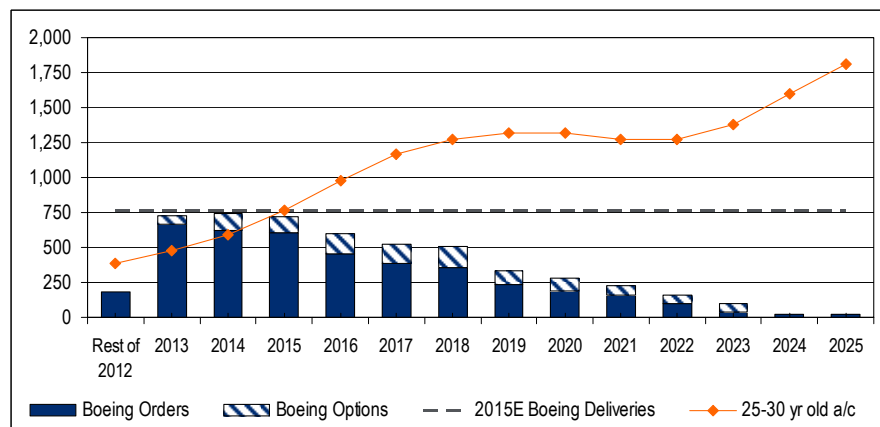


Source: Citi Research, Ascend

In Figure 5, we see that the growing number of birthdays has the effect of creating a bow wave replacement aircraft. Once again, we've assumed Boeing can address 50% of industry-wide aging aircraft. In our view, this dynamic lends credence to the notion that production rates will continue to reach for new records.

The addressable replacement grows over the next 10+ years due to the increase in production rates decades ago.

Figure 5. Boeing Scheduled Deliveries vs. BA share of Addressable Replacement Market



Source: Citi Research, Ascend

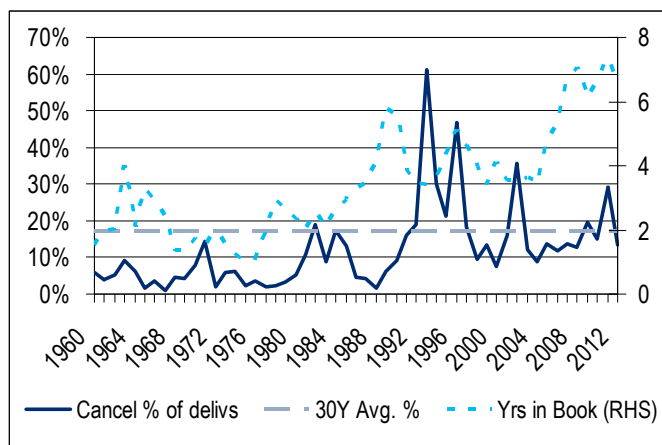
Cancellations & deferrals tracking below historical trends

It's easy to latch on to catchy cancellation headlines, but cancellation & deferral activity are below historical averages.

Cancellations and deferrals are still running below historical averages despite perceptions of the contrary. Plus, some of the more splashy cancellations (Hong Kong Airlines, Qantas) should not surprise given airline-specific issues. Weakening cargo markets are stunting orders, but freight makes up a small portion of the backlog. Overall, cancellations and deferrals as a % of the order book are below historical averages. So while it's easy to latch on to catchy cancellation headlines, the record backlog is still very much intact.

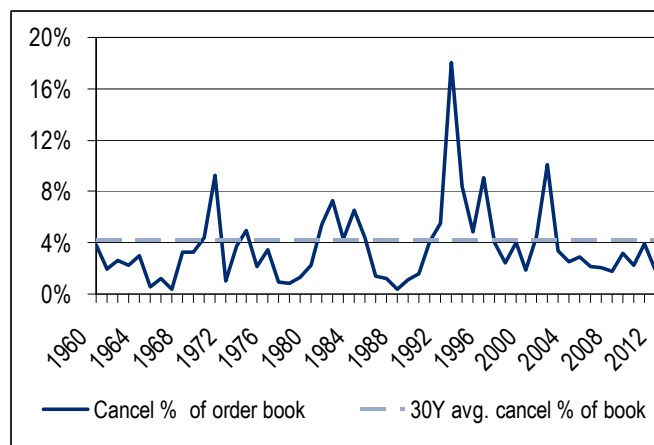
As a percentage of annual deliveries, cancellations are pacing YTD at 13% (22% below the 30-yr average) (Figure 6). While cancellation rates are up over the past few years (although down YTD), we note that we're still far off historic highs. More importantly, the order book has never offered more visibility than it does today (Figure 6). Also, the YTD cancellation rate as a percentage of backlog (~1.9%) is below the historical average (Figure 7).

Figure 6. Cancellations as % of Deliveries & Order Visibility



Source: Ascend

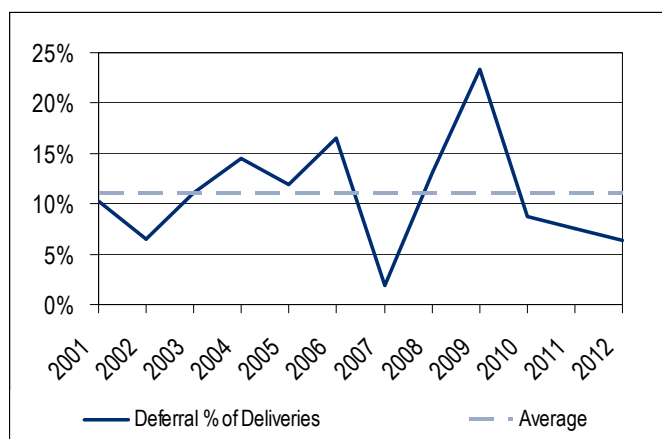
Figure 7. Cancellations as % of Order Book



Source: Ascend

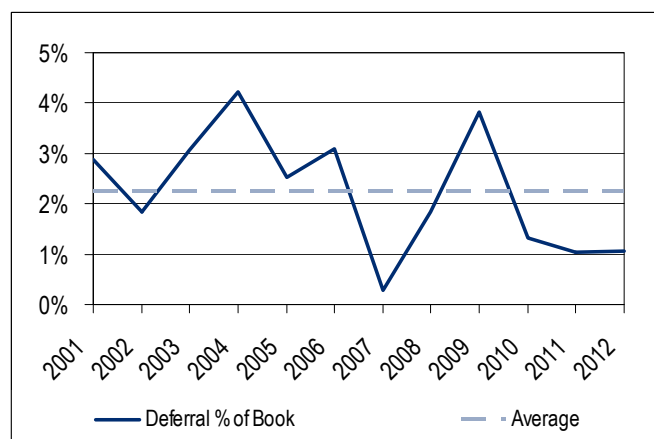
Deferrals are also below average (as a % of deliveries and of order book).

Figure 8. Deferrals as % of Deliveries



Source: Ascend

Figure 9. Deferrals as % of Order Book



Source: Ascend

Boeing Platform Analysis

Below, we evaluate each Boeing platform's backlog and scheduled deliveries. In our view, the data reflects a steady backlog and sustainable production rate plans despite an uncertain macro economy.

737

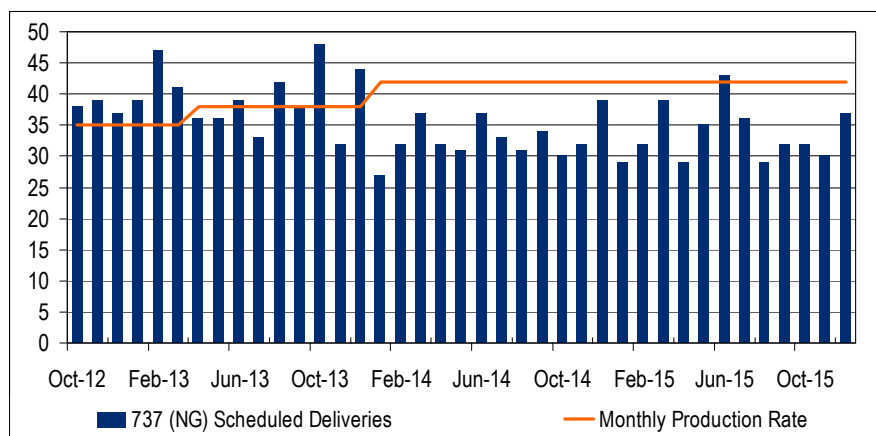
Boeing's set to produce 737s at record rates, which in our view is supported by aging aircraft over the long-term.

Investors appear to be most concerned with 737 production rates which are ramping to record levels (from 35/month today to 42/month in 1Q14). However, our analysis shows that the near- and long-term are relatively resilient.

Months look full through 2013

The firm backlog appears to support production rates through the end of 2013, while 2014 still needs some new orders to come in or some options to flip in order to fill production plans. We note that there are 77 NG options in 2014, bringing the delivery plan closer to the target production rate. However, it's not unusual to have a few gaps over a year away.

Figure 10. 737 Scheduled Deliveries vs. Monthly Production Rate (Oct 2012 – Dec 2015)



Source: Citi Research, Ascend

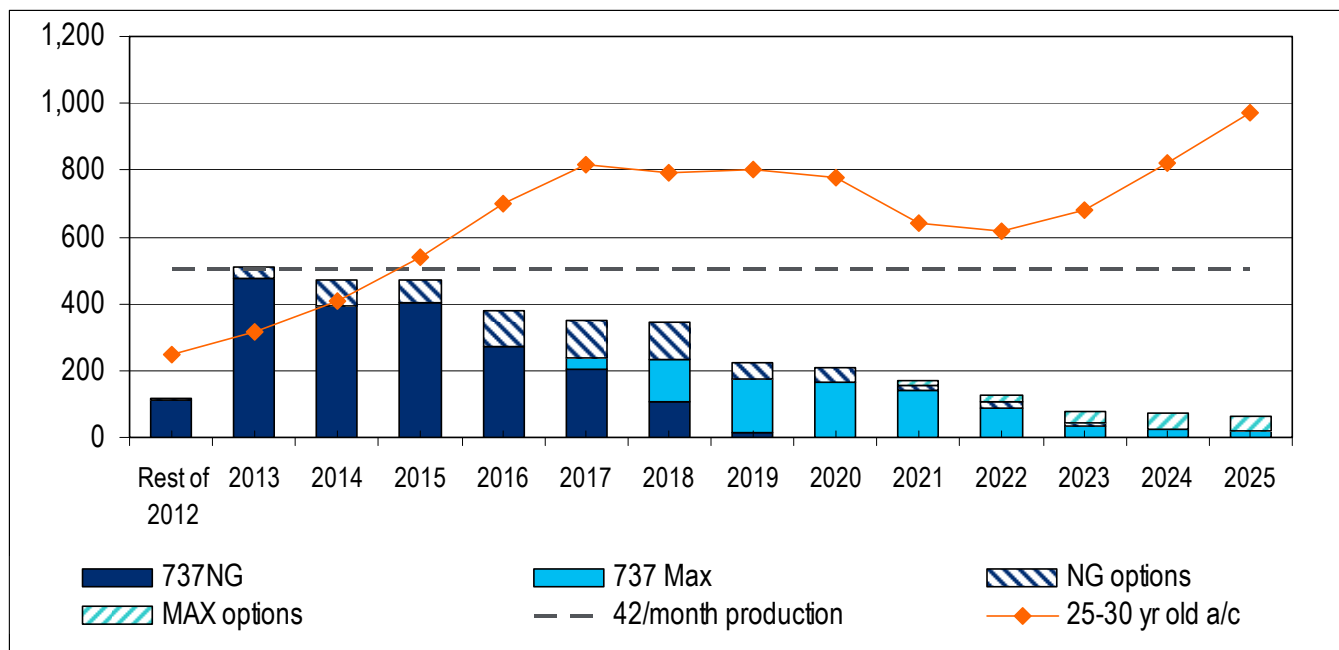
Aging aircraft support 2014 and beyond

A wave of aging aircraft implies an addressable replacement market of 800+ in 2017. We're not saying Boeing needs to build that many per year, only that age dynamics support higher production rates.

More importantly, the reality remains that aging aircraft support planned narrow-body production rates despite macro fears. The below chart demonstrates how the 737-eligible replacement market¹ grows significantly through the end of the decade and beyond. A market of 500 today grows to 1,600+ in 2017. Assuming Boeing captures 50% market share, that's an addressable market of 800+ in 2017 (Figure 11). We assume that Boeing's market share slips to 45% (2018-2020) and then to 40% (2021-2025) with Comac and Bombardier entering the market. But, that still represents 970 aircraft aged 25-30 in 2025. We're not arguing that Boeing needs to build this many per year, but that fleet aging dynamics are supportive of higher production rates. Boeing likely considers this wave of aging aircraft when it chooses to boost production rates.

¹ We define the 737 addressable replacement market as aircraft aged 25-30 years in a variety of models: 707, 717, 757, A320 family, DC-9, and MD-80/90.

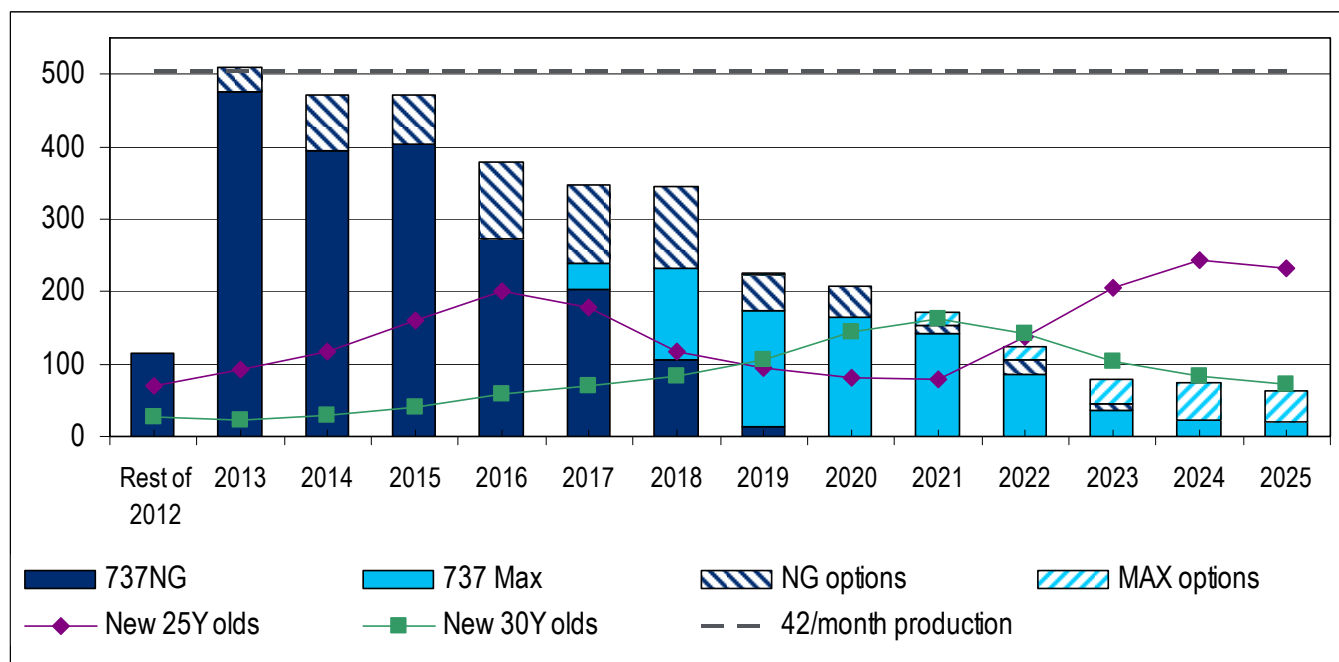
Figure 11. 737 Scheduled Deliveries vs. BA share of Addressable Replacement Market



Source: Ascend, Citi Research

Driving this growing addressable market are aircraft celebrating their 25th birthday (an average of 337 birthdays annual 2013-2015). We also note that the number of new 30 year olds increase every year through 2021.

Figure 12. 737 Scheduled Deliveries vs. BA share of Aircraft Birthdays



Source: Ascend, Citi Research

737 backlog quick-look

US carriers make up a significant portion of Boeing's 737 backlog, although Lion Air is the biggest customer as it looks to aggressively grow its fleet. Across the regions, the backlog represents a fraction of the in-service market of comparable aircraft.

Figure 13. 737 Backlog by Customer

	737 Orders	% of 737 order book	Comparable In Service	Growth Factor
Lion Air	335	11.5%	81	4.1x
Southwest Airlines	329	11.3%	699	0.5x
United Airlines	194	6.7%	396	0.5x
Norwegian	169	5.8%	67	2.5x
GOL	146	5.0%	99	1.5x
Air Lease	120	4.1%	-	NA
American Airlines	120	4.1%	290	0.4x
Delta Air Lines	100	3.4%	251	0.4x
Total 737	2,903		11,286	0.3x

Source: Citi Research, Ascend

Figure 14. 737 Backlog by Region

	737 Orders	% of 737 order book	Comparable In Service	% of fleet
North America	1,173	40.4%	2,915	40%
Asia Pacific	831	28.6%	3,245	26%
Europe	477	16.4%	3,363	14%
LatAm	188	6.5%	877	21%
Unknown area	136	4.7%	4	NA
Middle East	68	2.3%	432	16%
Africa	30	1.0%	450	7%
Total 737	2,903		11,286	26%

Source: Citi Research, Ascend

EPS Sensitivity

If Boeing gives up on its plan to ramp to 42 planes per month in 2014 and instead stays at 38/month, our 2014 EPS estimate goes down by 4% and our sales estimate falls by 1.5%.

747

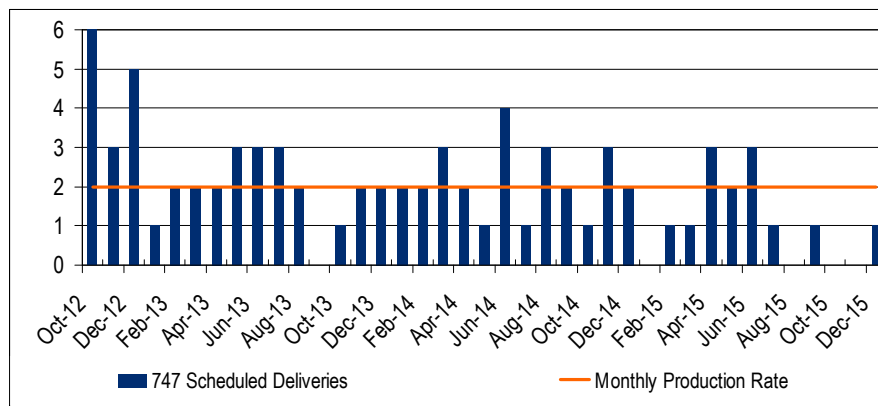
We don't expect 747 rates to increase due to a weak freight market and slow passenger orders

The 747 is in a forward-loss position (booking at 0% margins) and has encountered some slowed demand of late due in part to a weak freight market. Production rates are set to stay at 2/month for the foreseeable future.

Months look full through 2014

Production rates are staying put at 2/month likely because scheduled deliveries hover around that same rate through 2014. As a result, there appears to be reasonably good visibility on scheduled 747 deliveries with some overbooked months in 2012 and 2013 likely able to fill the gaps.

Figure 15. 747 Scheduled Deliveries vs. Monthly Production Rate (Oct 2012 – Dec 2015)

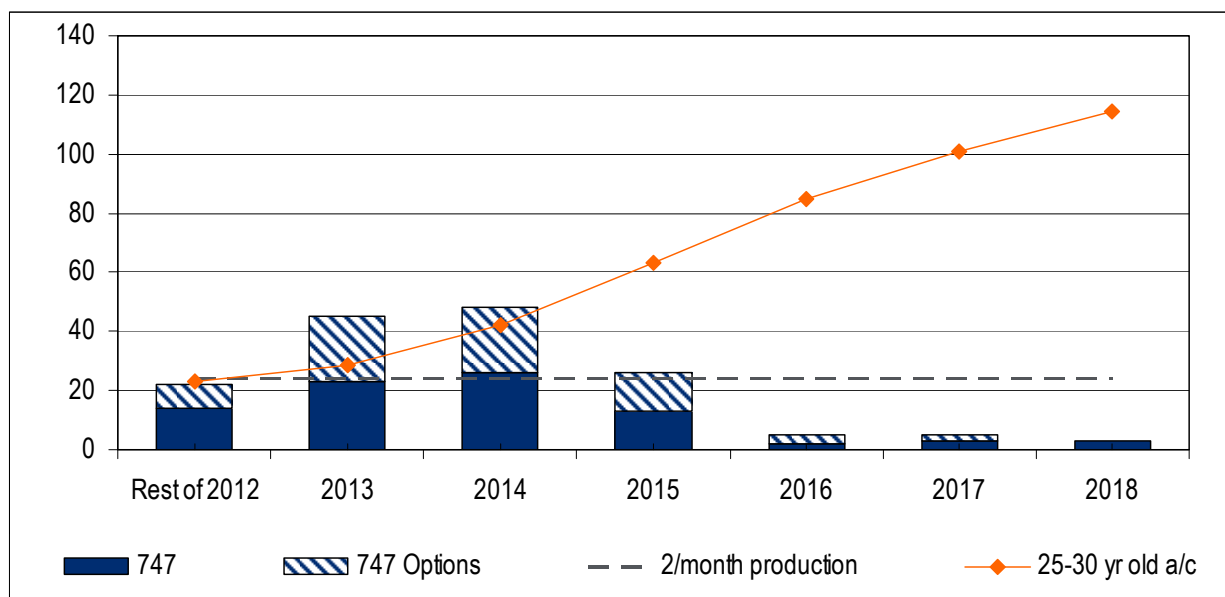


Source: Citi Research, Ascend

Addressable replacement market set to expand

The addressable market of 25-30 yr old 747-type planes grows over the coming years. We note however, that production rates need not match this expanding replacement market since some airlines might choose to replace the jumbo with a more optimized 777.

Figure 16. 747 Scheduled Deliveries vs. BA share of Addressable Replacement Market



Source: Ascend, Citi Research

747 backlog quick-look

Asia and Europe make up the vast majority of the 747 backlog due to freighter and large-capacity demand. Nippon appears to be the only customer looking to grow.

Figure 17. 747 Backlog by Customer

	747 Orders	% of 747 order book	Comparable In Service	Growth Factor
Lufthansa	17	21%	37	0.5x
Nippon	13	16%	9	1.4x
Korean Air	10	12%	45	0.2x
Cargolux	8	10%	15	0.5x
Air China	5	6%	9	0.6x
Unannounced	5	6%	-	NA
Total 747	82		809	0.1x

Source: Citi Research, Ascend

Figure 18. 747 Backlog by Region

	747 Orders	% of 747 order book	Comparable In Service	% of fleet
Asia Pacific	31	38%	334	9%
Europe	28	34%	228	12%
Middle East	10	12%	104	10%
North America	6	7%	132	5%
Unknown area	5	6%	-	NA
Africa	2	2%	9	22%
Total 747	82		809	10%

Source: Citi Research, Ascend

EPS Sensitivity

We don't see much downside to 747 production plans at this point since BA does not plan to ramp production and there is decent visibility into a growing replacement market. However, we note that the program is in a forward-loss position, thus requiring Boeing to sell a certain number lest it take a charge. We think the demand exists such that Boeing will be able to avoid a charge. However, if Boeing were to slow 747 production to 1.5/month in 2014 vs. our estimate of 2/month, our sales estimate would fall by 1.1% and our EPS estimate would be unchanged since 747s book at zero margin.

767

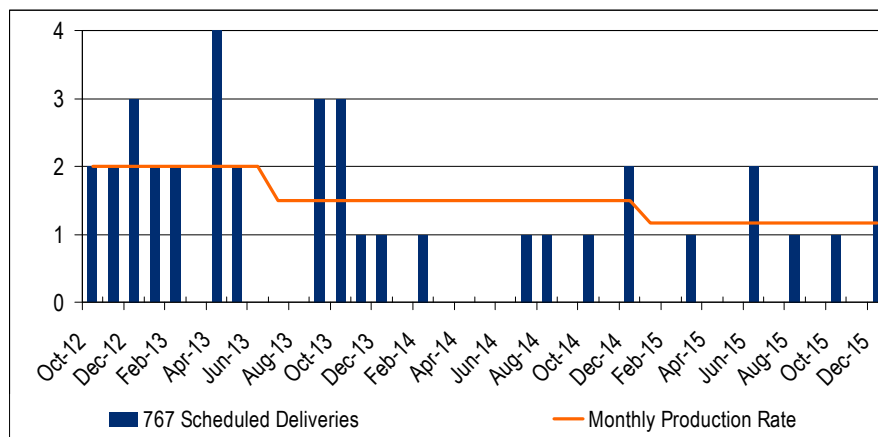
Long-term production is supported by the new tanker, with freighter deliveries bridging the gap.

The wide-body 767 will be used as the platform for the new US Air Force tanker (KC-46A). Until then, 767 production is filled by freighter demand.

Near-term production rate dip is warranted

Production rates won't stay at 2/month much longer, as freighter demand (primarily FDX' recent order) bridges to KC-46A tanker production (initial deliveries in 2014). We expect production rates to in mid-2013 and 2014 as the line transitions to tanker, although FedEx is set to take deliveries through 2018.

Figure 19. 767 Scheduled Deliveries vs. Monthly Production Rate (Oct 2012 – Dec 2015)



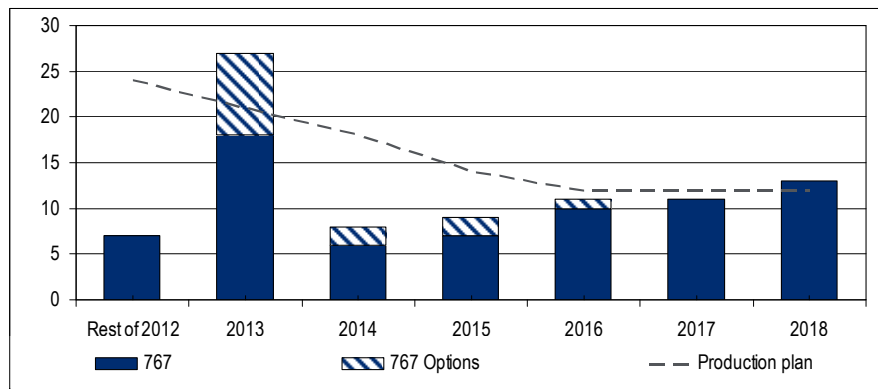
Source: Citi Research, Ascend

Likely another production dip over the long-term

767 production rates might have to dip again in 2015 as the line begins to transition to only supporting KC-46A tanker.

FedEx is scheduled to take deliveries through 2018, at which point we expect the line to dedicate itself solely to delivering KC-46A tankers (179 under contract). There could be more orders over the long-term as the Air Force decides how to refresh its tanker fleet (469 still need replacement over the next several decades).

Figure 20. 767 Scheduled Deliveries vs. Monthly Production Rate (Oct 2012 – Dec 2015)



Source: Citi Research, Ascend

767 backlog quick-look

FedEx makes up the majority of the order book, although the Air Force share picks up over the decade as the line transitions to tanker-only production. We don't see much of a replacement market at this point since the 787 likely displaces most 767 demand. If not for the tanker win, the 767 line would have likely ended in 2013.

Figure 21. 767 Backlog by Customer

	767 Orders	% of 767 order book	Comparable In Service	Growth Factor
FedEx	42	58%	68	0.6x
LAN Airlines	9	13%	31	0.3x
UPS Airlines	8	11%	51	0.2x
Air Astana	4	6%	2	2.0x
US Air Force	4	6%	59	0.1x
DHL Air	2	3%	4	0.5x
Uzbekistan Airways	2	3%	7	0.3x
Mongolian Airlines	1	1%	2	0.5x
Total 767	72		1,013	0.1x

Source: Citi Research, Ascend

Figure 22. 767 Backlog by Region

	767 Orders	% of 767 order book	Comparable In Service	% of fleet
North America	54	75%	534	10%
LatAm & Caribbean	9	13%	70	13%
Asia Pacific	7	10%	201	3%
Europe	2	3%	152	1%
Middle East	0	0%	22	NA
Total 767	72		1,013	7%

Source: Citi Research, Ascend

EPS Sensitivity

Our 2014 estimates are lightly impacted by potential downside to 767 rates. Our model contemplates 1.5/month in 2014. If instead it fell to 1/month, our 2014 sales estimate would fall by 0.6% and our EPS by 0.4%. We assume gross margins of only 5% since BA is likely giving FedEx and the Air Force attractive pricing.

777

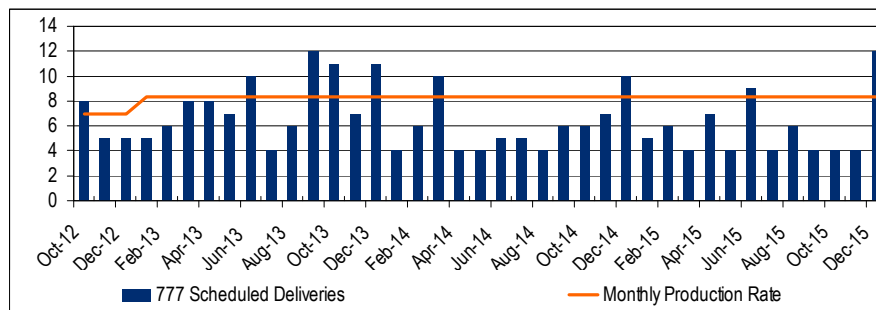
There's good 777 visibility due to strong demand for an efficient aircraft absent direct competition (waiting for A350). BA will soon decide how to enhance 777.

Sentiment around the 777 is more positive thanks to proven efficiency and A350 delays driving demand from freighters and airlines. In our view, the biggest debate at this point is not production rates, but how Boeing will replace it. Former BCA head Jim Albaugh used to say there'd be a decision by year-end, but he was replaced over the summer by former sales head Ray Conner, who has slowed things down (decision expected in early 2013). We suspect BA wants to learn more about the A350 before committing to a new 777. According to media reports, several airlines (most notably Emirates) would order a 777X today if it existed.

Good visibility through mid-2014

The firm backlog appears to support production rates at least through mid-2014, and we suspect that A350 delays will prompt some of those slots to fill up.

Figure 23. 777 Scheduled Deliveries vs. Monthly Production Rate (Oct 2012 – Dec 2015)

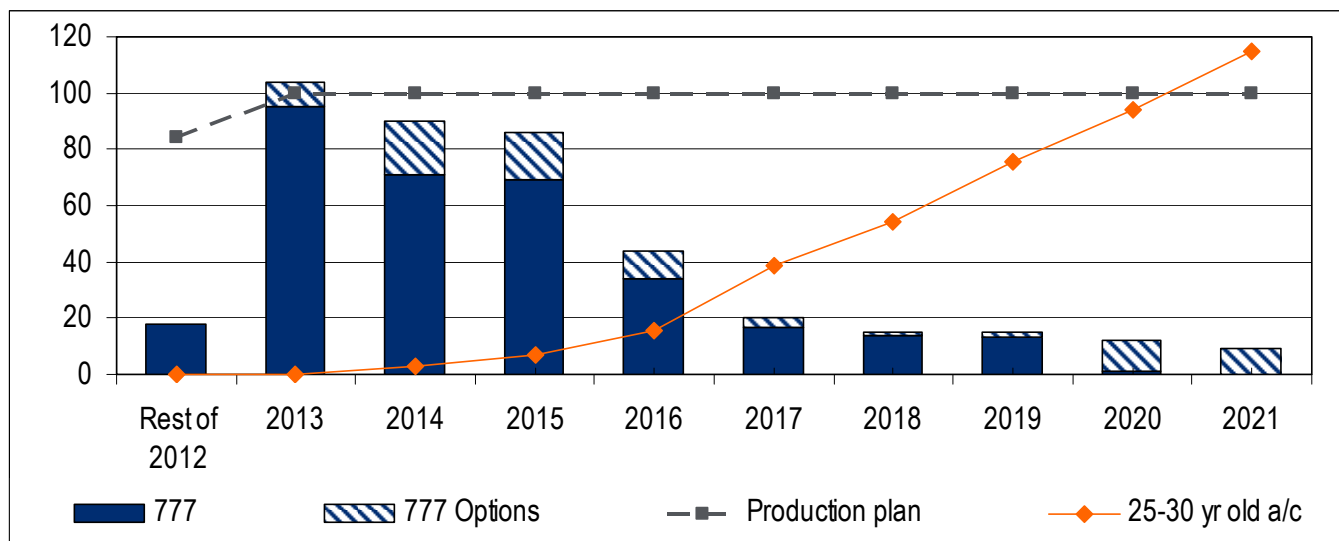


Source: Citi Research, Ascend

Aging aircraft support the long-term

The 777 is relatively unique insofar as it was developed to fill the gap between 767 and 747 (capacity-wise). Thus, we limit our definition of the replacement market to aging 777s (1,034 in service), A340s (only 323 in service) and MD-11s (only 172 still in service). Thus, it will take some time for the sweet spot of the replacement market (25-30 yrs old) to develop. In that sense, the 777 is more of a growth platform. Still, in 2021 there will already be 230 777s aged 25-30 years, about half of which we expect Boeing would be able to address.

Figure 24. 777 Scheduled Deliveries vs. BA share of Addressable Replacement Market



Source: Ascend, Citi Research

777 backlog quick-look

Asia and Middle East dominate the order book as growing airlines in those regions look to develop regional hubs for long-haul travel. Emirates, specifically, is keen on the large wide-bodies. Although the growth factors in Figure 25 are low, the aircraft in service are relatively young (compared to the rapidly aging narrow-bodies). Thus, there is certainly growth built into airline expectations, but the increasing incidence of enplanements in those regions and the hub development strategy likely support the orders. We note that Emirates says it would order even more 777s today if a new model was available.

Figure 25. 777 Backlog by Customer

	777 Orders	% of 777 order book	Comparable In Service	Growth Factor
Emirates Airline	83	25%	130	0.6x
Cathay Pacific	29	9%	57	0.5x
American Airlines	18	5%	47	0.4x
Aeroflot	16	5%	3	5.3x
Saudia	15	4%	33	0.5x
Thai	13	4%	33	0.4x
Air China	11	3%	24	0.5x
GECAS	11	3%	-	NA
FedEx	11	3%	84	0.1x
Total 777	337		1,529	0.2x

Source: Citi Research, Ascend

Figure 26. 777 Backlog by Region

	777 Orders	% of 777 order book	Comparable In Service	% of fleet
Middle East	118	35%	246	48%
Asia Pacific	117	35%	491	24%
North America	50	15%	295	17%
Europe	25	7%	395	6%
Africa	12	4%	72	17%
Unknown area	8	2%	-	NA
LatAm	7	2%	30	23%
Total 777	337		1,529	22%

Source: Citi Research, Ascend

EPS Sensitivity

The rate increase to 8.3/month in 1Q13 is pretty well-baked since the increase is only 3 months off, and we don't see a risk of it falling back down to 7. However, if the rate were to fall back to 7/month in 2014, our 2014E sales estimate would fall 2.5% and our EPS estimate would fall 11.6%.

787

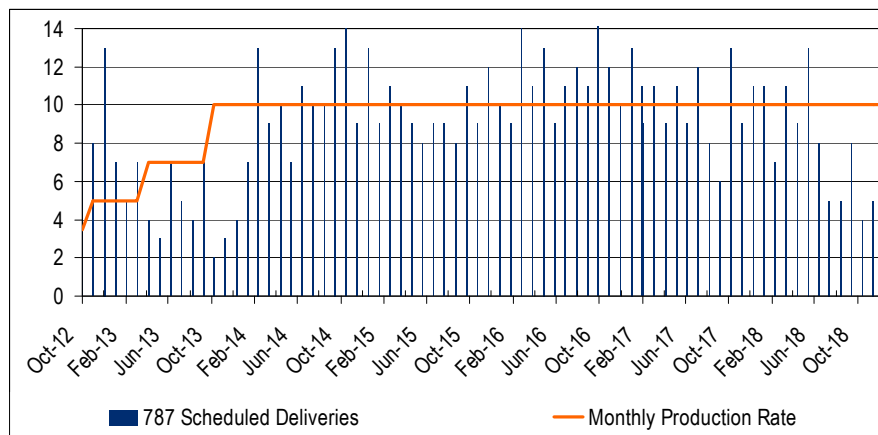
In our view, the 787 ramp is going to plan with the large backlog supporting plans to drive rates to 10/month.

We sense that investor sentiment is improving on Boeing's ability to ramp 787 production (planned to go from 3.5/month now to 10/month by the end of 2013). We consider the 787 more of an execution vs. demand story given the large backlog and positive customer reception to those already delivered.

Months are booked through mid-2018

It's a new platform that's been a long time coming, so scheduled monthly deliveries provide solid visibility through mid-2018. We'd expect new variants like the 787-10 to continue to fill in the backlog. We don't see much risk in the air pocket in scheduled deliveries in 2H13 in Figure 27. The 787 backlog is full and airlines would prefer to have the aircraft sooner rather than later given the significant improvement in fuel efficiency afforded by the Dreamliner.

Figure 27. 787 Scheduled Deliveries vs. Monthly Production Rate (Oct 2012 – Dec 2015)



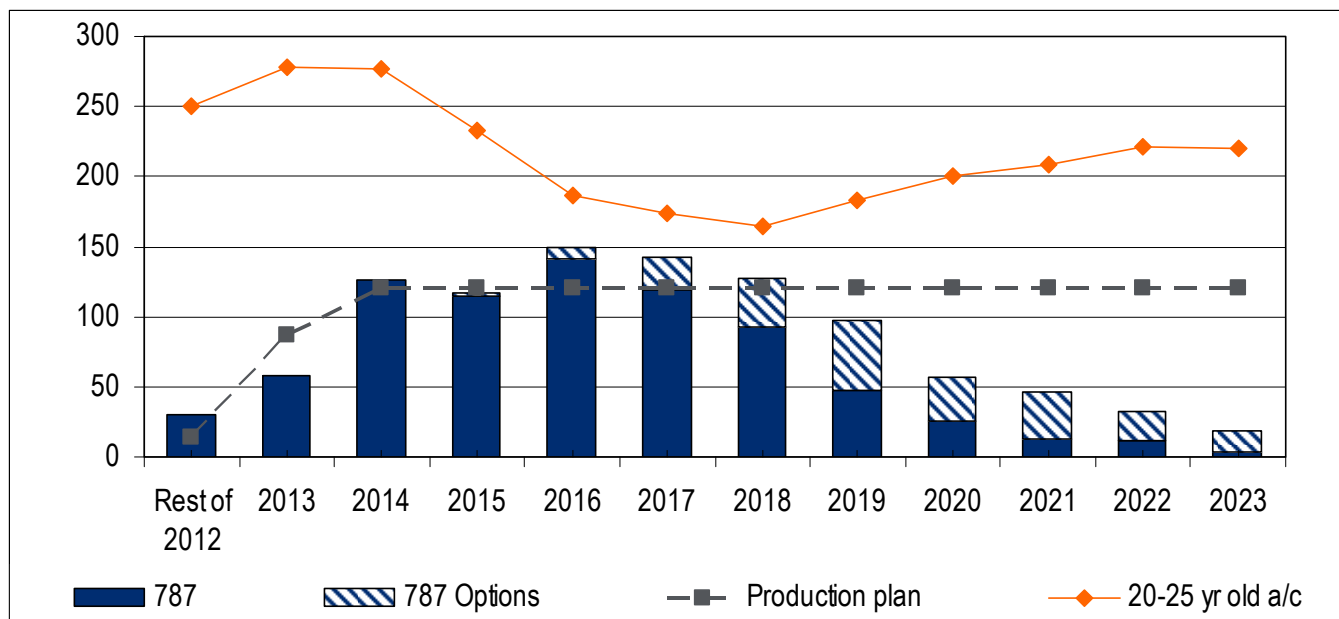
Source: Citi Research, Ascend

An already large addressable replacement market

The replacement market is already relatively large, with 250 in-service 767s or A330s aged 20-25 years flying today. We imagine that Boeing aimed to address this growing opportunity sooner, but 787 delays created a disconnect between what Boeing can produce, and what likely needs replacing.² In our view, this market belongs to Boeing until the A350 begins delivering (thus Boeing's desire to ramp production as quickly as possible before the dip in the addressable market in 2016).

² We've changed how we measure the addressable replacement market for the 787 due to the 787's efficiency gains. We reduced the replacement window to 20-25 yrs vs. 25-30 for the others.

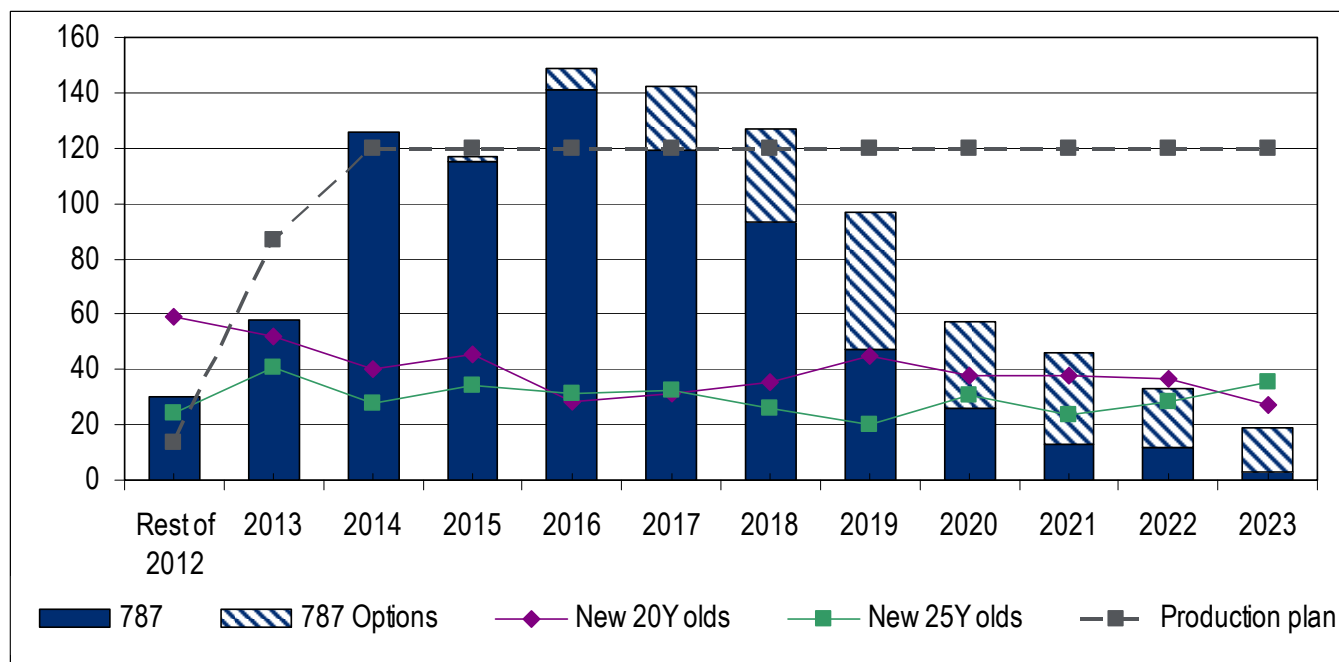
Figure 28. 787 Scheduled Deliveries vs. BA share of Addressable Replacement Market



Source: Ascend, Citi Research

Aircraft birthdays are driving this growing addressable market. For instance, in 2015 there will be a total of 61 aircraft in service today turning 20Y old. We expect Boeing to be well-positioned to address the majority of those. In 2019, 90 aircraft will turn 20Y, but at that point we expect to see more parity between the two OEs.

Figure 29. 787 Scheduled Deliveries vs. BA share of Aircraft Birthdays



Source: Ascend, Citi Research

787 backlog quick-look

The 787 backlog is well diversified across multiple regions and multiple customers. Among the top 9 customers (comprising 42% of the order book), we see that most orders right now are geared toward replacing what each airline currently has flying. This is likely related to the notion that the 787 is significantly more efficient than anything it's replacing. Asia is the largest customer likely due to its growing air travel culture and the travel distances involved which are suited to the 787.

Figure 30. 787 Backlog by Customer

	787 Orders	% of 787 order book	Comparable In Service	Growth Factor
ANA	51	6.3%	67	0.8x
United Airlines	49	6.1%	57	0.9x
Etihad Airways	41	5.1%	25	1.6x
Japan Airlines	39	4.8%	54	0.7x
ILFC	38	4.7%	-	NA
Air Canada	37	4.6%	38	1.0x
LAN Airlines	31	3.8%	32	1.0x
Qatar Airways	30	3.7%	32	0.9x
Aeroflot	26	3.2%	27	1.0x
Total 787	809		2,154	0.4x

Source: Citi Research, Ascend

Figure 31. 787 Backlog by Region

	787 Orders	% of 787 order book	Comparable In Service	% of fleet
Asia Pacific	262	32%	688	38%
North America	157	19%	649	24%
Europe	155	19%	417	37%
Middle East	132	16%	221	60%
Latin America and Ca	52	6%	107	49%
Africa	29	4%	72	40%
Unknown area	22	3%	NA	NA
Total 787	809		2,154	38%

Source: Citi Research, Ascend

EPS Sensitivity

We expect Boeing to hit its target production rate of 10/month, although our model doesn't fully realize this rate until 2Q14. To us, the downside would involve BA getting stuck at ~8/month longer than expected on its way to 10. We'll be extra conservative and assume Boeing only averages 8/month across 2014 (vs. expectations closer to 10). If this were the case, our 2014 sales estimate would fall by 4% and our EPS estimate would fall by 2.2%.

With a backlog like this, who needs orders?

Figure 32. Correlation Analysis

	Relative Price vs.		
	Rolling 12m b2b	Rolling 12m Avg. Orders	Gross Orders
1973-2012	0.43	0.53	0.32
1980-2012	0.54	0.48	0.29
1990-2012	0.53	0.43	0.26
2000-2012	0.71	0.68	0.44

	BA Price vs.		
	Rolling 12m b2b	Rolling 12m Avg. Orders	Gross Orders
1973-2012	0.46	0.66	0.40
1980-2012	0.52	0.63	0.38
1990-2012	0.71	0.75	0.46
2000-2012	0.78	0.80	0.52

Source: Citi Research

The market has traditionally assumed that orders drive Boeing stock. Visually, this appears to be the case, with book-to-bill seemingly moving in concert with relative price performance (Figure 33). However, the empirical relationship is not as strong with correlations since 1973 ranging from 0.3 to 0.7 (Figure 32). Absolute performance correlation is a bit higher with correlations of 0.4 to 0.8 (strongest vs. rolling 12m average orders) (Figure 32). But whether you look at relative or absolute price performance, the relationship tends to break down over longer time frames (Figure 32). We ascribe this to the shares acting differently through different cycles. And since we're now heading into a different cycle, orders should no longer dictate share performance.

To be sure, recent activity suggests that the relationship is already breaking down with shares trading in line with the market since December 2009 despite rolling 12-month average book-to-bill moving from 0.5x to >2x (Figure 34). This discrepancy begs a fresh analysis of the relationship between Boeing shares and order/backlog trends.

In short, share performance is becoming unhinged from order trends. In our view, the market sometimes gets myopically pre-occupied with orders, missing the big picture: orders *must* slow to allow the company to execute on backlog. And as long as the backlog's steady (see platform analysis on page 8), then there's still good growth visibility *even* if book-to-bill begins to dip below 1x and backlog begins to burn off. Thus, we argue that the correlation between orders and share price breaks down in the execution phase of the cycle and that Boeing shares can perform just as well during a "backlog burn" as they can during a "backlog build." We note, we're just as excited to see Boeing build airplanes as we are to see them build backlog.

Figure 33. Book-to-bill vs. Relative BA Performance (1973-2012)

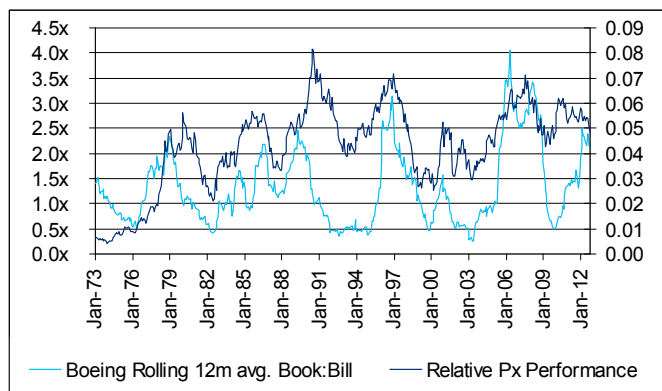
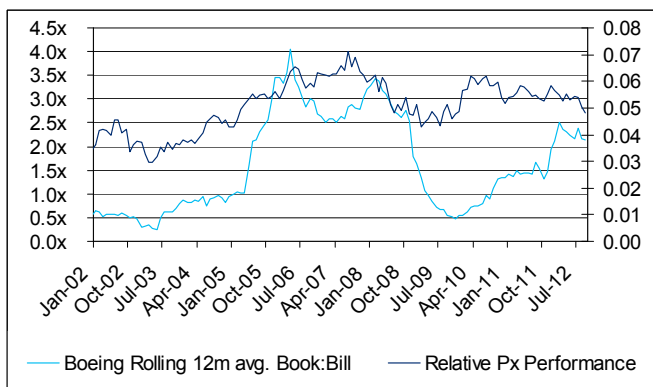
Source: Citi Research, FactSet, Boeing
Note: Performance relative to S&P 500

Figure 34. Book-to-bill vs. Relative BA Performance (2002-2012)

Source: Citi Research, FactSet, Boeing
Note: Performance relative to S&P 500

Now that we've seen backlogs build to record levels and orders are (invariably) slowing, we're investing in Boeing as it builds aircraft vs. backlog

Backlog Burn vs. Backlog Build

We've identified 11 backlog periods since 1973 of "burn" or "build" based on rolling annual average book-to-bill (BTB) trends. When BTB > 1x...backlog is "building." When BTB < 1x...backlog is "burning." During that period, there has been 1.3x as many "build" months (233) as "burn" months (176). And during the backlog build months, there tends to be a higher correlation between Boeing share price and order trends (Figure 35), although this relationship has broken down of late. Our analysis also shows instances of Boeing shares outperforming the market in times of backlog build *and* backlog burn, although recent backlog build eras have been devoid of outperformance.

Figure 35. Backlog Burn vs. Backlog Build

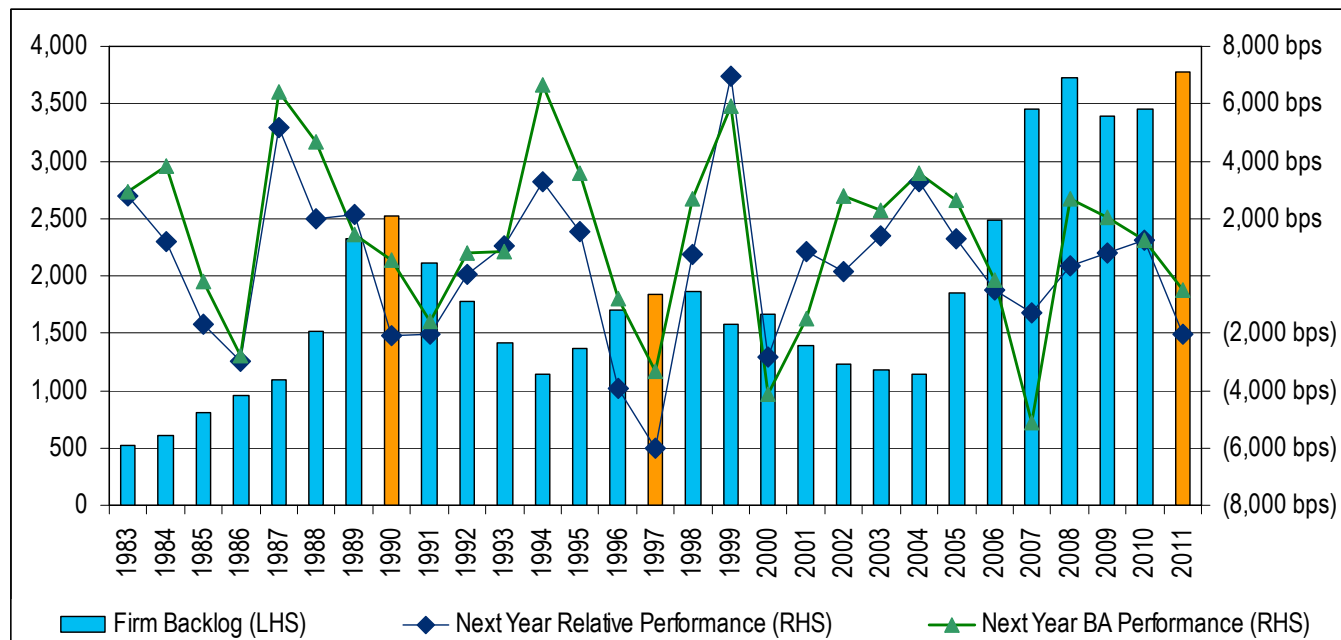
Period	Duration (months)	12m Rolling Avg. BTB Range	Px Change			Correlation			
			Boeing	Market	Relative	Relative Px	BA Px	Rolling Avg. Orders	Rolling Avg. Orders
						Rolling BTB	Rolling BTB		
Backlog Burns									
Mar-74 → Sep-76	29	0.5x → 1.0x	225%	12%	21,280 bps	(0.31)	(0.59)	(0.31)	(0.67)
Oct-80 → Nov-82	24	0.4x → 1.0x	(10%)	9%	(1,875 bps)	0.93	0.87	0.93	0.86
Jan-91 → Jul-95	53	0.4x → 1.0x	36%	63%	(2,773 bps)	0.65	0.63	0.56	0.10
Mar-99 → May-00	13	0.5x → 0.9x	15%	10%	445 bps	(0.57)	(0.41)	(0.58)	(0.49)
Jun-01 → Jan-05	42	0.3x → 1.0x	(9%)	(4%)	(547 bps)	0.60	0.55	0.77	0.70
Apr-09 → Aug-10	15	0.5x → 1.0x	53%	20%	3,241 bps	0.33	0.65	0.10	0.47
Average	29		51%	19%	3,295 bps	0.27	0.28	0.25	0.16
Post-1990 Avg.	31		24%	23%	92 bps	0.25	0.36	0.21	0.19
Backlog Builds									
Oct-76 → Sep-80	46	1.0x → 2.3x	323%	22%	30,072 bps	(0.02)	0.73	(0.16)	0.66
Feb-84 → Jul-90	76	0.9x → 2.5x	352%	127%	22,533 bps	0.21	0.27	0.35	0.61
Aug-95 → Feb-99	41	1.0x → 3.1x	11%	120%	(10,906 bps)	0.76	(0.06)	0.42	0.48
Feb-05 → Mar-09	48	1.0x → 4.1x	(35%)	(34%)	(156 bps)	0.60	0.59	0.57	0.62
Sep-10 → Aug-12	22	1.1x → 2.5x	6%	23%	(1,620 bps)	(0.30)	(0.33)	0.44	0.42
Average	47		131%	52%	7,985 bps	0.25	0.24	0.32	0.56
Post-1990 Avg.	37		(6%)	36%	(4,228 bps)	0.36	0.07	0.48	0.51

Source: Citi Research, Ascend, FactSet

Building Backlog vs. Building Aircraft

Since 1983, firm backlog has peaked three times (highlighted in orange) and 2012 is about to set a new record. In each of those 3 instances, the following year's performance was underwhelming at first, but picked up over the next few years. We see a similar set up heading into this next backlog burn cycle.

Figure 36. Backlogs vs. Performance



Source: Citi Research, Ascend, FactSet

Demand Model Appears Balanced

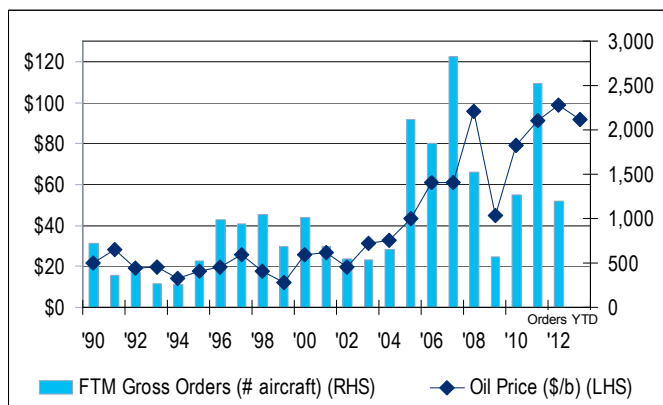
In our view, high oil prices and GDP growth contribute to aircraft demand.

High Fuel Prices Driving Demand

Range-bound oil prices contribute to airline demand for new aircraft.

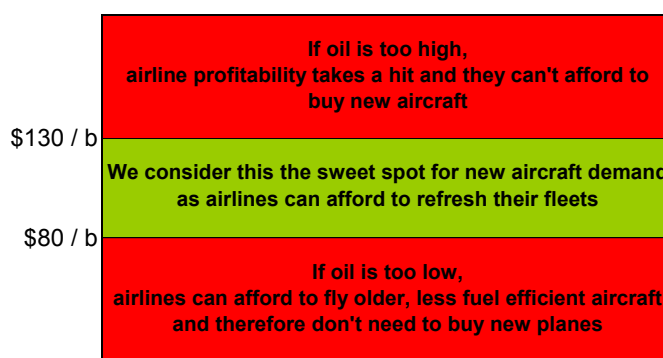
Airlines appear incented to replace older aircraft oil between \$80 and \$130 per barrel. With oil below \$80, airlines can more profitably fly the older planes. With oil above \$130 they can't really afford to buy anything. The American Airlines bankruptcy is instructive as a key part of the turnaround will involve jettisoning older aircraft to make room for the MAX. In our view, this dynamic supports the recent order boom, record backlogs, and airlines taking deliveries over the next decade despite weakened economic fundamentals.

Figure 37. Oil Price vs. Gross Orders (1990-2012)



Source: Citi Research, FactSet, Ascend

Figure 38. Oil Price vs. New Aircraft Demand



Source: Citi Research

GDP hanging in

Global GDP growth is set to slow, but our economists' expectation of 3.2% growth in 2014 and 3.5% growth in 2015 drives underlying demand to levels in line with our delivery expectations. We expect retirements to pick up as airlines retire less efficient aircraft in a high oil price environment.

Figure 39. Aircraft Demand Forecast

	2011	2012E	2013E	2014E	2015E
In Service Fleet b/f	16,122	16,838	17,410	18,030	18,860
Deliveries	1,011	1,152	1,230	1,420	1,540
Retirements	-470	-580	-610	-590	-570
In Service Fleet c/f	16,838	17,410	18,030	18,860	19,830
Average age (implied)	11.3yrs	11.1yrs	10.8yrs	10.5yrs	10.2yrs
Global GDP Growth	3.0%	2.5%	2.6%	3.2%	3.5%
Multiplier	1.7x	1.75x	1.75x	1.75x	1.75x
Traffic Growth	5.0%	4.4%	4.6%	5.6%	6.1%
Implied Delivery Growth	4.0%	13.9%	6.8%	15.4%	8.5%
Retires as % of In Service Fleet b/f	2.9%	3.5%	3.5%	3.3%	3.0%
Implied Demand (# aircraft)	1,011	1,152	1,230	1,420	1,540
Citi Delivery Forecasts (# aircraft)		1,178	1,280	1,389	1,441
Over / (Under) delivery vs. demand		2.3%	4.1%	(2.2%)	(6.4%)

Source: Citi Research

Reviewing the Long Thesis

By our estimate, BA is set to generate 6% revenue growth, 16% EPS growth, and free cash flow levels approaching \$10.50 per share by 2015 – a roughly 14% yield on current share prices. Furthermore, we expect the company to begin aggressively deploying this cash back to shareholders in the form of dividends and share repurchases. Notably, we expect as much as a 20% dividend hike in December. And with shares currently trading at 12.5x CY13 consensus estimates (vs. a ten-year FTM average PE of 16x), we see compelling value in shares. We look for the dividend increase, continued 787 execution, and increasing investor confidence with the company's backlog to act as catalysts.

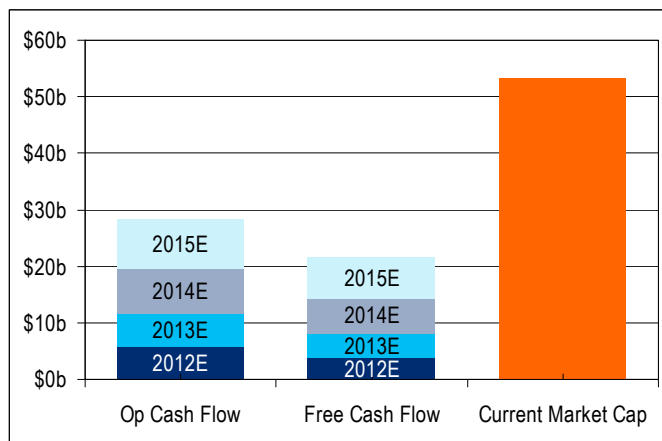
In the paragraphs below we dive further into some of the key issues for the company over the next several months.

Cash Flow & Deployment

Cash deployment decisions should accompany forthcoming robust cash flow generation. We expect a 20% dividend increase in December.

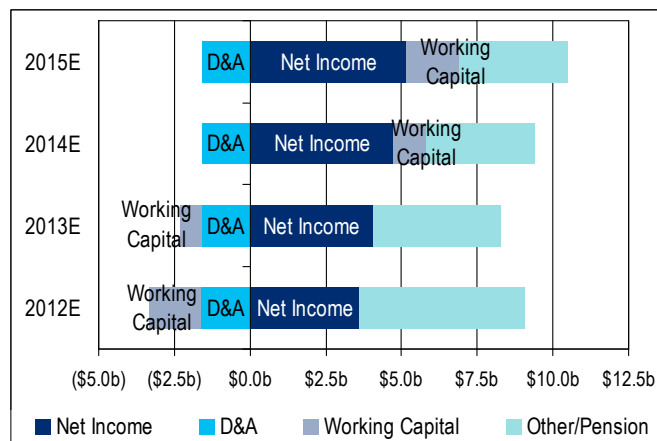
We expect cash generation to pick up materially over the next few years driven by ramping production rates and dissipating R&D/working capital headwinds. We expect a decision on dividend in 2H12 and a share repurchase announcement in 4Q12 or 1Q13. At this point, we expect the company to generate ~\$8.50 in FCF per share in 2014E (~12% yield) and ~\$10.40 in 2015 (~14% yield).

Figure 40. Cash Flow Expectations



Source: Citi Research

Figure 41. Operating Cash Flow Components



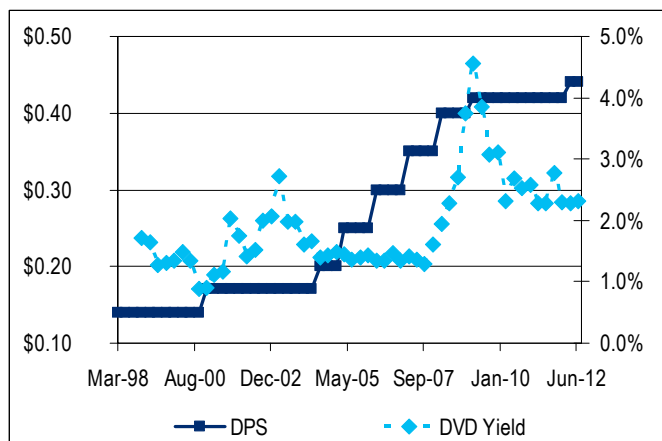
Source: Citi Research

Dividend decision soon

We expect the coming dividend boost to outpace recent increases of +5% in 1Q12 and 1Q09). These tepid increases can be attributed to the cash requirements associated with new aircraft development. With the new platforms now delivering, we expect Boeing to return to a more robust dividend increase, in line what we've seen historically. Robust increases in 2004-2008 (+14-25%) saw the dividend increase 147% over the 5Y ending in March 2009 (vs. only 5% growth since then) (Figure 40). We also note that since 1998, Boeing has yielded ~1.6% which implies a \$110 stock price vs. the current dividend of \$1.76. We expect a 20% increase in December, driving the yield to ~3% vs. the current stock price.

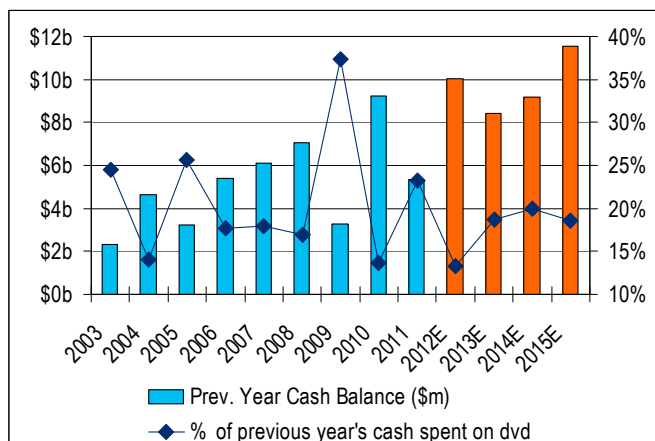
We also expect Boeing to be more comfortable committing cash to the dividend given the ramp in cash we expect over the next few years. We highlight that even with 20% annual dividend increases baked into our model, the share of cash going towards dividend heads toward decade lows in 2015, leaving room (in our view) for repurchases and R&D.

Figure 42. Dividend History



Source: Citi Research, FactSet

Figure 43. Cash Committed to Dividends



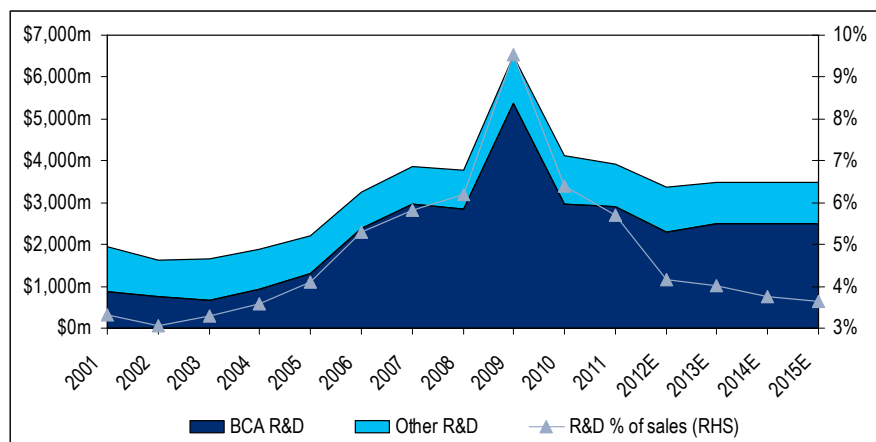
Source: Citi Research, FactSet

R&D Wind Down

With the 787 and 747 delivering, we expect R&D spending to come down from its highs, providing a source of cash. But innovation never ends in commercial aerospace, and the company is refreshing/expanding other parts of its portfolio (737, 777, 787). Right now, the company is focused on delivering the 787-9 in 1Q14, followed closely by the 737 MAX ramp, and then the 787-10. Boeing also has to decide on what to do with the 777 (expect a 1Q13 decision). In our mind, the 787 derivatives and MAX are lower impact items vs. the clean sheet 787 we saw over the last decade, explaining the forthcoming R&D release (Figure 44).

We expect absolute R&D expense to remain elevated given new aircraft development requirements, although it should dip toward decade lows as a % of sales.

Figure 44. R&D Trends



Source: Citi Research

We expect a relatively resilient defense portfolio supported by international demand.

Defense Outlook

We expect defense to represent 40% of 2012 sales and 50% of 2012 EBIT. In our view, BDS' mature portfolio is managing relatively well amidst the budget drawdown. In the FY13 budget which makes \$487b in cuts over 10 years, Boeing points out that its top 15 programs saw only a 4.2% reduction vs. the previously expected baseline. We expect flattish defense sales in 2012 and 70 bps in margin pressure driven by a tough comp in military aircraft (BMA), which posted a surprisingly strong 10.2% and by competition pressuring networks (N&SS) and services (GS&S) margins. We expect defense sales to trend downward through 2015, producing flattish EBIT.

In our view, the big headline YTD is international, with foreign orders now comprising an industry-leading 37% of backlog. This is driven by the large Saudi order for F-15s and Apaches, and helps support production lines and profits. Given the positive mix-shift in the business toward international offset by broader defense weakness and heightened competition, we expect BDS margins to hang in the mid-9% range through 2015. Contractual backlog is at \$54b (1.7x 2011 defense sales); including unobligated funds, backlog is at \$72b (2.2x 2011 sales). And backlog should grow this year due to international orders.

Sequester Preparation

In our view, BDS is getting ahead of sequester by reducing costs. Still, a high-single digit sales decrease is on tap if sequester's implemented as written.

BDS is preparing for a high single-digit sales decrease in 2013 (vs. our expectations of flat y/y sales) if sequester hits. While there's still no implementation plan if sequester comes to pass, BDS is pro-actively managing its costs so that it will be able to maintain margins even in such an environment. This implies that there could be some margin upside if sequester does not hit.

Overall, we're positive on Boeing defense in a sequester scenario due to its robust backlog, low services exposure, and high international composition. For more details, see our August 15 report on sequester investing: [Making a List and Checking it Twice](#).

Industry-leading International Business

BDS is an industry-leader in international exposure (37% of backlog).

International represented 20% of 2011 sales but now comprises 37% of backlog. The company expects the sales share to grow to 30% in the near future helped along by a recent string of contracts: 14 Chinooks to the UK, F-15s & Apaches for Saudi, C-17s and P-8s for India, and Super Hornets for Australia. Owing to these successes, Boeing upgraded its 2012 growth expectations for military aircraft (BMA) in 2Q12 from down 5% to down 1% (at the midpoint).

BDS also believes it can grow Global Services & Support (GS&S) (12% of sales 2011) by 2% in the out-years thanks to international. This matches the guidance upgrade we saw in 2Q12, when GS&S growth was guided to being up 2% y/y in 2012 vs. previous guidance of down 4%.

Pension Accounting

Boeing could elect to mark its pension to market, creating a 4Q charge but improving out-year EPS and valuation.

There's been talk recently of Boeing marking its pension to market in order to reduce volatility going forward and dress up GAAP valuation by not having to recognize prior year losses on an on-going basis. We've seen companies such as UPS and HON make similar announcements over the last two years. The decision to mark-to-market at year-end imply a large 4Q12 charge to account for the year's poor performance, as well as on-going 4Q charges to account for the prior year's performance. But with discount rates declining and Boeing's \$16.6b underfunded status as of year-end 2011 (likely to grow in 2012), the move could make sense. We note that our 2013 FAS/CAS expense estimate of \$1.3b is worth ~\$1.10 of EPS. Marking to market would boost EPS and also dress up valuation: the stock now trades at 13.1x our 2013 estimate vs. 10.9x excluding the pension impact.

Introducing 2015 Estimates

We're introducing our 2015 estimates of \$95.5b of sales \$7.35 EPS, representing roughly flatish sales and 13% EPS growth y/y vs. 2014. We expect BCA sales to grow only 1.3% on low delivery growth and for BCA margins to expand 60 bps y/y. This is primarily driven by improvement in 787 margins offset by some headwind in 777 margins as a replacement aircraft/new derivative comes into sight. We expect defense sales to fall 2% y/y in 2015 as Saudi F-15 and V-22 production slow. We expect defense margins to contract by 10 bps y/y driven by military aircraft due in part to the margin step-down we expect to be built into the new V-22 contract.

EPS grows 13% y/y in 2015 due to better margins and lighter pension expense, in addition to our estimate of \$2b of share repurchases (adding 200 bps to our expected EPS growth).

Our 2015 estimate reflects a sales CAGR of 6% in 2012-2015 (10% commercial) and a 16% EPS CAGR. Furthermore, we expect the company to generate ~\$10.40 in free cash flow per share in 2015, representing ~14% yield at the current share price.

EPS in 2015 grows on better margins and lighter pension expense. We expect growth in commercial sales and margins to be offset by a contraction in defense.

Figure 45. Earnings Snapshot

\$ in Millions except EPS	2011	1Q12	2Q12	3Q12E	4Q12E	2012E	2013E	2014E	2015E
Revenue	\$68,735	\$19,383	\$20,005	\$19,937	\$21,436	\$80,761	\$88,205	\$95,314	\$95,549
Y/Y Revenue Growth	6.9%	30.0%	20.9%	12.5%	9.6%	17.5%	9.2%	8.1%	0.2%
Operating Profit	\$5,845	\$1,570	\$1,548	\$1,341	\$1,389	\$5,848	\$6,778	\$7,631	\$8,314
Operating Margin	8.5%	8.1%	7.7%	6.7%	6.5%	7.2%	7.7%	8.0%	8.7%
Pre-Tax Income	\$5,394	\$1,463	\$1,446	\$1,247	\$1,298	\$5,454	\$6,411	\$7,271	\$7,968
Income Taxes	(1,383)	(539)	(479)	(418)	(435)	(1,870)	(2,244)	(2,545)	(2,789)
Effective Tax Rate	25.6%	36.8%	33.1%	33.5%	33.5%	34.3%	35.0%	35.0%	35.0%
Net Income	\$4,011	\$923	\$967	\$829	\$863	\$3,582	\$4,167	\$4,726	\$5,179
Diluted EPS	\$5.33	\$1.22	\$1.27	\$1.09	\$1.13	\$4.70	\$5.57	\$6.51	\$7.35
Average Diluted Shares	753.2	759.6	762.0	763.0	764.0	762.2	748.3	726.0	704.5

Source: Citi Research

3Q12 Preview

BA reports 3Q earnings Wednesday October 24 before the market opens. We're mildly below Street EPS (\$1.09 vs. \$1.12) likely due to our inclusion of lower 737 margins on the new block which includes end-of-line NGs and MAX. In our view, consensus estimates do not fully reflect this accounting change and believe investors will see through any weakness in EPS driven by it. At this point, we estimate 21% margins for the new 737 block, which is a 200 bps sequential headwind compared to our prior estimate and is worth about 7c in EPS. We've also adjusted our BCA sales and margin estimates to reflect recently disclosed 3Q deliveries which reflected a lower total, but a richer margin mix. We expect the 3Q delivery miss (unit-wise) to be largely made up in 4Q, so our 2012 delivery estimate is roughly unchanged save for one 747 we expect to slip into 2013.

Figure 46. Model Changes

\$millions except EPS	3Q12E		FY12E		FY13E		FY14E	
	Old	New	Old	New	Old	New	Old	New
Net Sales	20,378	19,937	80,949	80,761	86,928	88,205	93,487	95,314
Commercial	12,593	12,146	48,875	48,684	55,155	56,595	61,674	63,890
Defense total	7,826	7,826	31,986	31,986	32,005	31,863	32,139	31,783
BMA	3,924	3,924	16,089	16,089	16,332	16,332	16,508	16,384
N&SS	1,793	1,793	7,267	7,267	7,171	7,029	7,171	6,938
GS&S	2,110	2,110	8,630	8,630	8,503	8,503	8,461	8,461
Boeing Capital	99	99	422	422	396	396	396	396
Segment Margin	8.6%	8.8%	9.0%	9.0%	9.7%	9.6%	9.7%	9.7%
BCA margin	8.3%	8.7%	9.1%	9.2%	9.9%	9.7%	10.0%	9.8%
Defense margin	9.3%	9.3%	9.2%	9.2%	9.7%	9.7%	9.6%	9.7%
Boeing Capital	28.0%	28.0%	29.5%	29.5%	28.0%	30.0%	28.0%	30.0%
Unallocated Exp.	(423)	(423)	(1,450)	(1,450)	(1,600)	(1,700)	(1,620)	(1,600)
Total Op. Margin	6.5%	6.7%	7.2%	7.2%	7.8%	7.7%	8.0%	8.0%
Net Interest	(112)	(112)	(452)	(452)	(439)	(439)	(425)	(431)
Tax Rate	33.5%	33.5%	34.3%	34.3%	35.0%	35.0%	35.0%	35.0%
EPS	\$1.07	\$1.09	\$4.68	\$4.70	\$5.57	\$5.57	\$6.32	\$6.51
Dil. Shares O/S	763.0	763.0	762.2	762.2	751.5	748.3	731.5	726.0

Source: Citi Research

Figure 47. Guidance Trajectory

\$ millions	2011 Actual			2012 Guidance				
				1Q12	2Q12		Citi	Street
Revenue	\$68,735	\$78,000	\$80,000	No Change	\$79,500	\$81,500	\$80,761	\$80,755
EPS	\$5.33	4.05	4.25	4.15	4.35	4.40	4.60	\$4.70
Operating cash flow	\$4,023	> \$5.0b		No Change		No Change		\$5,737
BCA								
Revenue	\$36,171	\$47,500	\$49,500	No Change		No Change		\$48,684
Deliveries	477	585	600	No Change		No Change		599
787 + 747-8 Deliveries	12	70	85	No Change		No Change		74
Operating Margin	9.7%	8.5%	9.0%	No Change		~9%		9.2%
BDS								
Revenue	31,976	\$30,000	\$30,500	No Change		\$31,500 \$32,000		\$31,986
BMA	14,947	~\$15,000		No Change		~\$16,000		16,089
NSS	8,673	~\$7,250		No Change		No Change		7,267
GSS	8,356	~\$8,000		No Change		~\$8,500		8,630
Operating margin	9.9%	> 9%		No Change		No Change		9.2%
BMA	10.2%	~9.25%		No Change		No Change		9.4%
NSS	8.0%	~7.5%		No Change		~6.5%		6.5%
GSS	11.3%	~10.5%		No Change		~11%		11.1%

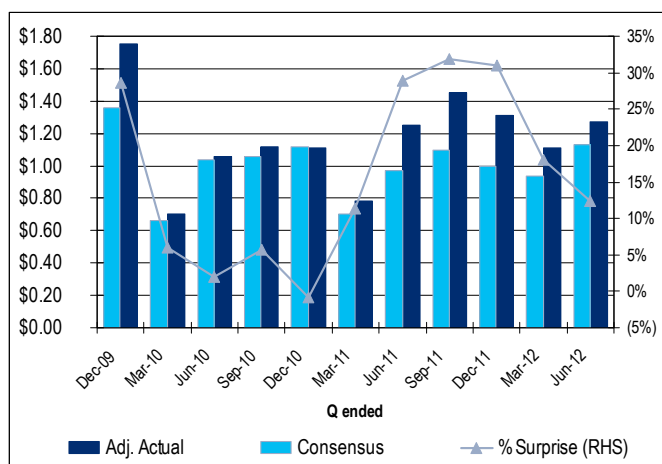
Source: Citi Research

Beats & Raises

BA beat Street EPS expectations by an average of 15% in 1H12 and its 2012 guidance is already 8% above the initial guide from January.

Boeing typically issues conservative guidance in January and subsequently beats consensus over the course of the year. They've beat the Street six quarters in a row, including exceeding consensus estimates an average of 15% over 1H12 (Figure 48). The quarterly beats drive improving guidance as the year progresses, with 2012 guidance now sitting 8% above initial guidance (from the 4Q11 call). We attribute the incremental improvement to a conservative management team looking to exceed expectations over the year as BA retires risk on production rate ramps, executes on 787 fleet support, and international defense orders come in. We saw the same dynamic 2011 when BA finished 23% above its initial EPS guidance, even after removing 52c of positive one-timers (Figure 49). We note that Boeing did not boost its organic 2012 guidance in 1Q (the increase was due to a litigation reserve reversal), but did so in 2Q due to better BCA margins and better defense sales.

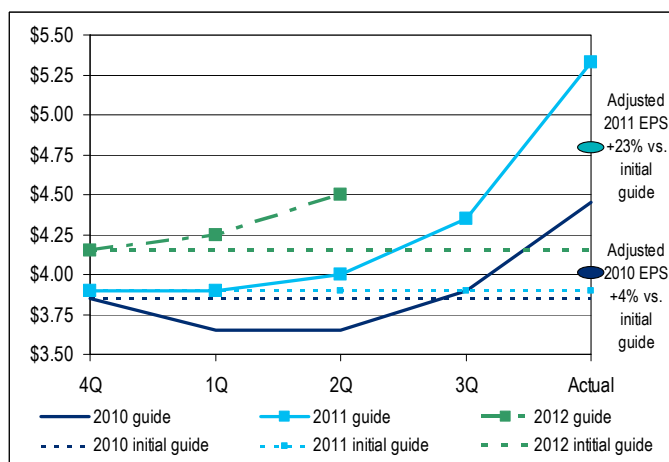
Figure 48. BA Earnings Surprise (4Q09-2Q12)



Source: Citi Research, FactSet

Note: Adj. actual excludes 1-time positives in 4Q10 (45c), 4Q11 (52c), 1Q12 (11c)

Figure 49. 2010-2012 EPS Guidance Trajectory



Source: Citi Research

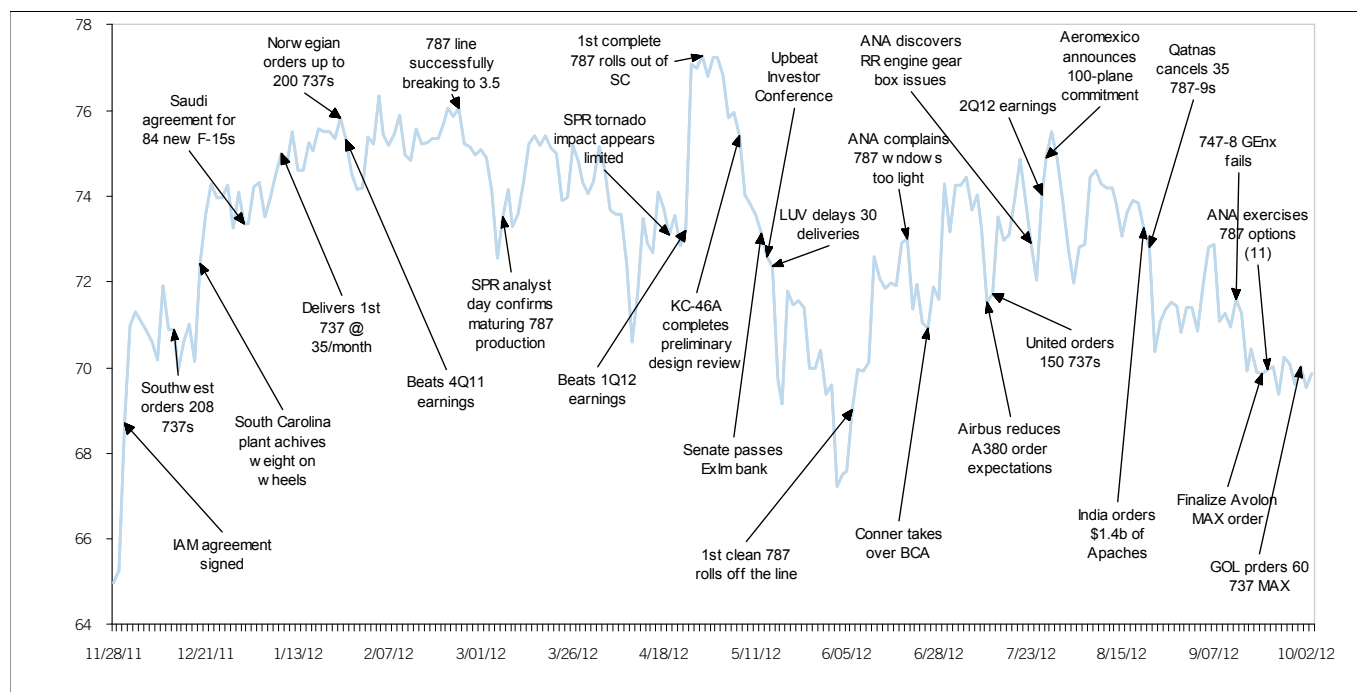
Note: Adjusted EPS removes tax gains/settlements

Trading History

With BA shares back near December 2011 levels, we see a strong buying opportunity.

With shares now trading near late 2011 levels, we see a strong buying opportunity considering that the company has retired several major risks & seen several positive developments since that time (Figure 50). We believe shares should reflect the fact that these risks are squarely behind us, despite recent headlines around GEnx engine failures (a problem we believe GE has under control) and aircraft cancellations (a Qantas-specific issue). In our view, the last 12 months have been important for Boeing including notching a big Saudi defense order, successfully ramping 787 production rates, and continuing to build backlog based on demand for the MAX. So at this point, Boeing is poised to do what it does best: build aircraft.

Figure 50. Boeing Price Since November 2011



Source: Citi Research, FactSet

Summary Model

Figure 51. Income Statement

\$ in Millions	2011E	1Q12	2Q12	3Q12E	4Q12E	2012E	2013E	2014E	2015E
Revenue									
Boeing Commercial Airplanes	36,171	10,937	11,843	12,146	13,758	48,684	56,595	63,890	64,749
Boeing Military Aircraft	14,947	4,308	4,130	3,924	3,727	16,089	16,332	16,384	16,008
Network & Space Systems	8,673	1,795	1,887	1,793	1,793	7,267	7,029	6,938	6,866
Global Services & Support	8,356	2,130	2,175	2,110	2,215	8,630	8,503	8,461	8,297
Boeing Defense, Space & Security	31,976	8,233	8,192	7,826	7,735	31,986	31,863	31,783	31,171
Boeing Capital Corp.	532	125	99	99	99	422	396	396	396
Other	138	24	42	42	42	150	168	168	168
Unallocated Items/Eliminations	(82)	64	(171)	(175)	(199)	(481)	(817)	(922)	(935)
Total Revenue	\$68,735	\$19,383	\$20,005	\$19,937	\$21,436	\$80,761	\$88,205	\$95,314	\$95,549
Operating Profit									
Boeing Commercial Airplanes	\$3,495	\$1,081	\$1,211	\$1,062	\$1,116	\$4,470	\$5,480	\$6,239	\$6,736
Boeing Military Aircraft	1,526	437	363	363	345	1,508	1,633	1,638	1,569
Network & Space Systems	690	73	126	136	136	471	527	520	515
Global Services & Support	942	232	259	226	237	954	918	914	896
Boeing Defense Space & Security	3,158	742	748	725	718	2,933	3,079	3,073	2,980
Boeing Capital Corp.	125	38	31	28	28	124	119	119	119
Other	55	(79)	(50)	(50)	(50)	(229)	(200)	(200)	(200)
Unallocated Expense	(988)	(212)	(392)	(423)	(423)	(1,450)	(1,700)	(1,600)	(1,320)
Total Operating Profit	\$5,845	\$1,570	\$1,548	\$1,341	\$1,389	\$5,848	\$6,778	\$7,631	\$8,314
Other Income (Expense)	\$47	\$12	\$10	\$18	\$18	\$58	\$72	\$72	\$72
Net Interest Expense	(498)	(119)	(112)	(112)	(109)	(452)	(439)	(431)	(419)
Pre-Tax Income	\$5,394	\$1,463	\$1,446	\$1,247	\$1,298	\$5,454	\$6,411	\$7,271	\$7,968
Income Taxes	(1,383)	(539)	(479)	(418)	(435)	(1,870)	(2,244)	(2,545)	(2,789)
Effective Tax Rate	25.6%	36.8%	33.1%	33.5%	33.5%	34.3%	35.0%	35.0%	35.0%
Net Income	\$4,011	\$923	\$967	\$829	\$863	\$3,582	\$4,167	\$4,726	\$5,179
Diluted EPS	\$5.33	\$1.22	\$1.27	\$1.09	\$1.13	\$4.70	\$5.57	\$6.51	\$7.35
Average Diluted Shares	753.2	759.6	762.0	763.0	764.0	762.2	748.3	726.0	704.5
Y/Y Growth									
Boeing Commercial Airplanes	13.6%	53.7%	33.9%	27.6%	28.6%	34.6%	16.3%	12.9%	1.3%
Boeing Military Aircraft	5.0%	27.0%	13.4%	-1.0%	-5.6%	7.6%	1.5%	0.3%	-2.3%
Network & Space Systems	-8.3%	-23.6%	-9.3%	-21.2%	-8.9%	-16.2%	-3.3%	-1.3%	-1.0%
Global Services & Support	1.3%	13.5%	10.7%	7.6%	-13.3%	3.3%	-1.5%	-0.5%	-1.9%
Boeing Defense Space & Security	0.1%	8.1%	6.6%	-4.6%	-8.7%	0.0%	-0.4%	-0.3%	-1.9%
Boeing Capital Corp.	-16.7%	-12.6%	-32.7%	-21.4%	-14.7%	-20.7%	-6.2%	0.0%	0.0%
Total	6.9%	30.0%	20.9%	12.5%	9.6%	17.5%	9.2%	8.1%	0.2%
Operating Margin									
Boeing Commercial Airplanes	9.7%	9.9%	10.2%	8.7%	8.1%	9.2%	9.7%	9.8%	10.4%
Boeing Military Aircraft	10.2%	10.1%	8.8%	9.3%	9.3%	9.4%	10.0%	10.0%	9.8%
Network & Space Systems	8.0%	4.1%	6.7%	7.6%	7.6%	6.5%	7.5%	7.5%	7.5%
Global Services & Support	11.3%	10.9%	11.9%	10.7%	10.7%	11.1%	10.8%	10.8%	10.8%
Boeing Defense Space & Security	9.9%	9.0%	9.1%	9.3%	9.3%	9.2%	9.7%	9.7%	9.6%
Total	8.5%	8.1%	7.7%	6.7%	6.5%	7.2%	7.7%	8.0%	8.7%

Source: Citi Research

Figure 52. Balance Sheet

\$ in Millions	2011	1Q12	2Q12	3Q12E	4Q12E	2012E	2013E	2014E	2015E
Cash and Cash Equivalents	\$10,049	\$6,718	\$6,305	\$8,512	\$8,425	\$8,425	\$9,297	\$11,657	\$14,818
Short-Term Investments	1,223	3,798	4,002	4,002	4,002	4,002	4,002	4,002	4,002
Accounts Receivable, net	5,793	6,475	5,894	6,555	7,047	7,047	7,521	8,018	7,644
Current Portion of Customer/Comm Financing	476	372	344	344	344	344	344	344	344
Deferred Income Taxes	29	30	30	30	30	30	30	30	30
Inventories, net of Advances and Progress Billings	32,240	32,738	35,033	34,061	36,168	36,168	39,147	40,351	39,151
Income Taxes Receivable / Other	-	-	-	-	-	-	-	-	-
Current Assets	\$49,810	\$50,131	\$51,608	\$53,504	\$56,017	\$56,017	\$60,341	\$64,401	\$65,989
Customer and Commercial Financing, net	4,296	4,139	4,068	4,068	4,068	4,068	4,068	4,068	4,068
PP&E, net	9,313	9,399	9,453	9,653	9,853	9,853	9,853	9,853	9,853
Goodwill	4,945	4,950	4,955	4,955	4,955	4,955	4,955	4,955	4,955
Acquired Intangibles	3,044	2,993	2,980	2,980	2,980	2,980	2,980	2,980	2,980
Deferred Income Taxes	5,892	5,791	5,781	5,781	5,781	5,781	5,781	5,781	5,781
Pension Plan Assets, net	-	-	-	-	-	-	-	-	-
Long-Term Investments	1,043	1,037	1,004	1,004	1,004	1,004	1,004	1,004	1,004
Other Assets	1,643	1,765	1,746	1,745	1,759	1,759	1,770	1,782	1,779
Total Assets	\$79,986	\$80,205	\$81,595	\$83,691	\$86,417	\$86,417	\$90,752	\$94,824	\$96,410
Accounts Payable and Other Liabilities	\$20,645	\$19,984	\$20,972	\$22,153	\$23,491	\$23,491	\$25,417	\$27,097	\$27,490
Advances in Excess of Related Costs	15,496	\$15,336	\$15,344	\$15,366	\$15,820	15,820	16,637	17,736	17,494
Income Taxes Payable / Other	2,780	3,178	3,668	3,668	3,668	3,668	3,668	3,668	3,668
Current Debt	2,353	2,807	2,466	2,466	2,466	2,466	2,466	2,466	2,466
Current Liabilities	\$41,274	\$41,305	\$42,450	\$43,653	\$45,445	\$45,445	\$48,188	\$50,967	\$51,117
Deferred Income Taxes	122	-	-	-	-	0	0	0	0
Accrued Retiree Health Care & Pension	24,057	24,228	23,642	24,042	24,442	24,442	25,442	25,842	26,242
Other Long-Term Liabilities	907	735	876	876	882	882	888	894	893
Long-Term Debt	10,018	8,817	8,735	8,735	8,735	8,735	8,735	8,735	8,735
Total Liabilities	\$76,378	\$75,085	\$75,703	\$77,305	\$79,504	\$79,504	\$83,253	\$86,438	\$86,987
Common Equity	3,608	5,120	5,892	6,386	6,912	6,912	7,499	8,386	9,422
Total Liabilities & Shareholder Equity	\$79,986	\$80,205	\$81,595	\$83,691	\$86,417	\$86,417	\$90,752	\$94,824	\$96,410

Source: Citi Research

Figure 53. Cash Flow Statement

\$ in Millions	2011	1Q12	2Q12	3Q12E	4Q12E	2012E	2013E	2014E	2015E
Net Income	\$4,018	\$923	\$967	\$829	\$863	\$3,582	\$4,167	\$4,726	\$5,179
Depreciation & Amortization	1,675	426	422	400	400	1,648	1,600	1,600	1,600
(Increase) Decrease in W/C	(4,261)	(1,630)	(734)	1,514	(814)	(1,664)	(715)	1,073	1,725
Pension Expense (Income)	2,126	724	(38)	400	400	1,486	1,000	400	400
Prepaid Pension	-	-	-	-	-	-	-	-	-
Customer Financing Reductions (Additions), net	(269)	196	20	-	-	216	-	-	-
Other	734	198	271	-	-	469	-	-	-
Operating Cash Flows	\$4,023	\$837	\$908	\$3,143	\$849	\$5,737	\$6,052	\$7,800	\$8,904
Business (Acquisitions)/Disposals	(42)	-	(18)	-	-	(18)	-	-	-
Capital Spending	(1,619)	(420)	(344)	(600)	(600)	(1,964)	(1,600)	(1,600)	(1,600)
Investments/Other	4,030	(2,583)	(223)	-	-	(2,806)	-	-	-
Investing Cash Flows	2,369	(3,003)	(585)	(600)	(600)	(4,788)	(1,600)	(1,600)	(1,600)
Shares Repurchased	\$0	\$0	\$0	\$0	\$0	\$0	(\$2,000)	(\$2,000)	(\$2,000)
Share-Based Plans	114	68	42	-	-	110	-	-	-
Debt Issuance (Payment)	(582)	(863)	(418)	-	-	(1,281)	-	-	-
Cash Dividends	(1,244)	(328)	(330)	(336)	(336)	(1,330)	(1,580)	(1,840)	(2,142)
Other/FX Rate	10	(42)	(30)	-	-	(72)	-	-	-
Financing Cash Flows	(\$1,702)	(\$1,165)	(\$736)	(\$336)	(\$336)	(\$2,573)	(\$3,580)	(\$3,840)	(\$4,142)
Net Change in Cash	4,690	(3,331)	(413)	2,207	(87)	(1,624)	871	2,360	3,161
Cash at Beginning of Period	5,359	10,049	6,718	6,305	8,512	10,049	8,425	9,297	11,657
Ending Cash Balance	\$10,049	\$6,718	\$6,305	\$8,512	\$8,425	\$8,425	\$9,297	\$11,657	\$14,818

Source: Citi Research

Boeing Co.

Company description

Headquartered in Chicago, Illinois, Boeing (BA) provides a diverse set of products and services to the aerospace and defense market. The company operates in three lines of business: Boeing Commercial Airplanes, Boeing Defense, and Boeing Capital. It is one of two major commercial airplane manufacturers in the world (the other is Airbus), and one of three major defense fixed-wing aircraft makers in the United States (the others are Lockheed Martin and Northrop Grumman). Boeing also builds military helicopters. The company merged with one of its major rivals, McDonnell Douglas, in 1997 in a \$13b stock-swap.

As a result of its vast footprint, Boeing can be engaged in several massive competitions simultaneously. Today, Boeing is competing with Airbus on narrow and wide-body commercial airplanes, and with Lockheed Martin on fighter jets. Boeing also provides numerous support and integration services to its commercial and defense customers. The company generated 2010 sales of \$64b and operating margins of 7.7%.

Investment strategy

We rate Boeing (BA) Buy (1). We recommend building positions in the company in light of our positive view on: 1) The aerospace cycle given strong backlogs and persistent demand for fuel-efficient aircraft; 2) Improved earnings visibility given recent announcements to hike production rates on their more profitable planes; 3) Improved cash flow visibility given the wind-down of the 787 and 747-8 development programs, which by our estimate should release working capital; 4) A resilient outlook for the defense business given the company's participation in several high profile contests.

Valuation

We apply a sum-of-the-parts valuation methodology to Boeing. To the commercial business (68% of 2014 segment income) we apply a 15x FTM P/E multiple, in line with commercial aerospace peers. In our view, a premium multiple is warranted due to the production up-cycle we're embarking upon as well as the relative resiliency of the commercial aerospace market. We apply a 10.6x multiple to the defense business (32% of income), representing a 20% discount to the market. This is a slight premium to our target defense multiple (25% discount) due to BDS' premium backlog visibility and international content. This gives us a blended target multiple of 13.6x, which yields an \$89 target price when applied to our 2014 EPS estimate of \$6.51.

Risks

The commercial aerospace industry is intrinsically risky given its vulnerability to unpredictable shocks that cannot be incorporated into earnings models, such as terrorism, volatile oil prices, and epidemics. Furthermore, the industry is highly correlated to economic growth, and relies on economic expansion for air traffic growth. The company's other exposure is the defense market, which is subject to changes in public opinion, global threats to the U.S. and its allies, the state of the federal budget, and the condition of existing U.S. and allied military equipment.

Boeing's shares may materially underperform our target price should the broader economy slip back into recession, resulting in decreased airline traffic and plane orders. Shares would also underperform to the extent that DoD budgets were severely cut. The company is also subject to intense commercial competition with Airbus, especially in the narrow-body segment, where defending market share could come at the expense of margin. If the impact on the company from any of these factors proves to be greater/less than we anticipate, we believe the stock will likely have difficulty achieving our target price or could outperform it.

Appendix A-1

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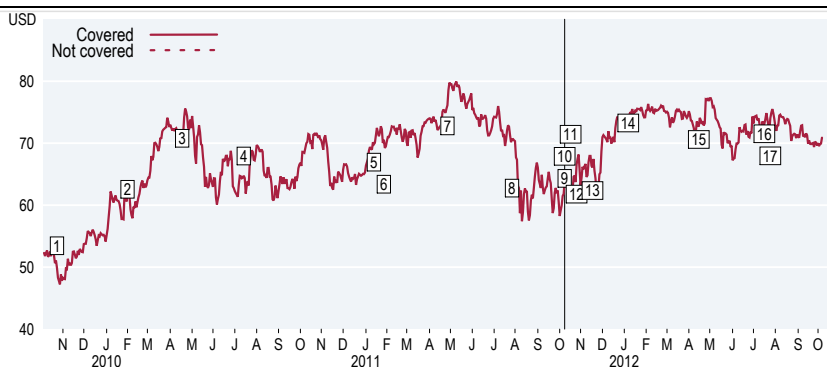
IMPORTANT DISCLOSURES

Boeing Co. (BA)

Ratings and Target Price History Fundamental Research

Analyst: Jason Gursky

Covered since July 15 2010



	Date	Rating	Target Price	Closing Price
1	23-Oct-09	2H	*50.00	49.89
2	31-Jan-10	2H	*59.00	60.60
3	19-Apr-10	2H	*73.00	70.96
4	14-Jul-10	*1H	*80.00	64.75
5	13-Jan-11	1H	*85.00	69.83
6	27-Jan-11	1H	*84.00	70.56

* Indicates change

	Date	Rating	Target Price	Closing Price
7	27-Apr-11	1H	*90.00	76.12
8	27-Jul-11	1H	*85.00	70.63
9	8-Oct-11	Stock rating system changed		
10	8-Oct-11	*1	85.00	61.81
11	18-Oct-11	1	*87.00	63.47
12	26-Oct-11	1	*78.00	66.56

	Date	Rating	Target Price	Closing Price
13	17-Nov-11	1	*82.00	66.09
14	6-Jan-12	1	*87.00	73.98
15	16-Apr-12	1	*89.00	72.68
16	17-Jul-12	1	*93.00	73.11
17	25-Jul-12	1	*89.00	74.03

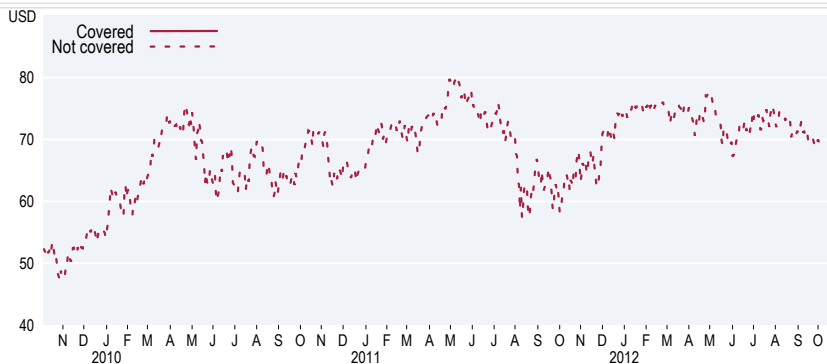
Rating/target price changes above reflect Eastern Standard Time

Boeing Co. (BA)

Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Jason Gursky

Covered since July 15 2010



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Data current as of 4 Oct 2012

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