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Making it Count
Investment Outlook & Portfolio Implications

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March 2015

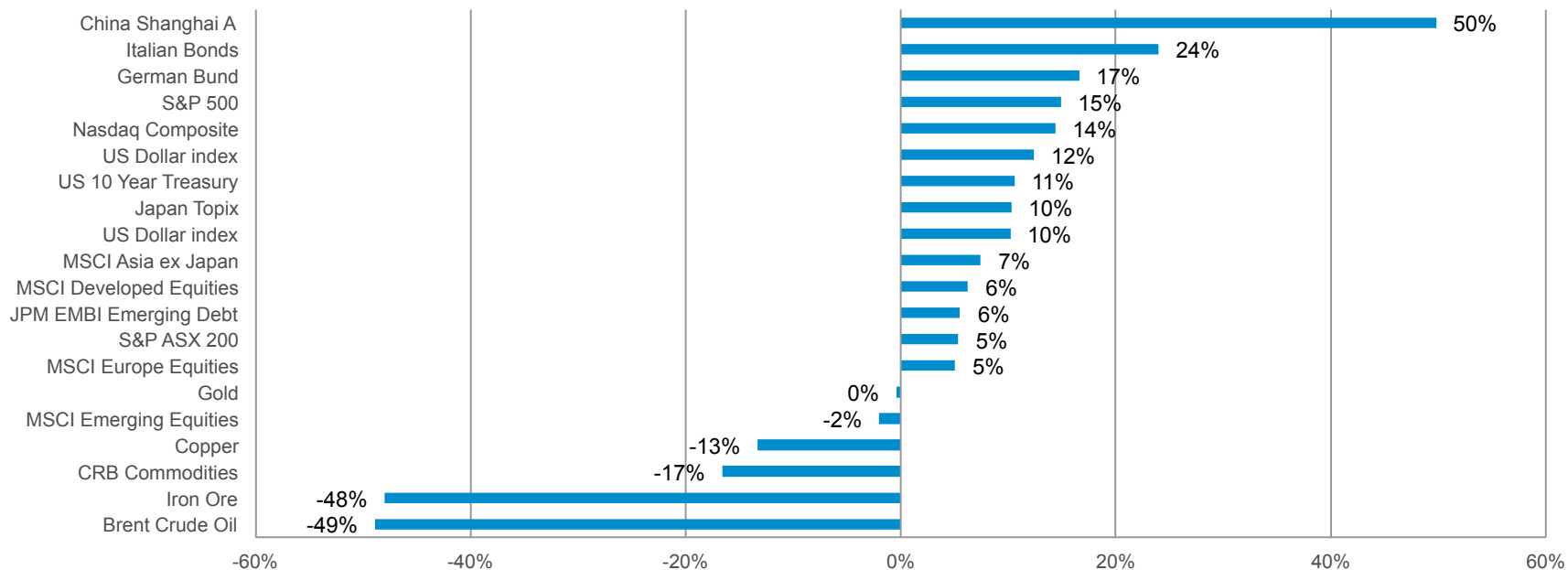# Learning outcomes for this session

▶ Investment outlook for 2015,

– Where are the opportunities?

– What are the risks?

▶ Multi Asset Portfolio Construction

– Advanced techniques for portfolio construction; SAA, TAA, SS

– Insight into the theory behind these techniques

▶ How to convert market views into implementable portfolios in a structured way

▶ Investigate risk management techniques to stress test portfolios

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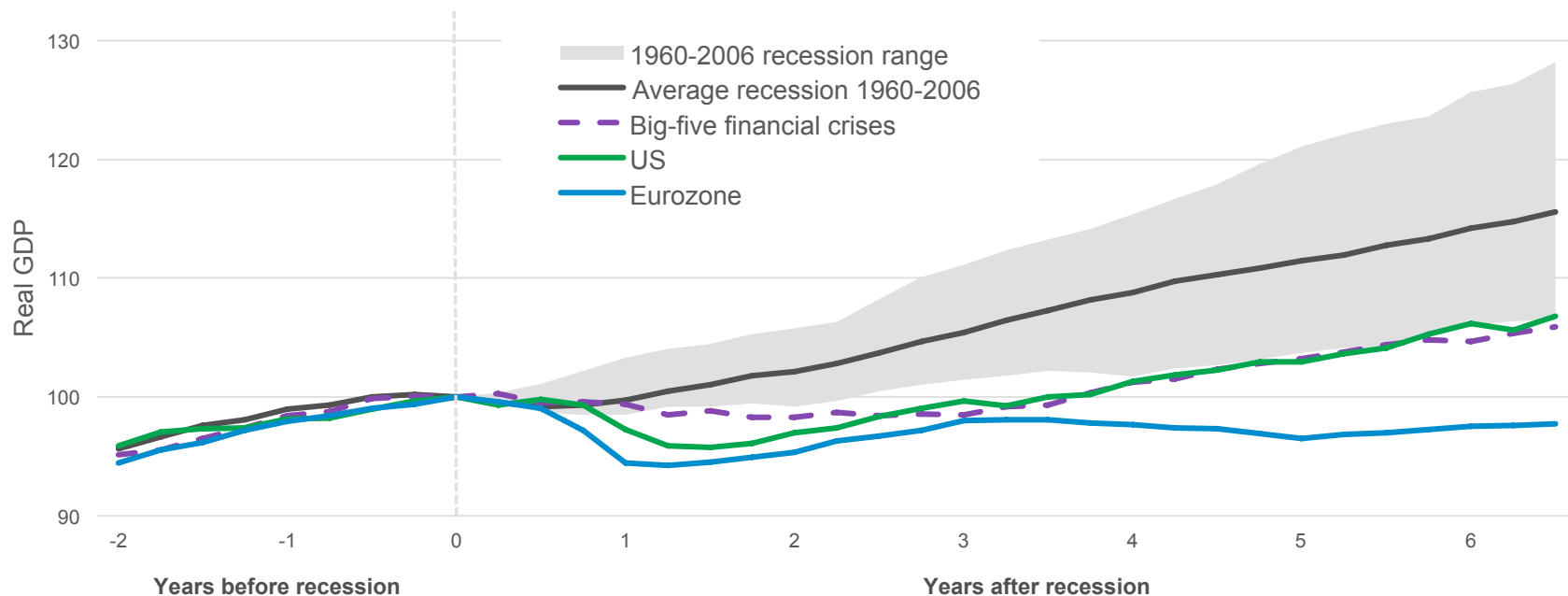
BlackRock Investment Outlook 2015

2014: The Scorecard

Asset Class Returns 2014

Asset Class	Return
China Shanghai A	50%
Italian Bonds	24%
German Bund	17%
S&P 500	15%
Nasdaq Composite	14%
US Dollar index	12%
US 10 Year Treasury	11%
Japan Topix	10%
US Dollar index	10%
MSCI Asia ex Japan	7%
MSCI Developed Equities	6%
JPM EMBI Emerging Debt	6%
S&P ASX 200	5%
MSCI Europe Equities	5%
Gold	0%
MSCI Emerging Equities	-2%
Copper	-13%
CRB Commodities	-17%
Iron Ore	-48%
Brent Crude Oil	-49%

Source: Thomson Reuters, BlackRock Investment Institute, December 2014

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Global Recovery: This Time is Different

Current vs. Past Recoveries from Recession, 1960 - 2014

Legend:
- 1960-2006 recession range
- Average recession 1960-2006
- Big-five financial crises
- US
- Eurozone

Y-axis: Real GDP (90, 100, 110, 120, 130)
X-axis: -2, -1, 0, 1, 2, 3, 4, 5, 6

Years before recession | **Years after recession**

Sources: Thomson Reuters, Datastream, BlackRock Investment Institute, and IMF, November 2014
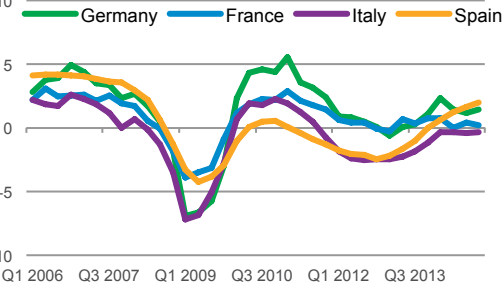
Diverging Growth

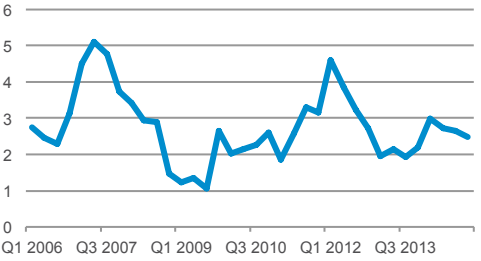**United States**

Euro zone
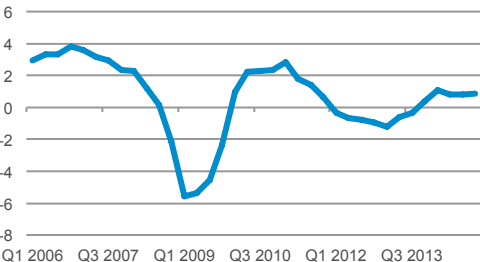
Japan

China

Euro zone Countries
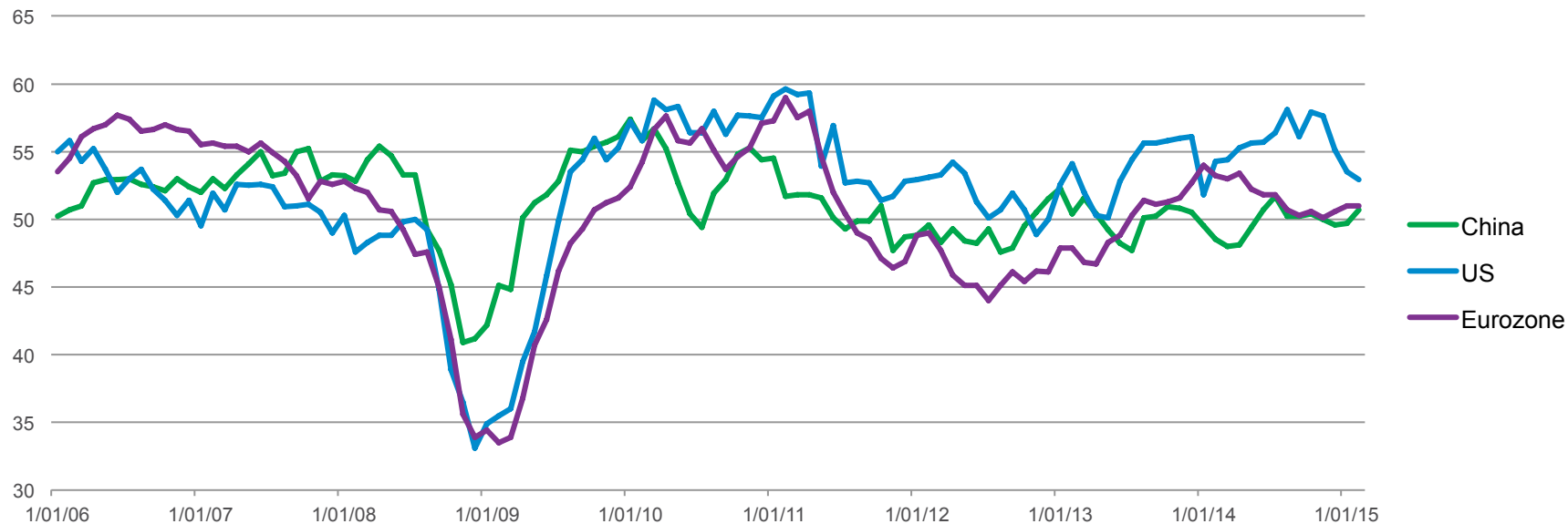Germany — France — Italy — Spain

Australia

Source: Thomson Reuters, BlackRock Investment Institute, February 2015

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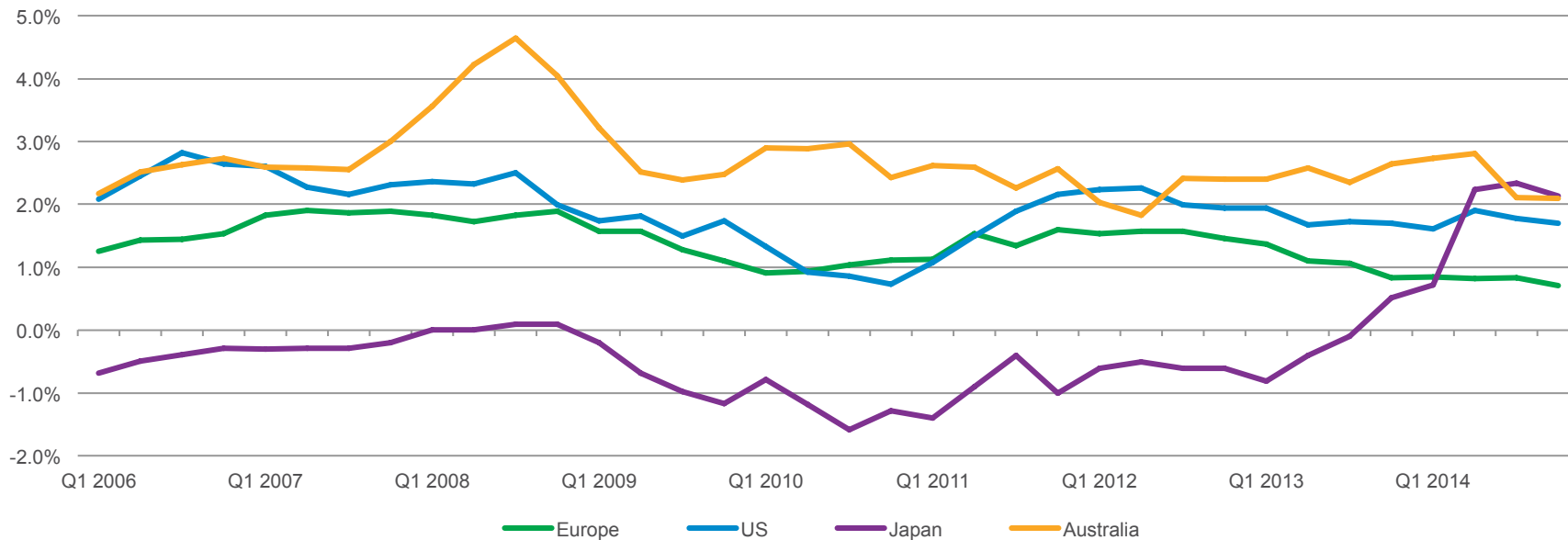# US outperformance vs rest of the world but is this changing?

Global Manufacturing Activity

Source: Thomson Reuters, BlackRock Investment Institute, February 2015
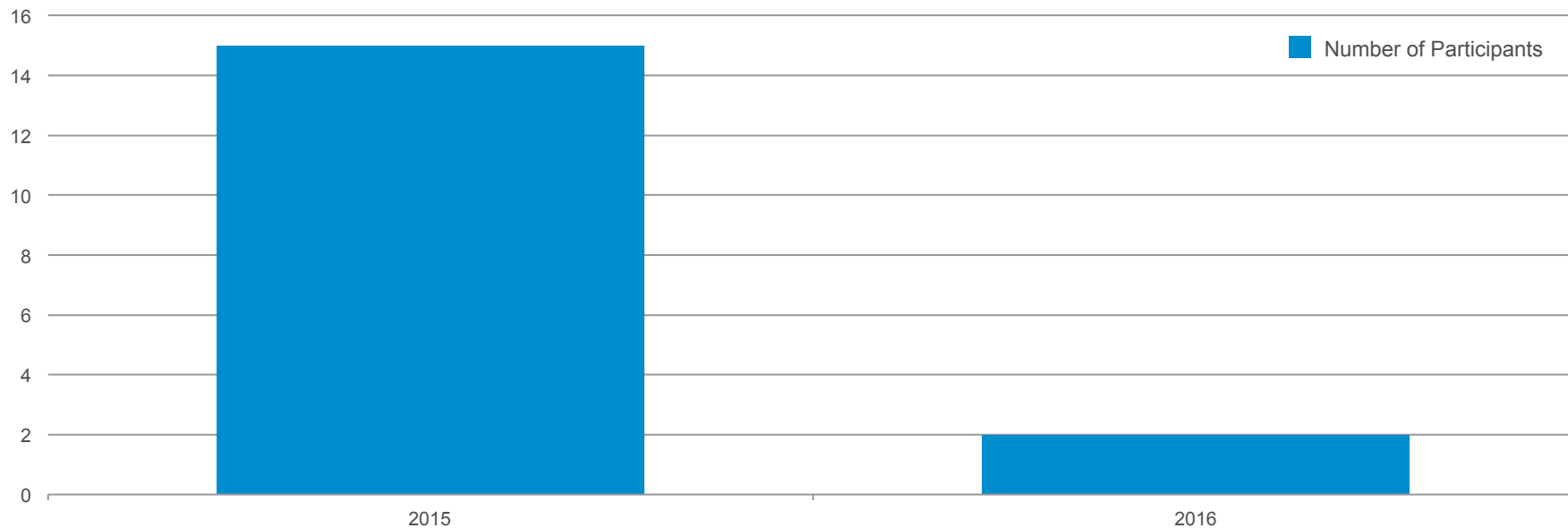
Global Inflation

Inflation Ex Food and Energy

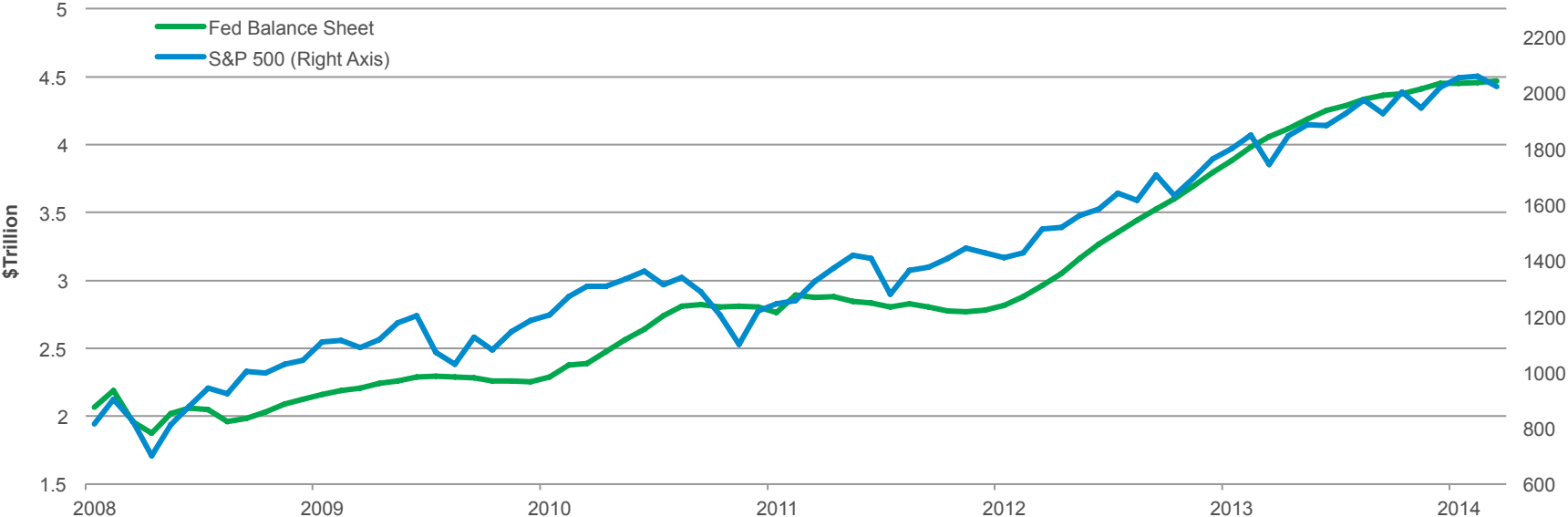Source: Thomson Reuters, BlackRock Investment Institute, February 2015

All eyes on FOMC in 2015

FOMC Appropriate timing of first rate increase

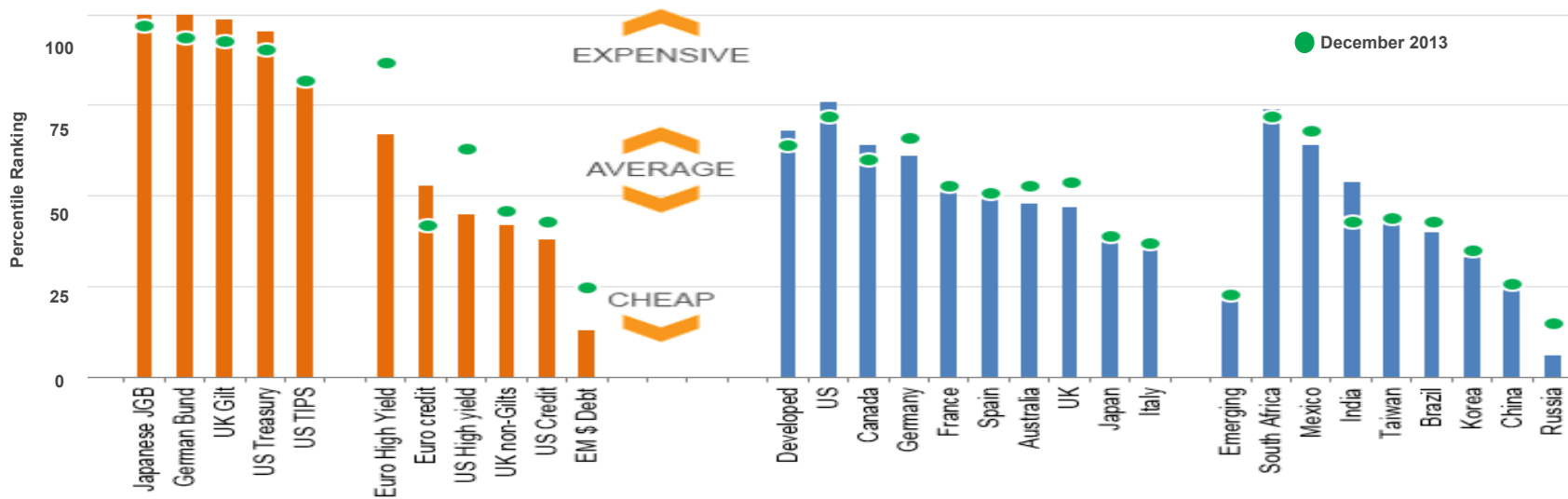Source: Monetary Policy Report, US Federal Reserve, February 2015

Policy matters

US Equities and QE

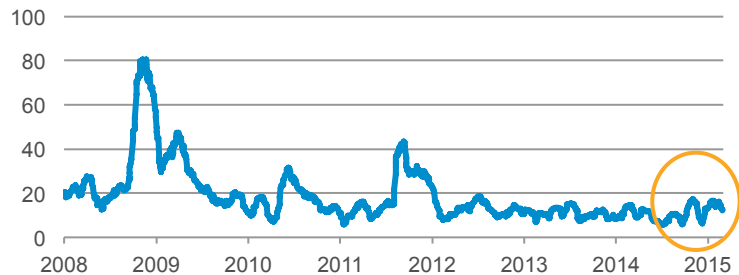**BLACKROCK**®

Asset Valuations vs Historic Norm

Date as at 31 December 2014
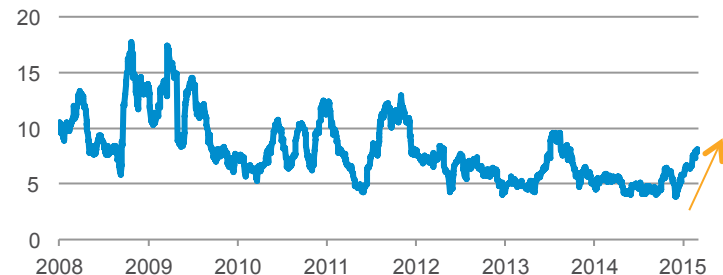Source: Thomson Reuters Datastream, US Federal Reserve, BlackRock Investment Institute, February 2015

Notes: Percentile ranks show valuations of assets versus their historical ranges. Example: If an asset is in the 75th percentile, this means it trades at a valuation equal to or greater than 75% of its history. Valuation percentiles are based on an aggregation of standard valuation measures versus their long-term history. Government bonds are 10-year benchmark issues. Credit series are based on Barclays indexes and the spread over government bonds. Treasury Inflation Protected Securities (TIPS) are represented by nominal U.S. 10-year Treasuries minus inflation expectations. Equity valuations are based on MSCI indexes and are an average of percentile ranks versus available history of earnings yield, trend real earnings, dividend yield, price to book, price to cash flow and 12-month forward earnings yield. Historical ranges extend back anywhere from 1969 (developed equities) to 2004 (EM$ debt).

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Historic Asset Volatility

US Equities

US 10yr Treasury

US Dollar
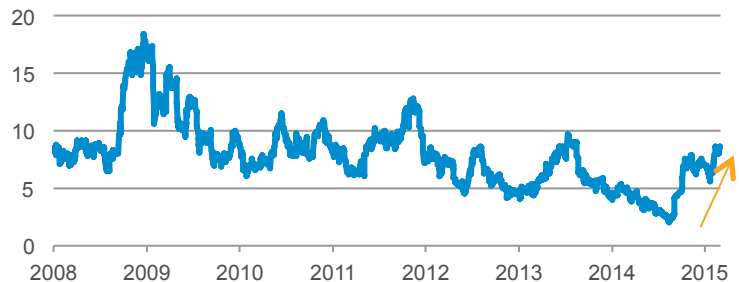
Brent Crude
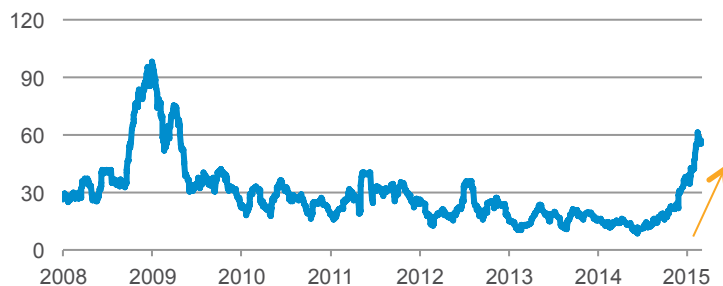
Source: Thomson Reuters Datastream, US Federal Reserve, BlackRock Investment Institute, February 2015

Correlations - a new normal or correction looming?

Correlation of Bond and Equity Returns
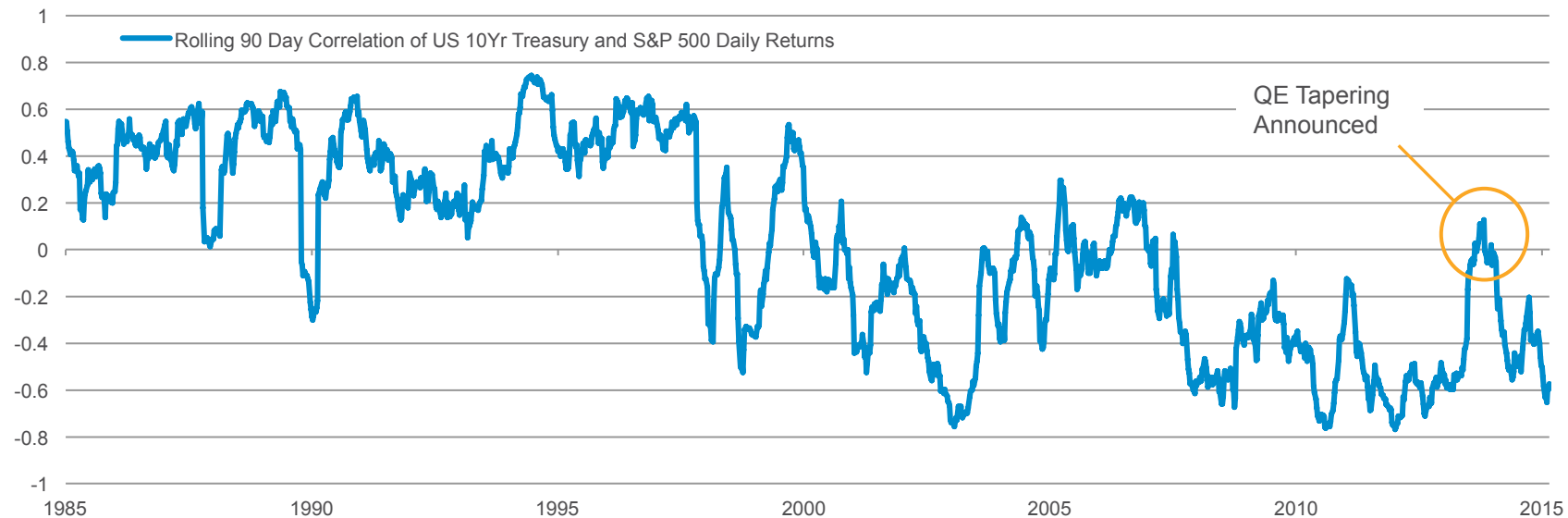
Rolling 90 Day Correlation of US 10Yr Treasury and S&P 500 Daily Returns

QE Tapering Announced

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Base case for 2015

Our base case for 2015 is a world of divergence in terms of economic growth and monetary policy

▶ Slightly tighter financial conditions in the US and UK, while looser policies mostly elsewhere

What is the likely outlook for asset class volatility and correlations going forward?

a. Higher volatility, lower correlations

b. Lower volatility, higher correlations

c. Higher volatility, higher correlations

d. Lower volatility, lower correlations

Implications for Portfolio Construction

Portfolio Construction - what matters?

Asset Allocation explains around 90% of a funds variability in returns*

Security Selection (SS)

Tactical Asset Allocation (TAA)

Strategic Asset Allocation (SAA)
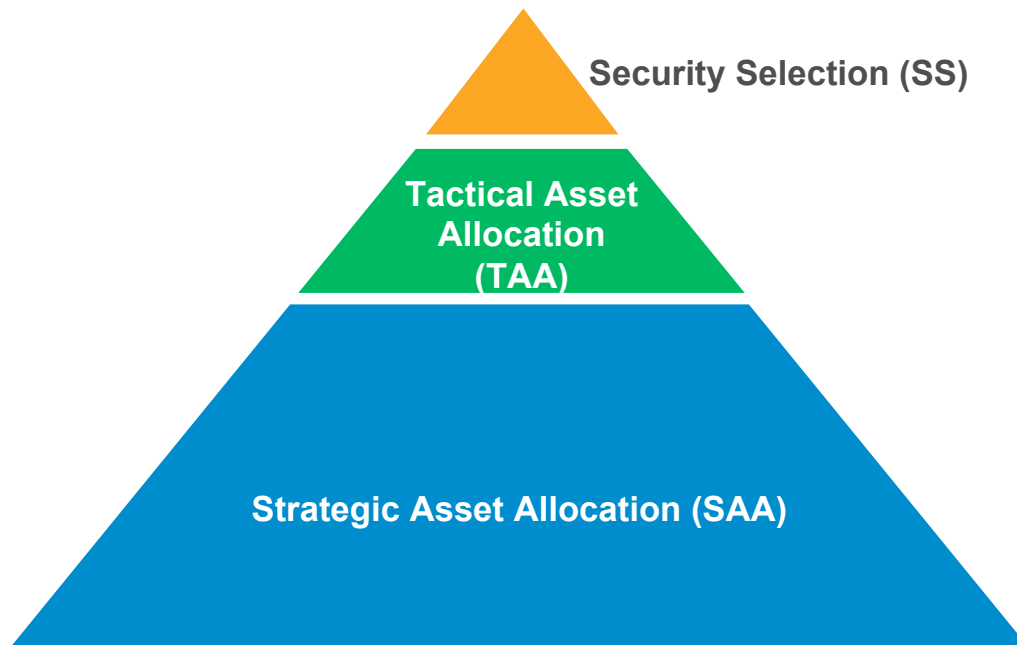
*Source: Determinants of Portfolio Performance, Brinson, Hood and Beebower, 1986

Portfolio Construction - 4 Step Process

1. Determine Strategic Asset Allocation

▸ Establish long term assumptions for each asset class
▸ Build candidate SAA's with appropriate characteristics
▸ Stress Test SAA's

2. Determine sources of Active Return

▸ Tactical Asset Allocation across asset classes
▸ Security selection within asset classes
▸ Choose strategies that optimise use of risk Budget

3. Construct portfolio combing SAA + Alpha

▸ Efficient use of capital, use derivatives to free up capital for alpha strategies
▸ Cost effective implementation of market beta's

4. Measure, monitor and manage Risk

▸ Measure and monitor risks, stress and scenario testing
▸ Implement changes accordingly

Source: BlackRock

1. Determine Strategic Asset Allocation

I. Derive Asset Class Assumptions

A. Macro Forecasts

Metric	Derivation	US	EU	UK	JP	EM
Real GDP	Trend growth forecasts, labour force growth & productivity.	2.5%	1.5%	2.0%	1.0%	4.0%
Inflation	On average central Banks meet inflation targets	2.3%	1.5%	2.0%	1.5%	4.0%
Real Rates	Assume long term equilibrium real rate of 2%	2.0%	2.0%	1.0%	1.0%	
P/E	P/E representing fair value for each region	17.5	16.5	14.5	16.5	14.0
Earnings Trend	Potential earning growth	Above	Below	Below	Neutral	Below

Source: BlackRock, illustrative example only

1. Determine Strategic Asset Allocation

I. Derive Asset Class Assumptions

B. Asset Class Forecasts

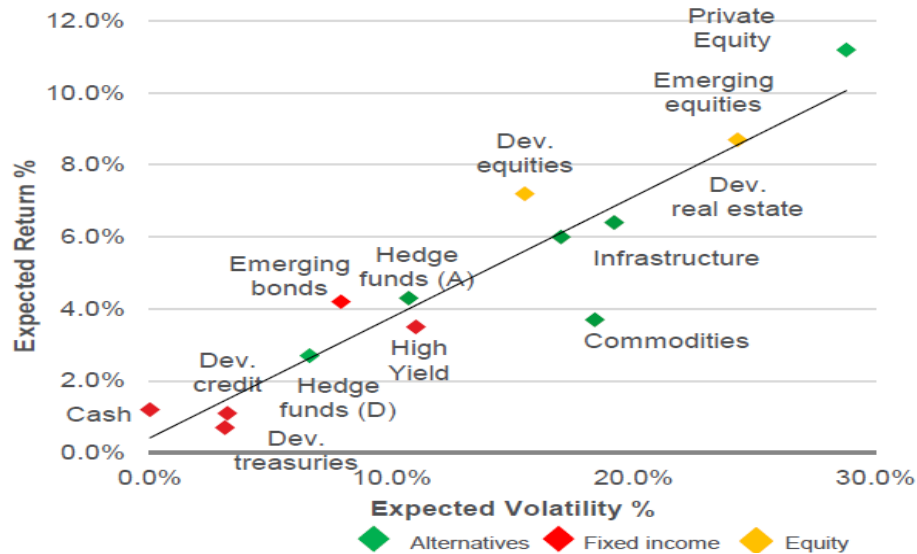| Metric	Derivation	US	EM
Dividend Yield	Observed Dividend Yields	2.0%	2.7%
Change in Valuation	PE Multiples vs long run sustainable levels	-1.8%	0.9%
Earnings	Nominal GDP Growth +/- trend earnings vs long term average	4.0%	6.2%
Subjective Overlay	Adjustments for Relativities across markets	0.8%	+0.3%
Currency Impact	All forecasts derived in common currency (USD)	0.0%	-3.7%
		5.0%	5.5%

Source: BlackRock, illustrative example only

1. Determine Strategic Asset Allocation

I. Derive Asset Class Assumptions

B. Asset Class Forecasts

5 Year Risk and Return Assumptions

1. Determine Strategic Asset Allocation

## I. Derive Asset Class Assumptions

C. Asset Class Correlations

	AUEQ	INEQ	INEQH	EMEQ	AUB	AUILB	INB	INCR	INHY	EMBH	AUREIT	INREIT	INFR
AUEQ	1	0.5	0.8	0.7	-0.1	-0.1	0	0.1	0.4	0.2	0	0.1	0.1
INEQ	0.5	1	0.7	0.6	0	0	-0.2	0.1	0.2	0.1	0	0.5	0.5
INEQH	0.8	0.7	1	0.7	-0.2	-0.2	0	0.1	0.5	0.3	0	0.2	0.2
EMEQ	0.7	0.6	0.7	1	-0.1	-0.1	-0.1	0	0.4	0.2	0	0.2	0.2
AUB	-0.1	0	-0.2	-0.1	1	0.7	0.7	0.4	0	0.2	0	0	0
AUILB	-0.1	0	-0.2	-0.1	0.7	1	0.6	0.3	0	0.1	0	0	0
INB	0	-0.2	0	-0.1	0.7	0.6	1	0.6	0.3	0.2	0	0	0
INCR	0.1	0.1	0.1	0	0.4	0.3	0.6	1	0.5	0.5	0	0	0
INHY	0.4	0.2	0.5	0.4	0	0	0.3	0.5	1	0.6	0	0.1	0
EMBH	0.2	0.1	0.3	0.2	0.2	0.1	0.2	0.5	0.6	1	0	0	0
AUREIT	0	0	0	0	0	0	0	0	0	0	1	0	0
INREIT	0.1	0.5	0.2	0.2	0	0	0	0	0.1	0	0	1	0.6
INFR	0.1	0.5	0.2	0.2	0	0	0	0	0	0	0	0.6	1

Source: BlackRock, illustrative example only

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1. Determine Strategic Asset Allocation

II. Build Candidate Portfolios on Efficiency Frontier

▶ Taking into account portfolio constraints & non-normal distributions

▶ Stress test results
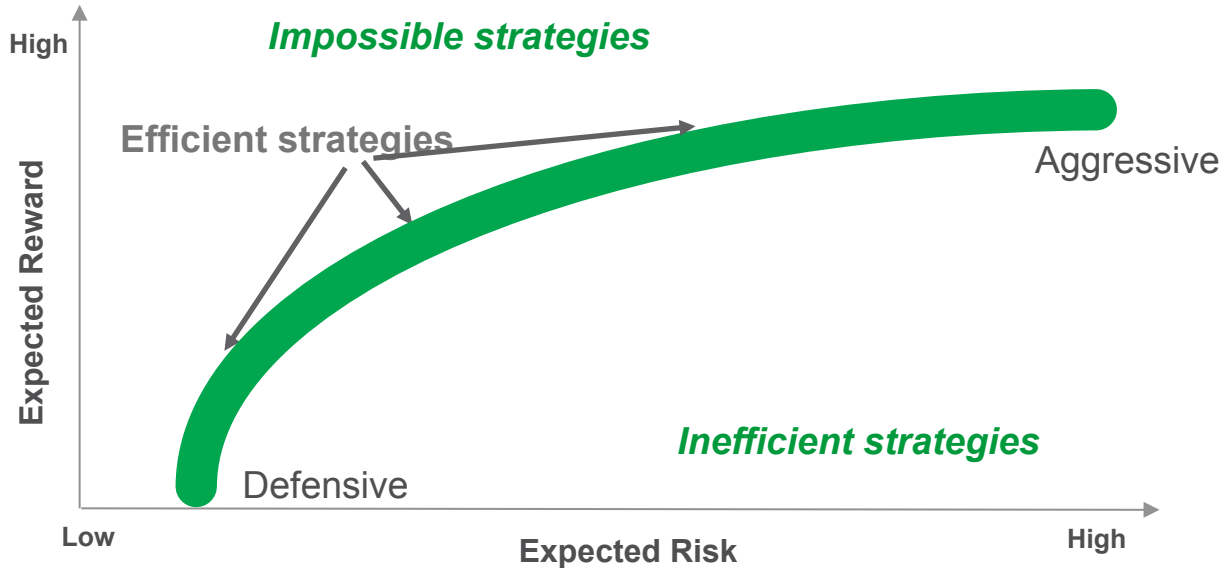
Source: BlackRock, illustrative example only

Assessment Question

What drives most of the variability in fund returns (Strategic Allocation, Tactical Asset Allocation, Security Selection) and roughly what percentage

a. Strategic Allocation; 60%

b. Tactical Allocation; 75%

c. Security Selection; 80%

d. Strategic Allocation; 90%

2. Seek the most efficient active returns

▶ Determine the Active Risk Budget (or return target) eg. typically 2%– 4%

▶ Determine the split between Tactical Asset Allocation (TAA) & Stock Selection (SS)

▶ Choose the most efficient source of "alpha" for each asset class (ie. highest IR strategies)

The Fundamental Law of Active Management

$$\text{Superior Risk Adjusted Returns (IR)} = \text{Skill} \times \sqrt{\text{Breadth}} \times \text{Efficiency}$$

| Accuracy of forecasts | Number of independent investment decisions | Quality of Portfolio Construction |

Find a game you can win, play it often and play it smart

2. Seek the most efficient active returns - example

Long-Only Manager: $\quad$ IR $= 0.5 \; \times \; \sqrt{300} \; \times \; 0.5 \; = 0.5$
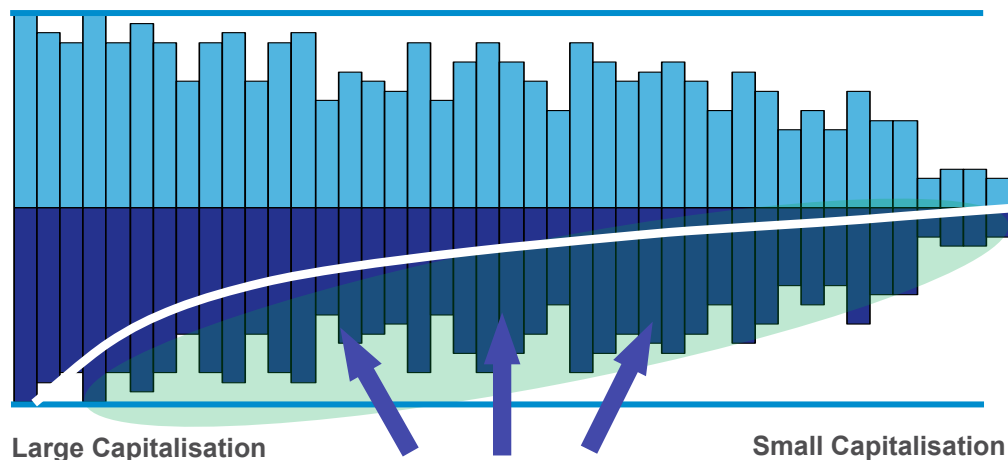
Long/Short Manager: $\quad$ IR $= 0.5 \; \times \; \sqrt{300} \; \times \; 0.8 \; = 0.8$

Removing the long-only constraint

Maximum active stock position

Benchmark

Minimum active stock position

Large Capitalisation

Small Capitalisation

New Opportunities created by allowing short positions

Source: BlackRock, illustrative example only

2. Seek the most efficient active returns - example

Stock name	12 month performance	ASX200 Weight (31-Dec-12)	Possible alpha in Long-Only portfolio (did not hold stocks)	Possible alpha in Long-Short portfolio (3% underweight)
Ten Network Holdings	-55%	3bps	1bps	164bps
Fairfax Media Limited	-29%	8bps	2bps	88bps
Newcrest Mining	-26%	151bps	40bps	79bps
Billabong International	-41%	3bps	1bps	124bps
Total Portfolio Contribution			**45bps**	**455bps**

Expressing negative stock views can add considerable value

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3. Construct Portfolio (combine Strategic Asset Allocation with alpha sources)

Traditional Portfolio

Traditional Equity
- Australian - Large Cap
- Australia – Small Cap
- Value
- Growth
- International Equities
- Emerging markets

Other Assets
- Property
- Cash
- Real assets

Traditional Fixed Income
- Sovereign Bonds
- Corporates
- High yield
- Emerging markets
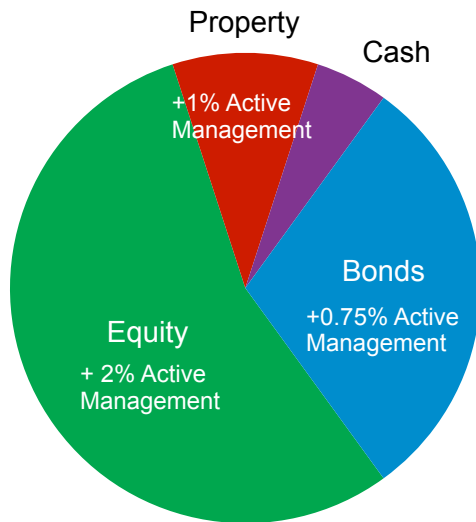
Property
+1% Active Management

Cash

Bonds
+0.75% Active Management

Equity
+ 2% Active Management

Implementation

▸ Exposure to Equity and Bond allocations gained via physical exposures

▸ Active returns sourced via allocations to "long only" active strategies versus a beta benchmark

▸ Portfolio targets 1.5% active return for 3% active risk (IR 0.5)

▸ Active managers aim to "beat the benchmark"

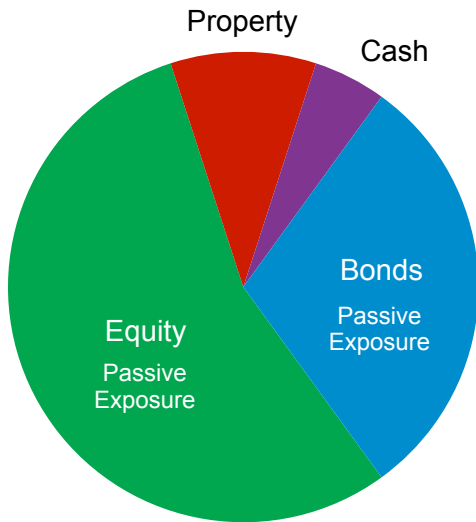▸ Market returns dominate overall portfolio return (95% of expected risk from Equities)

Source: BlackRock, illustrative example only

3. Construct Portfolio (combine Strategic Asset Allocation with alpha sources)

Traditional Portfolio + Alternatives

Traditional Equity

- Australian - Large Cap
- Australia – Small Cap
- Value
- Growth
- International Equities
- Emerging markets

Other Assets

- Property
- Cash
- Real assets

Traditional Fixed Income

- Sovereign Bonds
- Corporates
- High yield
- Emerging markets
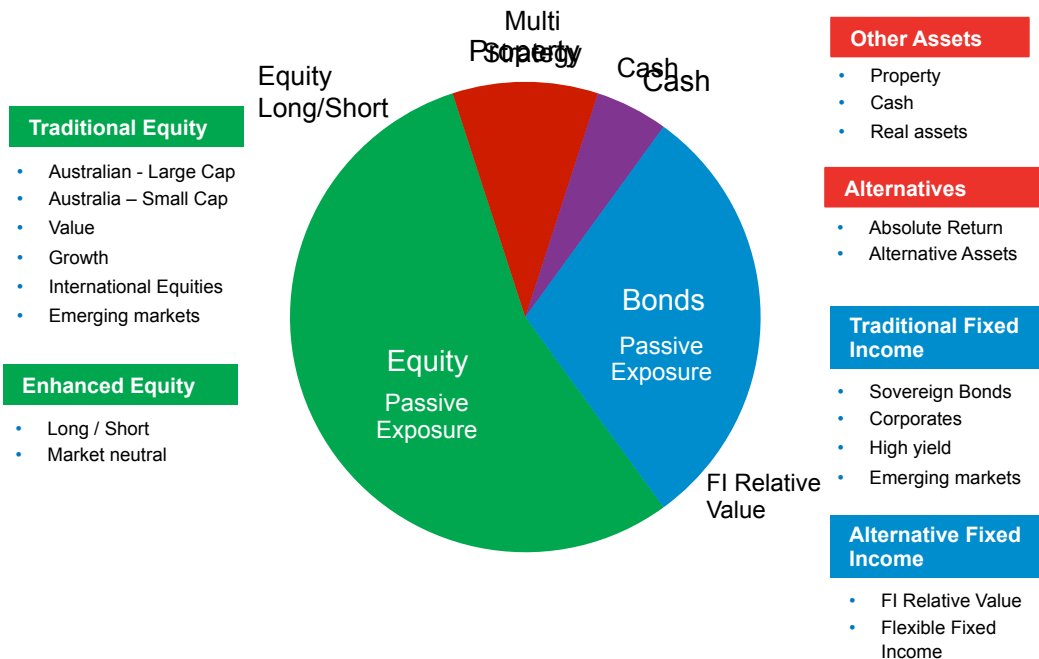
Pie chart:
- Property
- Cash
- Bonds — Passive Exposure
- Equity — Passive Exposure

Implementation

▸ Physical Exposures implemented via derivatives to free up capital

Source: BlackRock, illustrative example only

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3. Construct Portfolio (combine Strategic Asset Allocation with alpha sources)

Traditional Portfolio + Alternatives

Traditional Equity
- Australian - Large Cap
- Australia – Small Cap
- Value
- Growth
- International Equities
- Emerging markets

Enhanced Equity
- Long / Short
- Market neutral

Pie chart labels: Equity Long/Short, Multi Strategy, Property, Cash, Cash, Equity Passive Exposure, Bonds Passive Exposure, FI Relative Value

Other Assets
- Property
- Cash
- Real assets

Alternatives
- Absolute Return
- Alternative Assets

Traditional Fixed Income
- Sovereign Bonds
- Corporates
- High yield
- Emerging markets

Alternative Fixed Income
- FI Relative Value
- Flexible Fixed Income

Implementation

- ▸ Physical Exposures implemented via derivatives to free up capital
- ▸ Capital allocated to Alternative sources of alpha
- ▸ Portfolio targets 2% active return for 2% active risk (IR 1)
- ▸ Active managers aim to provide "Absolute Returns"
- ▸ Portfolio less reliant on traditional beta exposures to drive returns

Source: BlackRock, illustrative example only

Assessment Question

What does the fundamental law provide a framework for maximising?

a. Information Ratio

b. Total returns

c. Sortino Ratio

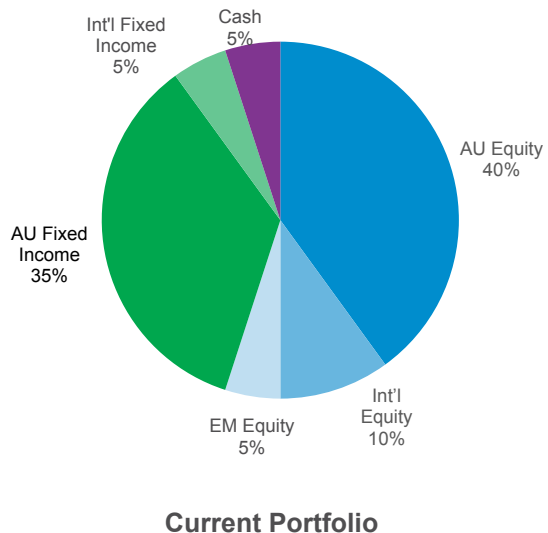**What are the three key components of the fundamental law?**

a. Skill, breadth and efficiency

b. Skill, breadth and talent

c. Skill, depth and efficiency

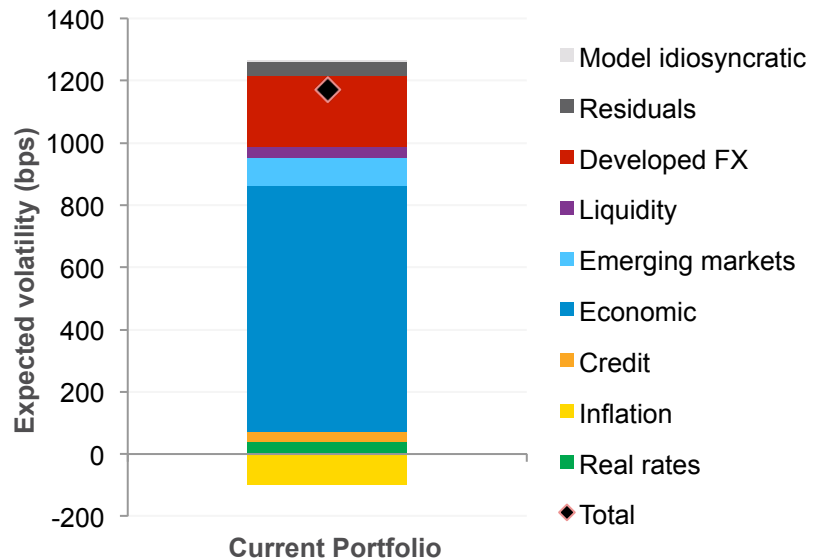# 4. Measure, Monitor and Manage Risk – Understand What you Own

Looking through a different lens

▸ Asset Class exposures can be decomposed into bundles of risk premia

Capital Allocation

Current Portfolio

Risk decomposition using macro risk factors

Current Portfolio

Source: BlackRock, illustrative example only

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Stress testing allows for analysis of the portfolio under historical downside events as well as a variety of future hypothetical scenarios

▸ Interest rate shocks: upward movement in rates hurts returns but is offset by the resulting rally in risk assets

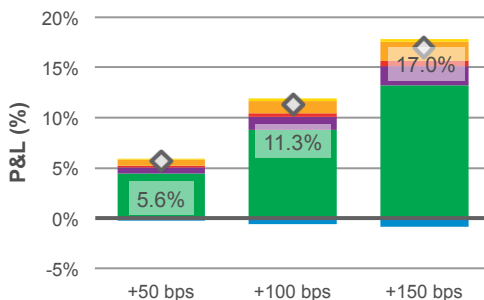▸ Inflation shocks: model the effects of changes in inflation on portfolio asset prices

Historical Stress Testing

Model the P&L effect on the portfolio of market conditions experienced under historical time periods
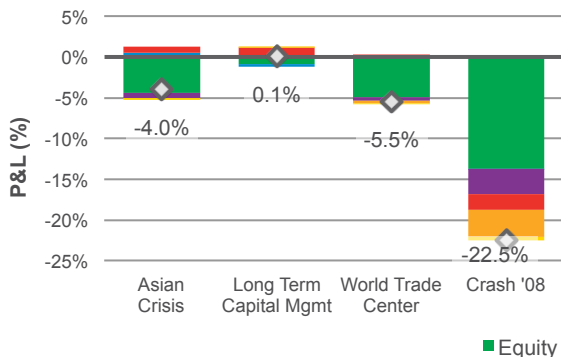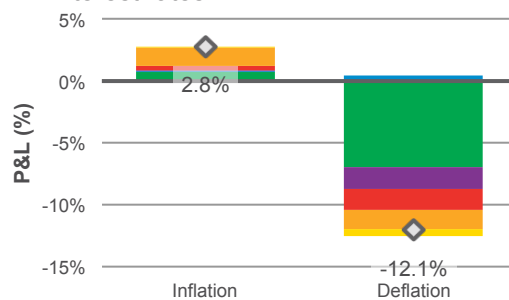
Single-Factor Shocks

Considers the P&L implication on the total portfolio of an upward movement in US 10-Year rates at various magnitudes

Regime Analysis: Inflation

Under hypothetical inflation, short-term rates increase and real assets rally. Deflation includes an equity slowdown and a decrease in interest rates

■ Equity ■ Rates ■ Spreads ■ FX ■ Alternative ■ Inflation ◆ Total

Source: BlackRock, illustrative example only

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Does this framework work?

BlackRock Wholesale Balanced Fund

Period	1 Year	3 Years	5 Years	10 Years
Quartile Ranking	2	1	1	1
Peer Group Rank	83	36	39	5
Peer Group Count	230	212	185	145
Fund Performance	8.7%	14.7%	8.3%	7.3%

BlackRock Scientific Diversified Growth Fund

Period	1 Year	3 Years	5 Years	10 Years
Quartile Ranking	1	1	1	1
Peer Group Rank	39	8	8	22
Peer Group Count	230	212	185	145
Fund Performance	9.6%	15.7%	9.3%	6.6%

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Assessment Question

What is the purpose of implementing capital efficient & cost effective SAA?

a. Free up capital for redeployment to active strategies

b. Free up capital for redeployment to passive strategies

c. Free up capital for redeployment to quantitative strategies

Learning Outcomes

2015 Investment Outlook

▶ Divergent sub-trend global growth

▶ Expect more muted asset class returns going forward

▶ Volatility & correlations may be higher challenging portfolio diversification

Portfolio Construction

▶ Strategic Allocation drives most of the portfolios returns

▶ Spend active risk budget wisely
  - Access cheap & cost effective beta
  - Utilise "efficient alpha" to diversify returns

▶ Measure, monitor and manage risk

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