

## Exploiting Negative Emotions

*Focusing on the little-known arena of international small and mid-cap companies requires substantial enterprise and research. Joe Joseph and Randy Farina, portfolio managers of the Putnam International Capital Opportunities Fund, have built a portfolio comprising of the bottom 20% of international small cap companies, from developed markets by adopting a unique investment strategy of exploiting people's emotions arising from stock price fluctuations.*

**Q: What is your investment philosophy?**

**A:** Our fund focuses on international small and mid-cap companies that comprise of the bottom 20% of the developed markets in the world. We target both growth and value stocks, regardless of sector, that are priced below what we believe are their fair values.

Our investment philosophy involves exploiting human emotions. We are value investors that believe in approaching every company the way a private equity owner of a business does, by trying to find out what the company's value would be in the absence of the stock market. We then try to identify and exploit people's emotions caused by dramatic stock price fluctuations, because market volatility results in fear, greed, and hope and also overconfidence. Consequently, our investment process includes a great deal of behavioral finance.

**Q: What international markets do you include? Why do you prefer this particular asset class?**

**A:** By international small cap companies, we mean the bottom 20% of all the developed stock markets around the world - countries such as the UK, continental Europe, Canada and the region of Asia, comprising Japan, Australia and New Zealand. These markets comprise a large asset class of about 10% of world markets, and are twice the size of the U.S. small-cap

markets which represent only around 5%.

The typical U.S. investor has about 2% in international small and mid-cap companies mainly due to lack of knowledge of this asset class. They also assume that this asset class has a higher risk than the domestic small cap. However, data derived from using standard deviations as a measure of volatility during a market cycle of the past 10 years, reveals that the annualized volatility of international small cap stocks is 15% and this is in line with that of global large caps. International small cap stocks are less volatile and more attractive compared to the U.S. small caps. Small cap stocks in the U.S. in the last ten years had a volatility of 20%.

Furthermore, the 5,000 stocks that make up the small-cap international universe have an average market cap of \$1.3 billion, whereas the 2,000 U.S. small caps have average market cap of \$700 million. That makes them a less risky asset class than their U.S. counterparts, because they are slightly larger companies and greater in number. An international small cap is also the least correlated with U.S. large cap so it's a natural fit for a diversified portfolio.

Valuations also favor the international small caps. They have a price-to-earnings multiple of 15 with a return on equity, or ROE, at 19% compared to earnings multiple for the U.S. small caps of 20 and 11%



**JOE JOSEPH** is a Managing Director and Chief Investment Officer on the Small- and Mid-Cap Core Equity team. He leads the teams responsible for managing global, international, and U.S. small-cap core equity institutional and mutual fund portfolios. He is also the Portfolio Leader for the Putnam International Capital Opportunities.

Joseph joined Putnam in 1994, and is a Certified Public Accountant with over 20 years of investment experience.



**RANDY FARINA** is a Senior Vice President and Portfolio Manager in Putnam's Small Cap Equities Group, specializing in the technology and basic materials industries. He is responsible for conducting fundamental analysis and valuation of the companies in these industries and making buy/sell recommendations.

Farina is a Portfolio Member on the Putnam International Capital Opportunities Fund. A CFA charterholder, he joined Putnam in 1997 and has 11 years of industry experience.



ROE. In addition, the earnings growth rate is projected higher for international small cap companies.

**Q: What is your investment strategy and process?**

**A:** Our basic investment approach is to first identify companies in the bottom 20% of our international small cap universe of 5000 stocks, especially stocks that are going through dramatic fluctuations and then exploit the emotions, or biases, that most investors will subsequently exhibit.

Our investment strategy and process uses a lot of behavioral finance that mainly involves a thorough scrutiny of financial statements and footnotes given in the 10Ks and annual reports of the companies in our universe. Using that data we build a behavioral model that ranks companies based on biases such as greed, over confidence, hope and fear exhibited by most investors when stocks gyrate. We then pick top 20% companies that have the most significant negative biases held by people.

Next, we combine the negative sentiment prevalent on a stock together with cheap

**“We are value investors that try to identify and exploit people’s emotions such as overconfidence, greed, hope and fear caused by dramatic stock price fluctuations. Consequently, we use a lot of behavioral finance in our investment process.”**

infringing valuations and come up with a list of stocks to buy. Thereafter, without allowing any further discussion, that would inject our own emotions, we mechanically buy the top 20% of these names.

**Q: What do you discover in financial statements that help in the creation of your behavioral models?**

**A:** There are plenty of clues if one knows where to look. We take the raw accounting data of every company in our universe and using accounting algorithms convert data to what we call cash economic earnings. This weeds out any accounting irregularities and also helps put companies on a comparable footing so that a U.S. retailer can be compared to a German or Japanese manufacturer.

For example, we bought a lot of stocks of the U.S. and U.K. home builders around the years 2000 and 2001 because they were cheap and people hated them. Over the next 3 to 4 years we benefited from owning these stocks. Gradually they regained their popularity and around mid 2005 we noticed that inventories were growing faster than sales and when that happens, roughly 58% of the time stocks will underperform over the next 2 to 3 years.

At this stage managements often lure investors with secondary offerings. We avoid secondary offerings or IPOs - because we believe that 55% of secondary offerings underperform. This is because companies’ managements begin to feel overconfident and are invested either when the industry is at a cyclical peak or they’re doing so well that very soon a fierce competitive environment emerges causing stocks to reach their fair value. We saw this phenomenon in the homebuilders’ case and sold the stocks.

**Q: Can you give a few examples of how your system would detect or learn from changes in the small-cap universe?**

**A:** The U.S. semi-conductor arena is full of such examples - like Sigma Tel, Omni Vision, etc. Many of these small cap semi conductor stocks were very attractive, traded at low multiple to earnings with 25% operating profit margins and were growing at 30% to 40% a year. However, in the small

cap universe 97% of the companies cannot sustain this rate and fade to the industry average. Being so small these companies just can’t sustain at \$200 million to \$300 million sales.

Sure enough, 95% of these companies went down and missed earnings, basically because they got designed out of the next product cycle. One thing common in all of them was that they had one large customer, accounting for 20% to 30% of sales and their revenues were less than \$250 million. Hence we learnt to avoid such a company because the odds are so stacked against these companies that even if they appears cheap and the data in the financial statements are attractive, experience tells us to stay away from them. Ultimately, our goal is to win by not losing because there are so many names to choose from.

Our research and experience have thus enabled us to now recognize patterns, and we have adjusted our model to incorporate further research efforts that we’ve done, specifically, in semi conductors.

**Q: So then what kinds of stocks do you invest in? Do you look for companies that piggyback on a larger trend or find regional or local champs?**

**A:** We go wherever we find value and so we invest in all the three kinds. One typical example is Kansai Paints, a little-known Japanese small-cap company that we own. What makes it attractive is that it is the sole paint supplier for a large cap player like Toyota Motor Company. This company yields good returns to us because it piggybacks on the growth of a global giant.

Representing local Starbucks flavor is a coffee chain that we own in Japan called Doota’s Coffee, while an example of a regional airline, Virgin Blue an Australian airline which operates in a very narrow yet highly competitive Melbourne-Sydney route.

We also own commodity, pure play companies that supply global raw materials, mostly to China so we get some exposure to emerging markets too, indirectly through these stocks.

**Q: How is your research process organized?**

**A:** Our goal is to value companies and identify biases, so a major part of our research process is based on the fact that if we want to exploit other people's emotions we need to design a research and investing process that controls our own. We follow three methods to achieve this goal.

First, no one in our group is allowed to carry wireless communication devices. This eliminates all external noise like emails from somebody giving latest stock information that may compel us to react - a total waste of time. We do not have any stock price terminal, which again will only result in unnecessary emotions as when our stocks' prices fluctuate. Thus the key to our investment process is to stay unemotional and unbiased about the data.

The second is our trading schedule. We wait for the release of real information such as quarterly reports in Europe and the U.S. and semi-annual reports from most Asian markets, before trading. We usually trade around the release date of earnings, so when the market releases real information we can draw the right inferences and conclusions from it. At other times, we continue our research effort.

Thirdly, we do not meet company managements any more as we believe the information they give is very subjective and hence a waste of time. We prefer to look at management's actions and these are clearly displayed in the financial statements - their returns relative to the industry, their profitability, their investments, stock buyback, debt management etc. Thus the only objective information is found in financial statements.

**Q: How do you structure your portfolio? What is your benchmark and how many stocks are there in the index and the portfolio?**

**A:** The portfolio is built completely from the bottom up perspective. We do not consider macro views such as, which sector, industry or country is likely to outperform. Whenever a company is cheap or mis-priced we buy them.


Our benchmark is the S&P Citigroup Extended Market Index ex US, comprising 4,500 stocks. Our portfolio contains the top 20% of the list of stocks having the most negative biases. Thus at any point of time there are about 400 to 500 names in the portfolio, with the top 100 names accounting for nearly 75%. It is a fairly concentrated portfolio despite 500 names because, that is 1 in 10 names in our benchmark compared to S&P 500 or Russell 1000 portfolio, that is the equivalent of owning 50 to 100 stocks. On average, we hold the stocks for about two to three years so our turnover is roughly 30% to 40%.

**Q: What is your buy-sell discipline?**

**A:** Our buy-sell discipline is dictated by how we ultimately rank our stocks. Ranking ensures that the first 20% of our list of stocks we can invest in and have the most negative behavioral biases and are cheap in our estimate. Buying is thus a mechanical process as we just buy the top 20% of our list.

Over time the valuation attractiveness of some of these stocks deteriorate and they start becoming less cheap, to the point where they might become fairly valued or even overvalued. The behavioral rank model starts to deteriorate as the stock goes from being hated to people being neutral about it, to liking it, to loving it and finally, becoming irrationally exuberant about it. These stocks then begin migrating to the bottom 20% of the portfolio when they are automatically sold.

**Q: How do you control risk?**

**A:** The worst risk is getting our stock selection wrong. Being international investors, the U.S. dollar fluctuations affect us because we do not hedge in this portfolio, the risk that one of our bottom-up bets, when aggregated at the portfolio level, will be wrong. Japan is a case in point where we are now overweight from the bottom up. While our benchmark has around 20%, we have nearly 25% of our portfolio in Japan. We have derived the 5% overweight position from the bottom up perspective but that hasn't helped in the last two to three years. However, we do have risk control and we limit 5% of assets in a country and generally will not go above or below a certain amount in the benchmark. 

**Putnam International Capital Opportunities Fund**

Symbol	PNVAX
Website	<a href="http://www.putnam.com">www.putnam.com</a>
Address	Putnam International Capital Opportunities Fund 1 Post Office Square Boston, MA 02109
Tel. No.	617-760-1000
Inception	12/1995

**PORTFOLIO**

Total Net Assets*	\$2,197
Avg Mkt Cap (\$ Weighted)*	4.10
Average Price/Earnings Ratio	11.01
Average Price/Book Ratio	1.99
Turnover Ratio	37%

**INVESTMENT INFORMATION**

New Investment	Open
Min Initial Investment	\$500
Min Subsequent Investment	\$50

**RISK (AGAINST S&P 500 - 3-YEARS)**

Alpha	0.01
Beta	1.12
R-Squared	0.95
Ann. Std Deviation	13.18
Sharpe Ratio	1.64

**RETURNS VS. CITIGROUP WORLD EX US EXTENDED INDEX**

	PNVAX	Index
1 Year (Cum.)	16.97%	14.06%
3 Year (Ann.)	23.77%	22.20%
5 Year (Ann.)	25.81%	27.72%

**RETURNS VS. INTERNATIONAL SMALL/MID-CAP CORE INDEX**

	PNVAX	Index
1 Year (Cum.)	16.97%	13.38%
3 Year (Ann.)	23.77%	19.65%
5 Year (Ann.)	25.81%	24.45%

**RETURNS VS. S&P 500**

	PNVAX	Index
1 Year (Cum.)	16.97%	7.72%
3 Year (Ann.)	23.77%	10.09%
5 Year (Ann.)	25.81%	11.63%

**FEES AND EXPENSES**

Max Sales Charge - Front	5.25%
Max Sales Charge - Deferred**	None
Max Redemption Fee	1.00%
Total Expense Ratio***	1.57%

**PORTFOLIO MANAGER**

Joe Joseph - Portfolio Leader	02/1999
Randy Farina - Portfolio Member	11/2004
John Ferry - Portfolio Member	01/2004
Franz Valencia - Portfolio Member	03/2006

\*millions. \*\*a deferred sales charge of 1.00% on class A shares may be imposed on certain redemptions of shares bought without an initial sales charge. \*\*\*versus Lipper cat. Avg. 1.60%

Data through: 11/30/2007

Source: Company Documents; Lipper