Topics@CreditEdge Webinar

Navigating Choppy Markets: Focus on Asia

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Speakers

Presenter

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About Moody's Analytics

MOODY'S

Leading global provider of credit rating opinions, insight and tools for credit risk measurement and management

MOODY'S INVESTORS SERVICE

Independent provider of credit rating opinions and related information for over 100 years

MOODY'S ANALYTICS

Models, data, software and research for financial risk analysis and related professional services

CreditEdge by the numbers

50

Years of default data

1989

When the first EDF measure was calculated

60,000+

EDF measure for publicly traded firms

250+

Data fields

11,700+

Defaults in our global data base

76,000+

Active CUSIPs in our database

New Topics@CreditEdge

November 2018

Credit Risk Analytics Research

MOODY'S ANALYTICS

TOPICS @CreditEdge

Navigating Choppy Markets: Safety-First Equity Strategies Based on Credit Risk Signals

Moody's Credit Risk Analytics Group

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Introduction

In early October, US equity markets suffered their second major correction this year and their worst fall in more than eight months. Values of stocks worldwide plunged to levels not seen in more than one year.

Widely cited drivers of the rout include the nascent US-China trade war, rising interest rates, and recent concerns related to Italy and several emerging markets. The sustainability of current levels of US growth and low unemployment over the medium term is also a growing concern.

Rising yields in particular increase the potential for equity volatility. Assuming stable expectations for the path of company earnings, upward shifts in the yield curve exert downward pressure on the prices of equities through the valuation channel. For equity prices to remain stable in a rising interest rate environment, therefore, investors must believe that the expected path of earnings continues to improve.

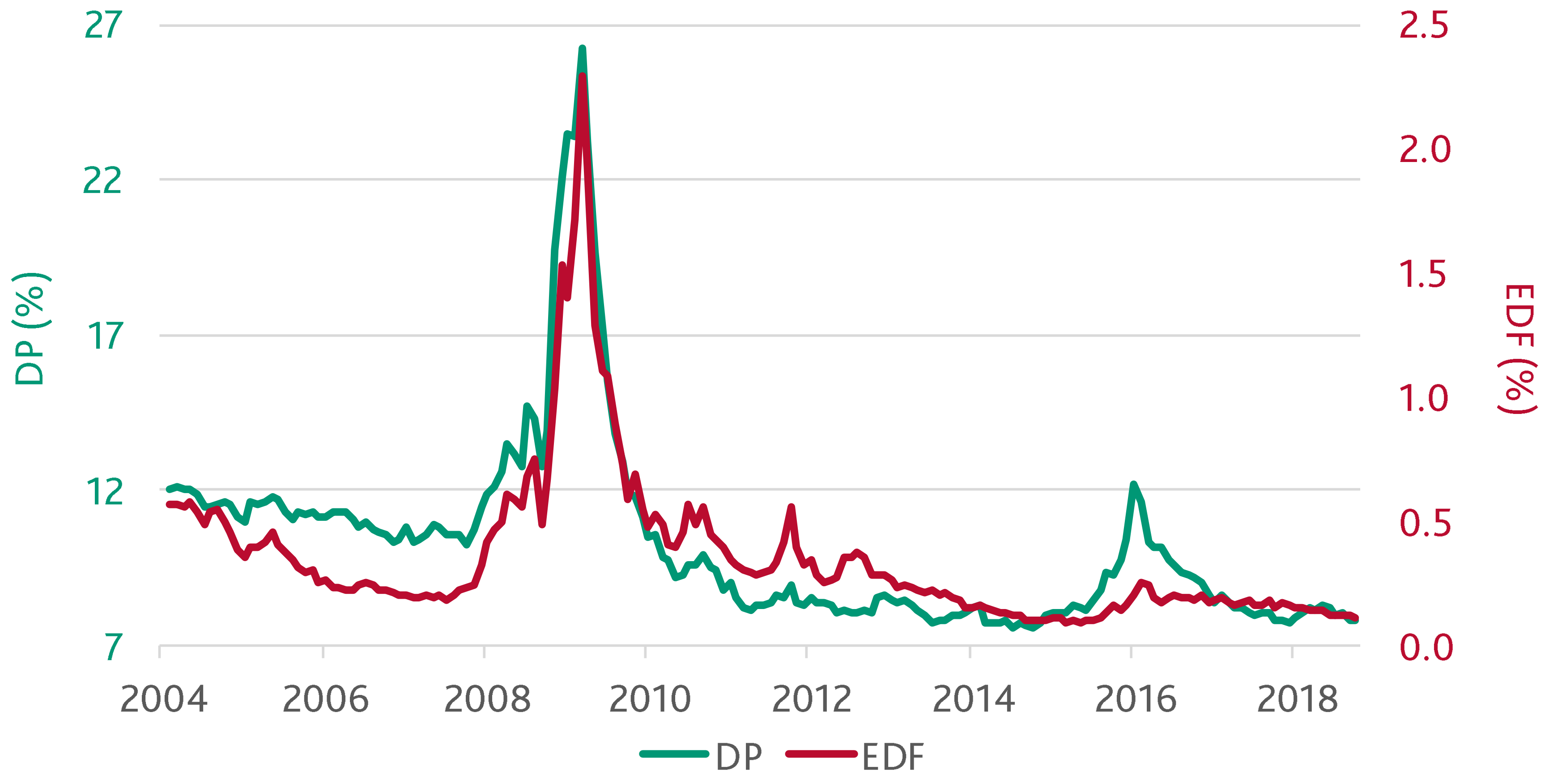
Agenda

1. Risk trends in the US and Asia
2. Default risk and credit migration risk
3. Safety-first investment strategies: United States
4. Safety-first investment strategies: Asia
5. Strategy alpha in the US

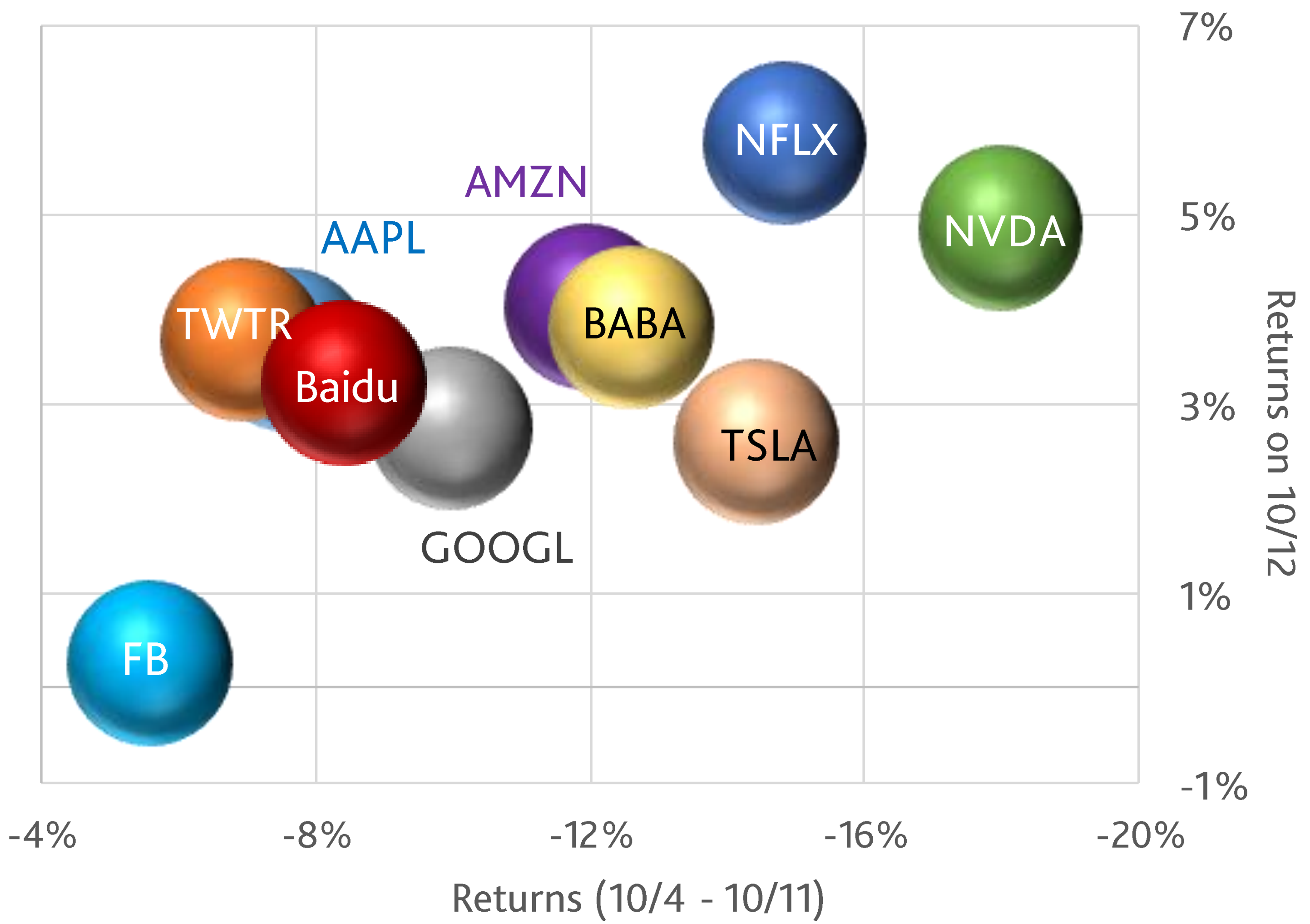
1

Risk trends in the US and Asia

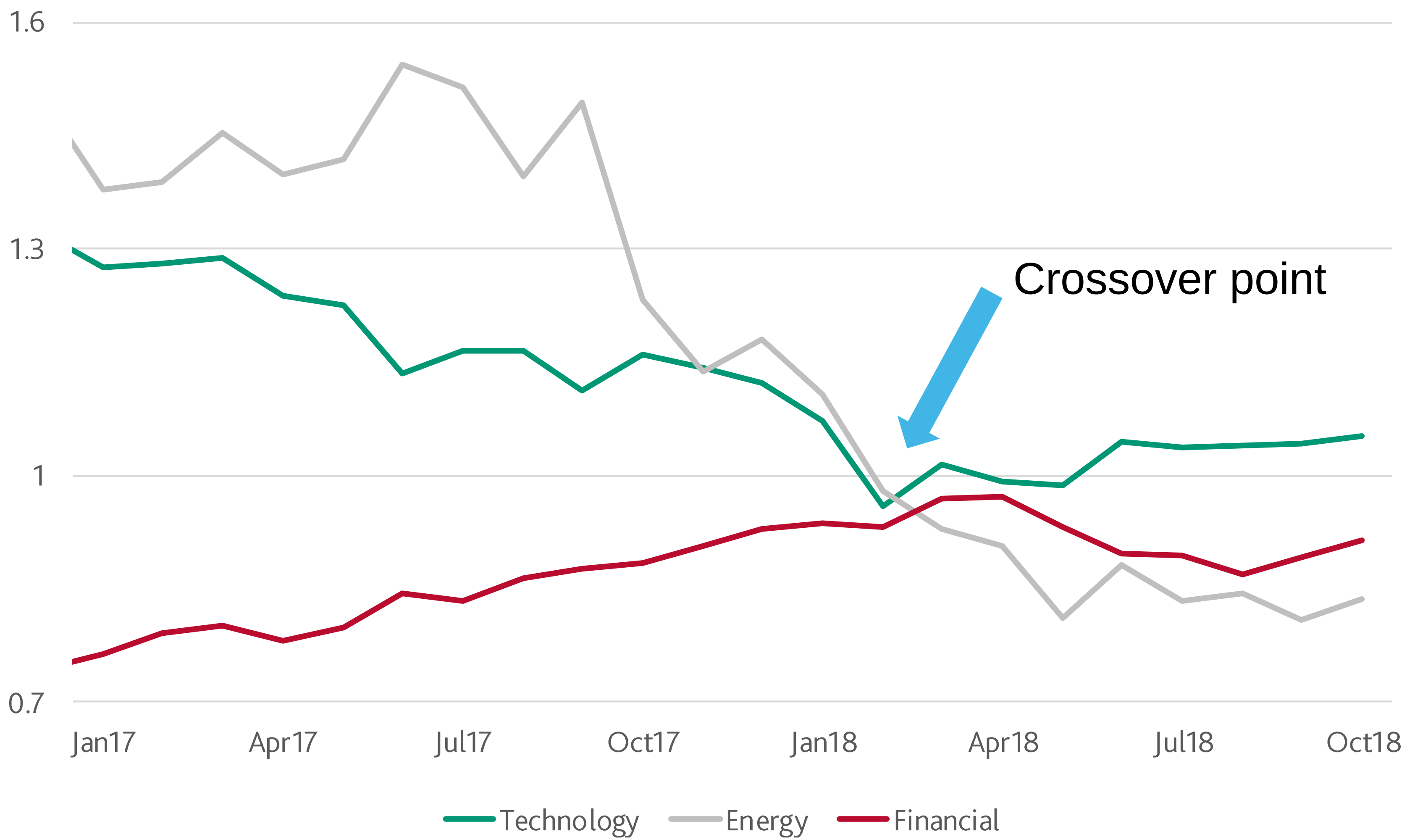
Average DP and EDF for S&P 500



Returns of the NYSE FANG+ Index members during the October 2018 sell-off and partial recovery

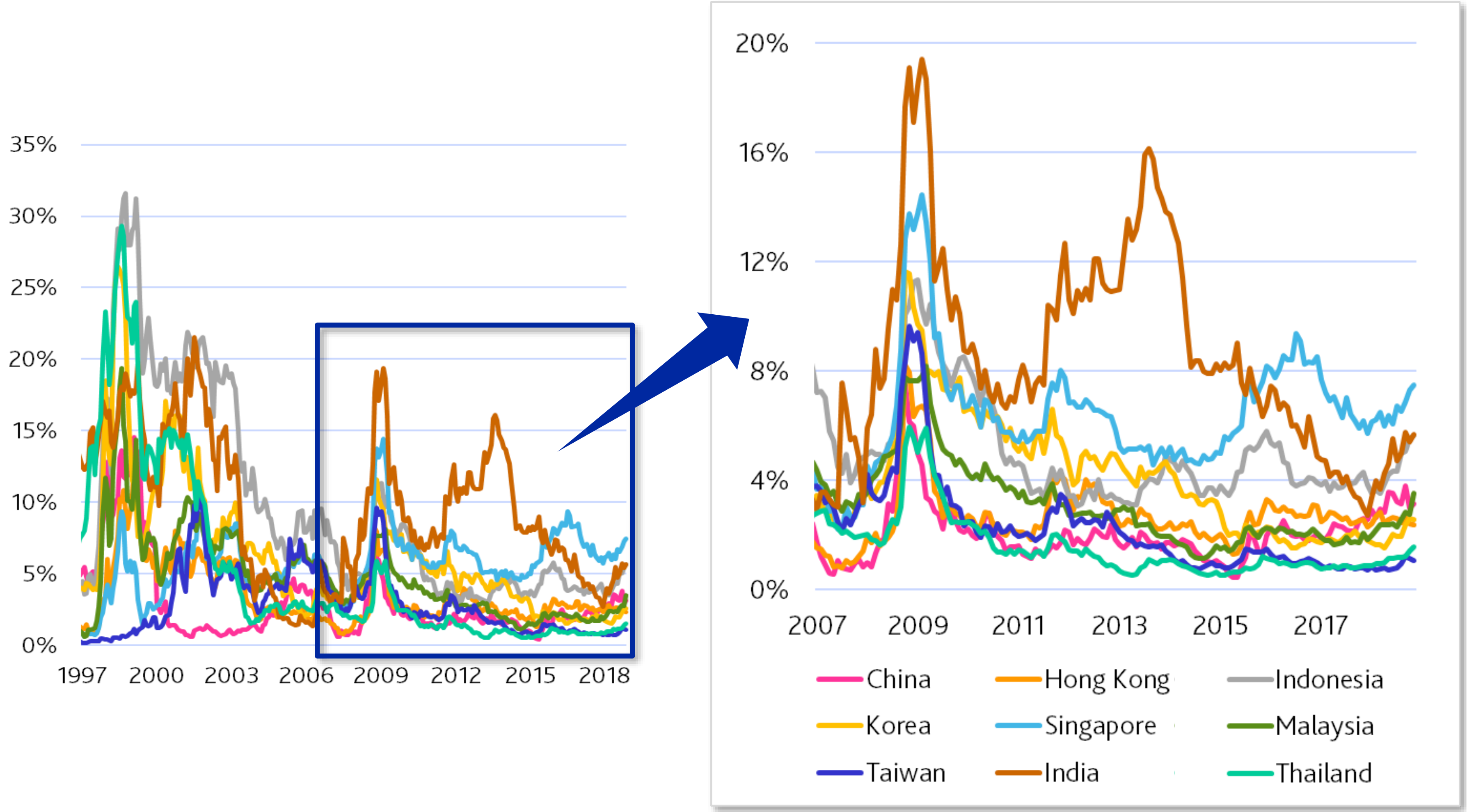


Relative DP ratio for Technology, Energy and Financial sectors: 2017-2018



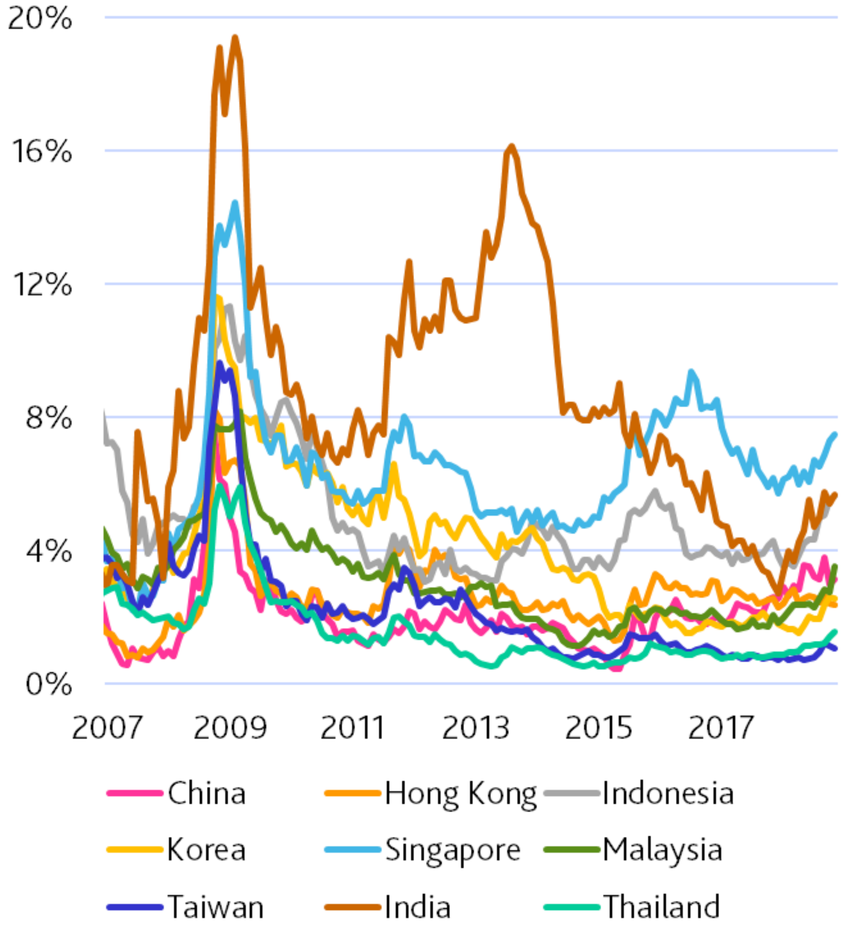
A Reprise of Risk: Asia

[75th Percentile for All CreditEdge Asian Entities]

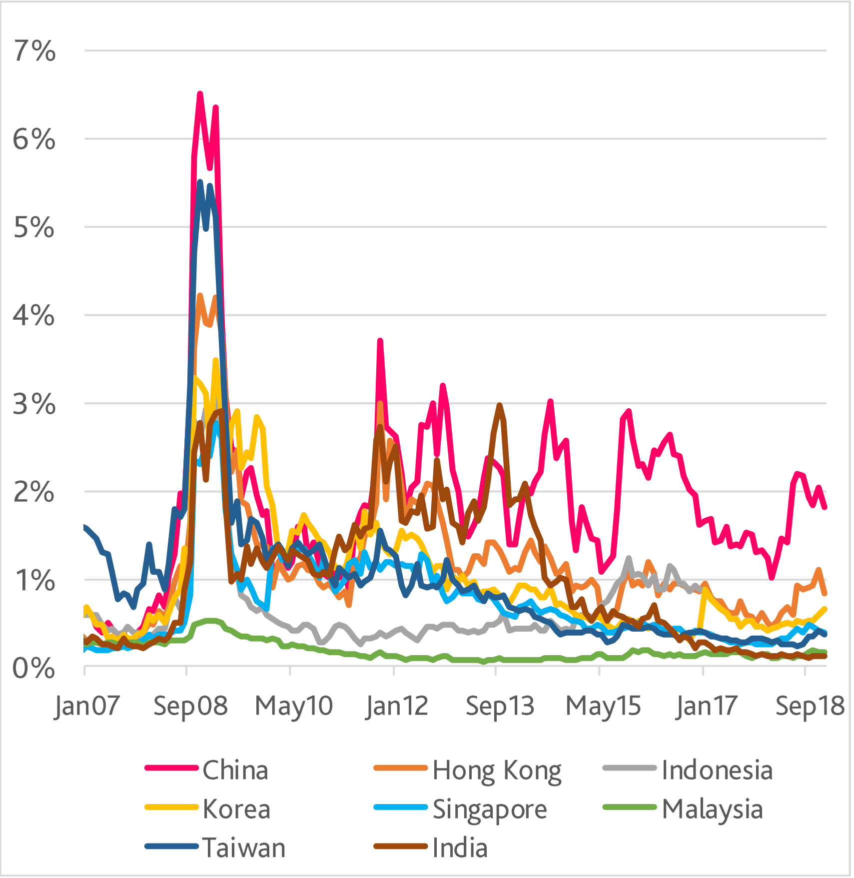


A Reprise of Risk: Asia

75th Percentile for All CreditEdge Asian entities



75th Percentile for the entities within the Index



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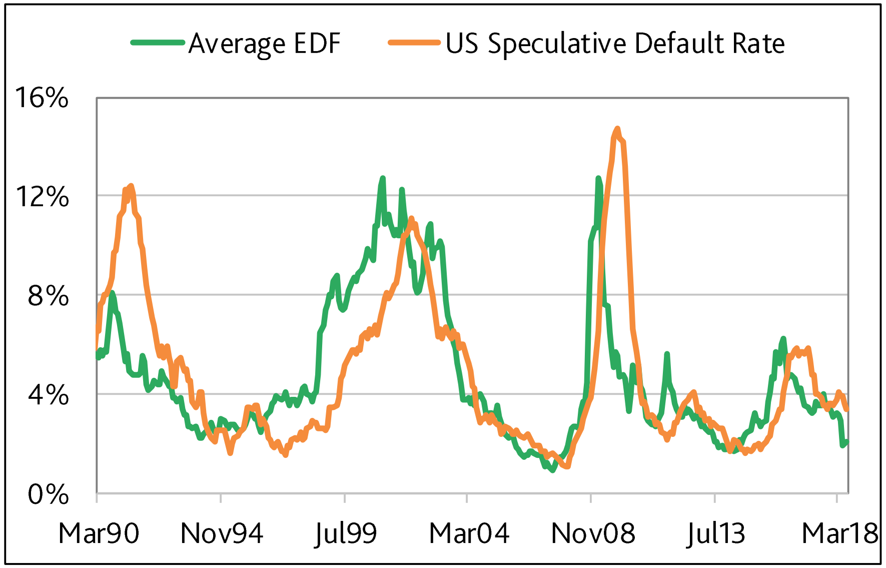
Default risk and credit migration risk

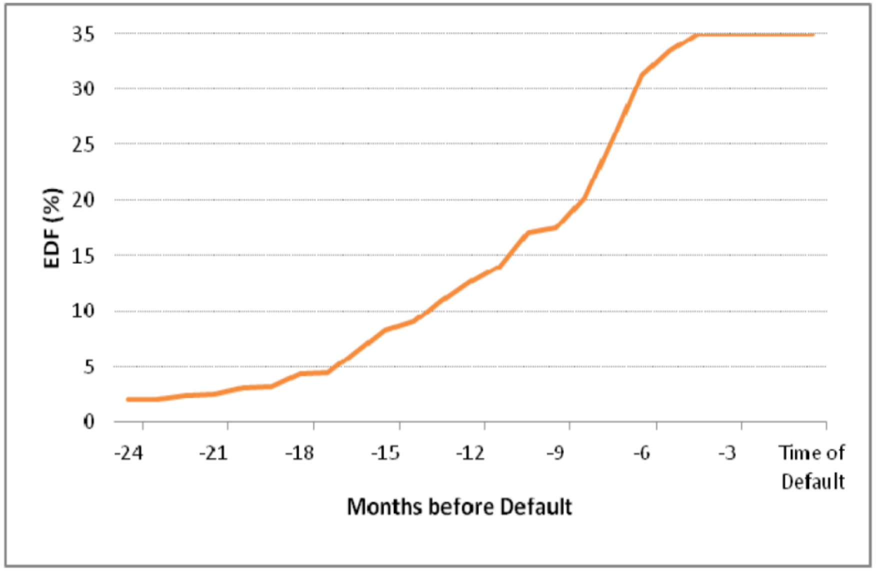
The CreditEdge public firm EDF model predicts default with accuracy and high degree of advance warning

Average EDF for high-yield firms vs.
Moody's high-yield default rate



» CreditEdge **accurately** and **timely** predicted the level of high-yield default rate

Median EDF for North American firms
that defaulted between 2008-2010



» The EDFs of the North American credit crisis casualties increased many months before default

The Deterioration Probability (DP) measures the risk of issuer credit deterioration

Deterioration Probability (DP) is a metric ranging from 1-70% that estimates probability of downgrade for rated firms in the next 12 months – DP does not measure the probability of upgrade

The Deterioration Probability = **CreditEdge Early Warning Measures** + **Market Implied Ratings** + **Rating Outlooks & History from MIS**

High EDF metrics are associated with high DP

- 1-year **EDF** measure
- **Trigger Exceedance** (EDF trigger level): company's EDF above or below its group trigger
- **Slope** (EDF term structure): 5-year EDF minus its 1-year EDF
- **Relative EDF**: ratio of a firm's EDF to its industry median EDF
- **Industry Median EDF Growth Rate**

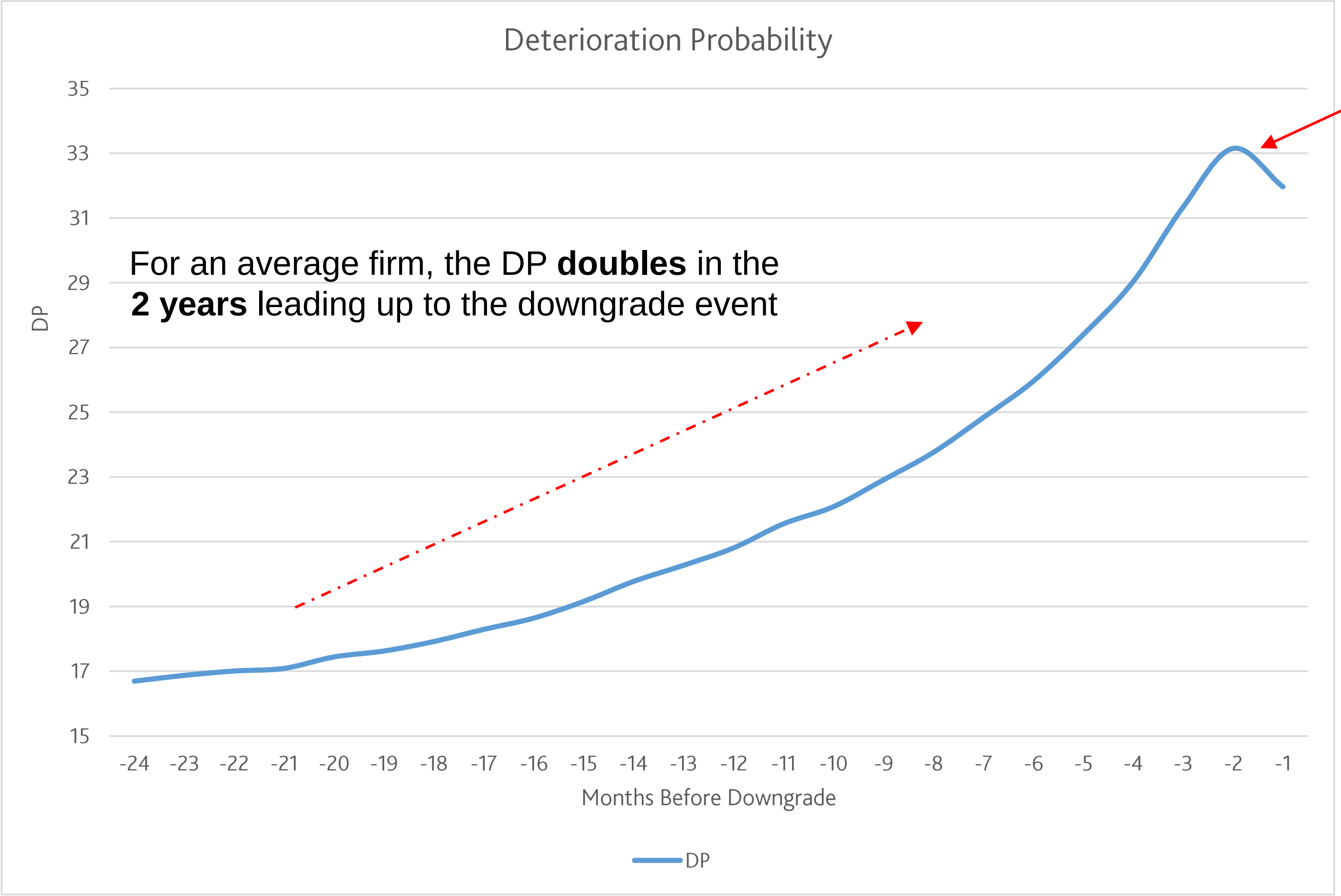
Negative rating gap is associated with increased DP

- **Implied Rating Gap**: the difference between the firm's Moody's rating and the best available Market Implied Rating

Indicators of future downgrades

- Stable, positive or negative **outlook**
- **Recent downgrade** in last 12 months

On average, the Deterioration Probability provides a strong signal for downgrade events



DP **peaks** roughly **2 months before** the downgrade event – giving risk / investment managers time to take action

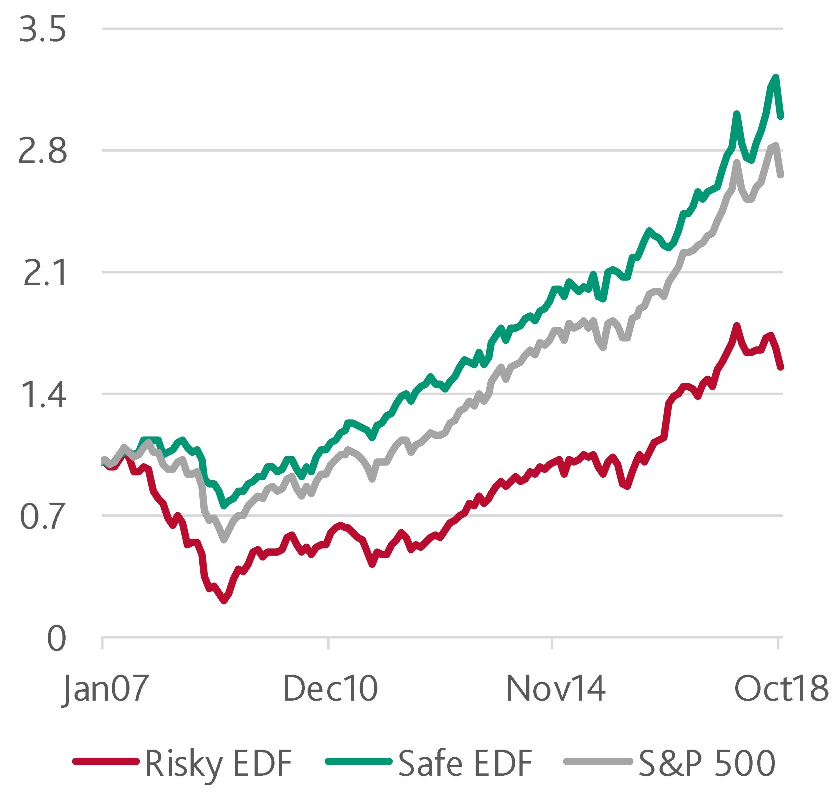
3

Safety-first investment strategies: United States

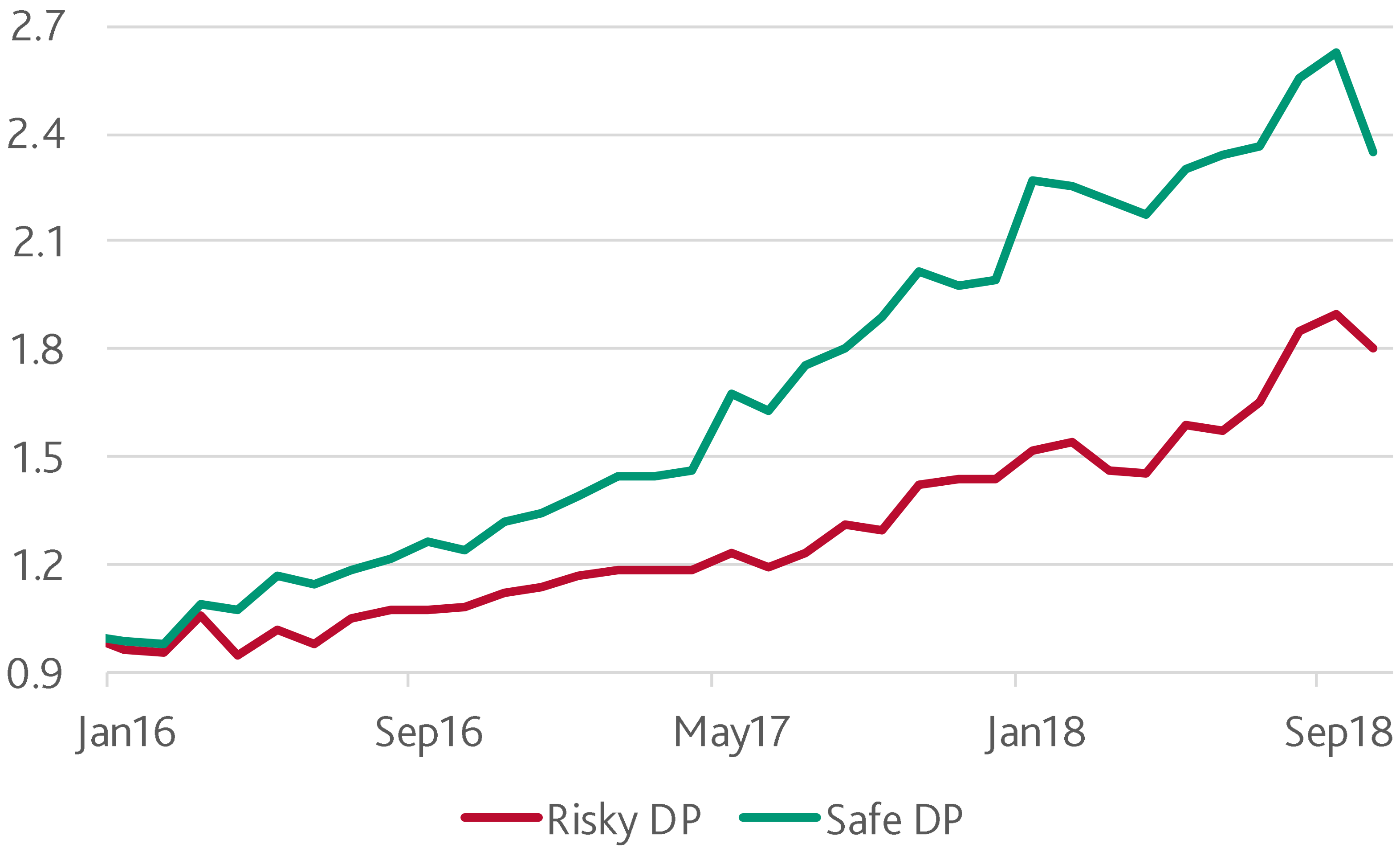
Cumulative returns of top and bottom quintiles formed on EDF and Deterioration Probability vs. the S&P 500 benchmark

Deterioration Probability Factor Strategy

EDF Factor Strategy



Cumulative returns of top and bottom quintiles formed on DP – Technology Sector (Jan. 2016 - Oct. 2018)



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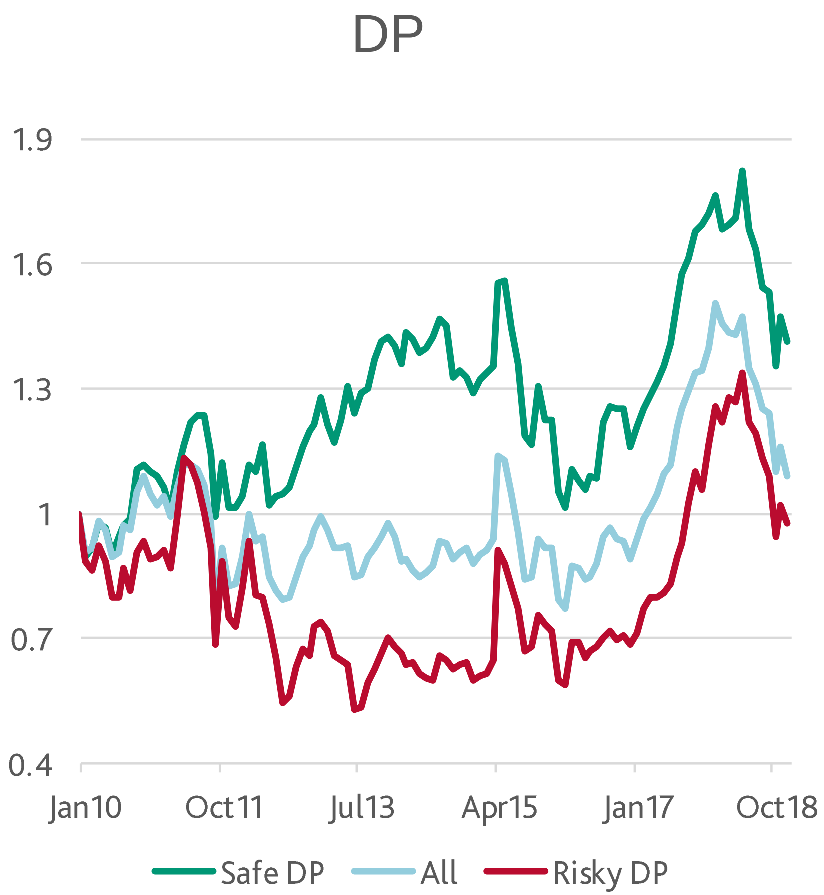
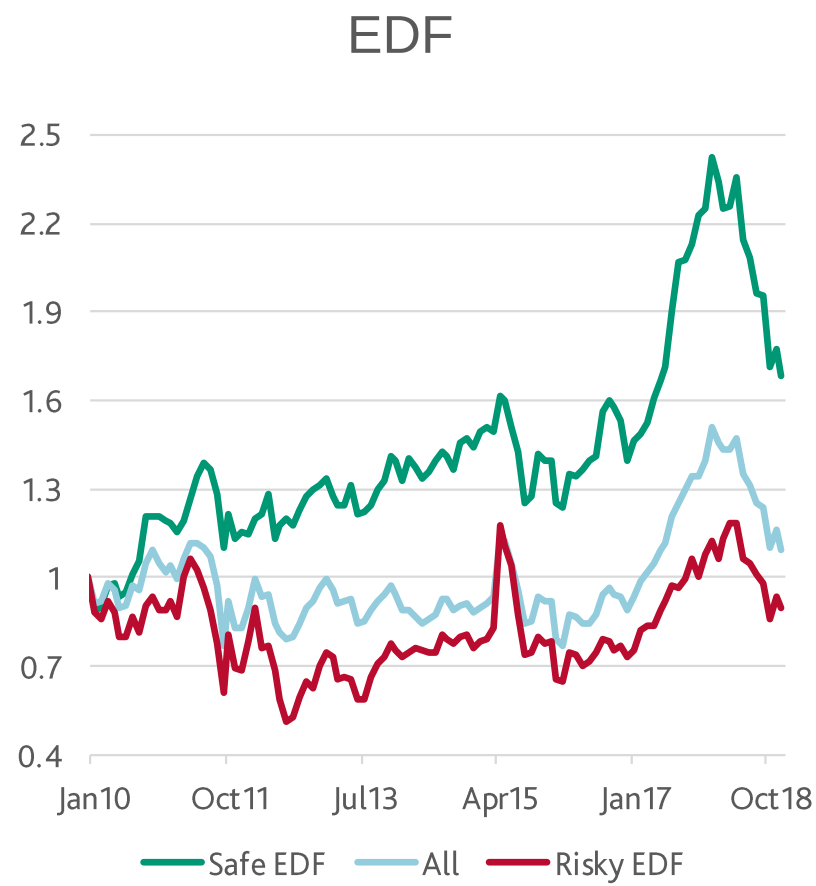
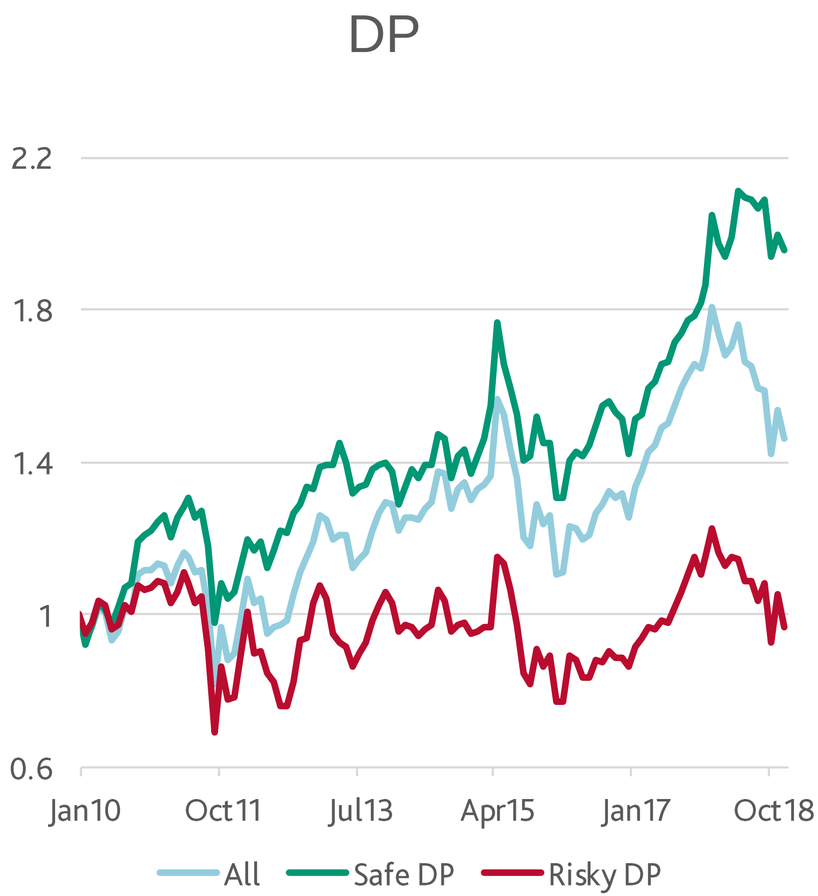
Safety-first investment strategies: Asia

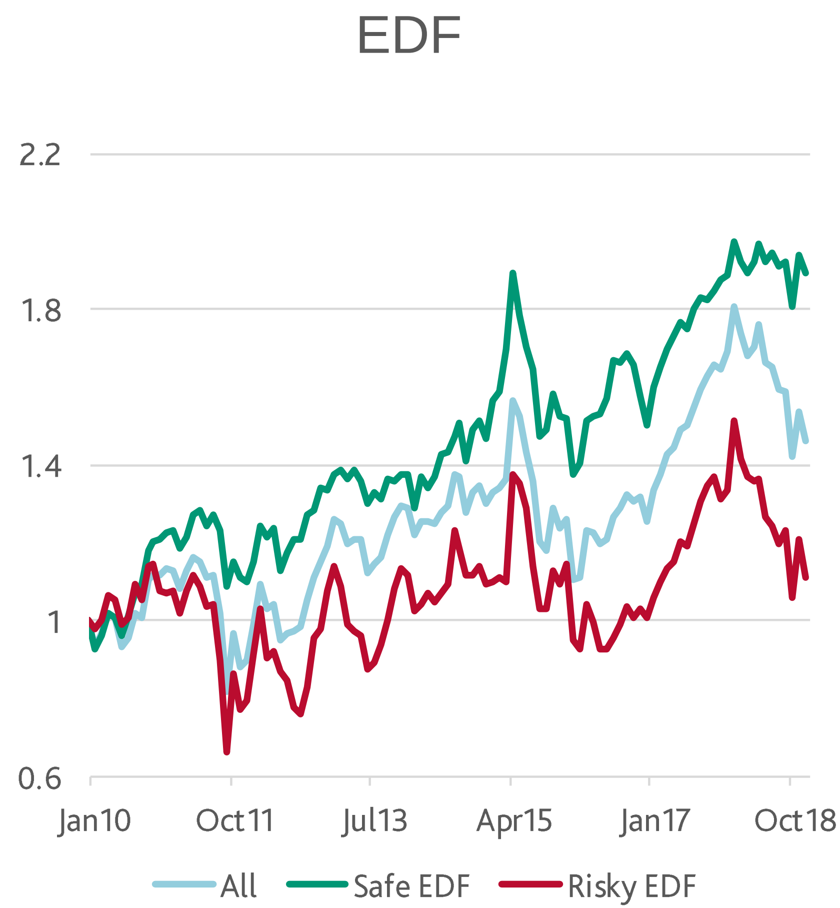
China Equity strategy using DP and EDF





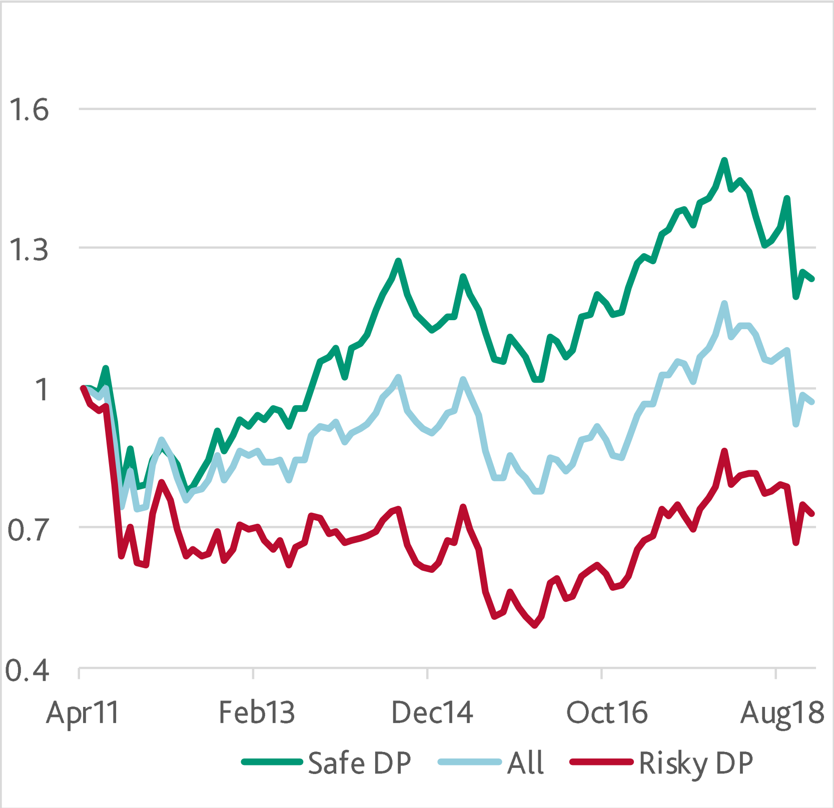
Hong Kong Equity strategy using DP and EDF



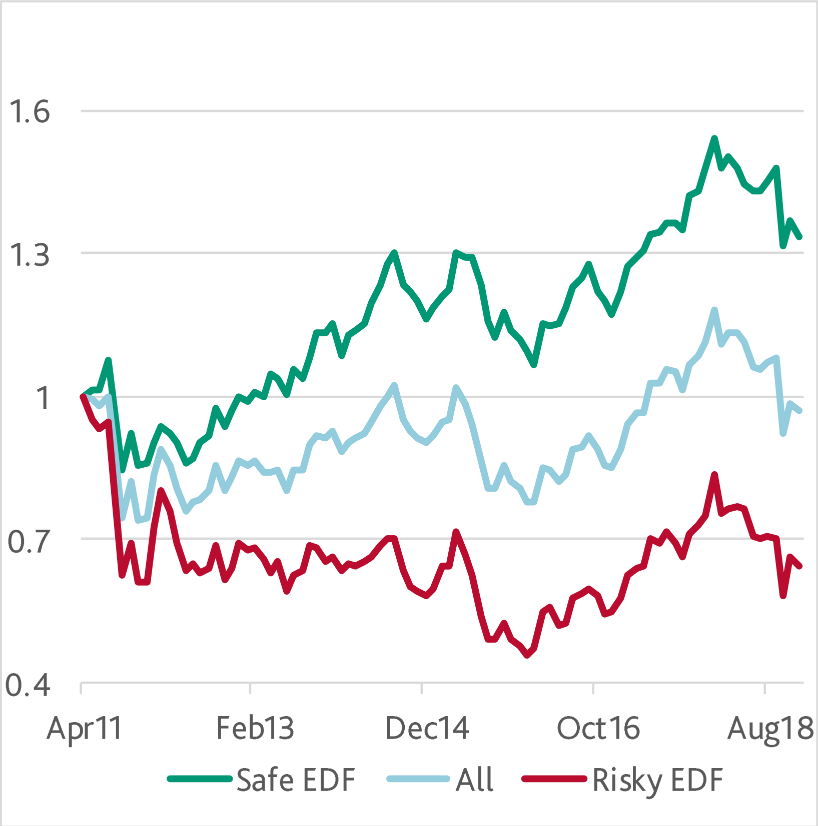


Korea and Taiwan Equity strategy using DP and EDF

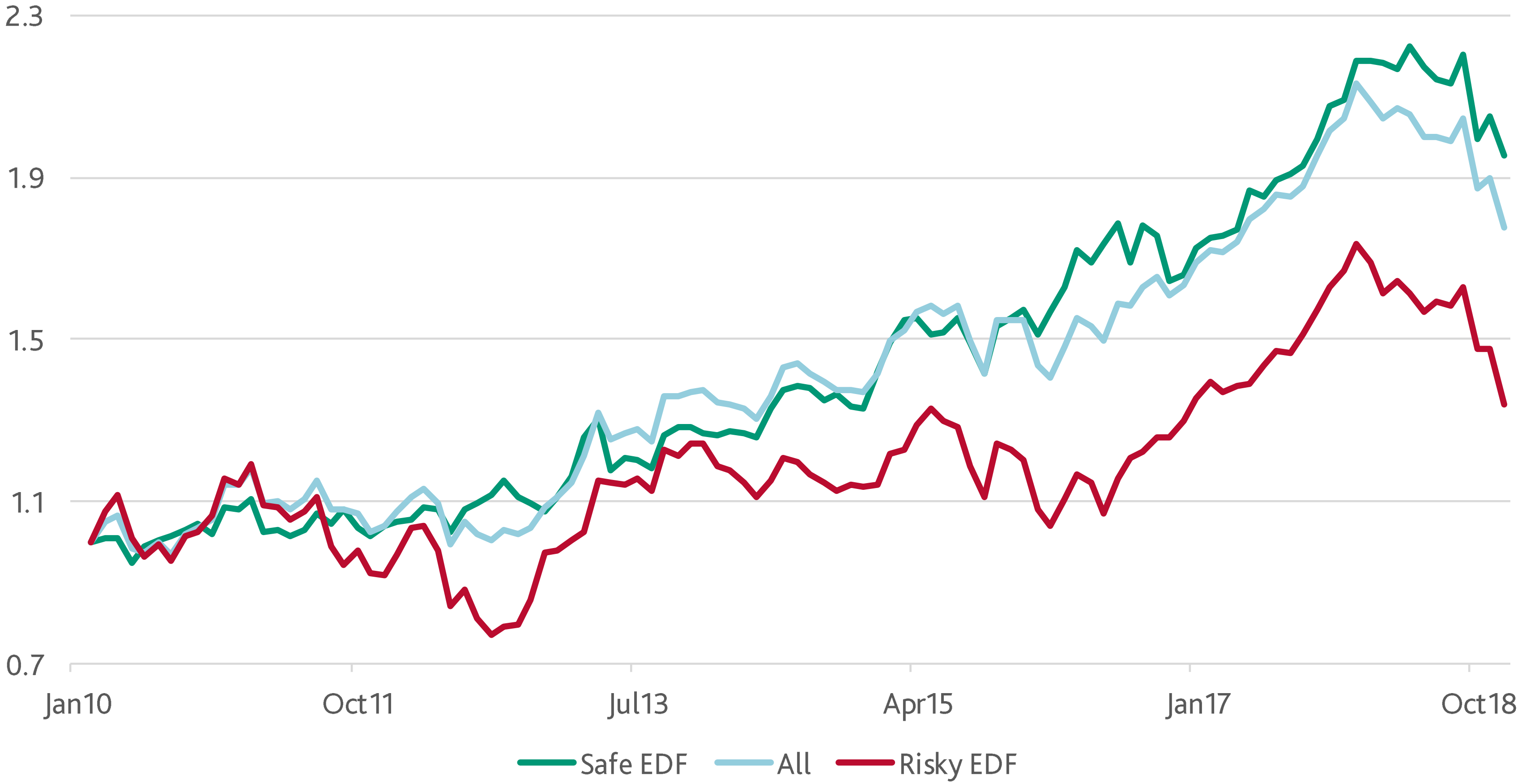
DP



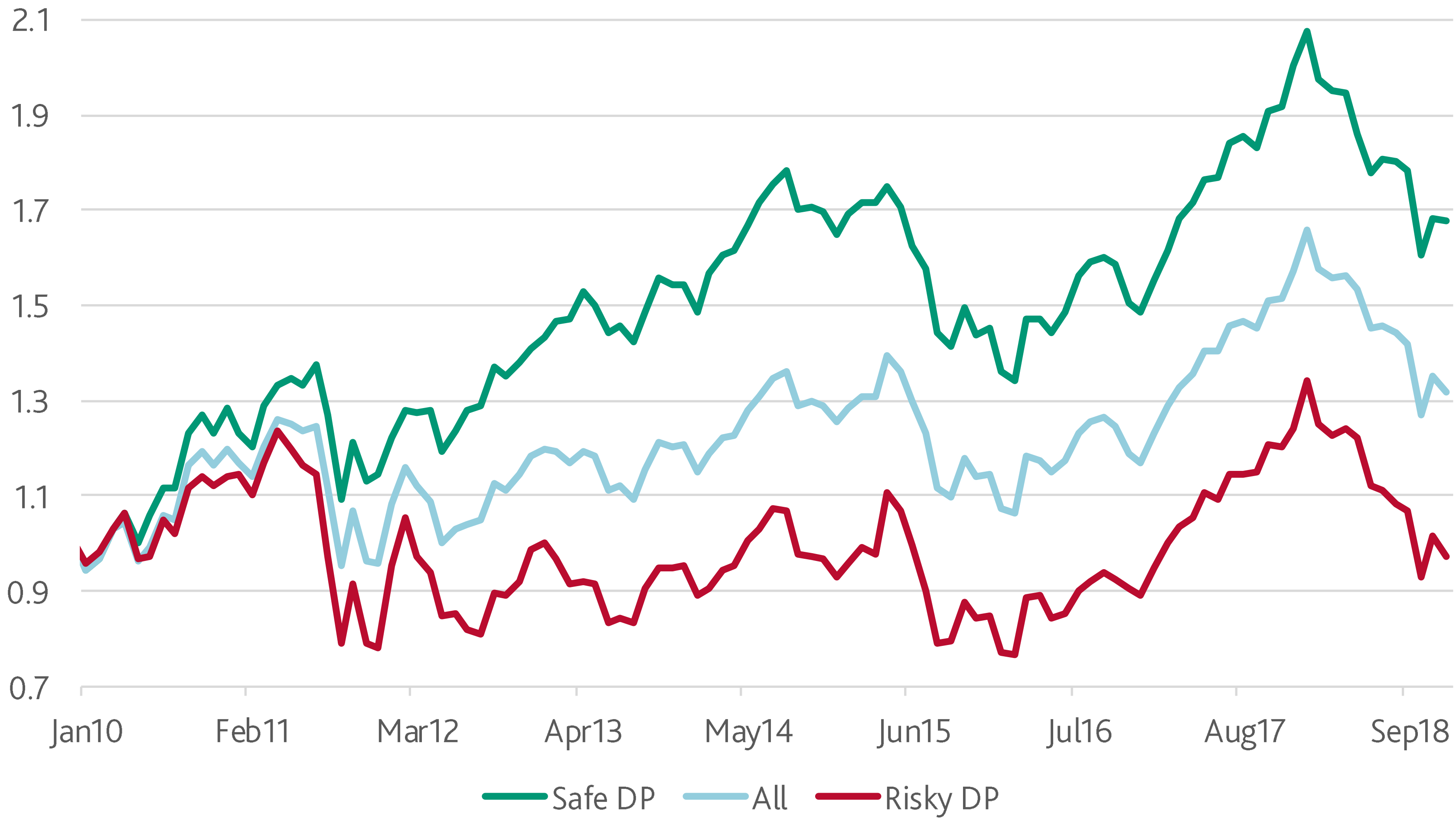
EDF



Japan Equity strategy using EDF



Asia ex.JP Equity strategy using DP



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Strategy alpha in the US

The CAPM regression

We run the regression:

$$R_{strategy,t} - r_f = \alpha + \beta\left(R_{market,t} - r_f\right) + \epsilon_t$$

to obtain…

$\hat{\alpha}$ = estimate of mean excess return not due to systematic risk exposure

$\hat{\beta}$ = estimate of systematic risk loading

CAPM regression results based on sign of the change in the slope of the Treasury yield curve

Macro Scenario	Result	RiskyDP	SafeDP	RiskyEDF	SafeEDF
All months	α	-0.20	0.23**	-0.66**	0.27**
		(0.17)	(0.11)	(0.31)	(0.12)
	β	1.19***	0.88***	1.67***	0.71***
		(0.04)	(0.03)	(0.07)	(0.03)
Yield Curve steepens	α	0.12	0.05	0.32	-0.07
		(0.34)	(0.18)	(0.56)	(0.21)
	β	1.21***	0.88***	1.67***	0.72***
		(0.07)	(0.04)	(0.11)	(0.04)
Yield Curve flattens	α	-0.44***	0.38***	-1.41***	0.53***
		(0.15)	(0.13)	(0.33)	(0.14)
	β	1.16***	0.88***	1.65***	0.68***
		(0.04)	(0.04)	(0.09)	(0.04)

Standard errors are shown in parentheses below point estimates.
Significance Levels are denoted as follows: 1% (***), 5% (**), 10% (*).

Conclusions

- Credit risk in Asia has experienced a secular decline since the Asia financial crisis in 1997.

- However, the last four years has seen an uptick in default risk in many countries.
  - China, India, and Singapore top the list of concerning countries.

- EDF- and DP-based “safety-first” equity strategies seem to work well:
  - In the US S&P 500 universe
  - In various equity markets in Asia
  - In environments of flattening yield curves

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