



POLYSYSTEMS, INC. HORIZONS

February 2009

Issue #47
Copyright © 2009
PolySystems, Inc.

EDITOR
Jackie Smith

ASST. EDITOR
Tom Cook

PRODUCTION
Debbie Christensen

CHICAGO OFFICE
30 N. LaSalle Street
Suite 3600
Chicago, IL 60602
P 312.332.5670
F 312.332.2391

NJ OFFICE
2 Executive Campus
Suite 320
Cherry Hill, NJ 08002
P 856.663.8711
F 856.663.8712

www.polysystems.com

POLYSYSTEMS

A logical
partner
in the face
of uncertainty...
now, more
than ever.

Asset Delphi: Balancing & Rebalancing Your Asset Portfolio

—David C. Heavilin, ASA, MAAA, Development Manager

Asset Delphi is PolySystems' asset modeling software. If you currently use Asset Delphi, you are no doubt familiar with the *Reinvestment Rules* table.

Reinvestment Rules in Asset Delphi offers countless options for handling positive and negative cash flows. As Yoda might say, "endless the possibilities are."

Life always demands more options, though, and we added more options.

First, a little background...

Reinvestment Rules communicates with Asset Delphi regarding the purchase and sale of assets. *New Purchase Asset Portfolio Code* defines what kinds of new assets should be purchased and when they should be purchased. When positive cash flows bring the cash balance above your cash cap, assets are purchased to reduce the cash balance until it equals your cash target.

Similarly, *Reinvestment Method* defines when and how assets should be sold. When negative cash flows bring the loan balance above your borrowing cap, assets are sold until the loan balance equals your borrowing target. The available sales rules are: *sell prorated, sell highest maturity first, sell highest capital gain first, sell lowest maturity first, sell lowest capital gain first, sell neutral capital gain and buy negative assets instead of selling.*

EXAMPLE

You have assets in 5-year bonds, 10-year bonds and 25-year bonds. In every projection month, cash flows may be positive or negative. In five years, the

5-year bonds will pay out, and those cash flows will have to be reinvested. Using New Purchase Asset Portfolio Code and Reinvestment Method, one set of rules is defined for situations when net cash flows are negative and another set of rules is defined for situations when net cash flows are positive.

This historic processing applies a rule to a situation without considering the entire portfolio.

Now, the new options...

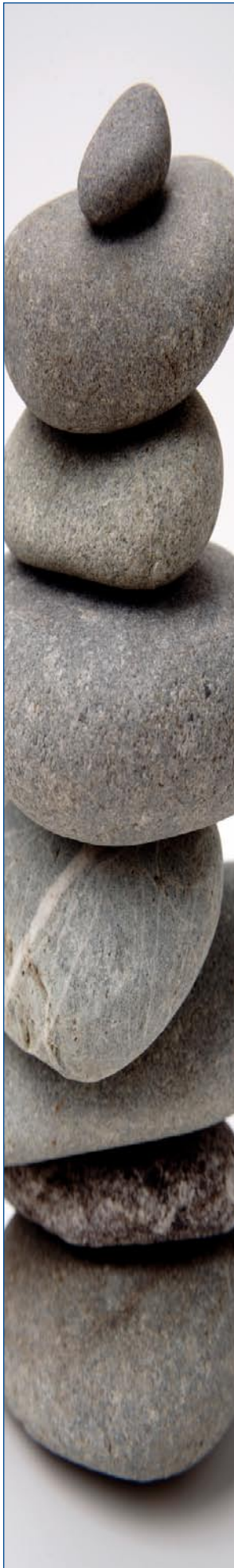
We recently added a new Reinvestment Method, USE REINVESTMENT GOALS, that points Asset Delphi to the new *Reinvestment Goals* table.

Reinvestment Goals is used to balance your portfolio. These goals are not "I want a profit of \$100 million in five years." Instead, these goals dictate the types of assets Asset Delphi will buy or sell each month to keep your portfolio balanced.

When you define Reinvestment Goals, Asset Delphi solves a mathematical optimization problem every month using the cash that you have or need to have and decides which assets to buy or sell. We have several options available that will guide Asset Delphi in how you want to buy and sell assets.

Allocate by Amortized Values helps maintain portfolio-category amortized-value proportions that you specify in *Portfolio Allocation Target Percentages*.

Allocate by Market Values helps maintain portfolio-category market-



value proportions that you specify in Portfolio Allocation Target Percentages.

Neutralize Capital Gains helps keep total capital gains near zero.

Avoid Capital Losses helps keep total capital gains each month either positive or not too negative.

Follow Selling Priorities helps follow your selling priorities in your asset portfolio. This reinvestment goal is generally used in conjunction with another reinvestment goal.

Lower Transactions Costs tends to avoid buying and selling assets with higher transaction costs. This reinvestment goal is generally used in conjunction with another reinvestment goal.

When you have multiple reinvestment goals, you assign weights, or Importance Factors, to each goal. You give higher factors to goals you consider more important.

EXAMPLE

You have assets in 5-year bonds, 10-year bonds and 25-year bonds. In every projection month, cash flows may be positive or negative. In five years, the 5-year bonds will pay out, and those cash flows will have to be reinvested. Using Reinvestment Goals, you have defined the desired state of your portfolio. Asset Delphi will consider what cash you have available and what cash you need. Asset Delphi will then make decisions to buy *or* sell assets until the actual state of your portfolio matches the desired state of your portfolio. When Asset Delphi must buy or sell assets anyway, it selects assets that best help achieve your reinvestment goals.

This new processing looks at the entire portfolio of assets each projection month and buys *or* sells assets (not both) until the portfolio balances with the desired portfolio defined by Reinvestment Goals.

An additional (and very exciting) new capability in Reinvestment Goals is rebalancing. Whenever Reinvestment Goals are defined, Asset Delphi will balance the portfolio every month. When rebalancing is requested, Asset Delphi considers the buying of new-purchase assets and the selling of portfolio items in the same month to better achieve your reinvestment goals. Rebalancing can occur even when the month's new cash flow is zero. It takes balancing one step further by considering which combinations of

buying and selling (both) will best work to achieve your reinvestment goals.

In months when not rebalancing, Asset Delphi still balances. If assets must be sold, Asset Delphi optimizes your goals while just selling; conversely if assets must be purchased, it optimizes your goals while just buying.

EXAMPLE

You have assets in 5-year bonds, 10-year bonds and 25-year bonds. In every projection month, cash flows may be positive or negative. In five years, the 5-year bonds will pay out, and those cash flows will have to be reinvested. Using Reinvestment Goals, you have defined the desired state of your portfolio. Asset Delphi will consider what cash you have available and what cash you need. When you request rebalancing, Asset Delphi will make decisions to buy *and* sell assets until the actual state of your portfolio matches the desired state of your portfolio.

Balancing might include trying to meet amortized- or market-value targets within different categories of assets by buying *or* selling (not both). Rebalancing allows you to tell Asset Delphi when (if ever) to rebalance by buying *and* selling assets simultaneously to help achieve your reinvestment goals.

We have spent a lot of time on Reinvestment Goals. Balancing and rebalancing are our newest features, and we are excited about sharing them with you. Asset Delphi offers unparalleled flexibility and precision when it comes to asset inputs and asset cash flow projections. Increasing the flexibility of Asset Delphi's reinvestment methods with the ability to balance and rebalance takes Asset Delphi's modeling capabilities to the next level.

These features are available now. Contact Bob Keating at 312.332.5670 or via email at BKeating@PolySystems.com if you are interested in learning more or would like a demonstration of Asset Delphi.

Also, feel free to contact me with questions regarding Asset Delphi via email at DHeavilin@PolySystems.com or 312.332.5670. 🌐