Stock Screening for Tiny Titans

ABSTRACT: Tiny Titans is an aggressive investing strategy for micro cap stocks. This document provides an overview of the strategy as well as how to implement a Tiny Titans screen in several stock screeners. Links to online stock screening programs are included.

October, 2008

Overview

In his 2006 book, *Predicting the Markets of Tomorrow*, James P O'Shaughnessy unveils Tiny Titans - a micro cap strategy that includes both a value component and a momentum component.

In previous books, O'Shaughnessy avoided micro cap strategies but developed this one for the following reasons:

- Micro-cap stocks have little or no analyst coverage so are often overlooked or ignored
- Micro-cap stocks have low correlation with the S&P 500 (0.66) so they can be included in a diversified investment strategy

If you are interested in micro cap stocks, Tiny Titans requires minimal data for screening and has a published historical performance.

Historical Performance

From 1951 through 2004, the strategy had a **real** average annual return of almost 19%. Keep in mind that real return is the return above and beyond inflation. Not too shabby!

The downside to that kind of performance is volatility. The standard deviation from the average return (24.6% when not adjusted for inflation) is about 39%. This means 95% of the time the returns were between a **loss** of 53% and a gain of 102%. Not a strategy for the rent money.

AAII Stock Investor Pro offers a variation of the Tiny Titans as one of their pre-defined screens (one of the major differences is the refresh rate). The published performance of the AAII screen since 1998 is the highest of all their pre-defined screens. It has the highest return even with a 33% drawdown from July 2007 to June 2008. You can [view the historical performance of the monthly AAII screen here](#).

Screening Requirements for Tiny Titans

The Tiny Titans data requirements are as follows:

	Data Field	Operator	Parameter
	Market capitalization	>=	US $25 million
AND	Market capitalization	<=	US $250 million
AND	Price-to-Sales (P/S) Ratio	<=	1.0
AND	Exchange	Not Equal	OTC
AND	1 Year Price Appreciation	Maximum	

Market capitalization is the market value of the common stock. It is calculated by multiplying the number of shares (common stock) by the current price of the stock. A stock with 10 million shares outstanding with a price per share of $3 would have a market cap of $30 Million.

The price-to-sales ratio (P/S) is a valuation measure calculated by dividing the price per share of stock by the annual sales per share of stock. It represents how much each dollar of annual sales would cost an investor.

In the market cap example, if the company had $60 Million in annual sales it would have sales of $6 per share since it has 10 million shares of stock outstanding. It would then have a P/S of 0.5 ($3 per share stock price divided by $6 per share of annual sales).

The published strategy selects the top 25 companies with the highest price appreciation over the last year. From a screening perspective, price appreciation could be percent gain or relative strength.

The published holding period (the basis for the published performance) is one year.

O'Shaughnessy places value on trading liquidity. When describing the universe of liquid stocks, he puts the minimum at $500,000 of the stock traded per day. We will stretch this a little and insist instead that a minimum of 100,000 shares of stock trade per day. This is partly because many free screeners do not offer dollar volume as a screenable field.

	Data Field	Operator	Parameter
AND	Average trading volume	Greater than	100,000

Variations on a theme

Academic research (Lakonishok et al) supports the idea that a relative valuation works as well as an absolute valuation. For example, if a Price/Book ratio less than 1 is the desired valuation, it is just as valid to seek a company with a Price/Book ratio less than its Industry Price/Book ratio.

The same is true for Price Earnings ratios, Price/Sales ratios and High Yield. In the case of the Tiny Titans, you may want to consider Price/Sales less than Industry Price/Sales. We will note if Industry P/S is an option when considering the various screeners.

If you decide to use relative P/S instead of absolute P/S, the data requirement for the Price/Sales parameter would become:

	Data Field	Operator	Parameter
AND	Price-to-Sales (P/S) Ratio	Less than	Industry P/S

Are you able to diversify with this strategy?

A diversified investment strategy often includes a micro cap investing component. If this is a goal of yours, please consider the following.

Even if you stick with a 1 year holding period for 25 stocks, round trip trading costs could force a large commitment of capital. For example, suppose the round trip trade costs $15 for each of the stocks. To keep trading costs below 1%, each position would be $1500.

Therefore, for 25 stocks, the minimum total capital required would be $37,500. But since an aggressive strategy is only a small part of most portfolios (say 10%), the total portfolio would need to be $375,000 at a minimum.

Using micro cap mutual funds is a realistic alternative for smaller portfolios desiring a micro cap component. Save the time and effort required to manage a micro cap stock component until you have both the capital and the time. Just remember to find a mutual fund (or ETF) with the appropriate market cap.

Candidate screeners – some are free, some are not

There are two kinds of stock screeners - ones that are free and ones that are not. Surprisingly, not all the free screeners are capable of screening for a simple strategy like Tiny Titans.

The ones that cannot handle the titans (and the reasons):

- AOL (free) – no 1 year price change or relative strength
- CNBC (free) – trading volume is not available
- MarketWatch (free) – no market cap or P/S available
- Morningstar **Free** Screener – no P/S or trading volume available
- Yahoo! (free) – trading volume is not available

Stock screeners that work

Two of the free online screeners can run the Tiny Titan screen:

- MSN Deluxe Screener
- Google Finance: Stock Screener

Screeners provided by your broker may also run the Tiny Titan screen. For example, if you are a TD Ameritrade client, their screener is free to you and it can screen for Tiny Titans.

If you already own one of the following fee-based screeners, they work fine but may require a little work to set up or to report the results.

- AAII Stock Investor Pro
- Morningstar Premium Screener
- SmartMoney
- Vector Vest
- Worden's TeleChart
- Zacks Research Wizard

The Value Line Investment Survey was not considered for the Tiny Titans screen since it deals primarily with larger cap stocks. The data fields are present to do the screening but, with the large cap stocks universe, no companies would pass the screen.

AAII Stock Investor Pro

Although the AAII screener comes with a pre-defined Tiny Titans screen, it is slightly different than the published version. All the data described is available. It will be necessary to adjust the 1 year price appreciation value (use either percent gain or relative strength) until at least 25 stocks pass the screen.

After screening, price appreciation must be included in the view of the results. In the price appreciation column, right click on the heading and select sort descending to get the top 25 stocks at the top of the view.

Industry P/S is available in Stock Investor Pro.

It is possible to save the custom screen for later use. Saving it allows you to use the screen for back-testing when data from another time period is loaded.

AAII currently provides point in time monthly data as far back as January 2003 so back-testing is possible. It is clumsy but possible. If you want to back-test but cannot afford the Zachs' product, this is the

screener to choose. All companies that existed at the point in time are available to the back-test.

Google Finance: Stock Screener (free)

This free screener works but requires some extra effort to get to the results. For example, you must enter a range for every criterion. Once you select the parameters, the default range is the minimum and maximum values of the range. The default value will also imply how to enter the value you want.

Select the following criteria:
- Market Cap (Valuation)
- Average Volume (Volume)
- Price To Sales (Popular)
- 52w Price Change (%) (Price)

Enter the appropriate Min and Max values. Set the drop down boxes to "All Sectors" and "All Exchanges". Adjust the minimum value for the price change until at least 25 companies pass the screen. Right click on the price change column to sort descending.

The graphics are unique and show the distribution of the criteria across all companies. No industry relative P/S is available and no back-testing is available. The screen **cannot** be saved for future reference. Check the Google Finance screener for yourself.

Morningstar Premium Screener

All the data is available for the screen but some are a little hard to find. A description of each data field is provided as it is selected. P/S is available by sector, but not by industry.

It is possible to save the screen criteria for later use. Normally it is best to save the screen by the strategy name – Tiny Titans in this case. In order to sort the results by relative strength, you must view the results of the screen by the strategy name.

Morningstar proprietary rating (star) system is also available within the screener and may prove useful to increase performance.

If you do not subscribe to this screener, a 2 week trial is available. You can examine the Morningstar Premium Screener offer by following this link.

MSN Deluxe Screener (free)

This is generally regarded as the best free screener. All data required for the Tiny Titans strategy is available.

Select the following criteria:
- Market Capitalization (Company Basics)
- Price/Sales Ratio (Price Ratios)
- Avg. Daily Vol. Last Month (Trading & Volume)
- 12-Month Relative Strength (Trading & Volume)
- Exchange (Company Basics)

Enter the appropriate values. For relative strength choose as high as possible and set the number of results to 25 in the Return Top Matches dropdown. You can use industry average P/S if you prefer – it is available. Save the screening criteria under an appropriate name.

In order to eliminate pink sheet and bulletin board stocks, a work-around is necessary. Since the proprietary MSN rating system (Stock Scouter) does not rate these types of stocks, you can select a rating greater than or equal to 1 to eliminate them from consideration.

No back-testing is available.

MSN Deluxe Screener requires a download to your system. If you are not using this screener and want to try it, click here.

SmartMoney (almost free stock screener)

All the data is available for the Tiny Titans screen. One of the nice features is the display of the averages of the variable you are working with. The variable description can also be displayed.

Once the screen is run (press Find Stocks) you will need to sort the results by the 52 week price change. Use the "Make Report" button to create a report which can be exported. You can save your screening criteria.

The relative P/S ratio for the industry is not available. No back-testing is possible.

If you do not subscribe to this screener, a 2 week trial is available. You can examine the SmartMoney screener offer by following this link.

Vector Vest (VV)

All the data is available to build a VV UniSearch for Tiny Titans. Select the exchanges (including the options versions) in a positive fashion to eliminate OTC stocks. Create a 52 week price delta and select a value sufficient to find 25 or more stocks. Sort the results by the 52 week price delta.

In order to avoid closed end funds, it is necessary in VectorVest to add Industry Group as one of the parameters. Select the not equal (<>) operator and then, in selected industries, identify those you want to exclude (market related industries and the VV composite)

Industry relative Price-to-Sales is available in Vector Vest and can be used rather than the absolute value. In addition, VectorVest supplies proprietary indicators that may be useful in improving performance.

NOTE: Back-testing is available in Vector Vest although only surviving companies will be included in the back-test (survivorship bias). This can be an issue when testing in the micro cap universe of stocks.

Worden's TeleChart

All the data is available in both the Gold and Platinum versions to create a Tiny Titans EasyScan. Select the 3 major US exchanges to eliminate the OTC stocks. I used the 90 day volume and the 1 year Relative Strength (vs. SP-500).

Use the 1 year Relative Strength to sort the results when viewing the EasyScan.

Since TeleChart offers rank instead of value, it may make sense to substitute market cap percentile rank for market cap values since O'Shaughnessy actually recommended adjusting the range for inflation.

It is not possible to substitute industry relative Price-to-Sales in TeleChart. However, there are proprietary technical indicators that may be useful to improve performance.

NOTE: Back-testing is available in TeleChart as an added-cost option although only surviving companies will be included in the back-test (survivorship bias). This can be an issue when testing in the micro cap universe of stocks.

Zachs Research Wizard

This high-end product has all the data needed for this screen and offers (very powerful) back-testing capabilities. All companies that existed at the point of testing are available in the back-test.

Back-testing the Tiny Titans with shorter holding periods (not the published 1 year holding period) confirms the performance results of the AAII Tiny Titans screen.

Proprietary Zachs data is available as is support from Zachs staff. If money is no object or you already have access to this product, ignore everything else. Note, however, that the Zachs database is limited to companies for which earnings estimates exist (that is, only those with a Zachs rank).

DISCLAIMER

To the best of our knowledge, the information contained in this document is accurate. This is **not** investing advice.