Using Price-to-Sales Ratios to Screen for Out-of-Favor Stocks

By John Bajkowski

Numerous studies are in agreement about the desirability of investing in out-of-favor stocks as a strategy for obtaining above-average rates of return. The market often overreacts to news—good and bad—bidding up the prices of companies doing well to the point that they are overvalued, while whittling down the prices of troubled companies to the point that they represent an attractive value. Whereas previous research hinted that the price-to-book-value ratio was superior to the price-earnings ratio in selecting undervalued stocks, recent research indicates that using price-to-sales ratios may lead to better investment results than price-to-book-value ratios or price-earnings ratios.

Screening for undervalued stocks on price-to-sales ratio (current price divided by the sales per share for the most recent 12 months) is not a new concept. The technique was first popularized by Kenneth Fisher in his 1984 book "Super Stocks." Proponents of the price-to-sales ratio argue that earnings-based approaches to selecting stocks are inferior because earnings are influenced by many management assumptions trickling through the accounting books. Basing value relative to sales tends to be more reliable than basing value relative to earnings. Temporary developments such as costs incurred in the rollout of a new product or a cyclical slow-down can influence earnings more than sales, often leading to negative earnings. The price-to-sales ratio can provide a meaningful valuation tool, when negative earnings render earnings-based models useless.

Sales levels tend to be more comparable across different firms—leading to a valuation tool that is more comparable from firm to firm within the same industry. Asset-based models such as low price-to-book-value screens can be influenced by company factors such as specific depreciation schedules, age of assets, and even inventory accounting methods. The market may not be able to properly adjust for these company-specific factors, which leads to mispriced securities.

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Building a Price-to-Sales Screen

Stock Investor, AAII's stock screening program with 7,000 firms, was used to perform the screen. Price-to-sales ratios do not generally work very well with financial firms such as banks, where sales is not a key driving force. Therefore, our first criterion excluded financial firms, which dropped the list of companies down to 5,834 from 7,000.

With financial firms excluded, we were left with the question of establishing an appropriate cut-off level for the price-to-sales ratio. Firms with low price-to-sales ratios are thought to be good prospects for future share price increases. With low price-to-sales stocks already beaten down, any good news can translate into higher stock prices. Ken Fisher established a cut-off of 0.75 as the high end price-to-sales ratio for attractively priced, growth-oriented stocks. Applying this criteria cut the number of companies down to 2,040.

However, some industries traditionally sell with low price-to-sales ratios. Companies in these industries typically have low profit margins (income divided by sales), such as supermarkets or firms with very poor sales growth prospects. A simple screen for just low price-to-sales ratio will tend to turn up many of these firms. To help take industry factors into account, our next filter excluded companies whose price-to-sales ratios exceeded the median for their industry—further cutting our list of companies down to 1,627.

To help gain a feel for the range of industry price-to-sales ratios, Table 1 presents the median price-to-sales figures for all of the industries in *Stock Investor*. The figures range from a high of 8.1 for the biotech industry to a low of 0.2 for the retail home improvement industry. Our screen requiring a price-to-sales ratio below 0.75 eliminated firms from the highest growth industries, turning into a screen for out-of-favor industries as well. An alternative would be to simply screen for companies with low price-to-sales ratios compared to their industry norms,

Table 1.
Industry Medians

Industry	P/S Ratio (X)	5-Yr Sales Gr. (%)	52-Wk. Rel. Strg. (%)	Net Prof Margin (%)
Basic Materials	0.8	6.8	–16	4.3
Chemical Manufacturing	1.1	6.7	–14	6.5
Chemicals - Plastics & Rubbers	0.6	5.1	–14	4.3
Containers & Packaging	0.7	9.5	–14	3.0
Fabricated Plastic & Rubber	0.7	11.0	–15	3.6
Forestry & Wood Products	0.9	9.4	–12	5.3
Gold & Silver	5.6	–1.3	–17	–15.7
Iron & Steel	0.4	5.6	–30	3.2
Metal Mining	1.3	3.1	–17	5.1
Misc. Fabricated Products	0.7	8.1	–3	4.1
Non-Metallic Mining	2.4	5.2	14	10.8
Paper & Paper Products	0.6	7.7	–28	7.3
Capital Goods	0.6	6.4	–12	3.1
Aerospace and Defense	0.7	3.0	3	2.4
Construction & Agricult'l Mach	0.6	6.4	–11	4.0
Construc'n - Supplies & Fixtures	0.5	6.4	–11	3.2
Construction - Raw Materials	1.0	4.9	–7	8.2
Construction Services	0.5	5.1	–15	1.9
Misc. Capital Goods	0.6	7.5	–15	4.2
Mobile Homes & RVs	0.4	14.9	26	3.9
Conglomerates	0.6	3.8	–4	4.6
Conglomerates	0.6	3.8	–4	4.6
Consumer Cyclical	0.5	8.9	–16	2.4
Apparel/Accessories	0.4	7.7	–25	1.4
Appliances & Tools	0.7	8.0	–2	3.4
Audio & Video Equipment	0.6	4.2	–13	–0.4
Auto & Truck Manufacturers	0.4	7.0	–18	2.1
Auto & Truck Parts	0.5	10.1	–17	3.9
Footwear	0.7	7.0	–8	3.3
Furniture & Fixtures	0.6	7.9	–2	3.1
Jewelry & Silverware	0.3	2.7	–15	0.5
Photography	0.9	6.6	–19	2.3
Recreational Products	0.6	13.8	–21	2.3
Textiles - Non-Apparel	0.4	11.9	–15	2.1
Tires	0.5	10.8	–30	5.6
Consumer Non-Cyclical	0.7	6.6	–11	2.8
Beverages (Alcoholic)	1.3	11.7	–13	2.5
Beverages (Non-Alcoholic)	0.9	11.7	–3	2.1
Crops	2.5	8.2	0	8.8
Fish/Livestock	2.9	5.1	–20	–2.3
Food Processing	0.6	5.6	–19	2.3
Office Supplies	0.7	8.7	–18	3.7
Personal & Household Prods	0.9	8.9	–9	3.1
Tobacco	0.7	0.7	–7	4.8
Energy	1.8	6.4	1	2.8
Coal	0.5	9.3	–22	–2.1
Oil & Gas - Integrated	0.8	0.3	3	4.0
Oil & Gas Operations	2.2	6.0	–5	1.4
Oil Well Services & Equip	1.5	8.6	28	5.4
Financial	1.6	4.6	–5	12.9
Consumer Financial Services	2.5	15.5	–10	15.2
Insurance (Accident & Health)	0.7	13.7	–14	3.6
Insurance (Life)	0.9	8.0	3	8.6
Insurance (Miscellaneous)	1.2	9.2	–6	7.7
Insurance (Property & Casualty)	1.0	11.9	–5	8.6
Investment Services	0.8	15.5	1	8.9
Misc. Financial Services	6.0	–3.0	–12	52.3
Money Center Banks	1.6	0.8	3	14.6
Regional Banks	1.9	3.6	–2	15.2
S&Ls/Savings Banks	1.6	1.0	–6	12.9
Healthcare	2.6	19.5	–8	–0.8
Biotechnology & Drugs	8.1	22.4	–8	–40.3
Healthcare Facilities	0.9	25.3	–9	2.6
Major Drugs	3.3	9.2	13	14.9
Medical Equipment & Supplies	2.1	15.0	–10	0.7
Services	1.1	11.3	–10	2.3
Advertising	0.6	14.1	–6	2.6
Broadcasting & Cable TV	3.3	15.7	–16	–5.2
Business Services	1.1	12.7	12	2.6
Casinos & Gaming	1.1	15.8	–26	3.0
Communications Services	2.0	23.8	–18	1.2
Hotels & Motels	1.6	8.6	–6	10.5
Motion Pictures	0.9	13.5	–26	–0.2
Personal Services	1.7	10.1	–2	6.2
Printing & Publishing	1.2	6.1	–11	5.1
Printing Services	0.7	11.4	–15	2.6
Real Estate Operations	3.8	9.6	–5	19.5
Recreational Activities	1.6	11.6	–18	6.9
Rental & Leasing	1.2	4.5	4	5.6
Restaurants	0.6	11.4	–19	0.9
Retail (Apparel)	0.4	12.2	–9	2.2
Retail (Catalog & Mail Order)	0.6	20.8	–19	1.1
Retail (Department & Discount)	0.3	3.1	–6	0.4
Retail (Drugs)	0.3	9.7	3	1.2
Retail (Grocery)	0.3	5.0	–10	1.2
Retail (Home Improvement)	0.2	12.2	–26	0.5
Retail (Specialty Non-Apparel)	0.4	12.4	–22	1.2
Retail (Technology)	0.3	24.3	–41	0.1
Schools	2.0	7.8	10	4.3
Security Systems & Services	1.1	9.2	16	–1.9
Waste Management Services	0.6	10.4	–27	0.3
Technology	1.5	16.3	–22	3.6
Communications Equipment	1.6	14.9	–15	2.5
Computer Hardware	0.7	11.5	–22	–0.1
Computer Networks	2.1	20.8	–19	3.1
Computer Peripherals	1.1	14.6	–26	0.5
Computer Services	2.9	20.8	1	3.9
Computer Storage Devices	0.9	17.1	–28	–4.5
Electronic Instrum'ts & Control	0.9	12.9	–24	4.0
Office Equipment	1.0	8.6	–6	3.2
Scientific & Tech Instruments	1.5	9.6	–6	4.4
Semiconductors	1.3	18.9	–39	9.4
Software & Programming	2.4	28.8	–23	2.6
Transportation	0.5	8.6	–19	2.5
Air Courier	0.4	6.8	1	2.8
Airline	0.4	8.3	–12	2.0
Misc. Transportation	0.5	10.4	–9	2.2
Railroads	1.0	5.8	–14	4.7
Trucking	0.3	13.6	–25	1.8
Water Transportation	0.5	0.9	–12	2.1
Utilities	1.0	4.2	–6	8.3
Electric Utilities	1.2	4.1	–9	9.8
Natural Gas Utilities	0.8	4.0	0	5.9
Water Utilities	1.4	7.0	–1	9.7

Source: AAII's Stock Investor/Market Guide, Inc. Statistics are as of August 31, 1996.

Table 2.
Price-to-Sales Ratio Screening Results

Company (Exchange: Ticker)	Price-to-Sales Ratio: Current (X)	Price-to-Sales Ratio: 5-Year Average (X)	Price-Earnings Ratio (X)	5-Year Sales Growth Rate (%)	5-Year Earnings Growth Rate (%)	Total Liabilities to Total Assets (%)	Net Profit Margin (%)	52-Week Relative Strength (%)	Description
Dataram Corporation (A: DTM)	0.2	0.4	15.6	30.9	–0.2	30.3	1.3	–19	Computer add-in memory prods
C.H. Heist Corporation (A: HST)	0.2	0.3	10.2	24.0	–1.0	35.7	1.8	–9	Indus'l services & temp staffing
KLLM Transport Services (M: KLLM)	0.2	0.3	nmf	13.8	–16.6	60.0	–0.2	3	Truckload transport of commod
Patrick Industries (M: PATK)	0.2	0.1	7.3	20.6	100.0	47.4	2.7	–8	Building materials for mfg housing
Performance Food Group (M: PFGC)	0.2	na	16.6	21.3	34.9	40.6	1.3	–15	Distribs food to institutions
Schult Homes Corp. (A: SHC)	0.2	0.2	10.9	12.9	6.8	54.3	1.9	29	Produces factory-built homes
ShopKo Stores (N: SKO)	0.2	0.2	12.2	5.3	–3.1	63.3	1.9	3	Retails gen'l merch & health serv
Tarrant Apparel Group (M: TAGS)	0.2	na	5.5	20.9	24.4	51.8	3.5	–21	Designs women's apparel
World Fuel Services Corp. (N: INT)	0.2	0.3	11.8	24.8	14.8	39.2	1.7	7	Mkts aviation & marine fuel
FHP International Corp. (M: FHPC)	0.3	0.4	nmf	31.9	–21.9	46.4	–0.9	25	Healthcare services & insurance
Farah Incorporated (N: FRA)	0.3	0.3	nmf	11.5	–3.9	52.8	–3.6	–19	Mfrs apparel for men & boys
Friedman Industries (A: FRD)	0.3	0.3	9.7	16.3	26.7	37.7	2.7	–6	Steel coils and tubular prods
Golden Poultry Co. (M: CHIK)	0.3	0.3	14.2	19.8	–16.0	37.8	1.9	60	Process & distribs poultry prods
Matrix Service Co. (M: MTRX)	0.3	1.0	42.8	45.4	–16.0	31.7	0.7	2	Petrochemical process services
Natural Wonders (M: NATW)	0.3	na	14.0	36.3	0.1	34.7	2.0	22	Retails nature & science prods
Universal Forest Prods (M: UFPI)	0.3	na	14.7	14.6	44.4	55.0	1.8	28	Lumber prods for mfg housing
Avnet, Inc. (N: AVT)	0.4	0.5	10.3	19.7	16.1	42.3	3.6	–22	Electronic compon to industry
CasTech Alum Group (N: CTA)	0.4	na	8.8	13.1	47.0	43.8	5.0	-6	Recycled aluminum sheeet
Deflecta-Shield Corp. (M: TRUX)	0.4	na	29.5	30.4	29.0	43.8	1.5	–16	Holding co. for truck accessories
Granite Construction (M: GCCO)	0.4	0.4	13.3	9.9	7.2	54.7	3.0	–6	Civil contractor in west and SW
Insight Enterprises (M: NSIT)	0.4	na	24.5	47.7	71.5	42.4	1.6	15	Direct mkts microcomputers
Marshall Industries (N: MI)	0.4	0.5	9.4	13.2	15.6	33.1	4.4	–20	Indus'l electronic components
O'Sullivan Inds. Holdings (N: OSU)	0.4	na	nmf	11.9	–0.9	33.1	–0.8	–1	Ready-to-assemble furniture
Spaghetti Warehouse (N: SWH)	0.4	1.5	nmf	16.3	–18.7	37.5	–11.4	–16	Family restaurant chain
Valley Forge Corp. (A: VF)	0.4	0.4	10.2	17.1	12.2	44.8	4.4	–9	Turbo-charge actuators
WinsLoew Furniture (M: WLFI)	0.4	na	nmf	26.2	–22.9	43.5	–1.2	18	Mfrs casual furniture
Zaring Homes (M: ZHOM)	0.4	na	12.4	15.6	3.4	50.3	3.4	20	Single-family homes
BEI Electronics (M: BEII)	0.5	0.3	nmf	9.2	–21.5	49.8	–1.5	8	Mfrs engineered subsystems
Chase Brass Industries (N: CSI)	0.5	na	9.6	37.0	36.0	48.5	5.4	3	Brass & copper alloy rods
Chesapeake Utilities (N: CPK)	0.5	0.6	6.9	5.1	16.5	60.9	7.0	6	Gas distrib; info tech services
Dames & Moore (N: DM)	0.5	na	12.8	11.5	6.1	48.5	3.7	–25	Mgmt & litig support services
Paragon Trade Brands (N: PTB)	0.5	na	23.0	12.6	–13.3	42.3	2.0	14	Disposable diapers
Watsco, Inc. (N: WSO)	0.5	na	21.8	23.0	12.3	47.1	2.2	69	Climate control components
Automobile Protection (M: APCO)	0.6	0.5	17.9	16.2	29.8	43.3	3.3	71	Vehicle service contracts
Decorator Industries (A: DII)	0.6	0.5	9.6	10.6	63.9	34.7	6.7	24	Draperies & bedspreads
Merrill Corp. (M: MRLL)	0.6	0.7	12.2	19.4	29.4	56.2	5.0	–6	Printing servs to finance & corp
NovaCare, Inc. (N: NOV)	0.6	2.0	12.8	42.0	29.9	38.5	5.0	–7	Medical rehab services
ONEOK, Inc. (N: OKE)	0.6	0.6	12.8	7.3	5.4	64.6	4.7	7	Gas; water for heat & cool
WICOR, Inc. (N: WIC)	0.6	0.5	12.8	5.5	29.4	63.4	5.0	4	Water pumps & process equip
Digital Solutions, Inc. (M: DGSI)	0.7	0.6	nmf	74.6	4.0	36.9	–3.3	109	Human resource mgmt services
nView Corp. (M: NVUE)	0.7	1.9	nmf	49.5	–72.4	21.5	–25.9	6	LCD tech to computers & VCRs
SOS Staffing Services (M: SOSS)	0.7	na	22.6	23.5	38.0	19.5	2.9	35	Staffing serv in mountain states
Median	**0.4**	**0.4**	**12.8**	**18.3**	**9.7**	**43.7**	**2.0**	**3**	
Median for all firms in database	**1.1**	**1.0**	**16.2**	**9.0**	**11.2**	**55.1**	**4.0**	**–9**	

Exchange Key: *N = New York Stock Exchange*
A = American Stock Exchange
M = Nasdaq

Statistics are based on figures as of August 31, 1996.
Data Source: AAII's Stock Investor/Market Guide, Inc.

na = not available
nmf = no meaningful figure

without specifying an absolute maximum level.

Another approach for judging the relative level of the company's price-to-sales ratio is to compare it against the historical levels for the firm. A ratio lower than its historical average would be a sign that the stock is potentially undervalued, while a ratio that is high compared to its historical average might indicate an overvalued firm. This approach assumes that the underlying growth and profit prospects of the firm have not changed drastically. Comparing a firm against its own average alleviates the problem of finding the correct fit in terms of industry group. Another advantage of this type of analysis is that it will not automatically rule out high-growth companies in high-growth industries, where an absolute price-to-sales ratio will. While not a screen, current price-to-sales ratio and the historical average are presented in Table 2, which lists companies passing all of the filters.

Even a stock with a low price-to-sales ratio is no bargain if it has no sales and earnings growth prospects. If a company has poor prospects, then it should trade with a low ratio. Optimally, an investor is looking for a growth company that has stumbled due to a temporary factor. Our next criterion required that the company have a growth rate in sales over the last five years greater than its industry median—identifying companies that have expanded their sales levels more quickly than other firms in their industry, yet that are trading at a discount to the industry norm. This filter reduced the number of passing companies down to 624. The median five-year growth rate in sales for the firms passing all of the filters is 18.3—double the median growth in sales for all the firms in *Stock Investor*. It is interesting that while the sales growth for this group far exceeds the sales growth for all firms, the earnings growth lags the complete universe in *Stock Investor*.

A screening criterion using just growth rates can mask a great deal of variability. A close examination of the year-to-year figures, recent quarterly trends in sales, and future prospects in sales growth should be part of the detailed analysis performed on the companies passing the screen. The other consideration is that an investor's analysis must be looking forward to the firm's future prospects. For example, Performance Food Group has a price-to-sales ratio of 0.2 compared to the median value of 0.6 for the food processing industry. While the company has over 13,000 customers, its biggest customer, Cracker Barrel Old Country Store, recently announced plans to solicit bids later this fall for a long-term distribution contract, ending the service contract held by two companies since 1975.

Financial Leverage

A value screen for downtrodden stocks will reveal firms that might be somewhat troubled. As a safety hedge, many investors include a screen that establishes a maximum level of financial leverage. While the use of debt can help boost the return on equity when the company is performing strongly, it can also saddle the company with interest payments that must be made throughout the business cycle, thereby slowing return on equity when business slows down and increasing the risk that the company may not be able to meet its interest payments.

Basic leverage screens look at factors such as debt-to-equity or liabilities-to-assets. Companies in more stable industries can safely assume greater levels of debt. The companies were screened for liabilities-to-assets lower than their industry median. Applying this filter lowered the number of passing firms from 624 to 206. A quick scan of the passing companies reveals that utilities tend to have higher ratios of liabilities to assets, while the few technology firms passing the screen tend to be on the lower end of the scale. While leverage screens do not tend to turn up promising investments, they are helpful in highlighting troubled firms, especially if studied over time.

Relative Price Strength

Value screens often turn up downtrodden firms in out-of-favor industries and require patience from the investor waiting for the market to change its pessimistic view. A screen for high relative price strength can help to signal an improving stock outlook. A screen requiring a higher 52-week relative strength ratio than the industry median was specified. The relative strength ratio compares the company price performance to that of the S&P 500 index. Firms with positive relative strength ratios outperformed the S&P 500, while negative ratios reflect relative underperformance.

The filter further reduced the number of firms to 54. As a group, these firms have a median relative strength of 3%, indicating performance 3% higher than the S&P 500. The median for all firms is a negative 9%, reflecting the strong performance of the large-cap segment of the market over the last year.

Firm Size

As companies get larger, their price-to-sales ratios normally get smaller. Once a firm reaches a large scale, it becomes increasingly difficult for it to sustain above-average growth rates. Lower price-to-sales ratios come with these lower prospects. At the other end of the scale, very small, high-growth firms in developing markets are difficult to incorporate into a value screen. These micro-caps are also very illiquid stocks that carry high transactions costs. To exclude the very small end of the market, a minimum market capitalization of $20 million was specified as our final screen, reducing our list of stocks down to the 42 firms presented in Table 2. As is true for any screen, the list represents a crude starting point for further in-depth analysis.

Conclusion

Does the price-to-sales ratio hold promise as a screening approach? Yes. It may identify undervalued firms sooner than the price-earnings approach and avoid some of the accounting complications of the price-earnings and price-to-book screens. But industry knowledge is crucial in judging price-to-sales ratios. Screens for low price-to-sales firms tend to be more industry-specific than price-earnings ratio screens.