

Fingerprinting Your Portfolio Manager

By: Jim C. Otar

Traditional methods of monitoring manager style come with a time delay. They evaluate manager performance, but not in the context of how the manager's style performs in different markets. Jim C. Otar, a market technician, believes his 'Fingerprinting' method can depict manager performance in both rising and falling markets.

Sponsors hire active portfolio managers mainly for one reason: to outperform the underlying benchmark. Yet, history shows that only a small fraction of portfolio managers beat the benchmark. That being the case, the question that comes to mind is 'How do you select portfolio managers and monitor their performance?'

A portfolio manager may excel in rising markets and outperform when the markets

are going up. Another portfolio manager may excel in falling markets by playing defensively and losing less than the markets. In the final analysis, both of these managers may outperform the market because one plays well offensively and the other plays well defensively.

How can we visualize how well each manager is performing? How can we tell if a manager is efficient in rising and/or falling markets? Is it possible to be good in both?

There are several methods of monitoring manager performance such as the Sharpe ratio, the Jensen Alpha, quartiles, and so on. While many of these methods do a good job in evaluating past performance and risk, they usually come with a time delay. And often, they may not be clear enough for timely decisions.

An ideal performance gauge should have the following characteristics:

- ◆ It must depict the performance separately in rising and falling markets. This is necessary because when markets are under stress, the correlation between different portfolio managers increases.

By assessing your portfolio manager separately in rising and falling markets, you may be able to manage risk more effectively.

- ◆ The method must be simple. This is needed to minimize the variety of different interpretations, explanations, and excuses by different portfolio managers.
- ◆ The method must be clear. Any person, regardless of

which side of the table he may be sitting on, should come to the same conclusion about the performance.

I believe the method I call 'Fingerprinting' has all of these characteristics. It is simple and clear and it helps visualize the portfolio's behaviour both in rising and falling markets in two dimensions:

- ◆ The vertical scale indicates how well the portfolio is performing in a rising market. The higher the point is on the chart, the better the portfolio is in outperforming the benchmark in a rising market as shown in *Figure 1*.
- ◆ The horizontal scale indicates how well the portfolio is performing in a falling market. The further to the left the point is on the chart, the better the portfolio is in outperforming the benchmark in a falling market as shown in *Figure 2*.

The calculation is straight-forward: Calculate the difference between the index growth and the portfolio growth each month, take a six-month rolling average of the difference in rising and falling markets, plot the outcome.

Figure 3 shows in detail how a Fingerprinting chart is prepared.

The Location Of The Fingerprint

The location of the Fingerprint on the chart reveals the relative performance of the portfolio. If the Fingerprint is in:

- ◆ the upper-left quadrant, the portfolio has been outperforming its benchmark both in up and down markets
- ◆ the upper-right quadrant, the portfolio outperforms the market when the market is going up and underperforms when the market is going down
- ◆ the lower-left quadrant, the portfolio outperforms the market when the market is going down and underperforms when the market is going up
- ◆ the lower-right quadrant, the portfolio

Figure 1

In A Rising Market ...

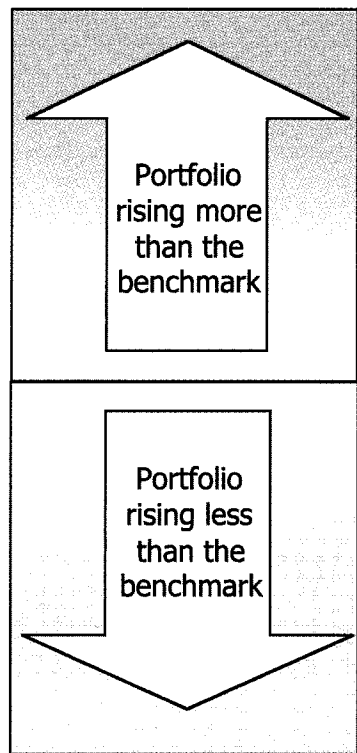
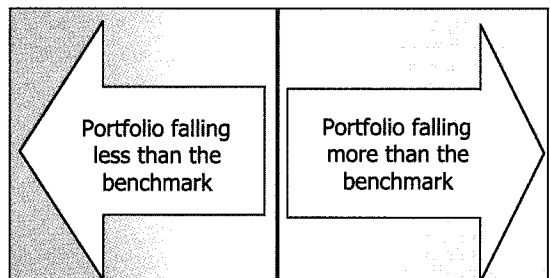


Figure 2

In a Falling Market ...





underperforms the market in both up and down markets

The diagonal line is called the 'Benchmark Line.' If the Fingerprint is:

- ◆ below the Benchmark Line, overall, the portfolio is underperforming the benchmark
- ◆ above the Benchmark Line, overall, the portfolio is outperforming the benchmark
- ◆ right on the Benchmark Line, in the upper-right quadrant, the portfolio outperforms the benchmark in rising markets exactly as much as it underperforms in falling markets (The performance is identical to the benchmark or index but with a higher volatility)
- ◆ right on the Benchmark Line, in the lower-left quadrant, the portfolio underperforms the benchmark in rising markets exactly as much as it outperforms in falling markets (Again, the performance is identical to the benchmark or index but this time with a lower volatility)

It is interesting to note that recent performance can simply be reduced to one point on a Fingerprint chart. That is the simplicity and clarity of this technique.

Who Is A Good Portfolio Manager?



Going back to Figure 3, we see that the Fingerprint of the portfolio is in the upper-left quadrant, meaning it has been outperforming its benchmark both in up and down markets. We observe that it has been outperforming its benchmark

between 0.6 per cent and three per cent *per month* in rising markets (the vertical scale). We also observe that it has been outperforming its benchmark by zero per cent to five per cent *per month* in falling markets (the horizontal scale). This is a remarkable performance. A sponsor would stay with this portfolio manager as long as its Fingerprint remains in the upper-left quadrant and above the Benchmark Line.

For the range of the scale, plus six per cent to minus six per cent is used for diversified portfolios as shown in the example in Figure 3. For sector funds, you may want to increase this range to between plus 25 per cent and minus 25 per cent because sector portfolios are more volatile than diversified portfolios. Whatever range you choose; use the same for all your portfolio managers for a fair comparison.

As for the benchmark, the S&P/TSX Composite can be used for Canadian equity portfolios, the S&P500 for U.S. equity



portfolios, and the MSCI World Index for global funds. You can also generate your own synthetic benchmarks and use them in your Fingerprint charts.

The Fingerprint chart responds to variations in the relative performance in a timely fashion. That is because each month a new point is added to the chart. Even the subtle changes in relative performance and style show up in the chart clearly. The example shown in Figure 3 crossed below the Benchmark Line shortly after September 1998 and never really recovered back to its former glory.

The Shape Of The Fingerprint

Often, the shape of the Fingerprint reveals the manager's style. Examples are shown in Figure 5.



Index funds leave a Fingerprint that appears to be a 'single-dot' right at the centre of the chart. It is actually a stack of several dots that appear at the same spot month after month. If the fingerprint of an index fund appears scattered, it may mean the manager has difficulty following the index.

'Closet-index' portfolio managers are caught easily on the Fingerprint charts.

Figure 3

Example of Fingerprint Chart

Month/ Year	Index Growth	Portfolio Growth	Difference		6-month Moving Average	
			Up market	Down market	Up market	Down market
Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G
Nov-95	4.7%	4.5%	-0.2	-		
Dec-95	1.4%	4.2%	2.8	-		
Jan-96	5.6%	6.0%	0.4	-		
Feb-96	-5.5%	4.8%	-	-5.3		
Mar-96	1.0%	2.7%	1.7	-		
Apr-96	3.6%	3.6%	0.0	-	0.9	-5.3
May-96	2.1%	2.4%	0.3	-	1.0	-5.3
Jun-96	-3.6%	-0.5%	-	-3.1	0.6	-4.2
Jul-96	-2.2%	-1.2%	-	-1.0	0.7	-3.1
Aug-96	4.5%	7.9%	3.4	-	1.3	-2.1
Sep-96	3.1%	8.8%	5.7	-	2.3	-2.1
Oct-96	5.9%	6.3%	0.4	-	2.4	-2.1

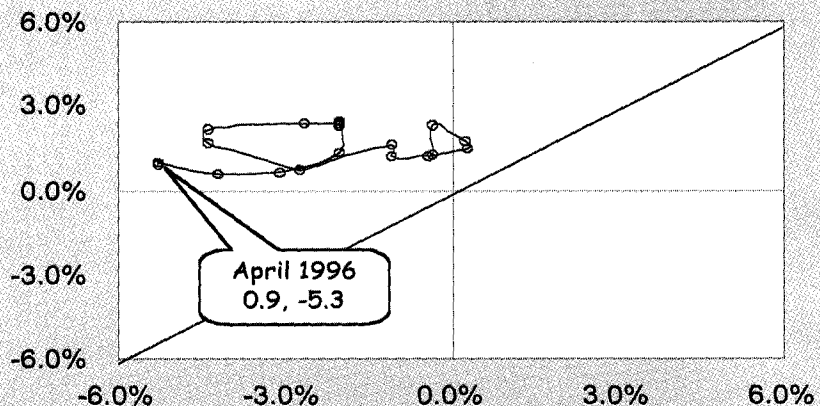
NOTES:

Column D: Col. C minus Col. B (only if index is positive)

Column E: Col. B minus Col. C (only if index is negative)

Columns F and G: 6-month rolling average of columns D and E, use only non-blank numbers

Plotting: Locate the value of F on the vertical scale and the value of G on the horizontal scale and plot. Join each new point to previous point.



Their Fingerprint looks much like an index fund except it is little more spread out. It is fun to catch a closet-indexer especially after a sales pitch about its unique style or its stock-picking abilities. A couple of years of performance history on a Fingerprint chart will confirm or dispute this clearly.

The Fingerprint of a successful sector rotator will spiral around the centre of the chart, most points residing above the Benchmark Line.

Defensive portfolios will show a Fingerprint that is similar to the example shown in Figure 3. They travel in a relatively narrow horizontal band. Aggressive portfolios may more often operate in a vertical band.

Growth portfolios generally will show Fingerprints that have wider swings than value style portfolios.

When markets are under stress, almost all portfolios except index funds move sharply, either to the left or to the right, frequently off the chart. Don't readjust the range on your charts; just leave those points out until they show up back in the chart. If the points disappear to the left of the chart, you are in good hands. If they move sharply towards right, look for a new manager.



These style guidelines are of a general nature. It takes some experience and familiarity before venturing into style identification. However, you may pleasantly surprised by the amount of information you can extract about any portfolio manager from a Fingerprint chart. ■

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Figure 4

Typical Styles

From top down: an index fund, a "closet-index" fund, a sector rotator.

