Yale School of Management

# Capital One Financial
## (NYSE: COF)

*December 10, 2001*

**Stock Data**

| | |
|---|---|
| Latest Close | $52.07 |
| 52 Week Range | $73-36 |
| YTD Price Change | -7.7% |
| Mkt. Cap. (B) | $11.5 |
| Dividend Yield | 0.20% |
| EPS (3Q 01) | 0.75 |
| P/E | 19.64 |
| Beta | 1.46 |

**Hold**

Capital One's lending activities consist primarily of credit card products, but also include other consumer lending activities, such as unsecured installment lending and automobile financing. Its non-lending business activities include retail deposit-taking business and various non-lending new business initiatives.

## Key Issues

- The weak demand for credit, intense competition and rising risk are affecting the credit-card business.
- Loan loss provision rates have increased, rising questions about the underlying portfolio's quality.
- Even with one of the lowest charge-off ratios, the company reported increases on its charge-offs generating skepticism about its future performance.
- Lack of detailed information about their target audience and the portfolio quality of their customers.

*Peter Lawrence*
*(peter.lawrence@yale.edu)*

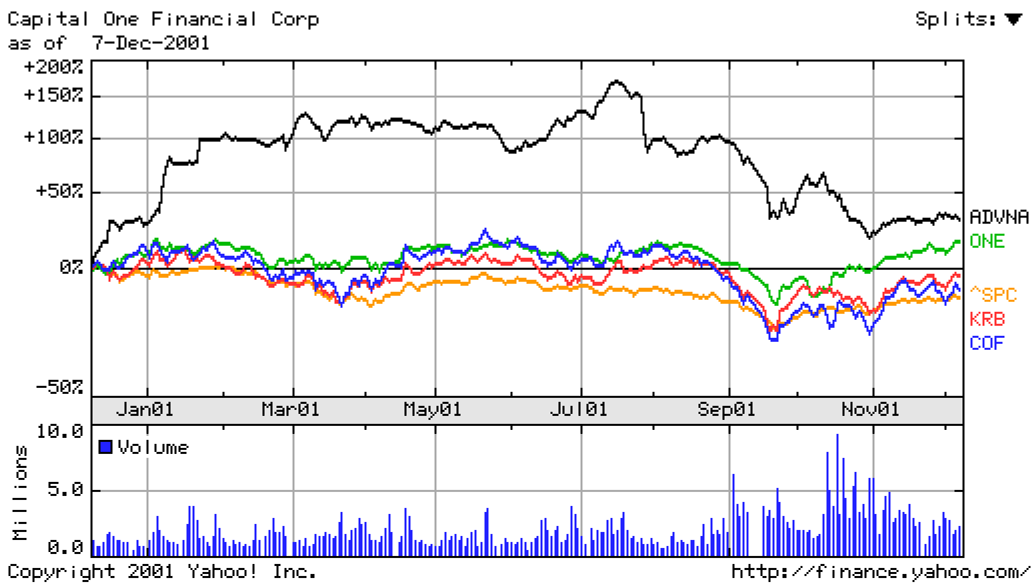
*Joshua Twilley*
*(joshua/twilley@yale.edu)*

*Eduardo Bello*
*(eduardo.bello@yale.edu)*

*Javier Fernandez*
*(javier.fernandez@yale.edu)*

## Executive Summary

We initiate coverage on Capital One Financial (COF) with a **hold**. Capital One has shown a considerable ability to maintain a lending portfolio of enviable strength, which anticipates a low erosion rate as we head into a recession. Further, through marketing, re-pricing and new initiations, COF will have some opportunities to stay on target in meeting earnings expectations. However, we believe these effects are already fully priced into the value of the stock, and thus at current prices does not represent a buying opportunity.

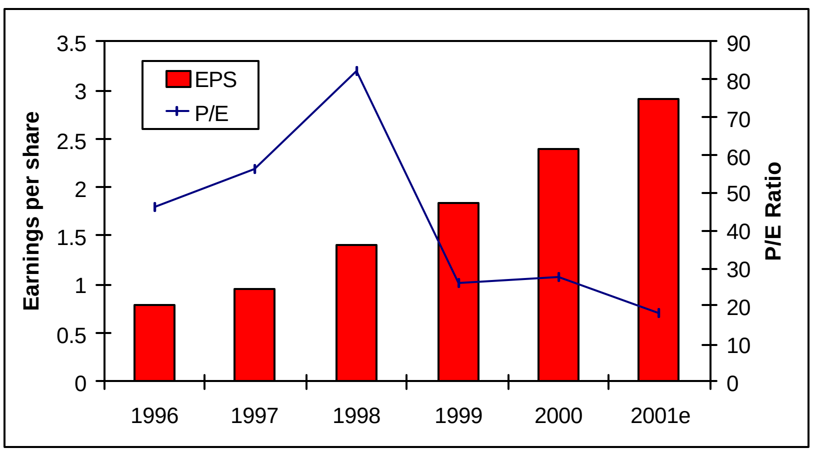



In October 2001, Capital One acquired the San Diego based PeopleFirst, the largest online provider of direct motor vehicle loans. The acquisition price for PeopleFirst was $167,500, which created approximately $165,700 in goodwill.

## Analysis

Capital One Financial is a holding company whose subsidiaries provide financial services directly to consumers. The most significant of Capital One's business activities is undoubtedly consumer credit provided through credit cards. The other activities of non-credit card subsidiaries, such as investment products, car financing, and bank depository services, are regarded as being strictly ancillary and complementary to the main credit card business. Capital One offers credit cards to most categories of consumers, but they clearly focus on the high quality, or "Super-prime" segment. 3Q 2001 EPS increased 29% over the EPS for the same period the previous year. 3Q 2001 EPS also increased 7% over 2Q 2001 EPS, showing that Capital One has maintained significant and profitable growth despite worsening economic trends. Capital One's management, which takes pride in never having missed a stated growth target, recently restated guidance of 20% EPS growth in 2002 and 30% EPS growth in 2003. That same management also sacrificed the right to any bonuses or increase in salary in 2002 and 2003 in exchange for options that mature in 2004. Those options require a 20% CAGR to reach the exercise price of $83 by October of 2004.

**Earnings per Share**
1996-2001e




Source: Yahoo Finance (12/01/01)

The entire credit card industry is entering a time of uncertainty as the economy slows. This has caused Capital One's stock price to drop almost 40% from it highs of earlier this year. With a beta of 1.46 a sharply negative reaction to an impending recession is to be expected, especially with the high growth expectations the market previously had for Capital One. However, we feel that in many ways Capital One is better positioned entering the recession than many of their competitors in the credit card industry. Capital One's business strategy of focusing on the super-prime segment has several advantages and disadvantages as the company follows the economy into a recession. The recession itself may also have a positive weed-out effect in an industry that is becoming rapidly over-capitalized.

The most obvious negative effect of a recession is that bad loans, or "charge-offs" will increase. Capital One's business strategy helps them maintains an outstanding "charge-off" rate of only 3.6%, compared to the industry average of almost 7%. High-risk companies like Providian currently have "charge-off" rates in excess of 12%. Capital One's charge-off rate will undoubtedly rise as the recession deepens. Most analysts forecast that Capital One's "charge-off's" will reach 7% while the industry average will peak at around 9%. Capital One's management has also adopted this view. They are also working to control the expected rise in loan losses by limiting credit given to existing sub-prime borrowers and tightening underwriting standards for new applicants. Capital One also claims that their sub-prime is of a better quality than the sub-prime groups at companies like Providian.

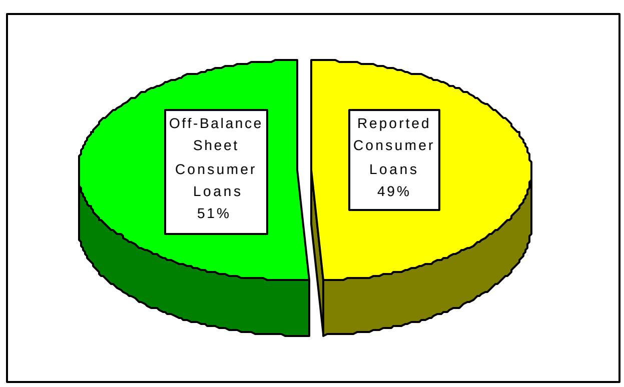
Unfortunately, the high quality customers which Capital One depends are more difficult to solicit and identify during a recession. Capital One boasts a sophisticated credit scoring system that is based on proprietary data and algorithms, called Information Based Strategy, or IBS. This model has worked extremely well at separating high-quality credit risks from poor-quality credit risks during good economic times. Not only does IBS help identify profitable customers, but it has shown to be a successful pricing tool. However, credit dynamics change in bad economic times, as problems like adverse selection become much more costly. For example, when someone is about to lose their job they have increased incentive to acquire more credit, but far less ability to repay the loan. Capital One was incorporated in 1994, and hence has no experience pricing risk in a recession. Their proprietary credit scoring models have never been tested in difficult economic times This makes the forecasting of their post-recession 'charge-off" rates more like guess-work than science. We feel that forecasting Capital One's "charge off" rate to remain below the industry average is not unreasonable, but there is too much uncertainty to have much confidence in forecasts that cap the loss rates at 7%.

The Company participates in transactions of consumer loan securitization. This involves the transfer by the Company of a pool of loan receivables to an entity created for securitizations, generally a trust. Those securities that represent debt or beneficial interests in the receivables are sold to the public through an underwritten offering or to private investors in private placement transactions.

Capital One receives the proceeds of the sale and retains an interest in the trusts ("seller's interest") equal to the amount of the receivables transferred to the trust in excess of the principal balance of the securities outstanding. A securitization of amortizing assets, such as auto loans, generally does not include a seller's interest. A securitization may result in the removal of the receivables, other than any applicable seller's interest, from the Company's balance sheet for financial and regulatory accounting purposes.

**Consumer Loans**

Nine Months ended Sept. 2001




Source: SEC Filings, form 10Q (Sept/01)

These same dynamics could also hinder Capital One's ability to meet their 20% average annual growth targets during an economic downturn. There is wide agreement that Capital One has been able to price risk better than their competitors. If this is no longer the case in poor economic times Capital One may find that they have to restrict credit on there super-prime and sub-prime segments. Marketing efficiency, another strength of Capital One, is also likely to suffer as good credit risks will want to borrow less, while bad credit risks will look to borrow more. However, It does not appear that marketing efficiency has begun to suffer yet, as over the past year marketing expenditures that increased by 20% and were matched by a 29% increase in EPS.

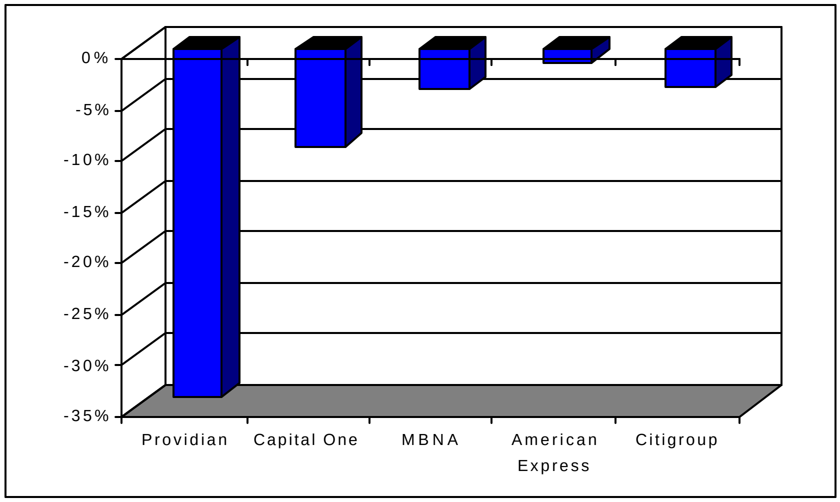
Another problematic effect of a recession is that as The Fed cuts interest rates to stimulate the economy interest income for consumer credit providers can also be expected to drop. Up to this point this effect has been comparatively small. Net interest margin (interest income/ earning assets) has dropped by nearly 1.5%, from 10.75% in 3Q 2000 to 9.27% in 3Q 2001 (However, 3Q 2001 was better that 2Q 2001 which had a 9.11% net interest margin). This drop is typical of the industry, and actually shows that consumer credit rates have held ground much more firmly than commercial or government interest rates. However, it is possible that the comparatively small drop in credit card interest rates is caused in part by consumer risk rising faster than other risks during a recession. Comparatively higher consumer risk will lead to comparatively higher consumer interest rates. It is also possible that this comparatively small drop in consumer interest rates will exacerbate the adverse selection problem. If consumers see real interest rates on credit cards rising relative to other forms of borrowing, it is possible that people who intend to repay their loans will borrow less, while consumers who do not plan to repay their loans have no incentive to borrow more.

However, we believe Capital One is better prepared than competitors in entering the current recessionary climate. Capital One management has identified a few key levers, which can be pulled to increase profitability in a recession. For instance, COF could raise late fees from the current average of around $27 closer to the industry average of $35, reduce marketing spending, and re-price APR's of certain target customers. In addition, over 10% of COF credit card portfolio is diversified internationally, particularly the UK, and thus is not as hard hit by a US recession. Finally, COF's sophisticated credit pricing model has shown to be outstanding in creating a portfolio of strong credit quality, a benefit heading into difficult times. We believe the market has adequately priced these advantages into the price of the stock.

## Comparable Analysis

October 12 was an important date for stock prices of all credit card companies, when Providian announced their increase in credit loss rate as they were expecting a higher default level on their portfolio caused by the current recession. This announcements hit by 9,5% Capital One's stock price, which was still recovering from the Sept. 11 attacks.

**Stock Price - % Change**
Oct. 12, 2001




Source: Yahoo Finance (12/09/01)

Capital One's ability to use IBS to target profitable customers is reflected not only in its returns, but also in its stock price. Looking at the 'pure play' credit card company universe, Capital One has shown strong returns relative to peers, consistently 61% higher. We believe this gap will widen as the full effects of the recession are felt, and the COF portfolio quality will keep losses low.

**Percentage Return**
(Twelve trailing months)

| | ROA | ROE |
|---|---|---|
| **Advanta** | -2.10% | -12.33% |
| **Capital One** | **2.93%** | **24.87%** |
| **First USA** | 0.59% | 8.44% |
| **MBNA** | 4.03% | 23.17% |
| **Providian** | 3.63% | 33.02% |
| **Average** | 1.82% | 15.43% |
| **Capital One vs Average** | *61%* | *61%* |

Source: Yahoo Finance (12/01/01)

In spite of September 11th tragedy, COF has maintained an industry low charge-off rate, largely due to its superior credit rating model. In spite of this low charge-off rate, COF maintains a high loan loss reserve compared to peers with similar portfolio characteristics. This shows a conservative posture set by management to ensure the company does not eat into its reserves; unlike peers, COF currently is not digging too deeply into its already built up reserve coffers to cover the increased losses caused by the weakening economy.

**Loan Loss Provision and Charge-Offs**

| | Managed Assets (BB) | Q3 Loan growth | Chargeoffs | % Loan Loss Reserve |
|---|---|---|---|---|
| **Advanta** | 16 | 30% | NA | *10.60%* |
| **Capital One** | **40** | **36%** | **3.60%** | **3.70%** |
| **First USA** | 70 | 36% | 6.20% | *2.40%* |
| **MBNA** | 89 | 38% | 4.90% | 1.90% |
| **Providian** | 31 | 36% | 11.20% | *10.50%* |
| **American Express** | 31 | 11% | *5.60%* | |
| **Citigroup** | 100 | | *5.50%* | |

Source: S&P Company Reports, PR Line, Hoovers.

The recent declines in the stock price of the industry have equally affected Capital One as its values have fallen 28% from its highs. Like its competitors, Capital One reached its low in the wake of the September 11th tragedy. Unlike its competitors, however, the value of Capital One stock has fully recovered and is actually above the stock value from the previous year. This shows the market has priced in Capital One's high portfolio quality.

**Stock Prices**

| | Price 12/7/2001 | 52 wk Low | 52 wk High | Change from High | Market Cap (Bb) |
|---|---|---|---|---|---|
| **Advanta** | 8.94 | 7 | 19.1 | 53% | 0.25 |
| **Capital One** | 52.07 | 36.4 | 72.58 | 28% | 10.75 |
| **First USA** | 39.24 | 27 | 41.56 | 6% | 43.66 |
| **MBNA** | 33.99 | 23.43 | 39.56 | 14% | 27.46 |
| **Providian** | 3.2 | 2 | 64 | 95% | 0.76 |

Source: Yahoo Finance (12/09/01)

Capital One's market capitalization remains quite strong, especially compared with its book value, second only to industry favorite MBNA. Compared with the industry, COF shows a price premium on most relevant pricing statistics; through the next two years, COF is expected to earn about 50% more than the industry. In spite of this strong earnings growth COF shows a 47% premium in P/E over the industry, suggesting that high growth is priced into the stock.

**Earnings Performance**

| | Market / Book current | Price/Earnings 2001E | EPS 2001E | EPS 2002E |
|---|---|---|---|---|
| **Advanta** | 0.6 | 6.3 | 1.41 | 2.34 |
| **Capital One** | **3.54** | **15.8** | **2.91** | **3.54** |
| **First USA** | 2.16 | 13.4 | 2.45 | 2.8 |
| **MBNA** | 4.06 | 15.9 | 1.89 | 2.27 |
| **Providian** | 0.32 | 2.3 | 1.68 | 0.36 |
| **Average** | *2.14* | 10.74 | $2.07 | $2.26 |
| **Capital One vs Averag** | *66%* | *47%* | *41%* | *56%* |

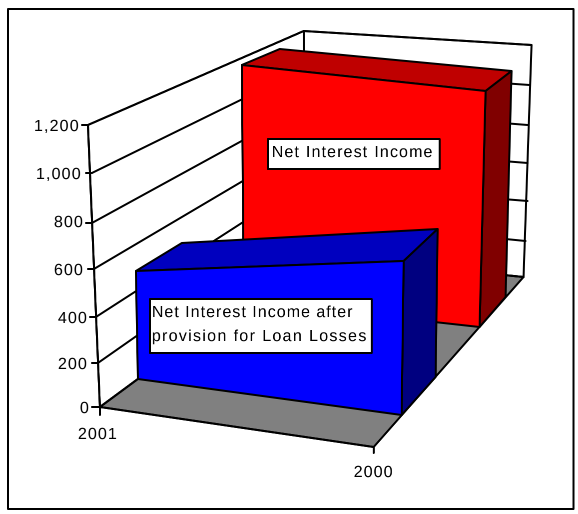
Source: S&P Company Reports, Argus Company Reports, Yahoo! Finance.

Several comparable valuation techniques can be used to offer a price for COF. First, pricing COF market value relative to the average market value yields a stock price of about $32. However, this understates the value of COF as it assumes its assets are equivalent to competitors, which our analysis shows not to be the case. The 2001 P/E and EPS values give an implied value of $46; this value understates COF's superior expected performance both in 2002 and beyond. Thus, comparable analysis shows that the market has properly priced the COF stock at a premium, well above the value of its assets, and in line with the pricing of other competitors with similar expectations.

Regarding the relationship between net interest income and the provision for loan losses, it's important to outline that one of the reasons why the stock price decreased in mid-October was due to the company's Q3 release where, despite the net interest income was very stable and comparable to that registered the year before, the provision for loan losses increased substantially, decreasing the net interest income after provision for loan losses.

The market overreacted to these statements probably because other comparable companies (Providian) were disclosing similar information and it took almost one month for the company to demonstrate that it would continue to be a healthy company and that those provisions were seen more as an adjustment for the decline in credit demand rather than a response to imminent credit losses.

**Loan Loss Provision rate**




Source: SEC Filings, form 10Q (Sept/01)

The net income for the third quarter increased 35% compared to the same period of 2000. This increase is a result of an increase in asset and account volumes. The provision for loan losses increased $37.0 million, or 19%, as average reported loans increased by 45% and the reported net charge-off rate decreased 117 basis points, or 25%. Non-interest income increased 38%, primarily as a result of an increase in average accounts of 39%, an increase in the average off-balance sheet loan portfolio, as well as a shift in the mix of the reported and off-balance sheet portfolios.

Marketing expense increased $48.7 million, or 21%, as the Company continues to invest in new product opportunities.

**Risk Adjusted Margins**

Three months ended (dollars in millions)

| | 2001 | 2000 |
|---|---|---|
| Managed earning assets | 39,994 | 24,749 |
| Net Interest Income | 927 | 665 |
| Non-interest Income | 853 | 620 |
| Net charge-offs | 363 | 218 |
| Risk Adjusted Revenue | 1,417 | 1,067 |
| **Ratios[1]** | | |
| Net Interest Margin | 9.27% | 10.75% |
| Non-interest Income | 8.53% | 10.02% |
| Net Charge-offs | -3.63% | -3.53% |
| Risk Adjusted Margin | 14.17% | 17.24% |

Source: SEC Filings, form 10Q (Sept/01)

Risk adjusted revenue is defined as net interest income and non-interest income less net charge-offs. Risk adjusted margin measures risk adjusted revenue as a percentage of average earning assets. These measures consider not only the loan yield and net interest margin, but also the fee income associated with these products. By deducting net charge-offs, consideration is given to the risk inherent in these differing products.

It is interesting to analyze the evolution of the ratios described above to understand the increase in risk and why the company's stock was affected by the end of October due to analysts expectations about the increase in risk exposure. Even though managed assets increased 62% from the nine months ended in 2001 compared to a year ago, the risk adjusted margin decreased 3.07 percentage points as a result of higher charge-offs and lower net interest income reported as of September 2001.

In late November, the stock price rebounded to trade 26% above the levels registered in late October, primarily due to analysts expectations that the company's risk exposure wasn't affecting its long-run operations and that Capital One was going to recover its defaulted portfolio at the reported rates of the 3Q earnings report.

# Valuation

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Loan Loss** | | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | |
| **Growth** | 34% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 3% |

| | YTD | 2001E | 2002E | 2003E | 2004E | 2005E | 2006E | 2007E | 2008E | 2009E | 2010E | Terminal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Interest Income | 2,030 | 2,730 | 3,276 | 3,931 | 4,717 | 5,661 | 6,793 | 8,151 | 9,781 | 11,738 | 14,085 | |
| Total Sales | 2,030 | 2,730 | 3,276 | 3,931 | 4,717 | 5,661 | 6,793 | 8,151 | 9,781 | 11,738 | 14,085 | |
| Interest Expense | 856 | 1,147 | 1,310 | 1,572 | 1,887 | 2,264 | 2,717 | 3,260 | 3,913 | 4,695 | 5,634 | |
| Loan Loss Provision | 684 | 955 | 983 | 1,179 | 1,415 | 1,698 | 2,038 | 2,445 | 2,934 | 3,521 | 4,226 | |
| Total Expenses | 1,540 | 2,102 | 2,293 | 2,752 | 3,302 | 3,962 | 4,755 | 5,706 | 6,847 | 8,216 | 9,860 | |
| Non-Interest Income | 3,243 | 4,361 | 5,176 | 6,093 | 7,217 | 8,491 | - | - | - | - | - | |
| Non-Interest Expense | (2,983) | (4,012) | (4,848) | (5,857) | (7,076) | (8,491) | - | - | - | - | - | |
| Pre-Tax Income | 749 | 977 | 1,310 | 1,415 | 1,415 | 1,698 | 2,038 | 2,445 | 2,934 | 3,521 | 4,226 | |
| Income Taxes | 285 | 371 | 498 | 538 | 538 | 645 | 774 | 929 | 1,115 | 1,338 | 1,606 | |
| Income After Taxes | 464 | 605 | 812 | 877 | 877 | 1,053 | 1,263 | 1,516 | 1,819 | 2,183 | 2,620 | |
| **Net Income** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | **211** | |
| **EPS** | **2.2** | **2.9** | **3.9** | **4.2** | **4.2** | **5.0** | **6.0** | **7.2** | **8.6** | **10.4** | **12.4** | **89.9** |

| | |
|---|---|
| **Price** | **$ 49.93** |

| | |
|---|---|
| EPS | 2.87 |
| Re | 0.1683 |
| g | 8.44% |
| Price | $52.07 |
| risk free rate | 0.0515 |
| Beta | 1.46 |
| Market Premium | 0.08 |
| P/E Ratio | 18.128 |
| Rd | 0.07 |
| **WACC** | **0.1396** |

Re: Equity discount rate.
g: Earnings growth rate.
Beta: Calculated by regression (75 monthly observations ) vs. S&P 500
Rd: Debt discount rate
WACC: Weighted Average Cost of Capital.

**Sensitivity Analysis**
Dollars per Share

| | | Interest Income Growth | | |
|---|---|---|---|---|
| | | 15% | 20% | 25% |
| Loan Loss | 20% | $49.62 | $65.33 | **$86.34** |
| | 30% | $38.13 | **$49.93** | $65.71 |
| | 40% | **$26.64** | $34.53 | $45.07 |

Based on public information, our valuation for Capital One is sensitive to a series of assumptions. Among the most important are the Loan Loss provision for the incoming years as well as the Interest Income growth projected. Both variables result crucial in determining the value of the company, We believe that currently, the price at which Capital One is trading at, reflects the conservative assumptions that we forecasted in our model and we don't see a strong reason in the foreseeable future that the stock should trade at levels above the mid-fifties. The 30% loan loss and the interest income growth should be sustainable in the lifetime projected in our model.