



Quantitative Country Analytics

Turning Country Risk from Art into Science

London, UK

April 2012

Country insights

Mission Statement

Exploit unappreciated risks and opportunities in countries through a systematic quantitative approach that incorporates the latest academic and market thinking

Approach

A unique proprietary system Quantitative Country Analytics (QCA) that measures the changes in key data and quantifies their impact on the critical factors that impact the strength and weaknesses in countries

Background

Country Insights, established in September 2011, is an MBO from a consulting company John Howell and company. QCA was developed was developed by Paul Domjan and Max Watson in 2007 while at J Howell Co., an independent sovereign advisor

Key Biographies

Paul Domjan (Managing director, Co-founder):

- Former advisor to NATO Commander (energy, country risk in energy producers and transit countries and economics) (2004-2006)
- Former World Bank advisor on natural resource economies (2004)
- Former strategist and scenario planner at Shell (2002-2004)
- Former British Marshall Scholar at Oxford University (2001-2002)

Oliver Waugh (Managing director, Co-founder)

- CEO of Fred Olsen, a Canary Islands based transport and leisure group
- Deputy Head of Fixed Income Syndicate HSBC Global Markets
- European Head of Fixed Income Origination HSBC Global Markets
- Officer Parachute Regiment
- MBA Cranfield School of Management , LLB University of Hull

Max Watson (Senior academic advisor):

- Co-author with Klaus Regling of The Preliminary Report on the Sources of Ireland's Banking Crisis for the Irish Parliament and Banking Inquiry Commission (2010)
- Former Economic Advisor to the European Commission (2003-2007)
- Former IMF Deputy Director (2001-2002)
- Former Chief of the IMF's Emerging Market Debt Division (1988-1992)
- Former Chief of the IMF's International Capital Markets Division (1984-1988)
- Oxford Fellow (St Antony's College and Wolfson College) (1991-present)

Turbulence in sovereign markets has created unprecedented opportunities and risks

- Developed sovereign markets are at record low interest rates, offering poor risk/reward for investors
- Meanwhile second tier and emerging economies bonds are trading at record yields having been buffeted by the risk off/on mentality of the market
- The impact of fluctuating bond yields has been magnified in the equity markets
- The market has been indiscriminate in the turbulence and not differentiated between the stronger and weaker countries
- Investors who can differentiate can take advantage of the opportunity in this low rate environment while minimising risk
- Traditional fundamental analysis has proven to be a blunt tool to extract the value inherent in the market

Traditional fundamental analysis is too narrow and lacks rigour

Quantitative analysis is the key to extracting value

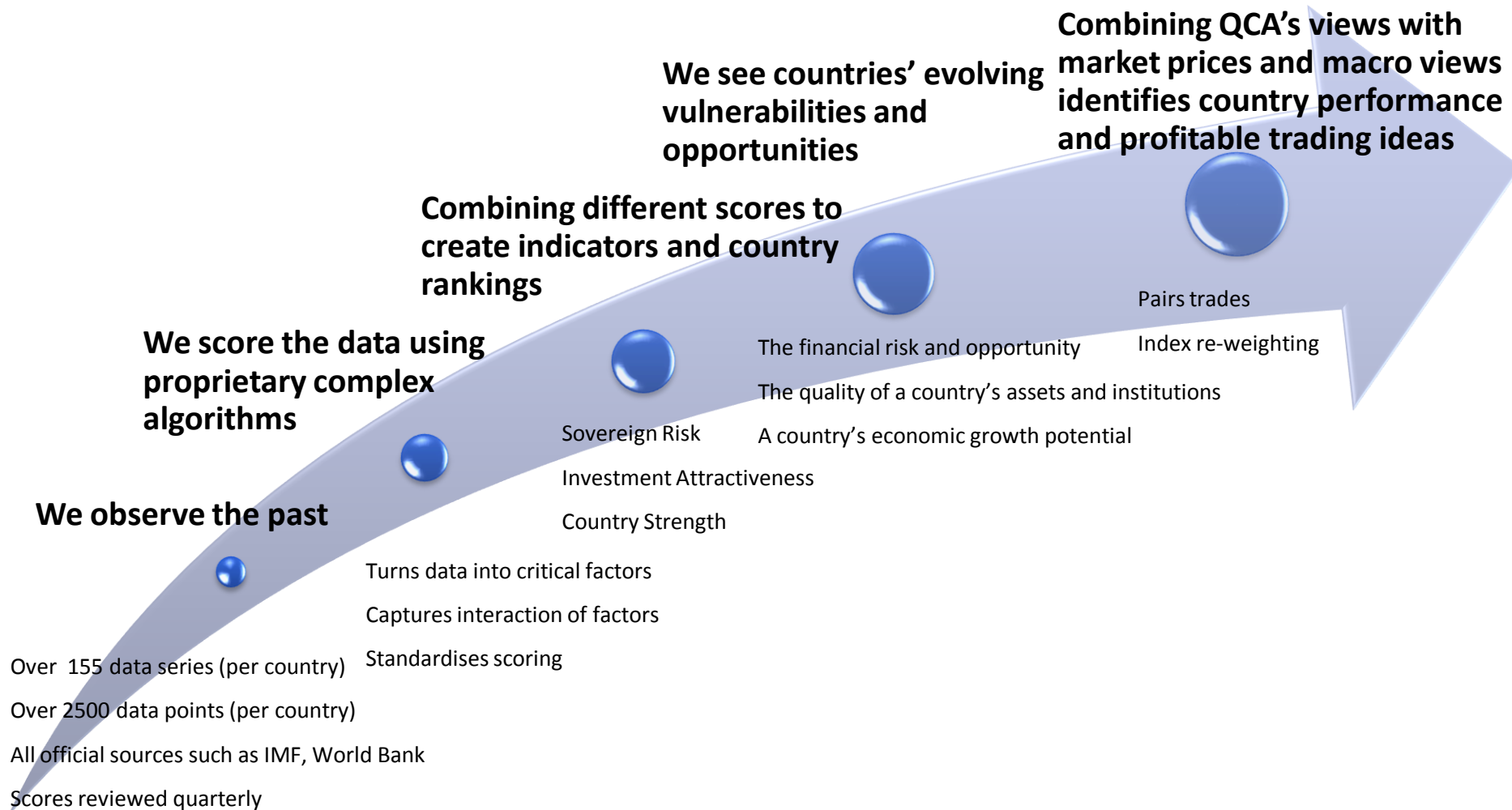
- Limitations of traditional analysis :
 - Provides only a vague measure of risk and makes no attempt to identify opportunities
 - Analysis is by nature simplistic, prone to human bias and often guided by market developments
 - Lack of consistent framework makes global comparative analysis impossible
 - Qualitative output of analysis is idiosyncratic and is not transparent
 - Often out of date
- A new analytical approach is required that:
 - Identifies both opportunity as well as risk
 - Rigorously analyses independent data sources
 - Can be applied consistently across global markets
 - Provides a single measure of risk and opportunity that is transparently decomposable
 - Incorporates the latest independent data

Country Insights has devised, a fresh approach, Quantitative Country Analytics, that addresses the flaws in traditional analysis

- **Holistic** approach **identifies and quantifies** the critical aspects of a country's risk and potential
- Totally **quantitative** system captures changes in over 150 official data series and measures their impact on factors that are critical to sovereign health
- **Rigorous and consistent** framework enables global **comparative analysis**
- Complete analytical **transparency and granularity**
- Frequent data updates ensure the capture of the most recent internationally recognised **public data sources**
- **Collaboration with leading academic institutions** such as Oxford University and Cambridge Judge Business School enables incorporation of latest academic research and validates its effectiveness

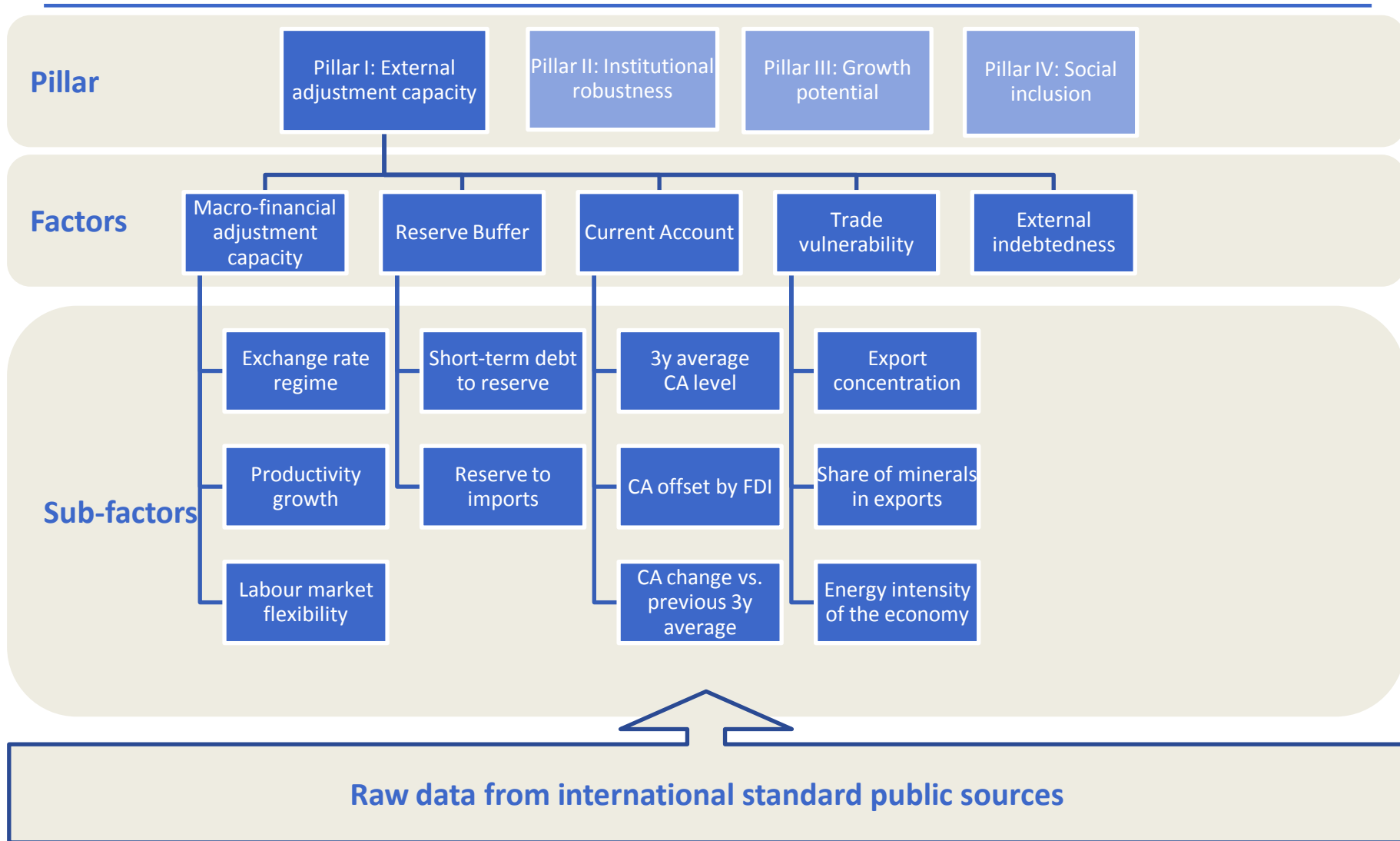
We believe that Quantitative Country Analytics is the most sophisticated systematic approach to country risk analysis in the world today

Turning country risk from art into science: How we transform half a million data points into a view on country risk

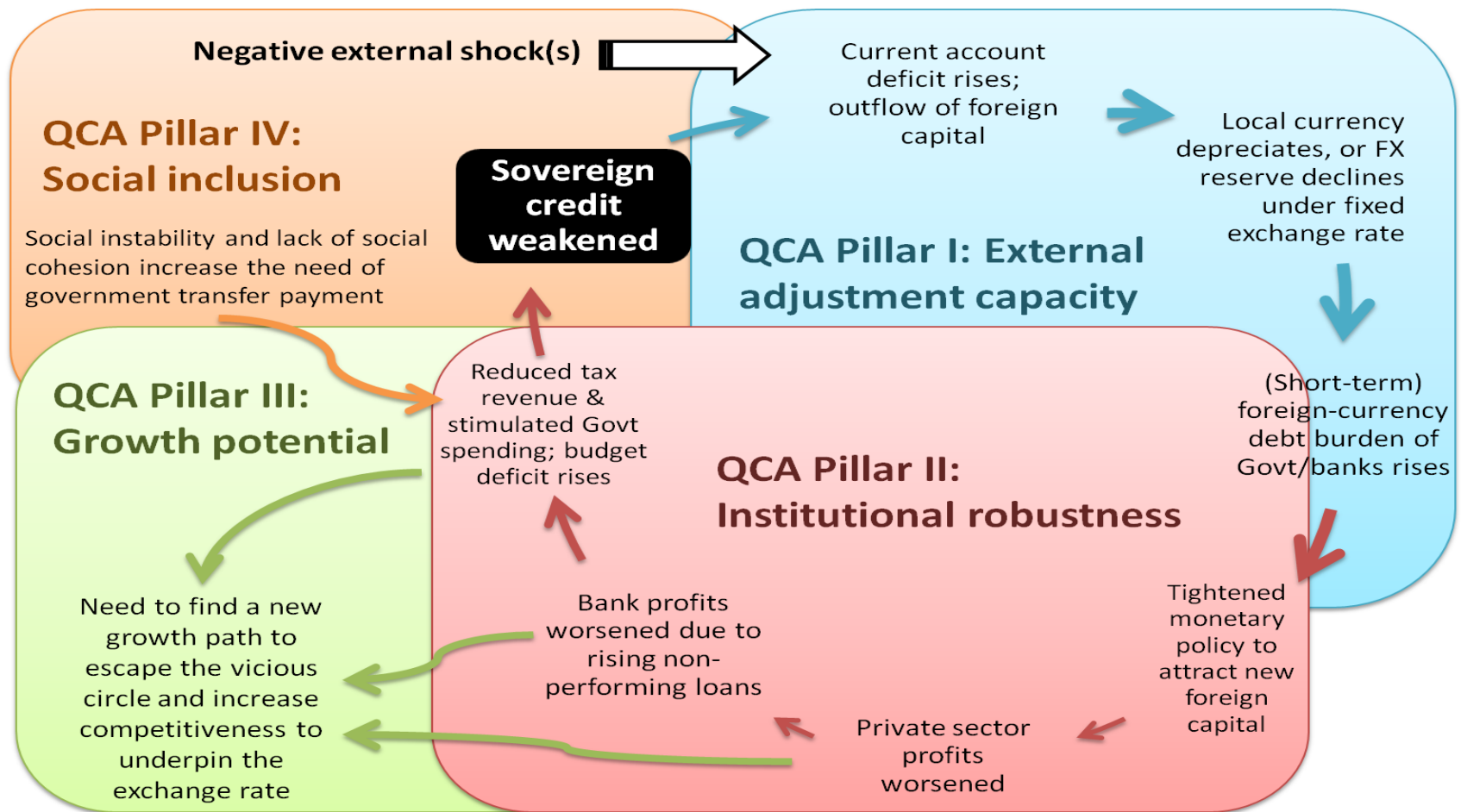


Our analysis is structured in a logical and transparent way

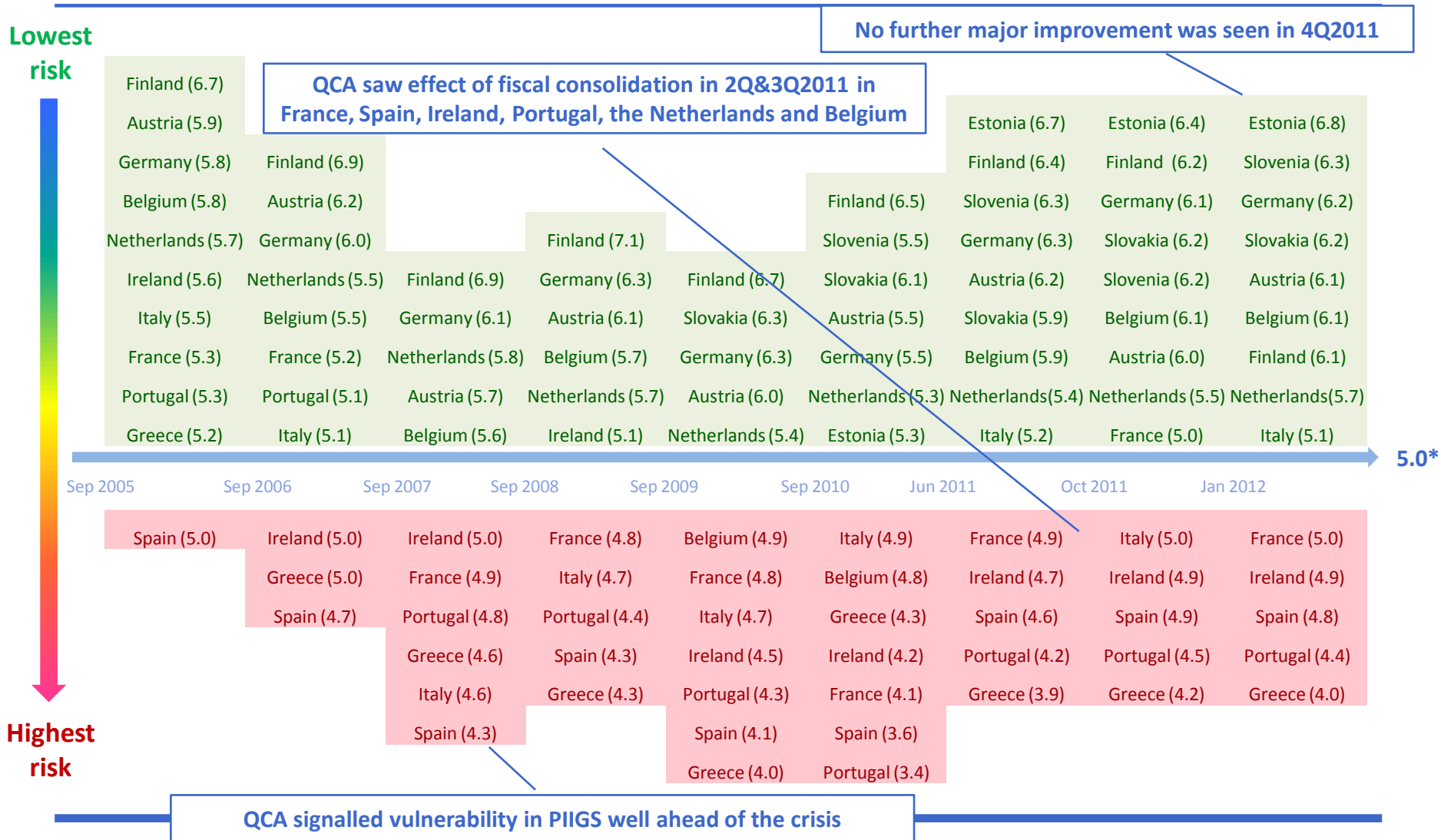
Example: Pillar I, External Adjustment Capacity



We capture all of the factors that contribute to a country's strength and resilience



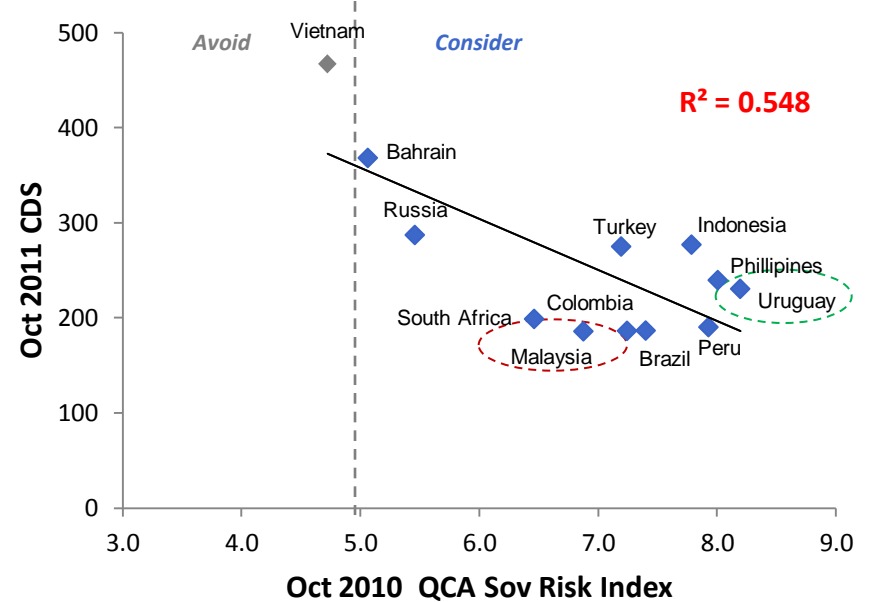
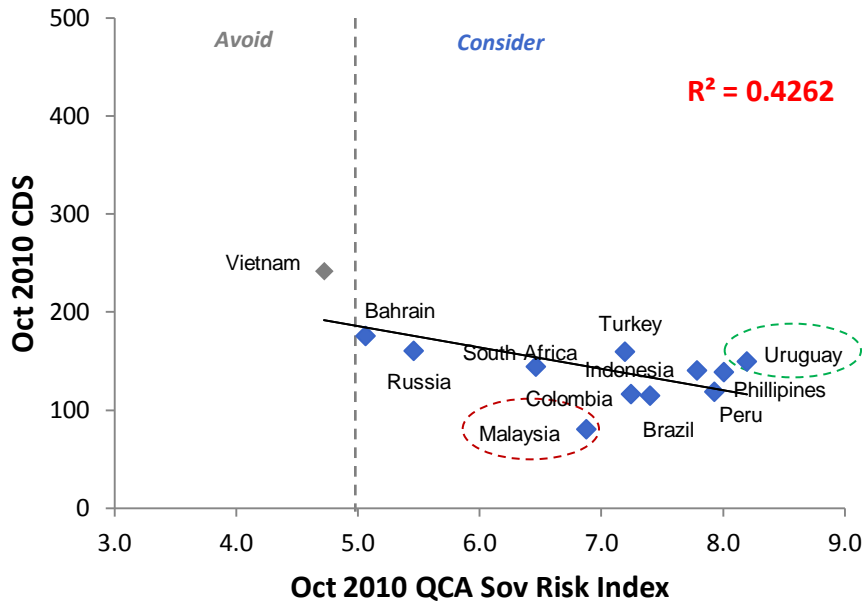
An example of QCA systematic scoring in action: How the Sovereign Risk Index saw the Eurozone Crisis unfold



* Sovereign Risk Index score that represents acceptable risk

An example of QCA identifying relative value opportunities

How Malaysia versus Uruguay unfolded during 2010 -2011



CDS market developments during 2011 confirmed QCA's views: 5Y CDS price for Malaysia rose from 80bps to 186bps, putting it in line with the levels of Brazil and Colombia; Uruguay's 5Y price rose from 150bps to 231bps, putting it lower than the level of Philippines



Benefits

QCA has a proven ability to enable clients to:

- Improve the output and cost effectiveness of research functions
- Identify profitable trading opportunities in debt and equity markets
- Analyse and monitor country risks and opportunities
- Produce outperformance in portfolio investment
- Apply rigour to existing investment processes
- Enable systematic, independent management of sovereign risk

Example packages

Macro views:

- Quarterly conference call and research note based around client themes
- Package of key scores and indicators
- One-on-one call every six months

Analytical license, all of the above plus:

- License to use the QCA analytical model and underlying raw data
- Training, technical support and bundled consultation

Trading license, all of the above plus:

- License to use the QCA trading model to construct pair trades and portfolios
- Support to integrate these models into existing investment processes

We work with our clients to make all packages bespoke. Pricing starts at US\$10k p.a. to US\$175k p.a.



Appendix:
Bios and details of QCA's performance

Additional Bios

Dr Nick Dove (Consultant and non-executive director):

- Specialist in advising development agencies and developing country financial sector and national government clients in national economic and banking sector strategy.
- Led major policy projects for European Bank for Reconstruction and Development, National Bank of Kazakhstan and various development banks (2005-present).
- Former executive director and equity analyst with top-rated UBS financials team (1996-2003).
- PhD in Biology from Cambridge University (completed 1996).

Dr Evghenia Sleptsova (Senior associate):

- PhD from the University of Birmingham on Ukrainian trade with the EU (completed 2010), Ashley Prize winner.
- Lead author of the *Sovereign Wealth Fund Review* series from ThomsonReuters IFR Market Intelligence (2008, 2009).
- Author of academic publications on trade and labour related issues between the EU and eastern Europe.
- Worked at the Institute for Development and Social Initiatives (2005), the EU Delegation (2002-2003), and KPMG in Moldova (1999-2002).

Mike Liu (Associate):

- Joined in April 2010 to provide data and analytical support for QCA.
- MSc in Finance and Economics, LSE.
- CFA level 2.
- BA in Banking and Finance, Peking University.

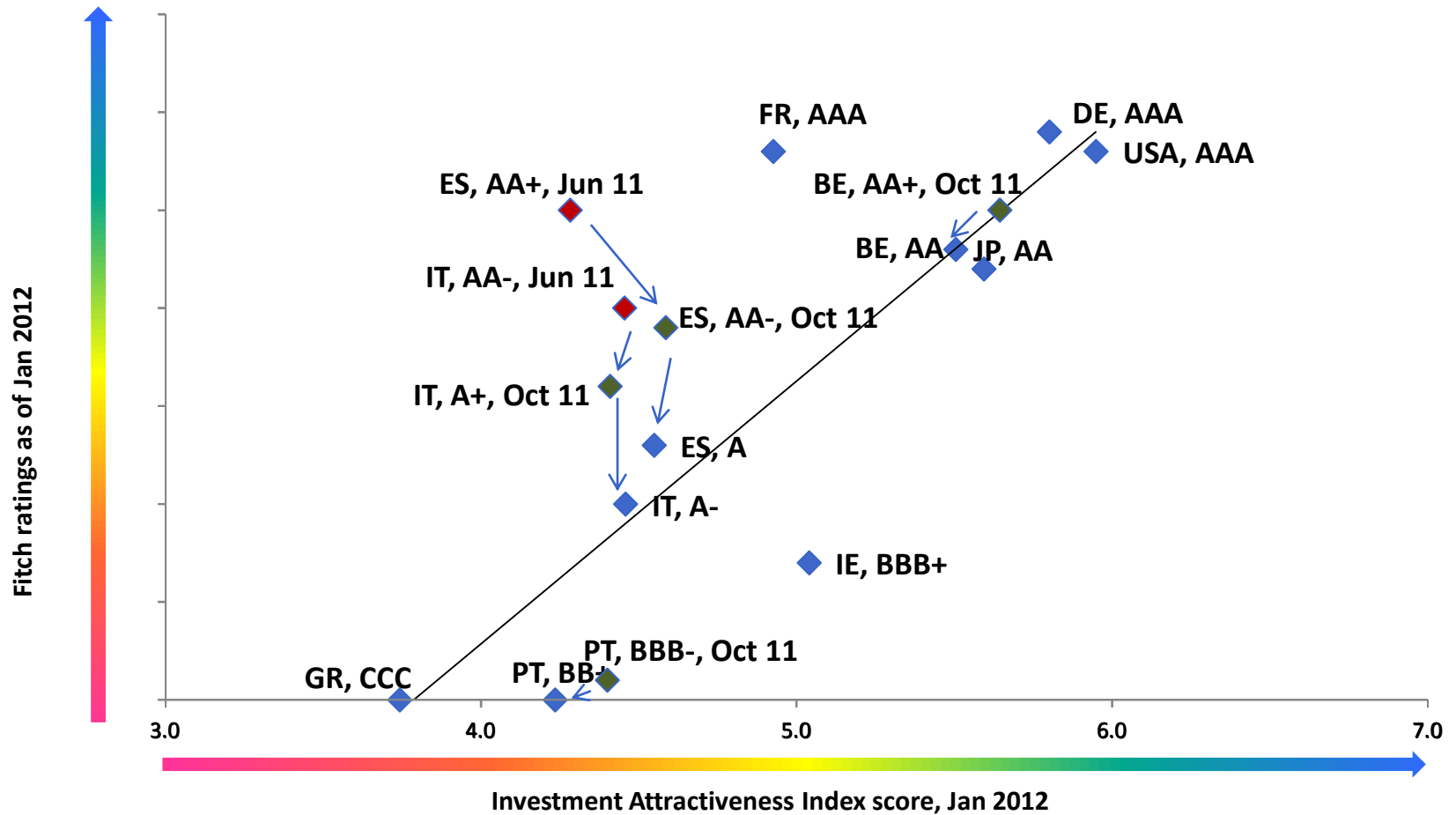
Will Marshall (Marketing consultant):

- Former headhunter in asset management and absolute return (2004-2010).
- Former Oxford Analytica consultant and editor (2000-2004).
- BA (Hons) from University of Oxford in Law (2000)

Academic institutions that provide academic support and independent validation of backtesting:

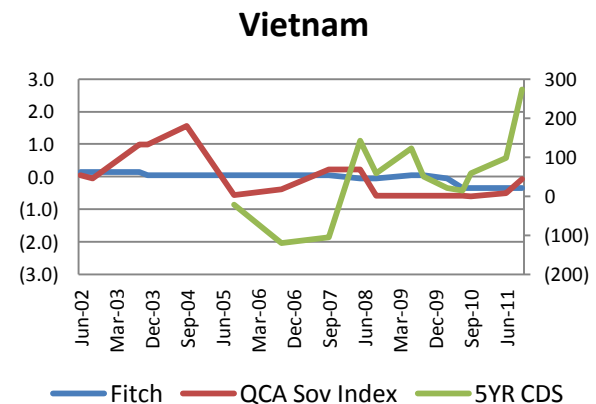
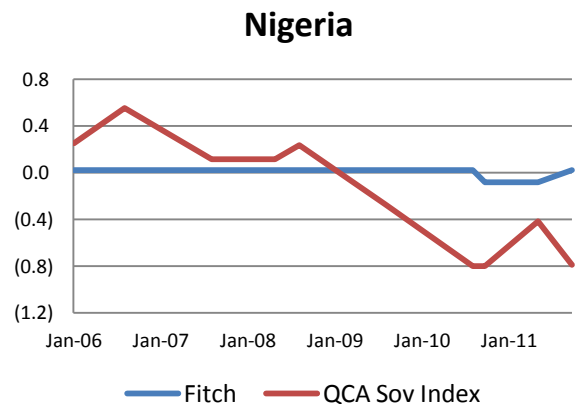
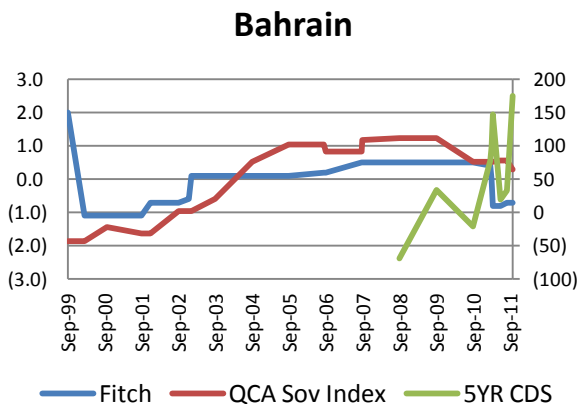
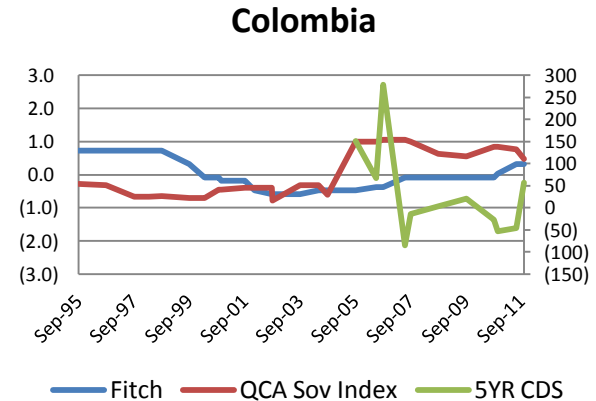
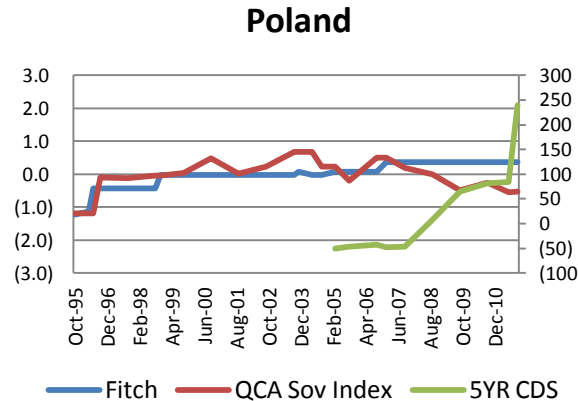
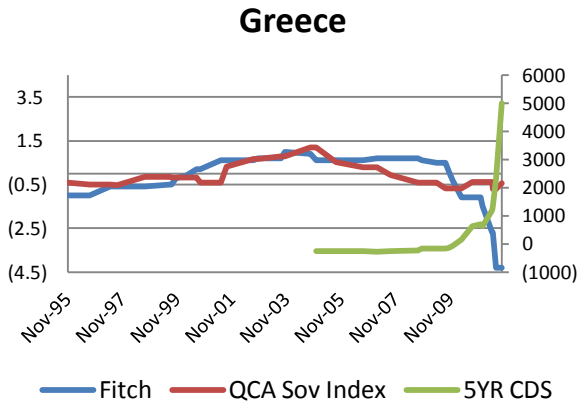
- London Business School
- Georgetown University
- London School of Economics
- Cambridge Judge Business School

QCA predicted changes in credit ratings in Europe in in the summer of 2011
QCA now suggests that France should be downgraded and Ireland upgraded



We have analysed 35 countries with rating changes and found that over 80% of rating changes are tracked and/or predicted by QCA.

Here are some examples:




Note: QCA Sovereign Risk Index scores (de-mean) are shown on the left axis while the 5-year CDS prices are shown on the right. Fitch ratings (shown on the left axis) have been linearly transformed into numeric values and de-mean, with rising value indicating higher rating and/or more improved outlook, and vice versa.

Possible future crises:

Countries most vulnerable to banking crises, Oct 2011 QCA scores

	Portugal	Cyprus	Italy	Spain	France	Netherlands	Barbados	Guinea	Vietnam	Nicaragua	Denmark	Hong Kong	Greece	Germany	Nepal	Iraq	Ireland	Lebanon	Austria	Sweden
Macrofin adjustment capability	2.2	2.9	2.4	2.0	1.9	2.3	1.0	3.5	5.1	4.3	4.1	5.3	2.0	2.5	3.2	4.4	3.3	5.1	3.0	7.8
CA offset by FDI	3.7	4.0	5.0	4.8	5.2	7.1	6.9	4.3	10.0	8.9	10.0	10.0	0.0	10.0	8.1	n/a	10.0	0.0	9.5	8.9
Current account	3.6	3.8	2.8	5.0	6.4	9.0	4.6	4.5	7.1	5.0	10.0	10.0	2.7	9.7	5.9	7.5	8.0	0.0	9.1	9.1
Total indebtedness	0.0	0.0	0.0	0.0	0.7	0.8	1.7	4.4	0.0	2.5	0.0	0.0	2.4	0.9	2.4	3.9	3.3	1.7	1.9	1.3
Banking sector	3.1	3.4	4.6	5.0	4.5	4.5	5.3	2.7	4.0	2.9	5.1	5.0	7.3	6.3	5.2	3.7	4.1	7.2	5.9	4.3
BANKING SECTOR VULNERABILITY INDICATOR (Bottom 10%)	2.1	2.3	2.8	2.9	2.9	3.2	3.6	3.6	3.6	3.7	3.9	4.0	4.1	4.3	4.3	4.3	4.3	4.4	4.5	4.6

Highest risk ←



* Banking sector – 40%, Macrofinancial adjustment – 20%, CA offset by FDI – 10% , Total indebtedness – 30%

EBA stress test (Dec 2011) broadly confirms the weak countries identified by QCA banking sector vulnerability indicator

	Capital shortfall identified by EBA – million EUR	Capital shortfall as % of bank risk-weighted assets	Rank by capital shortfall % risk-weighted asset	QCA Banking sector vulnerability indicator
Portugal	6950	3.0%	3	2.1
Cyprus	3531	6.5%	2	2.3
Italy	15366	1.4%	8	2.8
Spain	26170	1.9%	5	2.9
France	7324	0.4%	11	2.9
Netherlands	159	0.0%	12	3.2
Denmark [1]	0	0.0%	12	3.9
Greece	30000	Not disclosed	1	4.1
Germany	13107	1.0%	10	4.3
Ireland [2]	0	0.0%	12	4.3
Austria	3923	1.5%	7	4.5
Sweden	0	0.0%	12	4.6
Luxembourg	0	0.0%	12	5.0
Malta	0	0.0%	12	5.0
United Kingdom	0	0.0%	12	5.2
Finland	0	0.0%	12	5.3
Norway	1520	1.2%	9	5.4
Slovenia	320	1.7%	6	5.7
Belgium	6313	2.7%	4	5.8
Poland	0	0.0%	12	7.3

Note:

[1] Denmark's banking problem originates from its exposure to its domestic weak property sector, rather than its exposure to European peripheries which EBA tested upon.

[2] Irish banks have been nationalized and re-capitalized by its government with IMF bailout fund.

Our approach to using QCA to identify profitable trading ideas in emerging market equity indices

Returns:

- From Sep '05-Sep '11, a portfolio of QCA-driven EM equity index pairs trades returned 14.0% p.a.

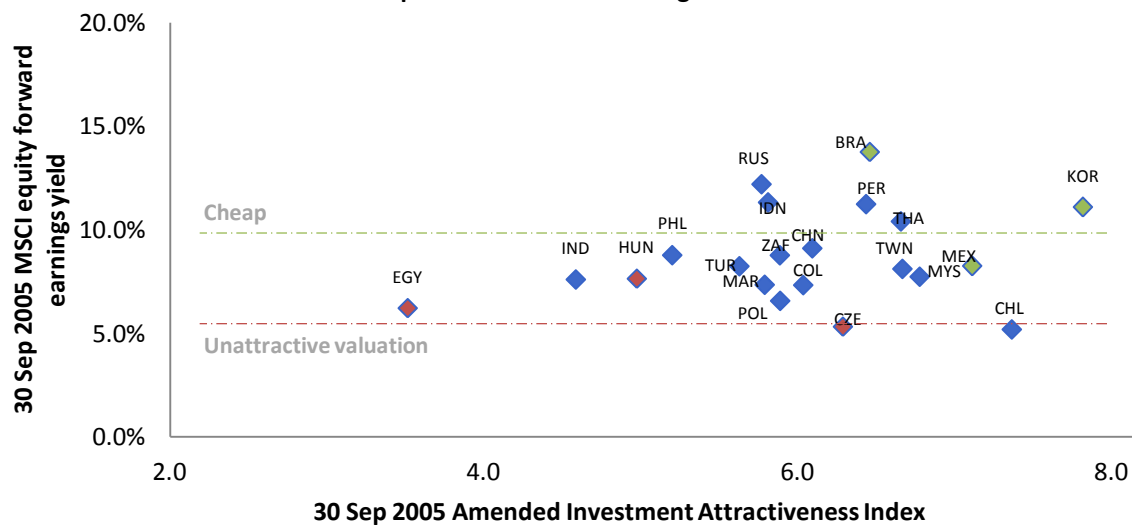
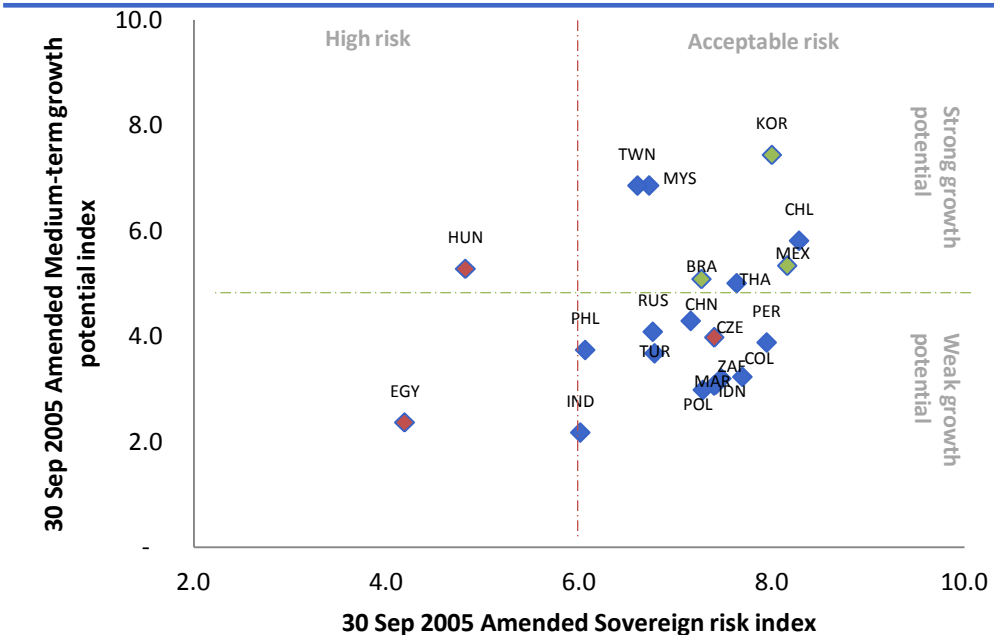
	Sep'05 – Sep '06	Sep'06 – Sep '07	Sep'07 – Sep '08	Sep'08 – Sep '09	Sep'09 – Sep '10	Sep'10 – Sep '11
Return*	19%	42%	-1%	4%	19%	6%
Long	KOR, BRA, MEX	PER, BRA, KOR	BRA, KOR, TUR	RUS, TUR, THA	THA, CZE, TUR	CZE, KOR, MYS
Short	HUN, EGY, CZE	COL, IND, PHL	IND, CHN, EGY	IND, EGY, MAR	EGY, HUN, POL	PHL, IND, MAR

Approach to identifying profitable trading ideas:

- Stage one: We identify countries with a sovereign risk score below 6. These display unacceptable levels of risk and are countries that we would only consider shorting
- Stage two: We rank countries in order of attractiveness by measuring how many units of growth they have per unit of risk. We do this by comparing their medium term growth score against their sovereign risk score. We call this scoring amended investment attractiveness
- Stage three: We plot countries' investment attractiveness against their forward earnings yield
- Stage four: Using these two graphs one can identify interesting pairs

* The difference between the average performance of "long" countries and that of "short" countries in the subsequent year after the long/short decision was made.

Country equity opportunities, Sep '05-Sep '06



Identified opportunities, as of 30 Sep 2005

Long

Korea

Brazil

Mexico

Short

Hungary

Egypt

Czech Rep.

One-year performance, end. 30 Sep 2006

Long

KOR

BRA

MEX

Average

Net

25%

19%

33%

25%

19%

Short

HUN

EGY

CZE

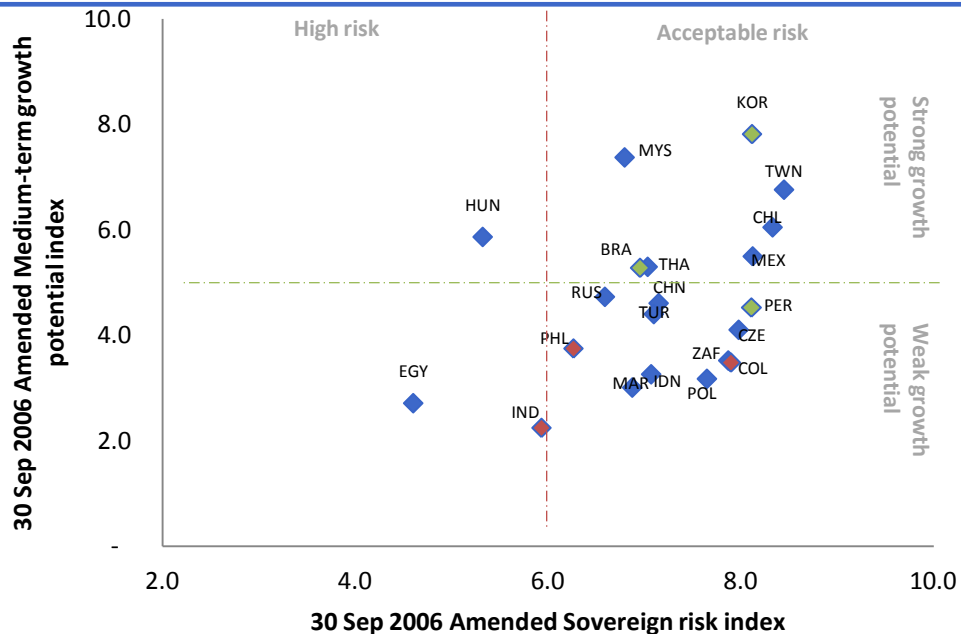
7%

-13%

20%

13%

Country equity opportunities, Sep '06-Sep '07



Identified opportunities, as of 30 Sep 2006

Long

Peru

Brazil

Korea

Short

Colombia

India

Philippines

One-year performance, end. 30 Sep 2007

Long

PER

BRA

KOR

Average

Net

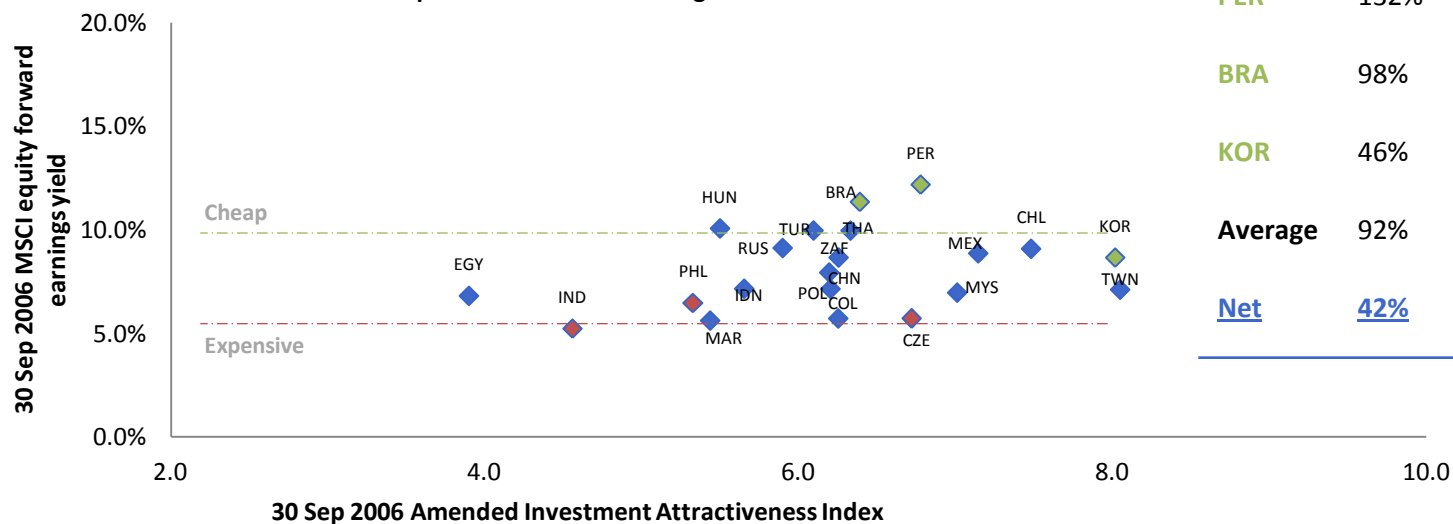
Short

COL

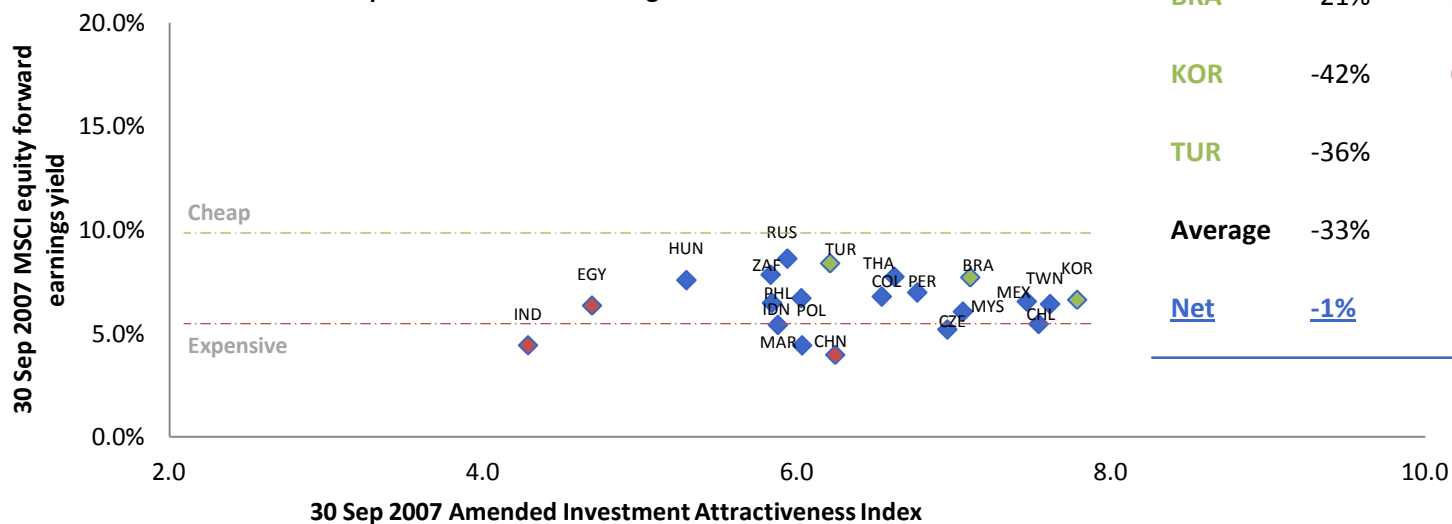
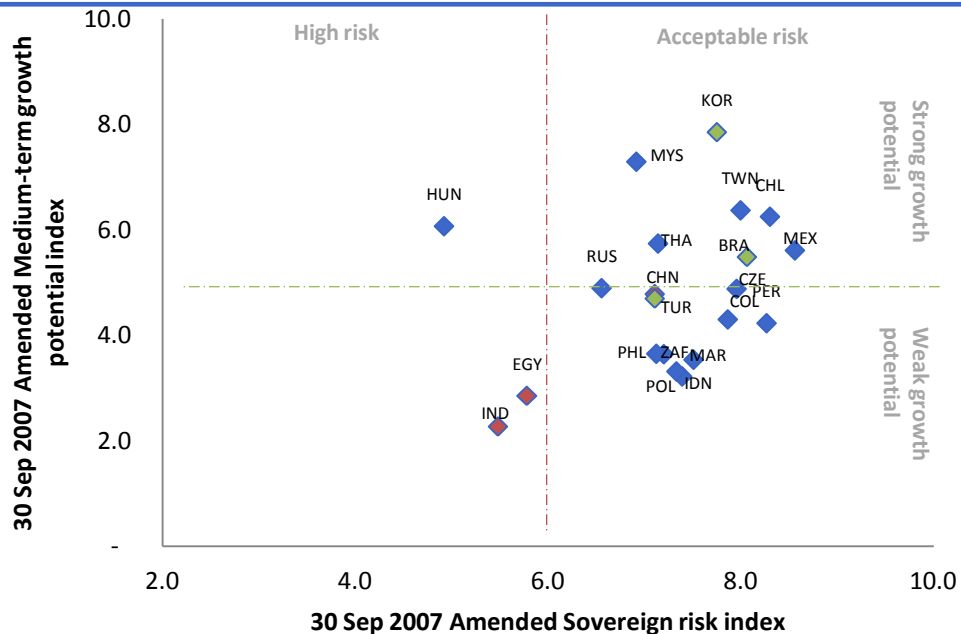
IND

PHL

50%



Country equity opportunities, Sep '07-Sep '08



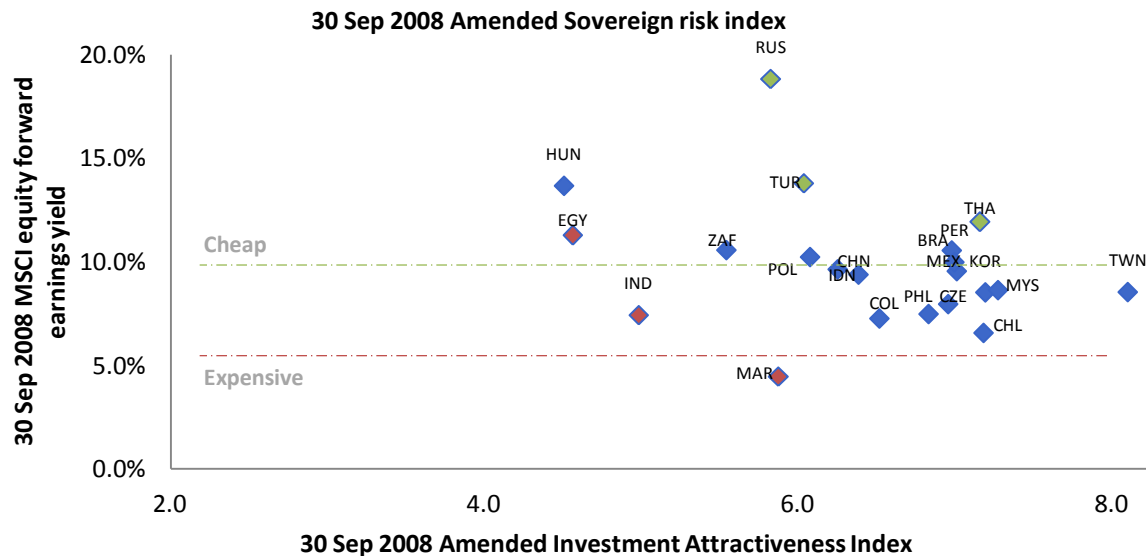
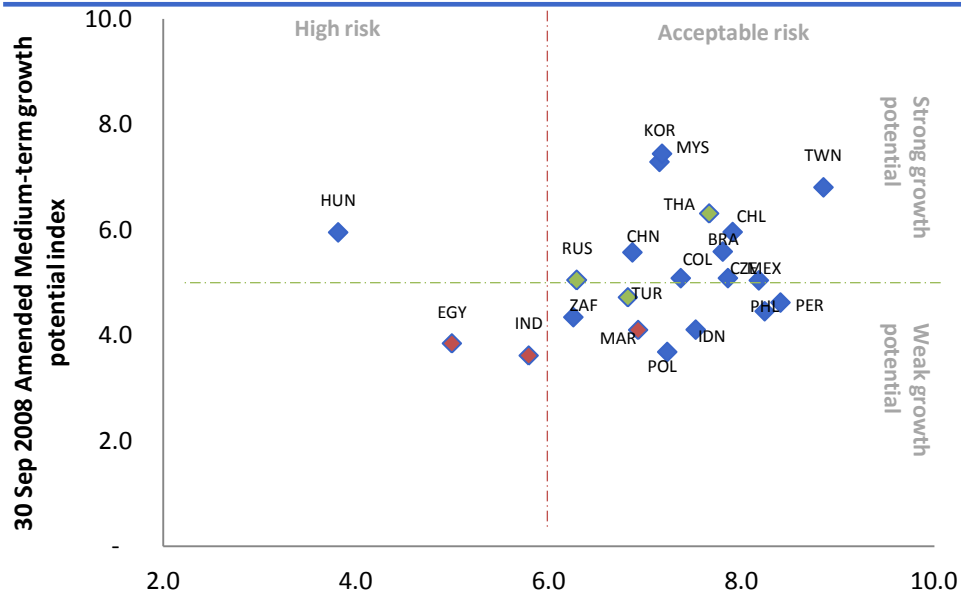
Identified opportunities, as of 30 Sep 2007

Long	Short
Brazil	India
Korea	China
Turkey	Egypt

One-year performance, end. 30 Sep 2008

Long		Short	
BRA	-21%	IND	-38%
KOR	-42%	CHN	-47%
TUR	-36%	EGY	-13%
Average	-33%		-32%
Net	-1%		

Country equity opportunities, Sep '08-Sep '09



Identified opportunities, as of 30 Sep 2008

Long

Russia

Turkey

Thailand

Short

India

Egypt

Morocco

One-year performance, end. 30 Sep 2009

Long

RUS

-10%

TUR

14%

THA

28%

Average

11%

Net

4%

Short

IND

-42%

EGY

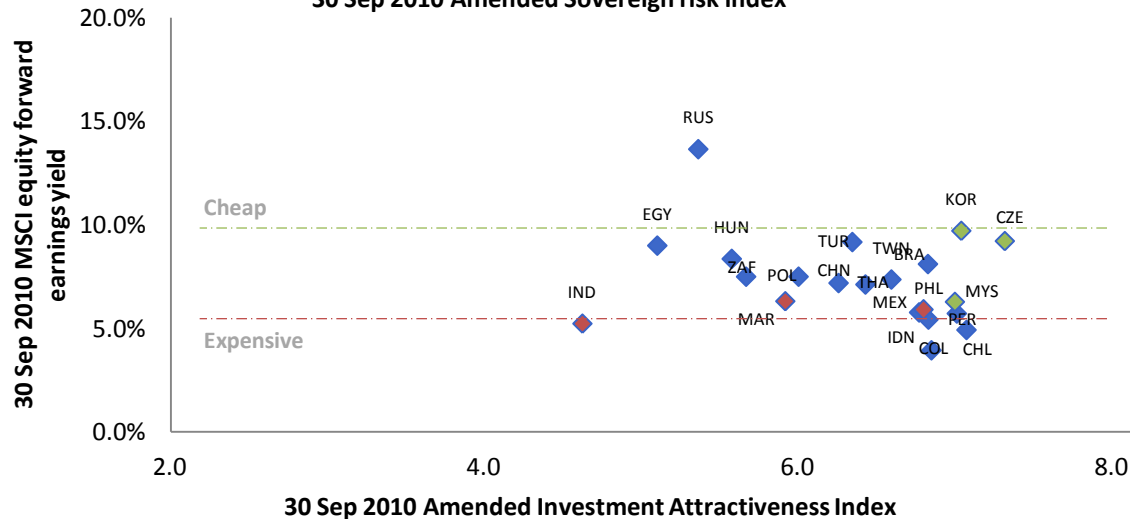
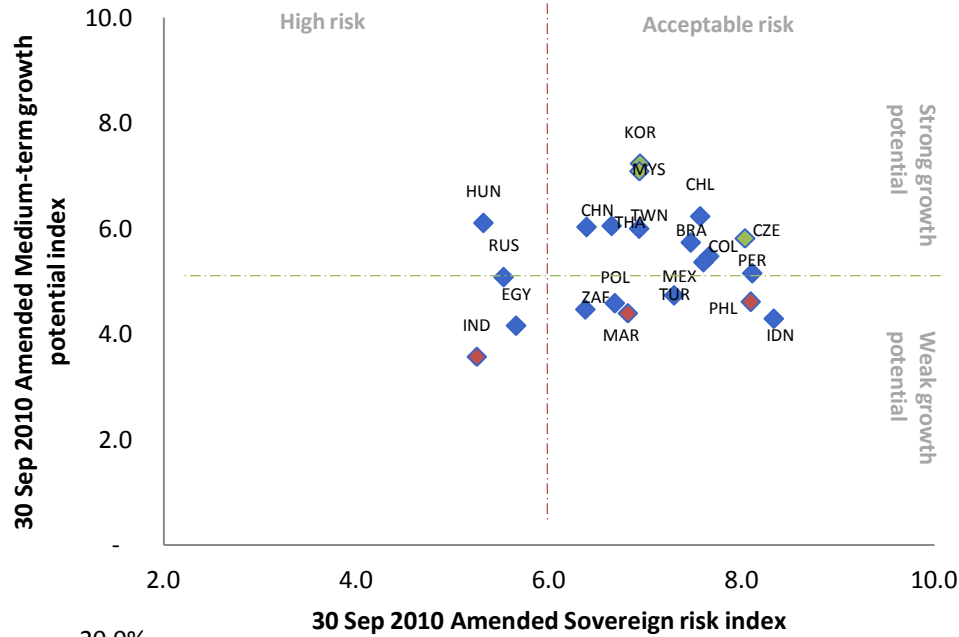
1%

MAR

-11%

7%

Country equity opportunities, Sep '10-Sep '11



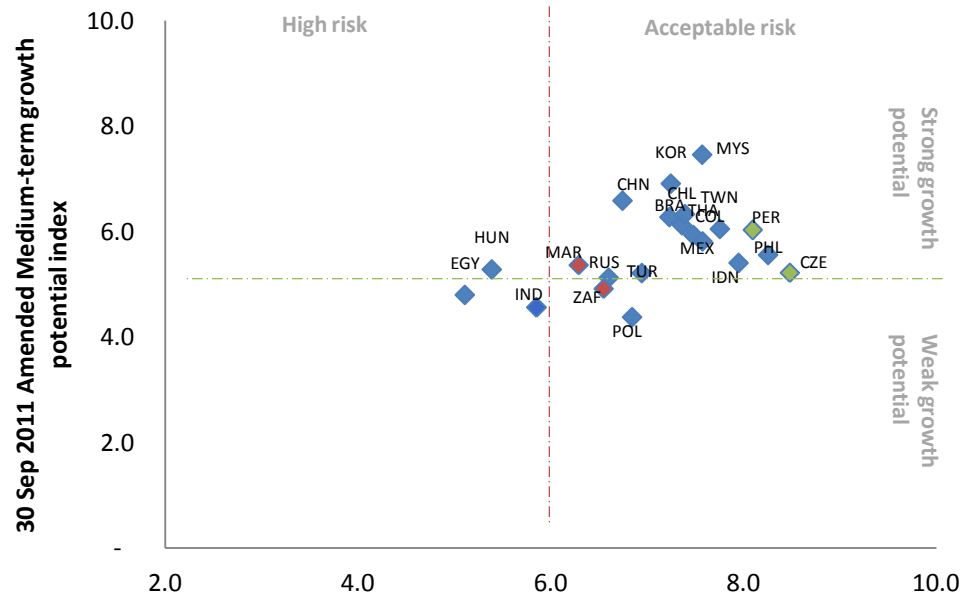
Identified opportunities, as of 30 Sep 2010

Long	Short
Czech Rep.	Philippines
Korea	India
Malaysia	Morocco

One-year performance, end. 30 Sep 2011

Long	Short
CZE	PHL
-6%	-10%
KOR	IND
-6%	-25%
MYS	MAR
-5%	-2%
Average	
-6%	-12%
Net	6%

Country equity opportunities, Sep '11-Jan '12



Identified opportunities, as of 30 Sep 2011

Long

Peru

Czech Rep.

Short

Morocco

South Africa

4-month performance, end. 31 Jan 2012

Long

PER

24%

CZE

2%

Average

13%

Net

9%

Short

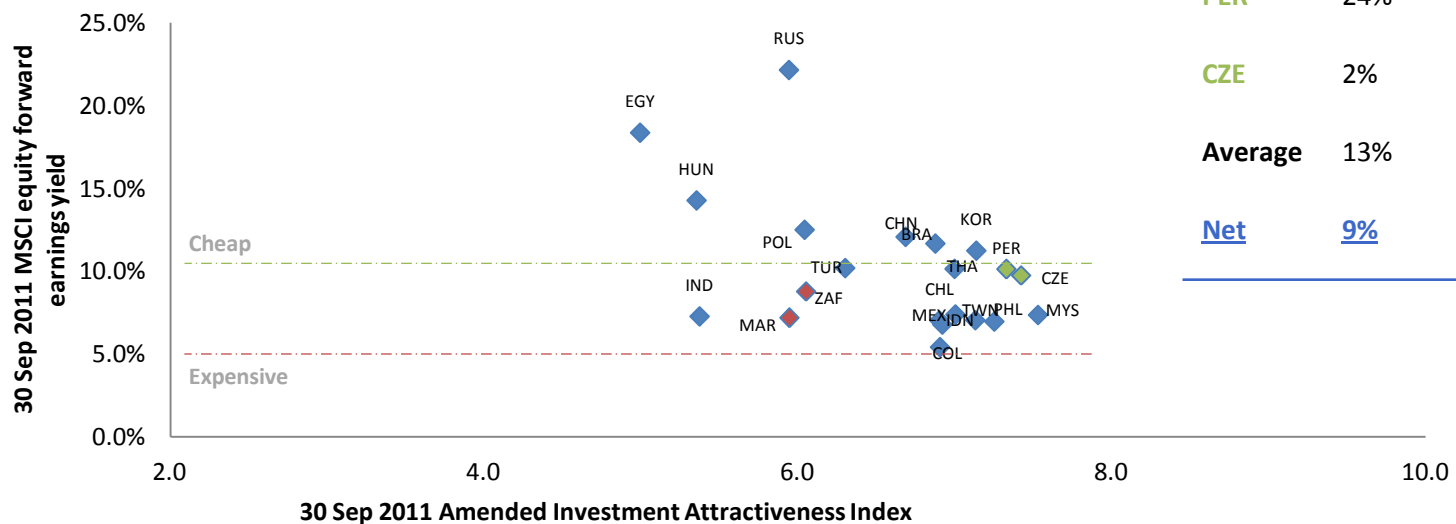
MAR

-6%

ZAF

-15%

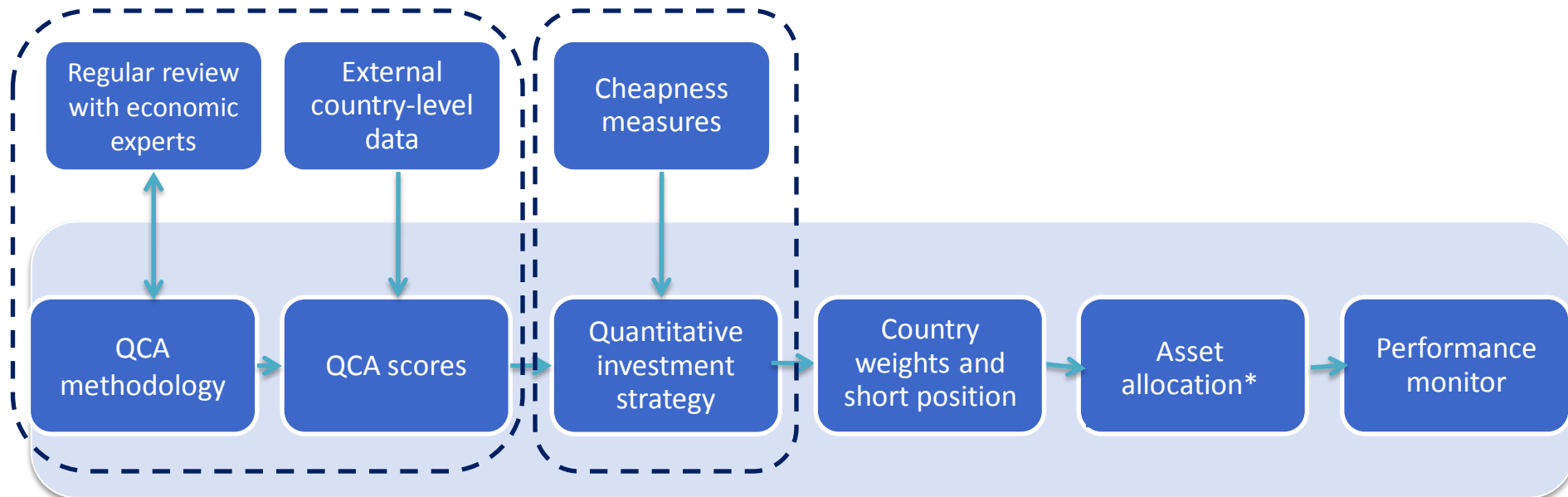
5%



Testing QCA's ability to construct portfolios: Measuring Investment Potential (MIP)

Avoiding default risk...

...while maximising value



Quantitative Country Analytics

QCA is a unique, quantitative economic model that identifies vulnerability to shocks, institutional robustness and growth potential.

Measuring Investment Potential

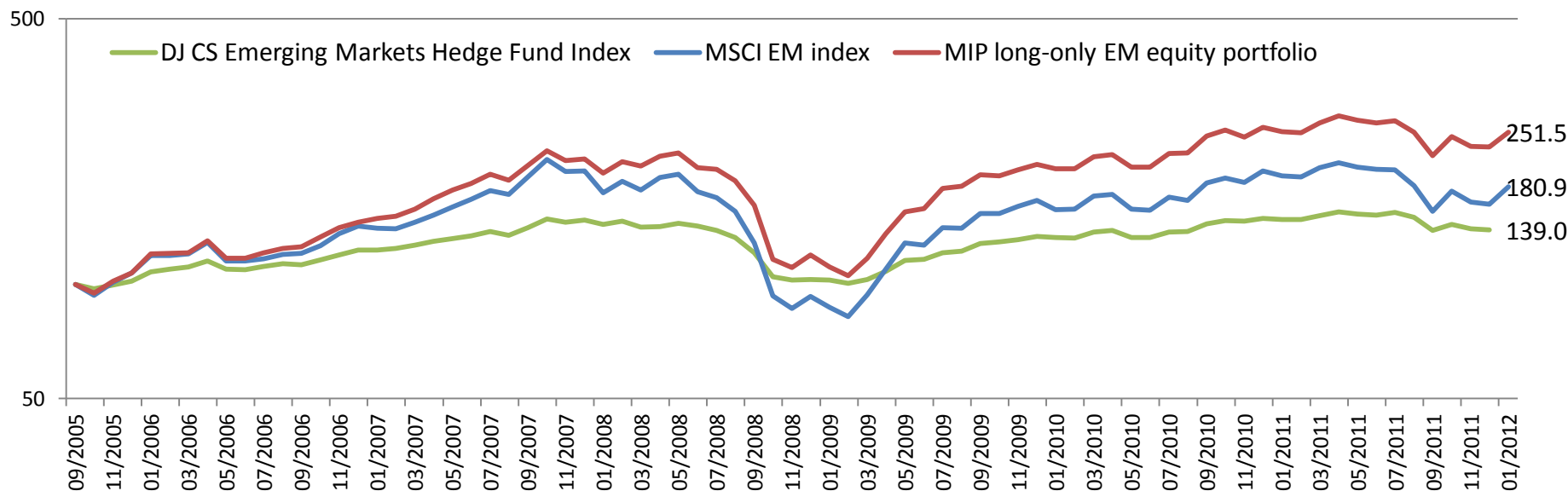
MIP is an investment strategy that combines QCA with price inputs and macroeconomic environment indicators to produce country weightings.

*MIP has been back-tested using country indices, not individual securities.

Backtesting approach

- MIP has been backtested in a variety of asset classes: emerging market (EM) equity and EM and EU sovereign debt
- The MIP portfolio has been tested against standard market indices and has been constructed using country-level indices
- The MIP portfolio is unleveraged, long-only and rebalanced quarterly with updated cheapness measure and/or QCA score
- For illustrative purpose, the MIP portfolio is fully invested, ie not going into cash, for the entire backtesting period
- The data needed for the complete MIP analysis has only been available for the last five years. Prior to 2005 the available data only allowed MIP to identify countries at risk during a crisis and not ones capable of strong growth

6 year backtested net performance of EM equity portfolio



MIP long-only EM equity portfolio (before management fee and trading cost)

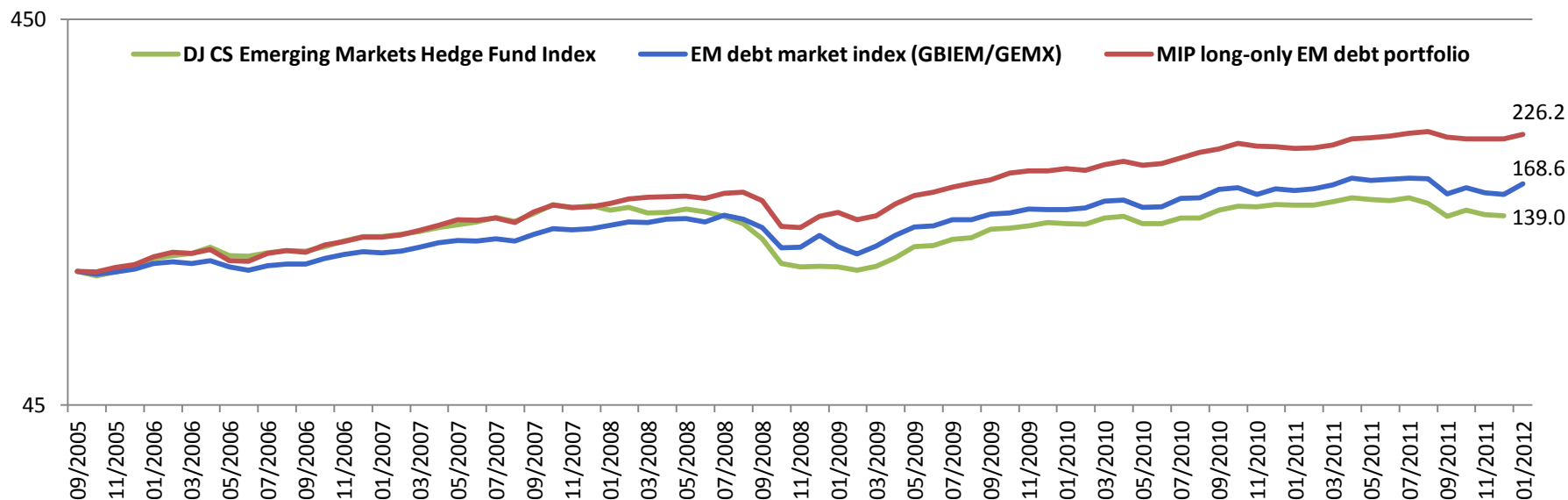
One-year		Three-year		Since Sept 2005		Sharpe Ratio		Sortino Ratio	
Absolute return	Excess return vs. index	Absolute return	Excess return vs. index	Absolute return	Excess return vs. index	MIP	MSCI EM	MIP	MSCI EM
-0.4%	5.9%	126.4%	18.6%	151.5%	70.7%	0.62	0.36	0.48	0.17

6 year backtested net performance of EM equity portfolio (Cont'd)

MIP long-only EM equity portfolio (before management fee and trading cost)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual return	Annual (index)	Annual excess return
2006	12.2%	0.5%	0.0%	7.8%	-10.1%	0.0%	3.5%	2.4%	1.2%	6.2%	5.8%	3.4%	36.2%	32.6%	3.7%
2007	2.3%	1.2%	4.5%	6.5%	5.5%	4.0%	5.8%	-3.9%	9.4%	9.5%	-5.8%	0.7%	46.4%	39.8%	6.6%
2008	-8.1%	7.3%	-2.7%	5.9%	2.1%	-8.6%	-0.9%	-6.6%	-14.0%	-27.9%	-4.9%	7.9%	-44.1%	-53.2%	9.0%
2009	-6.8%	-5.1%	11.2%	15.8%	14.4%	1.9%	13.1%	1.2%	7.3%	-0.8%	3.9%	3.1%	73.2%	79.0%	-5.8%
2010	-2.7%	0.3%	7.5%	1.3%	-7.4%	0.1%	8.5%	0.2%	11.0%	3.6%	-4.4%	6.2%	25.3%	19.2%	6.1%
2011	-2.4%	-0.9%	6.1%	4.7%	-2.7%	-1.6%	1.1%	-6.4%	-13.3%	12.1%	-5.6%	-0.6%	-11.3%	-18.2%	6.9%
2012	9.6%												9.6%	11.4%	-1.8%

Note: Prior to 2005 the available data only allowed MIP to identify countries at risk during a crisis and not ones capable of strong growth. MIP driven portfolios exhibit superior Sharpe and Sortino Ratios compared with standard market-cap index.

6 year backtested net performance of EM debt portfolio



MIP long-only EM debt portfolio (before management fee and trading cost)

One-year		Three-year		Since Sept 2005		Sharpe Ratio		Sortino Ratio	
Absolute return	Excess return vs. index	Absolute return	Excess return vs. index	Absolute return	Excess return vs. index	MIP	JPM GBI-EM/Markit GEMX index	MIP	JPM GBI-EM/Markit GEMX index
8.8%	4.7%	59.5%	14.0%	126.2%	57.6%	1.10	0.55	0.97	0.21

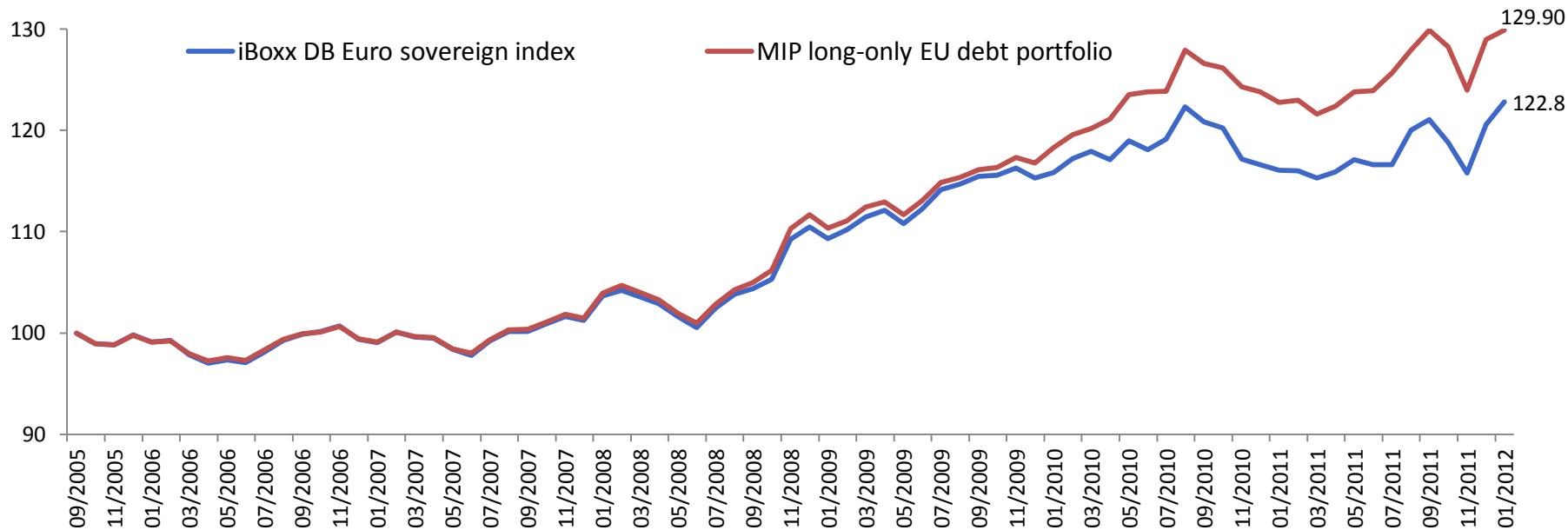
Note: Markit GEMX local-currency bond index was used for backtesting since the index's inception in March 2008. Prior to that, JPMorgan GBI-EM local currency bond index was used for backtesting.

6 year backtested net performance of EM debt portfolio (Cont'd)

MIP long-only EM debt portfolio (before management fee and trading cost)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual return	Annual (index)	Annual excess return
2006	5.0%	2.8%	-0.8%	2.3%	-6.3%	-0.6%	4.9%	1.8%	-0.9%	4.4%	2.1%	2.7%	18.0%	10.9%	7.1%
2007	-0.1%	1.3%	2.8%	3.1%	3.5%	-0.3%	1.2%	-2.6%	6.5%	4.1%	-1.3%	0.5%	19.9%	14.8%	5.1%
2008	2.0%	2.5%	1.2%	0.3%	0.4%	-1.2%	2.9%	0.7%	-4.9%	-14.1%	-0.7%	7.1%	-5.5%	-3.9%	-1.6%
2009	2.1%	-4.2%	2.6%	7.1%	5.3%	2.1%	2.9%	2.5%	1.9%	4.3%	1.3%	-0.1%	31.0%	16.5%	14.5%
2010	1.4%	-1.0%	3.4%	2.2%	-2.3%	1.0%	3.4%	3.2%	2.0%	3.7%	-1.7%	-0.5%	15.4%	13.2%	2.2%
2011	-1.0%	0.4%	1.7%	3.7%	0.9%	1.0%	1.7%	1.0%	-3.4%	-0.9%	0.1%	-0.1%	4.9%	-3.1%	8.1%
2012	2.7%												2.7%	6.6%	-4.0%

Note: Prior to 2005 the available data only allowed MIP to identify countries at risk during a crisis and not ones capable of strong growth. MIP driven portfolios exhibit superior Sharpe and Sortino Ratios compared with standard market-cap index.

6 year backtested net performance of EU sovereign debt portfolio



MIP long-only EU debt portfolio
(before management fee and trading cost)

One-year		Three-year		Since Sept 2005		Sharpe Ratio		Sortino Ratio	
Absolute return	Excess return vs. index	Absolute return	Excess return vs. index	Absolute return	Excess return vs. index	MIP	iBoxx DB Euro sovereign	MIP	iBoxx DB Euro sovereign
5.8%	-0.02%	17.7%	5.35%	29.9%	7.11%	0.48	0.23	0.85	0.27

6 year backtested net performance of EU sovereign debt portfolio (Cont'd)

MIP long-only EU debt portfolio (before management fee and trading cost)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual return	Annual (index)	Annual excess return
2006	-0.6%	0.1%	-1.3%	-0.7%	0.4%	-0.3%	1.1%	1.1%	0.5%	0.2%	0.5%	-1.2%	-0.3%	-0.3%	0.0%
2007	-0.3%	1.0%	-0.4%	-0.1%	-1.1%	-0.5%	1.4%	1.0%	0.0%	0.8%	0.7%	-0.4%	2.1%	2.0%	0.1%
2008	2.5%	0.7%	-0.7%	-0.7%	-1.3%	-1.0%	1.9%	1.4%	0.7%	1.1%	3.9%	1.3%	10.1%	8.4%	1.7%
2009	-1.2%	0.6%	1.2%	0.4%	-1.1%	1.3%	1.6%	0.4%	0.6%	0.2%	0.9%	-0.5%	4.6%	4.4%	0.2%
2010	1.3%	1.1%	0.5%	0.8%	2.0%	0.2%	0.1%	3.3%	-1.0%	-0.4%	-1.5%	-0.4%	6.0%	-1.3%	7.3%
2011	-0.8%	0.1%	-1.1%	0.6%	1.2%	0.1%	1.4%	1.8%	1.6%	-1.3%	-3.4%	4.0%	4.2%	-4.2%	8.4%
2012	0.7%												0.7%	4.6%	-3.8%

Note: Prior to 2005 the available data only allowed MIP to identify countries at risk during a crisis and not ones capable of strong growth. MIP driven portfolios exhibit superior Sharpe and Sortino Ratios compared with standard market-cap index.

Contact Details

Paul Domjan

paul.domjan@countryinsights.com

Oliver Waugh

oliver.waugh@countryinsights.com

www.countryinsights.com

+44 207 079 9206