

# Direct Equity Portfolio Construction and Management – for now!

**Ron Bewley** PhD, FASSA

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# Important information - disclaimer

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- **General Advice Warning:** This note has been prepared without taking account of the objectives, financial situation or needs of any particular individual. Any individual should, before acting on the information in this note, consider the appropriateness of the information, having regard to the individual's objectives, financial situation and needs and, if necessary, seek appropriate professional advice. **Past returns are no guarantee of future performance.**
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# The backdrop – early 2014

- Equities make the money
- Low interest rates – lower for longer
- “Set and forget” off the table – the tide will turn
- Equity portfolios need to adapt to swift changes
- Flagship portfolio is “Hybrid Yield-Conviction”
- Also an ASX 200/S&P 500 geared strategy
- And an international/domestic equity portfolio

# Objectives for “the fund”

- To source the best information for inputs
- To build an integrated portfolio system
- To manage the system based on related signals

# I/B/E/S data on ASX 200 companies

- Broker forecasts of dividends and earnings
  - Companies give guidance
- Broker recommendations (1) Buy to (5) Sell
  - Bias away from Sell
- Target stock prices
  - No guidance and apparent big lags

# Can't keep beating the mean

- An average of about 12 broker forecasts per stock
- Bates & Granger on combined forecasts
- **Sector's returns easier to forecast than stocks'**
- **Recs. make more sense within sectors**

# Sectoral, expected total returns

- Based on up to 4 years of earnings/dividends data
- Interpolations used to avoid e-o-y jumps
- Sector forecasts aggregated into market forecast
- **So, if one analyst updates one company forecast, the impact ripples through to the market forecast!**

# Volatility forecasts

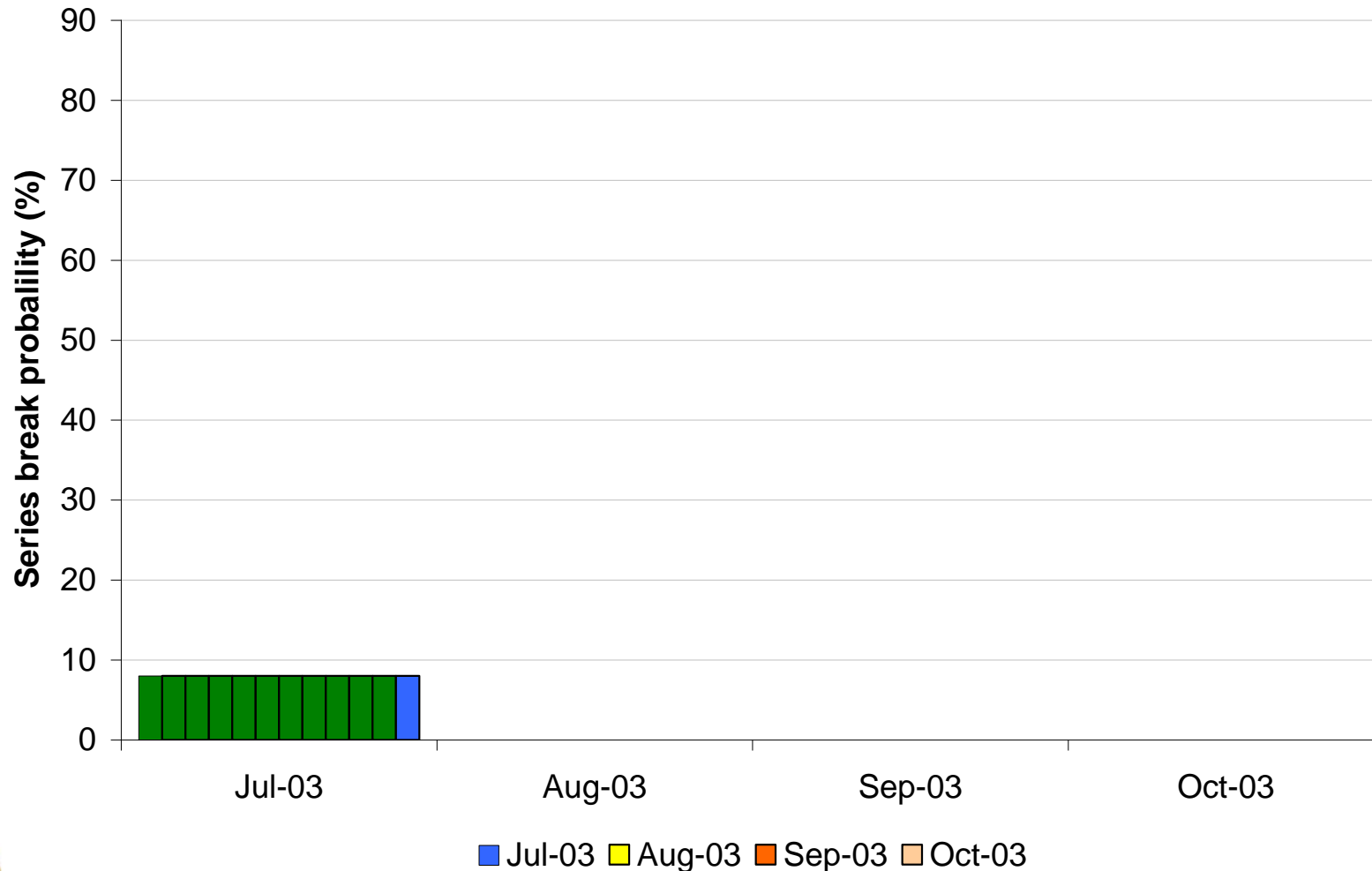
- Bewley and Yang's Bayesian mean-break method
- Mean reversion *within* a regime
- Learning mechanism to detect breaks in the mean
- Also looks backwards to optimise past breaks



# Bayesian method on monthly realised vols

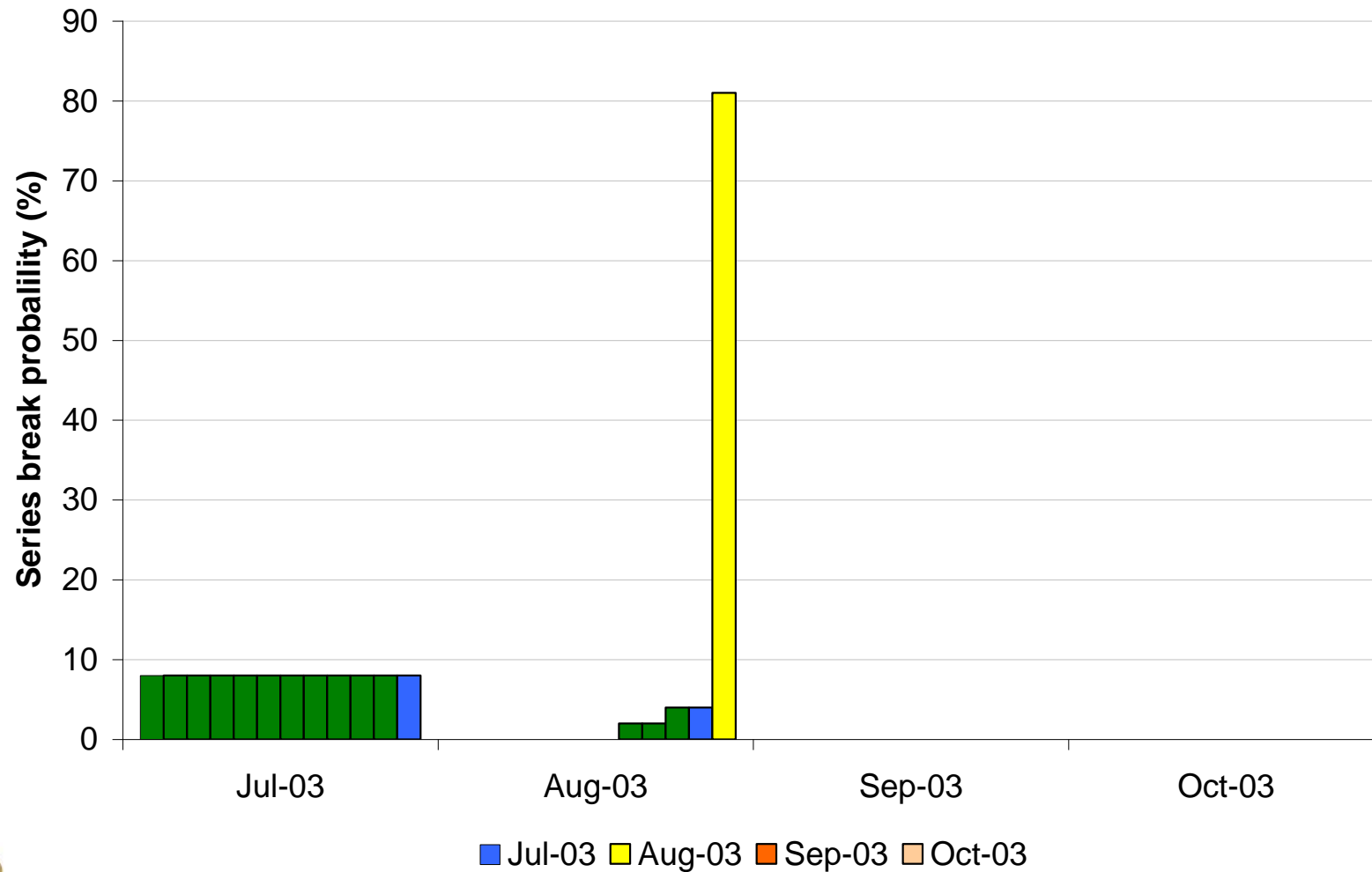
- Assume the mean level of volatility is unchanged
- Allow for a break in each of the last 12 months
- ‘Prior’ that all mean-breaks are equally likely
- ‘Posterior’ prob. calculated from prior and data

# Financials: Posterior long-run breaks; 2003

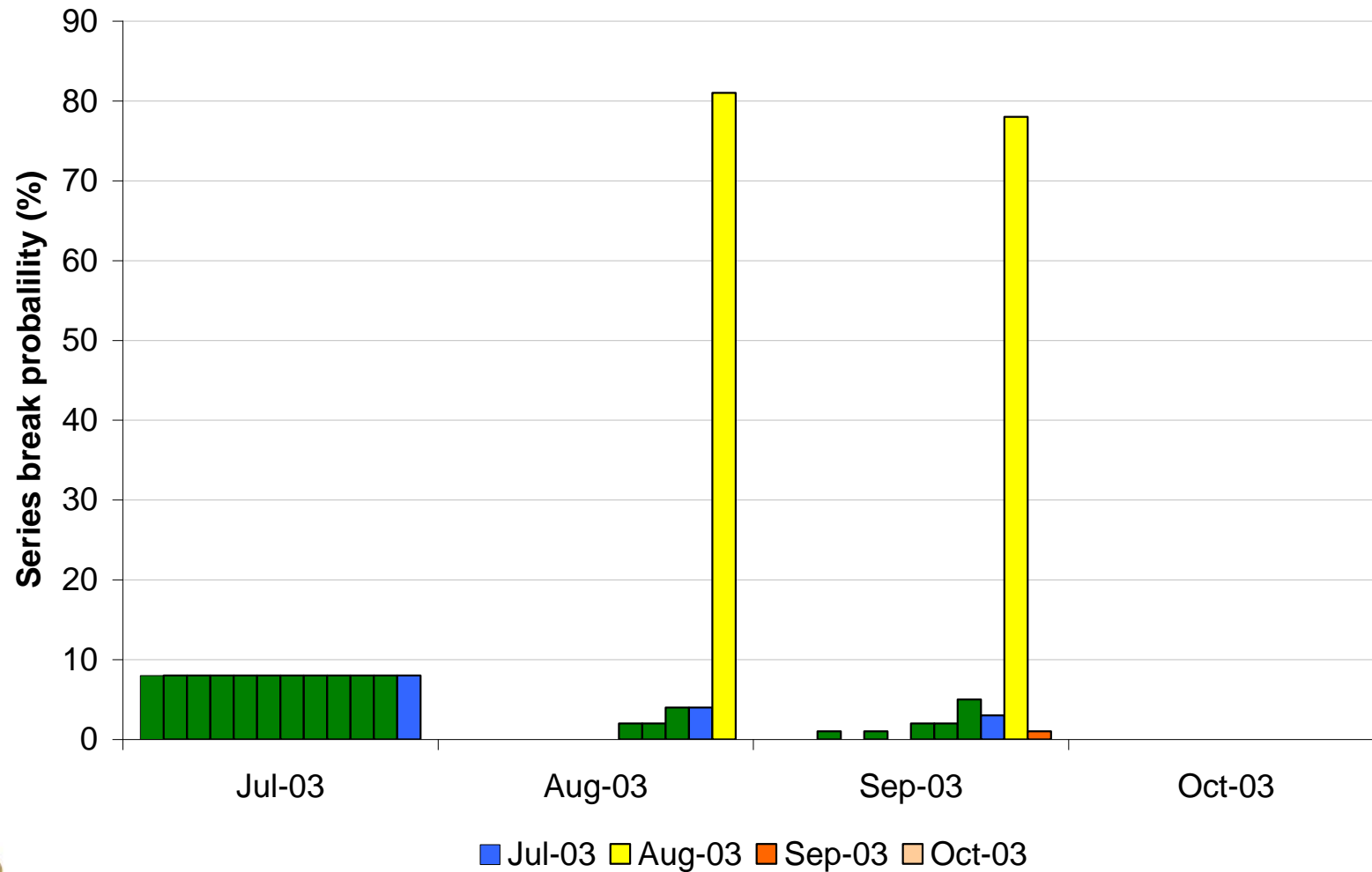


Notes: Data up to 30 Apr 2009 in this and subsequent 'break' slides.

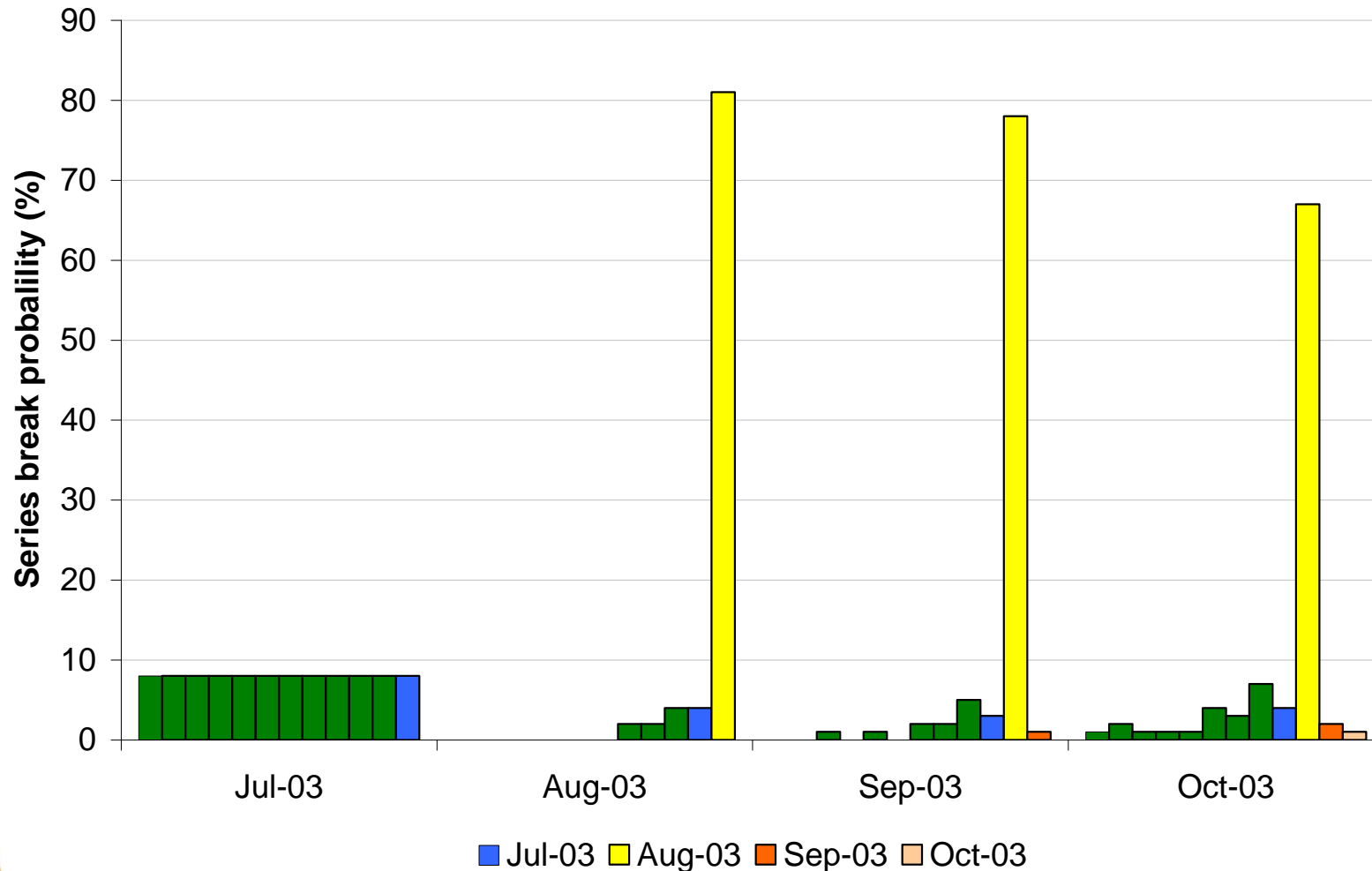
# Financials: Posterior long-run breaks; 2003



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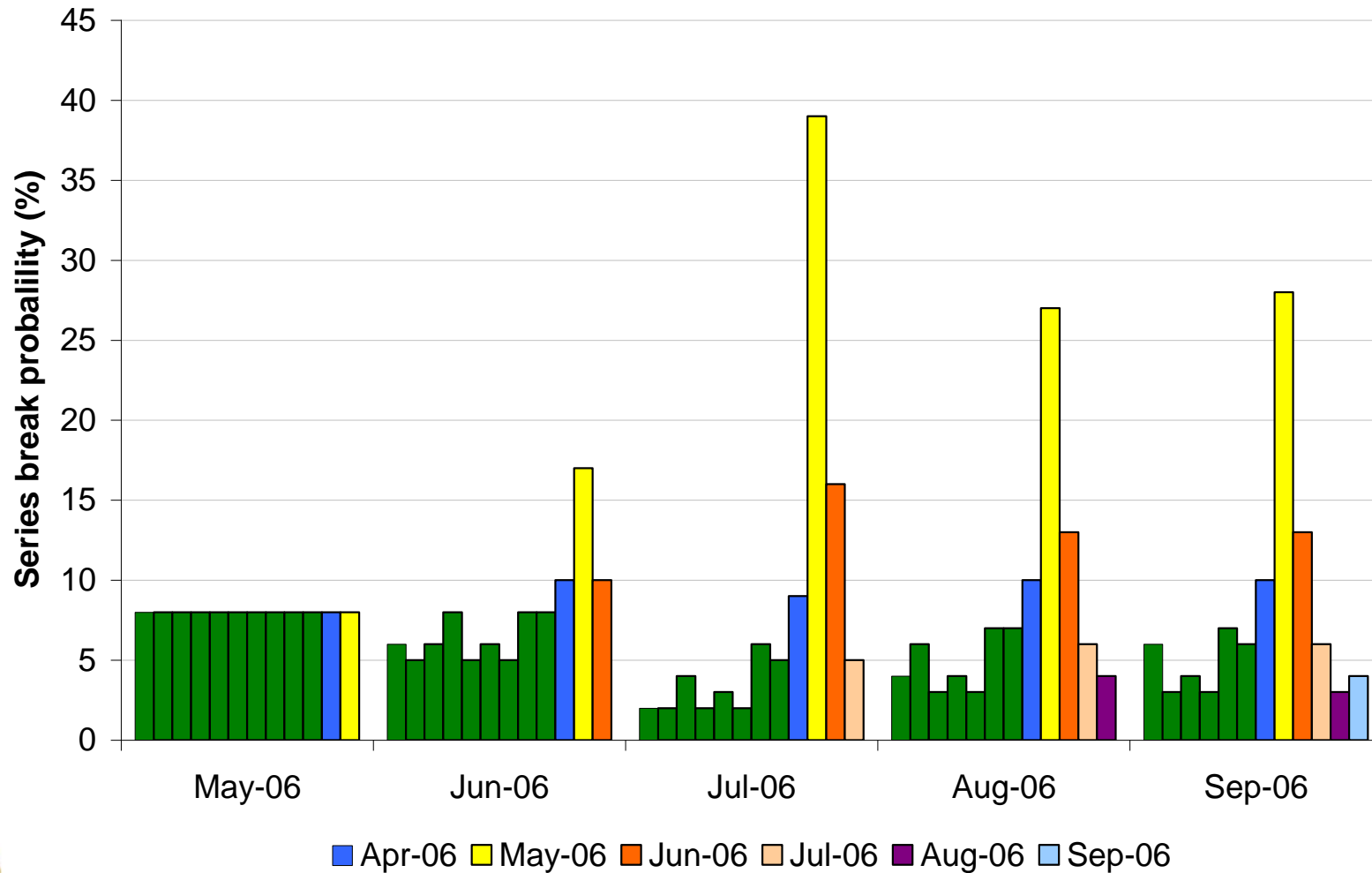
# Financials: Posterior long-run breaks; 2003



(1) In Oct-2003 the first break was called for Aug-2003

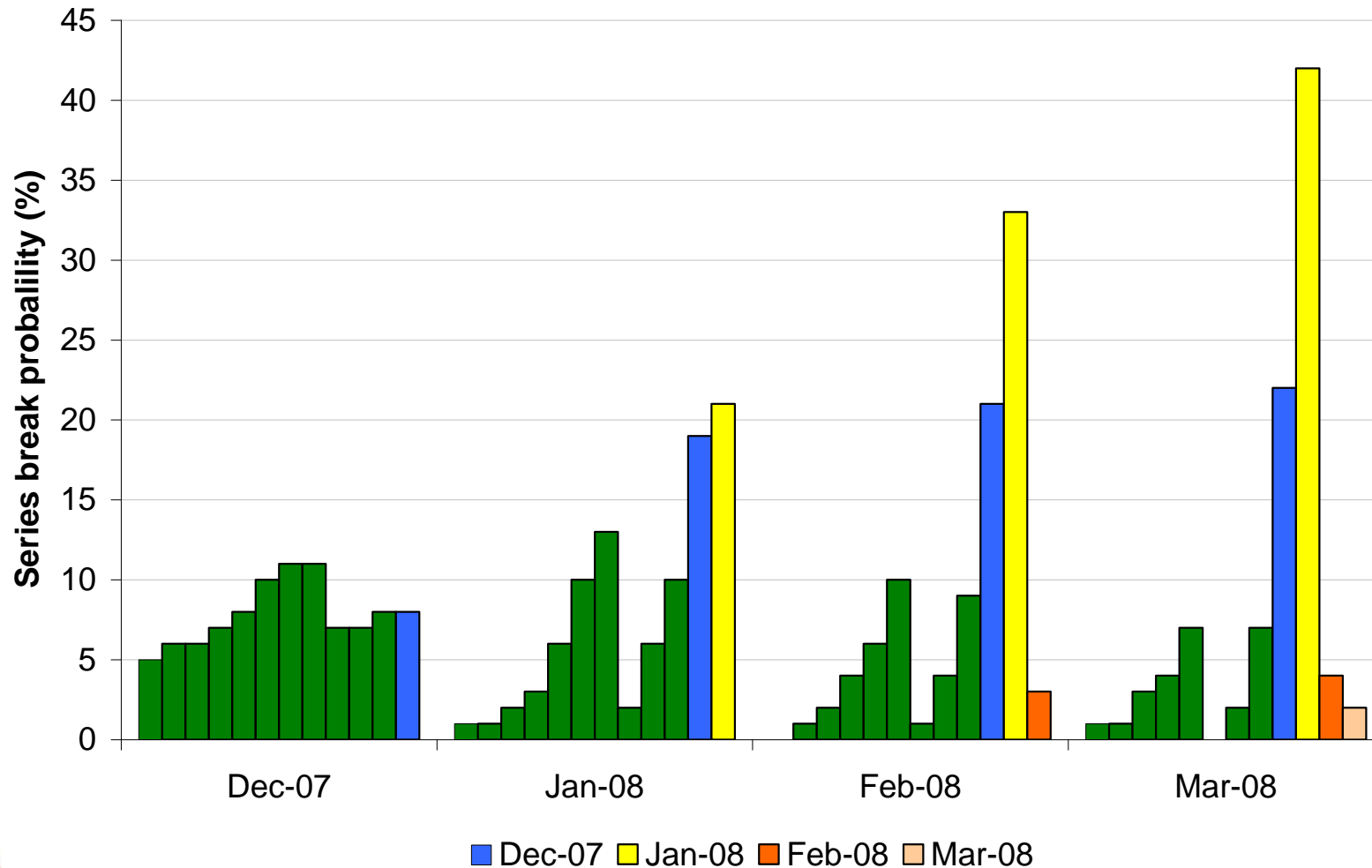
(2) In Jul-2006 the break was changed to Jun-2003

# Financials: Posterior long-run breaks; 2006



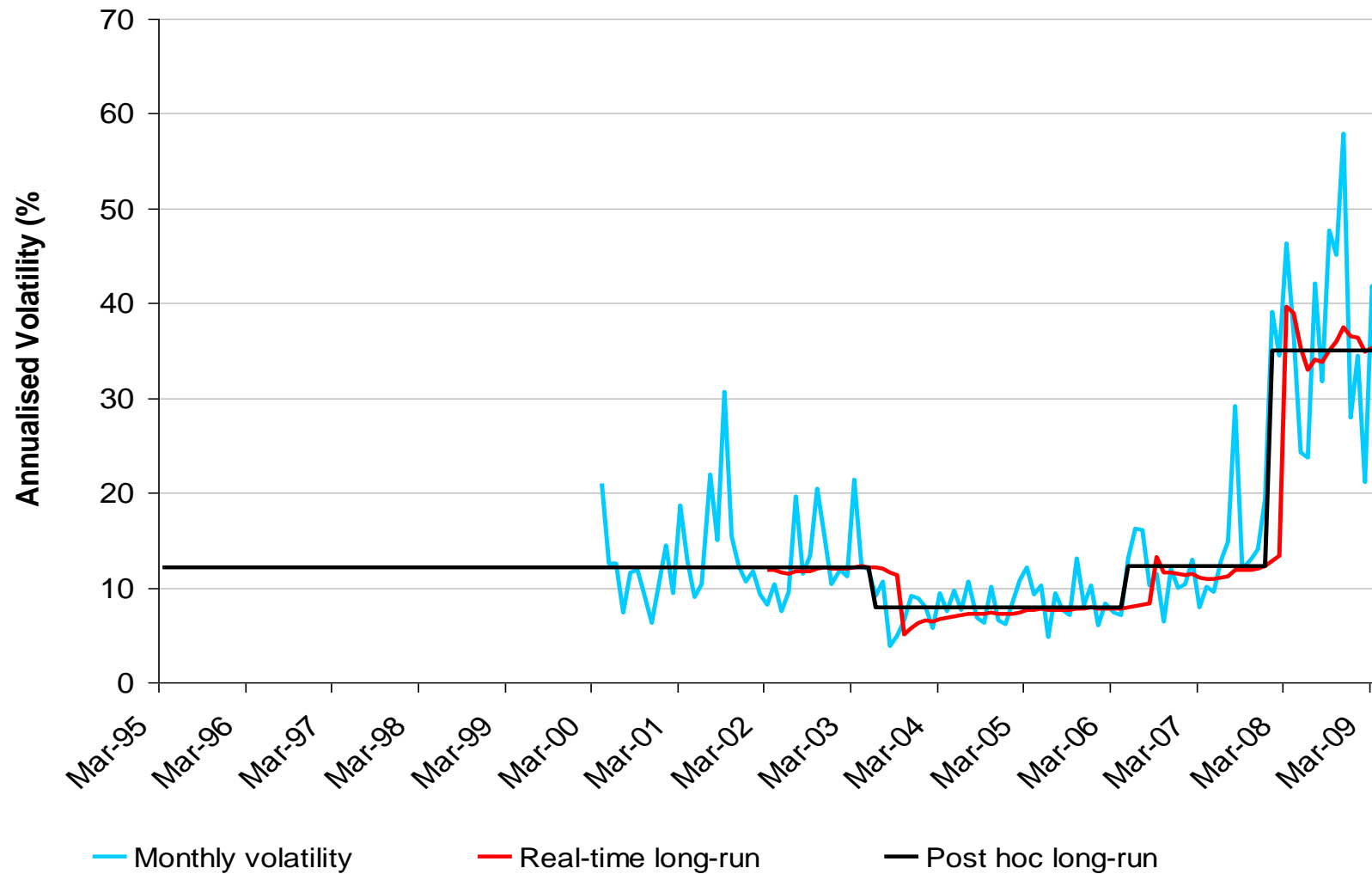
**In Sep-2006 the second break was called for May-2006**

# Financials: Posterior long-run breaks; 2008



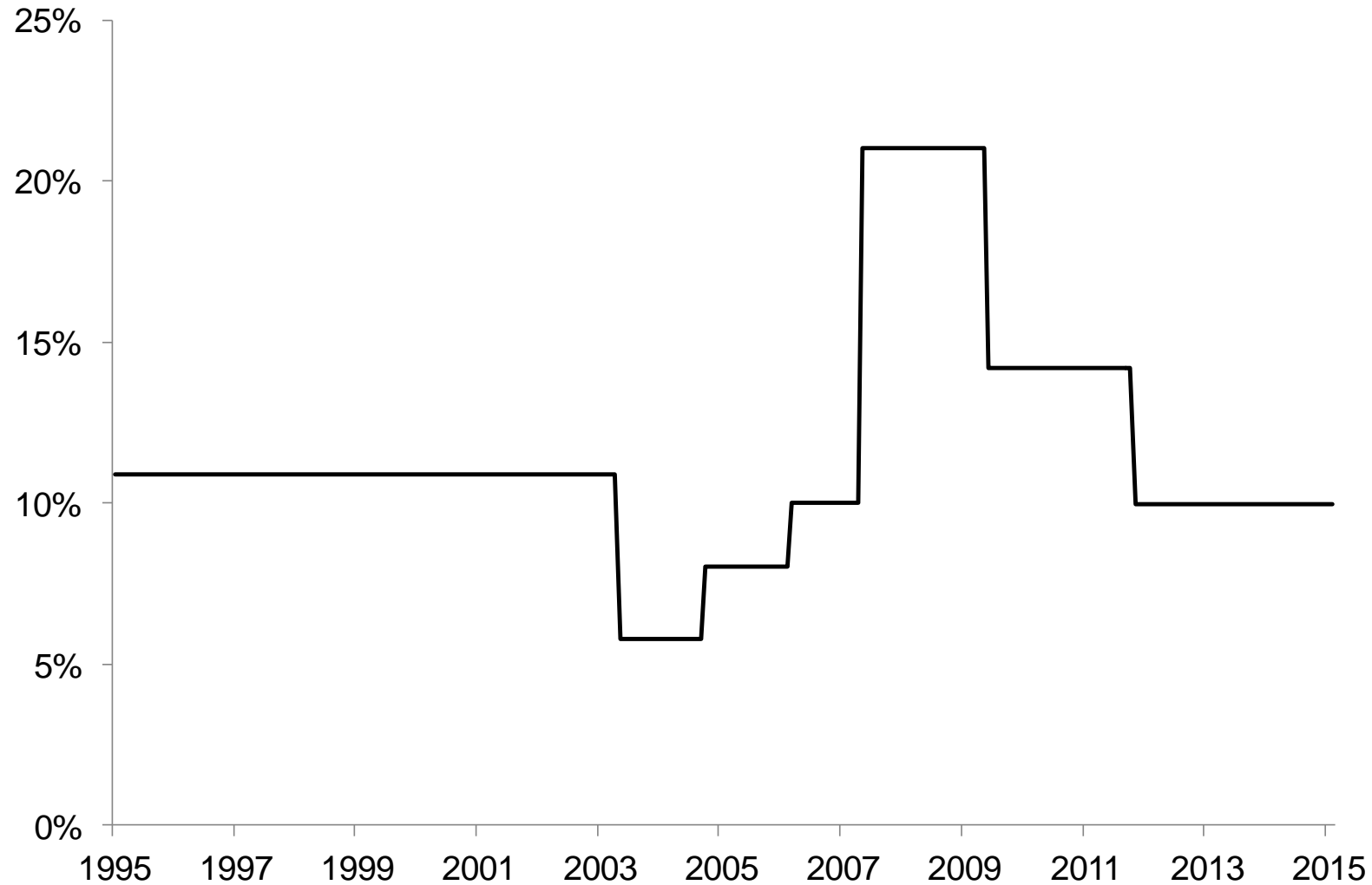
**In Mar-2008 third break called at Jan-2008**

# Financials: Actual and long-run averages





# Current ASX 200 past volatility breaks



# Portfolio construction

- Mean-variance optimisation with limits to tilts
- No. of stocks per sector depends on Sharpe ratio
- Filter stocks by sector, rec, yield, mkt. cap.
- Populate sectors with stocks only if filters met

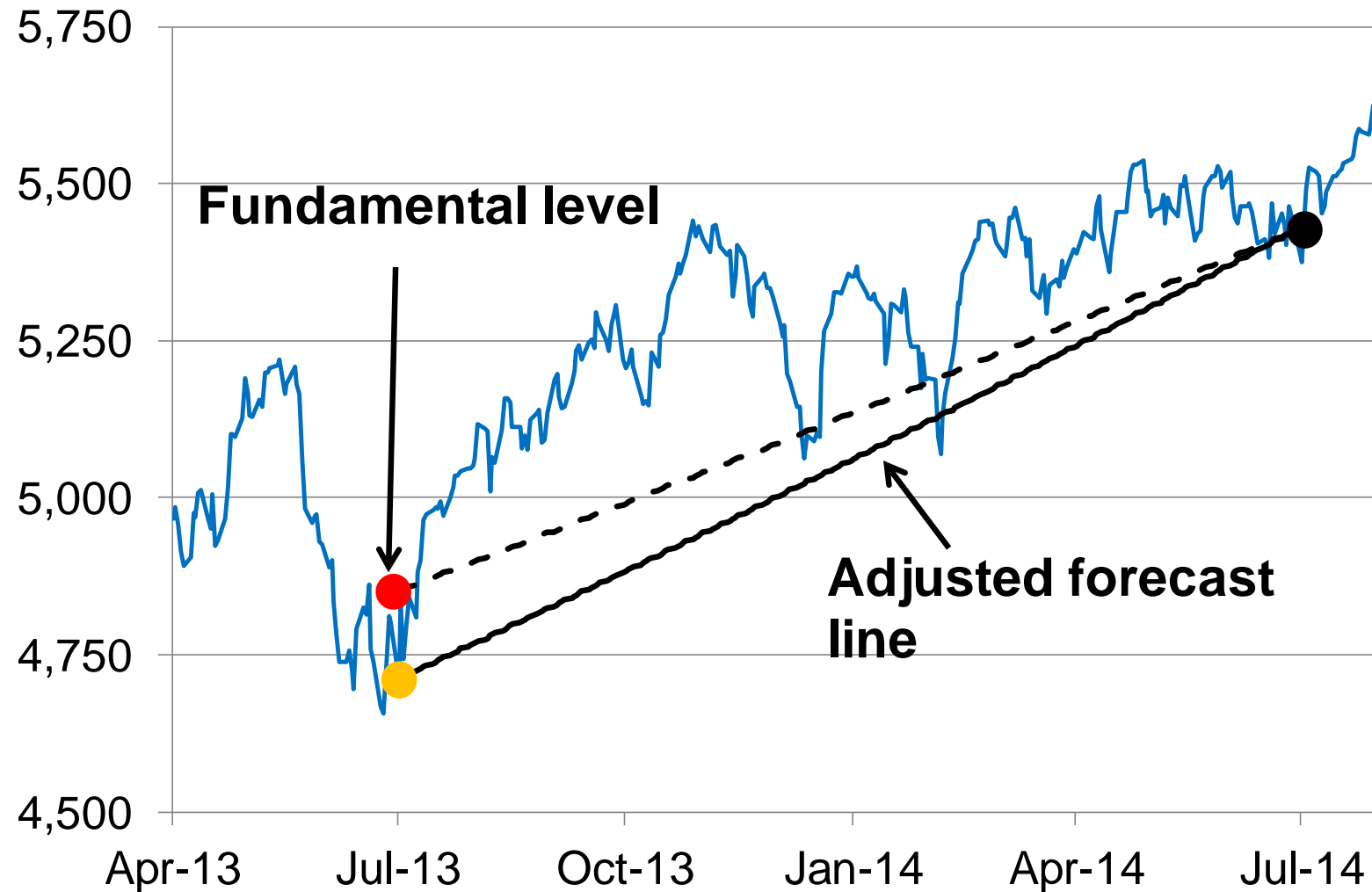
# Market entry/exit

- Buy when the sector is cheap or fair value
- Sell when expensive
- Dollar cost average
- 'Exuberance' is our measure of mispricing

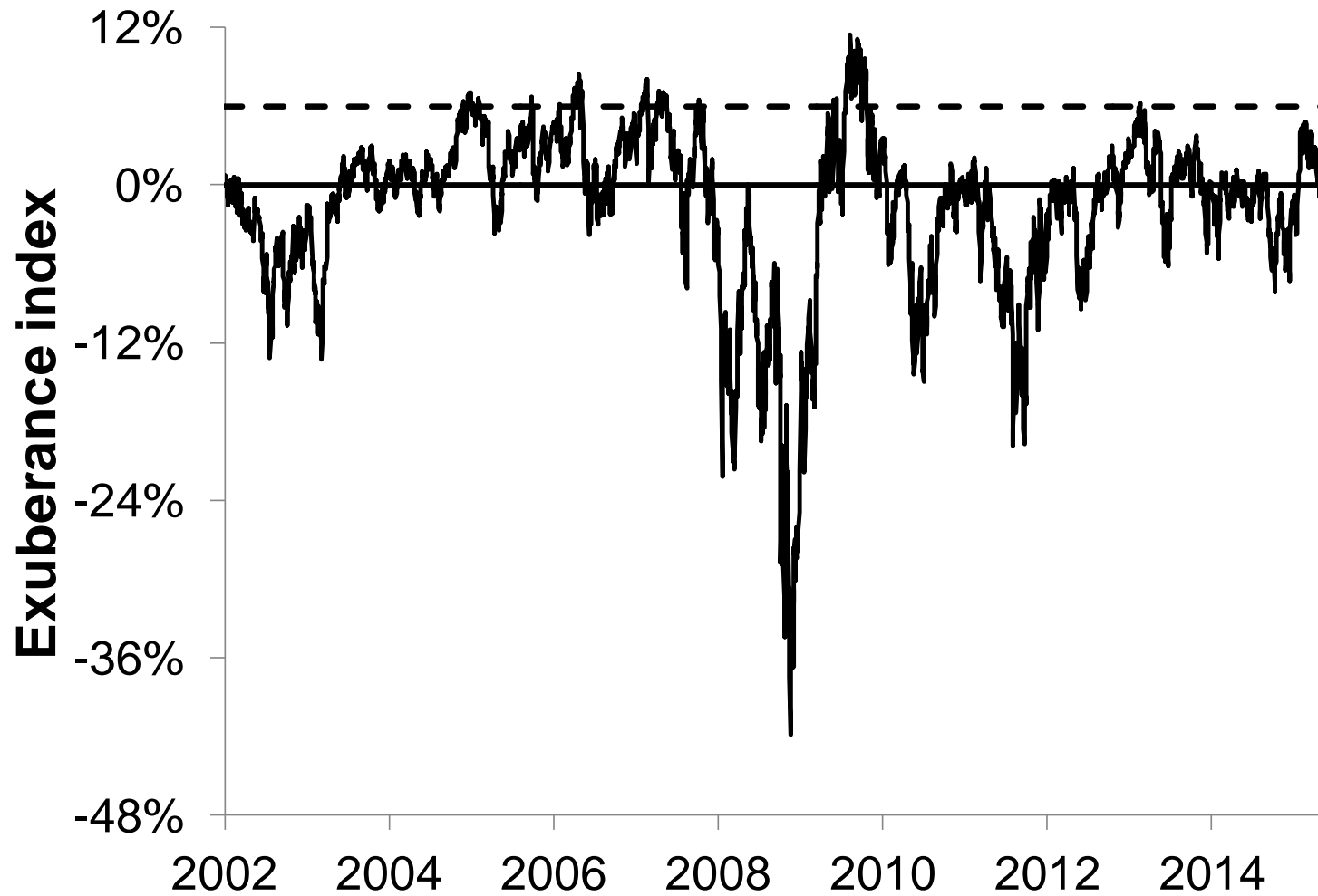
# Calculating exuberance

- Assume forecasts are *credible*
- If index runs ahead of forecast it is expensive and *vice versa*
- Use successive monthly forecasts to detect changes in fundamentals

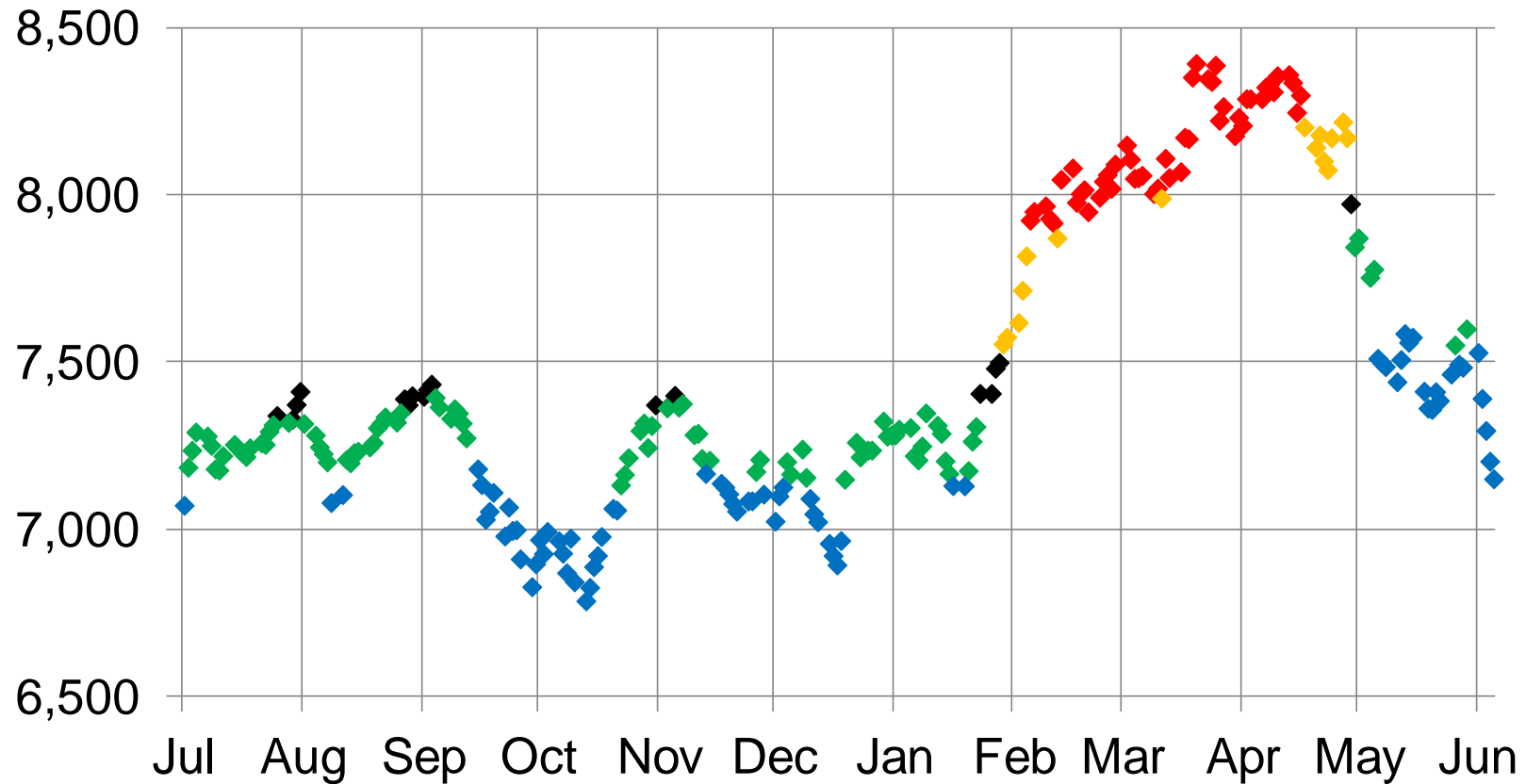
# Exuberance illustration - ASX 200 FY'14



# Exuberance - ASX 200



# Heat spots - ASX 200: Financials sector



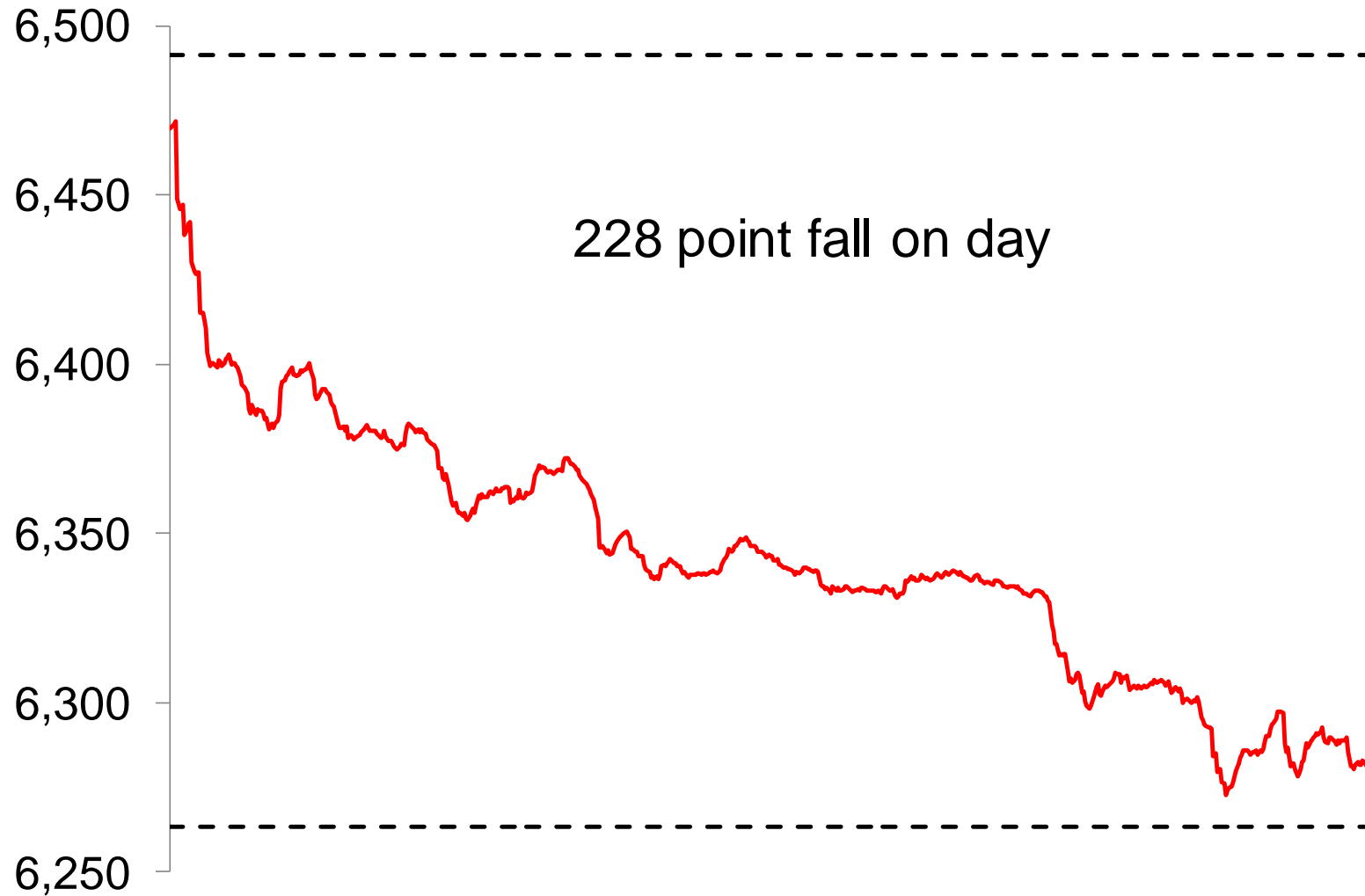
◆ Hot ◆ High ◆ Warm ◆ Par ◆ Cheap

# Fear index

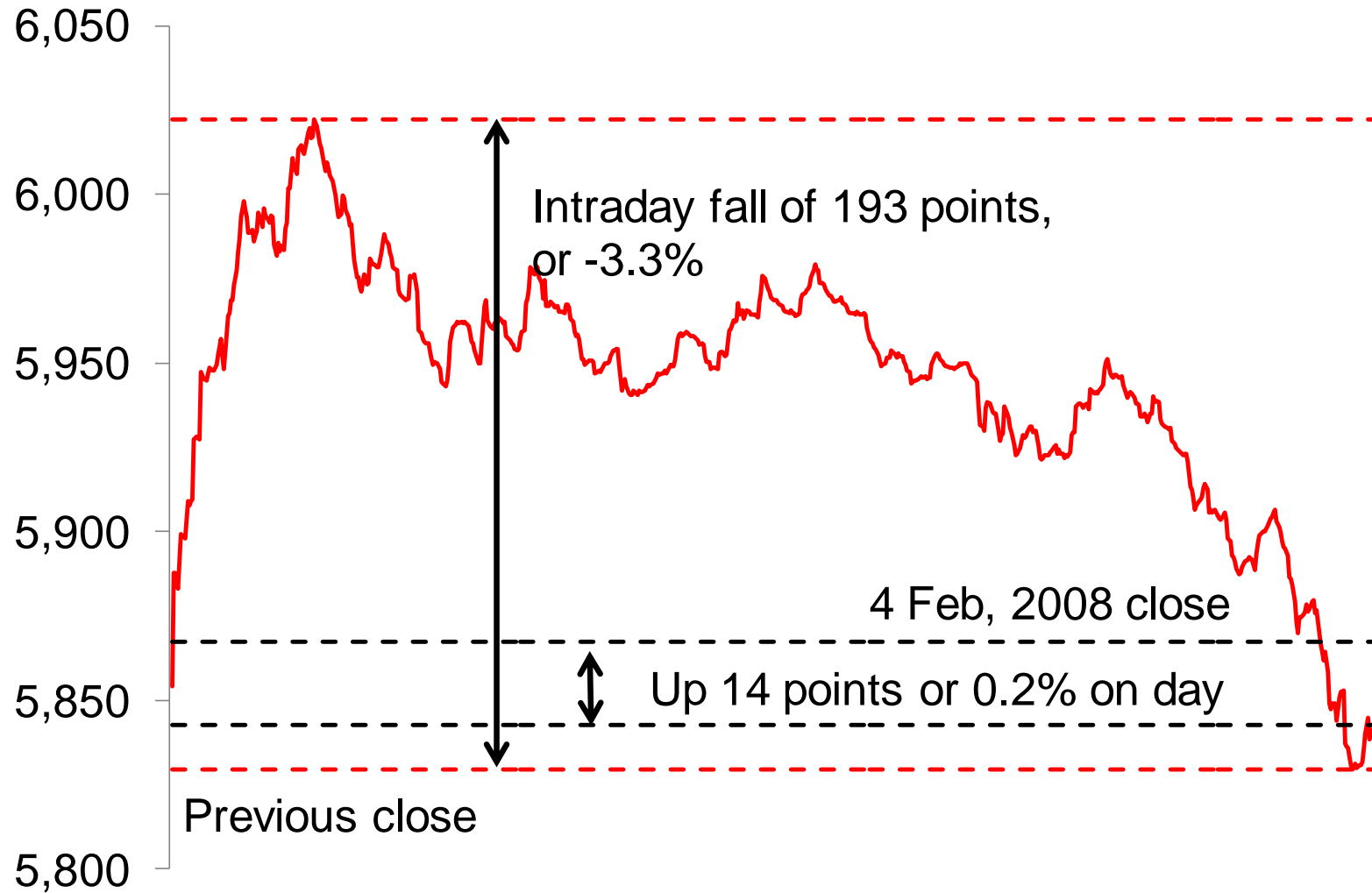
- Measures *excess* intra-daily volatility
- **Fear exaggerates mispricing when index is high**
  - Markets can fall faster and further
  - Markets can stay cheaper for longer
- Fear index seems to lead VIX indexes



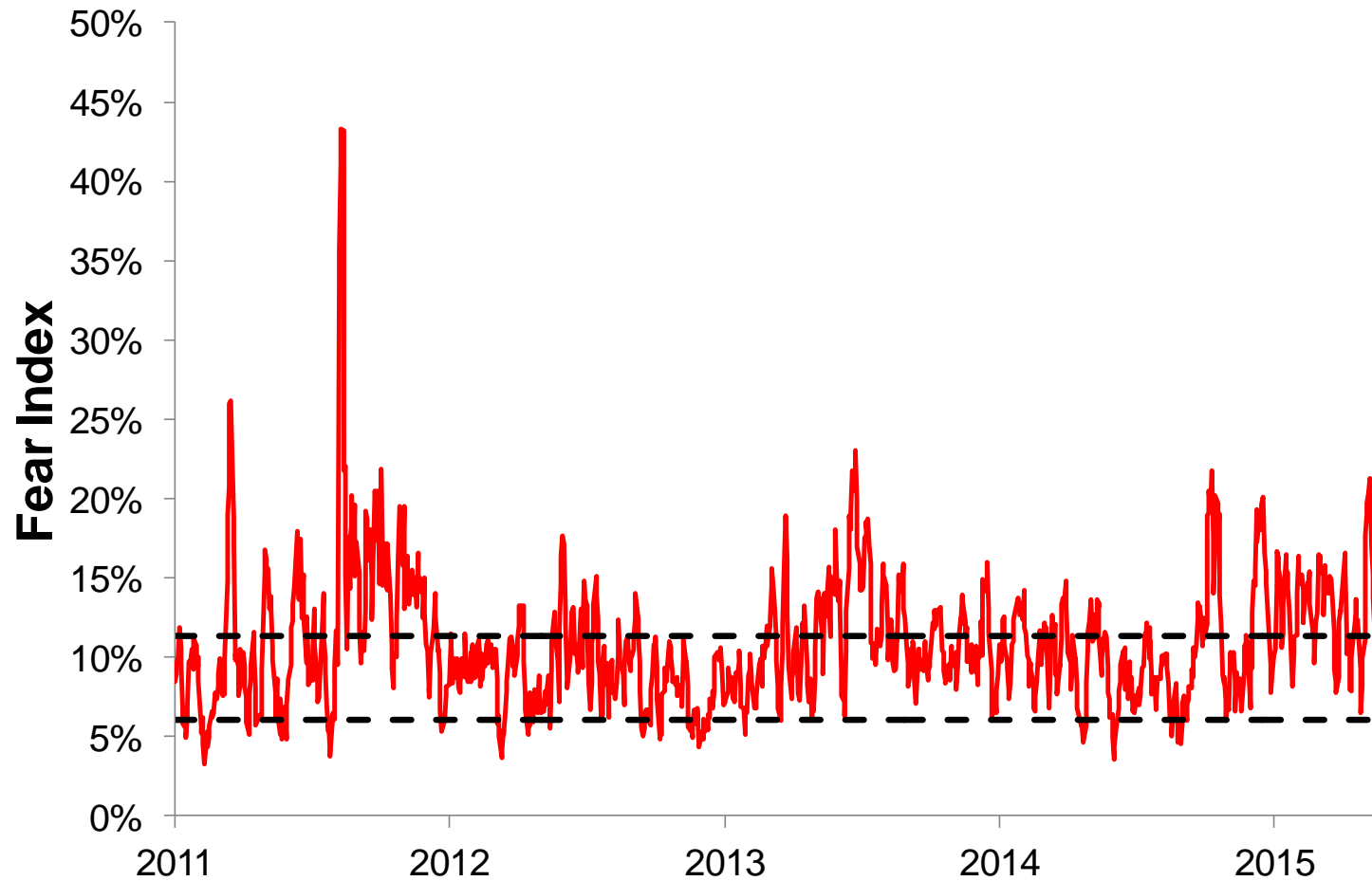
# Intra-day ASX 200 Dec 17, 2007



# Intra-day ASX 200 Feb 4, 2008



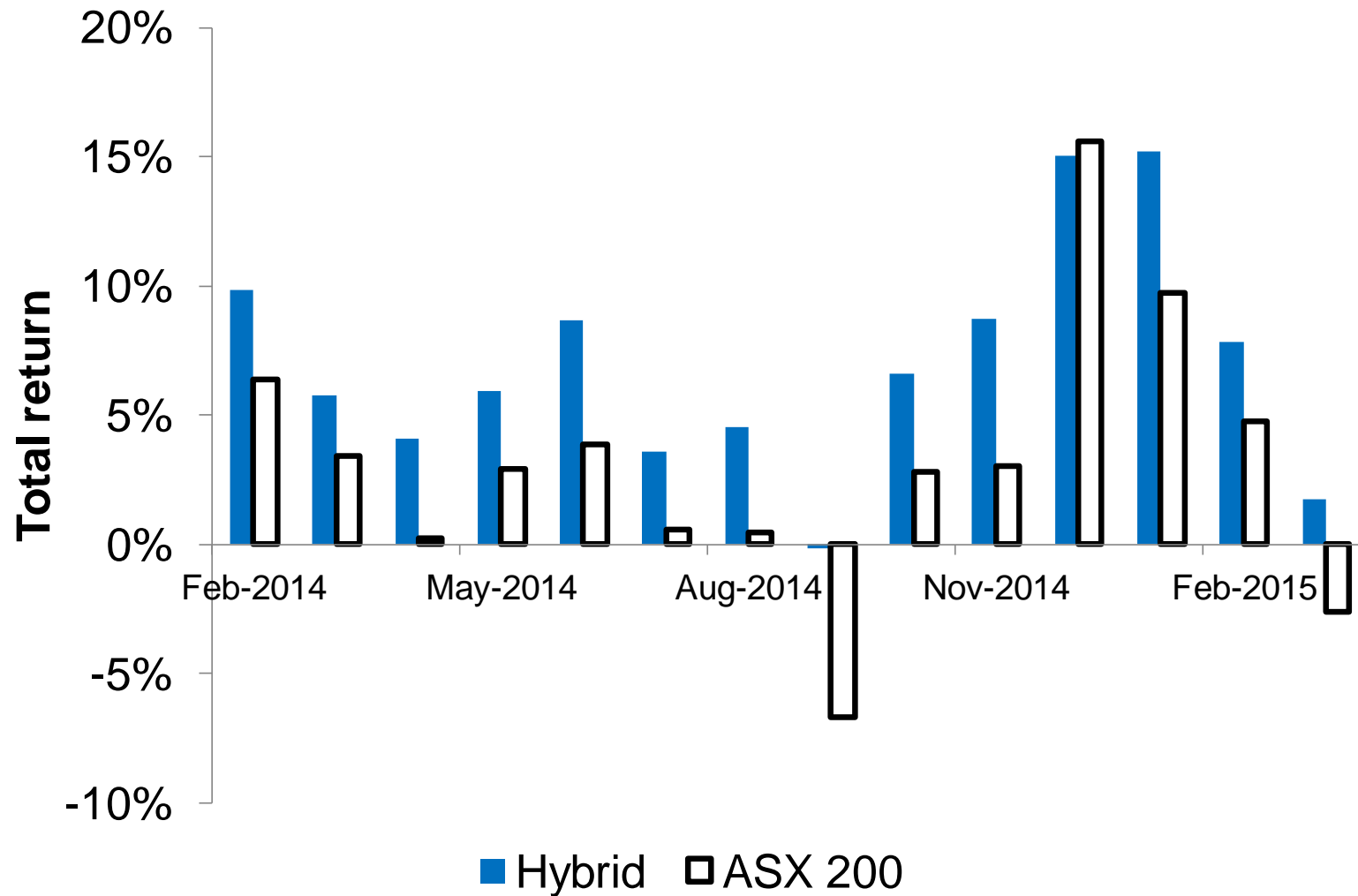
# Fear index - ASX 200



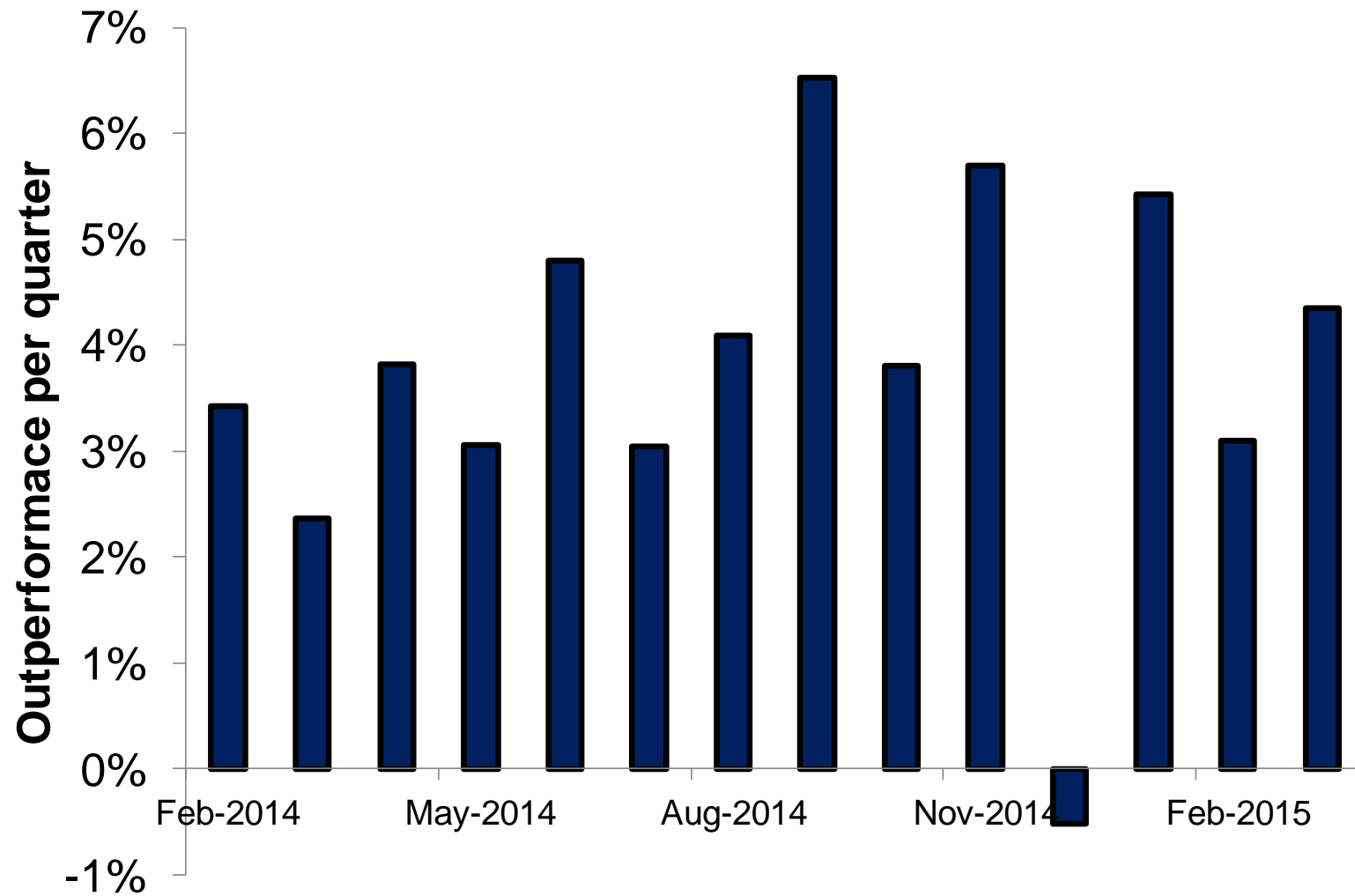
# So does it work?

- Hybrid Yield-Conviction Portfolio performance
- 12-month-ahead forecasts of ASX 200 CY & FY
- 'Box' forecasts
- Geared (or not) IOZ:IVV strategy

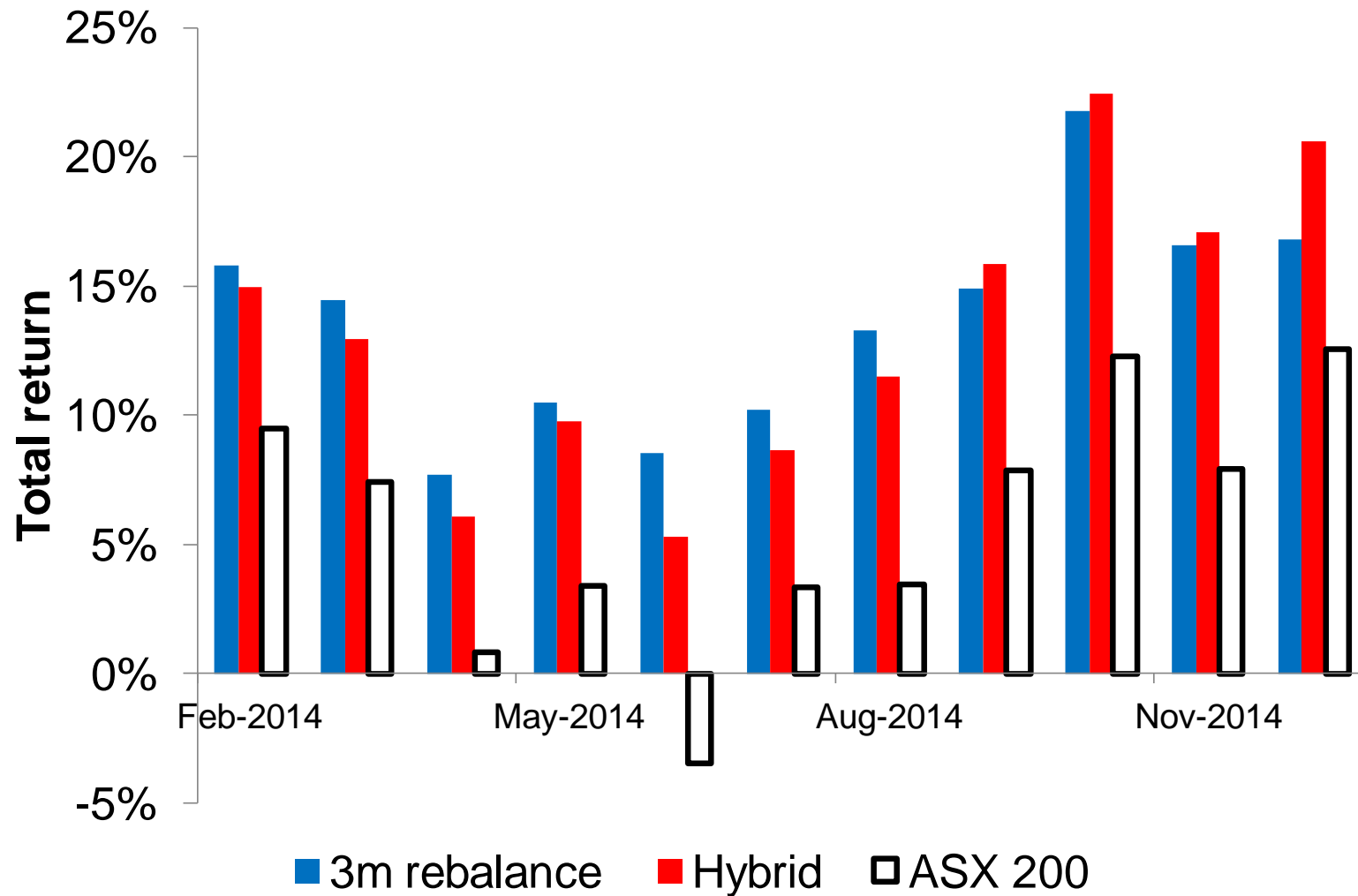
# Hybrid performance – quarterly horizon



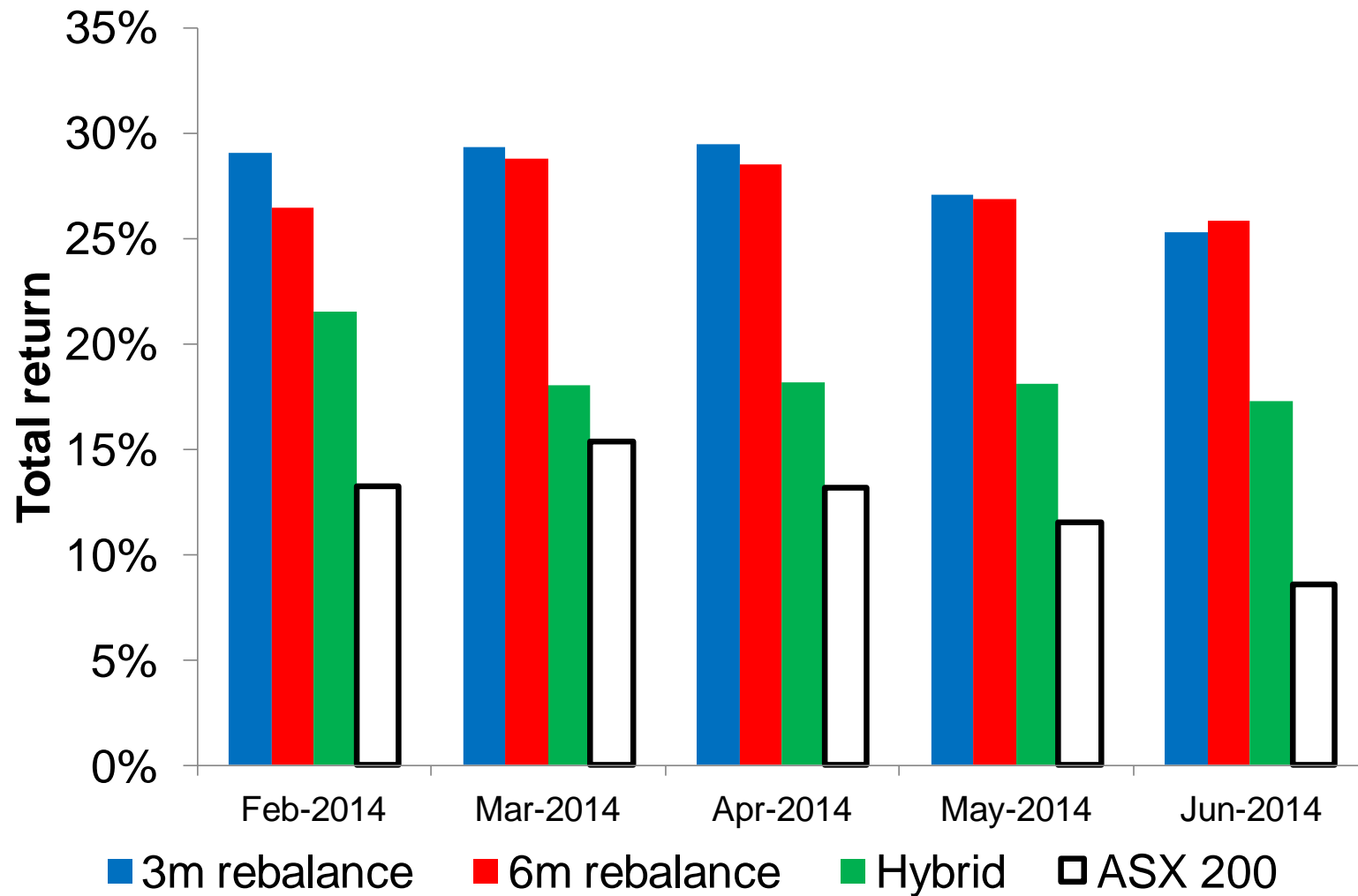
# Hybrid outperformance – quarterly horizon



# Hybrid performance – semi-annual horizon



# Hybrid performance – annual horizon





# Hybrid outperformance – total returns: not annualised

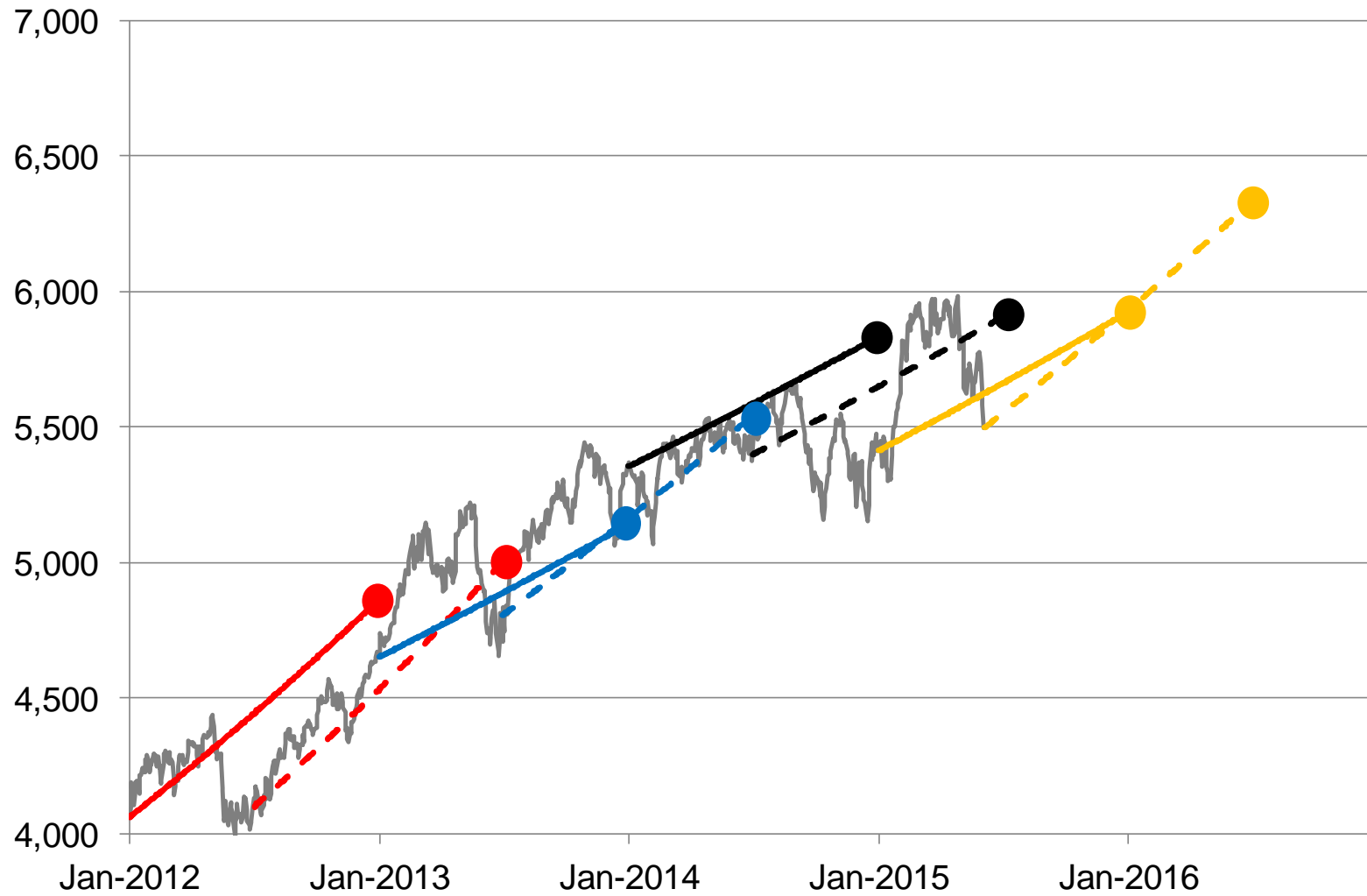
Horizon	Av. outperformance			Av. ASX 200 performance
	Rebalancing period			
	3m	6m	12m	
3m	3.8%			3.2%
6m	7.8%	7.3%		5.9%
12m	15.7%	14.9%	6.2%	12.4%

# Churn for 6m rebalance from June 2014

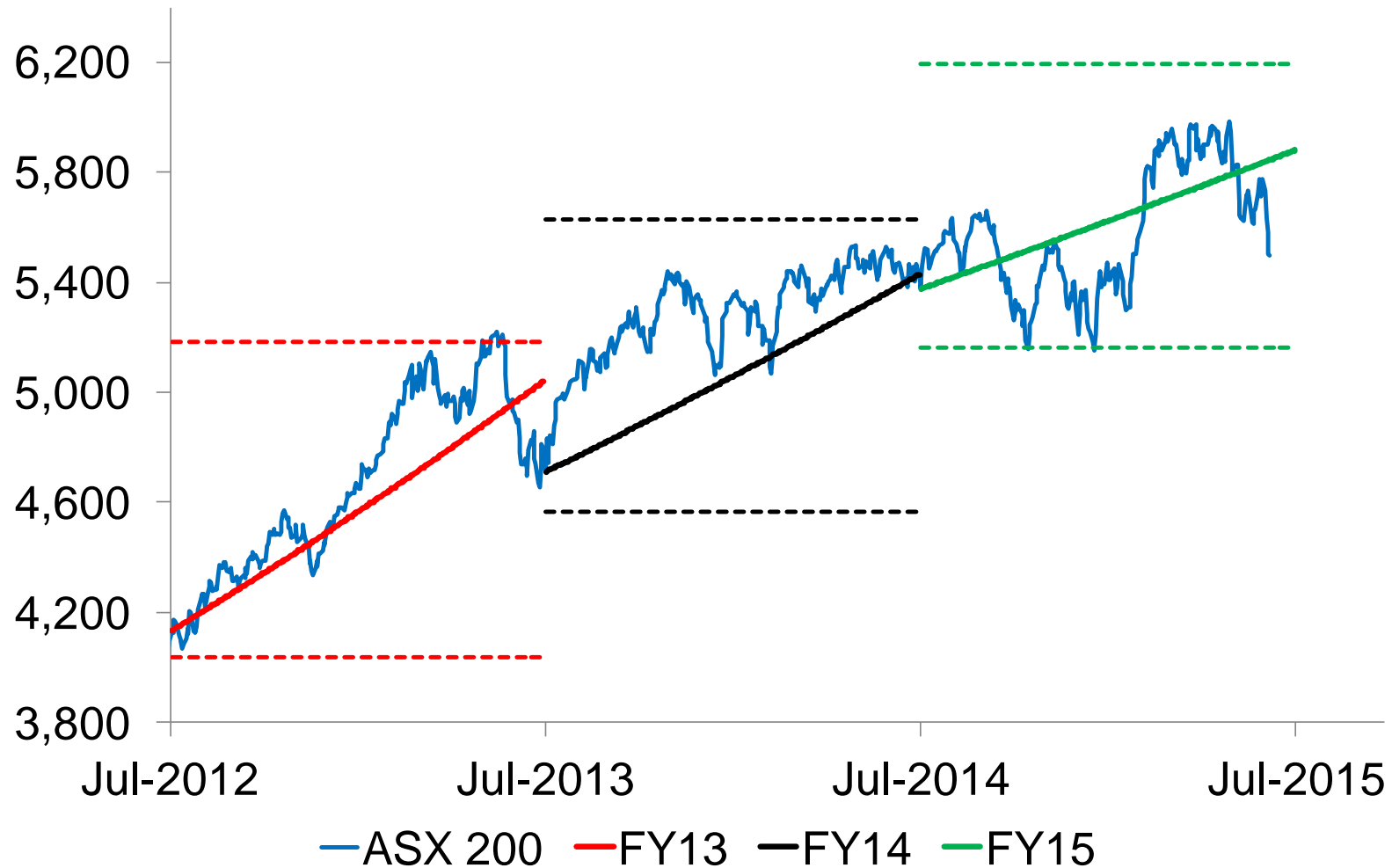
Total returns  
to June 1,  
2015  
Hybrid 25.9%  
ASX 200 8.6%

Code	Jun-2014	Dec-2014	Jun-2015
MIN	x		
SYD	x	x	x
TCL	x	x	
JBH		x	
TAH			x
TTS	x		
PRY	x	x	
BEN	x		x
BOQ	x	x	x
IFL	x	x	x
MQG		x	
NAB	x		
PPT		x	
SUN	x	x	x
FDC	x	x	x
SCG			x
SGP	x		x
WRT	x		
TLS	x	x	x
DUE	x		
SKI	x	x	x

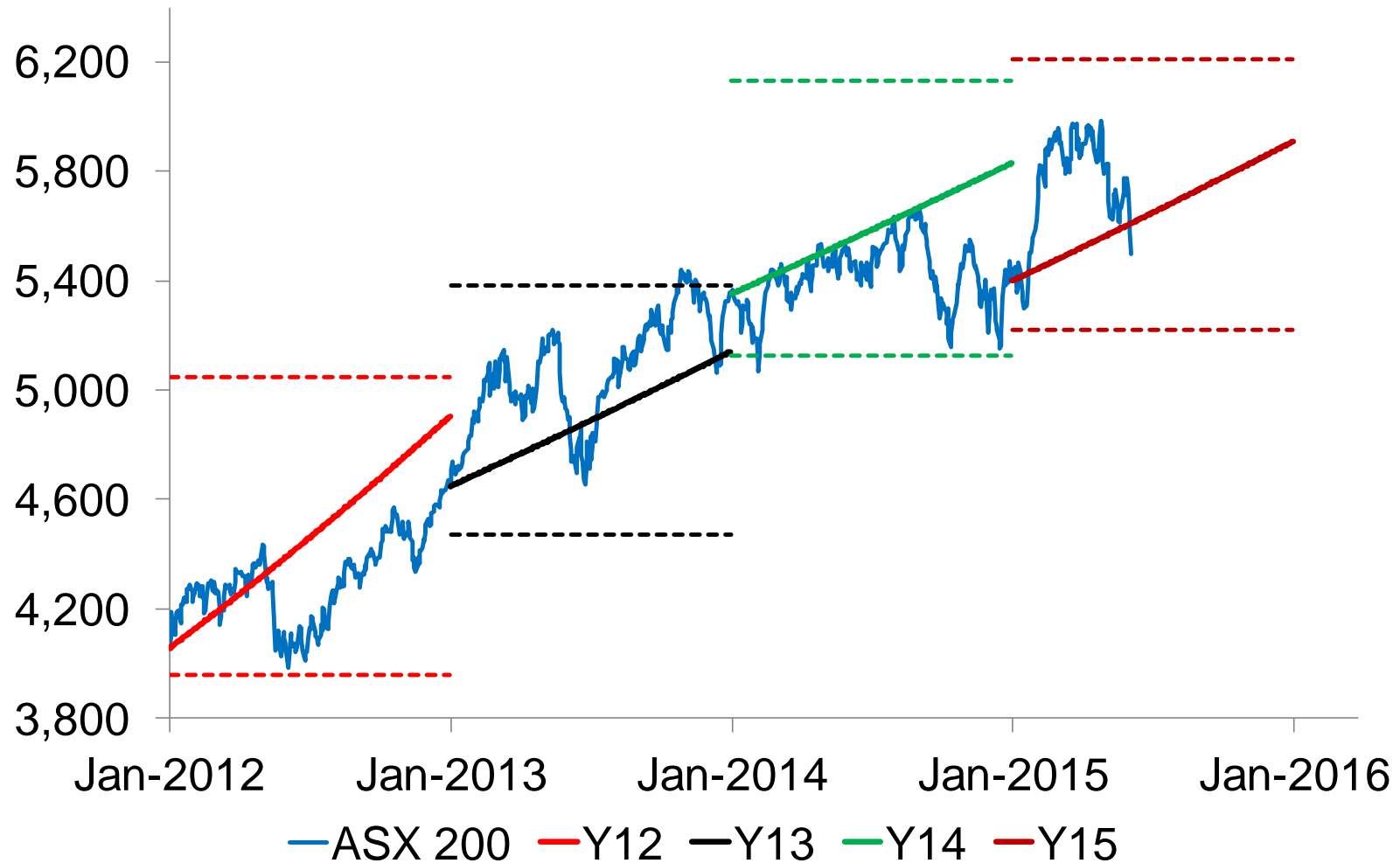
# ASX 200 forecasts



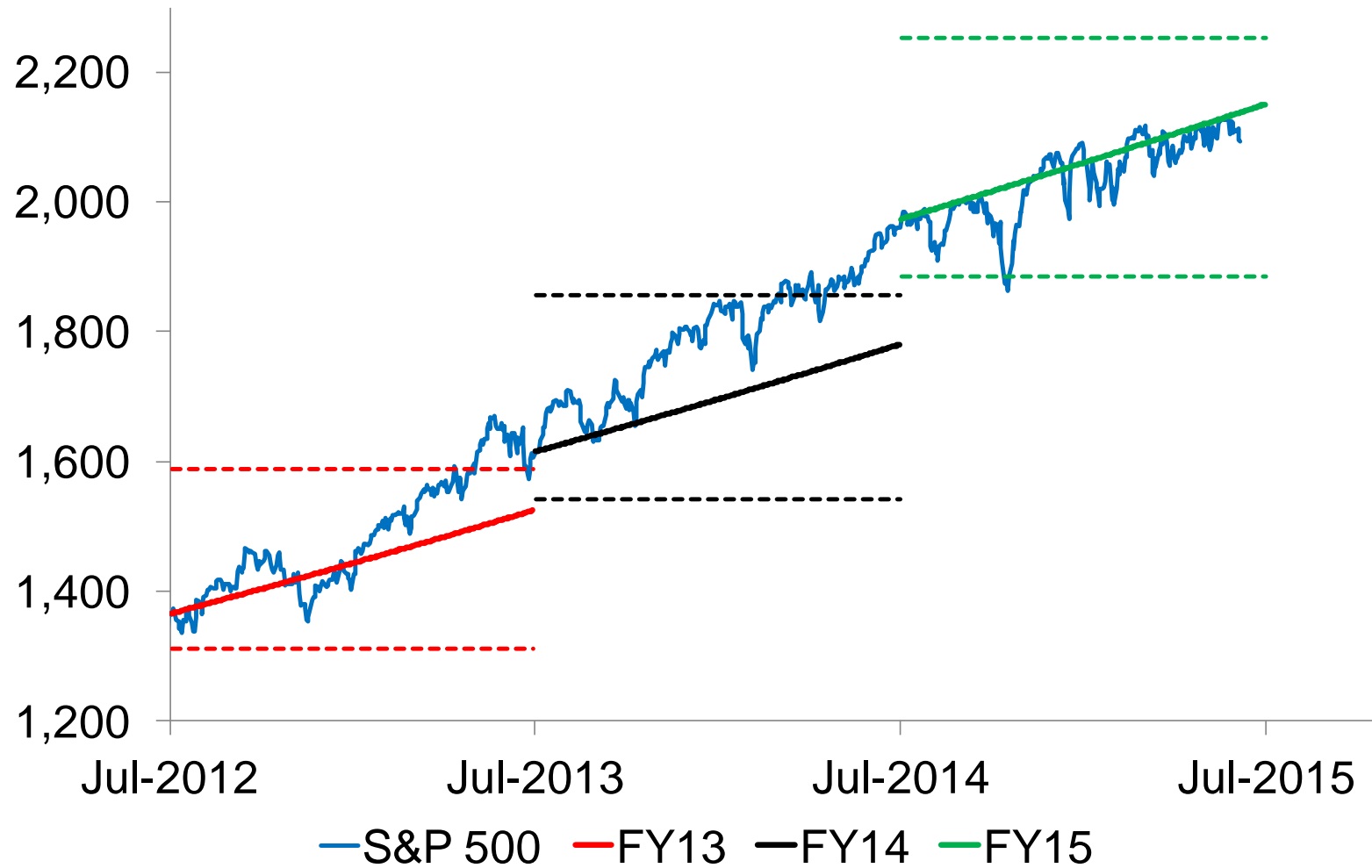
# Box FY forecasts – ASX 200



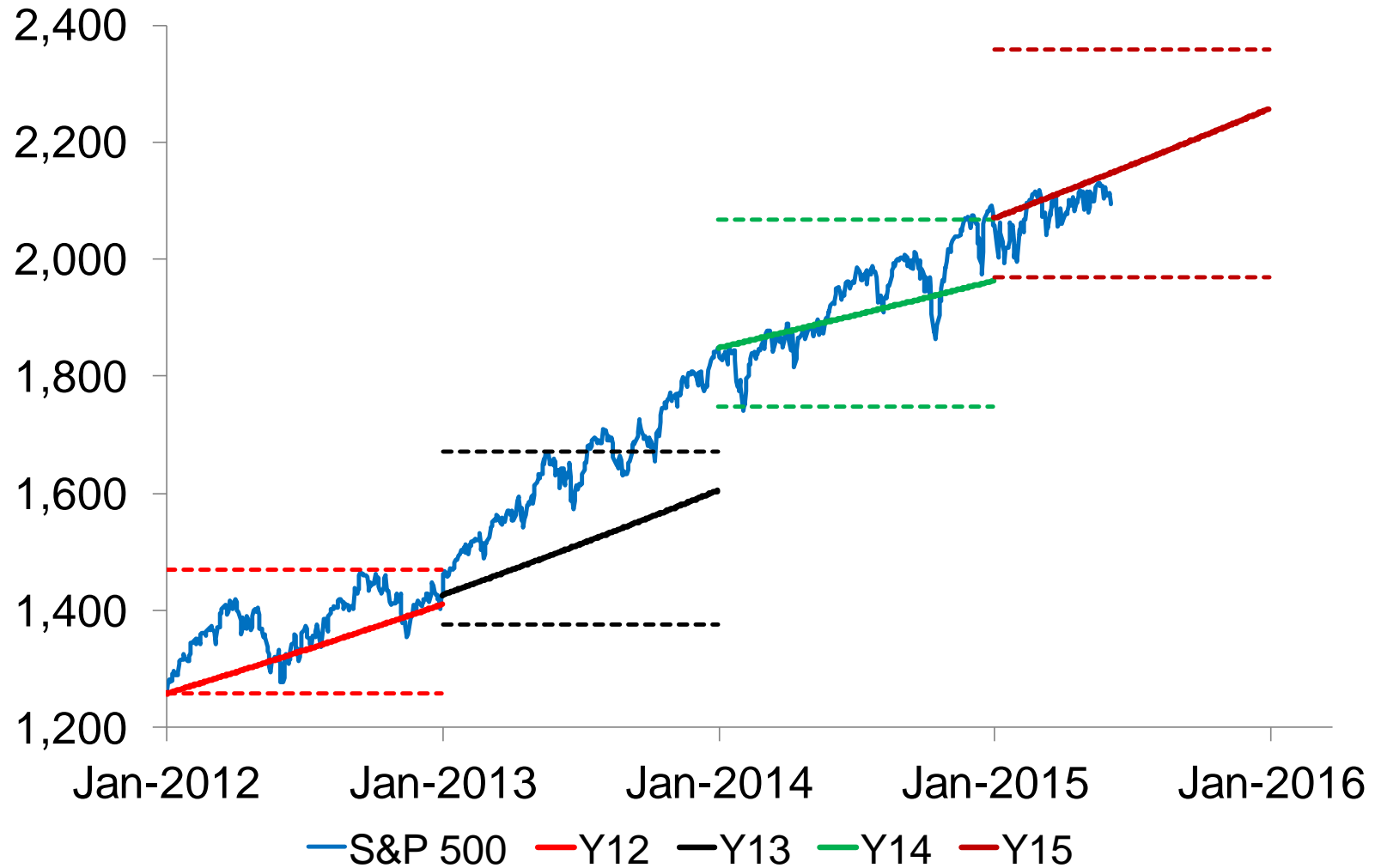
# Box CY forecasts – ASX 200



# Box FY forecasts – S&P 500



# Box CY forecasts – S&P 500

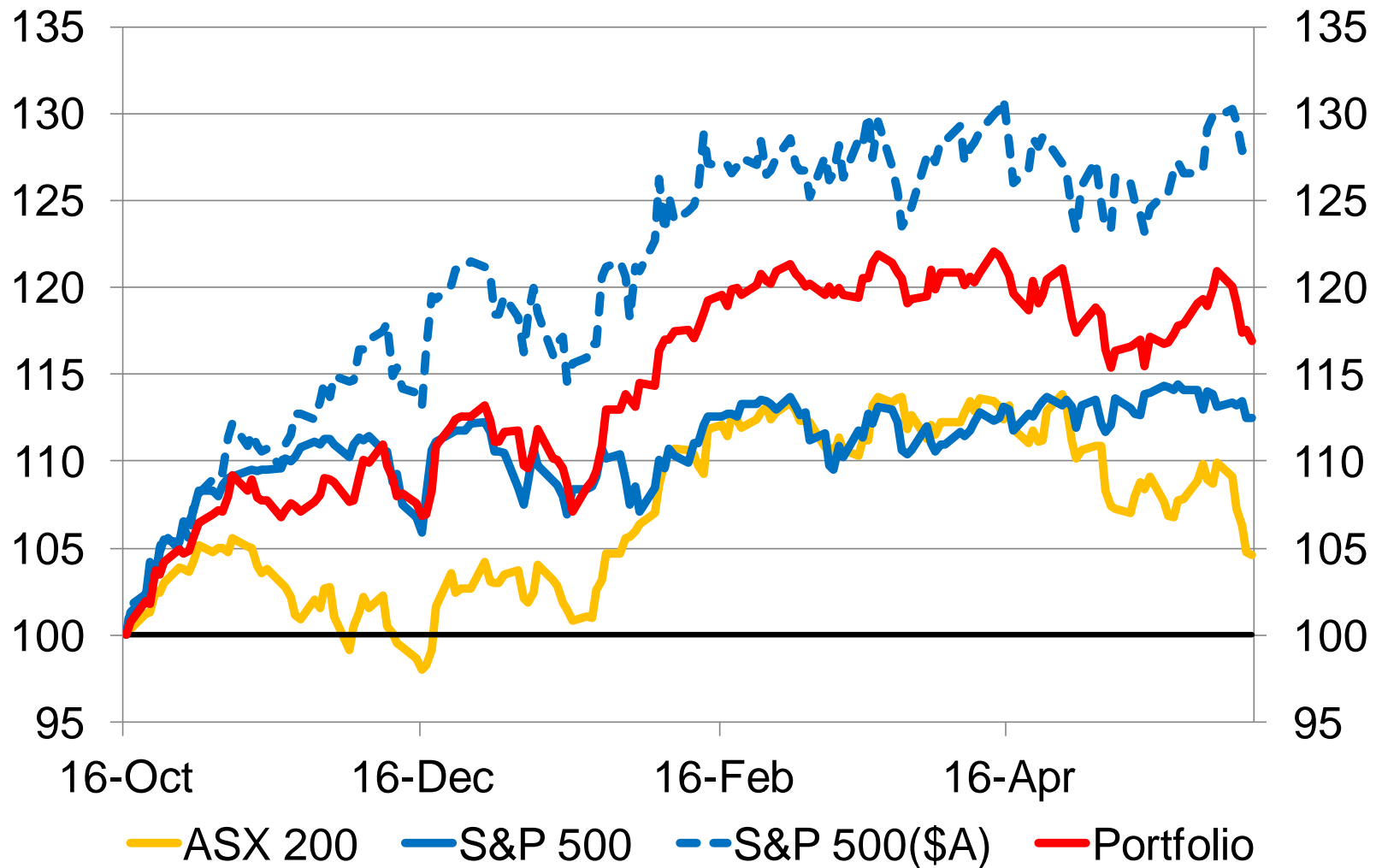


# The ETF strategy

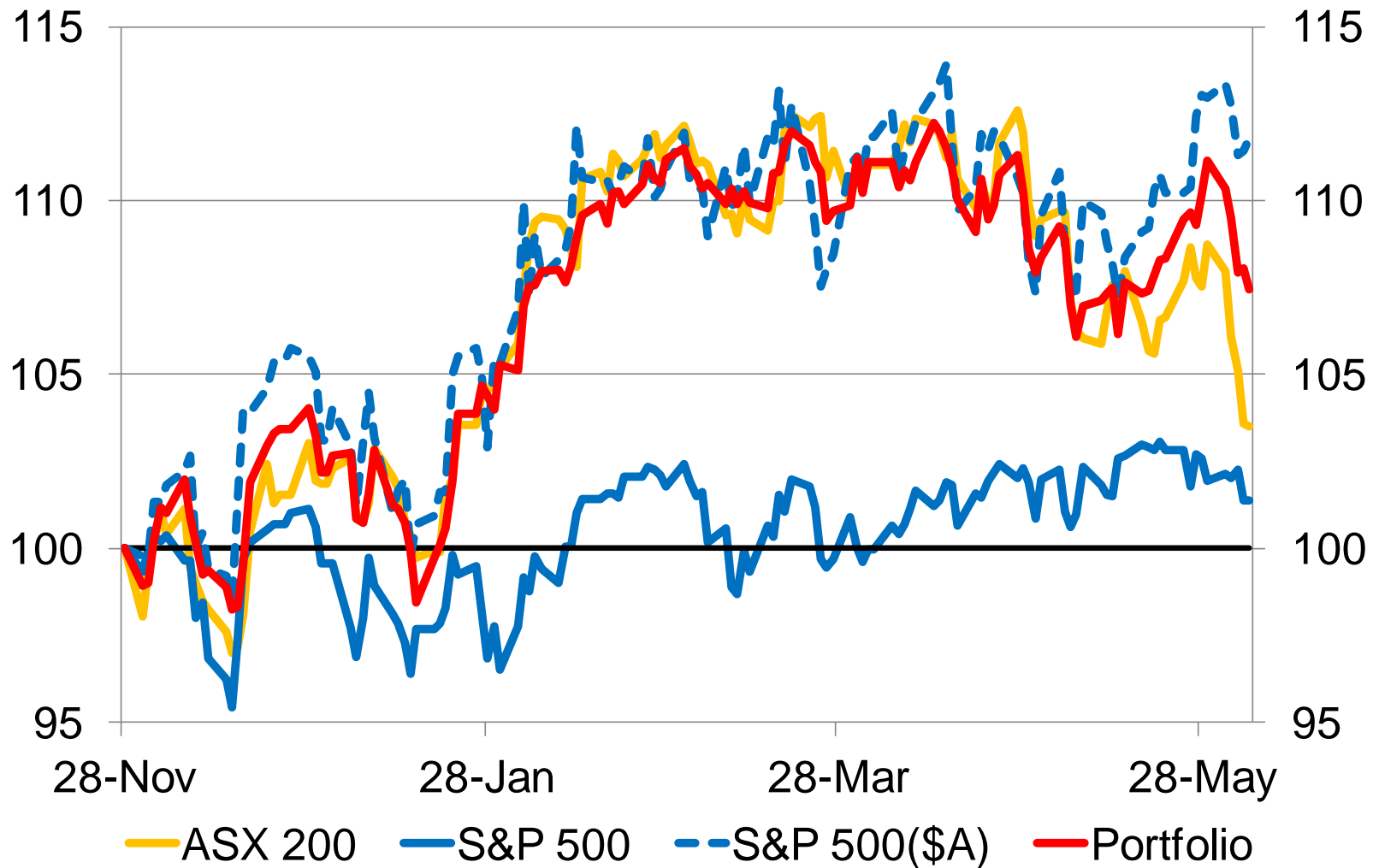
- Buy indexes (IOZ:IVV) when they breach the low
- Sell indexes when they breach high
- Subject to obvious end-point adjustments
- And get out of jail card – watch Fear Index



# First tranche IOZ:IVV



# Second tranche IOZ:IVV



# Conclusions

- Not a quant portfolio – no black box
- Lewis Hamilton uses ‘data’ but drives his car!
- All forecasts and measures are interlinked
- **So when something goes wrong, it is easier to work out how to fix the problem!**