

Boeing

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Introduction

The Boeing Company recently rolled out the first assembled 787 “Dreamliner” to the world. Although Boeing is a fully diversified company now, its history is steeped in aircraft manufacturing for military and commercial uses. Many feel that the Dreamliner will forge Boeing’s future as it competes in a brisk rivalry with the European firm, Airbus S.A.S.

Airbus is doing what many of Boeing’s rivals were unable to do: beat Boeing at its own game and thrive. Currently, the commercial airliner business is overwhelmingly dominated by these two firms, and Airbus is in the lead in terms of new airliner sales. Boeing’s goal is to retake the lead but the stakes are high. Both companies have differing views of the future of air travel in the next decades to come. This has shaped the product strategy each company has undertaken. Interestingly, each company has a “Plan B”, in the form of an airliner that either currently exists (Boeing) or can be made from off-the-shelf parts (Airbus).

The purpose of this analysis is to examine the Boeing Company in detail and to make recommendations on investment in the company.

History of the Boeing Company

William H. Boeing officially incorporated the Boeing Company in 1917. Manufacturing started with seaplanes, but aside for a small order for trainers for the U.S. Navy, Boeing aircraft did not sell very well. The company experienced difficult times until the mid-1920’s when the military ordered nearly 600 fighters. About the same time,

Boeing decided to join the airline business and named this subsidiary Boeing Air Transport, offering both passenger and airmail service. By 1929, Boeing and the Pratt & Whitney Company, an aircraft engine manufacturer, exchanged stock shares to form the United Aircraft and Transport Company. With this move, Boeing was considered a major aviation industry concern (Boeing, 2007, history).

Boeing continued to grow and purchase various related companies until 1934, when anti-trust legislation forced the company to split into three entities: The Boeing Airplane Company, United Aircraft, and finally, Boeing Air Transport was renamed United Air Lines (Boeing, 2007, history).

During the 1930's, Boeing decided to stop producing seaplanes and fighters, and focused instead on large, four-engine bombers for the military. At the time, this strategic decision to shift their product focus was criticized because Boeing relied heavily on the military to purchase their aircraft and the Air Corps policy excluded large heavy bomber aircraft. To make matters worse, commercial aircraft markets were overwhelmingly dominated both by twin engined aircraft and by the rival Douglas Aircraft Company. Despite all this, it proved to be a very fateful and profitable direction as the Boeing B-17 Flying Fortress helped win the war in Europe while the B-29 Superfortress did the same in the Pacific (Boeing, 2007, history).

Post-war, the company's military orders were slashed and commercial airliner variants of the B-29 did not produce expected orders, and 70,000 workers were given pink slips. A turning point came when captured German military and scientific research was given to Boeing. This directly jump-started Boeing's development with jet bombers and missiles. During the 1950's, two products with very long corporate lives were born

at this time: the B-52 Stratofortress bomber, and the 707 airliner which proved to be a revolutionary and time-tested design (Boeing, 2007, history).

Throughout the 1960's, Boeing worked to be known as the premier builder of commercial aircraft. The 707 dominated the market, and the 737, which is still produced today, was introduced at this time and is still the most ordered airliner in history. Starting in 1961, as a predictor of things to come, Boeing became the systems integrator for the Apollo Moon missions. In this role, they coordinating the activities of multiple manufacturers, suppliers, and government agencies in helping NASA reach the moon (Boeing, 2007, history).

Despite the success, a recession in the aviation industry in 1971 almost forced the company out of business. The Apollo program was ending as was the work associated with it. Important new products like the 747 airliner were running overtime and over budget. Worse of all, airlines were not buying Boeing's bread and butter airliners. For 18 months, Boeing was without a single order for a new airplane (Boeing, 2007, history).

. However, the company diversified their products to produce new business. The Boeing Computer Services subsidiary opened its doors and offered powerful computing solutions to various industries. Computer networks were developed for communication and data storage. Boeing also used their expertise in systems integration to develop and successfully sell various weapons systems, satellite systems, and unmanned spacecraft (Boeing, 2007, history).

The growth experienced through the 1970's continued to the 1990's when the 757, 767, and 777 airliners were introduced. Boeing was selected as the prime contractor for the International Space Station and became a prime contractor for satellite technology

and their launch vehicles. Military work continued to be important: numerous contracts for military weapon systems such as guided missiles and AWACS aircraft. The company also managed through an era of contraction for defense manufacturers. During this time, Boeing merged with Rockwell International and the McDonnell Douglas Corporation. With these moves, they became a prime contractor for NASA's space shuttle. In fact Boeing developed the "glass" cockpit and digital flight controls currently in use (Boeing, 2007, history).

In 1997, Boeing moved its corporate headquarters to Chicago. Back in the Pacific Northwest, satellite and space station work continue. Significant military products include the F/A-18E/F Super Hornet fighter, the KC-767 advanced tanker, and what some consider the most advanced fighter in the world: the F/A-22A Raptor air superiority fighter. On the commercial side, Boeing has been experiencing intense competition from Airbus S.A.S., who have matched Boeing product for product. To counter this threat, the latest developments from Boeing's commercial airliner business have included a larger version of the 747, and the all new and revolutionary 787 Dreamliner airliner (Boeing, 2007, history).

Comments on Senior Management

Boeing's corporate structure begins with its CEO, President and Chairman: W. James McNerney, Jr. McNerney has been apart of Boeing since 2001. As top person of Boeing, McNerney is responsible for overseeing the overall strategic decisions of Boeing's future in the areas of manufacturing commercial jetliners and military aircraft,

rotorcraft, electronic and defense systems, missiles, satellites and advanced information and communications systems. (Boeing, 2007, About Us).

McNerney's prior experience at GE includes holding top executive spots in GE Aircraft Engines and GE lighting. Without going into McNerney's complete history at GE, it is important to point out that he held positions that required global insight and high levels of leadership in various departments. McNerney's experiences at GE allowed him to lay to ground work to hold the chairman and CEO positions at 3M before becoming a part of Boeing. It is important to note that Boeing management is spearheaded by someone who has a track record of running other billion dollar companies that expanded world wide. At the age of 57, McNerney provides the stability that a company like Boeing requires to effectively dominate the world airliner industry. McNerney earned his B.A. from Yale in 1971 and an MBA from Harvard in 1975. (Boeing, 2007, About Us).

Other layers of management at the Senior Vice President level include the following departments: Communications, Finance, Human Resources and Administration, Internal Governance, International, Law Department and Public Policy. It's key to point out that most of the high level executive's age ranges from their late forties all the way up into their sixties. What this illustrates is a clear sense of leadership with a vast level of experience that allows each department to be individually led by an individual who is capable of running a company by themselves.



Jim McNerney
Chairman, President and
Chief Executive Officer

Executive Council*



Jim Albaugh
Executive Vice President,
President and CEO,
Integrated Defense Systems



James Bell
Executive Vice President
and Chief Financial Officer



Scott Carson
Executive Vice President,
President and CEO,
Commercial/Networks



Wanda Benson-Low
Senior Vice President,
Internal Governance



Tom Downey
Senior Vice President,
Commercial/Networks



Shep Hill
Senior Vice President,
Business Development
and Strategy



Ted Mullin
Senior Vice President,
Public Policy



Luanette Koelmer
President, Boeing
International



Michael Luffig
Senior Vice President,
General Counsel



Rick Stephens
Senior Vice President,
Human Resources and
Administration



John Tracy
Senior Vice President,
Engineering, Operations
& Technology

Overview of Nearest Competitors

Boeing has several competitors in each of their product areas, but this is far fewer than what they worked against in the past. In the past 20 years, unlike many of their aerospace rivals, they have weathered mergers and changes in the business environment relatively well. In the airline segment, this has had the effect that they have absorbed all domestic rivals. Their competition now comes from abroad.

Currently, the commercial airliner market is dominated by Airbus S.A.S. in terms of the most orders for new airliners, with Boeing taking second place. Very distant in third place, and insignificant to this report, is the Bombardier Aerospace Company which competes only in the short-haul airliner segment. Both Airbus and Boeing have very similar product lines; each company has an airliner that competes head to head with a

rival design type in terms of design layout, performance, economy, and appeal to customers (BBC News, 2007).

Interestingly, the newest products show a distinct design divergence. Airbus' latest product is the A380 and for Boeing is the 787 Dreamliner. Most industry analysts feel the only similarity between the two is that the future for each company's future selling airliners will be made or broken with these two aircraft (BBC News, 2007).

Both Boeing and Airbus believe there is continuing market for jumbo size, long-haul jets. However, Boeing felt that this market will not be as large as Airbus feels it will be. In this light, Boeing took the proven but venerable 747 and modified it to fill this expected need. In a total departure, Airbus designed the completely new A380 based on their belief that this market segment will be dominant (BBC News, 2007).

The Airbus A380 is literally a large departure away from conventional airliner design. Like the 747 series, it is a wide-body, four engine, and long-range airplane. However, because of its passenger and cargo capacity, it is classified as a super-jumbo airliner. Also like the 747, it is a double-deck design, meaning there is an "upstairs" deck for extra seating or amenities. On the 747, this upper deck is relatively short and provides only a small number of extra seats. The A380 trumps this with a full fuselage top deck to provide double aisle seating for up to 550 passengers along with many amenities not typically found on airliners. In literally every way, the A380 is larger or more extravagant than the 747 (Airbus A380, 2007).

In contrast, the Boeing 787 Dreamliner is classified as a long-range but mid-size airliner. It seats roughly half as many passengers as the A380; having seating for 200 to 300 depending on configuration. It will feature a single deck for seating, but will have

multiple configurations only limited by customer choice. Advanced synthetic building materials like carbon fiber are used throughout the airplane, and this has the direct effect helping to make passenger comfort paramount.

Because relatively little metal is used in the airframe, humidity in the passenger compartment can be increased without worry of corrosion to the airplane. The higher humidity takes away the uncomfortable dryness that is associated with high altitude flight. Additionally, there is more natural light in the cabin because the strength of the composites allows for larger windows with electronically adjustable transparency. LED are used for lighting, and combined with the sweeping arches of the rooflines allows for adjustments in color and brightness. The architecture is meant to encourage the feelings of a spacious cabin, even in single aisle configurations (Aerospace Technology, 2007).

The sum result of these changes not only aims to increase comfort during the flight, but to decrease the effects of jetlag after the flight. Boeing feels that part of the allure they can offer their airline customers an airplane that their customers will seek out to fly on because of these many benefits. They feel that future flyers will value these amenities and increased space in a smaller airliner over what is offered by the Airbus A380 (Aerospace Technology, 2007).

To make this financially feasible, the Dreamliner's construction allows for a much lighter airliner that when coupled with highly fuel-efficient engines means a 20% lower fuel cost over the A380. Boeing estimates that the 787 is 30% cheaper to maintain, too. Additionally, the 787 can fly in and out of the majority of airports around the world, meaning more direct flight capability. By contrast, the A380 needs very long runways, so only major airports can handle this aircraft. Interestingly, many of these international

hubs have had to lengthen runways in preparation for the Airbus (Aerospace Technology, 2007).

As for pricing, the Airbus A380 will cost \$296 million to \$315 million depending on final configuration (Airbus, 2007). By comparison, the Boeing 787 will cost \$146 million to \$200 million (Boeing, 2007, Jet Pricing). The A380's testing is now completed, and the first airliner will be delivered to Singapore Air in October 2007 (USA Today, 2007). The 787 recently has its' rollout, but isn't scheduled the first flight until the Fall of 2007 and deliveries are on target for late 2008 (Boeing, 2007, 787).

Lastly, it should be noted that Airbus is planning on offering the A350 family of airliners, which is expected to be a better match to the 787 than the A380 is. Layout is nearly identical: twin engines, single deck, twin-aisle, advanced ergonomics, and similar construction using composite materials. The A350's development is relatively short, as it is expected to make use of common components wherever possible, especially in using some of the A380's systems, deliveries are expected in 2013. Pricing per airplane appears to be higher than for the 787: for an A350-800 model, pricing is \$160 million per aircraft, while a similar 787-800 is \$120 million (Airbus, 2007, A350).

Weighted Average Cost of Capital

The weighted average cost of capital is the after-tax weighted average required return on all types of securities issued by a firm, in which the weights equal the percentage of each type of financing in a firm's overall financial structure, according to Megginson and Smart (2006, p.229). The capital funding of a company consist of two

components: debt and equity. Lenders and equity holders each expect a certain return on the funds or capital they have provided.

The cost of capital is the expected return to equity owners and to debt holders. The weighted average cost of capital provides information about the return that both equity owners and lenders can expect. The weighted average cost of capital represents the investors' opportunity cost of taking on the risk of putting money into a company.

In order to calculate the weighted average cost of capital, investors need to determine the company's cost of equity and debt. The cost of equity is the cost to the company to maintain a price per share that is acceptable to investors. The Capital Asset Pricing Model (CAPM) is the most commonly accepted model method for calculating the cost of equity. The formula is $R_e = R_f + \text{Beta} (R_m - R_f)$.

The risk-free rate (R_f) is the amount obtained from investing in securities which are considered free from credit risk. The interest rate of U.S. Treasury Bills is used as the risk-free rate. Beta (β_i) measures how much a company's share price reacts against the market as a whole. The beta for the market equals one, according to Megginson and Smart (2006, p. 304). When the beta for a company is greater than one, the share is exaggerating the market's movement. When the beta for a company is less than one, it means the company is more stable. If the beta is negative, it means the share price is moving in the opposite direction to a broader market.

The equity market risk premium ($R_m - R_f$) represents the returns investors expect to be compensated for taking the extra risk by investing in the stock market over and above the risk-free rate. It is the difference between the risk-free rate and the market rate.

The beta for the Boeing Company is 0.81, according to MSN Money (2007) financial information, the risk free rate is 4.452%, and the equity market risk premium is 11% according to the Wall Street Journal (2007). The calculation for CAPM is illustrated below for the Boeing Company. The cost of equity capital is 10%.

Formula	$E(R_i) = R_f + \beta_i(E(R_m) - R_f)$
Calculation for Boeing Company	$E(R_i) = 4.452\% + 0.81(11\% - 4.452)$ $= 4.452\% + 0.81(6.548)$ $= 4.452\% + 5.30388$ $= 9.75588\%$ $= 10\%$

The cost of debt is the current rate the company is paying on its debt. The net cost of the debt is actually the cost paid less the tax savings resulting from the tax-deductible interest payment. The after-tax cost debt is one minus the corporate tax rate.

The Weighted Average Cost of Capital (WACC) is the weighted average cost of equity and the cost of debt based on the proportion of debt and equity in the company's capital structure. The proportion of debt is represented by $(D/D+E)$ debt divided by debt plus equity, a ratio comparing the company's debt to the company's total value. The proportion of equity is represented by $(E/D+E)$ a ratio comparing the company's equity to the company's total value. The formula for weighted average cost of capital (WACC) is illustrated below:

$$WACC = \left(\frac{D}{D + E} \right) (1 - T_c) r_d + \left(\frac{E}{D + E} \right) r_e$$

According to Rob Young, Director of Investors Relations, of the Boeing Company, the WACC is 14%. The total amount of debt for Boeing is \$10.3 billion. The

total amount of equity is \$85.0 billion. The tax rate is 35%. The information for current debt is found in the financial data for 10-Q quarter information on the balance sheet.

Equity is located on the Form 10-K for the fiscal year ended December 31, 2006. The equity is the amount of shares as of July 20, 2007, which was 783,711,551 shares of common stock outstanding multiplied by the current stock price, which is \$95.30, and the total amount of equity is \$74.7 billion. The U.S. federal statutory tax rate is located in the Income Statement and the rate is 35%.

The return rate of debt is 6.4%. The return rate of debt is calculated by dividing the amount of debt for year 2006, of \$657million, by the total amount of debt of \$10.3 billion, which equals a rate of 6.4%. Mr. Rob Young provided the return rate of equity of 15%. Calculations are demonstrated below:

Debt	= 10.3 B	Rate of return for debt	657M / 10,300 M = 6.4%
Equity	= 74.7 B	Amount of Equity	783,711,511 * \$95.30 = 74.7B
		Rate of return for equity	Outstanding shares * Price of stock
			Given 15%
Debt + Equity	= 85.0 B		
Tax Rate	= 35%		

$$WACC = \left(\frac{D}{D + E} \right) (1 - T_c) r_d + \left(\frac{E}{D + E} \right) r_e$$

$$WACC = \frac{(10.3B)}{85.0B} (0.65) (0.064) + \frac{(74.7B)}{85.0B} (0.15)$$

$$= (0.12118 * 0.65) (.064) + (0.87882) (0.15)$$

$$= 0.07877 * 0.64 + 0.13182$$

$$= 0.00504 + 0.13182$$

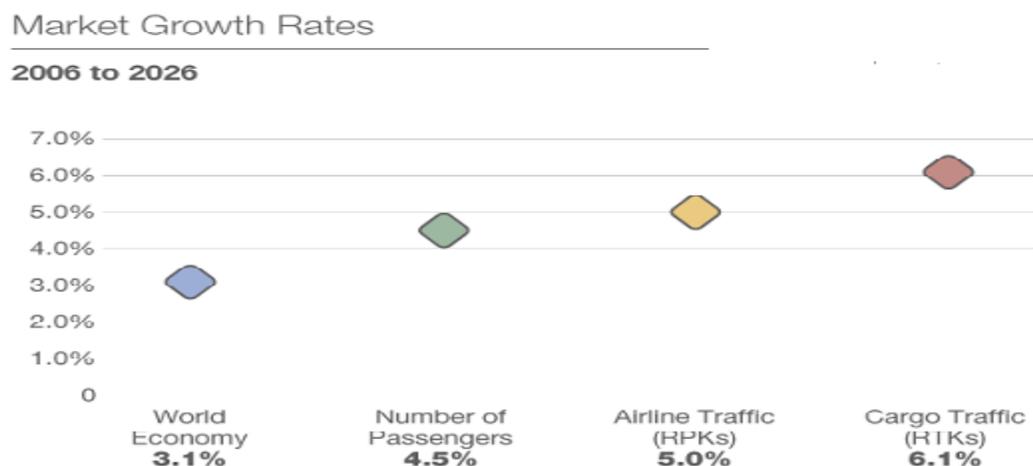
= 0.131686

= 14%

The WACC for the Boeing Company is 14%, and indicates that Boeing has a good rate of return which should please investors. The Boeing Company's first-quarter net earnings increased 27% to \$877 million, or \$1.13 per share. Revenue grew 8 percent to \$15.4 billion and earnings from operations rose 36% to \$1.3 billion, yielding an 8.5 percent operating margin.

Economic Forecast for the Industry

Boeing believes that because of factors like expanding travel and service innovations of competitors in local markets that potential for growth will last for years to come. World GDP will greatly be affected by the diversification of airline travel. "Developing regions and new business sectors are bringing more balance to the world economy—and a stable long-term GDP growth rate of 3.1 percent is expected." (Boeing, 2007, Investor Relations).



With Boeing competing to be one of the major suppliers of planes for this type of growth, it appears that future endeavors have no choice but to be a win- win situation for all parties involved: customers, airlines, and airplane manufactures.

One way Boeing feels this boost will happen to the Global GDP through airline travel, will be the way governments handle previously strict regulations. These strict regulations will most certainly make it difficult for the growth that is expected to happen. One regulation or provision that displays a clear loosening of previous regulations is the “New Open Skies” agreement. This agreement is between the European Union, the U.S. and Canadian regions. After 9-11, restrictions have been closely looked at in order to provide the required safety for all parties involved in air travel. An easing of regulations is needed. Governments; however, will certainly be playing close attention to the new issues that comes as by-products of the “New Open Skies” agreement. In the near future it is believed that developments with the Asian and North African markets will also be established.

Airline competition is growing as new airline businesses try to cash in on the low-fare market that currently makes up more than a third of the market of new airplanes. Airlines like South West depend on Boeing to fuel them with the best airplanes available. Competition in the airline industry equals out to dollars for Boeing because none of them want to be behind the power curve when it comes to airplane performance. According to Boeing (2007), “28,600 new airplanes will be delivered over the next 20 years”. So what does this mean? This means that the areas of airplane performance and economics must equal out to the products that the airlines are purchasing from companies like Boeing. “The improved efficiencies and commitment to

environmental performance in new airplane designs means that the future fleet will bring the minimum possible impact on the environment, while allowing people of the world to benefit from the essential connections that only air travel can deliver” (Boeing, 2007, Investor Relations).

The Dreamliner doesn't exactly fall into the category of the aircraft that will server the low-fair market, but there is an opposite reaction that can't be ignored. With many consumers evaluating price over comfort, there still remains a market of consumers that will pay for the comfort that the Dreamliner 787 will inevitability provide. Overall Boeing's forecast illustrates a picture that air travel will be better for passengers; as well as, Boeing (who will be arguably the number one supplier of airplanes). “Every one of the billions of passengers-kilometers in our forecast will be experienced by some who is important to us and to airlines operating airplanes of the future.” Boeing's forecast illustrates that the main focus of the forecast of the industry is to satisfy their needs in improving on the areas previously mentioned (Boeing, 2007, Investor Relations).

Stocks

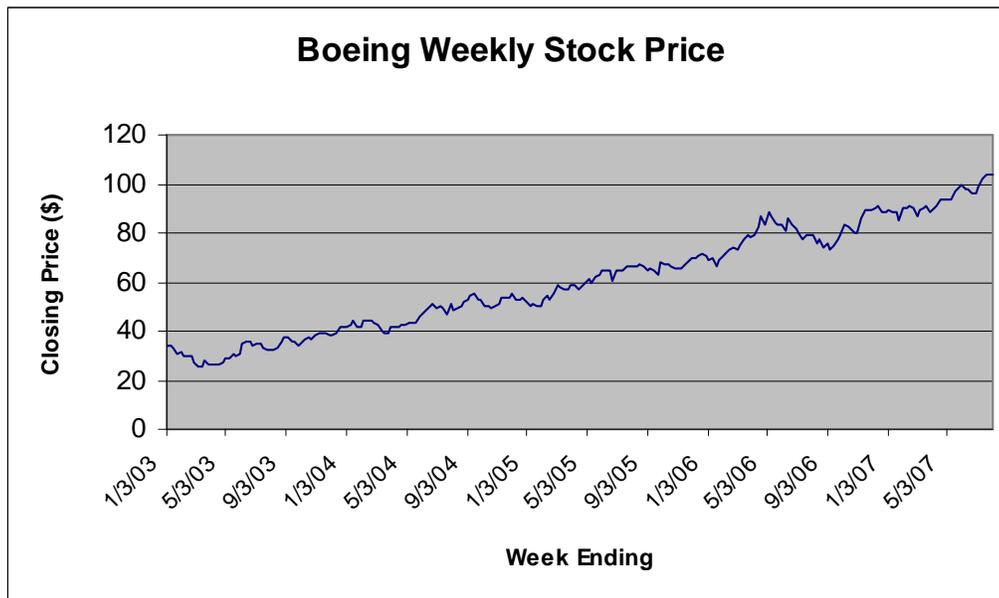
Overview:

The Boeing Company common stock is listed on the New York Stock Exchange under the ticker symbol BA. Boeing currently does not have a preferred stock as is typical with most industrial firms. Boeing's common stock last stock split occurred on June 6, 1997 a two for one split, but no other splits within the past 4 years which will be

the focus of this stock review. In the following paragraphs, the team reviews several stock indicators as well as investment analysts' opinions on Boeing's stock.

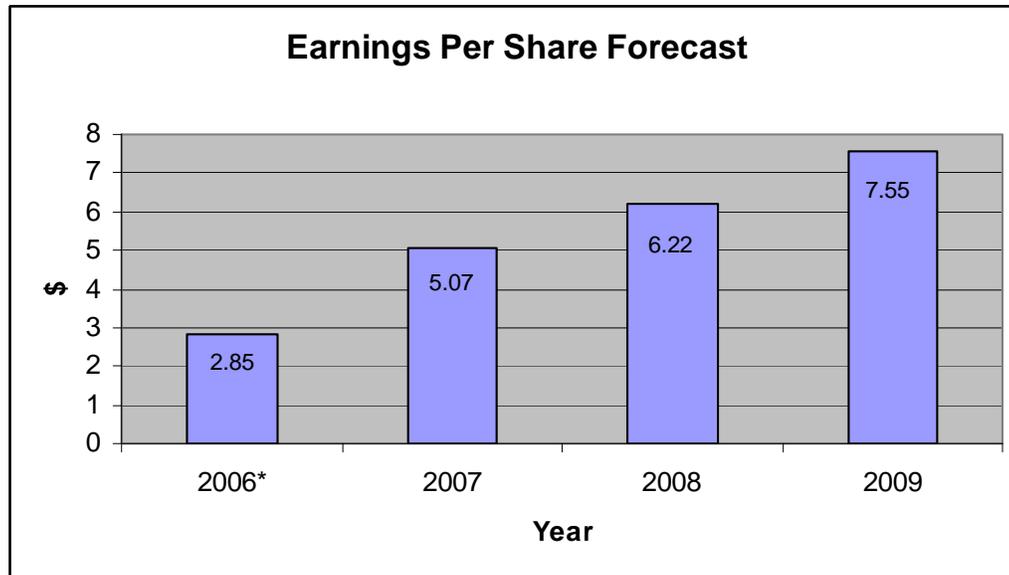
Performance Past 4 Years:

The chart below is the status of the Boeing stock price for the past 4 years including up through August 3, 2007 when this chart was put together. The trend is definitely moving in a positive direction over this 4 ½ year span. Most analysts have the Boeing stock predicted to be slightly higher than its current price of \$104 per share to just over \$115 per share.



Earnings Per Share and Earnings Per Share Growth Rates:

The earnings per share is likely to be one of the most closely watched financial ratio according to Megginson and Smart (2006, p.60). The following chart details the earnings per share followed by an earnings per share growth rates for Boeing over the next three years. As depicted in the chart, Boeing has a steadily increasing earnings forecast and growth rate.



*actual

EPS Growth Rates	
Period	Growth Rate
5 Yr Historical Growth Rate	18.102
FYR0 to FYR1	77.474
FYR0 to FYR2	118.351
FYR0 to FYR3	164.912

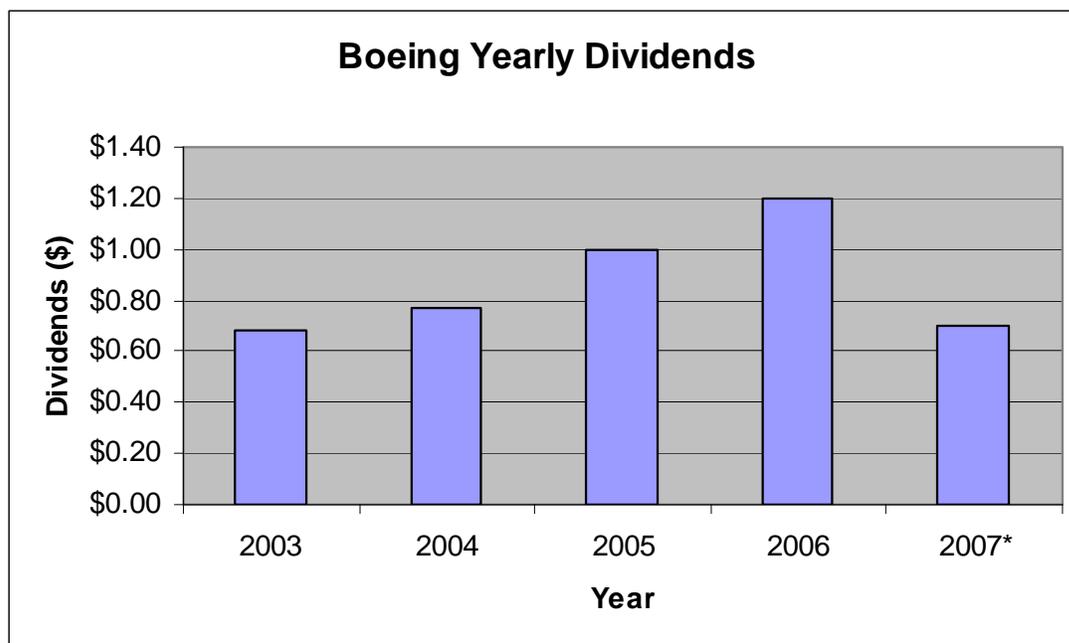
Price to Earning Ratios:

The price to earnings ratio according to Megginson and Smart is one of the most widely quoted market ratios (2006, p.64). This ratio takes a look at the longer term growth prospects of a firm. As the chart below shows, Boeing currently has a higher growth rate than predicted over the next few years, but still double digits for the next four years.

PE Ratios	
Period	P/E Ratio
Actual	36.611
FYR1	20.629
FYR2	16.767
FYR3	13.82
FYR4	11.437

Dividends:

In the attached chart is a summary of the Boeing stock dividends paid out to shareholders over the past 4 years with the first two quarters of 2007 included. As illustrated, the Boeing stock dividend has increased from \$0.17 per share each quarter in 2003 to over \$0.35 a share each quarter thus far in 2007, over a 100% increase. As mentioned earlier, Boeing currently does not offer a preferred stock.



Analyst Opinions:

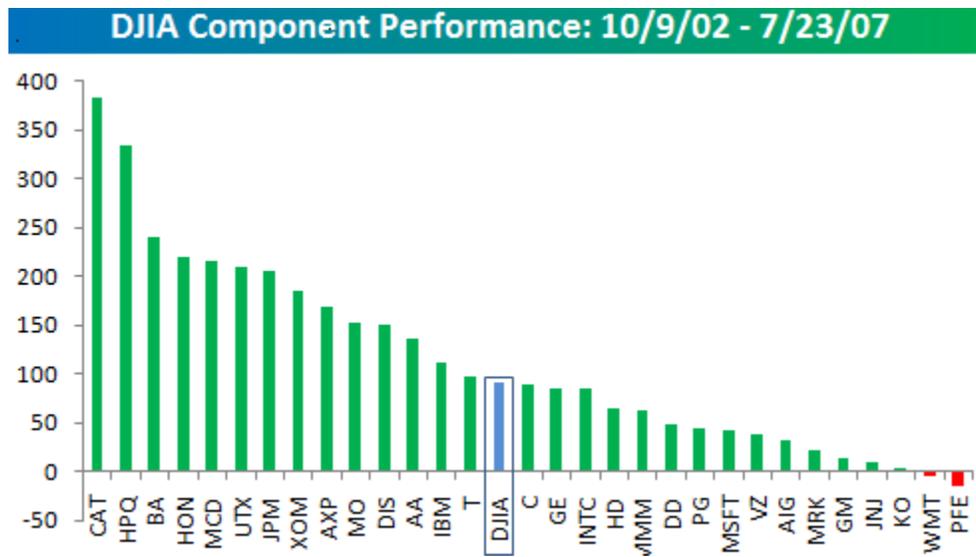
In this section the team will look at several stock analysts opinion and evaluation of Boeing's stock. First, Lloyd Sabazaki reveals ten stocks in two different categories that he is recommending to a young investor who writes into him looking for advice on how to invest money that this individual has accumulated. This young child whose name is not given is of grade school age. Lloyd's two categories are momentum plays and recovery plays. Stocks in the momentum plays category are the stocks currently on the rise with momentum to keep gaining. Boeing's stock is on this list. Lloyd recommends Boeing simply because of the increase in orders of the new Dreamliner 787 plane which has been discussed many times within this paper. Lloyd's rationale on the Dreamliner is the fact that this plane is being produced in many pieces world wide with final assembly in the Seattle area. By adopting this manufacturing method, Lloyd is banking on the higher manufacturing efficiency and profits on this new plane for many years to come to be the boost for Boeing's stock price also for the next decade.

Jeffrey Lin is our next analyst. Jeffrey recommendation for Boeing stock is again based on the new 787 Dreamliner. Jeffrey states "I believe the key for the Dreamliner business is in the production methods" (p.1). Lin believes the 787 will continue to sell in 2008 and 2009 with manufacturing costs continuing to go down. The recommendation by Lin is to sell once Boeing hits the target production rate of 3 days for a Dreamliner (Lin, 2007). Lin also goes on to indicate that the aerospace and defense business are still thriving and this continues to support the stock as well.

The next investor James Rosenburg also gives Boeing a positive buy nod. Rosenburg simply states "Outlook is for \$640 billion in military spending for 2008. I

Think that's enough said" (p.1). Rosenberg summarizes the commercial plane industry is currently in a boom with travelers returning to the air and major airlines beginning to order new planes. Rosenberg summarizes the past year's performance indicating that the aerospace industry earned an average return of 25%, followed by telecoms at 22% and finance at 20% (Rosenburg, 2007). This is just another indicator of the current positive cycle and outlook for the Boeing stock. Other indicators Rosenberg discusses are the earnings per share of the Boeing stock has gone up from \$2.66 to \$3.83 or roughly 44% in the past year. The earnings outlook also has the indicators that this growth will continue throughout 2007. Rosenberg's final suggestion on Boeing's target stock price was above \$100 per share where currently the price is at this level.

The next two analysts have brief, but also positive recommendations for Boeing stock. Birinyi's Ticker Sense looks at the P/E ratio of companies as part of its criteria. A P/E ratio of less than two times the long term growth is considered to be a relatively cheap buy. Boeing has a growth at 20.06% with a P/E ratio expected to be around 11.4 giving this another strong recommended buy. Birinyi is captured saying "looking at the fundamental side of things Boeing doesn't look half bad". The other analysts, Hickey and Walters of the Bespoke Investment Group, take a look at the Dow Jones Industrial Average and compare the performance of Boeing against the DJIA. The analysis takes place from the index bottoming out on October 9, 2002 through prices as of July 23, 2007. Boeing (BA) is third on the list with only Caterpillar and Hewlett-Packard performing better in this timeframe as indicated in the chart below (Hickey and Walters, 2007).



The summary can be made from the stock analysis and performance indicators of Boeing that the company is in a strong position to grow over the next decade. Strong defense spending with the current war in Iraq along with a revitalized air travel economy has Boeing's future in great shape for a recommendation to purchase shares of common stock. The areas to be alerted to have been mentioned within the analysts' summaries including the Dreamliner's production rate achievement and the settling or withdraw of troops from the Middle East. Until then, however, Boeing looks to be a good buy. A recent summary of the Boeing stock recommendations by leading financial firms looks like this:

RECOMMENDATION TRENDS				
	Current Month	Last Month	Two Months Ago	Three Months Ago
Strong Buy	7	7	8	8
Buy	4	4	5	5
Hold	9	9	8	9
Sell	1	1	1	1
Strong Sell	1	1	1	1

Bonds

The Boeing Company offers bonds through its division Boeing Capital via Incapital LLC along with its partner Banc of America Securities LLC. The program launched includes bonds priced in \$1000 increments with many various rates, maturity dates, and interest-payment options. Incapital LLC was formed in 2000 to allow corporate bonds to be issued and sold to ordinary investors. Boeing's first bonds issued through Incapital LLC were issued in 2002 with a coupon rate of 6% and maturity date of 2009. Boeing issued the bonds to help improve their credit rating after sales of planes dropped off after the attacks of September 11, 2001. Bonds are periodically sold and posted on each Monday on Incapital LLC's website.

The corporate medium-term bond offered by Boeing comes with many positive attributes including no transaction fees because they are already built into the price. In addition, these bonds can pay interest on a monthly basis making it very attractive for a retiree on a fixed income stream. The last point on these bonds includes the survivor's option which allows for the heir to sell the bonds back to the issuing company at the par value even if the bond is worth less in the secondary market. The risks however include the fact that bond value will fluctuate with interest rates and as rates increase the bond value will go down. The other risk involved is the fact that the company's own future, similar to an Enron is involved with the financial success of the bond. The additional risk involved, however, is the fact that the United States Government does not back these bonds up.

Key Financial Ratios

Beta is a standardized measure of the risk of an individual asset and measures the sensitivity of its return to movements in the overall market return, according to Megginson and Smart (2006, p.296). Currently, the Boeing Company's beta is 0.81

Boeing is the world's largest aerospace company. Boeing is ranked as the number two maker of large commercial jets. Airbus is the number one commercial aircraft maker. Lockheed is the number one defense contractor, and Boeing is ranked second. The Northrop Grumman Corporation is the world's number one shipbuilder and the third defense contractor behind Lockheed Martin and Boeing. The beta coefficient for the Lockheed Martin Corporation is -0.10, and the Northrop Grumman Corporation's beta is 0.04. Information for Airbus was not available as it is privately held. The Boeing Company's beta is high compared to the Lockheed Martin Corporation and the Northrop Grumman Corporation. Below is a direct competitor comparison according to Yahoo Finance:

	BA	LMT	NOC	Industry
Market Capital	77.15B	38.68B	26.87B	24.08B
Employees	154,000	140,000	122,200	80.00K
Qtrly Rev Growth	13.60%	6.90%	4.30%	12.20%
Revenue	64.67B	40.37B	30.73B	21.01B
Gross Margin	19.26%	10.65%	18.63%	19.26%
EBITDA	7.25B	4.79B	3.40B	2.47%
Operation Margin	7.68%	9.29%	8.81%	8.54%
Net Income	3.60B	2.83B	1.61B	2.37B
EPS	4.651	6.538	4.536	5.25
P/E	21.17	14.42	17.13	30.03
PEG (5 yr expected)	1.3	1.21	1.16	1.30
P/S	1.19	0.93	0.84	1.19

The Boeing Company has the highest market capital compared to their competitors; they are leading the industry by \$53.07 billion. Boeing's quarterly revenue

is ranked number one compared to the Lockheed Martin and the Northrop Grumman Corporations. Boeing also has an outstanding net income amount compare to their competitors. Overall, the Boeing Company's performance is considered very good compared to the aerospace and defense industry in general. The financial key ratios have been provided by the Boeing Company Report from MSN Money (2007).

Aerospace and Defense Companies Ranked By Sales

	BA	LMT	NOC
Price	98.44	94.31	77.68
Change	0.14%	3.23%	4.03%
Market Capital	77.15B	38.86B	26.87B
P/E	21.17	14.42	24.08B

Growth Rates %	Company	Industry	S&P 500
Sales (QTR vs year ago qtr)	13.60	11.30	14.60
Net Income (YTD vs YTD)	261.30	96.00	21.40
Net Income (QTR vs year ago qtr)	755.60	267.10	57.60
Sales (5-Year Annual Average)	1.12	8.11	13.20
Net Income (5-Year Annual Average)	-4.83	56.52	22.96
Dividends (5-Year Annual Average)	12.03	11.25	9.50

Sales and Income Growth for the past twelve months for Boeing has been good. The sales growth for Boeing has been 13.60% compared to the industry, which is 11.30% with a difference of 2.30%. The income growth for the company is 261.30%, compared to the industry of only 96.00%. This is a difference of 165.30% compared to the industry, meaning Boeing is doing an excellent job.

The price/earnings ratio measures the amount investors are willing to pay for each dollar of the firm's earnings. The price/earning ratio indicates the degree of confidence investors have in the firm's future performance.

Price Ratios	Company	Industry	S&P 500
Current P/E Ratio	22.5	19.9	21.9
P/E Ratio 5-Year High	65.3	89.5	60.4
P/E Ratio 5-Year Low	9.0	21.0	14.9
Price/Sales Ratio	1.26	1.24	2.58
Price/Book Value	13.97	6.96	4.06
Price/Cash Flow Ratio	15.90	14.20	13.20

The profitability ratios include gross profit margin, which measures the percentage of each sales dollar remaining after the firm has paid for its goods. The higher the gross profit margin, the better off the company is. The net profit margin measures the percentage of each sales dollar remaining after all costs and expenses.

Profit Margin %	Company	Industry	S&P 500
Gross Margin	19.3	14.6	37.4
Pre-Tax Margin	8.0	7.7	19.2
Net Profit Margin	5.6	5.1	13.6
5Yr Gross Margin (5-Year Avg.)	15.3	14.6	36.2
5Yr PreTax Margin (5-Year Avg.)	4.3	5.5	17.2
5Yr Net Profit Margin (5-Year Avg.)	3.5	3.9	11.8

Boeing is a profitable company, and investors prefer to invest with companies that can increase their profit margins consistently. Boeing's net profit margin is 0.5% above the industry for a year. Boeing's gross profit margin is 19.3% compared to the industry's profit margin of 14.6%, a difference of 4.7%.

The financial condition of the company in the chart below consist of the liquidity ratios which measure a firm's ability to satisfy their short-term obligations as they become due. The debt ratios measure the proportion of total assets financed by the firm's creditors.

Financial Condition	Company	Industry	S&P 500
Debt/Equity Ratio	1.48	0.76	1.51
Current Ratio	0.8	1.2	1.2
Quick Ratio	0.6	0.8	1.0
Interest Coverage	338.3	121.3	42.6
Leverage Ratio	9.2	5.0	4.7
Book Value/Share	7.46	19.93	17.98

The financial health of Boeing is average. The debt and equity ratio shows how much a firm has borrowed over a long-term as a percentage of their stock equity. The lower the percentage rate for the debt and equity ratio, the better off the company will be in the end. Boeing's company debt and equity ratio is 1.48. The industry's debt/equity is 0.76.

Investment Returns %	Company	Industry	S&P 500
Return on Equity	44.3	28.9	26.9
Return on Assets	6.2	5.8	8.4
Return on Capital	13.2	11.3	11.1
Return on Equity (5-Year Average)	20.8	16.5	20.0
Return on Assets (5-Year Average)	3.5	3.9	6.7
Return on Capital (5-Year Average)	7.46	19.93	17.98

Management Efficiency	Company	Industry	S&P 500
Income/Employee	23,351	20,862	103,092
Revenue/Employee	419,955	335,883	824,008
Receivable Turnover	12.2	16.8	16.8
Inventory Turnover	6.5	9.7	9.2
Asset Turnover	1.1	1.1	0.8

The Boeing Company's overall key financial ratios indicate the company is stable and in good standing. Although we cannot compare directly to Airbus because that company is a private concern, we can look at Boeing's share price and those of its domestic defense industry rivals. When compared to the Lockheed Martin Corporation and the Northrop Grumman Corporation, whose current share price is \$94.31 and \$77.68

respectively, Boeing's current price of \$98.44 indicates a stronger position.

Significantly, Boeing's sales and income outperformed both Lockheed Martin and Northrop Grumman in the last twelve months.

Conclusion

Perhaps the biggest predictable threat to Boeing is the Airbus A350. It is of a very similar design and will use similar materials for efficiency. If Airbus can price it low enough, it may prove to be a very strong competitor. A threat over which Boeing has very little control is the possibility of another major terrorist attack using airliners. Presumably, whatever effects this would have would be felt by the entire industry, not just Boeing.

In terms of opportunities, Boeing is well situated. Even if the 787 proves to be a failure, Boeing can take the technology and production techniques pioneered on it and apply it to existing and future aircraft. For example, at some point, the 737 series will reach the end of its development life. It fills an extremely large market segment that will continue to need to be filled. The fuel and maintenance saving possible because of the 787's design would be very attractive in this market.

Weaknesses for Boeing are felt to be few. Boeing has only one real competitor in the airline industry, and only a few more in the defense industry. However, all have very strong product lines and Boeing is required to fight for every inch of market ground it gains. Another weakness for Boeing is that post-9-11 security concerns will further hamper air travelers. This would have the effect of slowing down flights, and aircraft

with the ability to seat more passengers like the Airbus A380 would have the edge in being able to transport many more passengers per airliner.

Despite the weaknesses, Boeing enjoys much strength. One is that despite post-9-11 concerns, people are still flying in larger numbers today. This will mean airlines will need more airplanes to handle the increased traffic, which is expected to generally rise for many years to come. With more airplanes to operate, the efficient nature of the 787 will be appreciated by the world's airlines. Additionally, there are relatively few competitors for Boeing to contend with, and entering this market is prohibitively expensive, so Airbus is expected to remain the main rival.

Add to this that Boeing is a well run company, with a management team well versed in success. Boeing's financial ratios all support this assessment: earnings are up 36% at last count, and earnings per share should rise almost 50% from 5.07 currently to 7.55 by 2009. Stock market analysts in general have given Boeing their blessing. This is based not only on the performance of the commercial airplane end of the business, but also on the strength of its military work, too.

In light of this, our recommendation is that purchasing Boeing's stock is a positive business decision.

References

- Aerospace Technology. (2007). Aerospace Technology web page. Retrieved August 14, 2007, from Aerospace Technology web site: <http://www.aerospace-technology.com/projects/dreamliner/>
- Airbus. (2007). Airbus S.A.S. A380 web page. Retrieved August 14, 2007, from Airbus web site: <http://www.airbus.com/en/aircraftfamilies/a380/>
- Airbus. (2007). Airbus S.A.S. A350 web page. Retrieved August 14, 2007, from Airbus web site: <http://www.airbus.com/en/aircraftfamilies/a350/>
- Airbusa. (2007). Airbusa A380 Airliner web page. Retrieved August 15, 2007, from Airbusa web site: <http://www.airbusa380.com/>
- BBC News. (2007). BBC Business web page. Retrieved August 14, 2007, from BBC web site: <http://news.bbc.co.uk/1/hi/business/6282820.stm>
- Birinyi's Ticker Sense. (2007, July 11). Boeing: technically problematic, fundamentally sound. *Seeking Alpha*. Retrieved August 8, 2007 from <http://seekingalpha.com/article/42762>
- Boeing. (2007). Boeing: About Us web page. Retrieved August 8, 2007 from <http://www.boeing.com/companyoffices/aboutus/execprofiles/index.html>
- Boeing. (2007). Boeing: BCC web page. Retrieved August 8, 2007 from http://www.boeing.com/bcc/sitemap/news/2002/q1/nr_020319v.html
- Boeing. (2007). Boeing: Form 10-Q web page. Retrieved August 17, 2007 from <http://www.sec.gov/Archives/edgar/data/12927/000119312507161475/d10q.htm>
- Boeing. (2007). Boeing: Investor relations web page. Retrieved August 17, 2007 from <http://boeing.com/companyoffices/financial/10q.html>

- Boeing. (2007). Boeing: History Home web page. Retrieved July 31, 2007, from Boeing web site: <http://www.boeing.com/history/index.html>.
- Boeing. (2007). Boeing: Jet Prices Home web page. Retrieved August 14, 2007, from Boeing web site: <http://www.boeing.com/commercial/prices>
- Boeing. (2007). Boeing: 787 Dreamliner Fact Sheet web page. Retrieved August 14, 2007, from Boeing web site: <http://www.boeing.com/commercial/787family/programfacts.html>
- Hickey and Walters. (2007, July 24). The DJIA's best performing stocks. *Seeking Alpha*. Retrieved August 8, 2007 from <http://seekingalpha.com/article/42105>
- Incapital. (2007). Incapital Web page. Retrieved August 11, 2007 from <http://incapital.com/index.cfm?fuseaction=newsArticles.viewArticle&NewsID=100004>
- Lin, Jeffrey. (2007, July 11). Boeing's "iPlane": two suppliers that stand to benefit. *Seeking Alpha*. Retrieved August 8, 2007 from <http://seekingalpha.com/article/40725>
- Meggison, W. & Smart, S. (2006). *Introduction to corporate finance*. Mason, OH: Thomson South-Western.
- MSN Money. (2007). MSN Money Web page. Retrieved August 12, 2007 from http://www.moneycentral.msn.com/detail/stock_quote?Symbol=BA
- Rosenburg, James. (2007, March 14). Boeing capitalizes on global defense. *Seeking Alpha*. Retrieved August 8, 2007 from <http://seekingalpha.com/article/29557>
- Sakazaki, Lloyd. (2007, July 27). 10 stock picks for a kid investor. *Seeking Alpha*. Retrieved August 8, 2007, from <http://seekingalpha.com/article/42644>

USA Today. (2007). Singapore Air: First Airbus A380 delivery set for Oct. 15 web page.

Retrieved August 17, 2007, from USA Today web page:

http://www.usatoday.com/travel/flights/2007-08-16-singapore-a380_N.htm

Wall Street Journal. (2007). August 15, 2007

Yahoo Finance. (2007). Yahoo Finance Web page. Retrieved August 10, 2007 from

<http://finance.yhoo.com/q/co?s=BA>