



# WILSHIRE

## COMPASS

February 2000

Setting New Standards in Fund Sponsor Information Systems and Investment Technology

### What's New:

#### Compass Technology 2000 Conference

Please be sure to mark your calendars for the Compass Technology Seminar, May 1<sup>st</sup>-May 3<sup>rd</sup> at the Kiawah Island Resort.

### Topics Inside:

#### Wilshire Year 2000 Asset Allocation Assumptions

#### Rolling Consistency Analytic

#### Client Reports Module

#### Technology Conference Agenda

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## Wilshire Year 2000 Asset Allocation Assumptions

At the beginning of every year, Wilshire reviews its return and risk assumptions for the major asset classes. Generally these assumptions change very little, but the last few years have been an exception as the stock and bond markets have shown sizable swings in direction. Consequently, we have been altering our return assumptions up or down by one-half to one percent to better fit changing market levels. This year is no exception. We are increasing our return assumptions for many traditional asset classes due to rising bond yields over the past year.

Wilshire benchmarks its U.S. stock and bond forecasts against two references, one historical and the other prospective. Our historical references are the 11.3% and 5.6% annualized returns on U.S. stocks and bonds, respectively, going back to December 31, 1925. Our prospective references are the yield-to-maturity on the U.S. bond market and the 'dividend discount return' on the U.S. stock market. Our rationale for using these references is that discounted cash flow models using market consensus inputs have proven to be the most reliable forecasts of long-term stock and bond returns. As of December 31, 1999, the yield-to-maturity on the Lehman Aggregate Bond Index was 7.1% and the dividend discount return on the S&P 500 Index was 9.17%. By combining the historical and prospective references, Wilshire arrived at our final long-term stock and bond forecasts of 9.25% and 6.75%, respectively.

Risk and correlation forecasts can also have a significant impact on the overall optimal asset allocation. Fortunately, statistical measures of risk (standard deviation) and correlation from historical returns are generally good predictors of future risk and correlation. Thus, Wilshire's current risk forecasts rely, with some modification, on the historical measurements through December 31, 1999.

The complete capital markets assumption research report will be included in the *Compass* Research Module with the March update.

<b>Asset Class</b>	<b>Return</b>	<b>Risk</b>
U.S. Stocks	9.25%	17.00%
U.S. Bonds	6.75%	7.00%
Cash Equivalents	4.50%	3.00%
Non-U.S. Stocks	9.25%	20.00%
Non-U.S. Bonds	6.50%	13.00%
Emerging Markets	9.25%	27.00%
High Yield Debt	8.25%	10.00%
Real Estate Securities	8.25%	16.00%
Private Markets	12.25%	33.60%
Inflation	2.50%	

## Rolling Consistency Analytic

The January 14<sup>th</sup> *Compass* update included a new performance analytic known as *Rolling Consistency*. This new analytic is available in all of the manager modules and the Total Fund module. The *Rolling Consistency* graph allows users to simultaneously measure changes in excess return (alpha) and excess risk (tracking error) over rolling periods, and thereby detect important trends in a manager's level of active management return and risk. Noticeable shifts in a manager's level of active management return or risk may often signal a change in a firm's investment process which can be a cause for concern.

To produce the *Rolling Consistency* graph, first select a manager(s) and an appropriate index. Next, from the **Analytics** tab select the **Performance** option. Within the *Performance* module, select the *Rolling Consistency* graph and click the **OK** button.

At the *Performance Options* setup screen (Figure 1), highlight one or more managers and an index to use in the analysis. Users can select the *Multiple* option under *Graph Grouping* if they wish to have all selected managers appear on a single graph. If other than the default settings are desired, adjust the *Risk Type*, the *Rolling Period*, and the *Date Range* as necessary. Click the **OK** button to produce the *Rolling Consistency* graph.

Figure 2 depicts a three-year *Rolling Consistency* graph for two U.S. equity products, Alliance Large Cap Growth and Blackrock Large Cap Growth, over the past four years. Each symbol on the graph represents the annualized excess return and risk statistic for the trailing three-year period. The larger the symbol size, the more current the observation.

In Figure 2, we observe that Alliance's annualized excess returns have been positive for nearly all three-year periods. In addition, we observe an upward trend in Alliance's annualized excess returns over the measurement period. There is also an upward trend in Alliance's excess risk. Notice that Alliance's annualized excess risk has moved from approximately 5% to 7½% over the past few years. It's possible that Alliance has taken greater active management risk in recent years because of their success in generating positive excess returns.

Blackrock's Large Cap Growth product paints a different picture. In Figure 2, we observe a positive trend in annualized excess returns over time; however, all excess returns over this measurement period remained negative. The trend in excess risk is even more compelling. Since 1994, Blackrock's trailing three-year excess risk has declined from 5½% to 3%. Just as Alliance appears to have increased their active management risk as a result of their past success, Blackrock, it seems, has imposed greater risk controls within their investment process.

*Note: The numerical data underlying the Rolling Consistency graph can be viewed by selecting Report and Default from the command menu (see Figure 3).*

Figure 1

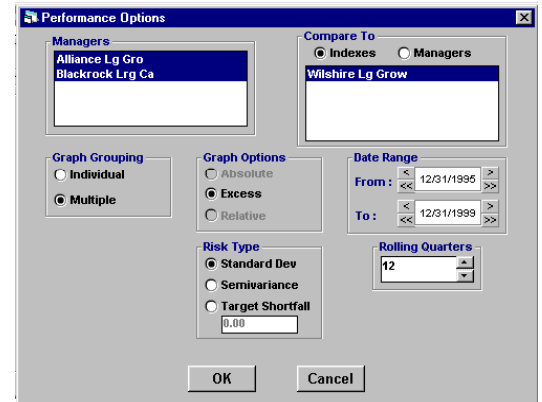


Figure 2

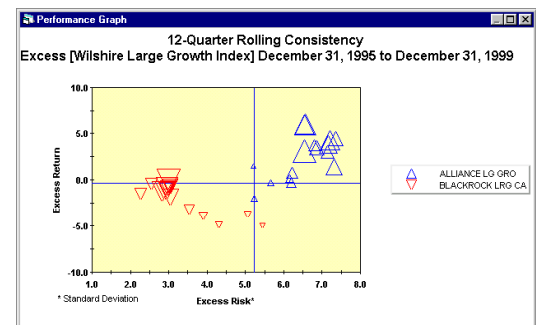


Figure 3

Managers	Alliance Lg Gro		Blackrock Lrg Ca	
Quarter End	Excess Risk	Excess Return	Excess Risk	Excess Return
Mar 1996	5.21	1.55	5.45	-5.02
Jun 1996	5.85	-0.26	5.86	-3.77
Sep 1996	5.23	-1.94	4.30	-4.88
Dec 1996	6.16	0.22	3.89	-3.32
Mar 1997	6.19	-0.25	3.53	-3.18
Jun 1997	6.22	0.83	2.26	-1.54
Sep 1997	6.80	3.76	2.54	-0.42
Dec 1997	7.14	3.01	2.94	-0.95
Mar 1998	7.36	4.46	2.87	-0.86
Jun 1998	6.88	3.46	3.05	-0.67
Sep 1998	7.31	1.44	3.04	-1.89
Dec 1998	7.15	3.84	2.88	-1.14
Mar 1999	7.21	4.32	2.83	-1.27
Jun 1999	6.55	5.98	2.83	-1.29
Sep 1999	6.56	5.96	2.95	-0.90
Dec 1999	6.54	3.11	2.99	-0.89
12-Quarter Rolling Consistency Excess [Wilshire Large Growth Index] December 31, 1995 to Decembe				
Min =	5.21	-1.94	2.26	-5.02
Max =	7.36	5.98	5.45	-0.89
Avg =	6.54	2.47	3.14	-1.88
Median =	6.55	3.06	2.98	-1.28
Stdev =	0.67	2.25	0.86	1.57

## Client Reports Module

The *Client Reports* module allows users to produce and print (or export) a large number of *Compass* graphs and reports at one time, thereby eliminating the task of separately creating individual graphs and reports at the end of each monthly or quarterly reporting period. The *Client Reports* module requires users to set-up graphs and reports only *once*. Thereafter, all graphs and reports are automatically refreshed after each new database update to reflect the most recent performance and characteristic information. Thus, the job of creating monthly or quarterly *Compass* graphs and reports is reduced to a few simple clicks of the mouse.

### Using the Client Reports Module

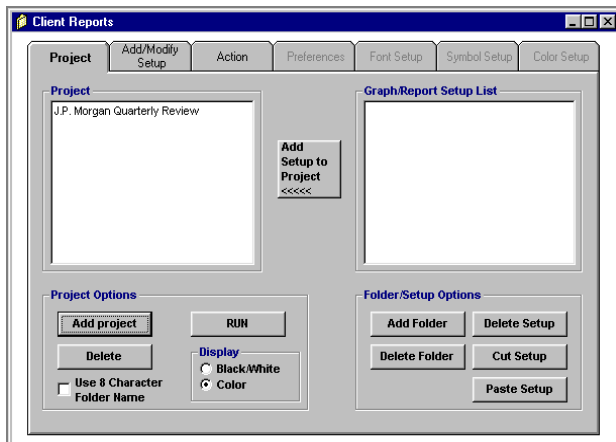
The *Client Reports* module can be accessed from the main *Compass* screen by selecting *Report* and *Client Reports*, or *File*, *Open Module*, and *Client Reports*, from the command menu at the top of the page. Users simply follow four basic steps to use the *Client Reports* module:

1. Create a project,
2. Define graphs and reports via setup lists,
3. Add setup lists to the project, and
4. Run the project.

#### Step 1 Creating a Project

A project is defined as a collection of *Compass* graphs or reports that the user wishes to group together for a specific reason. For instance, a project may be defined as a collection of performance graphs for a single manager, a single performance graph for a group of managers, or multiple performance graphs for multiple managers.

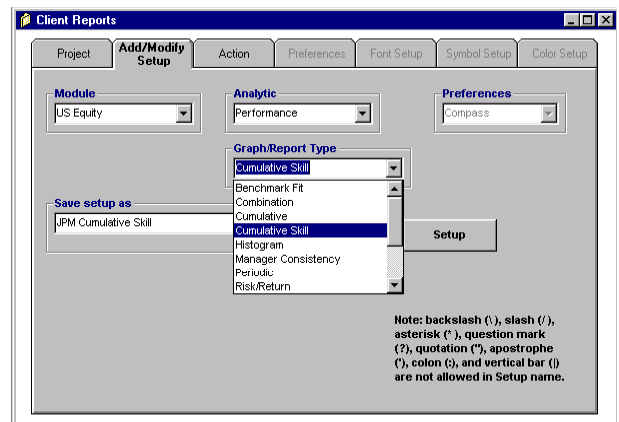
To create a project, launch the *Client Reports* module and click the **Add project** button within the *Project Options* box. Enter a project name such as “J.P. Morgan Quarterly Review”, “Monthly S&P 500 Index Characteristics”, or “Pension Committee Report”.



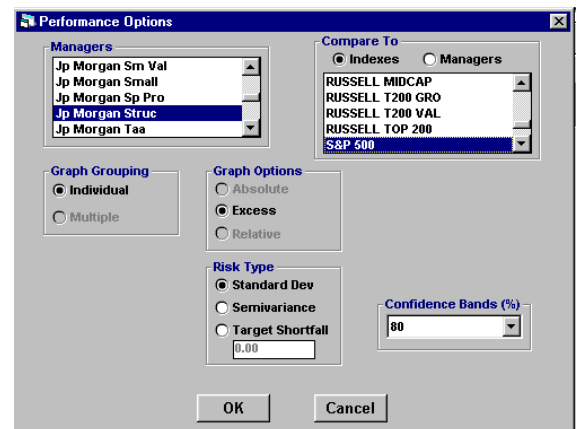
Note: Existing projects can be eliminated by highlighting the project name and selecting the **Delete** button within the *Project Options* box.

#### Step 2 Defining or Modifying Graph/Report Setups

Once the project has been assigned a name, the next step is to define the graphs and reports that will comprise the project. To add a new graph or report, first click on the **Add/Modify Setup** tab to access the setup screen and then enter a name that describes the graph/report to be created within the *Save setup as* box (e.g. JPM Cumulative Skill). Next, select the desired module, analytic, and specific *Compass* graph/report using the drop-down menus under the *Module*, *Analytic*, and *Graph/Report Type* headings. Finally, click the **Setup** button to access the graph/report setup screen.



Within the graph setup screen, specify all the information necessary to compose the graph/report. For example, to construct the cumulative skill graph, the user must highlight a manager and an index in addition to specifying a risk type and a confidence band (%) level. Click the **OK** button to finish.

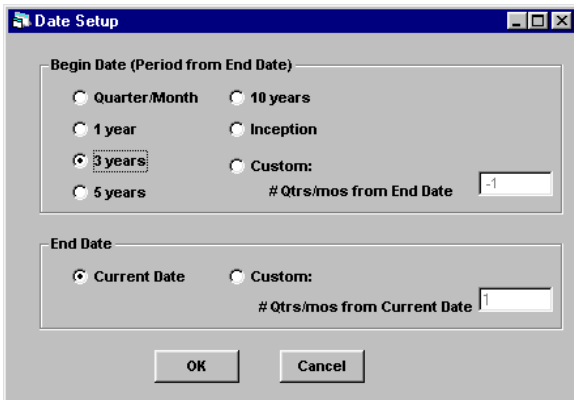


## Client Reports Module –

When the *Data Setup* screen appears the user must specify both a *Begin Date* and an *End Date*. The *Begin Date* determines the time span of the graph/report. Several traditional performance intervals are available along with a *Custom* option that allows users to specify a precise starting date.

Typically, users will select the *Current* option for the *End Date* since this option produces graphs that contain the most recent performance or characteristic information. However, users can use the *Custom* option to specify an earlier ending date. Click the **OK** button to finish.

In the example below, we have selected “3 Years” as the *Begin Date*, and “Current Date” as the *End Date*. Therefore, each time the user runs this project the system will automatically produce a cumulative skill graph for the three-year period ending with the most recent quarter.



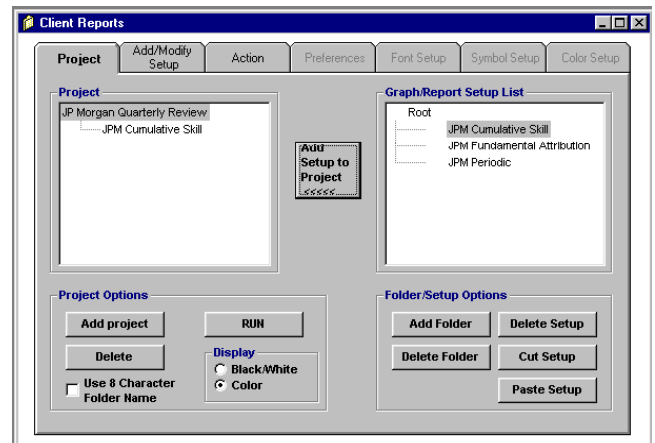
If there is a need to modify an existing setup, the user simply locates the graph/report they wish to change using the drop-down menu or the **Browse** button and then clicks on the **Setup** button. Next make the necessary changes to the setup screens as they appear in order. Any changes will automatically be saved under the original setup list name.

### Step 3 Adding Setup Lists to Projects

Once all of the graph and report setups have been defined, click on the **Project** tab to return to the main *Client Reports* screen. All of the graph/report setups previously created should now appear within the *Graph/Report Setup List* box. To add specific setup lists to individual projects, click once on the setup list name and once on the project name so that both are highlighted.



Next, click on the **Add Setup to Project** button. The highlighted setup list will now appear below the specified project. Please note that after exiting and returning to the *Client Reports* module the setup lists will not appear under the project name. To view the setups lists, simply double click on the project name and the setup lists will appear.



Users also have the ability to create folders that can be used to organize groups of setup lists. To create a folder, click on the **Add Folder** button and enter a folder name when prompted. Once a folder has been created, the user can add setup lists to the folder using the **Cut Setup** and **Paste Setup** buttons. In addition, groups of setup lists within a single folder can be added to a specific project by clicking on the folder name and the project name, and then selecting

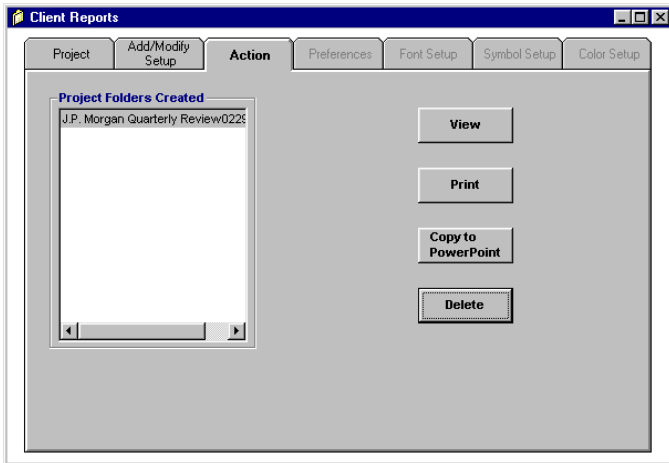


the **Add Setup to Project** button. Folders and their contents can be deleted by highlighting the folder name and selecting the **Delete Folder** button within the *Folder/Setup Options* box.



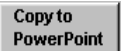

### Step 4 Running a Project

To run the project, click the **RUN** button. When the project is done running, click the **Action** tab to view the action options. The project name along with the current date will appear in the *Project Folders Created* box. A new project folder is created each time a particular project is run, however, only the project run date in the name will change. Please note that if a project is run more than once on a single day, the original project will be over-written.

## Client Reports Module –



The *Action* screen offers users four options:

1. **View** – Allows users to view on their screen, each of the graphs/reports created when the project was run. To view graphs/reports, highlight the project folder within the *Project Folders Created* box and click the  button. Use the scroll bar at the bottom of the graph window to navigate between graphs/reports.
2. **Print** – Allows users to print the graphs/reports created when the project was run. To print graphs/reports, highlight the project folder within the *Project Folders Created* box and click the  button.
3. **Export to PowerPoint** – Allows user to directly export all graphs/reports contained in a project to PowerPoint. To export graphs/reports, highlight the project folder with the *Project Folders Created* box and click the  button. PowerPoint will automatically open and the project graphs/reports will be pasted into a new presentation file.
4. **Delete** – Allows users to delete project folders previously created. To delete a project folder, highlight the project folder and click the  button.

## Wilshire Compass Technology 2000 Conference

You are cordially invited to attend the upcoming Wilshire Compass Technology 2000 Conference in Kiawah Island, South Carolina. The conference will include general sessions dedicated to broader investment topics in addition to hands-on training sessions using the Wilshire Compass. All attendees are encouraged to bring laptop computers to participate in the hands-on training sessions.

**When:** *May 1<sup>st</sup> – 3<sup>rd</sup>, 2000*

**Where:** *Kiawah Island Resort  
Kiawah Island, South Carolina*

### Agenda

#### Monday, May 1, 2000

- 1:30-2:00 pm *Registration*
- 2:00-3:15 pm *General Session 1: Product Overview & Update*
- 3:30-5:00 pm *General Session 2: Trends in Fund Management*
- 6:30 pm *Cocktails and Dinner*

#### Tuesday, May 2, 2000

- 8:00-8:30 am *Continental Breakfast*
- 8:30-10:00 am *General Session 1: Total Fund Risk Management*
- 10:15-11:45 am *Concurrent Sessions: Developing Asset Class Strategies and Constructing Optimal Manager Teams*
  - Session A: Fixed Income
  - Session B: Non-U.S. Equity
- 12:00-5:00 pm *Lunch / Activity*
  - Golf
  - Tour of Charleston
  - Deep Sea Fishing
  - Tennis
- 6:30 pm *Cocktails and Dinner*

#### Wednesday, May 3, 2000

- 8:00-8:30 am *Continental Breakfast*
- 8:30-10:00 am *General Session 1: Performance Attribution and Style Analysis*
- 10:15-11:45 am *Concurrent Sessions:*
  - Session A: Strategic Asset Allocation
  - Session B: Performance and Peer Universe Analysis
- 12:00-1:00 pm *Lunch*