



Financial Statement Analysis
Full Time MBA 2009
UCD, Smurfit School of Business
Valuation of Amazon
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1. Recommendation

My recommendation for investors in shares of Amazon on May 2009 is SELL.

Although investors appear to be baking Amazon (its share price soared 60% since January 2009), I believe that Amazon's current share price is overvalued. At close of trading 25th May 2009 Amazon shares were priced at \$84.46, positioning close to the high-end of its 52 week price range of \$34.68 - \$91.75. However, based on my analysis using the McKinsey Valuation Model, I believe that the value of Amazon's shares should be \$48.04.

2. Outline of Amazon Business

Amazon is a retailer of consumer products that uses the Internet as its primary sales channel. The company is the industry leader with a market capitalization of \$36bn and a P/E ratio over 50. One of its main competitors is eBay, which has a market capitalization of \$21bn and a P/E ratio close to 12. Amazon has been able to beat its competitors by offering lower prices and free shipping.

2.1 Brief Description of Amazon Products

Amazon's principal product categories are:

- Media (*58% of revenues in 2008*): books, music, DVD and magazine subscriptions.
- Electronics and other general merchandise (*39% of revenues in 2008*): electronics, software, cell phones, outdoor living items, kitchen and house ware products, toys and video games.
- Other (*3% of revenues in 2008*).

The Electronics segment has been increasing in importance, in 2002 it accounted only for 19% of sales. The segment "Other" has been relatively low. This same trend has been used in forecasting Amazon's sales.

2.2 Seasonality

One of the main risk factors affecting Amazon is that it is a highly seasonal business. For example, from 2002 to 2008, fourth quarter revenues have been in average 64% higher than sales from the three other quarters¹. This show how dependent the company is on last quarter sales, especially Christmas sales.

This is very risky for the company because if it does not stock products in sufficient amounts and fails to meet customer's demands, the company's revenues will be severely affected. On the other hand, if it overstocks products, the company will have to incur in high inventory markdowns that will lead to reduce its profits. To mitigate this high business risk, the company has a conservative and low-risk financial position. For example, it has very low working capital requirements as payment terms to suppliers exceed the amount of time they need to collect proceeds from customers. Furthermore, the company has reduced its long-term by 80% since 2004.

¹ Source: Amazon 10-K – segmental information.

3. Valuation Details

The valuation was performed using the McKinsey Valuation Model. See excel spreadsheet with full model attached.

3.1 Financial Statements Analysis

3.1.1 Cash

Amazon is a strong cash generating business. Net cash provided by operations was \$1.7 billion in 2008 compared to its net profit of \$645 million. This mainly due to the company's working capital flow. On the one hand, customers primarily use credit cards to buy, thus receivables from customers settle quickly. On the other hand, the company usually delays payments to suppliers. For example, in 2008 days receivables were 18 days while days payable were 88.

Therefore, the company carries large amounts of Cash on its balance sheet. Cash accounted for 33% of total assets in 2008. However, this cash is not a strategic investment; it is the result of the cash generated by its operations. Any excess cash is invested in AAA-rated money market funds and is reported in a separate line on the Balance Sheet (called Excess Marketable Securities). For this reason, no excess cash adjustments have been made to the cash amount reported in the company's Balance Sheet.

3.1.2 Employee Stock Option

Employee stock option expense is properly disclosed at the bottom of the company's Consolidated Income Statement. However, this expense is valued at fair value on the date that the option was granted and is recognized over their expected life period. The following table shows Amazon's stock options as reported:

Year	2002	2003	2004	2005	2006	2007	2008
Stock opt. (mm)	\$69	\$88	\$58	\$87	\$101	\$185	\$275
As % of sales	2%	2%	1%	1%	1%	1%	1%

I do not consider that this expense is material because it accounts for 1% of sales. It is important to note that a correct valuation of the stock option expense would require applying Black-Scholes formula. Also, that this expenses do not reflect the amount that was actually received by executives. Finally, as EPS growth is lower than Net Income growth, additional common shares were issued by the company. This might be an indication that executives are exercising their stock options.

3.1.3 Operating Leases

The company has some operating leases which have been included as off balance sheet item in the valuation model. Amazon has reported the following operating leases future obligations:

Year	2009	2010	2011	2012	2013
Op. Leases (mm)	\$146	\$127	\$105	\$93	\$84
Discount rate*	6.875%				
PV	\$640				

*Discount rate applied is the interest rate of the company's long-term debt.

3.1.4 Foreign Exchange Rates

Amazon operates in two geographic segments: North America (53% of total sales) and international (47% of total sales). This distinction is particularly important to take into considerations changes in international exchange rates. If the US dollar weakens, sales and expenses from international locations will be higher in the company's consolidated statement and vice-versa.

Changes in currency rates can affect perception of growth and performance. For example, changes in currency rates positively affected sales by \$127, \$390 and 18\$ million in 2008, 2007 and 2006. The following table shows the FX effect in 2008:

Figures in mm	At 2007 interest rates	Exchange rate effect	As reported in 2008
Sales	\$19,039	\$127	\$19,166
Gross Profit	\$4,240	\$30	\$4,270
Operating expense	\$3,408	\$20	\$3,428
Interest expense	\$17	\$42	\$59
Net income	\$609	\$36	\$645

3.1.5 Amortization of intangible assets

Reported 'Other Operating Expense' consists of amortization of intangible assets. \$53 million were deducted from the 2008 number, attributable to a non-cash gain recognized for sale of European DVD rental firm (one-off exceptional item).

3.2 Cost of Capital

The weighted average cost of capital (WACC) used to value Amazon was: 10.53%. The underlying assumptions and calculations for the WACC are shown in the table below:

Market value of equity:	\$36.2bn	Weight % of Equity (E):	98%
Book value of debt:	\$896mm	Weight % of Debt (D):	2%
Risk premium ($R_m - R_f$):	6%	Tax rate (T):	35%
Free risk rate (R_f):	3%	Beta:	1.28
Cost of debt (K_d):	6.875%	K_e (from CAPM*):	11%

*Capital Asset Pricing Model

The cost of equity (K_e) was calculated using the CAPM formula:

$$E(R_i) = R_f + \beta_i [E(R_m) - R_f]$$

The WACC was calculated using the following formula:

$$K = \left(\frac{D}{(D + E)} \right) K_d (1 - T) + \left(\frac{E}{(D + E)} \right) K_e$$

4. Forecast Drivers

The key assumptions that drive Amazon's value are: i) growth in operating revenues and i) gross margins.

Over the past seven years, Amazon sales have grown at a CAGR of 30%. Amazon has likely been gaining great market share as consumers continue to migrate to online shopping. Sales growth in 2008 was 29%. Although not material, it is important to note that the 2008 increase has been positively affected by foreign exchange rates and company acquisitions. For future sales growth, apart from assuming mean regression, I assumed that the effect of the current economic recession will also contribute to detriment future growth rates.

Regarding gross margin, I further expect that the company's gross margin will continue to deteriorate. Over the past seven years, Amazon, gross profit has decline from 25% in 2002 to 22% in 2008. This is a reflection of the highly competitive market in which Amazon is competing; the company has a high exposure to changes in demand, competition and the environment.

Finally, Selling, General & Administrative costs have declined from 24% of sales in 2002 to 18% in 2008. This is mainly due to improvements in the company's operations – efficiency – and economies of scale.

The following table shows the forecast for the main value drivers of Amazon:

	2009	2010	2011	2012	2013	2014 - 2024
Sales growth	28%	27%	26%	25%	24%	10% to 3.5%
COGS (% sales)	77.8%	77.9%	78.0%	78.1%	78.2%	
SGA (% sales)	16.5%	16.0%	15.5%	15.0%	14.5%	

See excel spreadsheet attached for full valuation model.