

Diversified Growth Portfolios

November 2009

NZFUNDŞ

Positioning of Portfolios within the advice framework

Needs category	Portfolio	Core / Tilt
Cash Needs	Money Market Portfolio	Core
Near Term Spending Needs	Core Income Portfolio	Core
Maintaining Capital	Mid Term Growth Portfolio	Core
	Global Property Portfolio	Core
Future Growth	Balanced Growth Portfolio	Core
	Diversified Growth Portfolio	Core
	Wealth Appreciation Portfolio	Core
	Dividend Yield Portfolio	Tilt
	Credit Opportunities Portfolio	Tilt

A·R·M·O·R
INVESTMENT PROCESS

Absolute Return Management *through* Optimising Risk

- Each portfolio on the Global Investment Services platform is designed and managed using our proprietary investment process: **ARMOR**
- Our objective is to meet each clients' unique spending and investment needs (which are represented by each Portfolios' stated investment objective). This is an **Absolute Return Management** objective, independent of the fluctuations of global asset classes.
- The assets we utilise to achieve these objectives are however subject to market fluctuations. Our dynamic hedging strategy does not eliminate risk, rather it is designed to ensure any drop in value is readily recoverable within the Portfolios' investment horizon – we call this **Optimising Risk**.

Practical application (part 1)

- i. Portfolio objectives** – are determined by clients' spending and investment needs and are the starting point from which Portfolios are designed. In designing our Portfolios we think for ourselves from first principles.
- ii. Asset class screen** – identifies a range of assets which have the potential to meet the Portfolio's objectives.
- iii. Historical performance review** – once an asset class has been identified its historical performance is studied. Assets rarely deliver returns in a linear manner, studying the past helps determine where an asset classes sits in the return cycle.
- iv. Return versus risk** – all return comes with risk, but there is more than one way to define risk. Risk for us is defined by the potential for a permanent loss of capital which we assess through drawdown.

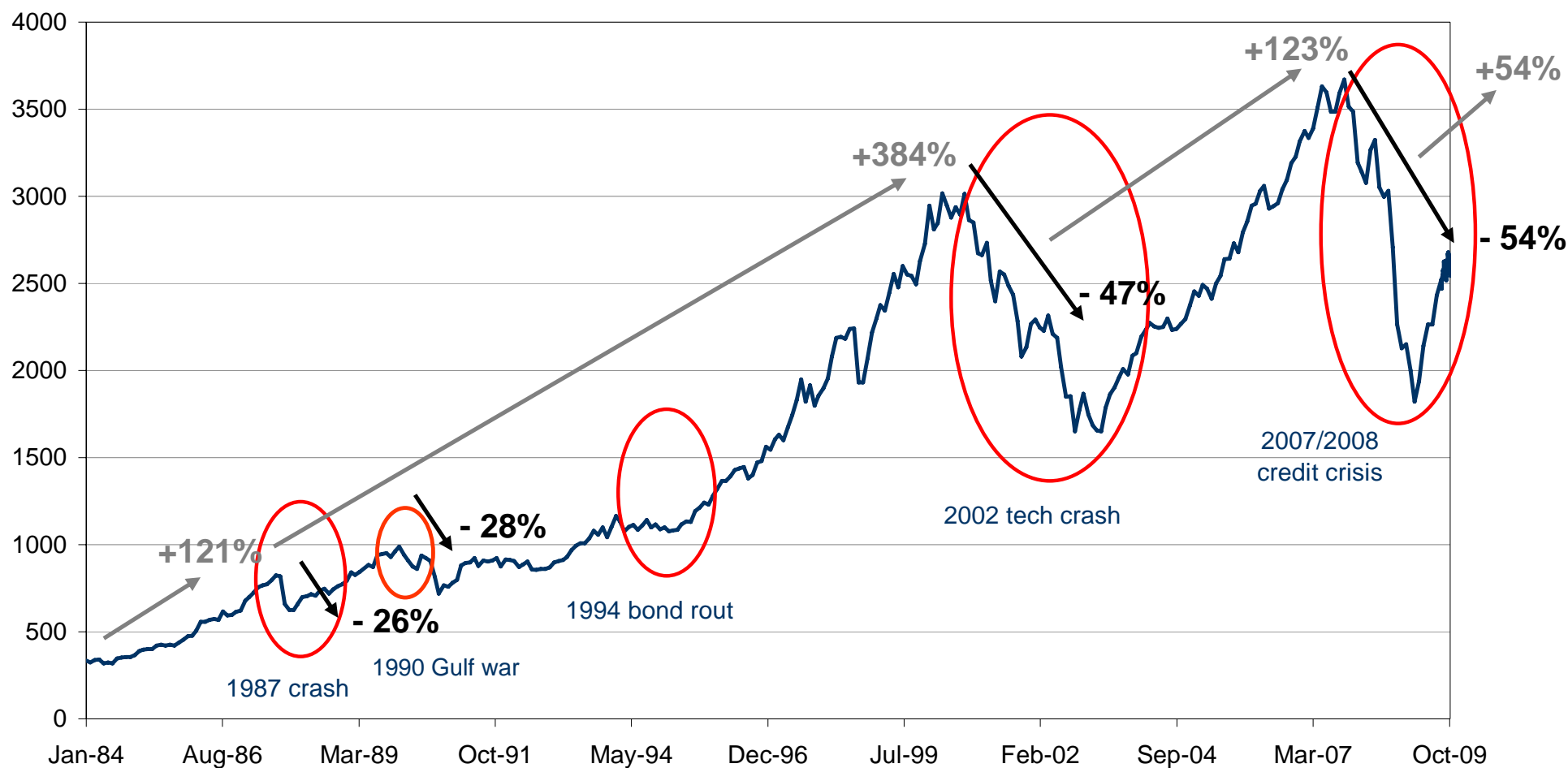
Practical application (part 2)

- v. **Correlation analysis** – assets do not exist in a vacuum, instead they interact, influencing each other throughout the investment cycle. Understanding when assets tend to move in the same direction (and when they do not) is an essential step toward constructing a diversified portfolio.
- vi. **Dynamic hedging strategy** – asset classes can take longer than investors’ timeframes to mean revert, while diversification alone is an insufficient shock absorber for managing risk. A separate hedging strategy is designed for each asset class (and sub-sector) we utilise.
- vii. **Dynamic asset allocation** – as asset classes transition through their return cycle their weight in the Portfolios is varied using our dynamic asset allocation model.
- viii. **Withstanding the vicissitudes of markets** – we stress test our Portfolios by “implementing” our Portfolios during different historical periods and in different regional markets. Forecasts and expectations are no substitute for the real world.

Global share component

Global share component of Diversified Growth Portfolios

Global share market (MSCI Index)

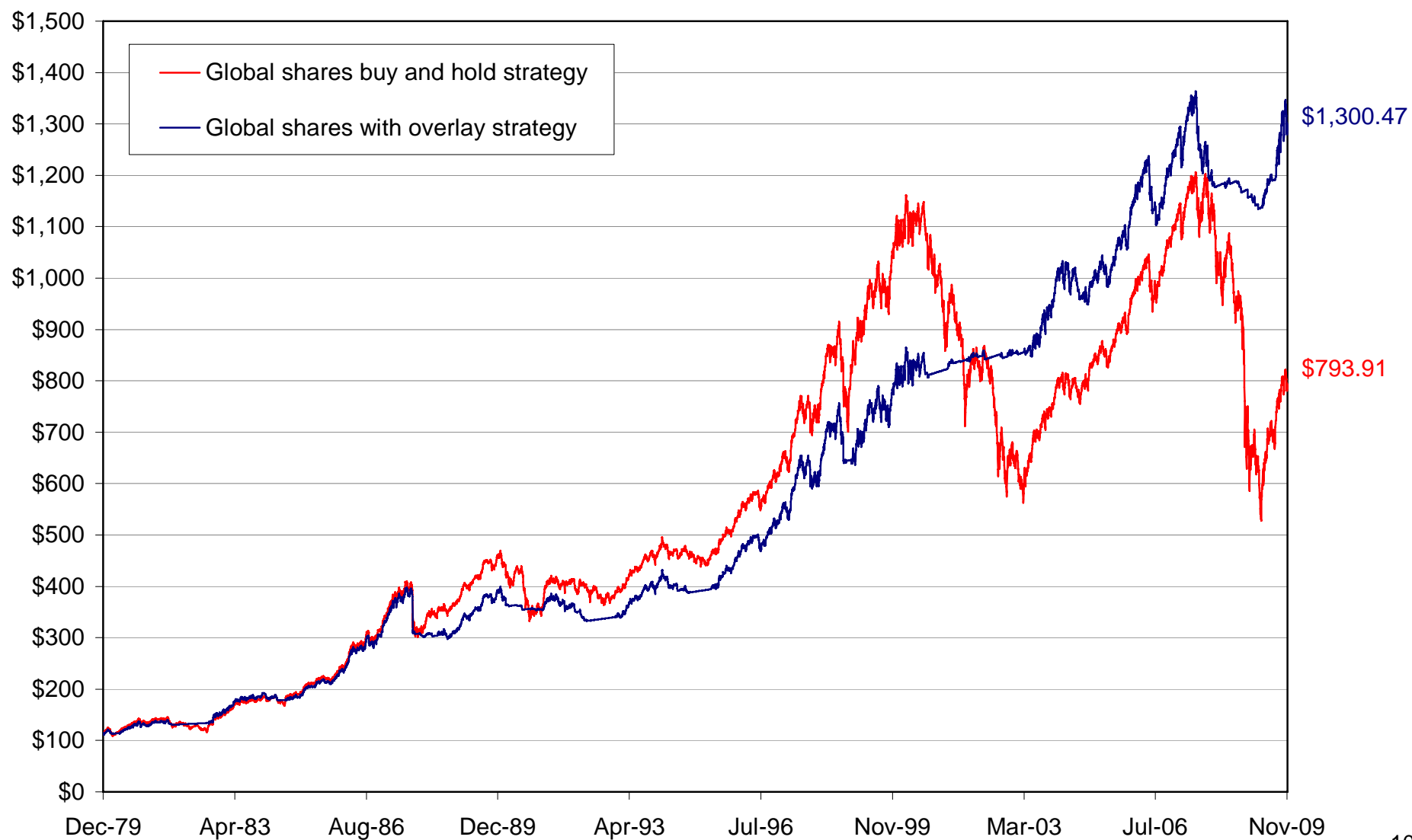


Global share component of Diversified Growth Portfolios

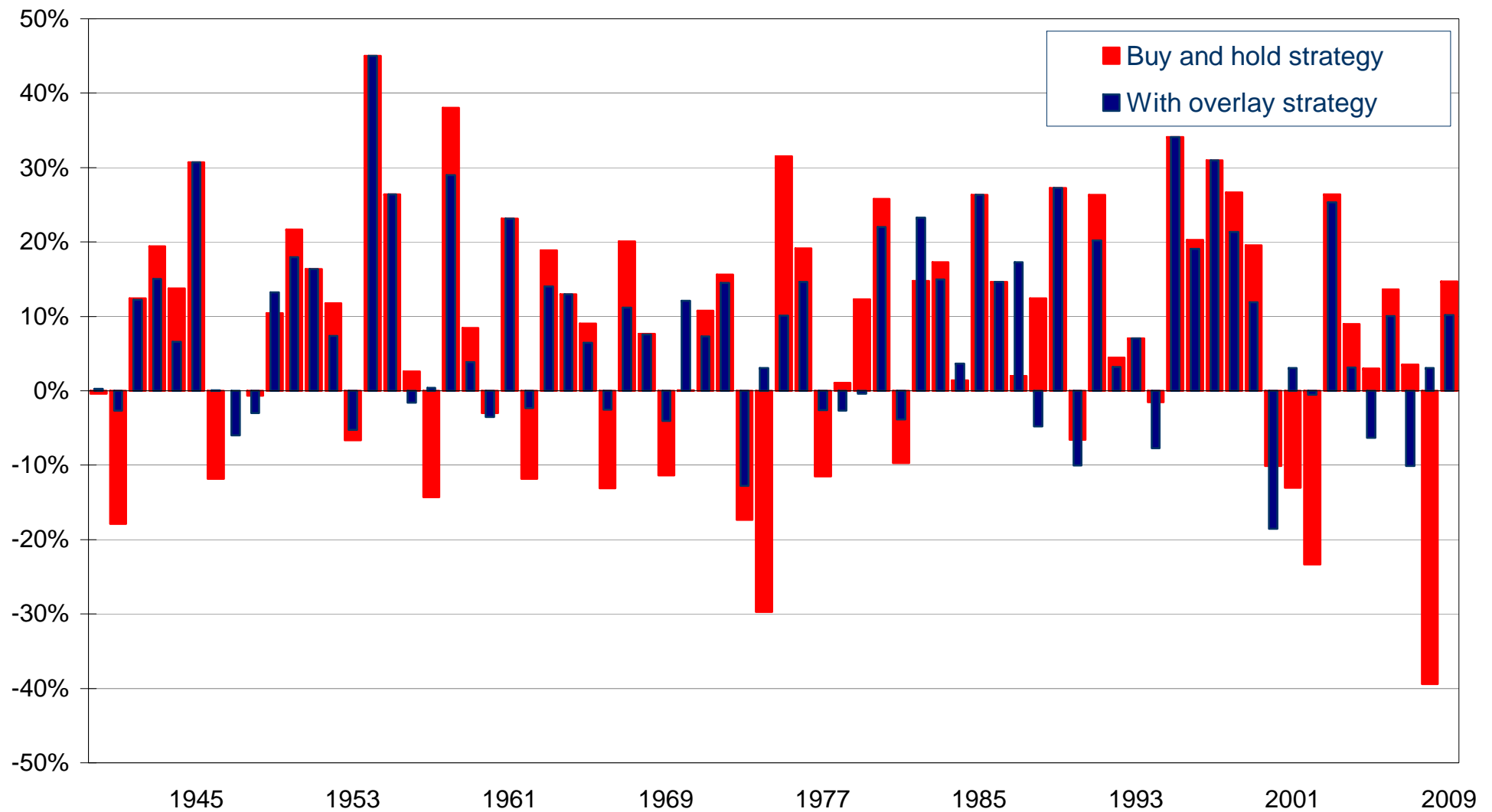
Historical period	Market movement	Total return (after inflation)	Annualised return (after inflation)
Dec 1899 - Dec 1920	20 years sideways	-54%	-3.6%
Dec 1920 - Dec 1930	10 year bull market	174%	10.6%
Dec 1930 - Dec 1950	20 years sideways	-18%	-1.0%
Dec 1950 - Dec 1960	10 year bull market	141%	9.2%
Dec 1960 - Dec 1980	20 years sideways	-19%	-1.0%
Dec 1980 - Dec 2000	20 years bull market	394%	8.3%
Dec 2000 - Dec 2020	20 years sideways?	?	?

Source: Robert Shiller.

Global share component of Diversified Growth Portfolios



Global share risk strategy



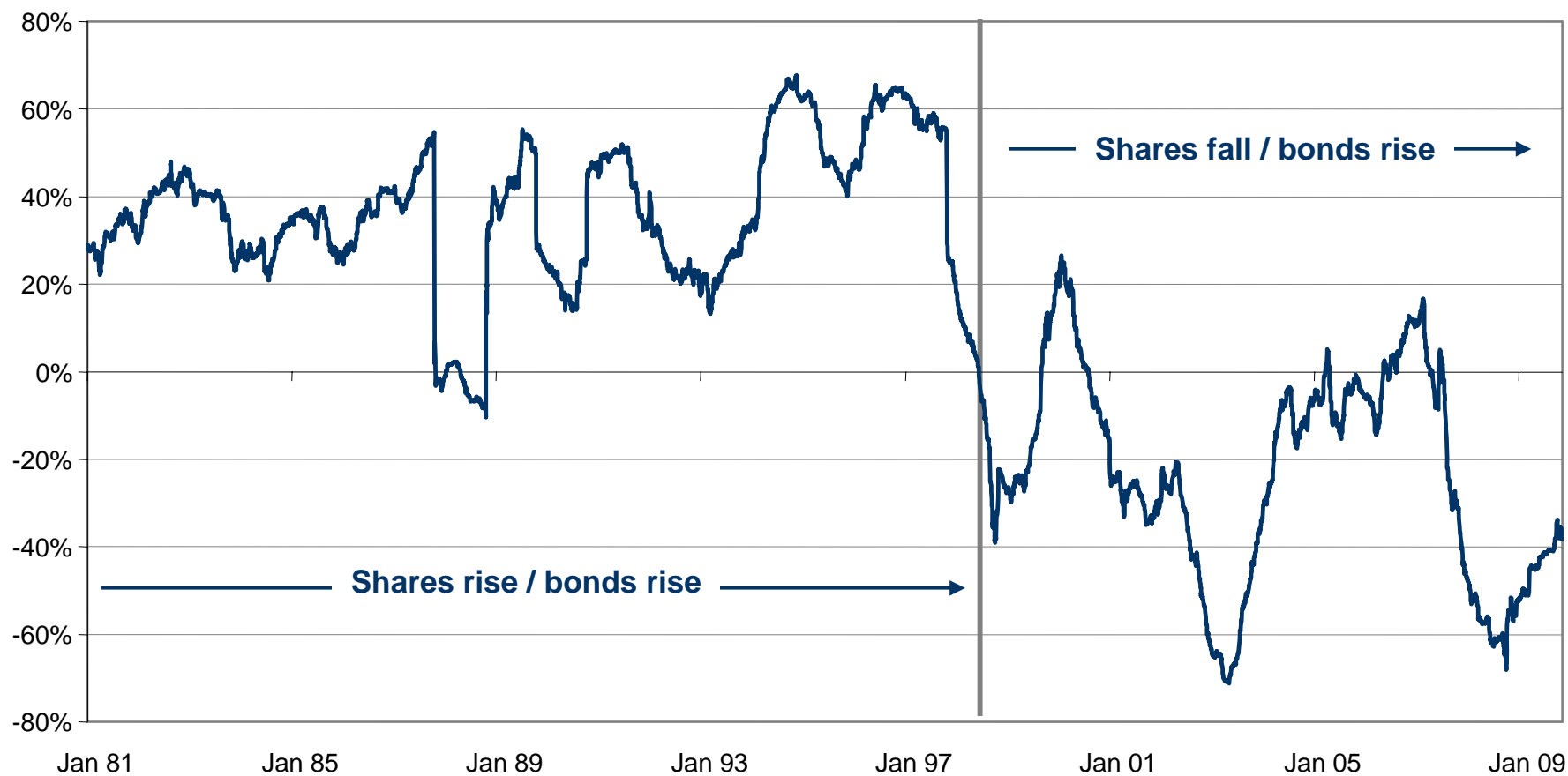
Source: Bloomberg. Data is for long-term moving average only. Data as at 31 October 2009.

	Buy and hold strategy	With overlay strategy
Total return	8,260%	13,132%
Return (pa)	6.54%	7.24%
Drawdown	(56.78%)	(39.09%)
Standard deviation	15.27%	10.27%

Bond component

Bond component of Diversified Growth Portfolios

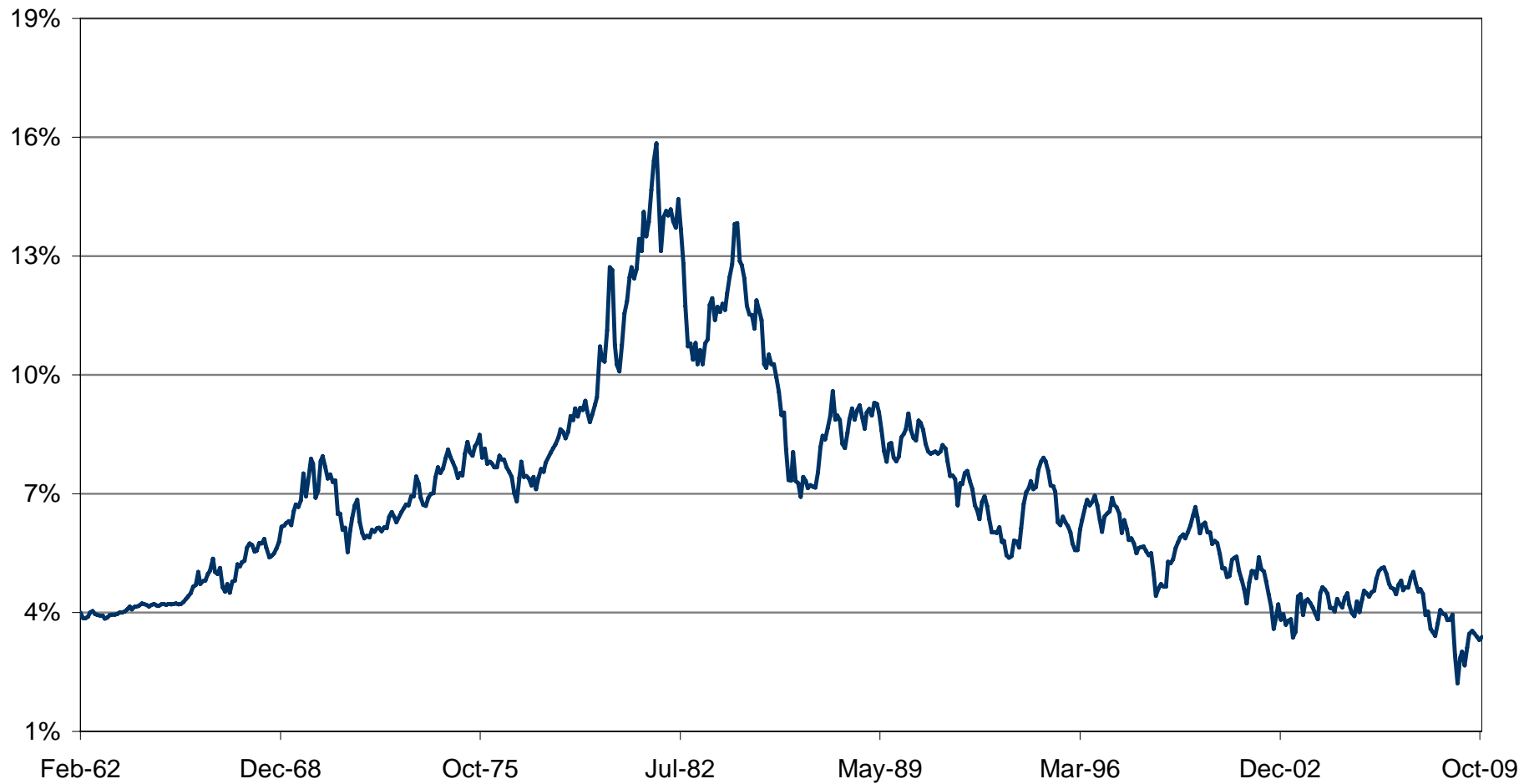
US bond and equity correlation rolling 1-year correlation



Source: Bloomberg.

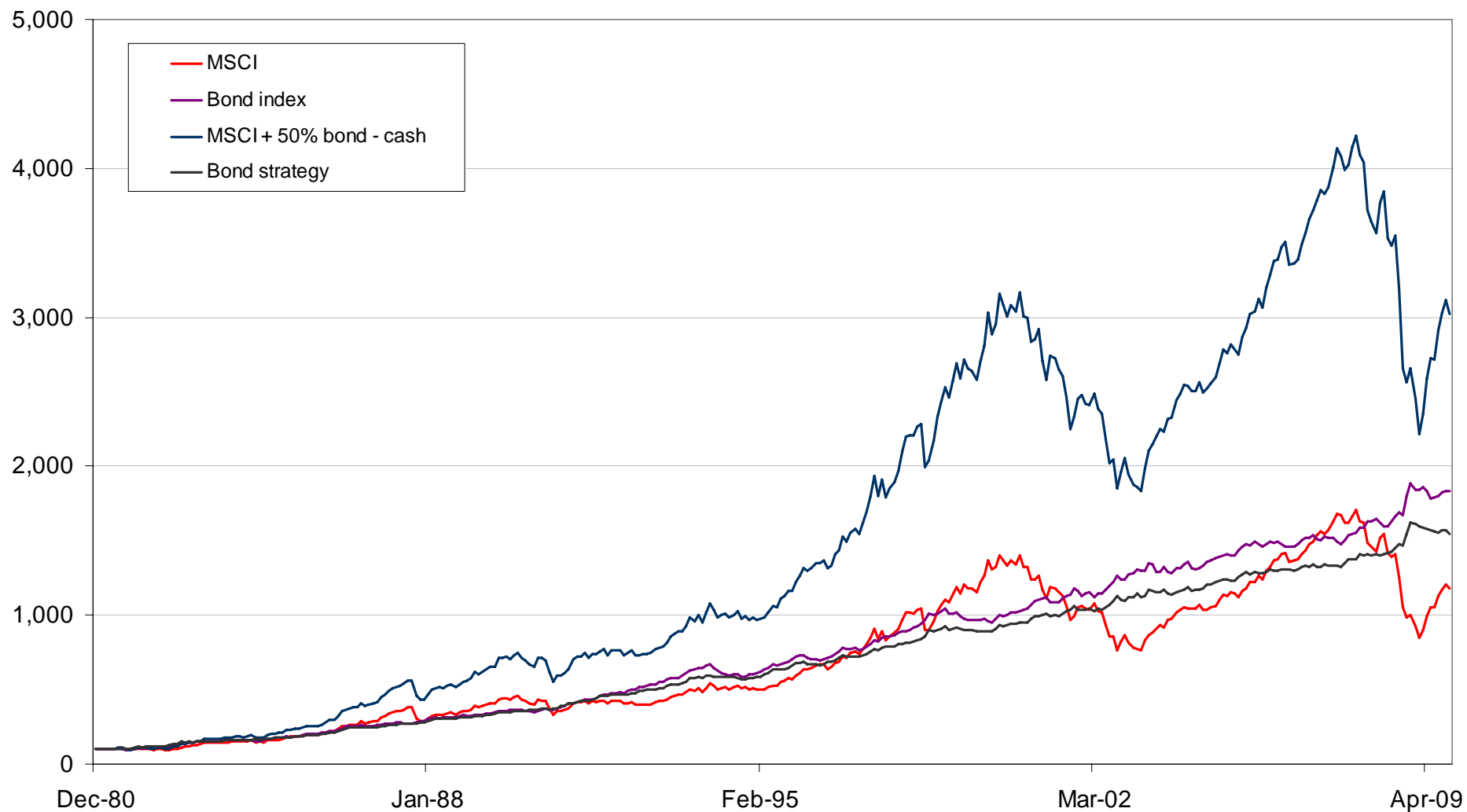
Bond component of Diversified Growth Portfolios

US 10-year government bond yields

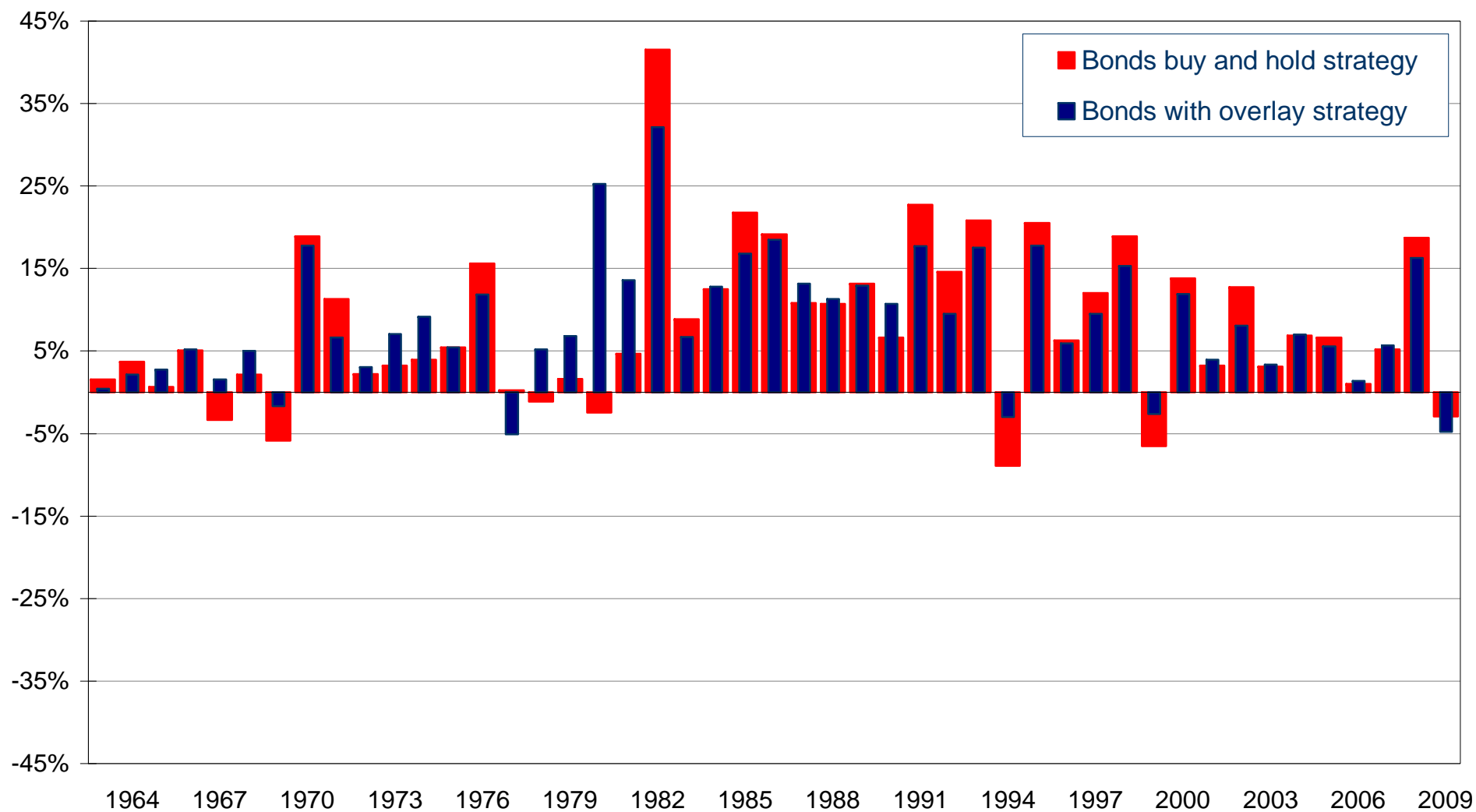


Source: Bloomberg

Bond component of Diversified Growth Portfolios



Bond risk strategy



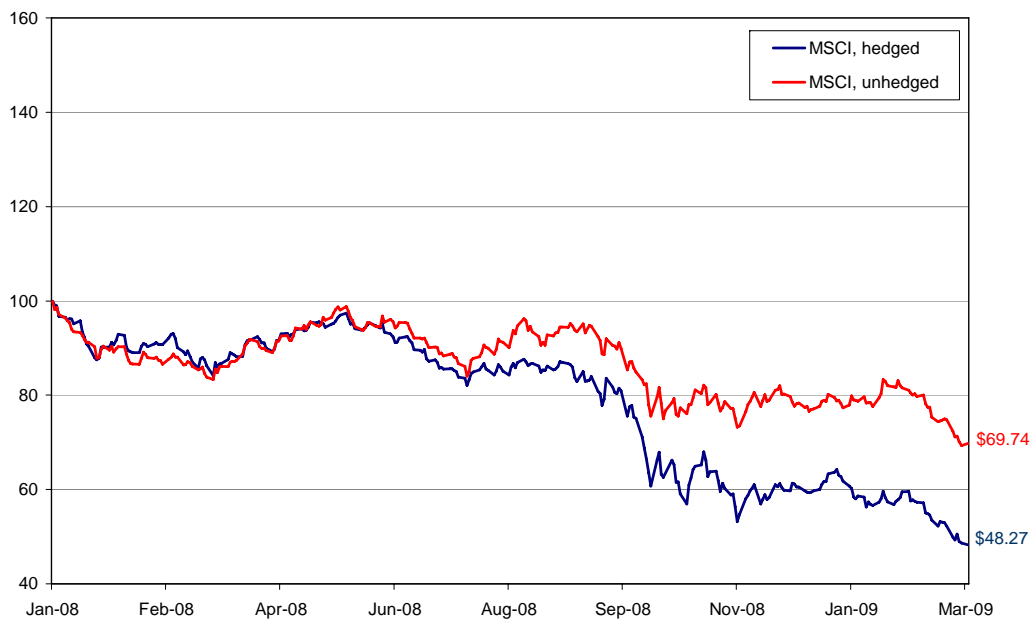
Bond risk strategy

	Bonds buy and hold strategy	Bonds with overlay strategy
Total return	3,198%	4,189%
Return (pa)	7.75%	8.35%
Drawdown	(21.48%)	(5.82%)
Standard deviation	5.56%	3.83%

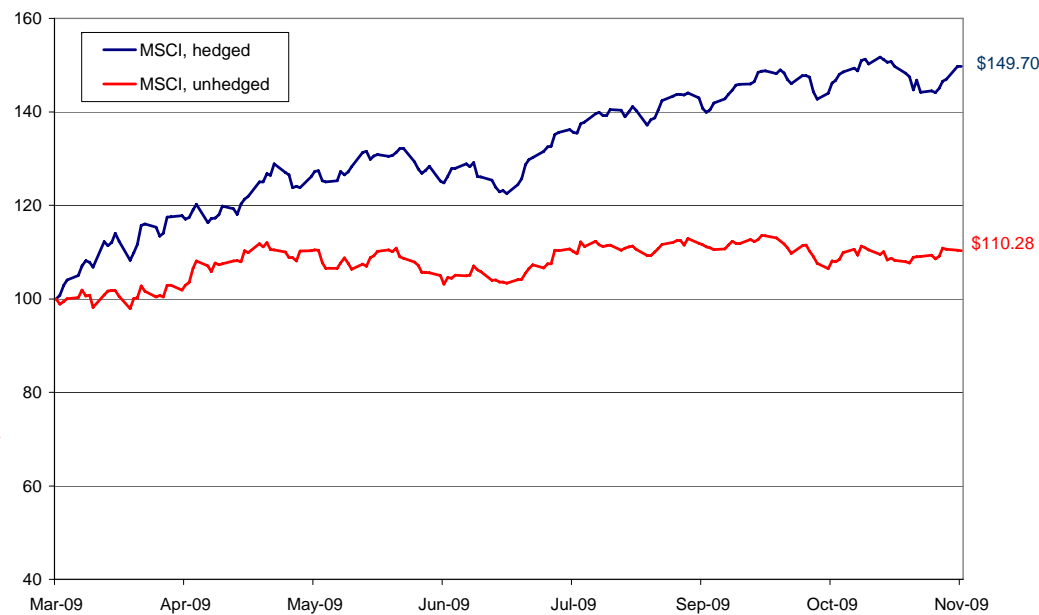
Currency component

Currency component of Diversified Growth Portfolios

Global financial crisis
Jan 08 – Mar 09

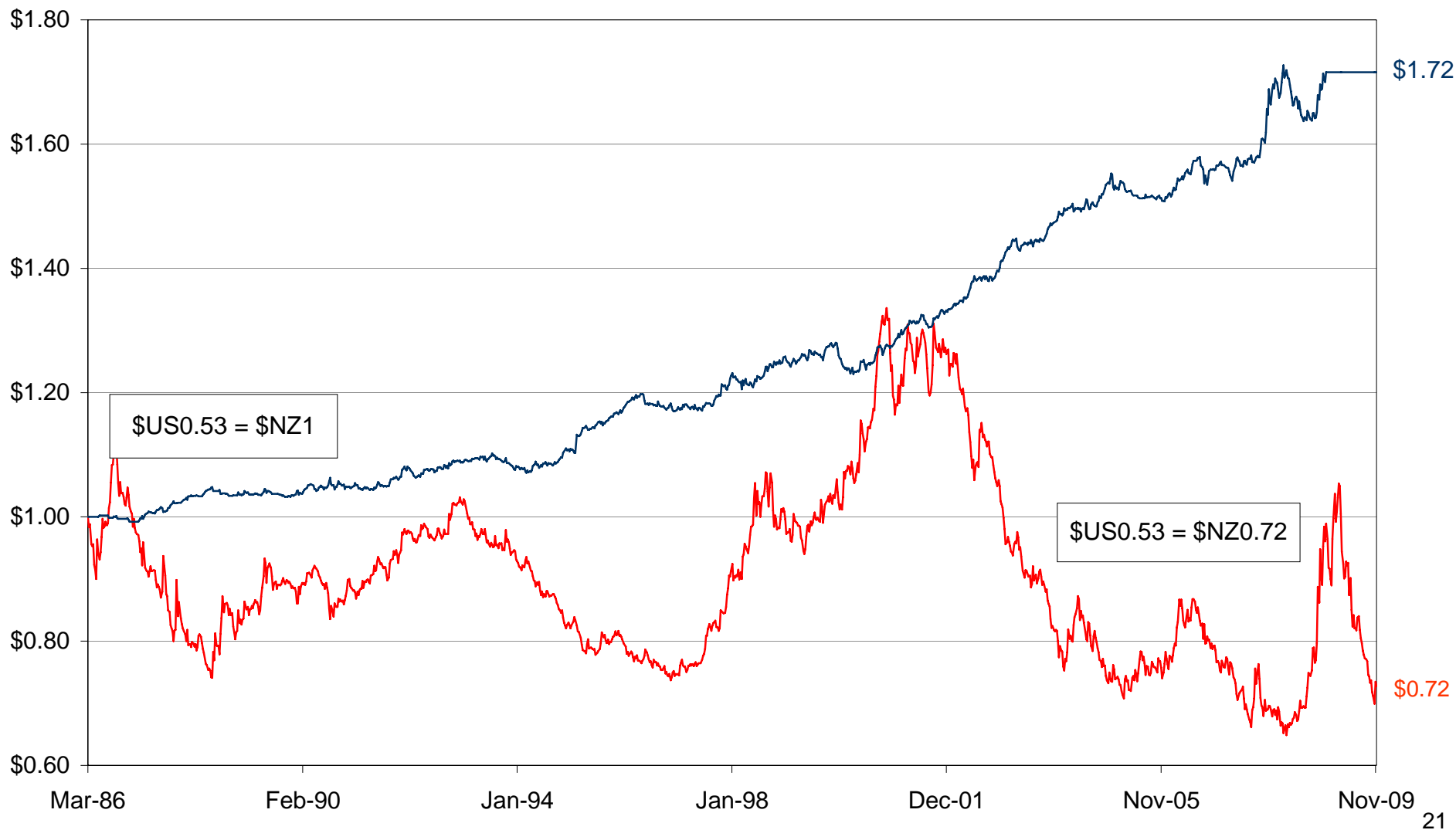


Global financial recovery
Mar 09 – Nov 09

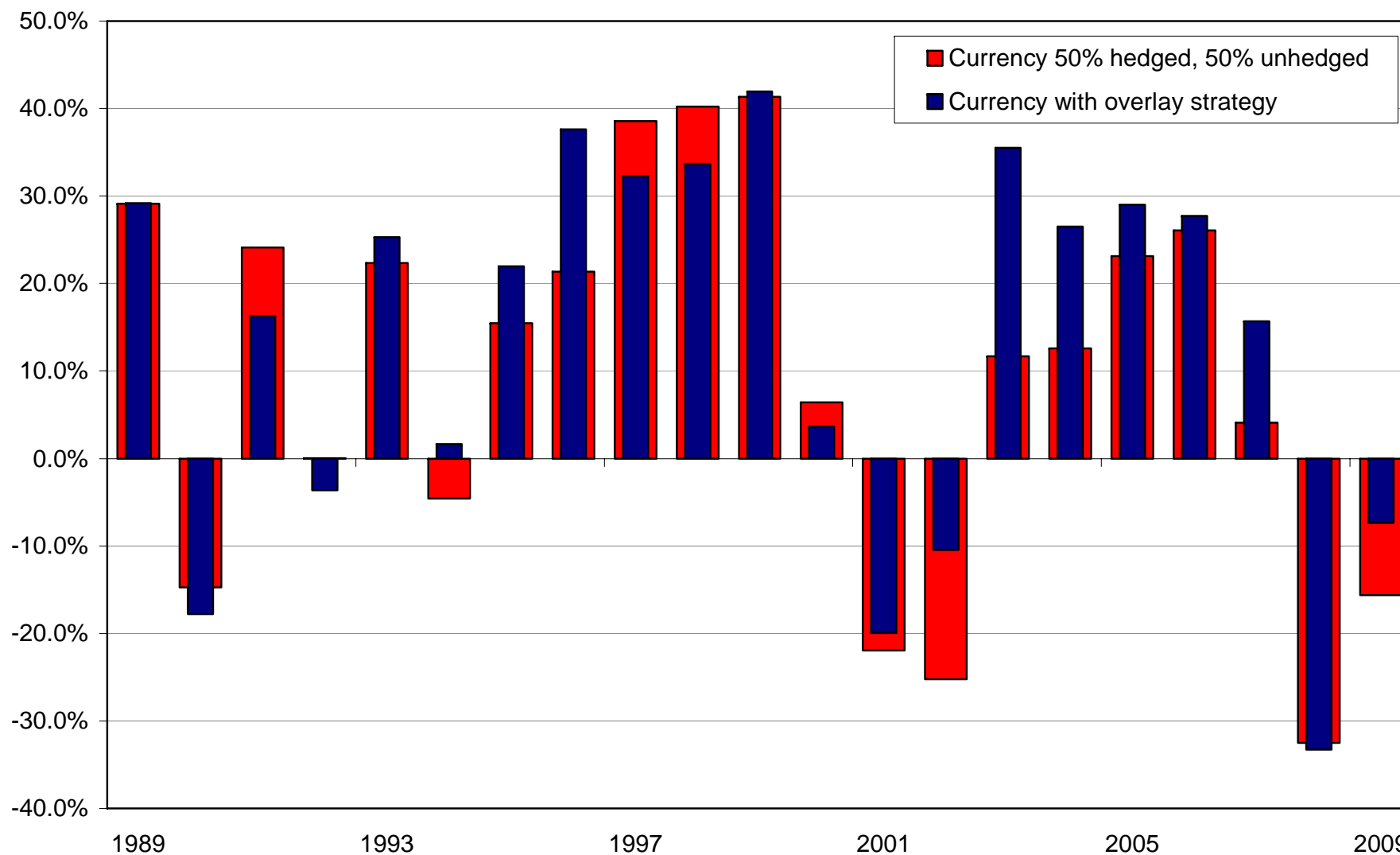


Currency component of Diversified Growth Portfolios

US/NZ Dollar



Active currency strategy



Active currency strategy

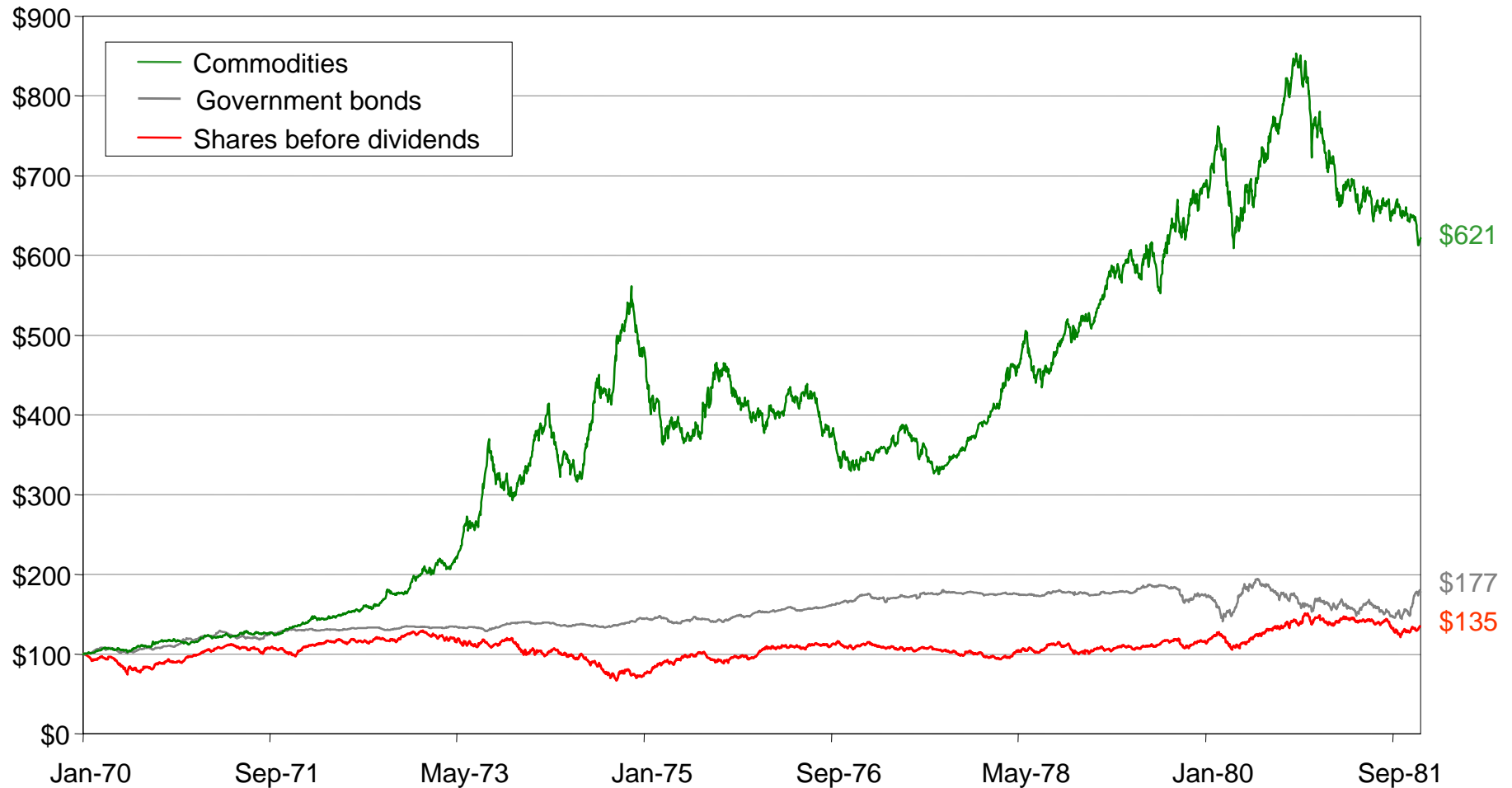
	Currency 50% hedged, 50% unhedged	Currency with overlay strategy
Total return	220%	460%
Return (pa)	5.74%	8.62%
Drawdown	(50.60%)	(42.30%)
Standard deviation	14.00%	14.37%

Commodity strategy

(to be implemented after 19 November 2009)

Commodity component of Diversified Growth Portfolios

Asset class returns: 1970 - 1981



Commodity component of Diversified Growth Portfolios

Asset class returns: 1970 - 2009

	Bonds 10-year US Treasury	Shares MSCI World (local currency)	Commodities S&P/Goldman Sachs
Total return	2,075%	2,741%	4,420%
Return (pa)	8.03%	8.75%	10.03%
Drawdown	(26.00%)	(57.00%)	(71.00%)
Standard deviation	8.00%	17.00%	19.00%

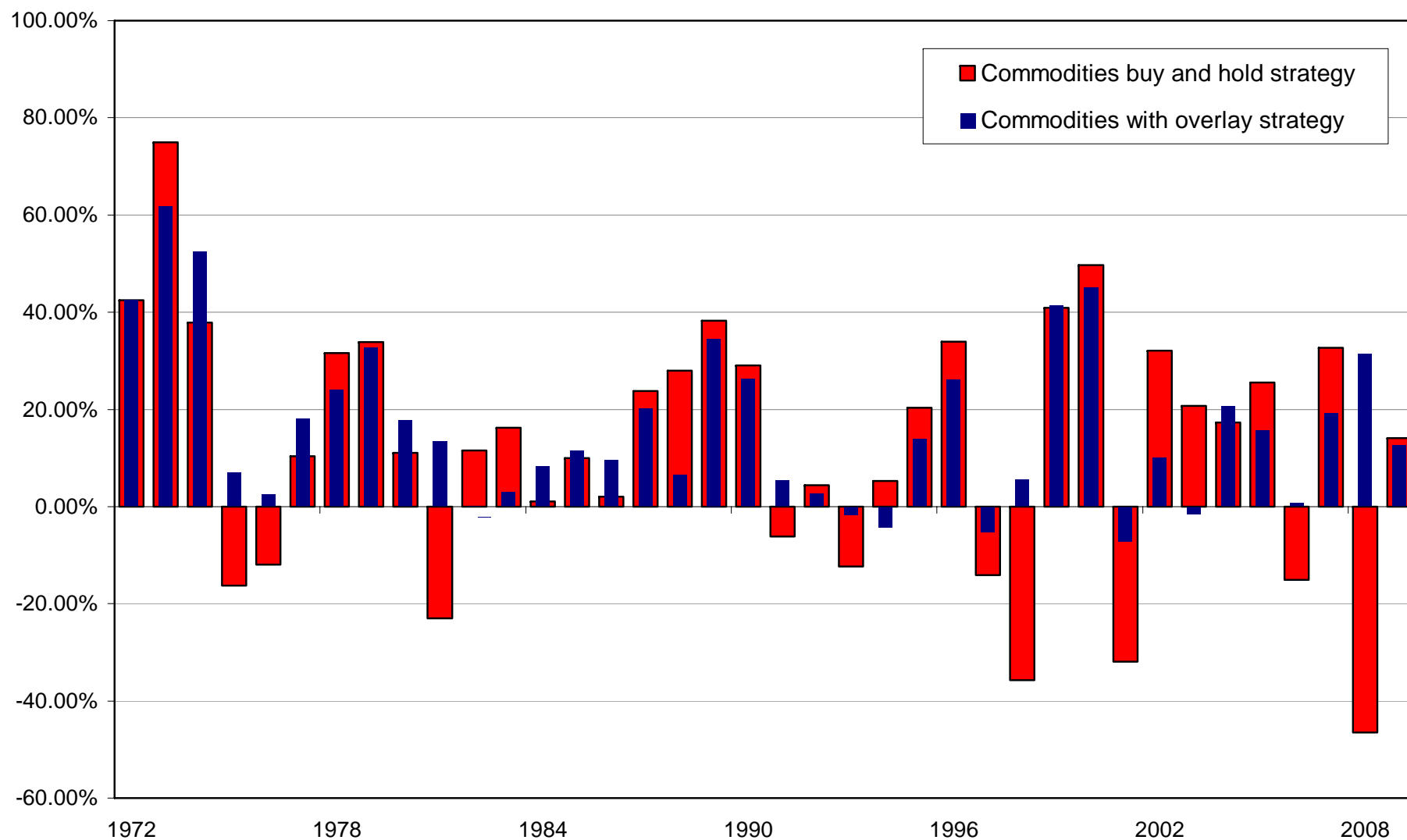
S&P/Goldman Sachs Commodities Index portfolio summary

Portfolio summary

No. of securities	24
Energy allocation	71%
Industrial metals allocation	8%
Precious metals allocation	3%
Agriculture allocation	14%
Livestock allocation	4%

Security	Manager	Asset class	Proportion of portfolio
Energy			71.3%
Crude oil	S&P/Goldman Sachs	Commodities	39.6%
Brent crude oil	S&P/Goldman Sachs	Commodities	13.6%
RBOB gas	S&P/Goldman Sachs	Commodities	4.6%
Heating oil	S&P/Goldman Sachs	Commodities	4.5%
Gas oil	S&P/Goldman Sachs	Commodities	4.6%
Natural gas	S&P/Goldman Sachs	Commodities	4.4%
Industrial metals			7.6%
Aluminum	S&P/Goldman Sachs	Commodities	2.3%
Copper	S&P/Goldman Sachs	Commodities	3.4%
Lead	S&P/Goldman Sachs	Commodities	0.5%
Nickel	S&P/Goldman Sachs	Commodities	0.7%
Zinc	S&P/Goldman Sachs	Commodities	0.7%
Precious metals			3.3%
Gold	S&P/Goldman Sachs	Commodities	2.9%
Silver	S&P/Goldman Sachs	Commodities	0.4%
Agriculture			13.7%
Wheat	S&P/Goldman Sachs	Commodities	3.0%
Red wheat	S&P/Goldman Sachs	Commodities	0.6%
Corn	S&P/Goldman Sachs	Commodities	3.2%
Soybeans	S&P/Goldman Sachs	Commodities	2.3%
Cotton	S&P/Goldman Sachs	Commodities	1.0%
Sugar	S&P/Goldman Sachs	Commodities	2.4%
Coffee	S&P/Goldman Sachs	Commodities	0.8%
Cocoa	S&P/Goldman Sachs	Commodities	0.4%
Livestock			4.1%
Live cattle	S&P/Goldman Sachs	Commodities	2.5%
Feeder cattle	S&P/Goldman Sachs	Commodities	0.5%
Lean hogs	S&P/Goldman Sachs	Commodities	1.2%
Total economic exposure			100.0%

Commodity risk strategy



Commodity risk strategy

	Commodities buy and hold strategy	Commodities with overlay strategy
Total return	4,420%	12,195%
Return (pa)	10.03%	18.75%
Drawdown	(71.00%)	(22.52%)
Standard deviation	19.00%	9.77%

Real world testing

Strategy back testing: Inflation United States 1972 - 1981



Diversified Growth Portfolios

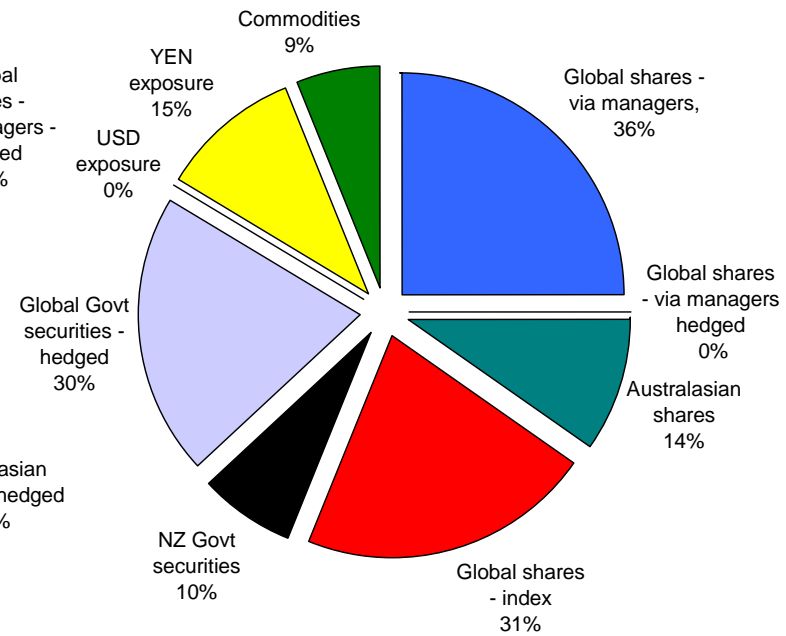
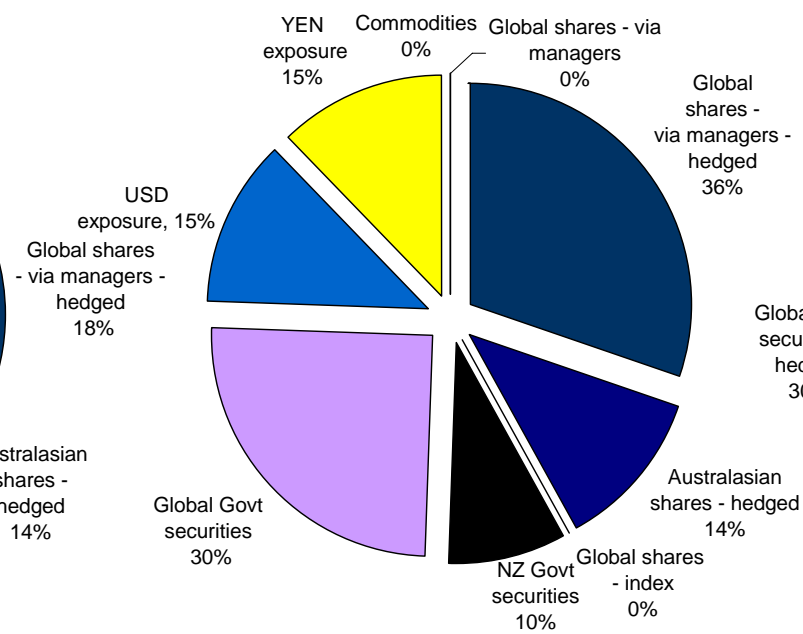
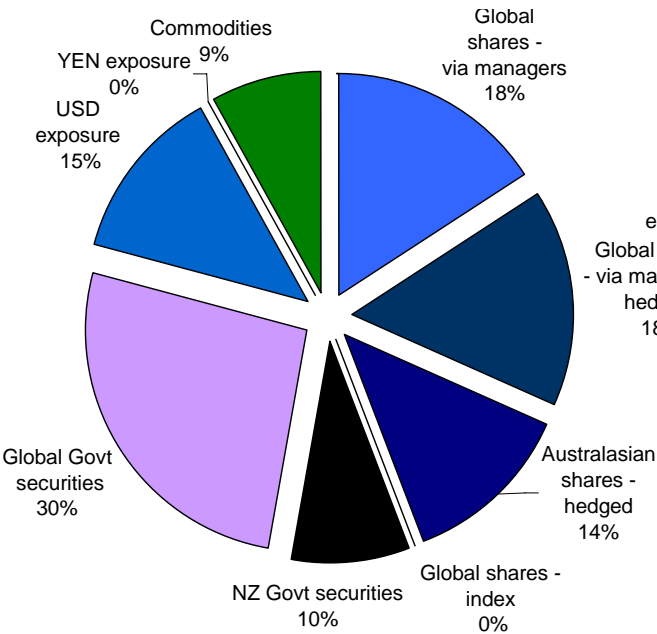
Strategy back testing: Deflation, Japan, 1989 - 2009



November 2007

November 2008

November 2009



For further information or to request a copy of the relevant Investment Statement, please contact New Zealand Funds Management Limited.

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