USING PRICE-TO-SALES RATIOS FOR OUT-OF-FAVOR STOCKS

By John Bajkowski

Proponents of price-to-sales ratios argue that sales-based valuation models are better than earnings-based models because sales, as a top-line income statement figure, is subject to fewer assumptions, interpretations and manipulations than earnings, although nothing is without potential problems.

Numerous studies are in agreement about the desirability of investing in out-of-favor stocks as a strategy for obtaining above-average, long-term rates of return (value investing). 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 price-earnings and price-to-book-value ratios are the most popular multiples used by investors to help identify attractively priced stocks, a number of research studies indicate that using price-to-sales ratios may lead to better investment results.

Screening for undervalued stocks with the 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 popularized by Kenneth Fisher in his 1984 book "Super Stocks"(Business Classics, 1991). 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. Value relative to sales tends to be available under a wider range of company circumstances than value relative to earnings. Temporary developments, such as costs incurred in the rollout of a new product or a cyclical slowdown, 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 in 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.

As a top-line income statement figure, sales is subject to fewer assumptions, interpretations, and manipulations than earnings, but nothing is without potential problems. Sales are recorded when earned whether or not cash has been received or paid. Sales should only be recorded once the exchange of goods or services has been made and the sale has been completed. Sales should not be booked unless there is a high probability that the goods will not be returned and the customer will pay for them. Some companies have been too aggressive in booking sales, leading the SEC to issue an accounting bulletin providing guidance on the proper procedures for recognizing sales.

In his book "Super Stocks," Kenneth Fisher recommended seeking young, rapidly growing companies currently out of favor with Wall Street. All firms have glitches during their life cycle, but the best companies learn from their mistakes and evolve into better firms.

Of course there is no guarantee of recovery from a glitch. The recovery from a severe glitch may take months or even years, and the stock prices of some firms never recover in a meaningful way. Since stocks with low valuation levels may already be beaten down, any good news can translate into higher stock prices.

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TABLE 1. INDUSTRY MEDIANS (AS OF AUGUST 31, 2001)

Industry	Price-to-Sales Ratio (X)	5-Yr. Sales Grth. Rate (%)	Profit Margin Gross (%)	Profit Margin Net (%)	Inventory Turnover (X)
Basic Materials	**0.5**	**7.2**	**21.7**	**0.6**	**6.9**
Chemical Manufacturing	0.7	5.2	30.0	1.9	7.1
Chemicals—Plastics & Rubbers	0.5	4.5	16.5	0.7	7.0
Containers & Packaging	0.3	9.5	20.4	0.7	8.0
Fabricated Plastic & Rubber	0.3	8.5	21.3	0.0	7.8
Forestry & Wood Products	0.6	6.3	20.4	2.2	9.6
Gold & Silver	1.5	4.9	33.3	–23.4	6.4
Iron & Steel	0.2	4.0	10.4	–1.6	5.6
Metal Mining	1.2	1.0	24.0	4.8	5.3
Misc. Fabricated Products	0.4	9.8	20.6	0.8	6.0
Non-Metallic Mining	1.6	8.5	20.9	6.9	4.7
Paper & Paper Products	0.7	5.4	21.7	3.9	8.6
Capital Goods	**0.5**	**9.8**	**23.4**	**1.9**	**6.2**
Aerospace & Defense	0.7	12.1	25.2	2.4	4.8
Construc'n & Agri. Mach.	0.5	10.0	24.3	1.9	4.4
Construc'n—Supp. & Fixt.	0.4	6.8	21.8	1.5	7.4
Construction—Raw Mat'ls	0.8	9.9	21.8	2.9	8.6
Construction Services	0.4	12.8	19.1	2.3	8.6
Misc. Capital Goods	0.5	8.4	28.6	1.1	5.9
Mobile Homes & RVs	0.3	4.0	13.0	0.3	7.3
Conglomerates	**0.7**	**5.9**	**26.4**	**3.9**	**7.2**
Conglomerates	0.7	5.9	26.4	3.9	7.2
Consumer Cyclical	**0.4**	**8.4**	**27.4**	**1.3**	**6.0**
Apparel/Accessories	0.3	5.9	28.5	2.3	5.5
Appliances & Tools	0.5	9.8	32.0	3.2	5.7
Audio & Video Equipment	0.6	4.8	29.9	0.2	5.4
Auto & Truck Manufact'rs	0.3	9.1	16.0	1.3	8.2
Auto & Truck Parts	0.3	10.5	22.9	0.7	7.3
Footwear	0.6	7.6	38.4	3.9	5.5
Furniture & Fixtures	0.5	12.3	27.8	3.1	7.3
Jewelry & Silverware	0.4	8.3	37.0	–0.6	3.1
Photography	0.3	0.8	31.3	0.6	8.1
Recreational Products	0.4	7.2	31.7	–1.7	6.1
Textiles—Non-Apparel	0.2	5.9	18.1	–2.1	7.1
Tires	0.3	7.2	18.3	1.6	9.2
Consumer Non-Cyclical	**0.6**	**6.5**	**32.9**	**2.0**	**8.5**
Beverages (Alcoholic)	0.9	7.4	37.6	5.3	6.6
Beverages (Non-Alcoholic)	0.8	11.2	44.0	2.8	14.2
Crops	0.9	15.6	28.2	0.9	7.0
Fish/Livestock	1.0	6.2	12.0	1.2	7.6
Food Processing	0.4	5.6	27.1	1.9	9.7
Office Supplies	0.3	7.1	28.8	0.8	10.3
Personal & Household Prods.	0.6	6.2	40.9	1.3	7.3
Tobacco	0.7	2.4	24.3	6.4	8.6
Energy	**1.4**	**19.2**	**53.1**	**8.8**	**24.9**
Coal	1.1	4.0	22.1	2.7	12.8
Oil & Gas—Integrated	0.9	10.7	37.3	9.0	20.5
Oil & Gas Operations	1.6	23.4	69.6	15.1	37.4
Oil Well Services & Equip.	1.5	16.7	33.6	5.1	15.0
Financial	**1.7**	**11.9**	**56.1**	**10.7**	**11.7**
Consumer Financial Servs.	1.1	19.0	60.1	3.2	45.8
Insurance (Accident & Health)	0.7	10.0	24.3	3.3	80.0
Insurance (Life)	1.1	9.5	52.7	6.1	0.0
Insurance (Miscellaneous)	1.1	16.3	43.0	3.9	0.0
Insurance (Prop. & Casualty)	0.9	9.7	nmf	4.4	0.0
Investment Services	1.2	17.7	59.1	6.5	3.6
Misc. Financial Services	7.2	1.8	71.3	18.2	10.3

Industry	Price-to-Sales Ratio (X)	5-Yr. Sales Grth. Rate (%)	Profit Margin Gross (%)	Profit Margin Net (%)	Inventory Turnover (X)
Money Center Banks	2.3	14.4	nmf	16.1	0.0
Regional Banks	1.9	14.1	63.4	13.5	0.0
S&Ls/Savings Banks	1.5	11.2	nmf	10.1	0.0
Health Care	**3.3**	**17.4**	**49.0**	**–10.1**	**6.5**
Biotechnology & Drugs	9.6	20.1	55.3	–42.0	6.6
Healthcare Facilities	0.5	19.1	35.4	0.5	45.0
Major Drugs	4.7	11.5	72.7	11.7	9.8
Medical Equip. & Supp.	2.2	15.5	47.4	–9.2	5.2
Services	**0.7**	**18.5**	**40.0**	**0.0**	**16.8**
Advertising	0.8	22.2	37.0	–10.8	12.5
Broadcasting & Cable TV	2.2	27.1	51.6	–11.0	16.4
Business Services	0.5	24.0	33.2	–2.2	23.5
Casinos & Gaming	0.7	11.4	43.0	1.7	30.0
Communications Services	1.2	25.3	37.9	–28.0	32.2
Hotels & Motels	0.8	21.5	47.9	4.9	47.8
Motion Pictures	0.3	12.9	26.0	–11.2	21.0
Personal Services	0.8	24.4	35.3	–0.6	17.2
Printing & Publishing	1.2	7.5	50.8	3.3	16.3
Printing Services	0.4	18.8	27.2	1.8	18.5
Real Estate Operations	2.5	24.7	72.5	15.2	11.4
Recreational Activities	1.0	19.3	43.0	–4.9	38.2
Rental & Leasing	0.6	16.5	65.8	3.0	18.4
Restaurants	0.3	13.0	63.1	0.5	69.2
Retail (Apparel)	0.5	12.7	33.8	2.9	6.0
Retail (Cat. & Mail Order)	0.4	21.6	35.0	–2.4	9.7
Retail (Dept. & Discount)	0.3	8.7	32.8	0.6	5.2
Retail (Drugs)	0.2	15.9	26.7	–5.7	11.0
Retail (Grocery)	0.2	6.7	25.6	0.4	15.5
Retail (Home Improvement)	0.2	11.4	26.1	0.5	7.0
Retail (Specialty Non-Apparel)	0.3	15.7	34.9	0.5	4.4
Retail (Technology)	0.5	14.0	25.5	0.8	6.8
Schools	2.1	21.4	50.5	–0.6	74.4
Security Systems & Servs.	0.5	15.2	36.1	0.3	6.9
Waste Management Servs.	0.4	15.7	32.6	–2.7	52.1
Technology	**1.2**	**16.7**	**41.0**	**–12.6**	**7.1**
Communications Equip.	1.1	17.0	33.3	–20.9	6.2
Computer Hardware	0.4	12.3	19.7	–6.0	13.0
Computer Networks	1.0	8.1	46.2	–10.2	16.5
Computer Peripherals	0.6	12.4	32.1	–9.8	6.3
Computer Services	1.1	24.9	37.5	–74.4	23.3
Computer Storage Devices	0.8	4.1	28.2	–24.5	6.6
Electronic Instrum'ts & Controls	0.8	11.7	27.0	0.4	5.9
Office Equipment	0.3	8.9	34.2	–1.2	7.8
Scientific & Tech Instruments	1.4	11.1	43.8	0.4	5.4
Semiconductors	2.2	21.5	40.2	3.3	6.1
Software & Programming	1.4	23.7	59.8	–31.5	33.3
Transportation	**0.4**	**11.2**	**46.6**	**2.6**	**47.8**
Air Courier	0.5	11.1	42.3	1.3	74.1
Airline	0.4	11.2	60.0	–0.8	47.3
Misc. Transportation	0.5	18.6	33.0	0.8	24.9
Railroads	1.0	7.8	39.6	7.3	30.7
Trucking	0.3	10.2	53.2	0.7	174.5
Water Transportation	0.9	8.0	42.3	13.5	45.6
Utilities	**0.8**	**10.6**	**28.1**	**5.9**	**36.7**
Electric Utilities	0.8	11.4	29.2	5.8	34.8
Natural Gas Utilities	0.6	11.1	24.0	4.5	33.9
Water Utilities	2.5	7.2	44.7	13.8	55.7

TABLE 2. COMPANIES PASSING THE PRICE-TO-SALES SCREEN

Company (Exchange: Ticker)	Price-to-Sales Ratio Current Firm (X)	Price-to-Sales Ratio Current Indus. (X)	Price-to-Sales Ratio 5-Yr. Avg. (X)	5-Yr. Sales Grth. (%)	Total Liab. to Assets (%)	Net Profit Margin Firm (%)	Net Profit Margin Indus. (%)	52-Wk. Rel. Strgth. (%)	Description
Commonwealth Industries (M: CMIN)	0.11	0.4	0.18	10.9	50.6	–1.4	0.8	73	Mfrs aluminum sheet
EFTC Corporation (M: EFTC)	0.12	0.8	0.46	44.7	40.0	0.7	0.4	4	Electronic manufact'g servs
Central Garden & Pet Co. (M: CENT)	0.14	0.7	0.33	29.4	50.5	–2.1	1.9	65	Distribs garden & pet prods
Spherion Corporation (N: SFN)	0.16	0.5	0.48	34.1	33.3	5.4	–2.2	–5	Business, prof, serv staffing
Smart & Final Inc. (N: SMF)	0.17	0.2	0.22	9.7	53.9	0.7	0.4	90	Warehouse grocery stores
AutoNation, Inc. (N: AN)	0.18	0.3	0.92	35.4	53.8	1.6	0.5	136	Auto retailer
Steel Technologies, Inc. (M: STTX)	0.18	0.2	0.35	12.8	57.6	–0.1	–1.6	51	Intermed steel processor
Labor Ready, Inc. (N: LRW)	0.19	0.5	0.88	59.6	45.2	1.0	–2.2	62	Temp manual labor
Graphic Packaging Int'l (N: GPK)	0.20	0.3	0.70	10.8	59.9	–0.1	0.7	404	Technical cartons & ceramics
Old Dominion Freight Line (M: ODFL)	0.20	0.3	0.28	13.9	57.9	2.2	0.7	81	Transports gen'l commodities
Pomeroy Computer Resource (M: PMRY)	0.20	0.4	0.35	32.0	42.1	2.5	–6.0	–20	Computer equip & IT servs
Kforce, Inc. (M: KFRC)	0.22	0.5	1.12	77.0	39.8	0.6	–2.2	56	Web–based staffing firm
Nu Horizons Electronics (M: NUHC)	0.23	0.8	0.31	27.0	36.0	4.6	0.4	–35	Distribs electronic components
RCM Technologies, Inc. (M: RCMT)	0.23	0.5	1.16	37.1	38.2	–8.1	–2.2	64	IT & prof engineer solutions
Saks, Inc. (N: SKS)	0.23	0.3	0.52	19.1	52.2	0.2	0.6	34	Department stores
K2, Inc. (N: KTO)	0.24	0.4	0.51	8.4	47.3	1.9	–1.7	4	Branded consumer prods
Flanders Corporation (M: FLDR)	0.27	0.5	0.91	38.1	45.9	–4.2	1.1	12	Air filtration prods
Sanderson Farms, Inc. (M: SAFM)	0.28	0.4	0.34	9.0	52.5	3.1	1.9	198	Fresh & frozen chicken
AT Plastics, Inc. (A: ATJ)	0.29	0.5	0.72	9.4	59.4	–11.4	0.7	30	Specialty plastics
Griffon Corporation (N: GFF)	0.29	0.4	0.37	17.2	50.3	2.3	1.5	82	Diversified manufacturing
Watsco, Inc. (N: WSO)	0.29	0.5	0.49	36.5	47.7	1.5	1.1	47	Residential air, heat & refridg
iGATE Capital Corporation (M: IGTE)	0.33	1.4	2.72	35.7	34.0	–2.1	–31.5	–37	Holding co. for E-services
Iomega Corporation (N: IOM)	0.33	0.8	1.67	31.9	37.3	4.6	–24.5	–60	Data storage for computers
IDT Corporation (N: IDT)	0.34	1.2	2.08	147.8	42.7	58.3	–28.0	–60	Telecommunications
Applica, Inc. (N: APN)	0.35	0.5	0.77	31.9	51.7	–3.6	3.2	46	Personal care prods
Finish Line, Inc. (M: FINL)	0.35	0.5	0.77	22.5	24.7	0.2	2.9	74	Brand-name activewear
Insight Enterprises, Inc. (M: NSIT)	0.36	0.4	0.58	42.9	36.4	2.6	–2.4	–27	Computer direct marketer
Bowne & Co., Inc. (N: BNE)	0.37	0.4	0.62	23.2	50.3	–2.0	1.8	54	Printing & document mgmt
Black Hills Corporation (N: BKH)	0.40	0.8	1.12	61.1	64.4	5.1	5.8	65	Energy & communications
Ampco-Pittsburgh Corp. (N: AP)	0.47	0.5	0.66	9.7	34.6	2.0	1.1	30	Heat exchange coils
Public Service Co. of NM (N: PNM)	0.47	0.8	0.74	14.8	66.8	7.4	5.8	74	Elec & natural gas in NM
Banta Corporation (N: BN)	0.48	1.2	0.56	8.5	52.8	3.3	3.3	80	Printing & digital imaging
High Plains Corporation (M: HIPC)	0.49	0.7	0.62	15.5	33.5	2.6	1.9	125	Produces & sells ethanol
Petroleum Development (M: PETD)	0.54	1.6	0.82	44.6	44.7	8.0	15.1	49	Produces & mkts natural gas
TeleTech Holdings, Inc. (M: TTEC)	0.63	1.1	4.05	77.3	38.6	3.5	–74.4	–66	Outsourced mgmt solutions
Odwalla, Inc. (M: ODWA)	0.67	0.8	0.89	21.1	32.7	0.2	2.8	51	Branded beverages
Captaris, Inc. (M: CAPA)	0.68	1.4	3.19	26.3	14.7	–2.4	–31.5	–53	Computer-telephony solutions
Zomax, Inc. (M: ZOMX)	0.89	1.1	1.55	78.5	28.6	7.9	–74.4	–56	Process mgmt for multimedia
Ionics, Inc. (N: ION)	0.94	1.4	1.60	13.0	33.7	–0.5	0.4	25	Water purification
Datastream Systems, Inc. (M: DSTM)	1.06	1.4	4.40	36.8	28.8	–10.8	–31.5	–25	Indus autom'n comp & software
Pegasystems, Inc. (M: PEGA)	1.26	1.4	10.27	29.5	18.3	–2.2	–31.5	0	Customer serv mgmt software
OrthoLogic Corporation (M: OLGC)	1.31	2.2	3.04	43.7	26.8	–53.2	–9.2	55	Orthopedic products
Exactech, Inc. (M: EXAC)	1.38	2.2	2.05	35.7	27.5	8.2	–9.2	–5	Orthopedic implant devices
LifeCore Biomedical, Inc. (M: LCBM)	2.35	9.6	8.80	26.8	14.6	–8.8	–42.0	0	Surgical devices
ArQule, Inc. (M: ARQL)	4.40	9.6	9.22	72.4	19.1	–39.4	–42.0	–16	Chem-based prods for drugs
Gum Tech International (M: GUMM)	4.59	9.6	10.67	25.5	24.5	–29.7	–42.0	–19	Prods for nutrient & drug sys
Theragenics Corporation (N: TGX)	6.18	9.6	13.29	41.0	5.7	40.1	–42.0	84	Cancer treatment devices

Source: AAII's Stock Investor*/Market Guide, Inc. Statistics as of 8/31/01.*

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

INDUSTRY LEVELS

Price-to-sales figures are not perfect. Trading levels tend to be tied to profit margins and growth rates. Investors normally seek stocks with low valuation measures such as price-to-sales or price-earnings ratios with the belief that the market may have overlooked a company or incorrectly assessed its value.

However, some industries traditionally sell with low price-to-sales ratios. Companies in these industries typically have low profit margins (income divided by sales) or have very poor sales growth prospects. A simple screen solely for low price-to-sales ratios will tend to turn up many of these firms.

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 AAII's stock screening program—*Stock Investor*. The figures range from a high of 9.6 for the biotech industry to a low of 0.2 for five industries—iron and steel, non-apparel textiles, drug retail, grocery retail, and home improvement retail. Five years ago, the biotech industry also had the highest price-to-sales ratio with figure of 8.1, while the retail home improvement industry had the lowest figure of 0.2—the same as it is currently.

Table 1 helps to identify some the characteristics tied to the price-to-sales ratio. Price-to-sales levels are tied to expectations of future company growth, profitability, and risk. The higher the expected growth, the higher the price-to-sales ratio a stock can support. The historical growth rate helps to provide a feel for the growth potential and life-cycle stage of the various industries. The industries with the lowest price-to-sales ratios also tend to have relatively low historical sales growth rates.

Higher profit margin levels also translate into higher price-to-sales ratios. Profit margins measure the level of income produced for a given level of sales. Long-term investors buy shares of a company with the expectation that the company will produce a growing future stream of cash or earnings even when investing in emerging industries. Profits point to the company's long-term growth and staying power.

Gross profit margin (sales less cost of goods sold divided by sales) reflects the firm's basic pricing decisions and its material costs. The greater the margin and the more stable the margin over time, the greater the company's expected profitability. The low price-to-sales ratio of the iron and steel industry is accompanied by a low gross profit margin of 10.4. The other low price-to-sales industries also carry lower gross profit margins.

Net profit margin (net income divided by sales) is the "bottom line" margin frequently quoted for companies. It indicates how well management has been able to turn sales into earnings available for shareholders. While the relationship is not perfect, industries with lower margins are trading with lower price-to-sales ratios.

Industry comparisons are critical for all of the profitability ratios. Margins vary from industry to industry. A high margin relative to an industry norm may point to a company with a competitive advantage. The advantage may range from patent protection to a highly efficient operation operating near capacity.

As we have indicated, price-to-sales levels are also tied to expected earnings and cash flow levels. A company can increase income by either having a higher profit margin or selling more goods at a given profit margin. Inventory turnover (cost of goods sold divided by inventory) approximates the number of times inventory is used up and replenished during the year. A higher ratio indicates that inventory does not languish in warehouses or on the shelves. Inventory turnover is very industry specific. For example, retail grocery stores have a higher turnover ratio than retail apparel stores.

THE PRIMARY FILTER

Stock Investor Pro, AAII's stock screening program, with over 9,000 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, the first criterion excludes financial firms, reducing the starting universe from 9,255 to 7,776 stocks. The next filter excludes real estate investment trusts (REITs), which also require specialized analysis, eliminating an additional 248 securities.

With financial firms and REITs excluded, we are 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.

However, as we discussed, some industries traditionally sell with low price-to-sales ratios. Companies in these industries typically have low net profit margins or very poor sales growth prospects. A simple screen for only low price-to-sales ratios will tend to turn up many of these firms. To help take industry factors into account, our primary filter looks for companies whose price-to-sales ratios are below the median for their industry. This filter reduces the number of passing companies from 7,528 to 3,145 firms.

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. Adding this filter to our screen reduced the number of passing companies to 1,456.

CONDITIONING CRITERION

Even a stock with a low price-to-sales ratio is no bargain if it has poor growth prospects. If a company has poor prospects and high risk, 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 or a neglected company that has yet to attract the attention of Wall Street. The 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 further reduces the number of passing companies to 737.

A screening criterion based solely on 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 and earnings growth should be part of the detailed analysis performed on the companies passing the screen.

FINANCIAL LEVERAGE

A value screen 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. While leverage screens do not tend to turn up promising investments, they are helpful in highlighting troubled firms, especially if studied over time.

The price-to-sales screen looks for companies with a ratio of total liabilities to assets below the median for their industry. This criterion reduced the number of passing companies to from 737 to 193.

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. The next screen requires a 52-week relative strength ratio that is higher than the industry median, and reduced the number of passing companies to 87. 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.

FIRM SIZE

Fisher observed that 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 $50 million was specified, reducing the number of passing companies to 47 stocks. As a final screen for minimum trading liquidity, a filter excluding over-the-counter stocks was specified. This filter had no effect on the final number.

PASSING COMPANIES

Table 2 presents the 47 passing stocks ranked by price-to-sales ratio. Commonwealth Industries has the lowest price-to-sales ratio of 0.11. Commonwealth Industries manufactures aluminum sheet and electrical conduit, products that are largely commodity goods, resulting in low margins even in good times. Firm earnings have been hurt due to manufacturing inefficiencies related to lower sales volume throughout firm operations.

Theragenics has the highest price-to-sales ratio of 6.18. This biotech company develops, manufactures, and markets radiological, pharmaceutical, and other devices used in the treatment of cancer. Sales and earnings have benefited from increased selling prices. Theragenics has a net profit margin of 40.1%, while Commonwealth Industries has negative earnings leading to a negative 1.4% profit margin.

As is true for any screen, the list of passing companies 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. ✥