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AGCO CORPORATION VALUATION

by

Sean Michael Miller

Thesis submitted in partial fulfillment
of the requirements for the degree

of

HONORS IN UNIVERSITY STUDIES
WITH DEPARTMENTAL HONORS

in

Finance
in the Department of Economics and Finance

Approved:

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Dr. Nicholas Morrison

UTAH STATE UNIVERSITY
Logan, UT

Fall 2013

Investment Summary

This paper will discuss the excellent growth potential that AGCO Corporation faces and the reason that this company's stock is rated as a **hold** position. AGCO has seen tremendous progress and is in an industry that shows that a growing world population will continue to need food and more efficient ways to create food. However, based on sensitivities of assumptions in the models presented herein and on a current share price that is already close to my assumed fair value I do not issue a buy recommendation.

AGCO Historical Price Chart as of October 3, 2013 – Bloomberg

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Understanding the Business

Agricultural Machinery Industry

The companies in the Agricultural Machinery Industry ("the industry") globally manufacture farm equipment such as small and large tractors, hay and forage equipment, and crop-spraying devices.

The industry generated revenues of more than $56 billion in 2010 and is expected to grow at a rate of 8% until it reaches $81 billion in 2015 (1, Report Linker). Also according to Report Linker, "as disposable incomes increase and living standards improve, demand for protein-rich foods fuels the need for agricultural products. Other industries that use agricultural products, including the pharmaceutical and petroleum sectors, also drive agricultural machinery demand".

One factor that has contributed to the industry's growth is commodity prices. As commodity prices increase, a farmer has more money to purchase products like new tractors. Martin Richenhagen, CEO of AGCO ("the company"), recently stated in an interview with Bloomberg that he expects this trend to continue because he believes that the demand for commodities will increase faster than supply as the world population grows (2, Bloomberg).

Analysts are generally optimistic about the industry's future. According to the New York Times (2), the one-year historical equity return of the industry as of September 28, 2013 was 15.39% (also includes construction equipment), while the one-year historical equity return of the Standard and Poor's index was 17.32%. This lower growth rate actually may actually present an opportunity to beat the market in the future because "agricultural implement and equipment are likely to receive more attention from investors over the years to

come. An increasing amount of government spending will also go to ensuring enough food for the world's rising population."

AGCO Corporation Business Summary and Competitive Position

AGCO manufactures and distributes agricultural equipment worldwide. Its 2012 annual revenue was $10 billion and is currently 272 (up 20 from last year) in the Fortune 500 (4). The company was founded in 1990 and grew through a series of mergers and acquisitions (3, AGCO Investor Website). These acquisitions led to AGCO's five core brands: Fendt, Valtra, Massey Ferguson, Challenger and GSI Holdings. After these many mergers and acquisitions, the company is now more primarily focused on growing internally and developing these core brands. The company's global nature is shown in Figure 1. Over 50% of its revenue comes from the European region, while only approximately a quarter of its revenue comes from North America. Even though Asia/Pacific and South America regions are only 23% of AGCO's revenue, the company has been working on expanding in those regions for the past few years and is continuing to do so. These regions will be AGCO's primary sources for growth over the next few years.

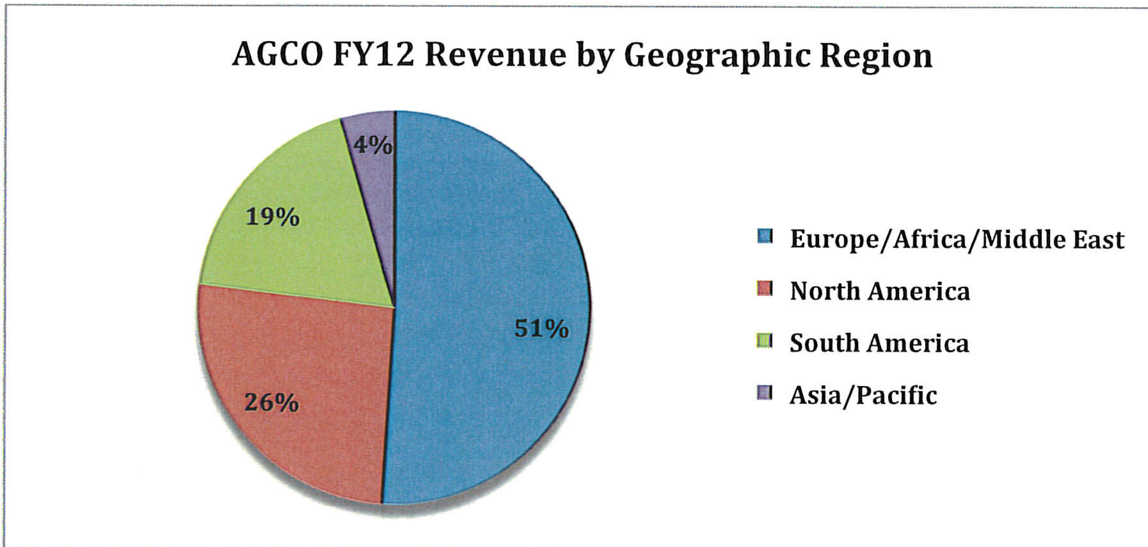

Figure 1 - Bloomberg

AGCO has risen 30.81% the past 52 weeks while the S&P 500 has increased 17.31%. This shows that AGCO has outperformed both the market and the industry by a large margin.

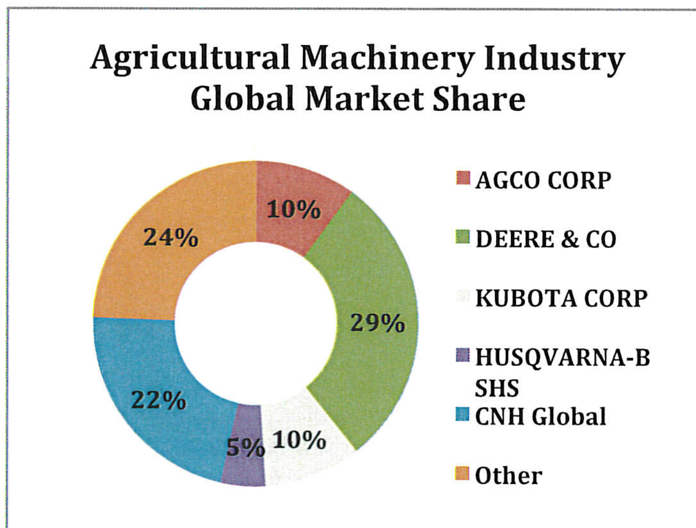

Figure 2 - Bloomberg

AGCO's major competitors are John Deere (DE), Fiat Industrial (recently acquired CNH Global) and Kubota (KUBTY). Figure 2 shows that Deere is the global market leader in the Agricultural Equipment industry and AGCO is the fourth largest player.

Analysis of Financial Reports

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Revenue (in millions)	$8,425	$6,516	$6,897	$8,773	$9,962
Profit Margin	4.58	2.08	3.20	6.65	5.24
Net Income	385.90	135.70	220.50	583.30	522.10
Price Earnings Ratio (P/E)	5.97	20.94	21.82	9.59	9.35
Basic EPS	4.21	1.47	2.38	6.10	5.38
Dividend Yield	0.00	0.00	0.00	0.00	0.00
Return on assets	7.92	2.73	4.23	9.19	6.97
Free Cash Flow to Firm	87.25	186.88	315.02	482.12	387.22
Free Cash Flow to Equity	83.30	82.50	173.90	1116.50	104.30
Debt to Total Assets	12.62	12.94	13.21	20.25	16.66
Non-Cash Charges	76.20	142.30	114.50	17.90	171.80
Capital Expenditures	251.30	206.60	167.10	300.40	340.50
Depreciation Expense	127.40	118.80	135.90	151.90	180.60
Debt to Equity	0.304	0.333	0.236	0.497	0.409

Table 1 – Bloomberg (all dollars in millions)

As Table 1 shows, revenue dropped significantly after the credit crisis in 2009 and has been steadily, sometimes rapidly, increasing since then. AGCO had its biggest revenue year in 2012, showing a 13.55 percent increase over 2011. As revenue has grown, the company's profit margin has almost doubled from 2009 to 2012 (from 2.08 to 5.24), showing signs of healthy growth.

Many relevant ratios have also shown positive signs of growth. EPS has increased by over 200 percent since 2009. The P/E ratio has decreased from 21.82 to 10.36, which may indicate an undervalued share price as earnings have been increasing at a greater rate than the price per share. Return on assets has also increased significantly from 2.7% to 6.6%. Debt to equity shows a moderate increase over time from 0.333 to 0.337 in October 2013. The mean of the debt to equity over time is 0.353.

AGCO's cash flows (free cash flow to firm and equity) have, like revenue and profit, shown healthy signs of improvement. Free cash flow to the firm was $187 million in 2009, and in $387 million in 2012.

Overall, AGCO's financials show signs of healthy growth throughout the economic recovery; there are no red flags that catch my attention. The company has proven that it is capable of strong and profitable revenue growth. This analysis will form the basis for AGCO's five-year forecast.

Forecasting Company Performance

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Revenue Growth	*10.0%*	*7.0%*	*7.0%*	*7.0%*	*3.5%*
Revenue (in millions)	$10,958	$11,726	$12,546	$13,425	$13,894
Profit Margin	5.15	5	4.95	4.9	4.85
Net Income	$564	$586	$621	$658	$674
Capital Expenditures	374.55	412.01	453.21	484.93	501.90
Depreciation	198.66	218.53	240.38	257.21	266.21
Dividend Rate	0.49	0.55	0.62	0.67	0.70
Free Cash Flow to Firm	438.34	492.47	552.04	536.98	555.78
Free Cash Flow to Equity	580.80	598.00	627.31	671.23	694.72

Table 2 –Bloomberg (all dollars in millions)

For the foreseeable future, AGCO shows positive signs for growth. For the past 3 years AGCO's revenue has grown at a rate of 16%. Since this growth rate has occurred during an economic recovery, it is doubtful that this high rate will continue into the future.

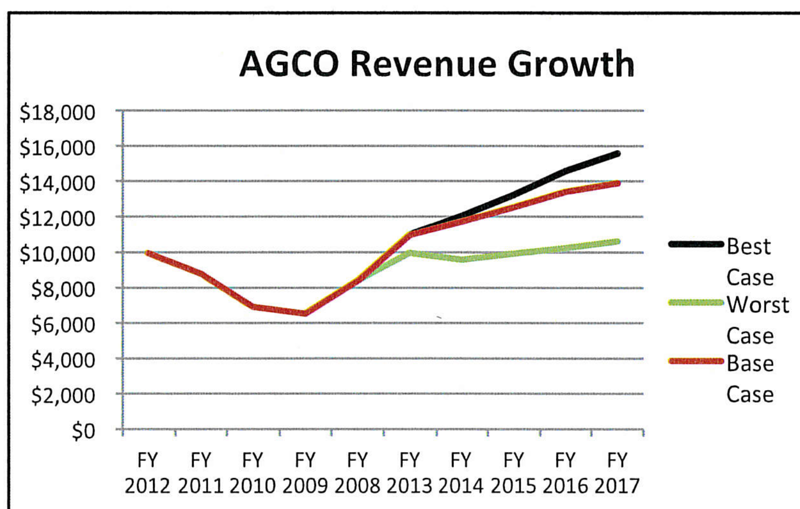

Figure 3 – All Dollars in Millions

Table 2 summarizes my forecasts for AGCO over the next five years. Figure 3 shows the base case, best case, and worst case for AGCO's revenue growth. I assume a base case as 10% growth rate for one year, a

7% growth rate for the following three years, and a 3.5% growth rate into perpetuity. These rates are based on AGCO's strong position to now grow organically and grow its brand and the industry's positive outlook. The best case assumes a four year 10% growth rate, then 7% for one year. The worst case assumes one year of 5% growth, -4% for one year, then 3% growth into perpetuity. These growth rates take into account assumptions made regarding geographic regions. Europe's agricultural market is already very saturated, leaving less room for AGCO to grow, so most of this growth will occur in South America, Asia, and Africa. Some growth will occur in North America because of small market share. Table 3 summarizes my assumptions regarding regional growth in the base case scenario.

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Europe/Africa/Middle East						
Growth Rate		6.7%	4.4%	4.3%	4.2%	3.2%
Revenues	$5,081	$5,420	$5,659	$5,902	$6,150	$6,345
North America						
Growth Rate		10.0%	7.1%	6.9%	6.8%	3.5%
Revenues	$2,590	$2,849	$3,051	$3,262	$3,484	$3,606
South America						
Growth Rate		17.4%	12.0%	12.0%	11.9%	4.0%
Revenues	$1,893	$2,222	$2,489	$2,787	$3,119	$3,244
Asia/Pacific						
Growth Rate		17.0%	13.0%	13.0%	12.8%	4.0%
Revenues	$398	$466	$527	$595	$672	$698
Total	**$9,962**	**$10,958**	**$11,726**	**$12,547**	**$13,424**	**$13,894**

Table 3 – All Dollars in Millions

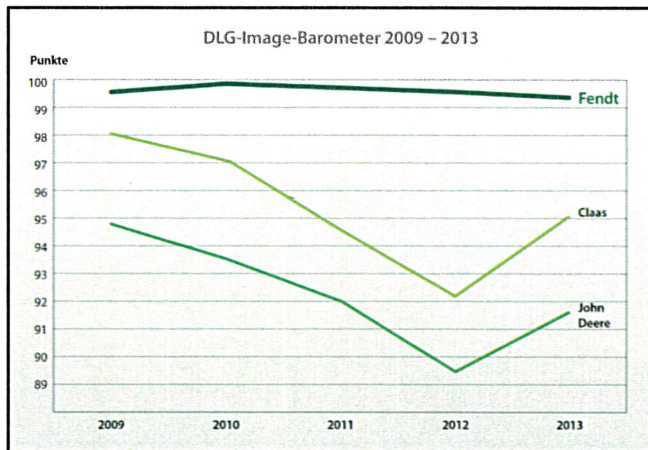

Figure 4 – AGCO Investor Website

Innovation is a key factor for one of AGCO's brands, Fendt. According to the DLG Image Barometer (5), Fendt has a reputation of innovation and excellence that far surpasses its competitors (shown in Figure 3). While a goal of innovation

may introduce some risks, I do not consider these risks to be substantial because of Fendt's proven track record.

The company has grown primarily from mergers and acquisitions in the recent past and is now expected to grow more organically; this will most likely lead to an increase in capital expenditures and thus slightly decrease the profit margin. Capital expenditures have shown a growth rate of 25% over the past three years. I assume a conservative 15% growth rate for the next three years, then 10% for one year and 3.5% growth into perpetuity. This assumption is based on AGCO's capital expenditures increasing dramatically in the short term and then leveling out with the growth rate into perpetuity.

The company's tax rate is assumed to decrease slightly. AGCO's growth in high tax markets, such as North America and Europe, will be offset by faster growth in lower tax development markets, such as Asia, Africa, and South America.

AGCO began paying a $.40 per share dividend (.38 yield) in 2013 (not shown in table) for a dividend yield of .66 percent. The company has not indicated what dividend growth may occur. However, I expect that as AGCO matures over the next several years, the dividend rate will increase until it is closer to Deere's dividend payout of 2.3 percent. Particularly, the company is expected to increase those dividends at a rate of approximately 30% for one year because of the company's maturing nature; it is not uncommon for a company that has had a high stage of growth to then plateau into a more stable growth rate with a steady dividend stream.

I assume free cash flow to equity will increase at a slower rate than revenue growth primarily because of the company's increasing capital expenditures. In addition, depreciation expense has grown at 15% over the past three years, and is assumed to grow at the same rate

as capital expenditures. Regarding dividends and FCFE, because the revenue growth is expected to more than offset the dividend growth, actual dollar amount of free cash flow to equity is expected to increase. Because the company doesn't have significant amounts of debt (as shown in the debt to equity ratio), the debt expense will likely be higher and net borrowing could potentially increase as the company grows internally, decreasing FCFE.

This forecast and above assumptions will provide the foundation for the discounted cash flow valuation model contained in the next section.

Valuation 1 – Discounted Cash Flow

I have chosen two models to value AGCO. First, I prepared a discounted cash flow valuation using free cash flow to equity (FCFE). Because using either FCFE or free cash flow to the firm (FCFM) yields similar results and AGCO doesn't have a significant amount of leverage, FCFE will be appropriate. Second, I prepared a market-based valuation using price multiples.

As discussed in the forecast, AGCO's FCFE will slightly increase because of AGCO's revenue growth, despite the fact that capital expenditures, debt, and dividends will likely increase. The valuation will follow the below steps, leading up to a three stage discount model. First, the company's weighted average cost of capital (WACC) will be identified and verified from Bloomberg. Second, the company's cash flows will be discounted at the WACC. Third, the summation of those cash flows will be divided by the number of shares outstanding.

The first step in calculating the WACC is to determine the company's capital structure. Table 4 and Figure 5 show that AGCO's equity is 78.20% of total capital.

Capital Structure		
Millions of USD		
Market Capitalization	4,885.70	78.20%
Short Term Debt	284.80	4.56%
Long Term Debt	1,077.50	17.25%
Preferred Equity	0.00	0.00%
Total	6,248.00	100.00%

Table 4 – Bloomberg (all dollars in millions)

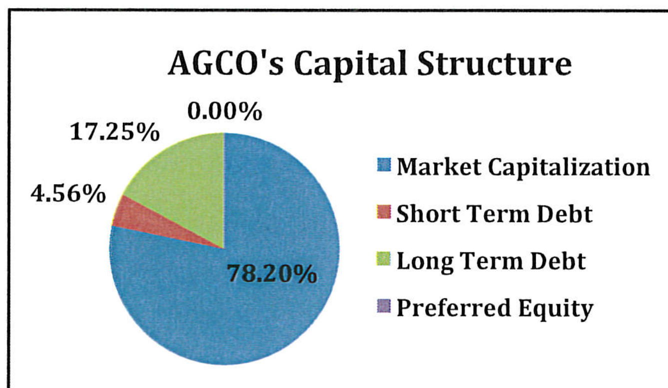

Figure 5

I calculated the cost of debt using the effective tax rate of 27.12% and a pre-tax cost of debt of 4.03% (AGCO's bond rate, Bloomberg). The cost of debt is given as (1 – Tax Rate) x Pre-Tax Cost of Debt. Therefore, the effective cost of debt is 2.93%.

The cost of equity was calculated using the capital asset pricing model, i.e. Risk Free Rate + Beta (Market Rate – Risk Free Rate). I assumed an adjusted beta of 1.424, a risk-free rate of 2.59% (based on the 10 year treasury rate), and a Market Rate (conservatively based on the Standard and Poor's Index) of 10.00%. When these terms are calculated using the formula given, the cost of equity is 16.83%

Finally, when the respective weights are multiplied by the cost of debt and equity, the WACC is calculated to be 13.80%. This will be used to discount the free cash flow to equity. Table 5 summarizes these calculations.

AGCO - WACC Calculation			
	Weight	Cost	W x C
Equity	78.20%	16.83%	13.16%
Debt	21.80%	2.93%	0.64%
WACC			13.80%

Table 5 – Bloomberg

Table 6 summarizes my calculations of $55.37 as the fair value price of the firm. FCFE was given from the forecasts in the prior section.

AGCO - Discounted Cash Flow Valuation				
	FCFE Value	WACC	Periods	Present Value
2013	580.80	13.80%	1	510.37
2014	598.00	13.80%	2	461.76
2015	627.31	13.80%	3	425.66
2016	671.23	13.80%	4	400.22
2017	694.72	13.80%	5	364.00
Terminal	6981.06	13.80%	6	3214.19
			Total	**$5,376**
			Shares	**97.1**
			PRICE	**$55.37**

Table 6 – All Dollars in Millions

I calculated the terminal value using a growing perpetuity model, namely: Terminal Value = Final Projected Year Cash Flow X (1 + Long-term cash flow growth rate) / (Discount Rate – Long-term Cash Flow Growth Rate). The final projected year was 2017: $694.72. This was multiplied by (1 + 3.5% and divided by (WACC – 3.5%), providing the terminal value of $6,981.06. This was then discounted using a simple discount formula (using the WACC as the discount factor) to reach a $3,214.19 present value.

Using the projected Free Cash Flow to Equity and a terminal value of the firm that is discounted using the WACC (13.80%), summing the present values, and dividing that sum by the number of outstanding shares (97.1M), the fair value share price is $55.37.

AGCO's stock price as of January 1, 2014, was $59.19. While the fair value stock price using the discounted cash flow model is $3.82 less than this price, the discrepancy between the two prices is less than 7%. With only this in mind, the stock is assumed to be fairly valued in the market.

Valuation 2 – Relative Valuation

This brief section will focus on valuing AGCO from a relative value viewpoint in comparison to the other main players in the industry: John Deere (DE), Kubota (KUBTY), and CNH Industrial (CNHI). Table 6 summarizes the various multiples among these companies with an industry wide average in the last column.

	AGCO	DE	KUBTY	CNHI	Average
Market Cap	5.66	31.39	20.20	12.11	7.03
P/E (current)	10.32	9.25	18.22	N/A	17.07
EV/EBITDA	5.43	5.60	11.99	6.44	8.75
P/BOOK	1.47	3.65	2.31	N/A	2.87
Operating Margin	8.04	15.12	14.49	15.31	9.86
Return on Equity	15.59	42.76	14.29	14.84	19.43
1 Year Total Return	29.69	-0.58	62.94	56.62	25.49
P/FCF	11.23	68.45	N/A	N/A	24.00

Table 6 - Bloomberg

The price-to-earnings (P/E) ratio of AGCO is well below average, with only DE (Deere) below it. This seems to be a positive signal due to the fact that this ratio has decreased even as the price has increased over the last six months.

One area of minor concern is AGCO's low operating margin in comparison to its competitors. Based on a common size financial statement analysis, AGCO is forced to accept a lower price for its products and also has slightly higher costs than competitors. This is partly due to AGCO's strategy to buy market share in North America.

Qualitative Valuation

As an intern at AGCO I was able to see and learn many qualitative aspects of the company; such as corporate culture, leadership, and the vision of the company from the heart of the corporation – the employees. I was on the pricing team as an analyst for three months

(May 2013-August 2013). Having this sort of insight about some smaller, but significant, informs my recommendation.

To begin, AGCO's Chief Executive Officer, Martin Richenhagen, is an excellent long-term leader. He's one of the few German CEOs in America, not terribly eloquent, but a principled man who has stated that he wants to stay at AGCO and build up the company for the long-term. As far as I could tell as an intern, he had built up an impressive team around him that delivered strong results. I think this is a main reason as to why AGCO's stock has climbed as much as it has recently. In fact, a recent SEC filing reported that an insider at AGCO (board member Mallika Srinivasan) bought nearly $100,000 worth of shares.

Risks

Company culture and great leadership may abound at AGCO, but that is not to say there are not significant risks in investing in this company. The biggest driver of AGCO's growth is the growth of the agricultural industry in general – as the population grows and the world economy develops, more agricultural machinery is needed. If growth in the industry doesn't meet expectations then AGCOs stock could very well be overvalued.

As hinted at earlier in the valuation, Deere is another big risk in this valuation puzzle. Why would an investor choose AGCO over Deere? One aspect to consider is global positioning. I believe AGCO is better suited for expansion in the global market since its revenues are already spread across the globe and the company has begun developing the infrastructure to grow. According to Deere's annual report (6), 63% of Deere's revenue comes from the US and Canada in 2012, up from 60% in 2011. This may show that Deere is

more focused on growing its existing market base while expanding to other areas such as forestry equipment.

Sensitivity Analysis	
A Change in the Final Projected Year Cash Flow in the Terminal Value	
Assume the Final Projected Year Cash Flow to be 90% of model	
2017 FCFE =	**625.25**
New Terminal Value =	**6282.95**
New Fair Value =	**52.06**
A Change to a More Aggressive Market Premium in the WACC	
Assume market premium of 13% instead of 10%	
New Cost of Equity =	21.10%
New WACC =	17.14%
New Fair Value =	**41.54**
A Slower FCFE Growth Rate than Expected	
Assume the growth rate of FCFE increased by a full percent	
New Fair Value =	**66.36**

Table 7

Table 7 summarizes three analyses performed to determine the sensitivity of inputs provided in the model. First, I assumed that instead of 694.72 being the final projected year cash flow in the terminal value calculation, 90% of that number (625.25) would be reached because AGCO may not grow as expected. This dropped the fair value slightly to 52.06. Second, because I was conservative with the market premium in the capital asset pricing model, I raised that market premium to 13%. This led to an increase in the discount rate (the WACC) and a new fair value of 41.54. Clearly, if the market grows at a greater rate than my assumptions, AGCO's stock would be considered overvalued. Third, because I was conservative in the growth rate of the company's free cash flow to equity, I increased the approximate 5% per year growth rate a full percent to roughly 6% per year. This increased the fair value dramatically and if this assumption held, AGCO's stock would be considered undervalued.

Recommendation and Conclusion

AGCO has a fair valuation of $55.37, looks attractive from a relative perspective, and has associated growth risks discussed above. AGCO's share price as of January 1, 2014 is $59.19. With this information in mind, I recommend AGCO as a **hold** position at this time. While the valuation did show a fair value below the market price, it is not substantial enough to establish that the stock is overvalued. If the internal growth was higher and the stock price was under $50, I would issue a buy recommendation. On the other hand, if the relative valuation were not as low as it was and the qualitative aspects of the company not as positive, I would issue a sell recommendation. Therefore, I recommend a hold on the stock until there is greater evidence that the market uncervalues this stock or until the company's future performance signifies failure to meet expected forecasts.

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