

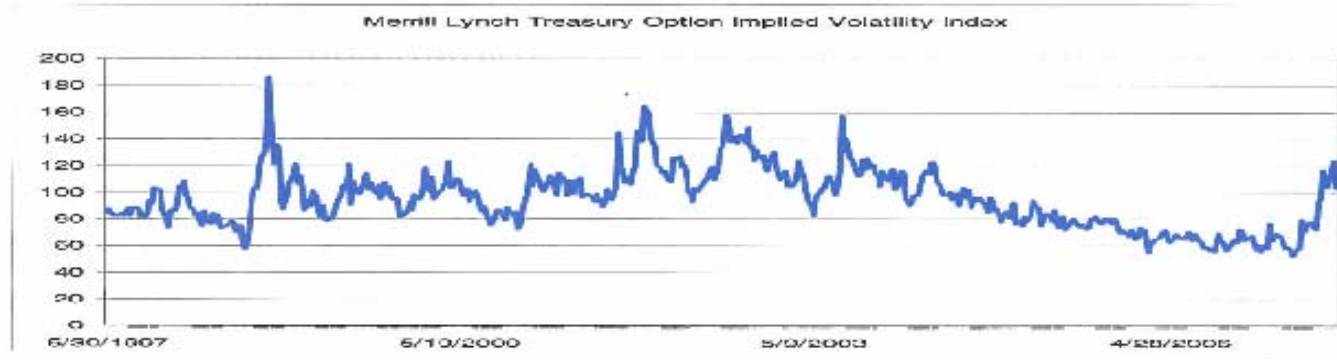
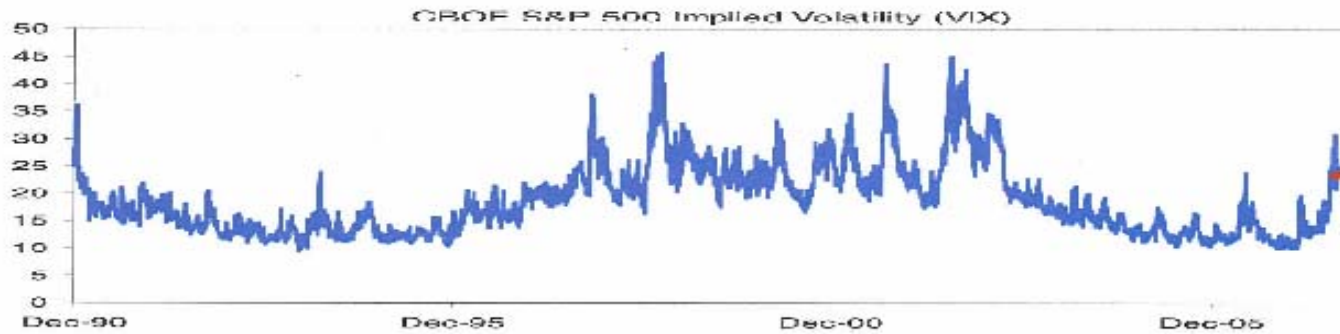
Oberlin College – October 12, 2007

# MARKET VOLATILITY AND LONG-TERM INVESTING

P. BRETT HAMMOND  
MANAGING DIRECTOR AND CHIEF INVESTMENT STRATEGIST



## The Return of Volatility

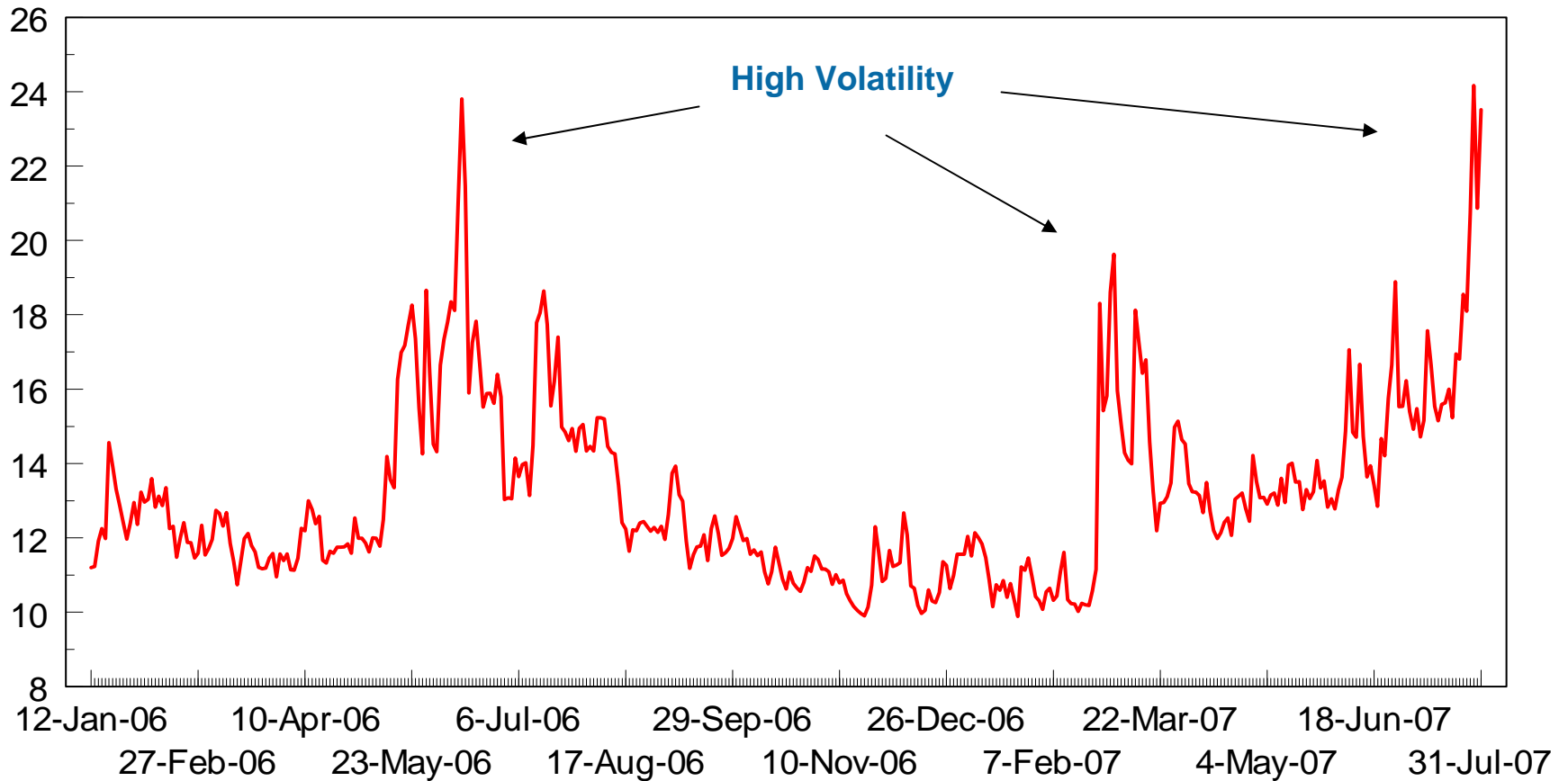


Source: Bloomberg



# CHICAGO BOARD OF EXCHANGE VOLATILITY INDEX (VIX)\*

## Index



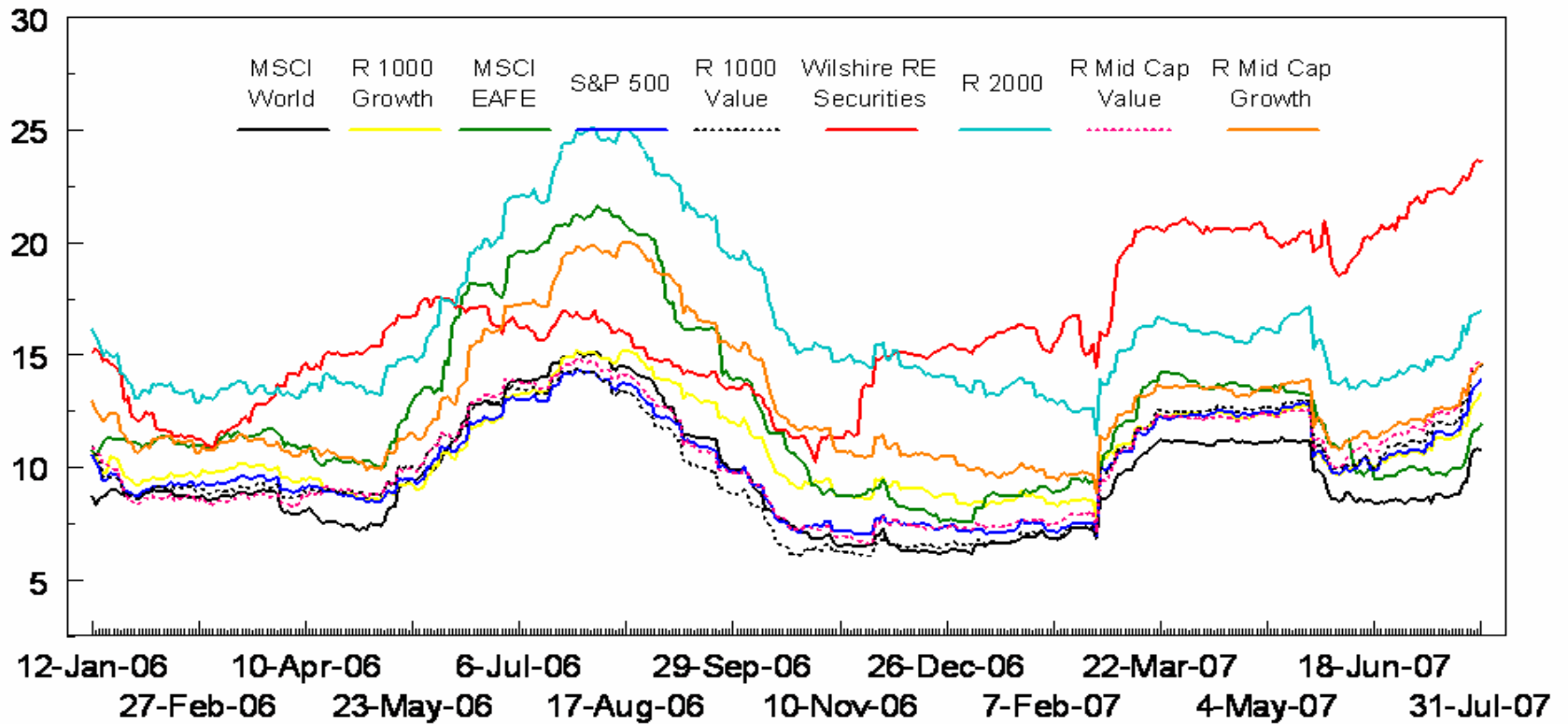
Source: CBOE and Bloomberg



# Volatility of Common Indexes

(Annualized Standard Deviation of Rolling 60-Day Returns)

Percent



## Recent Index Returns (% through 9/30/07)

|                             | Third Quarter | YTD   |
|-----------------------------|---------------|-------|
| Lehman Bros Short-Term Bond | 2.63          | 4.62  |
| Lehman Bros TIPS            | 4.54          | 6.35  |
| Lehman Bros Agg Bond        | 2.84          | 3.85  |
| Russell 3000                | 1.55          | 8.57  |
| S&P 500                     | 2.03          | 9.13  |
| R1000 Growth                | 4.21          | 12.68 |
| R1000 Value                 | -0.24         | 5.97  |
| Russell 2000                | -3.09         | 3.16  |
| MSCI EAFE                   | 2.18          | 13.15 |
| Wilshire REIT               | 1.44          | -4.84 |

Source: TIAA-CREF



## Other Financial Conditions

|                                       | 30-Jun-2004 | 15-Sep-2007 | Change (bps) |
|---------------------------------------|-------------|-------------|--------------|
| US Fed Funds                          | 1.00%       | 4.75%       | 375          |
| U.S. 10-Year Treasury                 | 4.58%       | 4.47%       | -11          |
| <hr/>                                 |             |             |              |
| Investment Grade Corporate Bond Index |             |             |              |
| Yield                                 | 5.03%       | 5.95%       | 92           |
| Spread                                | 99 bps      | 156 bps     | 57           |
| <hr/>                                 |             |             |              |
| U.S. High-Yield Index                 |             |             |              |
| Yield                                 | 8.16%       | 8.77%       | 61           |
| Spread                                | 410 bps     | 430 bps     | 20           |
| <hr/>                                 |             |             |              |
| 30-Year Mortgage Rates                | 6.21%       | 6.29%       | 8            |
| Trade-Weighted US\$ Index             | 87          | 76          | -13%         |
| <hr/>                                 |             |             |              |
| Gold                                  | \$394       | \$734       | 86%          |
| Oil                                   | \$59        | \$81        | 37%          |

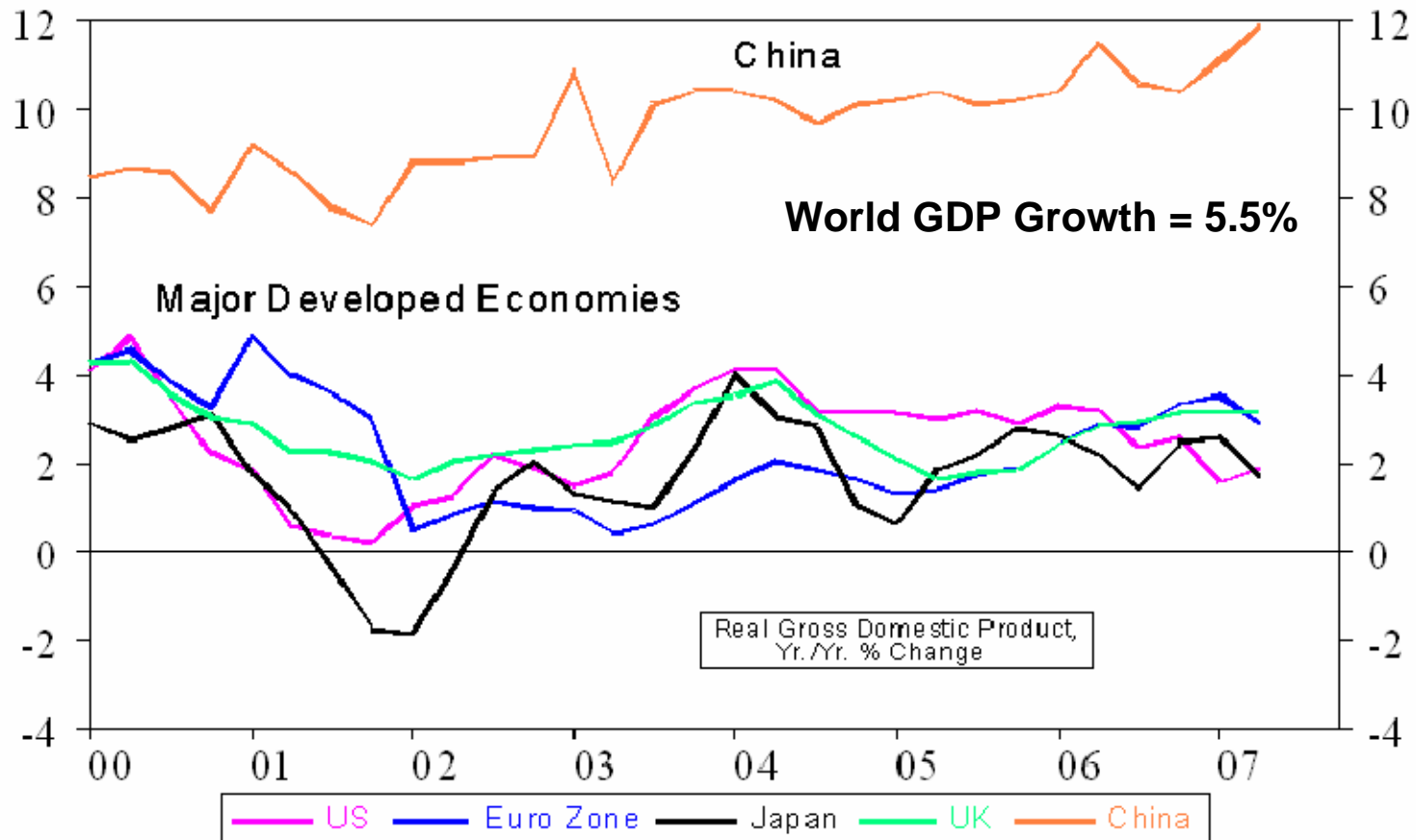
Credit Spread is the difference in yield between different securities due to different credit quality. The credit spread reflects the additional net yield an investor can earn from a security with more credit risk relative to one with less credit risk. The credit

spread of a particular security is often quoted in relation to the yield on a credit risk-free benchmark security or reference rate.

Source: Datastream



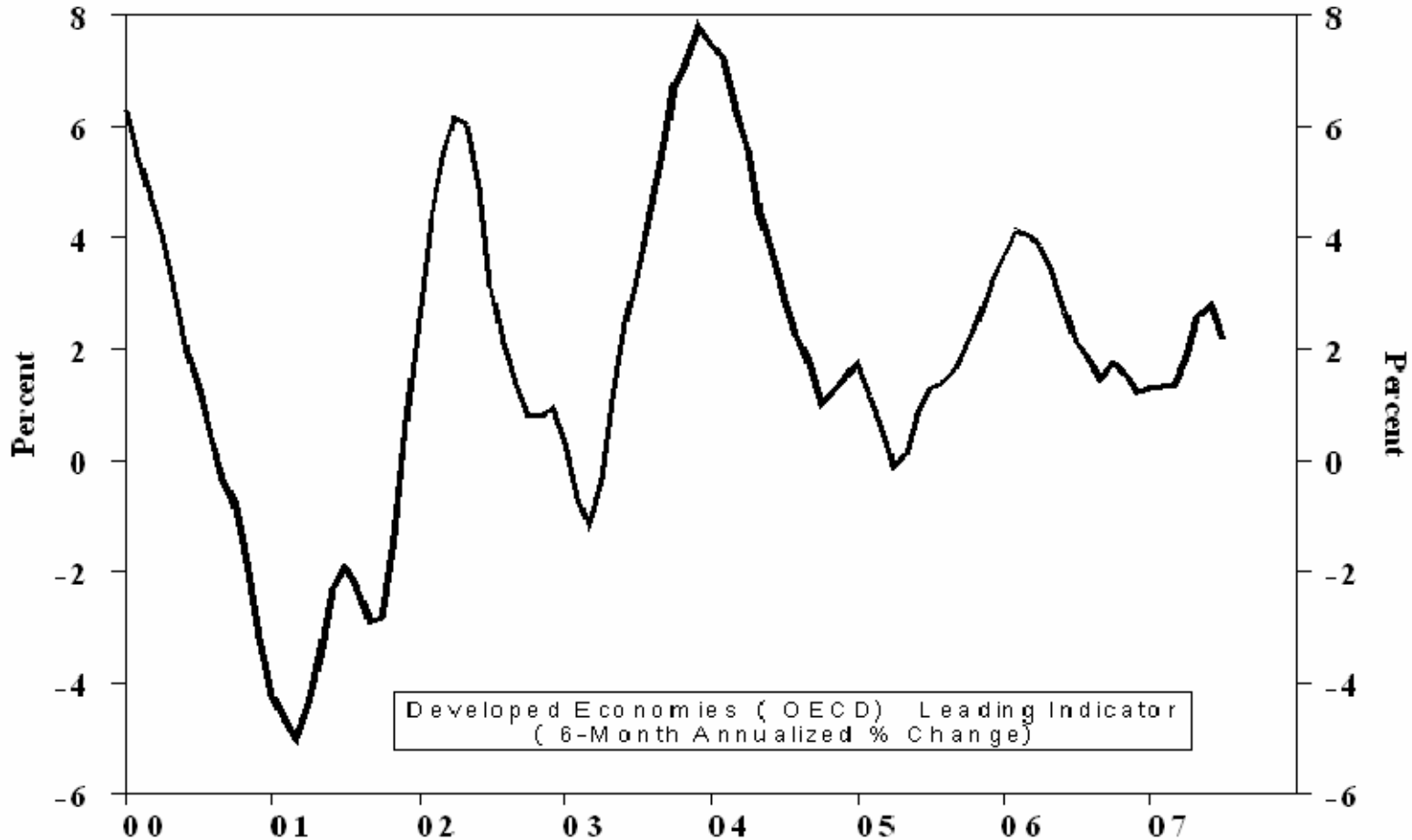
# SLOWER OVERALL GROWTH



Sources: Global Insight, Goldman Sachs, IMF



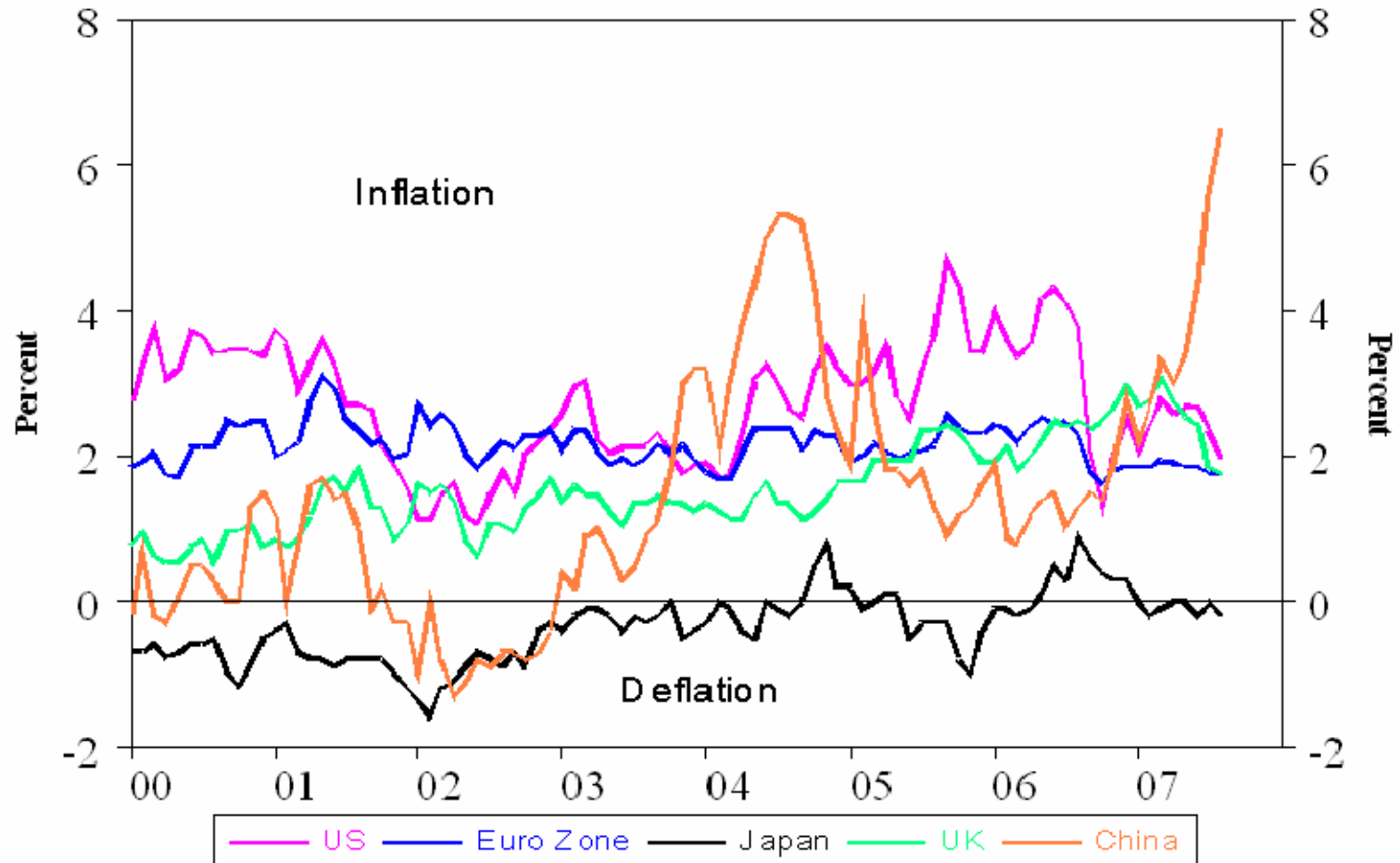
## ONLY MODEST PICK-UP FOR AREAS ALREADY SLOWER



Source: Datastream



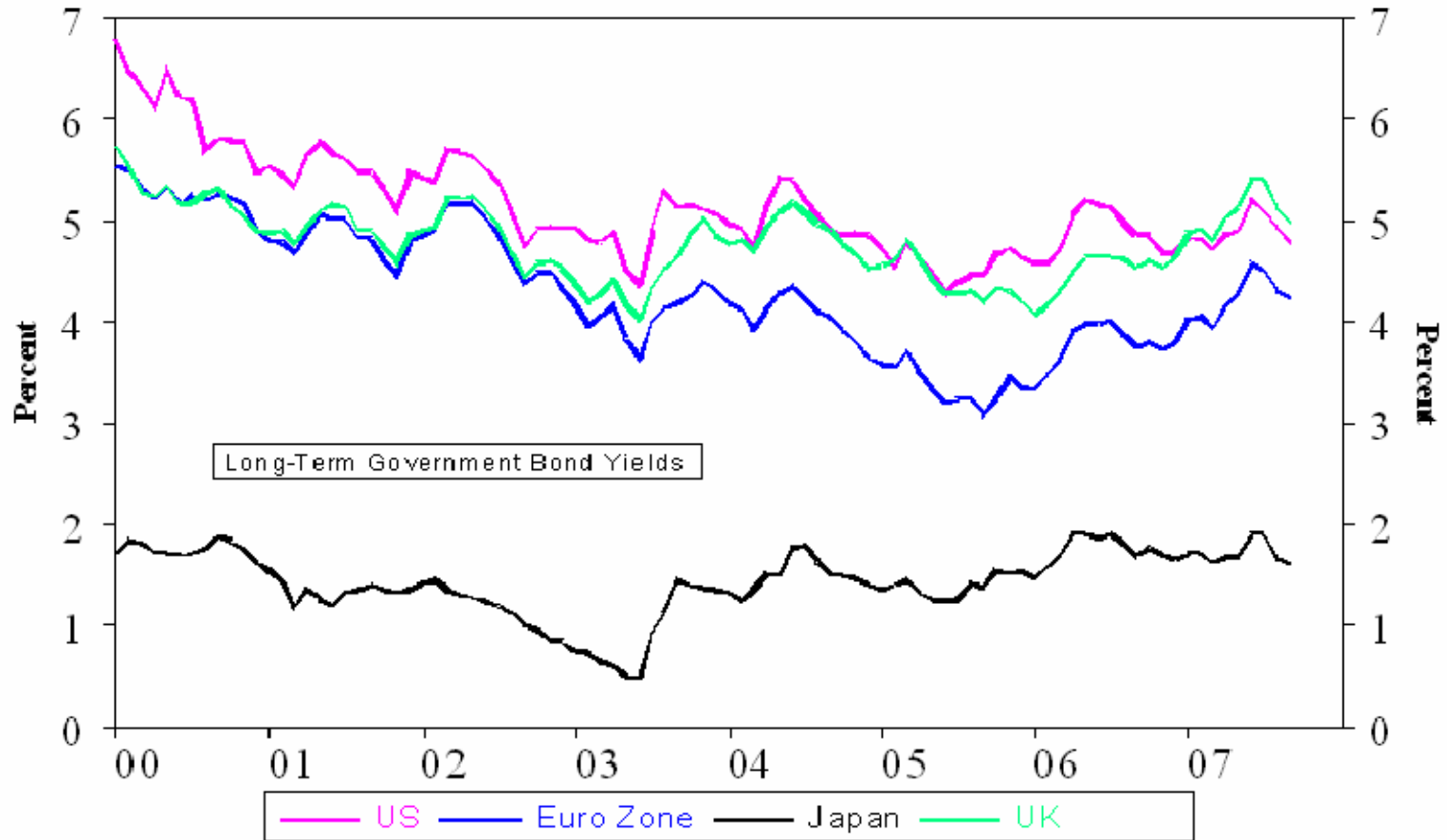
# KEEPING INFLATION LOW (CHINA ?)



Source: Global Insight



# BOND YIELDS



Source: Global Insight



## ***BUT LIKELY CONSTRAINING STOCK MARKET RETURNS, AS ...***

- **PROFITS SLOW:**

- **PRODUCTIVITY SLOWING → LABOR COSTS RISING → PROFIT MARGINS DETERIORATING**

- **SALES REVENUES GROWING LESS RAPIDLY FROM:**

- **UNITS SOLD SLOWING WITH LESS VIBRANT ECONOMIES**
- **COMPANIES' PRICING POWER ERODING**

- ***RESULT: PROFITS GROWTH DOWNSHIFTING FROM DOUBLE-DIGIT RATES TO GROWING INLINE WITH OVERALL ECONOMY IN DOLLAR TERMS***

- **ALL IN A CLIMATE OF INCREASED FINANCIAL MARKET VOLATILITY AND REPRICING OF RISK**



## **Other Issues**

### **Subprime and Alt-A Mortgage\* Markets**

**Sales, Price Change, Selling Price, Delinquencies**

### **Unemployment**

**Fed Funds Rate – Near long-term real average**

**Central Banks – Still raising**

### **Stock Market Volatility**

### **Oil**

Alt-A – better than subprime in terms of quality, but probably not as credit worthy as prime.



# What's a Long-Term Investor to Do?

Check Your Asset Allocation Seatbelt

Dips and the Time Horizon

Fund Choice and Diversification\*

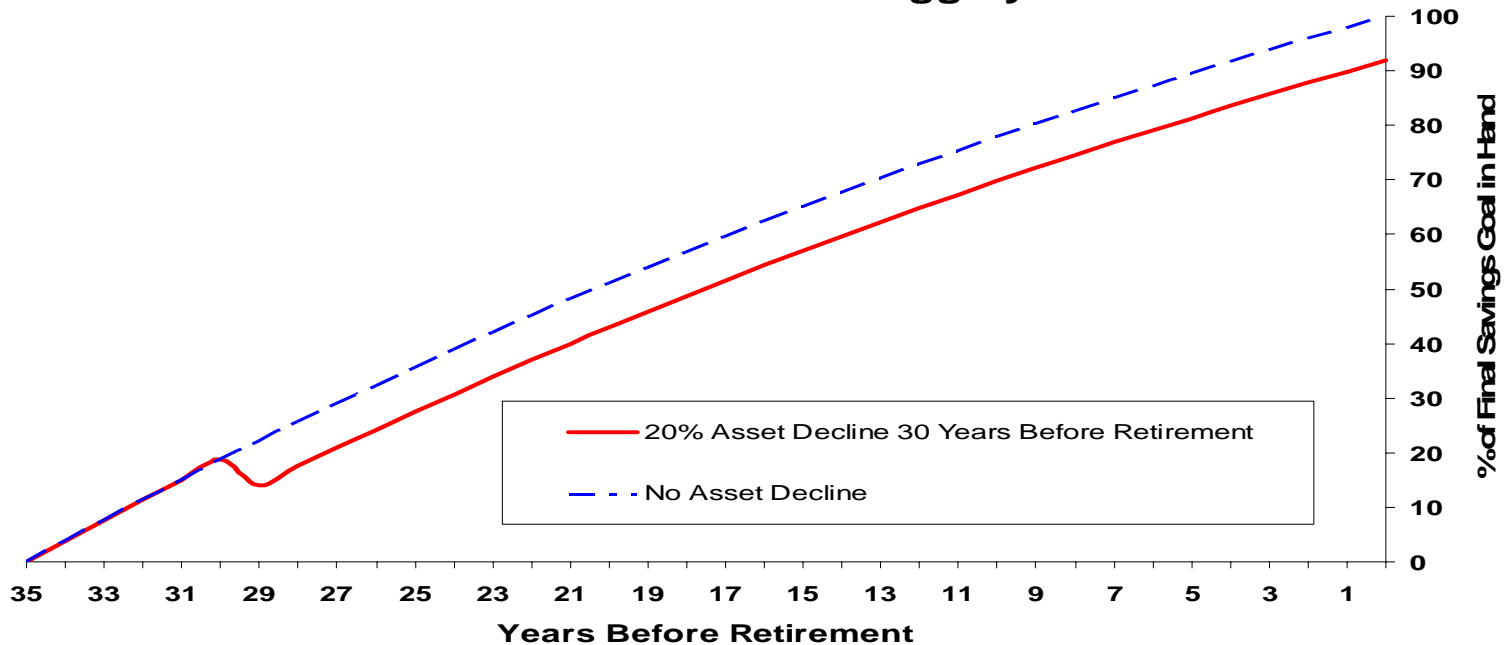
The Asset-Salary Ratio

\*Diversification is a technique to help reduce risk. There is no absolute guarantee that diversification will protect against loss of income.



# Market Dip: Early On, a Limited Effect\*

**A 20% asset decline 30 years before retirement reduces the final nest egg by 8%.**

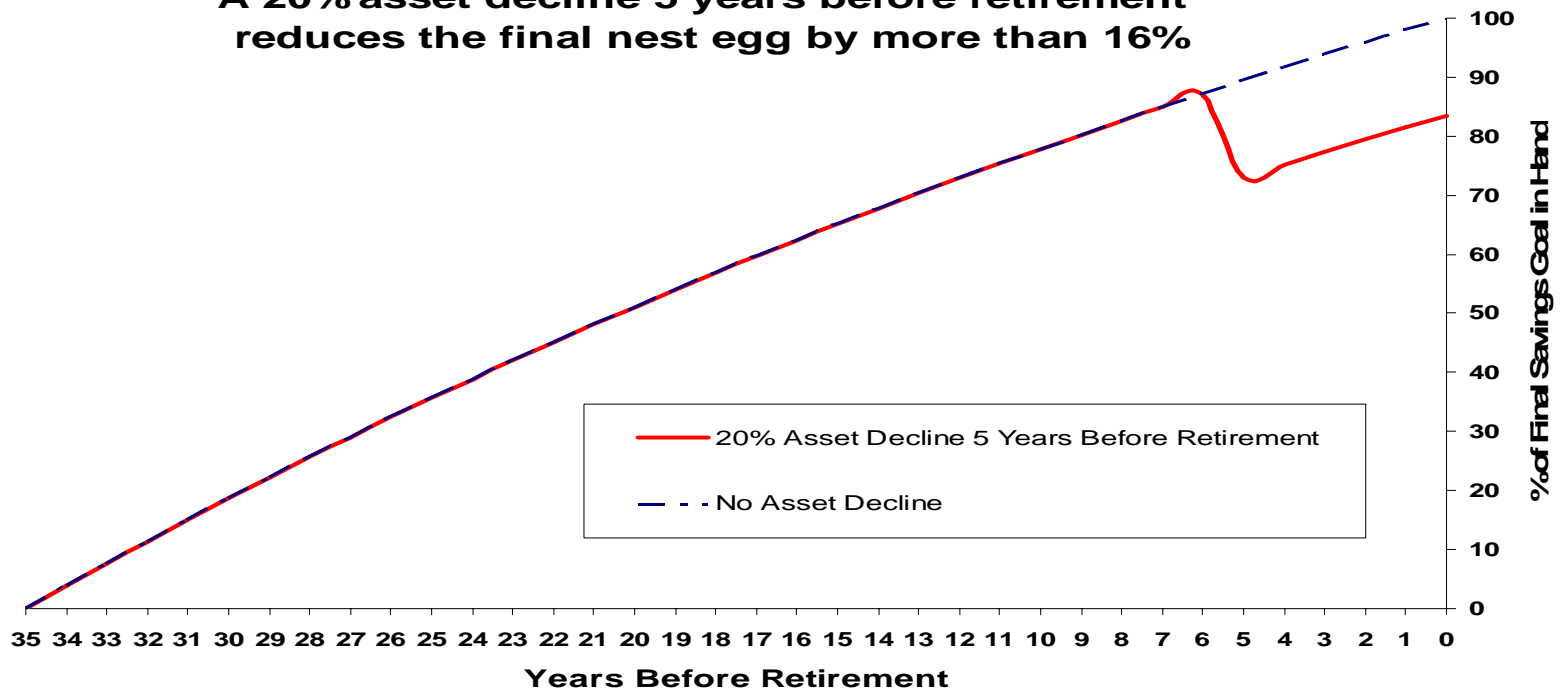


\*Comparison of two projections, both based on 10% annual contribution rate and 6% annual asset return (except for year 30 in the case of the red projection).



# Market Dip: Later On, Bigger Effect

**A 20% asset decline 5 years before retirement reduces the final nest egg by more than 16%**



\*Comparison of two projections, both based on 10% annual contribution rate and 6% annual asset return (except for year 5 in the case of the red projection).



## Basic Investment Options: TIAA-CREF Lifecycle Funds

Lifecycle Funds 2010

Lifecycle Funds 2015

Lifecycle Funds 2020

Lifecycle Funds 2025

Lifecycle Funds 2030

Lifecycle Funds 2035

Lifecycle Funds 2040

Large-Cap Value Fund

Growth Equity Fund and Large-Cap Growth Fund

Small-Cap Equity Fund

International Equity Fund

Bond Fund

High-Yield Bond Fund

Inflation-Linked Bond Fund

Short-Term Bond Fund



# Basic Investment Options: Individual Accounts & Funds

## Equities

Stock Account

Global Equities Account

Growth and Income Fund

Equity Index Account

International Equity Fund

Growth Account

Large-Cap Value Fund

Small-Cap Equity Fund

## Fixed Income

Bond Market Account

Inflation Linked Bond Account

High Yield Fund II

Money Market Account

## Alternative Assets / Guaranteed

Real Estate Account

TIAA Traditional Annuity (RA v. SRA)

## Blend

Social Choice Account

Managed Allocation Fund



# Basic Investment Options: Additional Funds

## Equities

International Equity Index Fund  
Large-Cap Growth Fund  
Large-Cap Growth Index Fund  
Large-Cap Value Index Fund  
Mid-Cap Blend Index Fund  
Mid-Cap Growth Fund  
Mid-Cap Growth Index  
Mid-Cap Value Fund  
Mid-Cap Value Index Fund  
S&P 500 Index Fund  
Small-Cap Blend Index Fund  
Small-Cap Growth Index Fund  
Small-Cap Value Index Fund

## Fixed Income

Short-Term Bond Fund II  
Bond Fund  
Bond Plus Fund II  
Inflation Linked Bond Fund  
Money Market Fund

## Other Equities

Social Choice Equity Fund  
Real Estate Securities Fund



## What's Your Asset-Salary Ratio?

Total Assets

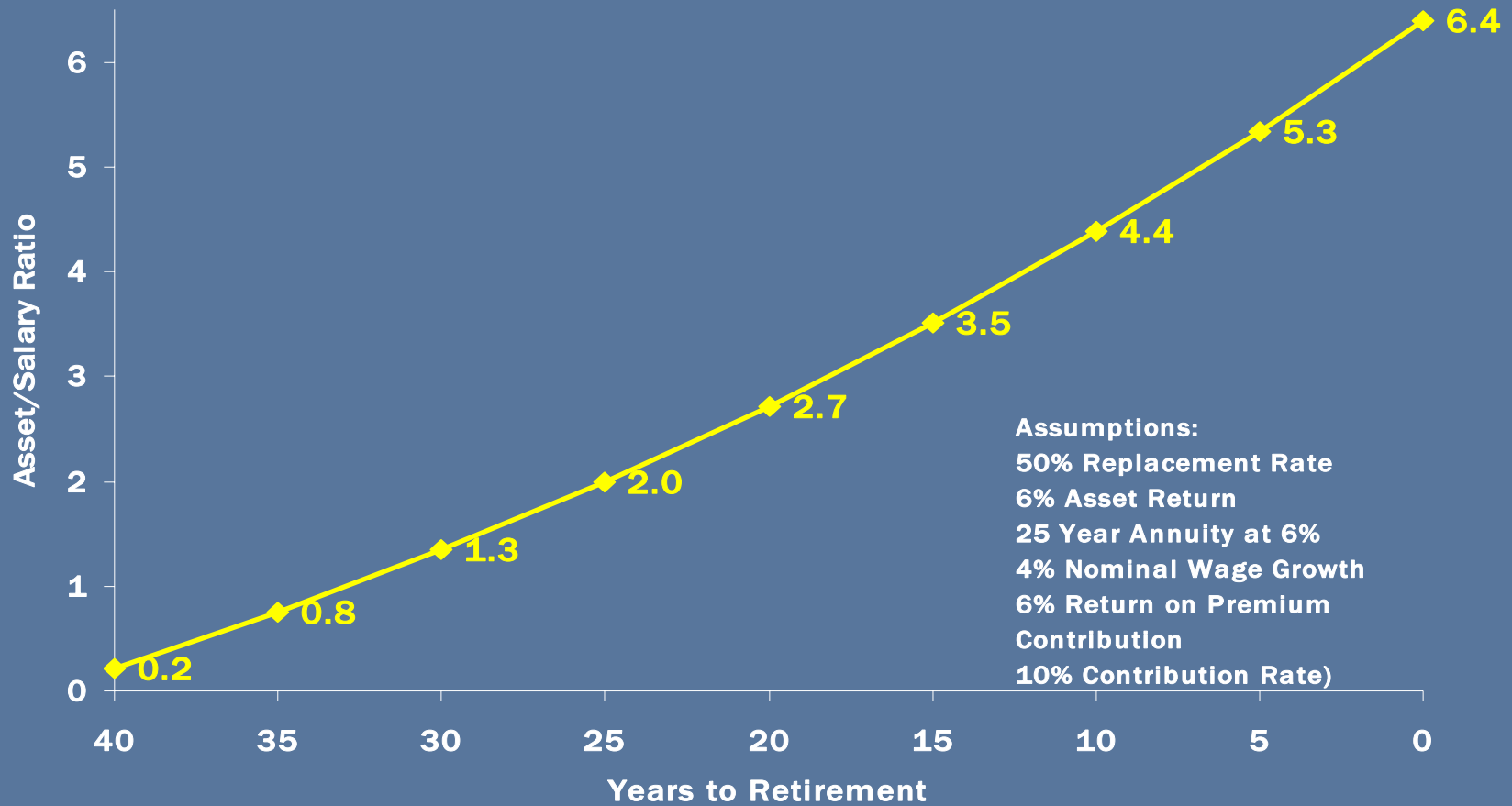
Divided By

Current Annual Income

= Your Asset-Salary Ratio



# The Asset-Salary Ratio: 50% Income Replacement



This model uses general assumptions that may or may not match an individual's unique circumstances. Investors should consider their own cash flow, liquidity and tax considerations prior to and during retirement. All investments carry risk and returns will fluctuate.

Source: Author's calculations



# The Asset-Salary Ratio: 30% to 80% Income Replacement



# The Asset-Salary Ratio: Different Rates of Return



# What's a Long-Term Investor to Do?

## Retirement Income Insurance

It's your money

Drawdown option: 4%, 5%, 6%?

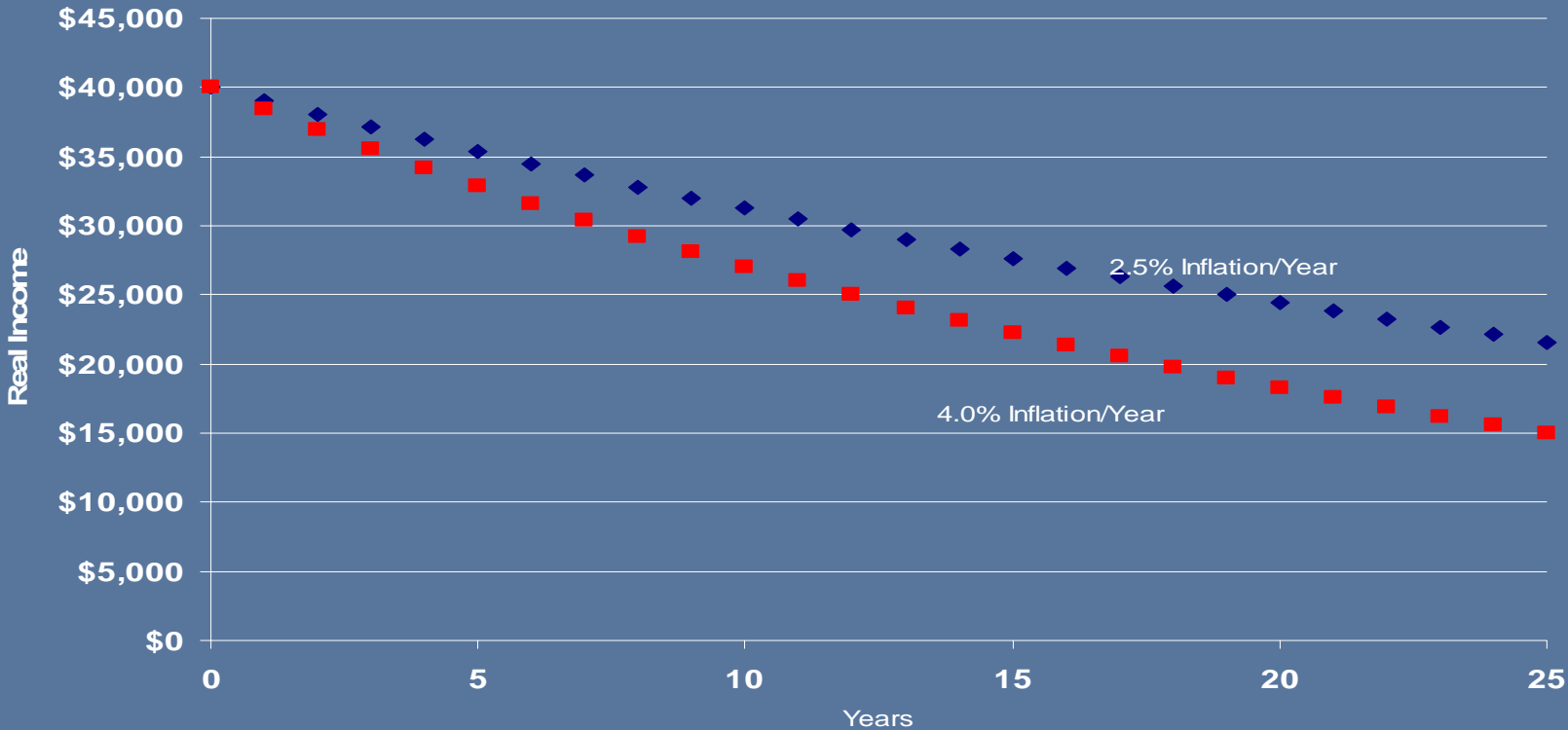
What is income insurance?

Control versus guarantees



# Effects of Inflation on Retirement Income Over 25 Years

Initial Income = \$40,000



## No Need to Go It Alone

Advice appointment

Other educational tools



## A Short Bio:

**P. Brett Hammond is Managing Director and Chief Investment Strategist for TIAA-CREF, the nonprofit financial services firm that has been providing pensions and financial services to higher education since 1918. His group is responsible for asset allocation advising, economic and market commentary, and investment product and portfolio research. Previously, he was responsible for investment analytics and pension and economic research. He has worked recently on “reverse” asset allocation modeling and beta-based portfolio construction; bundled alternatives, investor behavior; inflation-indexed bonds; performance and risk analysis; and defined benefit and defined contribution pension reform.**

**Prior to joining TIAA-CREF in 1993, Dr. Hammond was responsible for program development and management of one of the major operating units of the National Academy of Sciences, with studies on topics ranging from public perceptions of technological risk to the changing status of black Americans. He also directed or was staff to major studies of site selection for the superconducting supercollider, balancing costs and risks in promoting environmental health, and the consequences for higher education of ending mandatory retirement. He also held management and research positions at the National Academy of Public Administration.**

**Previously, Dr. Hammond was a member of the faculty of the University of California (Berkeley and Los Angeles) and consultant to the U.S. Office of Technology Assessment and Multinational Strategies, Inc. His research publications are in the areas of finance, pensions, higher education, science and technology, and health policy.**

**Dr. Hammond received bachelor degrees in economics and politics from the University of California, Santa Cruz, in 1974. He received the Ph.D. from the Massachusetts Institute of Technology in 1980.**



## Disclosures

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