

# The SEC Does Statistical Testing...

Shouldn't you?

**Scientific • Statistical • Evidence • Proof • Stronger Compliance Programs • Selling Advantage**

There are those who will try to convince you that they are “comfortable” with the kinds of spot checks out there. When you need more than the “comfort check list”, scientifically verifiable tests from Advanced Analytical Consulting Group will give you and your clients real answers.

**ADVANCED ANALYTICAL**  
CONSULTING GROUP



## **But make no mistake. Regulation is a two-way street.**

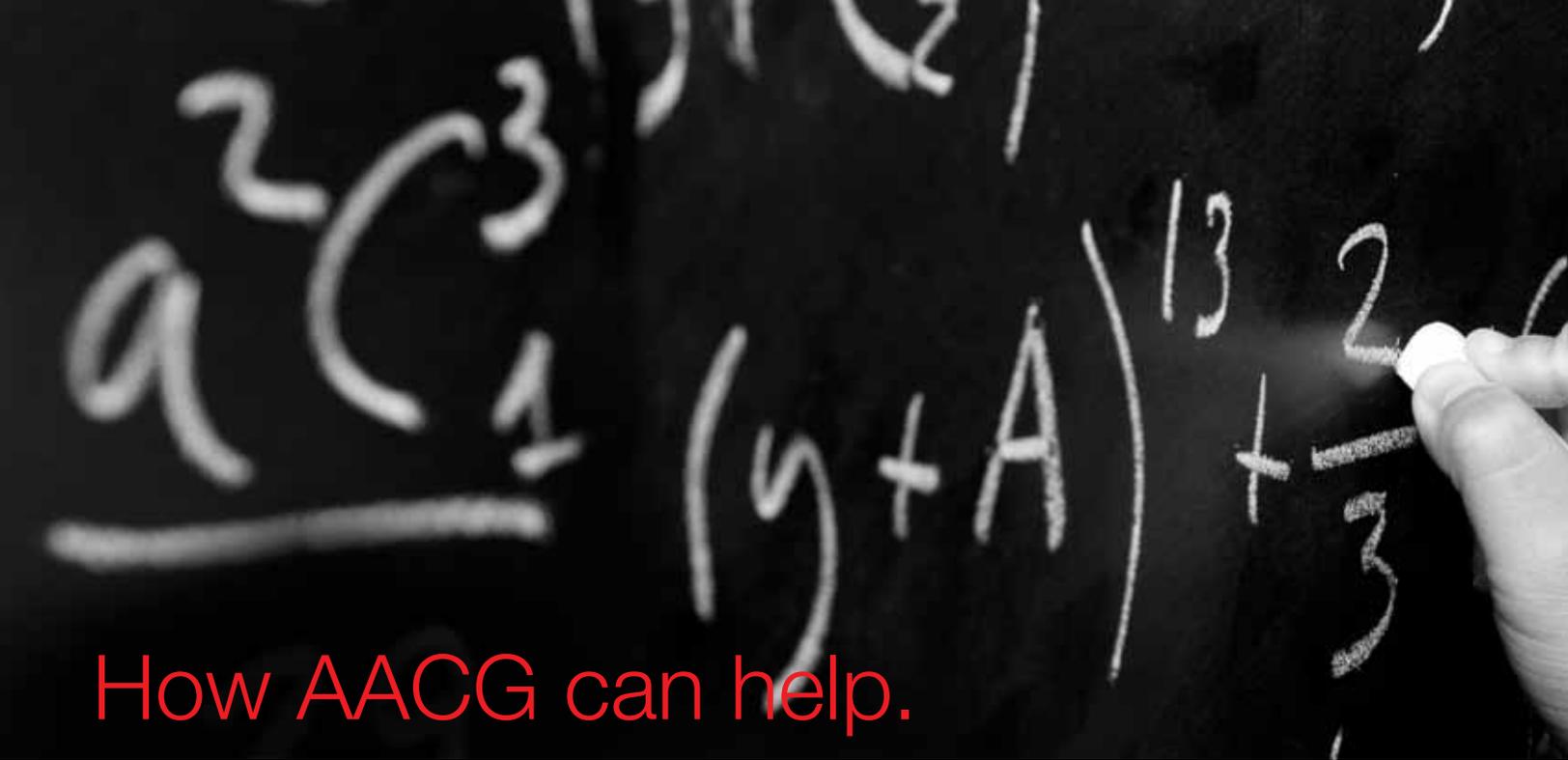
The 'regulated' need not wait for a regulator's reforms, though they will come. At a time when investors are appalled at the ways of Wall Street, it is there that change must begin. A strong and reinvigorated SEC will be on the beat like never before to catch wrongdoers. But there needs to be a new era of responsibility on Wall Street and throughout our markets to ensure that wrongs don't occur in the first place. The sooner that Wall Street works to repair its own problems, the sooner investors will once again find the confidence to invest in what should be the finest markets in the world.

*Mary Schapiro, Chairperson of the SEC,  
February 6, 2009 (speech)*

# Making Your Monitoring Program a Selling Advantage.

The Securities and Exchange Commission (SEC) is clearly interested in the implementation of programs that allow companies to monitor their own activities. In particular, the SEC's Office of Compliance Inspections and Examinations (OCIE) would like investment management companies to have reliable compliance programs in place. Further, the United States Treasury is pressing for more regulation of hedge funds, which have been unregulated in the past. The regulatory environment for investment management companies is becoming increasingly demanding. In the past, spot checks were considered sufficient for showing compliance. This is no longer the case. In addition to regulators and the government, in the wake of scandals such as the Madoff scandal, clients are also going to want more assurances that their investments are safe from fraudulent activities.



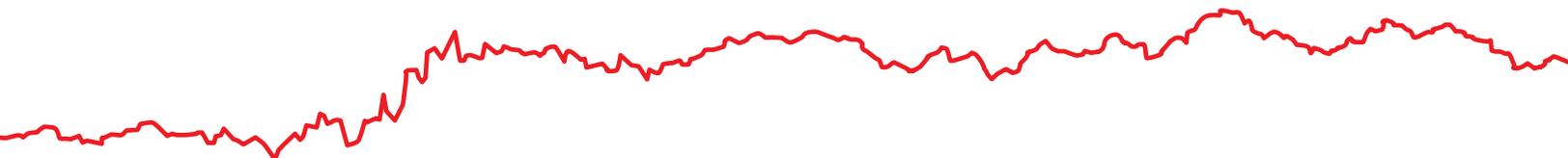


## How AACG can help.

Although currently there may not be regulations requiring a statistical approach for monitoring trading behavior, there is an expectation that firms will utilize and analyze internal and external data to make their monitoring process as robust as possible. A company that can demonstrate effective use of information through this type of analysis can engage in a more meaningful dialogue with regulators. Economists at AACG have the necessary industry knowledge and experience to assist clients by implementing statistical testing to address regulatory or litigation concerns. With our Scientific Fraud Detection product, we can design a system to fit your particular needs.

### Statistical Testing Results – Some Examples for Trading Behavior:

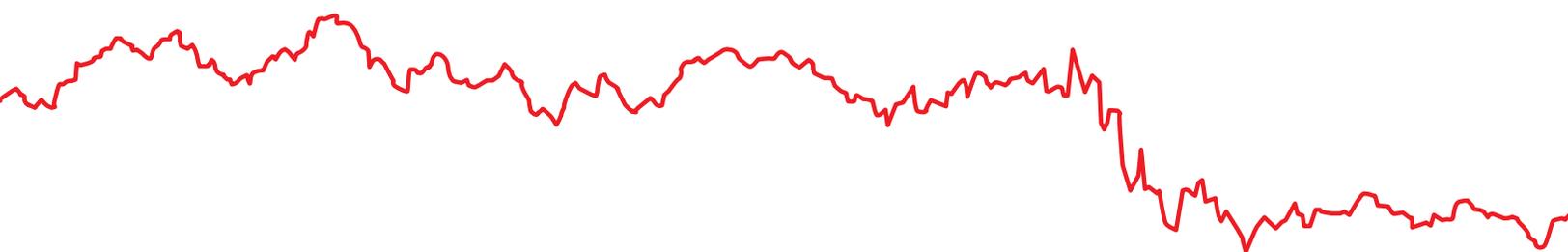
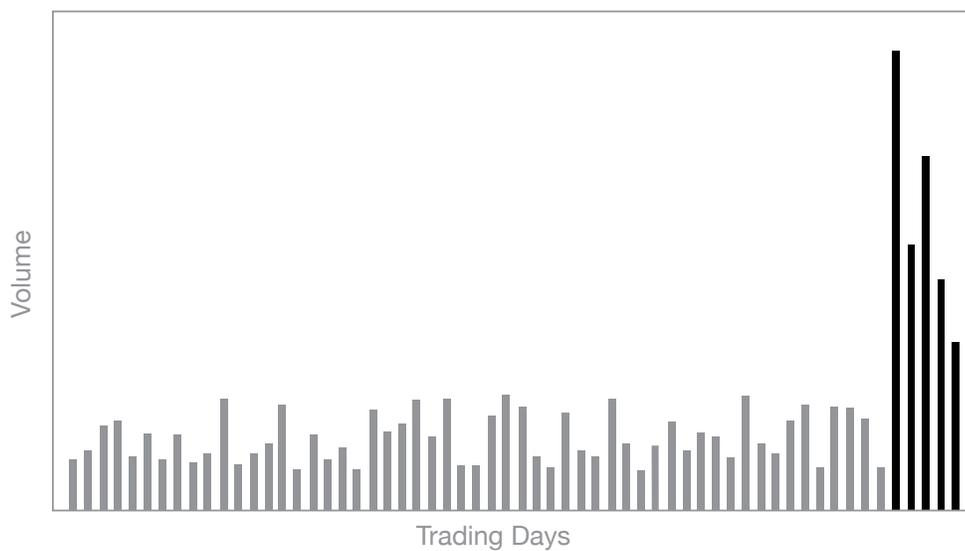
Because the issue at hand is one of monitoring and compliance, it is not sufficient to look at transactions on a one-off basis. Economists at AACG design statistical tests that help identify potential issues. These tests offer robust ways of examining the data either across portfolio managers (PMs) or for a given portfolio manager.



## Portfolio Pumping/Window Dressing

Portfolio managers may have an incentive to trade more near the end of the quarter in order to make their funds compliant with the prospectuses. One way to look for this behavior is to check for quarter-end activity that is statistically different from the rest of the quarter. The chart below shows spikes in activity at the end of the quarter that might be cause for concern.

Window Dressing / Portfolio Pumping



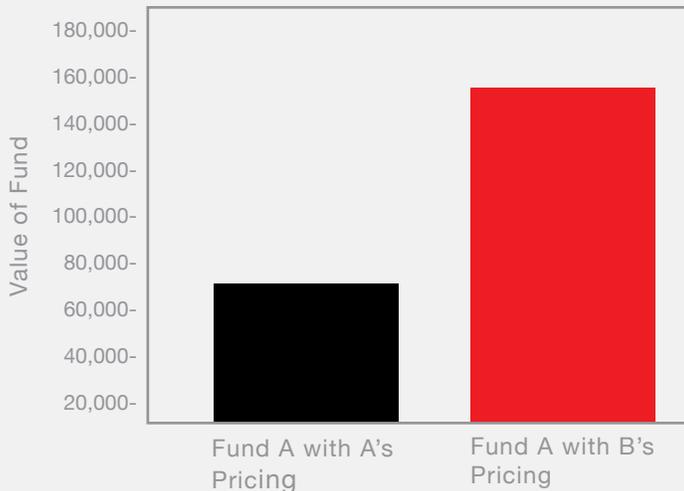
## Trade Allocation

A company can check if one fund systematically received a better price than another fund when they traded in the same security over a defined period of days. The charts to the left demonstrate two cases: one for two funds with the same PM (Funds A and B) and one for two funds with different PM's (Funds B and C). In these cases, the threshold for the difference in dollar value is \$100,000, the trading period is defined as 2-6 days and the two funds had to have at least 50 transactions in the same security. The top left chart shows a situation in which Fund A would have had much higher values, had it been given the pricing Fund B received.

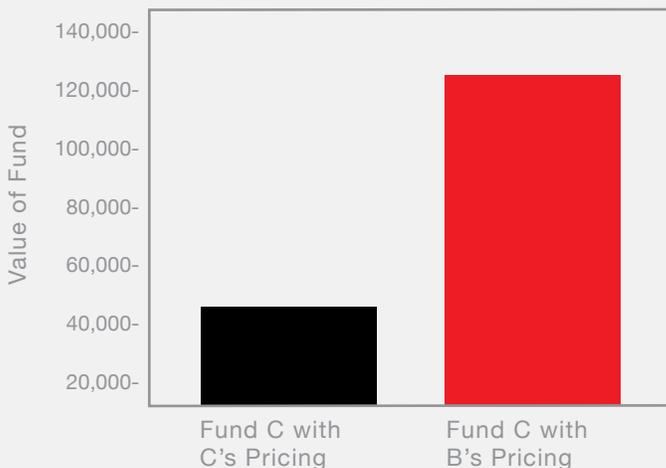
*Note that both funds are managed by the same portfolio manager.*

The bottom left chart shows a situation in which Fund C would have had much higher values, had it been given the pricing Fund B received. In this example, Funds B and C are managed by different PMs. Using statistical tests and defining thresholds allows companies to test for systematic differences and to identify potential areas of concern.

**Trade Allocation Example for a Given PM:**  
Funds Trading in the Same Security over a Period of 2-6 Days

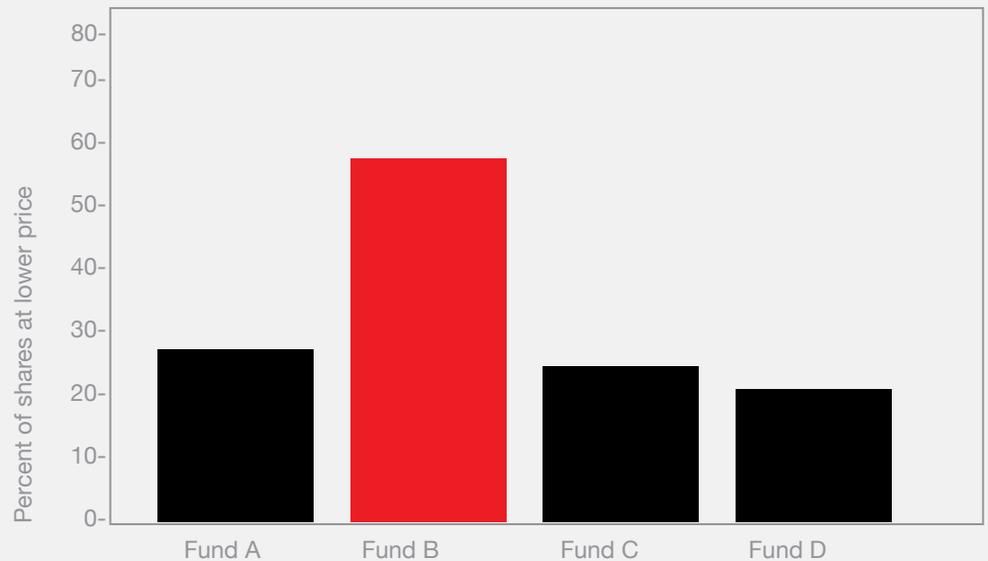


**Trade Allocation Example with Different PMs:**  
Funds Trading in the Same Security over a Period of 2-6 Days



### Trade Aggregation Example:

Funds Trading the Same Security within the Defined Window of Time



## Trade Aggregation

A company can check if one fund systematically benefited from a better price than other funds when they all traded in the same security on the same day within a defined time interval. The graph above demonstrates a situation in which, of four funds that traded in the same security within a defined time interval, almost 60% of the shares purchased by Fund B were at a lower price.

*In addition to the examples given, other tests we can help design and implement include:*

- Checking for Ponzi schemes
- Checking for front running
- Checking for late trading

*Using our Scientific Fraud Detection product, we can work with you to determine the right tests so that you can turn your monitoring program into not only a robust one that can help you engage in a dialogue with regulators, but also into a selling advantage.*

Today, the consequences of (hedge funds') failure is greater.  
They need to be subject to a **higher set of standards.**

*Timothy Geithner, Secretary of Treasury  
March 26, 2009 (Hearing of the House Financial Services Committee)*

## ADVANCED ANALYTICAL CONSULTING GROUP

***For additional information, please contact:***

Advanced Analytical Consulting Group, Inc.

**Daniel S. Levy, Ph.D.**

Boston, MA

(617) 901-6344

DanLevy@AACG.com

**Boston**

112 Water Street, 3rd Floor

Boston, MA 02109

(617) 338-AACG (2224)

**Chicago**

(312) 551-9001