

The Great Moderation Comes To An End... Now What?

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Volatility of Economic Indicators Ended... Or Did It?

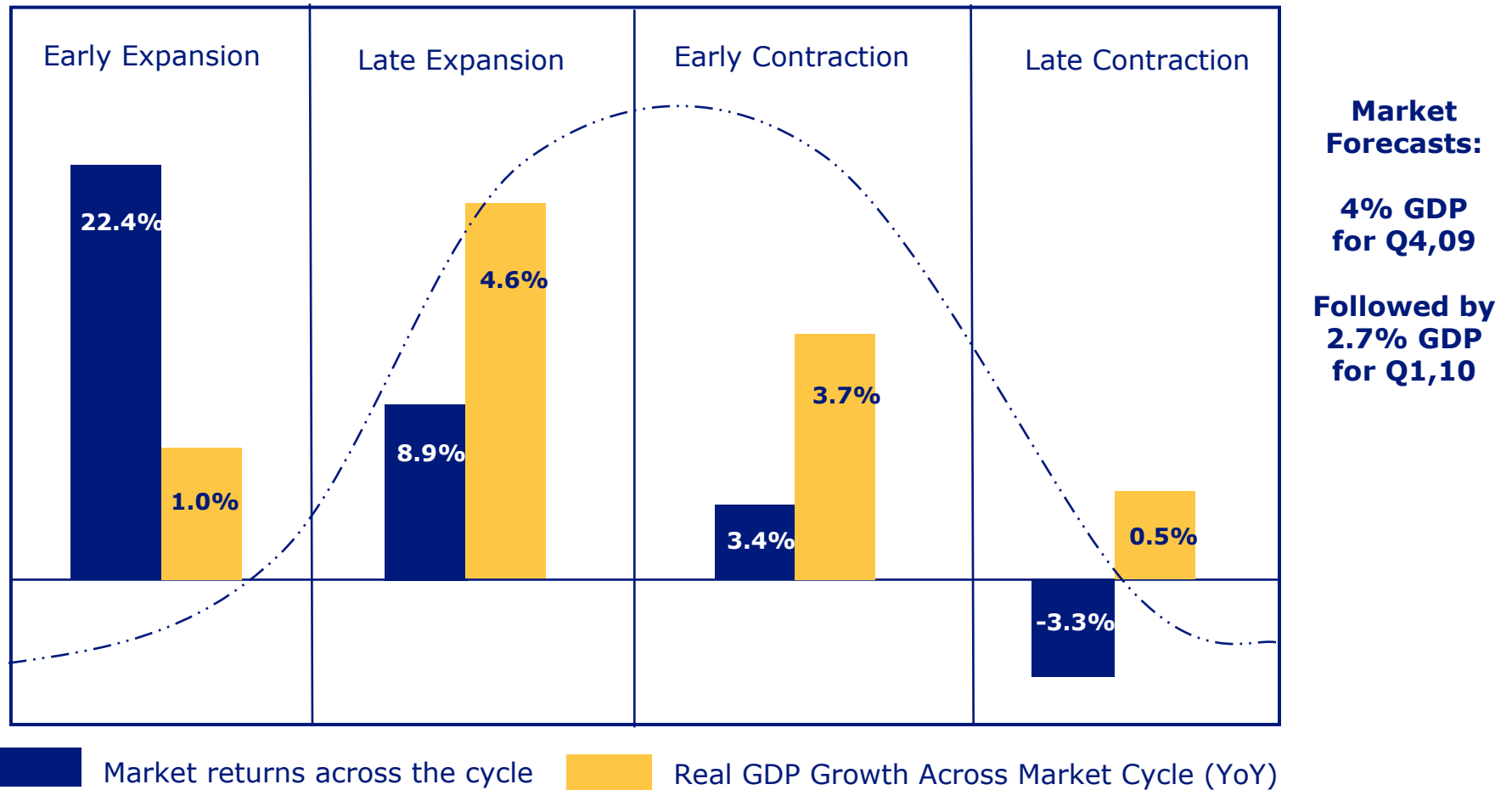
Business cycle changes were deemed permanent and sustainable

- Changes in industrial production, employment and GDP drop
 - From 1960-1983, the standard deviation of annual growth rates in real GDP in the United States was 2.7%, yet from 1984-2001, the corresponding standard deviation was 1.6%
- Attributed to better policy and strategic luck
 - “Has the Business Cycle Changed and Why?” Stock & Watson, NBER
- Risk appetite grew throughout the period
 - Volatility down, recessions mild, earnings consistent
 - Systemic risk grew at least as quickly, without detection
- Regulatory reform on the long-term horizon
 - Global in scope to prevent regulatory arbitrage
 - Transparency, reliability and accessibility all remain problematic
- Anglo-Saxon model of capitalism fades into the background
 - Several variations of capitalism, with the U.S. now headed toward France’s system

Business Cycle Has Been Muted...But Persists

Fewer investors have the benefit of living through multiple cycles

- Equity market returns tend to lead GDP
 - 2010 could mark the shift from early to late expansion



Case for Growth in the U.S.

One step beyond saying “it stopped getting worse”



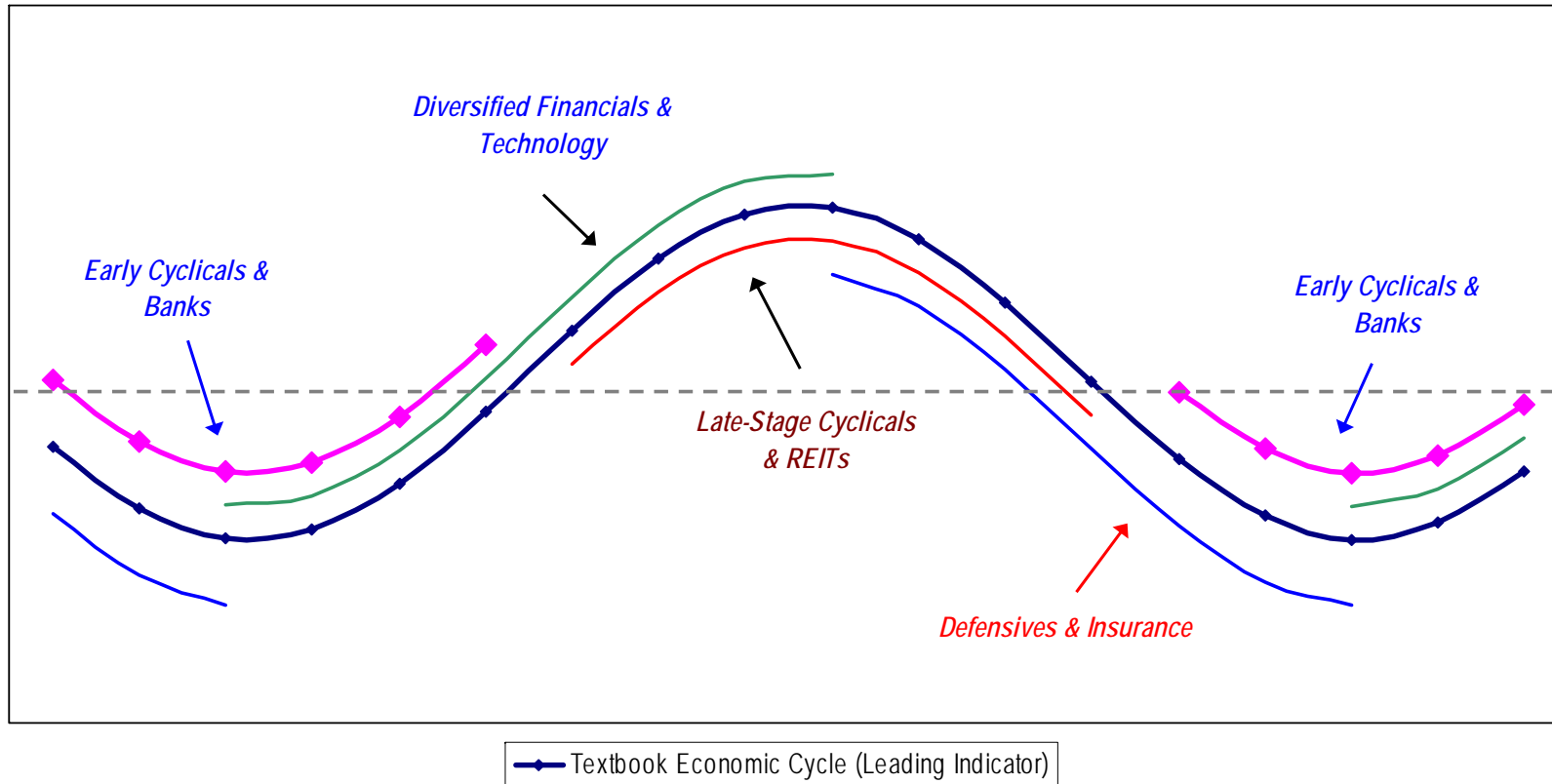
- Aggressive cost-cutting heading into the recession
 - Some of those cuts are likely overstated, hence spending would rise in 2010
- Inventory levels are anemic
 - Consumer forestalled purchases, low levels mean refilling quickly
- Over \$400 billion in stimulus packages to spend in 2010
 - This represents packages that are already in place; could be enhanced further
 - Global stimulus now accounts for more than 3% of global GDP
- Weak U.S. Dollar and ROW improvement
 - Likely to help net exports grow
- Loan growth in ROW
 - China alone lent 9.21 trillion Yuan (\$1.4 Trillion) in the first 11 months of 2009

Sector Rotation in the Next Regime

Likely headed toward late expansion



- Sector performance spreads reverting to economic cycle
 - Financials were traditionally a source of yield, but are quickly cutting dividends
 - REITs and Bank Loans might be a better alternative for yield replacement
 - In some cases, selling volatility could also enhance total return



Senior Secured Loans a.k.a. 'Bank Loans'

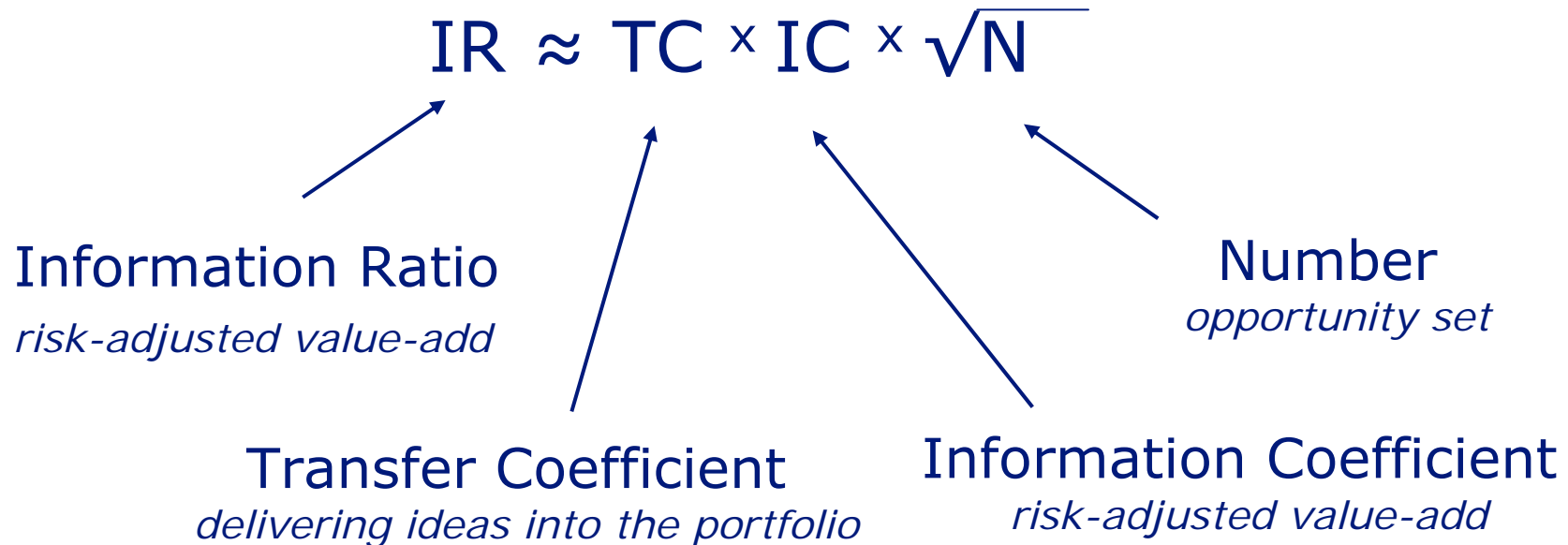
Attributes that could make this a compelling investment now



- Potential current annual income stream of 5%
 - Creates the ability to generate positive cash flow
- Potential inflation hedge
 - Floating rate base differs from other products
 - LIBOR plus a spread enables bank loans to reflect current market conditions
- High up in the capital structure
 - Senior to unsecured corporate bonds
 - Frequently collateralized with the borrower's assets
- Favorable entry point
 - Lack of capital commitment on the part of banks coupled with fund redemptions

Source: Invesco Ltd. Data through December 2009.
Past performance is not a guarantee of future results

Tenets of Active Management



- Freedom, intellectual capital and/or inefficient markets
 - It is useful, but not necessary, for all three to occur simultaneously

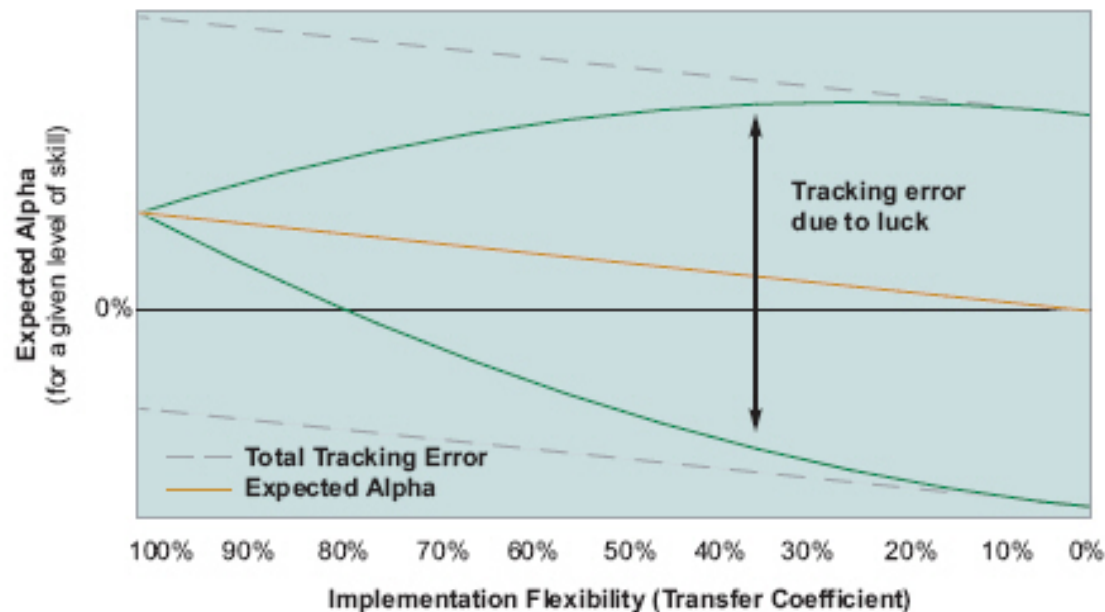
Source: Thorley, Steven, Portfolio Constraints and the Fundamental Law of Active Management (November 2001) Invesco Ltd.

Transfer Coefficient (TC)

Red tape caused by institutional barriers



- Amount of insight transferred into the portfolio
 - U.S. large cap manager discovers a small cap company he's bullish on
- The higher the TC, the more likely returns are "skill"-based
 - Removing long-only constraints can improve the TC
 - Fewer constraints attract genuinely talented managers



Source: Thorley, Steven, Portfolio Constraints and the Fundamental Law of Active Management (November 2001) Invesco Ltd.

Information Coefficient (IC)

One of the most “pure” skill tests



- **Indication of forecast accuracy**
 - The correlation between predicted and actual stock returns
 - Frequently used to measure the contribution of an analyst or portfolio manager
 - Quantitative managers gain insight into which factors are working
- **Ranges from 0 to 1, closer to 1, greater the skill**
 - An IC level of 0 occurs when all of the forecasts were wrong
 - An IC level of 1 occurs when all of the forecasts were correct
- **Variability of IC should be the focal point**
 - Can not assume that IC is constant or that returns are symmetric
- **Skill has both a static and dynamic component**
 - A static weighted-average of the individual securities' expected returns
 - The sum of covariances between returns and portfolio weights

Source: Lo, Andrew W., Where Do Alphas Come From?: A New Measure of the Value of Active Investment Management (May 8, 2007), Invesco Ltd.

Opportunity Set \sqrt{N}

The number of times a manager can apply their skill



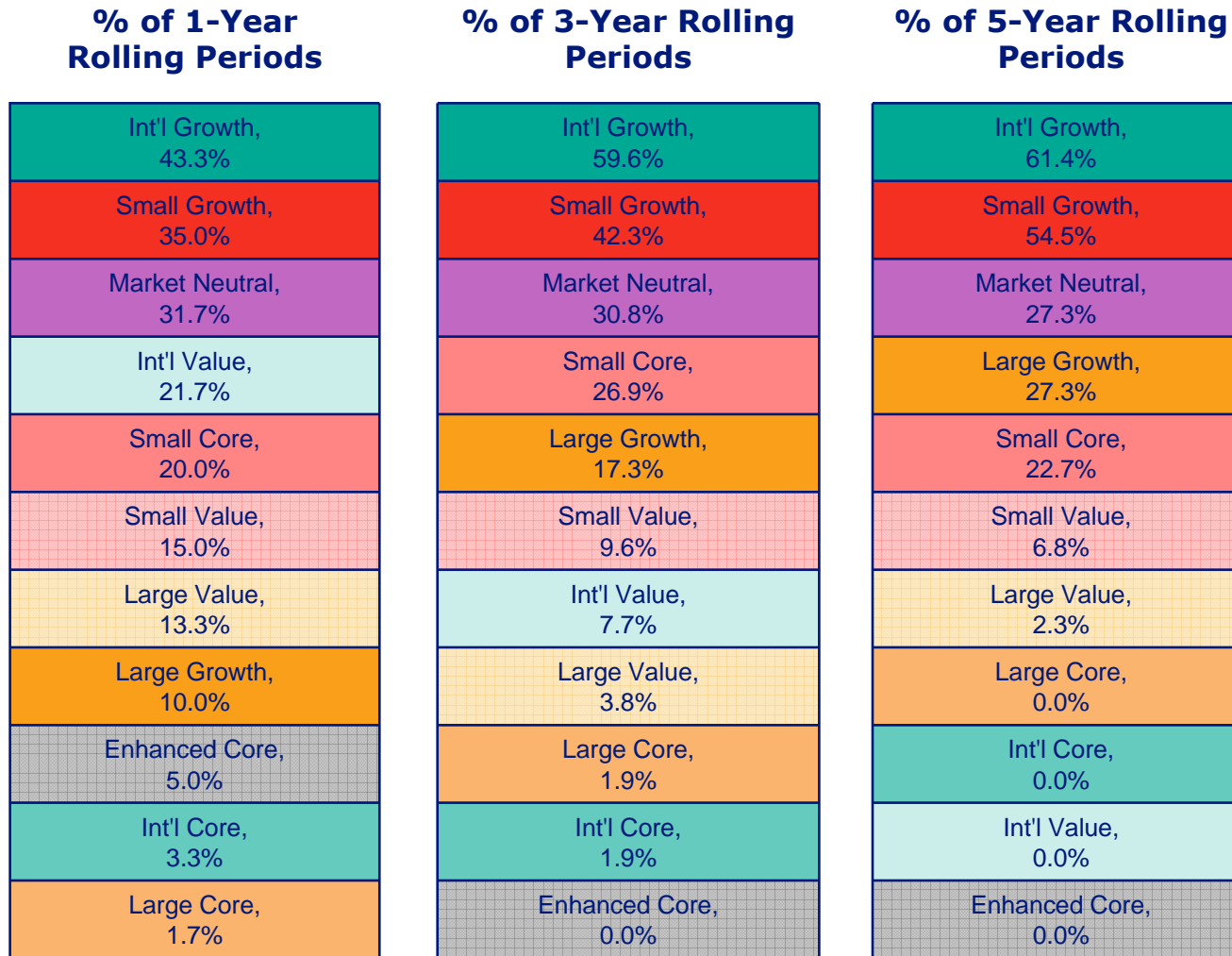
- The amount of opportunity a manager can apply their skill
 - A universe of 2,000 stocks in the Russell trumps a universe of 600 in the S&P
- Zero value anywhere results in zero excess return (alpha)
 - Constraints, plenty of opportunity but no skill, no opportunity to apply skill

$$IR \approx TC \times IC \times \sqrt{N}$$



Median Excess Returns, By Asset Class

Not surprisingly, less-efficient, constraint-free does well



Source: Evestment Alliance, Invesco. Rolling periods measured from 1994 through 9/2009. % of Rolling Periods Where Asset Class Ranked in Top 2 by Median Excess Return.

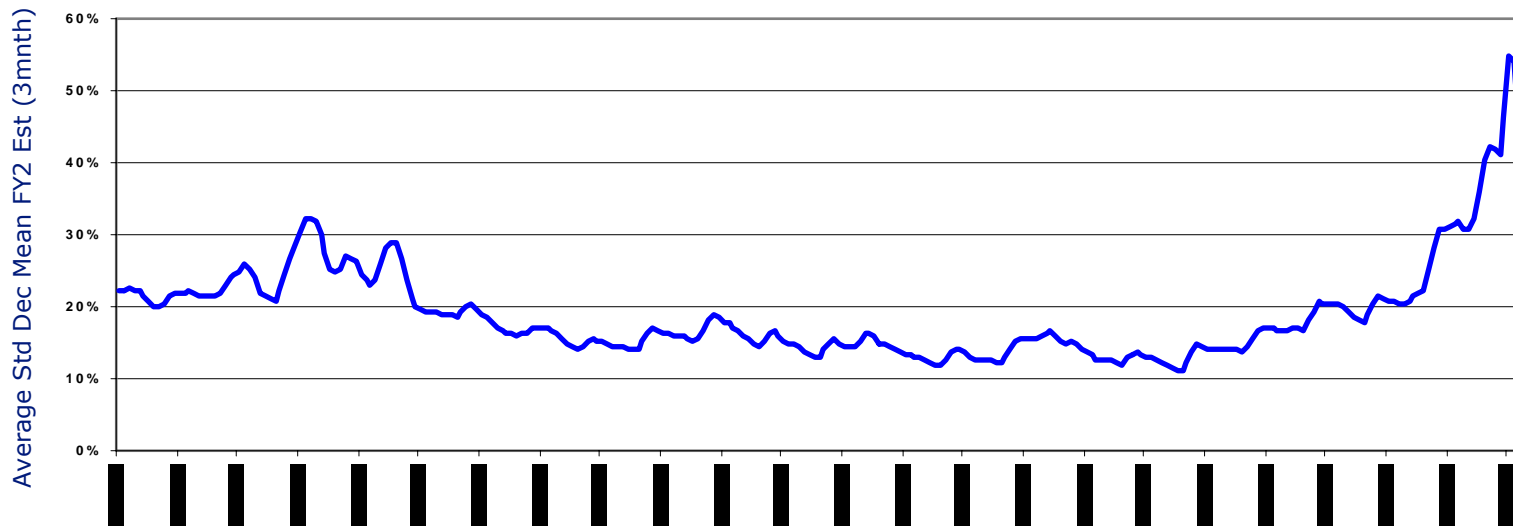
When does active management make sense?

Some moments can be more opportune than others

αA

- Narrow and/or inconsistent leadership across stocks
 - Select sectors participate in advances/(declines)
- When uncertainty dominates the environment
 - More uncertainty, the bigger the reward for high IC managers
- Regime shift from one state to another
 - In earnings, GDP, political process, etc.

Dispersion of FY2 Estimates



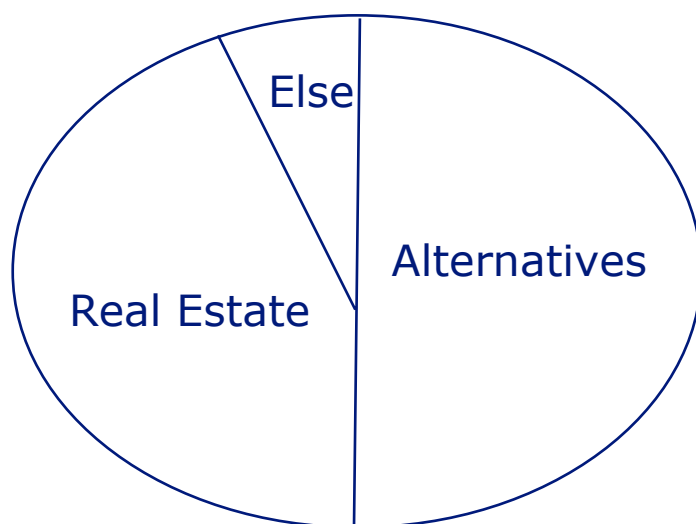
Sources: BofA Merrill Lynch US Quantitative Strategy data from 6/30/86 through 9/30/09, Invesco Ltd.

Time to Implement the Endowment Model?

Their alpha tends to come from more than active management



- Ivy League's outperformance comes from asset allocation
 - First Mover Advantage in alternatives
 - Opportunity to learn from their experience



Within Alternatives, there is a high concentration in private equity

Sources: Lerner, Schoar and Wongsunwai

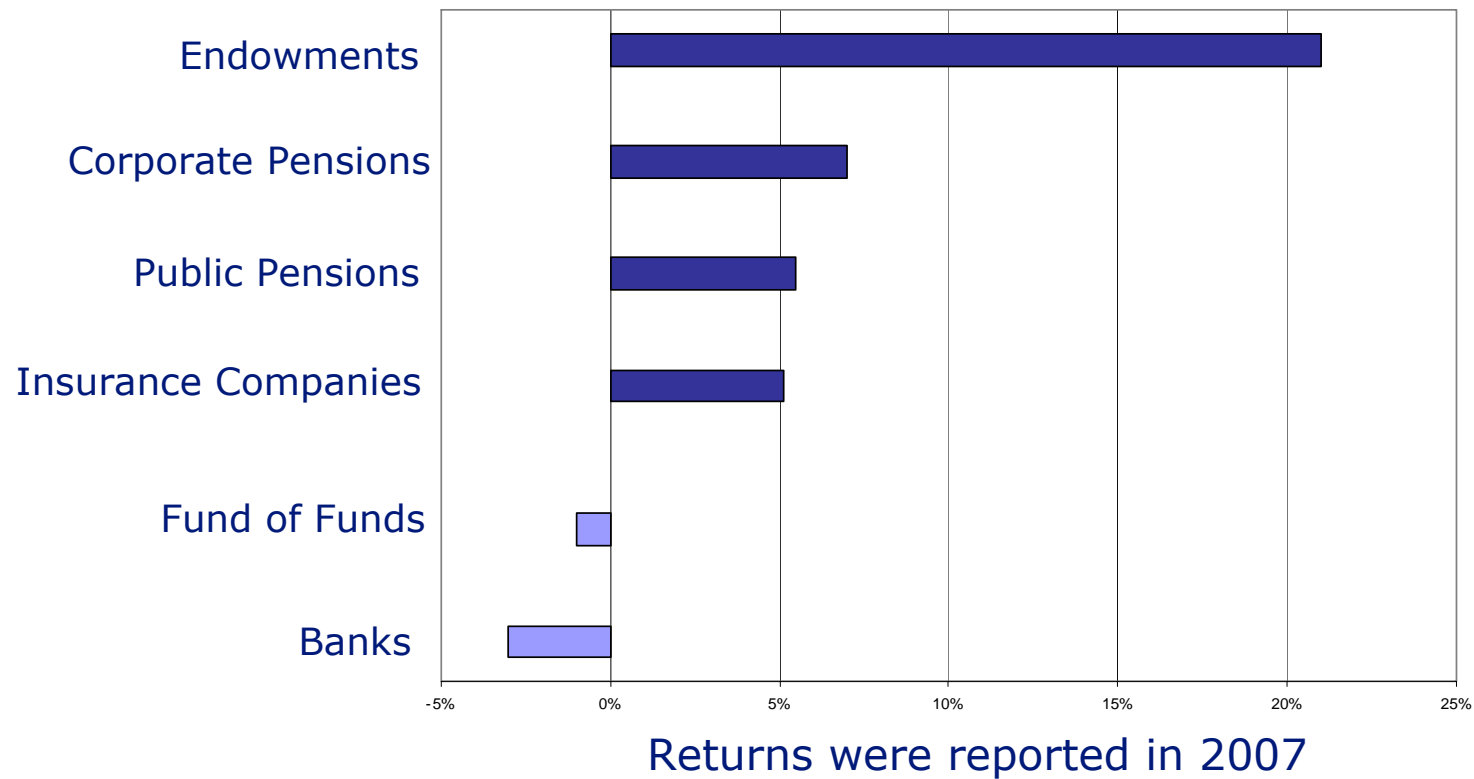
Endowments Combine Strategy with Tactics

Current environment supportive of distressed



- Endowments have certainly historically surpassed others
 - Their process and perceived lack of liquidity constraints has helped

Performance by investor type, PE funds vintage: 1992-2001



Sources: Lerner, Schoar and Wongsunwai

Risks to Plan Sponsors

Housing market aside, risks persists



- **Australia and China mark the first of many rate hikes**
 - Never had a crisis this extreme answered with so much stimulus
 - Implies we've ever needed to remove this much stimulus
- **Inflation risk continues to rise**
 - Unemployment issues finally abating
 - Low inventory levels
- **United States debt service costs forecasted to rise**
 - Economic report of the President sees all-time highs
- **Slow to incorporate changes**
 - Pace of change during shifts in the cycle is very quick
 - One solution has been strategic partnerships; outsourcing investment expertise

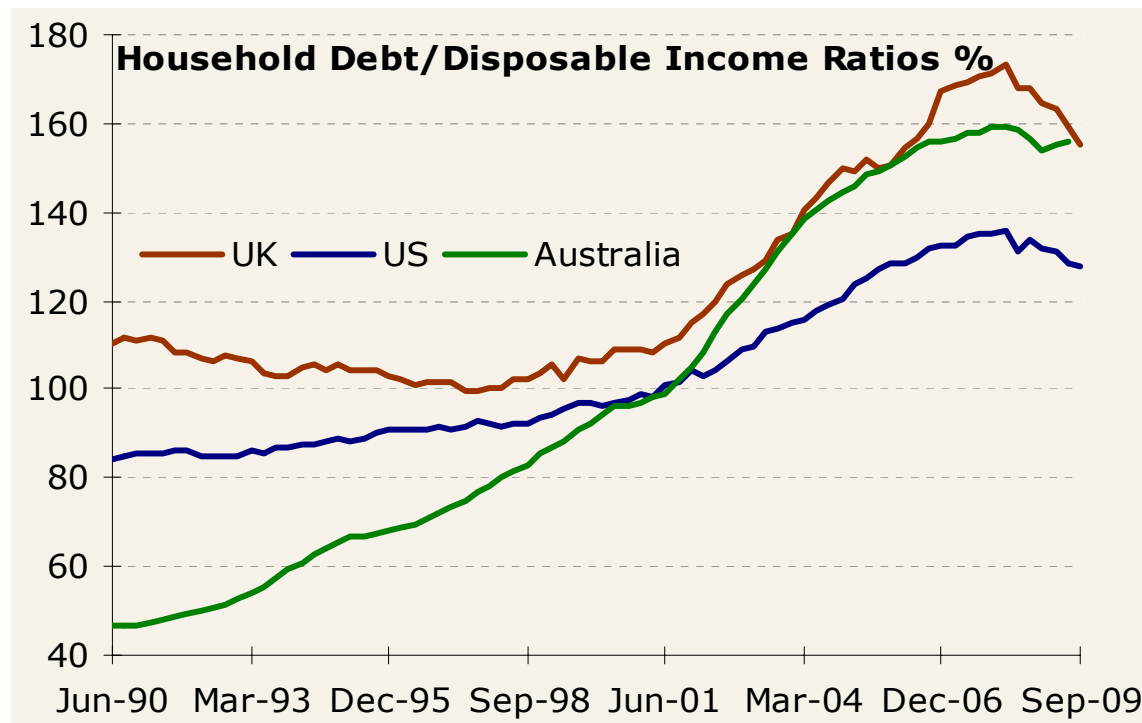
Sources: U.S. Census Bureau, March 2009, Invesco Ltd.

Households Continue to Deleverage

Overall Debt Levels Remain High



- The trend for household to de-lever will be in place for years
 - The process of increasing leverage is over, by and large, as lending stopped
- Once lending returns, have consumers learned?
 - Net result is seeing plan sponsors overweight fixed income, reducing risk



Source: Datastream, Jun 90 – Sep 09

QUESTIONS ?

