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VALUE WIZARD INSIGHTER - April 2000

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1. Non-U.S. Stocks

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Can the Value Wizard stock value calculator be used for the common stock of companies not traded in United States markets? Yes. The models can be used to estimate the intrinsic value of any company, whether publicly-traded or private, whether pre-IPO (initial public offering) venture capital deal or post-IPO secondary equity market security, whether in the U.S. or any other country, whether in U.S. dollars or any other currency using the unit of "Cash" as the universal metric, and with expected long-term growth that can be approximated by stylized regular patterns. For projections of less than five years with irregular annual growth, a more generic standardized model or a totally generic spreadsheet program would be better.

The Value Wizard models use an online price server that automatically accesses market data for U.S. stocks (NYSE, ASE and NASDAQ) only, all of which file financial documents with the U.S. SEC. For non-U.S. stocks, it is necessary to access the price data elsewhere, either online or the financial pages of a newspaper, and access company financial data from their hardcopy annual reports to shareholders.

The first screen of each model contains an input data form that requires a valid Ticker Symbol of a U.S. stock in order to automatically retrieve a current Market Price quote. The values for Ticker Symbol and Market Price can be overridden on the second screen, but to get there it is necessary to use the default Ticker Symbol or any other valid Ticker Symbol in the first screen. The second screen of each model contains the whole input data form automatically populated with the Ticker Symbol and the current Market Price and completed with example default values. Any of these input field values can be selectively overridden with new values for each calculation, thereby making the models applicable to any investment opportunity as long as all of the input values are internally consistent.

Different asset-specific models are better for investments in bonds, real estate, and other investment opportunities. More generally, the Global Value Investing approach to intrinsic "value investing" as defined in the tutorial-style presentation applies to any investment, but the emphasis is on common stock equity.

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## 2. Growth Rate Benchmarks

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The current market euphoria in the U.S. has few historic parallels. The lofty valuations of certain so-called New Economy stocks are almost unprecedented when measured by price-to-earnings, price-to-book value, and dividend-to-price ratios.

In terms of these traditional metrics, a lot of so-called Old Economy stocks are cheap both by historical and by current measures. The opportunities for high returns has brought the barbarians to the gates again with resource conversions. The unexpected gains from leveraged buyouts and hostile takeovers can be expected to heavily augment the ordinary gains from continuing operations.

But in terms of intrinsic value, bargains are not as easy to find. The annualized growth rates implied by current market prices of some current high-flying stocks are highly optimistic. What benchmarks can be used to gauge the reasonableness of these growth rates and their duration? A few examples are given in an article entitled "Big-Cap Tech Stocks Are a Sucker Bet", page A30, *The Wall Street Journal*, 14 March 2000, by Jeremy Siegal, author of *Stocks for the Long Run* [listed in Global Value Investing Books & Links]. We paraphrase below.

In the late 1960's, Polaroid dominated its industry. Its earnings growth had exceeded 40% a year over the previous 14 years, and its stock price reached 95 times earnings.

From 1967 for six years, IBM was the highest market capitalization of any stock in the world. It dominated its industry. It had outstanding profit margins. It had regularly increased earnings 20% each year from the early 1950's, and its stock price reached 50 times earnings.

Among the top 50 companies by market capitalization (share price times number of shares outstanding), Schlumberger alone reached a 10-year growth rate of 35% in the 1970's. Its

earnings growth peaked in 1980. Merck has reached 10-year earnings-per-share growth rates in the 1980's. Microsoft has achieved a 10-year growth rate in the mid-40 percentages and did not reach the top-50 until 1993.

Analysts' estimates of long-term future growth rates, collected by Institutional Brokers Estimate System (IBES) and other data services are fantastic. Even if the consensus estimates come true, they won't justify current market prices. A company not only has to conquer market share by increasing sales revenue, but also has to translate those sales into profits and cash flow and thus shareholder value.

Investors who bought Polaroid and IBM and many other stocks when their prospects looked great had much to regret. History has shown that whenever companies, not matter how excellent, get priced above 50 times earnings, they are headed for a decline. Great companies like Baxter Labs, Disney, McDonald's, Johnson & Johnson, AMP and Texas Instruments have trailed the market averages such as the S&P 500.

One way to get a feel for the irrational exuberance of current market pricing is to use the 1-Stage Goal Seeking model of the Value Wizard to see what combinations of growth rate and duration are implied by current market price of a company that is expected to achieve speculative growth. Then compare this growth rate and duration to the historical benchmarks.

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### 3. Yahoo Fiscal Year 1999

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An updated estimate of the intrinsic value per share of YHOO was made using the Value Wizard models. An estimate based on FY 1998 appears in the October 1999 edition of the *Insighter* [[www.numeraire.com/value\\_wizard/insighter.htm](http://www.numeraire.com/value_wizard/insighter.htm)]. We include here the estimates based on FY 1998 for more convenient comparison with the estimates based on FY 1999.

#### **Fiscal Year 1998**

Source: Yahoo Amended Form 10-K for FY 1998 filed 29 March 1999. [[www.FreeEdgar.com](http://www.FreeEdgar.com)]  
The estimated value of YHOO common stock for each of the relevant Value Wizard models using the input data for free cash flow to equity (FCFE) is as follows:

1-Stage Value : single-point estimate	= \$95
1-Stage Value Goal Seek : two goals	= (see below)
1-Stage Range (Normal) : mean estimate	= \$127
1-Stage Range (Lognormal) : mean estimate	= \$138
2-Stage Value : single-point estimate	= \$105
2-Stage Range (Normal) : mean estimate	= \$131
2-Stage Range (Lognormal) : mean estimate	= \$138

[Note: 1-Stage estimates assume growth of 20% per year for 20 years. Not mentioned in the October 1999 article but shown as default values in the Value Wizard models, the 2-Stage estimates assume growth of 50% per year for five years followed by 15% per year for ten years. The market price of \$200 is required for a 25% safety margin at the then-current price of \$150.]

#### FY 1998 Goal Seek Analysis:

Market Price	\$95	\$150	\$200
Initial FCFE (\$mil.)	100	157	210
Growth Rate %	20	23	25
Years Until Sale	20	24	26
Discount Rate %	6.0	3.3	1.7
Selling Price/FCFE Ratio	10	20	30

Even with generous assumptions regarding the value of YHOO intangibles, it is not easy to for an intrinsic-value investor to get from a reported book value of \$2.39 per share (of which about 7.5% is investments in marketable securities) to a market price of \$150. Likewise, with generous assumptions regarding an initial FCFE of \$0.44 (\$98.367/224.1) growing fast enough for enough number of years, it is not easy for an intrinsic-value investor to get from an estimated DCF value between \$95 and \$138 per share with no safety margin to a market price of \$150.

#### Fiscal Year 1999

The estimated value of YHOO common stock for each of the relevant Value Wizard models using the input data for free cash flow to equity (FCFE) is as follows:

1-Stage Value : single-point estimate	= \$95
1-Stage Value Goal Seek : two goals	= (see below)
1-Stage Range (Normal) : mean estimate	= \$127
1-Stage Range (Lognormal) : mean estimate	= \$138
2-Stage Value : single-point estimate	= \$105
2-Stage Range (Normal) : mean estimate	= \$131
2-Stage Range (Lognormal) : mean estimate	= \$138

Note: 1-Stage estimates assume growth of 20% per year for 20 years. The 2-Stage estimates assume growth of 50% per year for five years followed by 15% per year for ten years. The other assumptions appear in column two below. The target in column four is the market price of \$227 required for a 25% safety margin at the current market price of \$170.

### FY1999 Goal Seek Analysis:

Market Price	\$95	\$170	\$227
Initial FCFE (\$mil.)	266	475	634
Growth Rate %	20	24	26
Years Until Sale	20	25	27
Discount Rate %	6.0	2.6	1.0
Selling Price/FCFE Ratio	10	24	35

Even with generous assumptions regarding the value of YHOO intangibles, it is not easy for an intrinsic-value investor to get from a reported book value of \$2.11 per share (of which about 27% is investments in marketable securities) to a market price of \$170 after the FY 1999 Form 10-K was filed with the SEC. Likewise, with generous assumptions regarding a FY 1999 FCFE of \$0.44 (\$265.884/596.790) growing fast enough for enough number of years, it is not easy for an intrinsic-value investor to get from an estimated DCF value between \$95 and \$138 per share with no safety margin to a market price of \$170. The next assumption to relax is the selling Price/FCFE ratio which, when raised from 10 to 20, results in a new upper intrinsic value of \$148 using the 1-Stage Value model.

You are encouraged to experiment with the models using data based on your own assumptions to get a better feel for the estimates of intrinsic value of Yahoo as a strictly continuing going concern. It is also a way to double check the numbers that appear here. Once a satisfactory estimate of intrinsic value is obtained, some adjustment might be made for external growth by acquisition. Since its IPO inception four years ago, Yahoo has acquired 16 companies. The nonrecurring charges related to acquisition costs totaled \$77 million in FY 1999.

These estimates were made with the online Value Wizard calculator, using five of the models for a total of eight cases, including backups to enter modified data in the same model. The models were run between 8:00 am and 9:00 AM CST on 31 March 2000. Beginning and ending at the Value Wizard main page with input data at hand, the total elapsed time for the calculations was 30 minutes. We are not aware of anyone experiencing much faster or slower calculation speeds. Value Wizard models rarely may be down temporarily, but only when one of the servers for data retrieval or calculation is down.

### **Year-on-Year Comparison and Analysis**

The estimated intrinsic value per share for the end of FY 1998 and the end of FY 1999 is almost the same because the FCFE per share is about the same. FCFE per share increased 1% from \$0.43894 (FCFE non-rounded) or \$0.44623 (FCFE rounded to \$100 million for estimation) in FY 1999 to \$0.44552 in FY 2000.

YHOO stock price appreciated 100% between its 10-K release dates -- from about \$85 per split-adjusted share on 26 April 1999 to \$170 on 30 March 2000. The number of diluted shares

increased 36%. Market capitalization at these prices and based on diluted shares increased 171% from \$37.4 billion to \$101.5 billion.

Year-over-year, Yahoo's net revenue increased 140%, net margin turned positive, free cash flow to common equity increased 124%, and book value increased 86%. As part of book value, marketable securities increased 338%, from \$56 to \$340 million, creating a respectable size in-house "mutual fund" of investment-grade debt securities with maturities less than one year.

Looking at per share instead of total company numbers, a different picture emerges for growth in FCFE and other measures. Here are the shares and per share numbers, rounded for presentation:

(per share)	FY 1999	FY 1998	Change
FCFE	\$0.45	\$0.44	1%
Price	170.00	85.00	100%
Book value	2.11	1.54	37%
Marketable securities	0.57	0.13	338%
Market securities/Book value	27%	8%	226%

As recently as March 2000, Yahoo officials said that no major mergers or acquisitions are envisioned as part of their corporate growth strategy. Yet, the lofty-priced common stock with resulting triple-digit P/E ratio and burgeoning market capitalization, the authorized convertible preferred stock waiting in reserve, and in-house mutual fund provide plenty of ammunition to go hunting for big game. In the highly unlikely case of Yahoo growing to a market cap that is several orders of magnitude greater than all other companies in the world and all historical benchmarks, if it still then has a FCFE of \$0.44 per share, then it still would be worth less than \$150 per share under the most generous of the assumptions used in our estimates of intrinsic value.

Jonathan Swift in his *Gulliver's Travels*, Part IV, Chapter I, describes the Yahoo as a strange sort of animal. The Swiftian Yahoo is mythical. The corporate Yahoo is a different but no less strange sort of thing.

Whimsical scenario to justify lofty market price: Based on IBES projected long-term growth rates, Yahoo market capitalization rapidly grows exponentially and acquires for stock the State of California, privatizes it, renames it New Hedonia, converts it into a clothing-optional theme park, legalizes gambling, extends medical marijuana by selling MD degrees to all takers, and repeals all other laws against consensual crimes. Swift might be taken aback.

### **Annotated Data for FY 1999**

Source: Yahoo Form 10-K for FY 1999 filed 30 March 2000. [[www.FreeEdgar.com](http://www.FreeEdgar.com)]  
Selected data are copied and pasted below.

Item 8. Financial Statements and Supplementary Data

Consolidated Balance Sheets YAHOO! INC.

(in thousands, except par value)

	December 31,	
	1999	1998
Stockholders' equity:		
Preferred Stock, \$0.001 par value; 10,000 shares authorized; none issued or outstanding	--	--
Common Stock, \$0.001 par value; 900,000 shares authorized; 532,798 and 497,998 issued and outstanding, respectively	533	498
Additional paid-in capital	1,143,646	747
Long-term investments in marketable securities	339,623	55,931
Total stockholders' equity	1,261,305	677,012

**Note:** We are interested in long-term debt (none), the preferred stock outstanding (none), long-term investments in marketable securities (compared to last year), and total stockholders' equity.

Consolidated Statements of Operations YAHOO! INC.

(in thousands, except per share amounts)

Net revenues	\$ 588,608	\$ 245,100	\$ 84,108
Gross profit	486,809	192,946	64,226
Net income (loss)	\$ 61,133	\$ (12,674)	\$ (43,376 )
Shares used in per share calculation -- basic	515,948	439,990	
Shares used in per share calculation -- diluted	596,790	439,990	

**Note:** We are interested in the margins and the diluted number of common stock shares outstanding. The Gross Margin is 83%, 78% and 76%, and the Net Margin is 10%, -5% and -52%, for FY 2000, 1999 and 1998.

Consolidated Statements of Cash Flows YAHOO! INC.

(in thousands)

CASH FLOWS FROM OPERATING ACTIVITIES:

Years Ended	December 31,		
	1999	1998	1997
Net income (loss)	\$61,133	\$(12,674 )	\$(43,376 )
Adjustments to reconcile net income (loss) to net cash provided by			

(used in) operating activities:			
Depreciation and amortization	42,330	16,472	4,644
Tax benefits from stock options	37,147	17,827	--
Minority interests in operations of consolidated subsidiaries	2,542	(68 )	(727 )
Purchased in-process research and development	10,975	17,600	--
Other non-cash charges	2,985	2,429	23,041
Changes in assets and liabilities:			
Accounts receivable, net	(20,272 )	(19,596 )	(8,524 )
Prepaid expenses and other assets	(21,219 )	2,308	(7,239 )
Accounts payable	1,700	1,141	4,700
Accrued expenses and other liabilities	49,953	22,667	9,347
Deferred revenue	49,062	34,126	3,395
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Net cash provided by (used in) operating activities	216,336	82,232	(14,739 )

#### CASH FLOWS FROM INVESTING ACTIVITIES:

Acquisition of property and equipment	(49,548 )	(22,863 )	(10,824 )
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**Note:** We are interested in free cash flow to common stock equity shareholders' account (FCFE). There are no long-term debt or obligations and thus no interest expense or similar long-term obligatory payments. The Tax benefits from stock options is \$17,829, and the Non-cash charges related to stock option grants and warrant issuances is \$926 in FY 1999. The total of \$18,755 for FY 1999 compares with the total of \$37,147 for FY 2000, an increase of \$18,392 in FY 2000, and the total is about 7% of FCFE in FY 2000.

The 1999 FCFE is:

NCF from operating activities	\$ 216,336
Acquisition of property and equipment	+ 49,548
FCFE	= 265,884
Diluted shares	/ 596,790
FCFE per share	= 0.446

#### Note 5 ACQUISITIONS

As of December 31, 1999, the Company had completed sixteen acquisitions since its inception. The following table summarizes the acquisitions completed through December 31, 1999 that were accounted for as poolings of interests (shares issued in thousands)

Company	Acquisition Date	Shares Issued
Four11 Corporation	October 20, 1997	12,046
WebCal Corporation	July 17, 1998	1,084
Yoyodyne Entertainment, Inc.	October 20, 1998	1,019
SimpleNet*	November 30, 1998	1,269
Net Roadshow, Inc.*	March 15, 1999	1,435
Encompass, Inc.	May 26, 1999	1,390
GeoCities	May 28, 1999	43,281
Online Anywhere	May 28, 1999	906
broadcast.com inc.	July 20, 1999	57,294

\* Acquisitions completed by broadcast.com prior to the Company's acquisition of broadcast.com.

For the year ended December 31, 1999, nonrecurring charges related to acquisition costs totaled \$76.6 million and included investment banking, financial and legal advisory services, severance and contract termination costs related to the mergers. These costs were primarily attributable to the GeoCities and broadcast.com acquisition costs of \$55.0 million and \$20.0 million, respectively. For 1998 and 1997, nonrecurring charges related to acquisition costs were \$3.6 million and \$3.9 million, respectively. At December 31, 1999, \$5.1 million of accrued acquisition costs were included in accrued expenses and other current liabilities. These accrued amounts consist of contract termination and severance costs and will be paid during the year ending December 31, 2000.

The following table summarizes the acquisitions completed through December 31, 1999 that were accounted for under the purchase method of accounting (purchase price in millions)

Company	Acquisition Date	Purchase Price
Viaweb Inc.	June 10, 1998	\$ 48.6
Starseed, Inc.**	December 4, 1998	24.8
HyperParallel, Inc.	December 17, 1998	8.1
Log-Me-On.Com LLC	January 15, 1999	9.9
Yahoo! Canada	March 1, 1999	18.0
Futuretouch Corporation**	March 23, 1999	6.2
Innovative Systems Services Group, Inc.	November 22, 1999	\$ 14.1

\*\* Acquisitions completed by GeoCities prior to the Company's acquisition of GeoCities.

**Note:** The sixteen acquisitions spanning four years from company inception in early 1996 cost 119,719 million shares for nine acquisitions and \$115.6 million for seven acquisitions through FY 2000. The 119,719 total shares issued for nine acquisitions are just over 20% of the 596,790 total diluted shares for FY 2000. The \$115.6 million spent for seven acquisitions is just over 10% of the \$1,144,189 in total stockholders' equity for FY 2000. Since company inception, external growth by acquisitions has materially impacted its financial position, results of operations, or cash flows.

**Note:** A 5-year chart on YHOO covers its IPO inception as a public company, and a 1-year chart covers its FY 1999 Amended Form 10-K SEC filing. [[www.BigCharts.com](http://www.BigCharts.com)]

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#### 4. When to Sell Stocks?

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Long-term investors are generally adhere to a "buy and hold" strategy. Nevertheless, there are two reasons to sell. One, to raise cash, either for a long-term planned withdrawal or for a short-term emergency expenditure. Two, to invest in a better investment opportunity. For example, you own Stock Alpha that you estimate is priced at 150% of its intrinsic value, and you sell it to buy Stock Beta that you estimate is priced at 75% of its intrinsic value.

An example of the second reason is to take profits on an owned stock. The stock may have reached a upper target price, say 150% of estimated intrinsic value. Alternatively, the stock may have become highly over-priced by traditional metrics and cash now appears to have better prospects than holding the stock any longer. Remember that the market cannot be timed, and over-priced stocks can continue to increase in price and remain over-priced for an extended time. For example, by our estimates of intrinsic value Yahoo has been over-priced most of the time for the past year.

Another example of the second reason is to liquidate a losing position in a stock. The stock price may have declined below a lower target, say 20% below purchase price. Alternatively, the stock may no longer expected to achieve the return expected at time of purchase.

In theory, informed decisions either to buy, hold or sell are based on the same type of analysis and judgment. You estimate the intrinsic value of the stock with a margin of safety and consider other relevant aspects of valuation. In practice, selling decisions are more complicated than buying, partly because a sale is a taxable event. Due to the idiosyncrasies of the U.S. Federal income tax laws, taxes are a portfolio-level decision for the individual taxpayer even though the intrinsic stock values are not portfolio-level decisions. There are considerations of matching realized taxable losses with realized taxable gains during a given tax year. Also in part, selling a stock is psychologically more difficult than buying stock, especially when a loss is involved.

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#### CORRECTIONS

Appended 2 April 2000

1. FY 1999 2-Stage Value single-point estimate, old \$104, new \$105, page 4.
  2. FY 1999 Goal Seeking Analysis Market Price, old \$94 , new \$95, page 5.
  3. FY 1999 free cash flow to common equity increased, old 170%, new 124%, page 6.
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