The Orange Value Fund ™

Investment Research Report:
Discover Financial Services
NYSE: DFS

By:
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SEC Filings: 2009 DEF 14A[1]
2009 3Q 10-Q[2]
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3/24/08 424(b)(3)[7]

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Valuation Data (in thousands, except per share data)

As of November 30, 2009

Market Price (as of 3/30/10)	$15.12	Total Assets	$46,020,987
Shares Outstanding	504,550	Total Cash	$13,020,719
Market Cap (MV of Equity)	**$7,765,025**	Intangible Assets	$195,636
Add Debt	$2,428,101	Tangible Assets	$45,825,351
Add Preferred Stock	$1,158,066	Total Liabilities	$37,585,440
Add Minority Interest	$0	Book Value	$8,435,547
Less Excess Cash	$2,000,000	Tangible Book Value	$8,239,911
Enterprise Value	**$9,351,192**	Book Value Per Share	$16.72
		Tangible BV Per Share	$16.33
Net Income	$1,276,185		
Add Interest Expense	$1,251,284	Price/BV	0.92
Add Income Taxes	$844,713	Price/Tangible BV	0.94
Add Depreciation & Amortization	$70,108	Price/NAV	0.62
EBITDA	**$3,442,290**	EV/EBITDA	2.72
		Price/EBITDA	2.26
Return on Assets (ROA)	2.77%	Price/Earnings	6.08
Return on Equity (ROE)	15.13%		
Return on Sales (ROS)	44.25%		

Closing Price	**$15.12**	**Respective Discount to Valuation**
Discounted Cash Flow Value	$36.97	59.10%
Net Asset Value	$20.49	26.20%

Analyst Recommendation: Buy

I am initiating coverage on shares of Discover Financial Services with a buy rating. Discover Financial Services is currently trading at a 59.10% discount to intrinsic value based on a discounted cash flow valuation and a 20.49% discount based on its net asset value. Discover Financial Services is well capitalized by an abundant level of cash reserves and a business model that uses low interest bearing deposits to finance high interest earning loans at a time when credit card loans are yielding cyclically high interest. This capitalization protects against the loan losses that have escalated in the trailing three years and exemplifies the safety of Discover's balance sheet. Discover Financial Services fits the safe and cheap principles of Orange Value Fund's investment philosophy.

Idea Origination

I chose Discover Financial Services based on the premise that their net interest income is being supplemented by a historically high net interest margin in current economic times. Credit card loans are currently yielding cyclically high interest rates and deposit accounts are being paid cyclically low interest rates. With these earnings, Discover appeared to be a very cheap investment based on their trading multiples of EV/EBITDA and Price/Earnings.

Company Description

Discover Financial Services (Discover) is a U.S. credit card issuer and an electronic payment services company with 54.4 million cards in circulation in the U.S. As of March 2009, Discover is a bank holding company under the Bank Holding Company Act of 1956 and a financial holding company under the Gramm-Leach-Bliley Act as a result of their participation in the U.S. Treasury's Capital Purchase Program. Discover, formerly a subsidiary of Morgan Stanley, was spun off to public ownership in fiscal 2007.

Discover offers credit cards, personal and student loans which are financed by the deposit products they offer (money markets, certificates of deposit, savings accounts). Their credit card payments network operates under the Discover Network while their ATMs and debit and electronic funds transfer network operates under their proprietary PULSE network. Their global payments network operates under the recently purchased Diners' Club name.

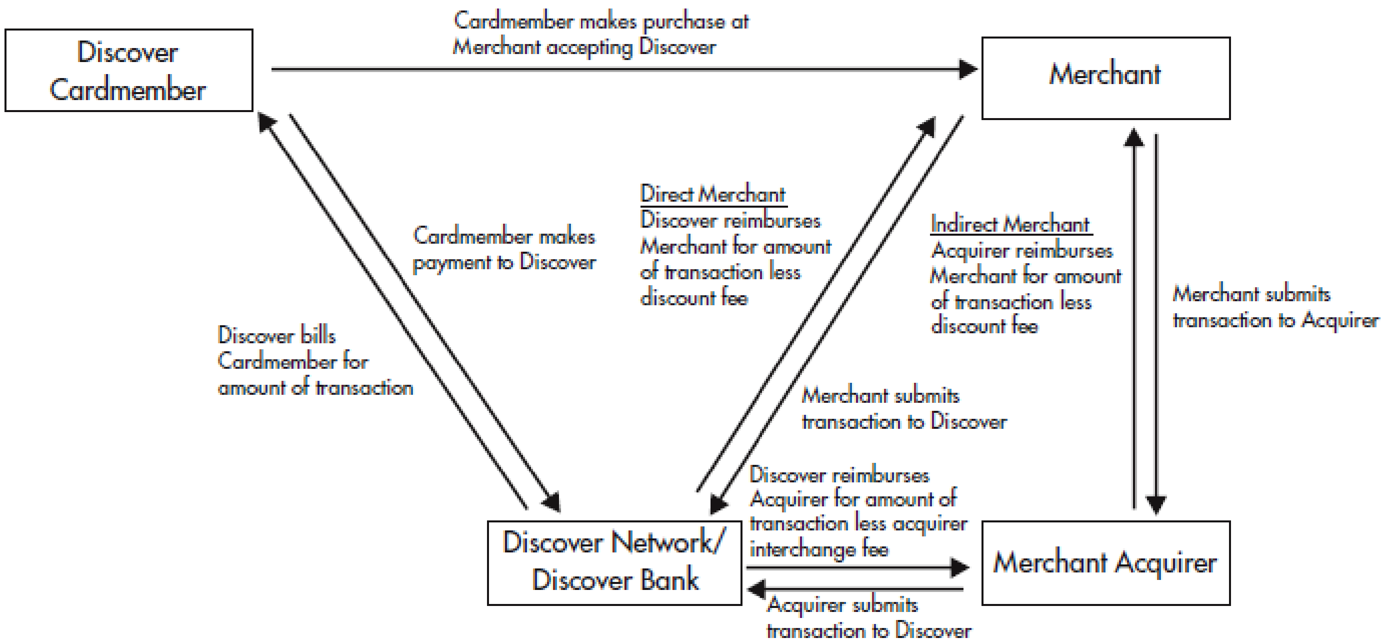
Discover's two business segments are Direct Banking and Payments Services (formerly referred to as U.S. Card and Third Party Payments, respectively).[3]

Direct Banking

The Direct Banking segment includes Discover branded credit cards issued to both individuals and small businesses. This segment also includes other consumer products such as personal loans, student loans, prepaid cards, and the deposit products that Discover pays interest on which are offered through their Discover Bank subsidiary.

Credit cards are permitted to revolve their balances and customers can repay their balances over a period of time at an interest rate set forth in cardmember agreements, which can be fixed or variable. Interest earned on these balances is Discover's primary source of revenue. Fees are also earned on credit cards such as late fees, balance transfer fees, cash advance fees and foreign currency fees. Majority of the Discover card sales volume is done through merchants in which Discover has a direct relationship. In this case, Discover receives discount and fee revenue from the merchant. When there is not a direct relationship with a merchant, a merchant acquirer acts as the middle man between Discover and the merchant. The merchant acquirer pays Discover interchange and assessment fees. This income is classified as 'Discount and Interchange Fees' on the income statement. (Appendix A)

The following diagram displays the Discover card transaction cycle:



* This is a simplified illustration of a typical credit card transaction. It does not reflect certain operations and assessment fees, cash or balance transfer transactions, authorizations, disputes or other specifics.

The installment loans Discover offers include personal loans and student loans. Total installment loans have grown from $1.4 billion on November 30, 2008 to $3.4 billion on November 30, 2009. Personal loans that Discover makes are unsecured with fixed interest rates, fixed terms, and fixed payments. Personal loans are primarily marketed to Discover's credit card customers, and offered with intentions of customers consolidating their debt (paying off several debt balances with proceeds from said personal loan). Their student loans are offered to cover education costs at schools that participate in the U.S. government's Federal Family Education Loan Program and are 97% guaranteed by the federal government.

Deposit products are offered in the forms of certificates of deposit, money market accounts, online savings accounts and IRAs. Discover significantly increased their direct to consumer deposits to $12.6 billion at November 30, 2009 from $6.2 billion a year earlier. Discover has also stated that they expect to continue to grow their deposits to finance high interest loans.[3]

Payment Services

The Payment Services segment includes the PULSE network, Discover's ATM, funds transfer network; Diners Club, their global payments network, and their third party issuing business.

PULSE's primary source of revenue is transaction fees charged for ATM processing fees, signature debit processing, prepaid card processing, and connections to other regional and national electronic funds transfer networks.

Diners Club was acquired on June 30, 2008 for $168 million. The Diners Club business maintains an acceptance network in over 185 countries and territories. While it does not directly issue credit cards, it grants its licenses the right to issue Diners Club branded credit cards and/or provide card acceptance services. These licenses pay royalties to Discover, which serves as the primary source of revenue for the Diners Club business.[3]

Securitization Income

Discover generates a large amount of their net sales (net interest income plus total other income) from securitization of their loans. In a credit card securitization, loan receivables are transferred to a securitization trust, from which beneficial interests are issued to investors. Discover continues to own and service the accounts. From mid 2008 to mid 2009, the securitization markets were nearly non-existent for Discover. In July of 2009, demand in the securitization markets resumed but to nowhere near the levels they had been in the trailing two years. Consequently, I have modeled in a reduction of securitization income based on a % of credit card loan receivables. For the years going forward, I have forecasted securitization income to be 6% of credit card loan receivables in 2010 and 2011, and 5% in 2012 and 2013. I have forecasted securitization income as a percentage of net sales to be roughly 30% in the four years going forward, a sharp decline from these historical numbers[3]:

Securitization income as % of	2007	2008	2009
Credit card loan receivables	11.3%	10.2%	9.3%
Net sales	49.0%	50.6%	38.8%

Capital Purchase Program

In March 2009, Discover issued and sold to the U.S. Department of Treasury senior preferred stock and a ten year warrant to purchase Discover's common stock for an aggregate purchase price of approximately $1.2 billion as part of Discover's participation in the Capital Purchase Program (CPP). Consequently, Discover's quarterly dividends on common stock are limited to $.06 a share (they are currently $.02 a share) and they are limited on their stock repurchase programs (Discover has not bought back any stock in 2007, 2008, or 2009). Participation in the CPP also limits executive compensation and results in increased oversight and regulation by the U.S. Treasury.

The terms of the senior preferred shares provide that the stock may not be redeemed before May of 2012 unless Discover receives aggregate gross proceeds from one or more equity offerings of $306 million.[3]

On the 2010 Q1 conference call, Discover announced that they plan on buying back all of the preferred stock that the U.S. Treasury purchased. This will free them from the increased regulation on many aspects of their business described above. I have consequently forecasted this repurchase into the accompanying Excel model. The issuance of $306 million in common stock is included as a provision of the preferred stock buyback.

Customer Credit Risk

Discover manages the credit risk of their loan customers on a portfolio basis. This risk is highly diversified over millions of accounts. In taking on new customers, Discover evaluates customers' credit information using credit information provided by the credit bureaus and other sources. They use both externally developed and proprietary credit scoring systems to evaluate customers' credit history. Specific annual percentage rates are assigned to customers based on risk level, income, and expected card usage.

Existing accounts are subject to ongoing credit assessment based on their performance with their Discover card and their external credit performance. Changes to credit accounts include certain marketing initiatives such as rewards programs, limits on transaction authorization, and increases or decreases in purchase and cash credit limits.[3]

Industry Analysis

The credit card industry has seen a transformation over the last three years amidst the economic crisis and debt bubble the global economy has faced. Interest rates and charge off rates are at historical highs. Many Americans have lived the last five years of their lives with the aid of debt balances which have afforded them false lives above their means. Many macroeconomic factors, led by the unemployment rate, have reduced discretionary spending and overall household income, leading to higher delinquencies on credit cards. The average consumer will pay off a delinquent mortgage and delinquent auto loan before they pay off a credit card balance based on one's need for shelter and a means of transportation to earn an income.

As of March 2010, the average APR on a new credit card offer was 14.45% (Federal Reserve's G.19 report on consumer credit) and the average credit card debt per household was approximately $16,000. The U.S. credit card default rate is 11.37% and the average 60 day delinquency rate is 4.5% (Fitch Ratings).

Competitors

As a credit card issuer, Discover competes with major financial institutions like American Express, Bank of America, Capital One, JPMorgan Chase and Citigroup. Many of these competitors offer additional products such as auto loans and home loans, but Discover's strength is their safe and conservative portfolio.

American Express, Visa and MasterCard serve as Discover's main competitors in the credit card transaction business. Merchant acceptance of the Discover card has increased dramatically recently due to an antitrust suit won against Visa and MasterCard and Discover's investment in domestic and international growth.

Discover ranks second to American Express in JD Power and Associates 2009 Credit Card Satisfaction Study Rankings. As of June 30, 2009, Discover ranked 6th in market share based on outstanding balances.

CARD Act

The Credit Card Accountability Responsibility and Disclosure Act of 2009, was enacted in May 2009 (CARD Act). Many of the provisions of the CARD Act became effective in August 2009 while most of the provisions will become effective in August 2010. These provisions will force Discover to make many changes to their business model, including:

- Prohibit interest rate increases on outstanding balances except under limited circumstances
- Prohibit interest rate increases on new balances during the first year an account is opened except under limited circumstances
- Require allocation of payments in excess of the required minimum payment to balances with the highest APR
- Restrict imposition of a default APR on existing balances unless an account is 60 days past due and require that the increased APR resulting from a default reduced if payments are timely made for six months
- Generally require 45 days' notice prior to increasing any APR
- Require penalty fees (e.g. late fees and over limit fees) to be 'reasonable' and 'proportional' to the customer's violation of the account terms- this income is classified as Loan Fee Income on the income statement (Appendix A)
- Prohibit issuance of a credit card to a consumer under the age of 21 unless there is a co-signor over the age of 21[3]

Consequently, in my forecasts, I have conservatively reduced the total Loan Fee Income that Discover earns in the 'Other Income' section of their income statement. In addition, I have reduced interest rates on credit card loans receivable due to Discover's inability to raise rates now in many cases. A catalyst to improve this earning power for Discover would be a change in Presidential administration in 2012.

Litigation

In October of 2004, while Discover was still a subsidiary of Morgan Stanley, Discover filed a lawsuit against Visa and MasterCard for illegal anticompetitive practices that foreclosed them from the credit and debit network services markets. The U.S. Department of Justice found that Visa's and MasterCard's exclusionary rules violated the antitrust laws and harmed competition and consumers. In October 2008, Discovered agreed to settle the suit in which Visa and MasterCard agreed to pay Discover up to $2.75 billion in exchange for Discover's agreement to dismiss the suit and release all claims. MasterCard paid Discover $862.5 million in 2008 and Visa paid the maximum amount of $1.9 billion, plus interest, in four quarterly payments in fiscal 2009. This income is classified on the income statement as 'Antitrust litigation settlement.' (Appendix A)

Pursuant to the pending lawsuit at the time of Discover's spinoff from Morgan Stanley, Discover was in agreement to be required to pay Morgan Stanley the first $700 million of the proceeds from the suit, plus 50% of any proceeds in excess of $1.5 billion with a maximum potential payment to Morgan Stanley of $1.5 billion. Discover has claimed that Morgan Stanley interfered with their efforts to resolve the antitrust lawsuit. Discover has filed suit stating that Morgan Stanley is not entitled to their 'Special Dividend' and that Discover is entitled to damages. In January 2010, the court issued an order granting Morgan Stanley's motion for partial summary judgment seeking payment of their share of the proceeds. Discover has appealed the motion and will continue the court process. [3]

I have consequently modeled, based on conservatism, that Discover will pay the full liability of the 'Special Dividend' to Morgan Stanley during fiscal 2010.

Sales and Marketing

Discover markets their products to consumers through a variety of channels, including mail, phone and online. They use credit bureau data combined with a large prospect database to target potential customers. The majority of Discover's marketing is based around promotional offers including rewards programs such as cash back bonuses and merchandise rewards.

Rewards

Customers can receive up to 1% cash back based upon their spending level and type of purchases. Certain cards offered by Discover offer different levels of cash back bonuses, including 5% cash back bonuses for groceries, gasoline, restaurants, department stores, and travel purchases. The Discover Business card offers up to 5% cash back on office supply purchases.

Fee Products

Discover offers several fee based products to customers to enhance customer credit security and add to Discover's income. These products include identity theft protection, payment protection, wallet protection and credit score information. This income is classified on the income statement as 'Fee Products.' (Appendix A)

Seasonality

Discover's results of operations are not materially impacted by seasonality despite sales and transaction volume being affected by seasonal changes in consumer spending patterns.[3]

Liquidity

To help increase liquidity, Discover issued a total of 60 million shares of common stock in July and August of 2009. The proceeds resulted in $534 million of cash proceeds. In addition to Discover's debt issuance and preferred stock issuance discussed earlier in the 'Capital Purchase Program' section, Discover currently has over $13 billion in cash reserves.[3]

Under regulatory capital requirements, Discover must maintain minimum levels of capital that are dependent upon the risk of the financial institution's assets. Discover is currently very well capitalized and is in compliance with all minimum capital ratios as of November 30, 2009 as shown below:

	Actual	Minimum	Well Capitalized
Total capital (to risk weighted assets)	17.9%	8.0%	10.0%
Tier 1 capital (to risk weighted assets)	15.3%	4.0%	6.0%
Tier 1 capital (to average assets)	18.1%	4.0%	5.0%

[3]

Debt Analysis

Discover has total long term debt of approximately $2.42 billion which is comprised of both secured and unsecured notes. On November 16, 2009, Discover issued $700 million face value of subordinated bank notes which are due in 2019. These notes pay a fixed rate of 8.7% for the duration of their life. They have approximately $528 million of secured borrowings that are due in December 2010. These borrowings pay an interest rate of the commercial paper rate plus 50 basis points. Their interest rate on November 30, 2009 was .74% and 3.05% a year earlier. I have modeled Discover repaying the full outstanding amount of principal of these borrowings in fiscal 2010. They have $400 million in floating rate senior notes that are due in June of 2010. These notes pay an interest rate of 3 month LIBOR plus 53 basis points. The interest rate on November 30, 2009 was .83% and 3.35% a year earlier. I have modeled Discover repaying the full outstanding amount of principal of these notes in fiscal 2010. They have $400 million in fixed rate senior notes that are due in 2019 that pay 6.45% interest. On July 15, 2009, they also issued $400 million in fixed rate senior notes that are due in 2019 and pay interest of 10.25%.

Discover also has an unsecured revolving credit facility that is effective through May 2012. It has a capacity of $2.4 billion of which Discover may borrow up to 30% and Discover Bank (Discover's subsidiary) may borrow up to 100%. As of November 30, 2009, Discover had no outstanding balances due under the facility. They pay .07% to .175% on the unused portion depending on the index debt ratings. Balances under the facility bear interest at a margin above the Federal Funds rate, LIBOR, the EURIBOR or the Euro Reference rate.

With Discover's liquidity and large cash reserves, they will have no problem in paying their maturing debt over the next two years of $624 million in 2010 and $306 million in 2011.

The deposit accounts that Discover pays interest on to finance their loan portfolio is not included in debt although it is an interest bearing liability. At November 30, 2009, Discover had approximately $29 billion in interest bearing deposits that they paid an interest rate of 4.08% on at the time. This rate is historically low compared to 4.66% and 5.27% in 2008 and 2007, respectively.[3,6,7]

Credit Rating

Discover maintains an investment grade long term debt rating with Fitch Ratings of BBB with negative outlook and Standard and Poor's Rating Service of BBB- with stable outlook. In 2009, Moody's Investors Service downgraded Discover's credit rating from Baa3 with negative outlook to Ba1 with negative outlook, which is below investment grade.[3]

Management Analysis

Executive Officers

David W. Nelms is the Chairman and Chief Executive Officer of Discover. He has been Chairman since 2009 and CEO since 2004. Prior to these positions, he was the President and Chief Operating Officer from 1998 to 2004. Prior to his roles at Discover, he worked at MBNA America Bank from 1990 to 1998, most recently as Vice Chairman.[1]

Roger C. Hochschild is the President and Chief Operating Officer. He has held these positions since 2004 when Mr. Nelms was appointed CEO. He was Executive Vice President and Chief Marketing Officer from 1998 to 2001. In between, from 2001 to 2004, he was Executive Vice President, Chief Administrative and Chief Strategic Officer of Morgan Stanley.[1]

Roy A. Guthrie is Executive Vice President, Chief Financial Officer and Treasurer. She has held the former two roles since 2005 and the latter since 2009. Prior to her roles at Discover, she was President and Chief Executive Officer of CitiFinancial International, LTD, a Consumer Finance Business of Citigroup from 2000 to 2004.[1]

The two top executives have been with the company since 1998 and their CFO has been with the company since 2005. Before his role as CFO, Mr. Guthrie, himself, led a consumer financing subsidiary which is very comforting. The top two executives have been together with the company through previous market cycles and recessions, and have been able to successfully lead the company through these trying times before. This is a positive for the company, and something the Orange Value Fund looks for in a potential investment.

Compensation

Mr. Nelms earned total compensation of approximately $5.7 million in fiscal 2009. $1 million of this came from his base salary and the remaining from stock awards. His total compensation was off from approximately $8.3 million in 2008.[1]

Mr. Hochschild earned total compensation of approximately $4.7 million in 2009. $725,000 came from his base salary and the remaining from stock awards. His total compensation was off from approximately $6.9 million in 2008.[1]

Mr. Guthrie earned total compensation of approximately $3.1 million in 2009. $625,000 came from his base salary and the remaining from stock awards. His total compensation was off from approximately $3.1 million in 2008.[1]

All of the top executives' compensation packages were lowered from 2008, which shows a correlation between company performance and compensation. With the majority of compensation coming in the form of stock awards, management's personal financial interests are in line with shareholders' interests. These are both positive signs, and are attractive to the safe and cheap investor.

Ownership

The only holder of more than 5% of the common stock is Fidelity Investments LLC, a passive asset manager, which does not pose a threat to the management or everyday operations of the Company.

None of the executive officers hold more than 1% of the stock. As a safe and cheap investor, I would prefer to see management have a greater equity interest in the company to further align their financial interests with shareholders. However, this is not a negative sign, as Mr. Nelms and Mr. Hochschild both hold more than $20 million in DFS stock.[1]

The top institutional holders of Discover's common stock, as of December 31, 2009, are listed below:

TOP INSTITUTIONAL HOLDERS				
Holder	**Shares**	**% Out**	**Value**	**Reported**
Fidelity Investments LLC	51,232,370	9.42	$753,628,162	31-Dec-09
The Vanguard Group, Inc.	26,234,670	4.83	$385,911,995	31-Dec-09
State Street Corporation	20,779,142	3.82	$305,661,178	31-Dec-09
BlackRock Institutional Trust Company	20,702,585	3.81	$304,535,025	31-Dec-09
Primecap Management Company	18,322,594	3.37	$269,525,357	31-Dec-09
Harris Associates L.P.	18,166,851	3.34	$267,234,378	31-Dec-09
UBS Global Asset Management Inc.	17,529,868	3.22	$257,864,358	31-Dec-09
CI Investments Inc.	13,544,000	2.49	$199,232,240	31-Dec-09
Bank of America Corporation	12,586,201	2.31	$185,143,016	31-Dec-09
Capital Research Global Investors	10,441,200	1.92	$153,590,052	31-Dec-09

-Yahoo! Finance

Valuation

In valuing Discover, I used both a discounted cash flow valuation (DCF) and a net asset value model (NAV). The DCF captures the value of Discover's future cash flows earned from both their net interest income and their 'Other Income' section which includes items such as securitization income and income from fee based products. The DCF model values Discover on a going concern basis, capturing the major cash flows of their business. The NAV model captures the value of Discover's assets, less the liabilities used to finance them. As Discover's balance sheet is primarily comprised of their loan portfolio, the NAV model applies a discount to their interest earning assets based on the default risk.

Forecasts

I forecasted Discover's earnings using their net interest income as the base model. To forecast the net interest income, I forecasted the balances of each of their interest earning assets and interest bearing liabilities. I applied an interest rate to each of these balances based upon historical trends and the current stage of the economic cycle. Credit card loans are yielding a historical high of 11.69% as of November 30, 2009. This has grown from 10.92% and 10.75% at fiscal year end of 2008 and 2007, respectively. Their second largest interest earning asset is, cash, is only earning .56%, while it earned 2.64% and 5.09% in 2008 and 2007, respectively. Their largest interest bearing liability is their deposit accounts in which they are paying 4.08% interest on compared to 4.67% and 5.19% in 2008 and 2007 respectively.

The balance growth/contraction of these accounts also plays a large part in net interest income. Credit card loans have grown from $20.5 billion to $24.2 billion from 2008 to 2009. I have continued this growth through 2013 as Discover continues to grow market share with increased marketing efforts. I have also forecasted that they will be growing their deposit accounts in order to finance the loan growth. Deposits in 2009 were $29.1 billion, up from $25.7 billion and $20.1 billion in 2008 and 2007, respectively.

The net interest margin is the net interest as a percentage of total interest earning assets. The interest rate spread is the difference between the interest rate being earned on assets and the interest rate being paid on liabilities. The following table sets forth both the historical numbers and my forecasts for 2010 through 2013:

	2007	2008	2009	2010	2011	2012	2013
Net interest margin	4.82%	4.20%	4.74%	4.51%	4.12%	3.97%	3.74%
Interest rate spread	3.87%	3.40%	3.90%	3.20%	3.18%	2.86%	2.41%

My forecasts have both the net interest margin and interest rate spread contracting to below levels seen from 2007 to 2009. Going forward, I believe my forecasts are lower than even normal operating times based on a very conservative outlook. This conservatism adds to the safety of my forecasts and the potential value of Discover if normal operating margins/spreads are realized in the future.

The provision for loan losses also plays a large part in Discover's GAAP earnings. Discover sets aside a balance into their allowance for loan losses each quarter, which are loans they forecast will be defaulted on. Discover's provision for loan losses has grown from $733 million in 2007 and $1.6 billion in 2008, to $2.3 billion in 2009. In the first quarter of 2010, Discover has already charged a $1.39 billion provision for loan losses. However, on the conference call they commented that this should be the peak of this growth and the provisions will slowly decline to normal operating levels. The provision for loan losses charges against the net interest income on the income statement. They also commented that net principal charge off rates have reached a peak of 8.5% and will decline to 8% by Q2 2010.

Management commented on the Q1 conference call that total expenses will be down 15% year over year. Therefore, I have lowered the 'Other expenses' besides interest expense roughly 15% for fiscal 2010. These expenses include compensation, marketing, professional fees and technology among others.

As mentioned earlier, I have forecasted a lower securitization income for the years going forward due to the securitization market largely drying up over the last year. Management has commented that it has come back in the last half year, but not to the levels of the past couple of years. Securitization as a percentage of total interest income was 11.3%, 10.2% and 9.3 % in 2007, 2008 and 2009, respectively. Going forward, I have forecasted this to be 6% for 2010 and 2011 and 5% for 2012 and 2013. I have also forecasted a conservative fee income based on the CARD act limiting Discover's ability to impose several fees on customers.

DCF Valuation

Assumptions	
Long term sales growth	3.00%
Operating Leverage in LT Projections (if any)	0.00%
Long term growth rate in EBIT	3.00%

Terminal Value	
Sum of PV of FCF (8 years)	**1,462,213**
WACC	**10.66%**
Long term growth rate in EBIT	**3.0%**
Present value of terminal Value	**6,562,892.7**
Terminal Value as % of Total Value	***81.8%***

Intrinsic ("Fair") Value Calculation	
EV (Equity Value + Net Debt)	**8,025,106**
- Debt	**2,428,101**
+ Cash	**13,020,719**
Net Debt	**(10,592,618)**
Equity Value (Market Capitalization)	**18,617,724**
Diluted Shares O/S	**504,550**
Fair Value Per Share	**36.90**
Discount/(Premium)	**59.10%**

For my DCF valuation, I used a long term sales growth rate of 3%, which I consider very realistic for Discover. Discover has grown net sales 1.43% from 2007 to 2008 and .78% from 2008 to 2009. This already has the reduction in securitization income and loan fee income included, and I expect a proportion of this income to return in future years in addition to interest income increasing with higher interest earning asset balances. I used a long term EBIT growth rate of 3% as well which is a realistic level that Discover achieved before the economic downturn.

Discover's WACC is 10.64% using the 10 year Treasury as the risk free rate and an expected market return of 9%.

My DCF valuation showed that Discover is currently trading at a 59.10% discount to its intrinsic value.

NAV Valuation

To find the net value of Discover's assets, I applied a net principal charge off rate to their interest earning assets, as these are the assets that can be defaulted on. As of February 28, 2010, Discover's net principal charge off rate was 8.51%. On the Q1 conference call, management commented that this rate has peaked and will decrease toward 8% by Q2 of fiscal 2010 and even further by the end of the year. Once I discounted the interest earning assets by the charge off rate, I added their non interest bearing assets and subtracted the total liabilities financing these assets. The remaining amount is the net asset value of the company, and on a per share basis at an 8% charge off rate, the NAV of Discover is $20.49, a 26.20% discount. In order to account for volatility in the charge off rate, I also calculated the NAV of Discover with a 6% and 10% charge off rate. Due to the aforementioned comments from management on the conference call, I believe that 8% is a realistic rate for current times and we could see closer to 7% and even lower by the end of the year. The NAV derived from different charge off rates are presented below:

Net principal charge off rate	10%	8%	6%
	Worst Case:	Mid Case:	Best Case:
Net asset value:	$ 9,403,222	$ 10,430,636	$ 11,458,051
Diluted shares outstanding	509,109	509,109	509,109
NAV per share:	$ 18.47	$ 20.49	$ 22.51
Discount/(Premium)	18.14%	26.20%	32.82%

Investment Positives

Using a conservative DCF valuation, Discover is trading at a 59.10% discount to intrinsic value. This valuation is based upon a very conservative net sales and EBIT growth rate. It also assumes a 2010 provision for loan losses that is four times the Q1 number, when this number is unrealistically high for four straight quarters.

On a NAV basis, Discover is trading at a 26.20% discount to intrinsic value. This is especially attractive in that the net principal charge off rate used for a 'mid case' scenario (8%) and this valuation is a very conservative rate. Management stated that the charge off rate should be at 8% by Q2 and lower for the rest of the fiscal year.

Discover is increasing credit card loans at a time when these loans are yielding cyclical highs. Discover earned top line total interest income in Q1 of 2010 that was 55% of total 2009 interest income. Cyclically high interest rates on their loans and low interest rates on their deposits give Discover an attractive net interest margin.

Discover is increasing the balances of both their interest earning assets and interest bearing deposits at a time when the net interest margin is cyclically high. Even as the net interest margin contracts over time, the sheer size of Discover's loan portfolio will still be earning interest income at a time when default risk will also be contracting.

Discover is operating with a very safe balance sheet. They have $13 billion in cash in contrast to only $2.4 billion of long term debt.

Discover's senior executives have been with the company for several years, through various market cycles. Their CFO has led a consumer finance business as the CEO before his role with Discover. Their compensation is highly correlated to firm performance and decreased drastically from 2008 to 2009.

Investment Negatives

Discover still faces the problem of default mainly by their credit card customers. Although management has commented that charge off rates have peaked and will begin declining, Discover is still drastically increasing their allowance for loan losses.

The U.S. Treasury currently owns $1.2 billion of preferred stock and warrants to buy common stock in Discover. This imposes strict guidelines on the way Discover runs their business. Management has said that they will be buying back the stock in Q2 of 2010 which should negate the issue.

Discover's credit rating is the lowest level of investment grade and one rating house has them as below investment grade. Their credit worthiness could restrict their access from the capital markets. This is exemplified by the $400 million in senior notes they issued in 2009 which they are paying 10.25% on.

With the deterioration of the securitization markets, a major component of Discover's earning power has been impaired. Although these markets have returned to some extent, it is unknown whether they will ever be back to 2007-2008 levels.

The CARD Act has imposed several limitations on the way Discover runs their business. It takes away their ability to raise APRs in many cases and limits their loan fee income.

Appendix A: Financial Statements

Discover Financial Services
Consolidated Statements of Financial Condition

	November 30, 2009	November 30, 2008
	(dollars in thousands, except per share amounts)	
Assets		
Cash and cash equivalents	$ 13,020,719	$ 10,171,143
Restricted cash – special dividend escrow	643,311	—
Other short-term investments	1,350,000	—
Investment securities:		
Available-for-sale (amortized cost of $2,743,729 and $1,211,245 at November 30, 2009 and 2008, respectively)	2,645,481	1,127,119
Held-to-maturity (fair value of $1,953,990 and $84,167 at November 30, 2009 and 2008, respectively)	2,389,816	100,825
Total investments securities	5,035,297	1,227,944
Loan receivables:		
Credit card	20,230,302	23,814,307
Other	3,394,782	1,402,304
Total loan receivables	23,625,084	25,216,611
Allowance for loan losses	(1,757,899)	(1,374,585)
Net loan receivables	21,867,185	23,842,026
Amounts due from asset securitization	1,692,051	2,233,600
Premises and equipment, net	499,303	552,502
Goodwill	255,421	255,421
Intangible assets, net	195,636	203,319
Other assets	1,462,064	1,406,427
Total assets	$ 46,020,987	$ 39,892,382
Liabilities and Stockholders' Equity		
Deposits:		
Interest-bearing deposit accounts	$ 32,028,506	$ 28,452,146
Non-interest bearing deposit accounts	64,506	78,375
Total deposits	32,093,012	28,530,521
Short-term borrowings	—	500,000
Long-term borrowings	2,428,101	1,735,383
Special dividend – Morgan Stanley	808,757	473,000
Accrued expenses and other liabilities	2,255,570	2,737,655
Total liabilities	37,585,440	33,976,559
Commitments, contingencies and guarantees (Note 22)		
Stockholders' Equity:		
Preferred stock, par value $.01 per share; 200,000,000 shares authorized, 1,224,558 and 0 issued or outstanding at November 30, 2009 and 2008, respectively	1,158,066	—
Common stock, par value $.01 per share; 2,000,000,000 shares authorized; 544,799,041 and 480,517,188 shares issued at November 30, 2009 and 2008, respectively	5,448	4,805
Additional paid-in capital	3,573,231	2,938,657
Retained earnings	3,873,262	3,046,956
Accumulated other comprehensive (loss) income	(154,818)	(66,338)
Treasury stock, at cost; 1,876,795 and 530,549 shares at November 30, 2009 and 2008, respectively	(19,642)	(8,257)
Total stockholders' equity	8,435,547	5,915,823
Total liabilities and stockholders' equity	$ 46,020,987	$ 39,892,382

Discover Financial Services

Consolidated Statements of Income

	For the Years Ended November 30,		
	2009	2008	2007
	(dollars in thousands, except per share amounts)		
Interest income:			
Credit card loans	$ 2,835,767	$ 2,245,719	$ 2,134,188
Other loans	168,517	79,695	6,442
Investment securities	68,694	51,345	10,502
Other interest income	72,102	315,804	433,270
Total interest income	3,145,080	2,692,563	2,584,402
Interest expense:			
Deposits	1,187,084	1,199,436	1,044,574
Short-term borrowings	2,538	343	89,319
Long-term borrowings	61,662	88,225	89,377
Total interest expense	1,251,284	1,288,004	1,223,270
Net interest income	1,893,796	1,404,559	1,361,132
Provision for loan losses	2,362,405	1,595,615	733,887
Net interest income after provision for loan losses	(468,609)	(191,056)	627,245
Other income:			
Securitization income	1,879,304	2,429,158	2,323,623
Loan fee income	247,267	262,576	338,053
Discount and interchange revenue	222,835	187,657	241,070
Fee products	295,066	249,805	214,572
Merchant fees	44,248	67,027	92,518
Transaction processing revenue	125,201	115,914	99,653
Loss on investment securities	(3,826)	(50,294)	(11,409)
Antitrust litigation settlement	1,891,698	863,634	—
Other income	138,802	138,981	78,602
Total other income	4,840,595	4,264,458	3,376,682
Other expense:			
Employee compensation and benefits	827,683	845,392	850,065
Marketing and business development	406,020	530,901	576,263
Information processing and communications	289,209	315,943	330,053
Professional fees	321,329	349,484	361,409
Premises and equipment	73,014	80,394	79,442
Other expense	333,833	293,683	280,982
Total other expense	2,251,088	2,415,797	2,478,214
Income from continuing operations before income tax expense	2,120,898	1,657,605	1,525,713
Income tax expense	844,713	594,692	561,514
Income from continuing operations	1,276,185	1,062,913	964,199
Loss from discontinued operations, net of tax	—	(135,163)	(375,569)
Net income	1,276,185	927,750	588,630
Preferred stock dividends and accretion of discount	(53,255)	—	—
Net income available to common stockholders	$ 1,222,930	$ 927,750	$ 588,630
Basic earnings per share			
Income from continuing operations	$ 2.42	$ 2.22	$ 2.02
Loss from discontinued operations, net of tax	—	(0.28)	(0.79)
Net income	$ 2.42	$ 1.94	$ 1.23
Diluted earnings per share			
Income from continuing operations	$ 2.39	$ 2.20	$ 2.01
Loss from discontinued operations, net of tax	—	(0.28)	(0.78)
Net income	$ 2.39	$ 1.92	$ 1.23
Dividends paid per share	$ 0.12	$ 0.24	$ 0.06

Discover Financial Services
Consolidated Statements of Cash Flows

	For the Years Ended November 30,		
	2009	2008	2007
	(dollars in thousands)		
Cash flows from operating activities			
Net income	$ 1,276,185	$ 927,750	$ 588,630
Adjustments to reconcile net income to net cash provided by operating activities:			
Gains on sales of mortgages and installment loans	—	—	(3,105)
Net principal disbursed on loans originated for sale	—	—	(99,158)
Proceeds from sales of loans originated for sale	—	—	106,010
Loss on sale of Goldfish business	—	165,694	—
Impairment of Goldfish business	—	—	391,119
Loss on investment securities	9,239	50,294	11,409
Loss on equipment	6,436	—	—
Stock-based compensation expense	44,249	92,558	35,710
Deferred income taxes	(61,995)	(262,354)	(218,215)
Pension curtailment	—	(38,891)	—
Depreciation and amortization on premises and equipment	97,930	107,151	122,934
Amortization of deferred revenues	(133,384)	(84,174)	(22,484)
Other depreciation and amortization	105,562	124,247	134,197
Provision for loan losses	2,362,405	1,615,625	950,165
Changes in assets and liabilities:			
(Increase) decrease in amounts due from asset securitization	541,549	805,292	79,124
(Increase) decrease in other assets	(104,724)	(171,801)	(129,266)
Increase (decrease) in accrued expenses and other liabilities	(545,560)	1,172,768	90,955
Net cash provided by operating activities	3,597,892	4,504,159	2,038,025
Cash flows from investing activities			
Proceeds from the sale of Goldfish business	—	69,529	—
Payments for business and other acquisitions, net of cash acquired	—	(160,278)	(5,000)
Maturities of other short-term investments	919,700	—	—
Purchases of other short-term investments	(2,269,700)	—	—
Maturities and sales of available-for-sale investment securities	423,014	—	—
Purchases of available-for-sale investment securities	(683,980)	(85,740)	(120,085)
Maturities of held-to-maturity investment securities	8,286	37,200	10,556
Purchases of held-to-maturity investment securities	(1,269)	(33,581)	(32,990)
Proceeds from securitization and sale of loans held for investment	3,542,850	5,562,195	8,434,488
Net principal disbursed on loans held for investment	(7,403,826)	(11,426,755)	(9,763,849)
(Increase) in restricted cash – special dividend escrow	(643,311)	—	—
Proceeds from sale of equipment	1,249	—	—
Purchases of premises and equipment	(53,793)	(93,532)	(118,265)
Net cash used for investing activities	(6,160,780)	(6,130,962)	(1,595,145)
Cash flows from financing activities			
Proceeds from the issuance of preferred stock and warrant	1,224,558	—	—
Proceeds from the issuance of common stock	533,822	—	—
Net (decrease) increase in short-term borrowings	(500,000)	(259,314)	(3,895,600)
Proceeds from issuance of long-term borrowings and bank notes	1,098,194	—	2,102,951
Repayment of long-term borrowings and bank notes	(404,211)	(397,606)	(1,486,271)
Purchases of treasury stock	(11,385)	(6,838)	(1,419)
Net increase (decrease) in deposits	3,572,520	3,816,157	11,345,340
Capital contributions from Morgan Stanley	—	—	273,138
Dividends paid to Morgan Stanley	—	—	(850,000)
Dividends paid on common and preferred stock	(101,034)	(116,956)	(29,146)
Net cash provided by financing activities	5,412,464	3,035,443	7,458,993
Effect of exchange rate changes on cash and cash equivalents	—	(24,592)	10,865
Net increase in cash and cash equivalents	2,849,576	1,384,048	7,912,738
Cash and cash equivalents, at beginning of year	10,171,143	8,787,095	874,357
Cash and cash equivalents, at end of year	$ 13,020,719	$ 10,171,143	$ 8,787,095
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid during the year for:			
Interest expense	$ 1,266,427	$ 1,305,554	$ 1,233,366
Income taxes, net of income tax refunds	$ 913,988	$ 670,763	$ 531,253
Non-cash transactions:			
Acquisition of certificated beneficial interests in DCENT and DCMT, net of maturities	$ 3,561,139	$ 750,000	$ 315,000
Special dividend – Morgan Stanley	$ (335,757)	$ (473,000)	$ —
Capital contributions to Morgan Stanley	$ —	$ —	$ (94,309)