



WILSHIRE

COMPASS

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Setting New Standards in Fund Sponsor Information Systems and Investment Technology

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Wilshire's 2002 Capital Market Assumptions

At the beginning of each 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 stock and bond markets have shown sizable swings in direction. Consequently, we have been altering our return assumptions up or down to better fit changing market levels. This year is no exception.

Wilshire benchmarks its U.S. stock and bond forecasts against two references, one historical and the other prospective. Our historical references are the 10.7% and 5.7% annualized returns on the U.S. stock and bond markets, respectively, going back to 1926. Our prospective references are the yield-to-maturity on the bond market and the "dividend discount return" on the stock market. Our rationale for using these references is that discount cash flow models using market consensus inputs have proven to be the most reliable forecasts of long-term stock and bond returns.

This year's report is the first Wilshire report that offers return and risk assumptions for hedge funds. Our hedge fund forecasts should be used with greater caution than those for traditional asset classes for two reasons. First, keep in mind that hedge funds are not a true asset class. They are more appropriately characterized as a "synthetic" or "tactical" category of investments that invest in traditional asset classes in a very active way. As a result their expected return depends upon the underlying expected return of the asset class in which they invest and the level and type of "active risk" in which they engage. Wilshire's expected return for a portfolio of hedge funds is 8.0% with a risk level of 9.0%. The expected return and risk estimates Wilshire provides in the report are based upon academic and industry studies of universes of hedge funds.

Risk and correlation forecasts also have a significant impact on the overall asset allocation. Fortunately, statistical measures of risk (e.g. 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, 2001.

A summary of return and risk forecasts for various asset classes is shown below. For additional information regarding Wilshire's capital market assumptions, please see the complete paper at www.wilshire.com under the Resource Library, which can be accessed by logging in using your user name and password.

Wilshire's 2002 Expected Return and Risk Forecasts

	Return	Risk
U.S. Equity	8.75%	17.00%
U.S. Fixed Income	5.50	7.00
Non-U.S. Equity	8.75	20.00
Non-U.S. Fixed Income	5.25	13.00
Cash	3.50	3.00
Emerging Markets	8.75	27.00
REITS/Real Estate	7.25	16.00
Private Markets	11.75	32.00
High Yield	7.00	10.00
Hedge Funds	8.00	9.00
Inflation	2.25	2.00

Corporate Pension Plans: An Update

As a follow-up to Wilshire's year 2000 Corporate pension plan funding survey, we have updated the report to include data for the 2001 fiscal year. The results indicate that funding ratios significantly decreased from 2000 to 2001. Of the 334 corporations in the S&P 500 Index that sponsor defined benefit pension plans, the median plan had a 2001 funding ratio of 0.93, as compared to 1.12 in 2000. Just as striking is that the fact that the weighted average funding ratio was 1.03 in 2001, indicating that a few large plans masked some significant funding problems among mid-size and smaller companies. Worse still, the total surplus (assets minus liabilities) for all 334 companies combined shrank from \$238 billion in 2000 to \$25 billion in 2001.

So to what is this attributable? A number of factors are to blame. First, the total market value of plan assets fell 12%, of which 7% was due to portfolio losses. Conversely, some claim that funding ratios look worse because lower discount rates mandated by FASB inflate liability numbers. Despite the direction of FASB for corporations to select a discount rate based on the yield available on high quality bonds, the median corporate discount rate is still above these benchmarks. This would suggest that corporate discount rates still have further to fall, making the present value of their liabilities rise even more.

Much has been written about the effect of pension income on corporate earnings. While this is true for some individual companies, in aggregate, pension income has a small affect on corporate earnings. For example, in 2000, pension income for S&P 500 companies, totaled \$12 billion, or 3% of total corporate reported earnings of \$371 billion. Last year, pension

income turned into an expense of \$1 billion, or less than 1% of total corporate earnings of \$224 billion.

Long-term return forecasts play a significant role in the calculation of pension income/expense. The corporate median return assumption for plan assets fell just 0.25% from 9.5% in 2000 to 9.25% in 2001. Wilshire's long-term return forecast for stocks and fixed income would suggest a fund return of 8% for the typical corporate plan, or 1.25% less than the 9.25% currently used. Since an adjustment of this magnitude would have a fairly sizable impact on pension expense and consequently corporate earnings, Wilshire does not expect to see a significant movement downward in the expected return on plan assets assumptions even though it appears warranted.

The complete paper is available at www.wilshire.com under the Resource Library.

Compass Data Terminology

The Compass team is periodically asked to define specific data items available throughout Compass. In response to these inquiries, we have developed four documents that define each of the "screenable" data items that are available in each module. Compass currently contains over 200 data items in each of the manager modules and almost 50 data items in the mutual fund module. A sample page of the U.S. Equity module definitions is shown below

COMPASS U.S. Equity Definitions*	
Field	Description
% Capital Goods	Percentage of the product invested in equity securities of companies within the Capital Goods sector, defined by Wilshire as companies involved in designing, developing, manufacturing, and servicing the products and machinery used by industry to produce finished goods. Capital goods can include industries such as primary goods and construction.
% Cash	Percentage of the product invested in cash and cash equivalent securities as calculated by Wilshire.
% Consumer Durable	Percentage of the product invested in equity securities of companies within the Consumer Durables sector, defined by Wilshire as companies engaged in designing, developing, manufacturing, marketing, and servicing goods which are designed to endure a period of time measurable in years. Consumer durables can include industries such as durable goods and motor vehicles.
% Consumer Non Durable	Percentage of the product invested in equity securities of companies within the Consumer Non Durables sector, defined by Wilshire as companies engaged in designing, developing, manufacturing, and marketing goods and services which are considered to have a finite, short-term duration and are consumed in the course of everyday life. Consumer non-durables can include industries such as apparel, drugs & medicine, food & agriculture, media, entertainment, retail, and travel & recreation.
% Energy	Percentage of the product invested in equity securities of companies within the Energy sector, defined by Wilshire as companies engaged in extracting, refining, and distributing energy-producing materials and fuel. Energy can include industries such as domestic oil and energy/raw materials.
% Finance	Percentage of the product invested in equity securities of companies within the Finance sector, defined by Wilshire as companies involved in providing saving, borrowing, credit, investment, insurance, and real estate services. Finance can include industries such as banks, insurance, miscellaneous finance, and real property.
% Materials & Serv	Percentage of the product invested in equity securities of companies within the Materials & Services sector, defined by Wilshire as companies involved in extracting, processing, manufacturing, and providing the raw materials or basic services used by industry or consumer to produce finished goods or enhance the quality of business or everyday life. Materials & services can include industries such as business services, chemicals, construction, drug & medicine, gold and non-ferrous metals.
% Stocks	Percentage of the product invested in equity securities.
% Technology	Percentage of the product invested in equity securities of companies within the Technology sector, defined by Wilshire as companies involved in researching, designing, developing, manufacturing, marketing, servicing, and providing goods and services which are technologically advanced or based on technological concepts. Technology can include industries such as aerospace, business machines, drugs & medicine, and electronics.
% Transportation	Percentage of the product invested in equity securities of companies within the Transportation sector, defined by Wilshire as companies engaged in providing freight and passenger transportation equipment and services. Transportation can include industries such as air transportation, railroads, shipping, and trucking and freight.
% Utilities	Percentage of the product invested in equity securities of companies within the Utilities sector, defined by Wilshire as involved in generating,

* All in readily quarterly product income and business data supplied by the investment manager through internet based questionnaires, the Wilshire Database. Unless otherwise specified, all product characteristics, statistical and analytical data are obtained by Wilshire based on a manager-representative composite product portfolio and the return information. For periods longer than one quarter, Wilshire averages the individual quarter-end returns over the period selected, unless otherwise indicated (Quality Trend Return).

The full documents may be found in the "Newsletter" section of www.wilshirecompass.com, each as a separate "PDF" file that can be viewed directly from your web browser or printed for future reference.

“New Compass”

Most of you may be aware that we are in the process of completely re-writing Compass. Release of this new version 7.0 is scheduled for the Fall of 2002. The basic functionality of Compass will remain the same, but will include many enhancements and upgrades. Some of the highlights of the new software will include:

- Monthly Manager Returns
- Internet Updates
- Enhanced Report writing capabilities
- Monte Carlo Simulation
- Enhanced Graphics
- User-Defined Preferences

Over 80% of the managers are now providing monthly return data. Most of them have also provided a substantial level of monthly return history. As there are still some managers that only provide quarterly returns Compass 7.0 has been designed to alert and then provide the user with various options when the presence of quarterly data exists and will have an impact on the analysis.

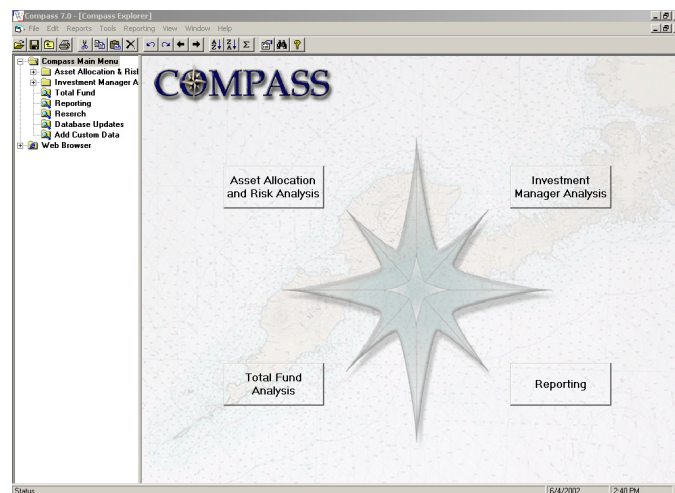
That’s right, no more monthly CD’s! Updates will be accommodated over the internet with each client specifying the frequency; monthly, weekly, even daily if desired.

The report writing capabilities will provide users with the ability to create numerous custom manager “Résumé” reports. This new feature, combined with the enhanced graphics with user-defined preferences will provide exceptionally flexible and efficient custom reporting capabilities.

Enhancements to the asset allocation tools will enable users to construct up to three different efficient frontiers on the same graph to better evaluate the impact of various constraints. In addition, if needed, users will be able to perform optimizations using both tax-exempt and taxable asset classes simultaneously. This comprehensive analysis not only determines the optimal allocation but which asset classes should be held in tax-sheltered retirement plans and which should be held in taxable portfolios.

Another enhancement, which is sure to keep us busy building new analytics for quite some time is the addition of multi-variant Monte Carlo simulation. This stochastic process will ultimately allow us to provide all of the existing Compass Tool-Kit models as well as several new simulation models directly within Compass.

A pre-release of the new software should be available in 2-3 months for clients who are able to run both versions. Both versions of the software will remain available until all clients are able to install Version 7.0. Please contact any of the Compass client service team should you have any questions.



Midwest Users' Group Session

Compass users gathered in Chicago at the Westin O'Hare on May 1, 2002 for an all day hands-on training session. Twenty-six clients worked through various investment topics, including asset allocation, investment manager search and structure. Copies of the materials will be available soon in the Resource Library at www.wilshire.com.