EBay Analysis

Sector – Technology

Industry – Internet Software and Services

Recommendation – Sell shares

Analysts:
Peter Eghoff
Lucas Mabey

Price (4/17/2006):	**$38.03**
52-week Range:	**$30.78 - $47.86**
P/E (ttm):	**49**
Shares Outstanding:	**1.41 billion**
Market Capitalization:	**53.5 billion**
Diluted EPS (ttm):	**$.78**
Institutional Ownership:	**62.4%**

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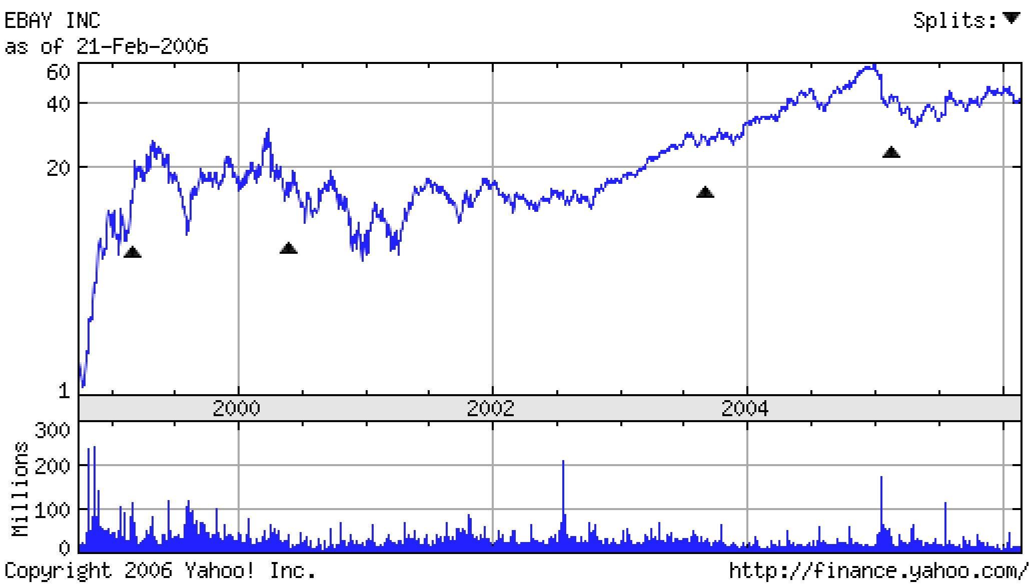
Executive Summary

In 2003, EBay, the global leader in online auctions, was selected to become part of the FIN 284 portfolio based on the company's tremendous growth prospects and strong industry position. In the two and a half years since the purchase the stock price has increased significantly and our group has begun to reexamine the security to determine if it is in the class's best interest to continue to hold the shares.

The majority of our research focuses on areas such as the future of the online auction industry, the potential growth prospects for EBay, and the risks of holding the security versus the benefits of taking profits. To assist in the evaluation of the security our group research includes a valuation model and technical analysis.

Given the results of our research we feel it is in the best interest of the class to liquidate our EBay position and look for alternative investments. It would also be prudent at this point to sell in order to take profits from the nearly 200% return that the stock has generated over the past two and half years. Our recommendation is to sell the entire 600 share position at a price of no less than $35.00 per share.

Company Overview



Founded in 1995, eBay has grown to become one of the great success stories of the dot com era and is now the worlds leading online marketplace. Ever since the beginning of the company, eBay has witnessed tremendous growth rates. At the Initial Public Offer in September 1998, eBay shares traded at (adjusted) \$1.97. Today, seven and a half year later, it is priced at nearly \$40, a rise of almost 2000%. The strong rate of growth is also reflected in the financial numbers.

	1998	1999	2000	2001	2002	2003	2004	2005
Revenues	86,129	224,724	431,424	748,821	1,214,100	2,165,096	3,271,309	4,552,401
Growth		161%	92%	74%	62%	78%	51%	39%
Net income	7,273	9,567	48,294	90,448	249,891	441,771	778,223	1,082,043
Growth		32%	405%	87%	176%	77%	76%	39%

The smallest percentage growth in either revenues or net income since 1998 has been in the low 30's and has at times been much higher. However, while growth rates remain high, the explosive growth does appear to be diminishing.

About eBay

Mission Statement: “eBay's mission is to provide a global trading platform where practically anyone can trade practically anything.”

As stated, eBay is now a leading market player within global trade. Currently more than 100 million people use eBay globally, and according to the company internet users spend more time on eBay than any other internet site. Virtually anything can be traded on eBay and on an average day millions of items are listed as either an auction or a fixed-priced offer. In addition, eBay also offers the payment service PayPal to ensure quick and safe money transfers. Other eBay sites include half.com, Kijiji, ProStores, Rent.com, and Shopping.com. At present eBay employs 8,100 people.

Business and financials

EBay’s main source of revenues are from listing, feature, advertising, as well as paid fees on transactions which include both fees collected from the selling part and from the usage of PayPal. The main market is the United States, which accounts for over half the revenues in 2004; however, international sales are increasing rapidly, just two years prior, in 2002, the United States generated nearly 75% of all revenues.

As stated above eBay have witnessed strong growth in revenues. The cause of this growth is due to steady increases in

- Number of registered users
- User activity
- Number of listings
- User gross merchandise volume, and
- PayPal transactions

EBay's Business Strategy

When eBay's entered the global business scene during the highly profiled dot com boom in the middle and late nineties, it was only one of many internet based companies seeking to profit from eCommerce trading. An overenthusiastic market led to many hundreds of thousands of online companies being created. That fact that eBay is, not only around to today, but also highly successful is very much due to their business btrategy. Before eBay grew successful there were no other customer-to-customer businesses online, as most others focused on business-to-customer. Whereas other eCommerce companies sought expansion to other product lines, eBay grew through emphasizing expansion within their current customers needs as well as internationally.

Like the industry in general, eBay's business model is highly dependent on technology and expansion into foreign markets. The major dissimilarities are found in eBay's unique interactions between the firm, buyers and sellers. EBay provides the forum that facilitates customer interaction thereby creating the transactions that eBay profits from. The development of this forum has created value for the network members. Through this value, eBay has managed to broaden business relationships, thereby laying the foundation for long term survival. EBay also benefits from the lack of traditional retailer costs such as warehousing, shipping, returns and overstock. Technically eBay cannot be classified as a retailer, but rather a service company.

EBay has now become a household name in the same manner as Hoover and Xerox are. Online auctioning is widely known as EBay'ing. By capturing the mind of the consumer, eBay now occupies a strategic position that must be viewed as virtually impossible to challenge. As eBay CEO Meg Whitman puts it, "If Buy.com goes down, you can still go to Circuit City" but should eBay crash there will be no other place to go. The current substitutes for eBay offer much fewer buyers and products for sale. This is why eBay is successful in maintaining 80% of the online-auction market.

EBay has yet to prove being invincible, though. Yahoo! Japan managed to trounce them in Japan and in 2002 eBay retreated from that market, blaming late entry as a major contributing factor.

During the past few years eBay has become much more aggressive in their acquisition strategies. Back in 2000, Half.com was acquired by eBay as it became obvious that the site, through its fixed price trading system, could pose as major threat. In 2002 eBay purchased PayPal and in 2005 they bought newcomers Skype, a fast growing internet telecommunications company offering free computer-to-computer calls and low cost charges for other calls, for $4.1 billion. The rationale for this relatively unrelated purchase was to “streamline and improve communications between buyers and sellers”. Meg Whitman touted, "Communication is at the heart of community and e-commerce, making Skype a natural fit for eBay", but eBay also views it as a powerful standalone business that could generate significant revenues. Although the rationale was questioned by some analysts, others viewed it as a good opportunity for another first mover advantage, using eBay’s brand name to secure mass market presence and thereby squeeze out Microsoft, Google and others.

Current outlook

Looking ahead eBay will continue to expand by the promotion of their core service competencies thereby attracting new members. EBay has no acquisition plans for 2006. International expansion remains a high priority for the industry, especially in China. Some experts believe this market will become eBay’s biggest market in just five to ten years. Competition is expected to increase as three of the other online giants, Yahoo!, Google and Amazon.com as they continue to enhance their presence in the online-auctioning market.

SWOT Analysis

Strengths

- Strong and trusted brand name
- High product quality and safety
- Highly skilled management
- Strong financial state
- Not very effected by economics trends

Weaknesses

- Potential system breakdowns
- eBay can be abused by people with illegal or fraudulent intents

Opportunities

- International growth - especially in the power economies China and India
- Challenging phone companies market share through Skype
- Other takeovers

Threats

- Yahoo, Amazon.com and Google product developments
- Increase in external illegal activities

Management

Founder and chairman of the Board:

The foundation of eBay was developed by Pierre Omidyar and, with its launch in 1995, he revolutionized Internet commerce. He graduated from Tufts University, Mass. with a Bachelor of Science in computer science in 1988.

President and CEO:

Meg Whitman joined eBay as President and CEO in March 1998. She is currently listed by Fortune as the most powerful woman in business and by Business Week as one of the 25 most powerful business managers for the sixth consecutive year. Since 1998 she has led eBay to become the major global player in ecommerce that it is today. She has generally been acknowledged for her expertise within brand building, and her highly regarded consumer technology experience.

Chief Operating Officer and Chief Financial Officer are Maynard Webb and Rajiv Dutta, respectively. Webb joined eBay in 1999 as president of eBay technologies. In June 2002 he became the Chief Operating Officer. Dutta joined in 1998 as Finance Director.

Recent News

April 17, 2006:

AP – Earnings Preview: EBay

EBay is set to announce earnings for the first quarter on Wednesday. Most analysts believe that eBay will hit their target of $.23 per share on $1.38 billion in revenue. Shares of eBay have fallen 10% during the quarter.

Briefing.com – InPlay: EBay introduces Pay Pal mobile

EBay became the first company to allow mobile access to payment services when it unveiled its mobile version of Pay Pal. Users can now make cash payments online using their cell phones. The service is currently available in the United States, Canada, and Great Britain. The NBA and MTV are among many retailers already accepting the service.

Business Week Online – eBay's Bid For Impatient Shoppers

EBay plans to start a new branch site designed for consumers who do not want to wait for auction times to close to make their purchases. The new site will be called EBay Express and will feature all the items that are currently listed amongst the auctions as Buy It Now. The new site will be much more image rich than the somewhat plain appearance of the mother site.

April 13, 2006:

Market Watch – Yahoo, Google, and eBay are proxy for the industry

The market judges growth in ecommerce and online advertising expenses largely on the earnings reports of these three companies. Many investors expect the growth of these companies to slow over the next year. The PEG ratios for each of these companies are about 1.4 compared with a historical average of 1.8.

The Motley Fool – EBay, MeetUp Meet Up

EBay has made a $2 million investment in a site called MeetUp. This is a tool that community members can use to find people with similar interests to their own. The site will be similar to News Corps ultra-popular MySpace.

March 30, 2006:

Business Week Online – EBay takes on the Patent Trolls

EBay is currently in court over an issue surrounding the technology used in the Buy It Now feature of its auction site. MercExchange claims that they hold the patent to this technology but eBay claims that this company uses its patents to absorb extremely high fees for their license. A victory for eBay would be seen by many as a hit on innovation because if inventors are not given proper compensation for their idea then there will be less incentive to produce.

Financial Analysis

Short Term Liquidity Analysis

Our analysis of the financial state of eBay begins with the short term liquidity analysis. The ratios shows either eBay's existing ability to meet their short term obligations with cash holdings or the speed at which eBay can transform current assets into cash.

	eBay					Amazon.com	
Short-term liquidity	2001	2002	2003	2004	2005	2004	2005
Current ratio	4.906	3.802	3.315	2.683	2.144	1.567	1.518
Acid-test ratio	4.580	3.551	3.133	2.190	1.796	1.098	1.179
Accounts receivable turnover	8.869	10.414	12.118	14.018	16.153	41.886	35.899
Days' sales in receivables	41.155	35.047	30.120	26.038	22.596	8.714	10.168
Working capital	703,666	1,082,234	1,498,606	1,826,279	1,698,302	918,996	1,000,000

<u>Current and acid-test ratios</u>

The ratios show that eBay is having a steadily declining holding of cash or cash and available-for-sale securities compared to the liabilities they face within one year. However, they still have about twice the amount of short term assets, compared to short term liabilities. The current ratio is much higher than Amazon.com's.

Despite the fact that current liabilities have been growing at about twice the rate of current assets, we view the current levels to be adequate and, perhaps, a more natural level than previously as ratios of 5 can be regarded as very high indeed. Generally we do not think the ratios are a cause of alarm at present, although it will be something to pay attention to in the future if the trend should continue.

<u>Accounts receivable turnover and Days' sales in receivables</u>

The ratios show how effectively eBay is at collecting the outstanding debt. The turnover ratio has virtually doubled over the five years. This, in turn, implies that Days' sales in receivables would be halved. This means that eBay is receiving cash much faster than previously. This would be natural as many transactions are executed with immediate cash settlement between the trading parties. However, many of the major traders have accounts settled monthly. Amazon.com is currently proving much more efficient when it comes to collecting receivables.

Capital Structure and Solvency

	eBay					Amazon.com	
Capital structure and long-term solvency	2001	2002	2003	2004	2005	2004	2005
Total debt to equity	0.137	0.121	0.170	0.175	0.161	N/M	14.024
Total debt ratio	0.120	0.108	0.145	0.149	0.139	1.070	0.933
Long-term debt to equity	0.013	0.014	0.040	0.016	0.015	N/M	6.183
Financial leverage ratio	1.137	1.121	1.170	1.175	1.161	N/M	15.024
Financial leverage index	1.055	1.148	1.172	1.178	1.164	N/M	22.432

Serving as a measure of the long term financial state of the company, the capital structure and solvency ratios gives further insight to the risk associated with eBay. The ratios comparing external financing to stockholders equity are fundamental in the overall risk associated with investment in the company and as such are important determinants of the required rate of return of both stockholders and issuers of debt.

An important element is to determine if the current capital structure is optimal. This is determined by the trade-off between taking advantage of the tax shield by issuing high amounts of debt and the potential for entering financial distress.

Throughout the period eBay has eliminated the long term debt completely. At the same time stockholders equity has increased continuously due to high positive earnings. Most of eBay’s debt is due to short-term liabilities which, as we saw before, are easily covered by current assets. However, deferred taxes have increased over the years. Although a financial liability, deferred tax will remain on the balance as one year’s deferred tax is replace by the next in perpetuity and can be viewed as a permanent form of financing that for a going concern will never be fully repaid. This is also why we view half of deferred tax as an asset. We choose half due to possible future fluctuations in the size of deferred taxes.

With only 14 percent debt and 86 percent equity eBay has very little long-term financial risk. In fact, we view the current capital structure not to be optimal. eBay would, in our opinion, benefit from taking on much more debt thereby increasing benefits of the tax shield to yield higher returns to their owners. Another ratio is the financial leverage. This ratio measures assets to equity. For every dollar of equity eBay has about $1.16 in assets, meaning they borrowed $0.16.

Amazon's capital structure is almost exactly reverse with heavy debt financing compared to an almost non-existing stockholders equity only gone positive this year. CurrentlyAmazon.com is financed with 93.3% debt, though this is an improvement from last years 107%.

Asset Utilization Analysis

Ratios of turnover are closely related to profitability analysis. We will now look at some of the key asset utilization ratios.

	eBay					Amazon.com	
Asset utilization	2001	2002	2003	2004	2005	2004	2005
Sales to receivables	8.869	18.472	19.171	27.164	28.207	41.886	35.899
Sales to working capital	1.206	1.360	1.678	1.968	2.583	15.046	8.848
Sales to fixed assets	5.598	6.738	5.282	4.988	6.024	29.424	28.578
Sales to total assets	0.530	0.426	0.439	0.474	0.460	2.558	2.432

Sales to receivables are increasing throughout the entire period. This means that accounts receivable has increased at a lower pace than sales. This in turn means that eBay has tightened its receivable policies during the period as sales increased at a higher rate than receivables. Throughout the period eBay's sales to receivables ratio is coming at par with Amazon.com who has seen a decline between 2004 and 2005.

Sales to fixed assets shows how successful eBay is using fixed assets in generating sales. EBay has improved this ratio slightly this year compared to 2001. The large drop between 2002 and 2003 was due to heavy investments in property and equipment, especially computer equipment and software as well as land, buildings and improvements. The increase between 2004 and 2005 was due to the pace of revenue increases. Amazon.com's ratio is much higher than eBay meaning that they are much more efficient in generating revenue from their fixed assets.

Likewise Sales to total assets indicates how the usage of all assets drives sales. Here, however, eBay shows a declining trend as sales growth is less than the increase in assets.

Operating Performance

We now turn to the income statement to measure the profit margins of eBay

	eBay					Amazon.com	
Operating performance	2001	2002	2003	2004	2005	2004	2005
Gross profit margin	0.820	0.824	0.808	0.812	0.820	0.231	0.240
Operating profit margin	0.188	0.292	0.291	0.324	0.317	0.064	0.051
Net profit margin	0.121	0.206	0.204	0.238	0.238	0.085	0.042

The gross profit margin has been very stable during the period at 82 percent of sales. This must be considered a high margin, much higher than Yahoo's. However, unlike a production company most of eBay's costs are not variable costs but rather operating expenses. Contrary, Amazon.com's business model has a high degree of Cost of Sales and achieves a gross profit margin of only 24% in 2005. It is noticeable that not only is eBay's gross profit margin more than three times higher, but even after *all* eBay's expenses are considered their net profit margin is *barely* surpassed by Amazon.com's gross profit margin in 2005 and even higher in 2004.

The majority of costs are captured in the operating profit margin. This margin has increased over the period as gross profit margin has grown much more than operating expenses, only the relatively small expenses of payroll and amortization increased faster than gross profit margin whereas heavy expenses such as marketing, general and administrative and product development all grew by less. EBay's operating profit margin is also much higher than that of Amazon.com. The pattern repeats itself in the net profit margin. Out of every $100 of revenue, Amazon.com only earns about $4.20, about six times less than eBay.

The growth in eBay revenues was driven by strong growth rates in both the United States and internationally. Between 2002 and 2005 total revenues in the US grew from $0.718m to $1.737m or a total growth of 142% in three years. For the same period international sales grew from $0.297m to $1.665 or 461%. These revenue gains were achieved through continuous strong growth.

Development in accounts (in millions)	2,001	2,002	2,003	2,004	2,005
Confirmed registered users	42	62	95	136	181
% change		45.5%	53.8%	42.8%	33.3%
Active users	18	28	41	56	72
% change		55.6%	48.7%	36.2%	28.0%
Number of non-store listings	419	630	955	1,340	1,690
% change		50.3%	51.7%	40.3%	26.1%
Number of stores listings	4	9	16	73	187
% change		115.0%	86.0%	354.4%	157.5%
Gross merchandise volume	9,319	14,868	23,779	34,168	44,299
% change		59.5%	59.9%	43.7%	29.7%
Total accounts		23	40	64	96
% change			73.0%	58.3%	50.8%
Active accounts		8	13	20	28
% change			67.1%	53.0%	39.1%
Total number of payments		39	230	340	481
% change			486.2%	47.9%	41.4%
Total payment volume		2,138	12,226	18,915	27,485
% change			472%	55%	45%

The growth rates in all categories throughout the period have been quite impressive, though they also show a clear trend of declining growth.

Cost of net revenues is at present the same percentage of revenues as in 2001 though it has been declining since 2003. This development is primarily due to lower payment processing costs as a percentage of total payment volume in the payments segments as compared to prior years. However, the company does foresee that cost of net revenue will increase in 2006 both in absolute terms as well as in percentage of revenues primarily due to the Payments and Communications businesses, each of which has a lower gross margin than the traditional marketplace businesses.

During the period virtually all operating costs declined as a percentage of revenues. Especially sales and marketing saw higher efficiency, but also product development became a declining function of revenues. Again, the company does foresee that 2006 will see increases in absolute and relative terms due to the acquisition of Shopping.com.

The Altman Z-score

$$Z = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5 = 3.676$$

The purpose of the Altman Z-score is to make an assessment of the probability of bankruptcy. A company with an Altman Z-score less than 1.20 is considered to have a high probability of bankruptcy. Contrary a score of 2.9 or above is considered to have a low probability of bankruptcy. Between 1.20 and 2.90 is viewed ambiguously. A total score of 3.676 implies that eBay shows a low probability of bankruptcy. Despite Amazon.com's poor earnings margins they maintain a Z-score of 2.835 and is therefore also considered relatively safe.

Return on Invested Capital

	eBay					Amazon.com	
Return on investment	2001	2002	2003	2004	2005	2004	2005
Return of assets (ROA)	7.07%	8.73%	8.86%	11.27%	10.96%	24.37%	12.09%
Disaggregation of return on common equity	0.073	0.098	0.105	0.132	0.127		
Adjusted profit margin	0.121	0.206	0.204	0.238	0.238		
Asset turnover	0.530	0.426	0.439	0.474	0.460		
Financial leverage ratio	1.137	1.121	1.170	1.175	1.161		
Return on common equity (ROCE)	7.45%	10.01%	10.39%	13.27%	12.77%	N/M	271.16%
Equity growth rate	7.45%	10.01%	10.39%	13.27%	12.77%	N/M	271.16%

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Return on common equity (ROCE)	7.45%	10.01%	10.39%	13.27%	12.77%	N/M	271.16%
Equity growth rate	7.45%	10.01%	10.39%	13.27%	12.77%	N/M	271.16%

<u>Return on Assets</u>

The return on assets is an important ratio in measuring how effectively management is running the company and their ability to generate profits from the assets. From the above table we can see continuous growth with the exception of the last year. The strong growth in revenues is the underlying cause of this increase. Amazon.com does achieve noticeable higher returns on their assets, it should be noted that their assets base is much lower than eBay's.

Return on Common Equity

This ratio measures shows the return on the common stock and therefore states the return from a shareholder perspective. Since eBay does not paid dividends ROCE will equal the Equity Growth Rate. As the case of ROA, the ROCE also show increases in return with the exception of the last year. Amazon.com achieves remarkable returns on their equity again, however, it should be noted that the cause is a very small equity base, in fact only in 2005 did Amazon.com experience a positive equity of $246 million (as opposed to eBay's massive $10 billion). The negative equity which was due to high accumulated losses meant that the ROCE was not meaningful prior to 2005.

Disaggregating the ROCE we can see that the financial leverage ratio remains constant between 2001 and 2005, while the asset turnover decreases. The main reason for the increase in ROCE is therefore due

Comparison

Since the purchase of the eBay shares in 2003, the financial ratios of eBay has shown a clear trend of noticeable improvements within debt-ratios, return on assets/equity, margins and receivables. On the other side eBay has seen decline in sales to asset and current and quick ratios, although it should be noted that the short-term liquidity ratios were quite high in 2003.

Today eBay's financials are stronger than when originally purchased and the actual income numbers have even exceeded the forecasts made by the recommendation group which justifies the higher current stock price compared to their calculations.

Valuation Model

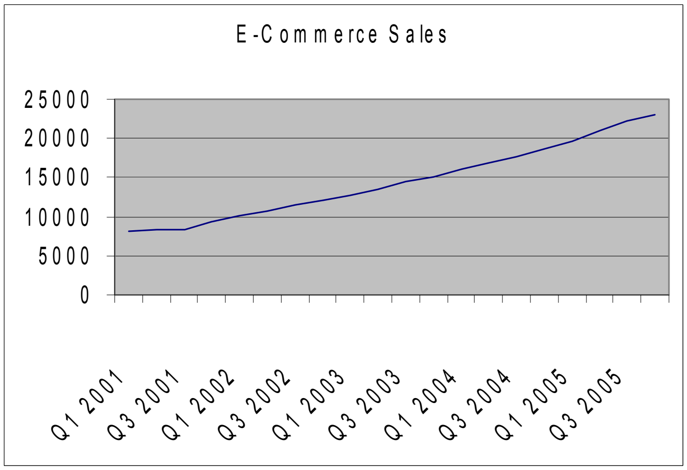
The model we are going to examine is a present value model based on future expected earnings per share (EPS), a required rate of return based on the capital assets pricing model, and future projections of PE based. Using these three basic factors we arrive at possible present value for EBay shares five years in the future.

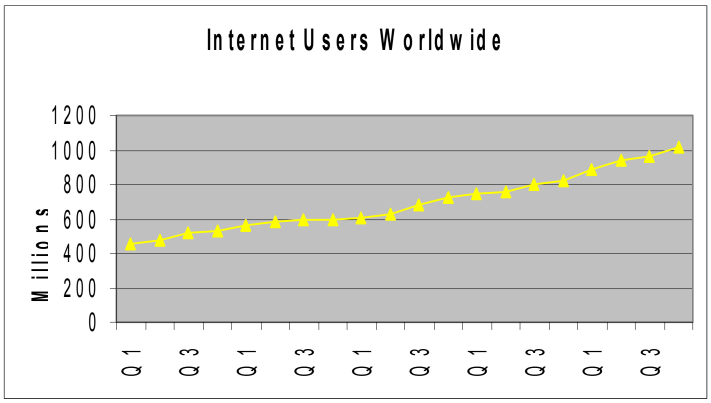
The Data

The first step is determining the future sales for EBay. The method we chose to estimate these figures was regression. The two sets of data used to run the regression are total e-commerce sales (in millions $USD) and total number of internet users worldwide (in millions). Both sets of data are given in quarterly observations. The data is presented below.

Quarter	E-commerce	Internet Users	Quarter	E-commerce	Internet Users
Q1 2001	8110	458	Q3 2003	14423	677
Q2 2001	8277	479	Q4 2003	15012	719
Q3 2001	8292	520	Q1 2004	15997	750
Q4 2001	9316	532	Q2 2004	16789	760
Q1 2002	10025	562	Q3 2004	17620	802
Q2 2002	10802	587	Q4 2004	18655	817
Q3 2002	11543	591	Q1 2005	19729	888
Q4 2002	12162	599	Q2 2005	21112	938
Q1 2003	12606	608	Q3 2005	22210	957
Q2 2003	13495	631	Q4 2005	22942	1018

To get a better feel for the trend of each of these variables, graphs for each data set are given below.





The quarterly data in the above tables and graphs covers the time period from the 1st quarter of 2001 through the 4th quarter of 2005. Both sets of data appear to follow simple linear trends. Because of the linear nature of the past data we used a simple linear trend to project future data values for the next five years. Following is the projected data set for 20 quarters into the future.

Quarter	E-commerce	Internet Users	Quarter	E-commerce	Internet Users
Q1 2006	23744	1046	Q3 2008	31764	1322
Q2 2006	24546	1073	Q4 2008	32566	1349
Q3 2006	25348	1101	Q1 2009	33368	1377
Q4 2006	26150	1128	Q2 2009	34170	1405
Q1 2007	26952	1156	Q3 2009	34972	1432
Q2 2007	27754	1184	Q4 2009	35774	1460
Q3 2007	28556	1211	Q1 2010	36576	1487
Q4 2007	29358	1239	Q2 2010	37378	1515
Q1 2008	30160	1266	Q3 2010	38180	1543
Q2 2008	30962	1294	Q4 2010	38982	1570

Using these projected future values of both total e-commerce sales and total number of internet users worldwide we then ran a regression using Minitab. Below are the results of that regression.

Regression Analysis: EBay Sales versus ESales, Internet Users

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The regression equation is
EBay Sales = - 637 + 0.0495 ESales + 0.746 Internet Users


Predictor           Coef  SE Coef      T      P
Constant          -636.6    118.6  -5.37  0.000
ESales           0.04952  0.02019   2.45  0.025
Internet Users    0.7461   0.5806   1.29  0.216


S = 47.8258   R-Sq = 98.4%   R-Sq(adj) = 98.3%


Analysis of Variance

Source          DF       SS       MS       F      P
Regression       2  2464223  1232111  538.67  0.000
Residual Error  17    38884     2287
Total           19  2503107


Source          DF   Seq SS
ESales           1  2460446
Internet Users   1     3777
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Because the model has a high r-squared and adjusted r-squared we chose to accept it. The model also makes intuitive sense because both e-commerce sales and internet users have a positive coefficient. We expect that as the total e-commerce sales and number of internet users increase then EBay's sales should increase.

Common-size Income Statement Analysis

After finding the future sales of EBay the next step is to determine what percentage of those sales are going to wind up as net income at the bottom of the income statement. To do this we have examined the past five years of common-sized income statements and from that data as well as from current expectations for the company we have determined likely percentages for each income statement item in the future. The following figures are for the past five years and our projections for the next five years.

		2001	2002	2003	2004	2005	2006-10
Net revenues		100.00	100.00	100.00	100.00	100.00	100.00
Cost of net revenues		18.00	17.60	19.20	18.80	18.00	18.00
Gross profit		82.00	82.40	80.80	81.20	82.00	82.00
Operating expenses:							
	Sales and marketing	33.80	28.80	26.20	26.20	27.00	30.00
	Product development	10.10	8.60	7.40	7.40	7.20	7.00
	General and administrative	14.10	14.10	14.00	12.70	13.00	14.00
	Patent litigation expense		—	1.40	—	—	
	Payroll tax on employee stock options	0.30	0.30	0.40	0.50	0.30	
	Amortization of acquired intangible assets	4.90	1.30	2.30	2.00	2.80	3.00
Total operating expenses		63.20	53.10	51.70	48.80	50.40	54.00
Income from operations		18.80	29.30	29.10	32.40	31.70	28.00
Interest and other income, net		5.60	4.10	1.70	2.40	2.40	2.00
Interest expense		(0.40)	(0.10)	(0.20)	(0.30)	(0.10)	
Impairment of certain equity investments		(2.20)	(0.30)	(0.10)	—	—	
Income before cumulative effect of accounting change, income taxes and minority interests			32.80	30.60	34.50	34.00	30.00
Provision for income taxes		(12.10)	(12.00)	(9.50)	(10.50)	(10.30)	(10.00)
Minority interests			(0.20)	(0.40)	(0.20)	(0.00)	0.00
Net income		20.60	20.60	20.40	23.80	23.80	20.00

Cost of net revenues – Throughout the past five years this figure has remained remarkably stable. It has never fallen below 17% of sales and never risen above 20%. We expect the cost of revenues to continue to remain constant at 18% for the foreseeable future.

Sales and marketing expense – This figure has been consistently in the high 20's over the past four years. However, we believe that as EBay expands to new markets and attempts to penetrate markets it already has entered that it will rely more heavily on traditional advertising than it has in the past. This heavier reliance on advertising will result in an increase in marketing expenses as a percentage of sales in the future. We project that the figure will rise to about 30%.

Product development expenses – As EBay continues to mature it will be necessary to continue to develop more effective methods to deliver their services and explore possible new services. However, most of their core services will probably change little in the future which should lead to a steadying of the PD expense. We believe that 7% a year is an appropriate estimation.

General and administrative expenses – This figure has been quite stable over the past five years. We expect the stability to continue and project the expense to be 14% of sales.

The remaining items on the common-sized income statement are interest and other income, amortization of intangible assets and provision for income tax. Of these three only provision for income tax is a large percentage. This figure has also been stable in the past and we expect it to remain around the 10% of sales mark.

Once we have the estimate of net profit as a percentage of total sales we can combine that with our sales regression forecast form earlier to determine total net earnings for the next five years. If we assume that the number of shares outstanding will remain constant at 1.41 billion then we can divide total earnings by total shares to get future earnings per share.

PE Forecast

The next step in the valuation process is to determine the likely PE ratio for EBay stock in the future. EBay has historically been considered a growth stock. As such, it has consistently traded at a PE multiple well in excess of the overall market PE. However, it is a market fact that eventually even the most aggressive growth stocks see their PE ratios fall closer to the market level. Past examples include strong growth companies like IBM, Microsoft, and Cisco Systems. Below is a table that summarizes the past PE ratios of EBay.

Year	High Price	Low Price	Earnings	High PE	Low PE
1999	$26.02	$11.57	$0.007	3588.62	1595.71
2000	$22.00	$8.25	$0.037	601.07	225.40
2001	$17.12	$9.05	$0.069	249.75	132.02
2002	$17.23	$13.01	$0.189	90.98	68.69
2003	$32.31	$18.79	$0.335	96.50	56.12
2004	$58.17	$33.47	$0.590	98.63	56.75
2005	$44.81	$33.71	$0.834	53.75	40.44

The stock prices seen here have been adjusted for splits. The downward trend in both yearly high PE and yearly low PE is typical of most companies after their initial public offering. Last year EBay stock saw its lowest PE values in its history. It is reasonable to conclude that this downward trend in PE multiples will continue into the future. Exactly how fast this happens is very speculative but we will attempt to compensate for this by examining three different PV models with three separate rates of decline in PE ratio.

Required Return via CAPM

To accurately predict the present value of EBay stock in the future we need to find an effective discount rate. We will do this using the capital asset pricing model (CAPM). Using this model to find a required rate of return involves three pieces of information. The first is a market rate, which is the rate of return the market on average will return annually. The second figure is the risk-free rate of return. This is the highest rate that an investor can achieve without exposure to risk. The final piece of information needed is the beat of the stock being examined.

To predict a market rate the best we can do is examine what has happened in the past to get a feel for the future. The historical average annual return of the stock market has been 11% for the years 1926-1999. However, there was unprecedented growth in the equity markets during the 1990s (18% annually) that may have skewed this average. We feel that a market return of 10% annually is a more accurate figure.

Beta Calculations

The next step is to determine the risk-free rate. We have decided to use the three-month US Treasury bill. In reality, there is no investment with absolutely zero risk. However, the US government has never defaulted on its T-bill payments. In addition, the short-term nature of the three month issue doesn't expose the investor to some of the risks inherent in longer term securities. The current yield of the three month T-bill is about 4.5%.

To find the beta of EBay stock we calculated a five year beta. To do this we examined 60 months of stock price data from January 2001 through January 2006. The market we used to peg EBay stock movements against is the S&P 500. Below is the data used.

Month	EBAY	S&P 500	EBAY %	S&P 500 %
Jan-01	12.35	1366.01		
Feb-01	9.58	1239.94	-22.43%	-9.23%
Mar-01	9.05	1160.33	-5.53%	-6.42%
Apr-01	12.62	1249.46	39.45%	7.68%
May-01	15.13	1255.82	19.89%	0.51%
Jun-01	17.12	1224.38	13.15%	-2.50%
Jul-01	15.64	1211.33	-8.64%	-1.07%
Aug-01	14.06	1133.58	-10.10%	-6.42%
Sep-01	11.44	1040.94	-18.63%	-8.17%
Oct-01	13.12	1059.78	14.69%	1.81%
Nov-01	17.02	1139.45	29.73%	7.52%
Dec-01	16.73	1148.08	-1.70%	0.76%
Jan-02	14.76	1130.2	-11.78%	-1.56%

Feb-02	13.01	1106.73	-11.86%	-2.08%
Mar-02	14.16	1147.39	8.84%	3.67%
Apr-02	13.27	1076.92	-6.29%	-6.14%
May-02	13.8	1067.14	3.99%	-0.91%
Jun-02	15.4	989.82	11.59%	-7.25%
Jul-02	14.27	911.62	-7.34%	-7.90%
Aug-02	14.13	916.07	-0.98%	0.49%
Sep-02	13.2	815.28	-6.58%	-11.00%
Oct-02	15.81	885.76	19.77%	8.64%
Nov-02	17.23	936.91	8.98%	5.77%
Dec-02	16.95	879.82	-1.63%	-6.09%
Jan-03	18.79	855.7	10.86%	-2.74%
Feb-03	19.6	841.15	4.31%	-1.70%
Mar-03	21.33	848.18	8.83%	0.84%
Apr-03	23.23	916.92	8.91%	8.10%
May-03	25.41	963.59	9.38%	5.09%
Jun-03	26	974.5	2.32%	1.13%
Jul-03	26.83	990.31	3.19%	1.62%
Aug-03	27.7	1008.01	3.24%	1.79%
Sep-03	26.82	995.97	-3.18%	-1.19%
Oct-03	27.97	1050.71	4.29%	5.50%
Nov-03	27.94	1058.2	-0.11%	0.71%
Dec-03	32.31	1111.92	15.64%	5.08%
Jan-04	33.47	1131.13	3.59%	1.73%
Feb-04	34.35	1144.94	2.63%	1.22%
Mar-04	34.64	1126.21	0.84%	-1.64%
Apr-04	40.01	1107.3	15.50%	-1.68%
May-04	44.4	1120.68	10.97%	1.21%
Jun-04	45.97	1140.84	3.54%	1.80%
Jul-04	39.17	1101.72	-14.79%	-3.43%
Aug-04	43.27	1104.24	10.47%	0.23%
Sep-04	45.87	1114.58	6.01%	0.94%
Oct-04	48.81	1130.2	6.41%	1.40%
Nov-04	56.15	1173.82	15.04%	3.86%
Dec-04	58.17	1211.92	3.60%	3.25%
Jan-05	40.75	1181.27	-29.95%	-2.53%
Feb-05	42.84	1203.6	5.13%	1.89%
Mar-05	37.26	1180.59	-13.03%	-1.91%
Apr-05	31.71	1156.85	-14.90%	-2.01%
May-05	38	1191.5	19.84%	3.00%
Jun-05	33.01	1191.33	-13.13%	-0.01%
Jul-05	41.78	1234.18	26.57%	3.60%
Aug-05	40.49	1220.33	-3.09%	-1.12%
Sep-05	41.2	1228.31	1.75%	0.65%
Oct-05	39.61	1207.01	-3.86%	-1.73%
Nov-05	44.81	1249.48	13.13%	3.52%
Dec-05	43.22	1248.29	-3.55%	-0.10%
Jan-06	43.1	1280.08	-0.28%	2.55%

The beta is the slope of the best fit line through a scatter plot of this data. Using Microsoft Excel, we were able to conclude that the beta of EBay, according to our data set, is 1.92.

The CAPM in its general form is as follows:

RR = RF + Beta (MR – RF)

RR = Required return
RF = Risk-free rate
MR = Market rate

So our CAPM for EBay looks like this:

RR = 4.5% + 1.92(10% - 4.5%)
RR = 15.06%

Because our required return according to the CAPM is 15.06% we will be using this figure as a discount rate in our present value models.

Now that all the data has been gathered for the model we can now make our predictions of present value based on three different scenarios. We will show first what we believe to be the most likely scenario for PE decline and earnings per share growth. Then we will follow that with a pessimistic outlook and an optimistic outlook.

Present Value Forecast – Moderate

Year	EPS	PE Ratio	Stock Price	PV Factor	PV Stock Price
2005	$0.780	50	$39.00	1	$39.00
2006	$0.809	47	$38.02	1.1506	$33.05
2007	$0.946	44	$41.62	1.32388	$31.44
2008	$1.083	41	$44.40	1.523257	$29.15
2009	$1.220	38	$46.36	1.752659	$26.45
2010	$1.357	35	$47.50	2.01661	$23.55

This forecast of earnings per share is based on the regression analysis of future sales and the analysis of the common-sized income statements. In this scenario we have forecasted a decline in the PE ratio of 3 per year. In five years the PE multiple will be at 35. Multiplying EPS by the PE ratio we get future value of the stock price. We then discounted those values by the required return we derived from the CAPM to get a present value of future stock price. As we can see from the chart above the PV of EBay stock will decline consistently for the next five years according to this model. In five years time we expect the value of this stock to decline about 40%.

Present Value Forecast – Pessimistic

Year	EPS	PE Ratio	Stock Price	PV Factor	PV Stock Price
2005	$0.780	50	$39.00	1	$39.00
2006	$0.858	45	$38.61	1.1506	$33.56
2007	$0.944	40	$37.75	1.32388	$28.52
2008	$1.038	35	$36.34	1.523257	$23.85
2009	$1.142	30	$34.26	1.752659	$19.55
2010	$1.256	25	$31.40	2.01661	$15.57

This model is based upon a slower rate of growth in EPS and a faster decline in PE ratio. The EPS in this model are growing a rate of 10% annually. Meanwhile, the PE multiple the stock will be trading at is declining by five annually. We have used the same discount rate as that is based on past data and not future expectations. With this model we see about a 60% loss in value over five years.

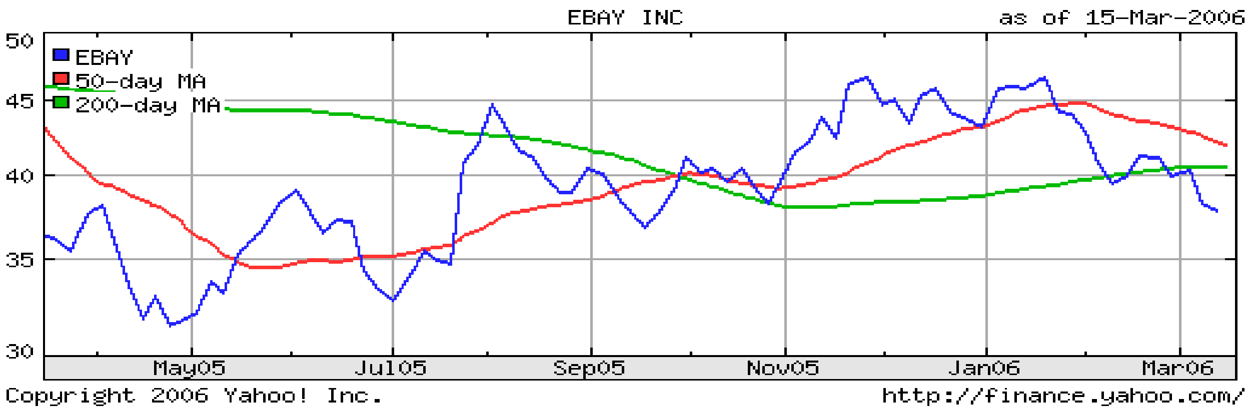
Present Value Forecast – Optimistic

Year	EPS	PE Ratio	Stock Price	PV Factor	PV Stock Price
2005	$0.780	50	$39.00	1	$39.00
2006	$0.991	48	$47.55	1.1506	$41.33
2007	$1.258	46	$57.87	1.32388	$43.71
2008	$1.598	44	$70.30	1.523257	$46.15
2009	$2.029	42	$85.22	1.752659	$48.63
2010	$2.577	40	$103.08	2.01661	$51.12

Our goal in using this model is to present the rosiest picture of the future of the stock. Our initial model and our pessimistic model both yielded results that would suggest selling the stock is the best option. For the EPS growth rate in this model we looked at other analyst opinions and found the most optimistic among them. This growth rate turned out to 27% annually over the next five years. The PE ratio in this model only declines by 2 each year. As expected this model forecasts a PV of future stock price higher than the current market price. With this model the stock will appreciate in real value by about 25% over the next five years.

Technical Analysis

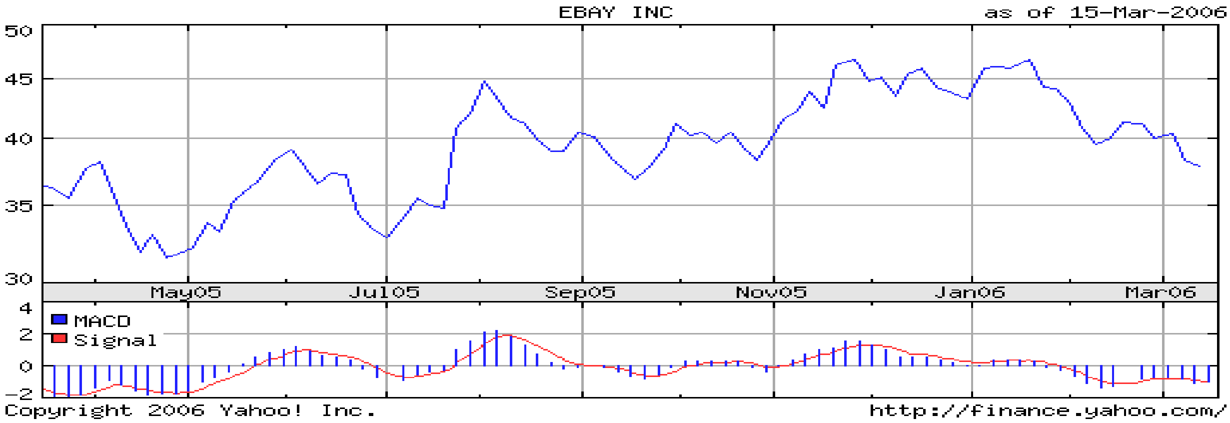
Basic Trend Analysis



The above chart is a basic moving average chart. The blue line represents the price of EBay stock, the red line indicates the 50-day moving average of that stocks price, and the green line is the 200-day moving average. Typically, when a stock is trading below its moving average it is sign that it is trending downwards and should be sold. On the other hand, when a stock is trading above its moving average it is a sign of upward trend and is a buy signal.

In this case EBay is trading below both its 50-day and 200-day moving averages which provides us with a sell signal. However, the 50-day moving average is higher than the 200-day moving average, a sign that more recent prices have been higher. When this occurs it is more positive for the stock.

MACD Analysis

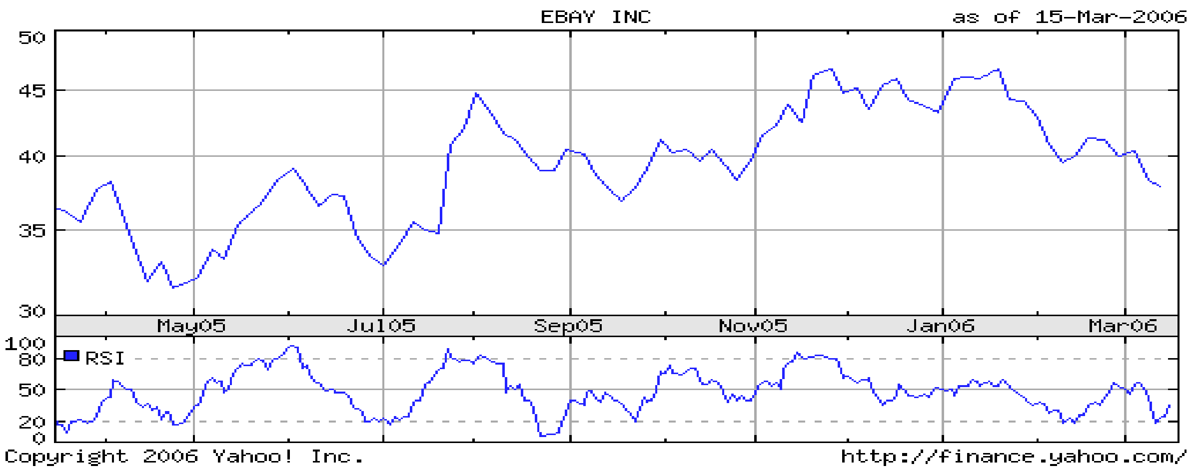


Moving Average Convergence/Divergence (MACD) is one of the simplest and most reliable indicators available. MACD uses moving averages, which are lagging indicators, to include some trend-following characteristics. These lagging indicators are turned into a momentum oscillator by subtracting the longer moving average from the shorter moving average. The resulting plot forms a line that oscillates above and below zero, without any upper or lower limits.

The most popular formula for the "standard" MACD is the difference between a security's 26-day and 12-day exponential moving averages. This is the formula that is used in the preceding chart. MACD measures the difference between two moving averages. A positive MACD indicates that the 12-day EMA is trading above the 26-day EMA. A negative MACD indicates that the 12-day EMA is trading below the 26-day EMA. If MACD is positive and rising, then the gap between the 12-day EMA and the 26-day EMA is widening. This indicates that the rate-of-change of the faster moving average is higher than the rate-of-change for the slower moving average. Positive momentum is increasing and this would be considered bullish. If MACD is negative and declining further, then the negative gap between the faster moving average and the slower moving average is expanding. Downward momentum is accelerating and this would be considered bearish. MACD centerline crossovers occur when the faster moving average crosses the slower moving average.

In the EBay MACD the signal is negative. This indicates that EBay should be sold. One of the primary benefits of MACD is that it incorporates aspects of both momentum and trend in one indicator. As a trend-following indicator, it will not be wrong for very long.

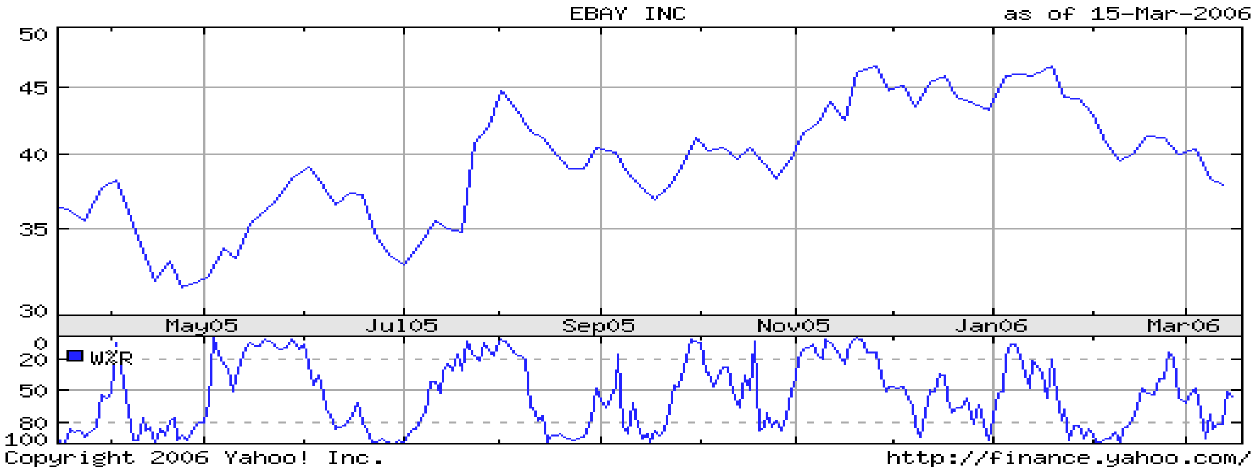
Relative Strength Index Analysis (RSI)



Relative Strength Index (RSI) is an extremely useful and popular momentum oscillator. The RSI compares the magnitude of a stock's recent gains to the magnitude of its recent losses and turns that information into a number that ranges from 0 to 100. Generally, if the RSI rises above 30 it is considered bullish for the underlying stock. Conversely, if the RSI falls below 70, it is a bearish signal. Some traders identify the long-term trend and then use extreme readings for entry points. If the long-term trend is bullish, then oversold readings could mark potential entry points. The centerline for RSI is 50. Readings above and below can give the indicator a bullish or bearish tilt. On the whole, a reading above 50 indicates that average gains are higher than average losses and a reading below 50 indicates that losses are winning the battle. Some traders look for a move above 50 to confirm bullish signals or a move below 50 to confirm bearish signals.

EBay gives us conflicting signals according to RSI analysis. The stock has a current RSI figure of about 35 which is below the centerline of 50. This is a bearish signal. However, the current RSI is trending upwards which is a bullish signal.

Williams R%



William %R, sometimes referred to as %R, shows the relationship of the close relative to the high-low range over a set period of time. The nearer the close is to the top of the range, the nearer to zero (higher) the indicator will be. The nearer the close is to the bottom of the range, the nearer to -100 (lower) the indicator will be. If the close equals the high of the high-low range, then the indicator will show 0 (the highest reading). If the close equals the low of the high-low range, then the result will be -100 (the lowest reading). As far as EBay is concerned, Williams R% gives a very neutral indication. The current value of -50 is right in the middle of the range, though the recent rising trend is toward an overbought status.

Overall our technical analysis of EBay is more bearish than bullish. It is our opinion that the technical indicators used tend to yield a sell signal.

Conclusion

Having examined EBay equity in a number of ways including industry analysis, SWOT analysis, technically, fundamentally, and through a valuation model we feel that we have a solid grasp on the company and its prospects for the future. As such we recommend that the class sell its 600 share position in the company and search for alternative investments.

We come to this conclusion based on two major points. The first is that our valuation models did not yield results that would be necessary to continue to hold the shares. In the pessimistic and probable outlooks the present value of the future share price was much lower than the current market price. While the optimistic model did yield a higher present value in the future we feel that the elements necessary to make that forecast correct are highly unlikely. Even if the forecast were accurate the shares would have yearly annualized real returns of less than 7%.

The second major reason for choosing to eliminate our EBay equity form the class portfolio is to take profits from what has been a very successful investment. At the time of this writing the return is in excess of 202%. That equals a profit of about $15,500 dollars which future classes can use to find similar investment options.

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