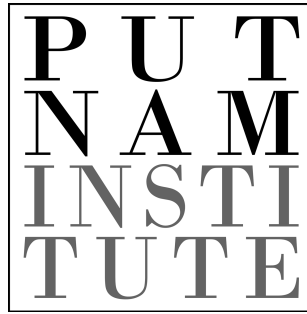


# P U T N A M I N V E S T M E N T S



## **YOUR INVISIBLE MANAGER: THE IMPACT OF BENCHMARKS ON INSTITUTIONAL INVESTMENT PORTFOLIOS**

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### **SUMMARY**

Institutional investors spend considerable time on the selection of investment managers, focusing on investment philosophy, process, and performance. Yet perhaps one of the most critical elements in obtaining optimal investment results from your investment manager is benchmark selection. A benchmark introduces inherent risks into a portfolio and creates incentives for certain investment behaviors. The influence of a benchmark is so profound that it can be considered an investor's "invisible manager." This paper explores the impact of benchmark selection and provides a broad framework for understanding how a benchmark can affect the success of an investment manager over dynamic market cycles.

## **AN INSIDE VIEW OF YOUR INVISIBLE MANAGER**

A benchmark, in the most basic terms, is a guidepost. It defines the field of play and sets a plan sponsor's performance and risk expectations.<sup>1</sup> Sponsors select a benchmark based on an asset class or characteristics they desire in their portfolio, and then use the benchmark to measure their investment managers' relative success or failure. Benchmarks therefore exert a powerful influence on the behavior of active managers.

Benchmarks help set boundaries for the investment opportunity set, but those boundaries are by no means fixed. As financial markets evolve, benchmarks change — sometimes dramatically — which may result in exposures that the plan sponsor did not intend. Changes in the securities that make up a benchmark force investment managers to make decisions: overweight a specific security, underweight it, or own the same weight as the benchmark. In periods of high market volatility this is especially problematic, as managers may be forced to make investment decisions on unfamiliar securities, or to utilize portfolio holdings for risk-reduction purposes, thus detracting from alpha-generating investments.

Advances in quantitative techniques and risk management tools have caused many plan sponsors and their managers to become much more benchmark aware than they were a decade ago. Given benchmarks' influence on active managers, understanding the decision rules and portfolio construction methodologies of these invisible managers is critical.

### **DISCRETIONARY VERSUS RULE-BASED INDICES**

One of the defining characteristics of a market index is whether it is discretionary or rule-based. In this paper we focus our discussion of this topic on three leading U.S. equity index providers: Standard & Poor's, S&P/BARRA, and the Frank Russell Company.

Standard & Poor's provides indices that are fully discretionary and determined by S&P's Index Committee based upon public information. The Committee meets monthly to identify potential constituents of its flagship index, the S&P 500, which represents approximately 78% of the investable U.S. equity market. The

<sup>1</sup> In this paper the term "plan sponsor" is used to denote any institutional investor — an endowment, foundation, or insurance company as well as a pension plan sponsor.

Committee considers among other factors the impact of a security on its Index Industry group before approving it for the replacement pool, with the aim of keeping an index's sector weightings in rough accordance with the universe it represents. Additionally, S&P, in partnership with BARRA, provides rule-based style indices that are mutually exclusive subsets of the S&P 500. Securities are classified as either growth or value based on a single measure: price relative to book value. Using this one decision rule, the S&P 500 is divided into growth and value indices, with each index containing half the market capitalization of the overall S&P 500.

Frank Russell Company also maintains several U.S. equity indices that represent a variety of specific style and market capitalization characteristics. All Russell indices are a subset of the Russell 3000 Index, which represents approximately 98% of the investable U.S. equity market. The Russell indices rely completely on rules-based criteria to determine which securities will be included in each index. Russell rebalances its indices on an annual basis in June of each year.

Frank Russell's classification of a security into a style-specific index is based on the stock's Composite Value Score (CVS), which incorporates price relative to book value and long-term growth rates. All securities are ranked in order of the magnitude of their CVS. The 35% of securities with the highest CVS are assigned to the growth index, while the bottom 35% are assigned to the value index. The remaining 30% of securities are considered to exhibit both growth and value characteristics and appear in both indices; the allocation between the indices for such a stock is determined by its CVS. (Due to this overlap, the combined total of the securities in the Russell 1000 Growth and Russell 1000 Value indices is greater than 1000.)

Institutional investors often employ style-based benchmarks for strategic allocations to specific asset classes. The most commonly used U.S. style-based equity benchmarks are the Russell and S&P/BARRA growth and value indices. Since both index families rely heavily on price relative to book value to define a security's style, this measure is a significant driver of risk and return in portfolios managed against these benchmarks and merits further analysis.

## WHAT IS BOOK VALUE?

Book value is the reported net worth of a company. As such, it is a byproduct of the firm's accounting policies and can differ significantly from actual value. For example, assets are usually accounted for at acquisition cost net of depreciation, a figure which may be very different from current fair value. Furthermore, a company's book value includes intangible assets and can be heavily influenced by management's choice of accounting policies, especially those relating to depreciation and off-balance-sheet items. Therefore, using book value as the main factor in identifying a stock as a growth or value security can be very misleading.

### LIMITATIONS OF BOOK VALUE AS A DETERMINANT OF STYLE

Acquisitions may substantially boost a company's book value through the accumulation of goodwill and other intangible assets. Such is the case with JDS Uniphase, a fiber optics company (Exhibit 1). Acquisitions, combined with poor performance, resulted in an extremely low price relative to book value in March 2001. As a result, the company is in the S&P/BARRA Value Index, although few value managers would actually consider JDS Uniphase a value stock given the industry in which it operates.

Restructurings and charge-offs, on the other hand, have the opposite effect on this key ratio by decreasing the denominator, thereby artificially inflating the price relative to book value ratio. Reliance on price relative to book value can also be problematic for new or highly leveraged companies, and for those with potential liabilities such as the pending asbestos litigation against W.R. Grace. The size of Grace's actual future liability, if any, is unknown; therefore its "true" book value cannot be precisely determined.

Exhibit 1: Influences on book value

Event	Impact to BV	Company	P/B
Acquisitions	Increases	JDS Uniphase	0.6
Write-offs	Decreases	Quaker Oats	35.7
Potential Liabilities	Unknown	WR Grace	0.8
		<b>S&amp;P 500</b>	<b>7.0</b>

Source: Bloomberg. Price relative to book value based on 12-month trailing data as of March 31, 2001.

## **FEATURED “INVISIBLE MANAGER”: THE RUSSELL 1000 GROWTH INDEX**

To better understand the dynamics of benchmark influence, we analyzed six common U.S. equity indices: the S&P 500 Index, Russell Midcap Index, Russell 1000 Growth Index, Russell 1000 Value Index, Russell 2000 Growth Index, and Russell 2000 Value Index. For purposes of illustration, this paper will focus on the Russell 1000 Growth Index (R1000G). Our analysis of this index centered on the common factors affecting its performance, including sector allocation, style, capitalization, overlap of securities and market cap, and concentration as of December 31, 2000.

As of year-end 2000, R1000G had the highest level of concentration of the six benchmarks considered. The top 10 securities represented 37% of the index’s market capitalization, while the three largest sectors, technology, health care, and financials, accounted for 79% of the index’s available market capitalization and 61% of its securities. Clearly, this level of concentration makes it critical for plan sponsors to assess a manager’s skill as a stock picker within the top 10 names. The weightings a manager assigns these largest stocks relative to the benchmark, as well as sector expertise and dedicated research resources in the most heavily weighted sectors, should also be considered in evaluating active managers. Techniques or tools that enable the manager to control or minimize sector volatility are paramount.

Finally, the R1000G overlaps with its style counterparts and the S&P 500 in terms of both securities and market capitalization. By design, the R1000G has many names in common with the Russell Midcap Index and the Russell 1000 Value Index. And more than half of the R1000G’s 525 securities and 86% of its \$7.8 trillion market capitalization are also held in the S&P 500. These overlaps have significant consequences for plan sponsors seeking diversification within their U.S. equity portfolios. Selecting different U.S. indices as benchmarks for active managers does not guarantee, nor even necessarily contribute to, a desired level of diversification.

## **A PORTFOLIO MANAGER’S VIEW OF THE RUSSELL 1000 GROWTH INDEX**

Decomposing the R1000G into discrete style and market capitalization buckets reveals significant exposures and attributes that are not clearly visible from a top-down view. What an active manager “sees” in such a detailed decomposition may not coincide with what the plan sponsor intended.

Exhibit 2 illustrates an active manager’s view of the R1000G as of December 2000. Key characteristics and exposures are highlighted, while the remaining data are faded into the background. As previously noted, the market capitalization of

the R1000G is dominated by large-cap growth securities, particularly in the technology and health care sectors. To this extent, the manager's view seems consistent with its client's own top-down view. An active manager should, however, recognize that *almost half* of the securities in the index fall within the mid-cap arena. This fact suggests that the success of a large-cap growth manager may partly depend on the manager's ability to generate alpha within the mid-cap sector and on expertise in migrating between large- and mid-cap growth stocks.

Exhibit 2: Russell 1000 Growth — an active manager's view  
As of December 31, 2000

Sector	Large Cap		Mid Cap		Small Cap		Totals		
	Growth	Value	Growth	Value	Growth	Value	Growth	Value	Totals
Basic Materials	0%	0%	0%	0%	0%	0%	0%	0%	0%
Commercial Services	1%	0%	1%	0%	0%	0%	2%	0%	3%
Consumer Cyclical	6%	0%	1%	0%	0%	0%	7%	0%	7%
Consumer Non-Cyclical	9%	2%	13%	6%	3%	5%	25%	13%	38%
Consumer Services	4%	0%	0%	0%	0%	0%	4%	0%	4%
Energy	12%	-	3%	2%	1%	-	16%	2%	18%
Financials	1%	0%	0%	0%	0%	0%	2%	1%	2%
Health Care	3%	5%	8%	5%	3%	7%	14%	17%	31%
Ind. Top 2 sectors	1%	0%	0%	0%	0%	0%	1%	1%	2%
Technology	3%	1%	8%	10%	-	3%	11%	14%	25%
Telecomm	10%	0%	1%	0%	0%	0%	11%	0%	11%
Transport	11%	1%	11%	4%	-	3%	22%	8%	30%
Utilities	0%	0%	2%	0%	0%	0%	2%	0%	2%
Totals	20%	22	1%	32	4%	5	2%	66	0%
	0%	0%	0%	0%	0%	0%	0%	0%	4
	39%	48	1%	73	1%	21	1%	46%	225
	1%	0%	0%	0%	0%	0%	2%	0%	2%
	86%	2%	47%	0%	0%	0%	0%	0%	24
	3%	-	3%	-	1%	4	4%	4%	8
	3%	-	10%	2%	1%	1	1%	95%	100%
	84%	2%	179	68	73	65	95%	71%	374

Source: Putnam analysis using Frank Russell methodology and BARRA risk factors. Numbers may not foot to totals due to rounding.

**2001: MARKET-DRIVEN CHALLENGES FOR INVESTMENT MANAGERS**

To date, 2001 has been a year of sharp sector rotations and heightened volatility in the U.S. equity markets. Exhibit 3 highlights the weights of the top two sectors in several major market indices as of June 30, 2000. It also estimates likely changes in those sectors in June 2001, based on holdings and price data as of April 27, 2001. The underperformance of technology stocks will result in a dramatic reduction in the sector's weighting in the R1000G — from 58% at the date of the last index rebalance to an estimated 29% on June 30, 2001. Many technology securities will migrate into the R2000G and into value indices, making the R1000G more diversified and less tech-centric. Conversely, many financial stocks, which have enjoyed strong performance in 2001, are expected to migrate from small-cap indices into large-cap indices. The weighting of financials in the R1000G is projected to increase from 1% in June 2000 to 8% in June 2001.

Exhibit 3: Projected changes in sector weights of major U.S. equity indices

**Technology**

Sector	S&P500	RMC	R1000G	R1000V	R2000G	R2000V
Technology 6/00	33%	23%	58%	6%	42%	7%
Technology 6/01	18%	15%	29%	7%	21%	7%
Change	-15%	-9%	-29%	1%	-21%	0%

**Financials**

Sector	S&P500	RMC	R1000G	R1000V	R2000G	R2000V
Financials 6/00	13%	14%	1%	27%	6%	30%
Financials 6/01	20%	20%	8%	31%	8%	33%
Change	7%	6%	7%	4%	2%	3%

Sources: Merrill Lynch, Prudential Securities. Numbers may not foot due to rounding.

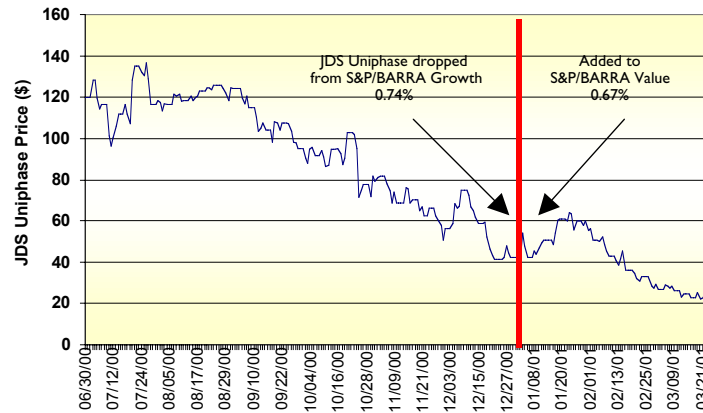
These anticipated changes will create significant challenges for active managers in the second half of 2001. Large-cap growth managers will have fewer technology stocks to choose from and will need to become more familiar with the financials and consumer cyclicals sectors. And though value managers will need to continue focusing on the financial services sector, technology will require more of their attention.

**IMPLICATIONS FOR INSTITUTIONAL INVESTORS**

The dynamic nature of benchmarks and the idiosyncrasies of their construction present challenges to plan sponsors in achieving their goals. Although it is difficult to predict the impact of benchmark changes on the behavior of active managers, plan sponsors can better assess the risks to which they are exposed by understanding certain aspects of the manager's process.

Exhibit 4 revisits the example of JDS Uniphase, which was dropped from the S&P/BARRA Growth Index and added to the S&P/BARRA Value index on the same day in December 2000. The sudden shift of a stock from one style or market-cap-specific index to another may place a single-style manager at a disadvantage compared to a manager with a broad array of capabilities. For example, a value-only manager probably knew little about JDS Uniphase, which had long been defined as a growth stock. The value managers at a broadly diversified firm, on the other hand, could benefit from knowledge and insights into the company already gained by their colleagues in growth, enabling quicker and better-informed decisions.

Exhibit 4: Benefits of dedicated growth and value management in one investment platform



Source of price data: Bloomberg

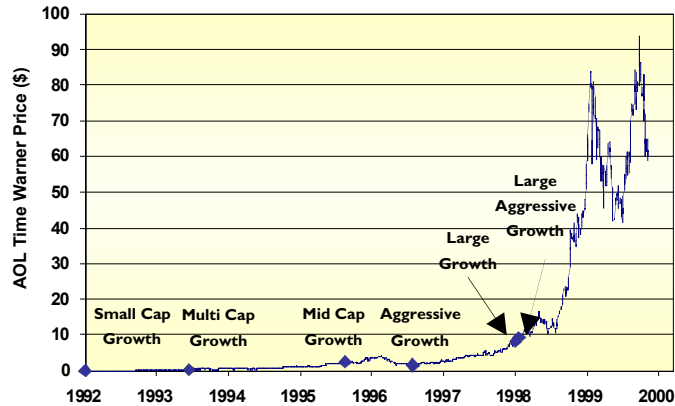
The ability to share insights across styles is not the only synergy enjoyed by a broadly skilled manager; sharing expertise across market capitalizations also has advantages. As stocks migrate from one capitalization bucket to the next, managers can enhance their alpha-generating probability by leveraging the experience of their counterparts.

For example, Cisco Systems entered the market as a small-cap stock and migrated through mid-cap into large-cap status by the late 1990s. If Cisco had suddenly come to the attention of your large-cap growth managers in 1996, they would likely have missed some of the appreciation in Cisco’s stock price as they struggled to get to know the company. On the other hand, a large-cap manager who could solicit “best ideas” from mid- and small-cap colleagues would inherit their collective experience and knowledge gathered during the security’s rise.

The same is true for stocks that move down in capitalization from one bucket into another. Investors managing within the new capitalization bucket can better interpret the true causes for the migration by consulting their larger-cap counterparts and then invest accordingly. This institutionalized pooling of ideas functions much like a “farm team” for the different style and capitalization groups. Managers rely on the investment process and platform to turn out superior investment ideas and opportunities.

The case of AOL Time Warner clearly illustrates the benefits of disseminating “best ideas” across investment groups. Exhibit 5 shows that small-cap growth coverage of AOL began in the early 1990s. Other growth products within the same management firm could take advantage of the knowledge gathered by the small-cap manager and add it to their funds throughout the mid to late 1990s before the stock’s performance exploded in 1999.

Exhibit 5: AOL Time Warner – an example of managers sourcing “best ideas” across the capitalization spectrum



Source of price data: Bloomberg

The depth and commitment of a manager’s resources are also critical in providing opportunities to add value versus a benchmark. The process begins by identifying the key sectors driving a benchmark’s performance in a given period. Active managers are hired for their skill at stock selection within those sectors. Identifying the best securities is more complicated in broad sectors such as financials or technology that have many subsectors, each driven by unique forces. The probability of generating alpha consistently can be increased, however, by focusing research resources on those sub-sectors. Within the financials sector, for example, asset gatherers and real estate companies have sharply differing characteristics and performance. In technology, software developers may have a different outlook than semiconductor companies. Specialization allows active managers to exploit superior knowledge to generate alpha in their portfolios. In short, the research commitment should fit the depth of the market.

Finally, active managers can improve their insight and focus their analysis and discussions through a combination of fundamental and quantitative analysis. Total reliance on one or the other can result in a false signal. If both research inputs agree, the manager can be more confident about an active bet and spend more time analyzing borderline cases. A commitment to both research styles helps managers focus on the more interesting ideas that other firms may not be able to investigate fully and should improve relative performance.

## **CONCLUSION**

Benchmarks exert a powerful influence on the management of institutional investment portfolios. As benchmarks evolve along with the financial markets they represent, successful active managers will adapt to the continually shifting landscape by developing a flexible information-sharing investment platform and an in-depth knowledge of index characteristics and construction methodologies. These qualities, along with coverage of the full range of investment styles and market capitalization as well as deep research and portfolio construction resources, best position a manager to build portfolios that can generate long-term, competitive outperformance against highly dynamic benchmarks.

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