

BBVA Research

Country Risk Report

A Quarterly Guide to Country Risks – June 2015

Cross-Country Emerging Markets Unit



99,11	96,66	11,71	9,29	10,00
13,14	12,55	29,52	14,59	1,34
16,10	14,85	41,80	17,03	18,00
29,77	29,73	38,20	41,68	18,00
52,98	51,65	56,89	15,23	18,00
48,00	46,27	74,73	15,82	18,00
41,09	40,00	55,47	5,82	18,00
6,55	6,25	12,10	10,00	18,00
		50,45		

Country Risk Report

Summary

Financial markets, global risk and capital flows

- Calmer situation in financial markets during the quarter. Some stress in exchange and interest rates is accumulating
- Geopolitical risks are still alive even though markets are ignoring them.
- Portfolio Flows trending down below long-run levels. Re-allocation continues but differentiated and mild.

Sovereign markets and ratings agencies update

- Sovereign CDS spreads hardly moved in the last months, with the exception of Russia, whose CDS largely improved. Most of Sovereign CDs remain below equilibrium levels increasing the risk of sharp corrections
- Low activity from rating agencies. Japan and Greece downgraded.
- Downgrade pressure for Russia remain. Downgrade pressure is high for China and Brazil. Spain and Ireland continue quoting a possible upgrade.

Our own country risk assessment

- A more dovish policy from big central Banks has brought some stability to both financial markets and rating agencies. However, this could be generating new risks
- Still key questions to solve: Greece, FED exit path and geopolitical tensions could have serious spill-overs
- China's high local public debt and declining housing prices (one of the sources of income for local governments) should be monitored.

Country Risk Report

Index

- 1. International financial markets, global risk aversion and capital flows**
- 2. Sovereign markets and ratings update**
- 3. Macroeconomic vulnerability and in-house Regional country risk assessment**
- 4. Geopolitics and Social unrest risk**

Annex

- Methodological appendix



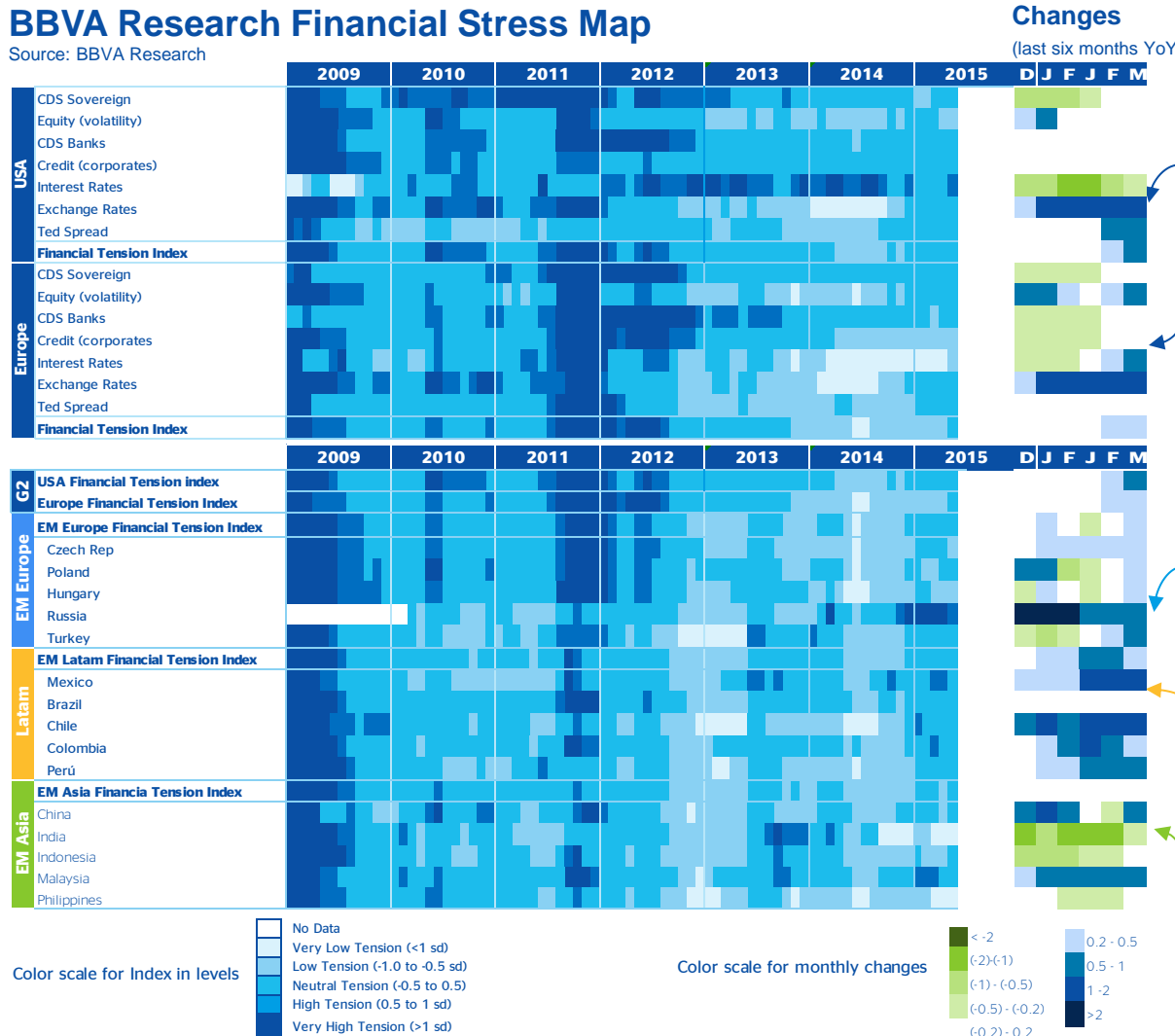
Country Risk Report

International financial markets, global risk aversion and capital flows

Overall but mild increase in financial tensions

BBVA Research Financial Stress Map

Source: BBVA Research



Increasing volatility in exchange rate markets and interest rates

Mild but increasing tensions in equity markets and interest rates are starting to rise in Europe adding to the existing exchange rate stress

Tensions in Russia seem to be easing slightly. Increasing tensions in Turkey amid political uncertainty

Some pressures continue affecting Mexico, Chile and Colombia. Financial stress in Brazil is high but stable.

Mixed and volatile signals from Malaysia and China. Decreasing tensions in the rest of the region.

Color scale for Index in levels

Color scale for monthly changes



Country Risk Report

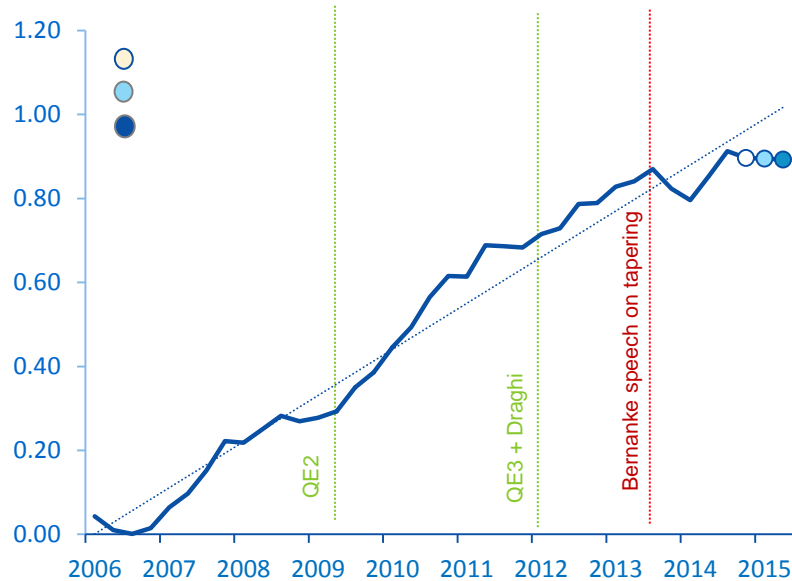
International financial markets, global risk aversion and capital flows

Portfolio Flows trending down below long run levels

BBVA cumulative EM portfolio flows (BoP)

(Country flows over total assets cumulated since 2005)

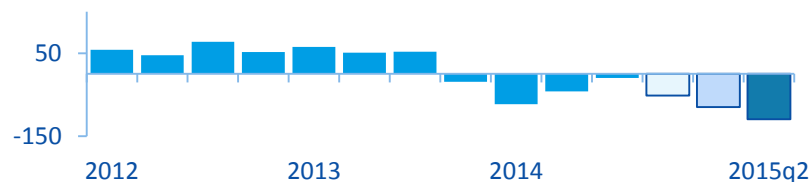
Source: BBVA Research



- **Official BoP data in Q4 2014 (est.)**
(offers further evidence of reversal as Fed signals policy normalisation)
- **EM flows adjustment still at play (est.)**
(USD895bn in 1Q15 or -USD1.4bn vs. 4Q14) est.
- **The adjustment will continue in 2Q15 (now-cast)**
(-USD3.0bn vs 1Q15)

Official Data Imbalance Assessment

(BOP official data deviations from long-term trend in USD bn)



Reaching >USD100bn below long-term trend (USD101bn in 2Q15 approx.)



Country Risk Report

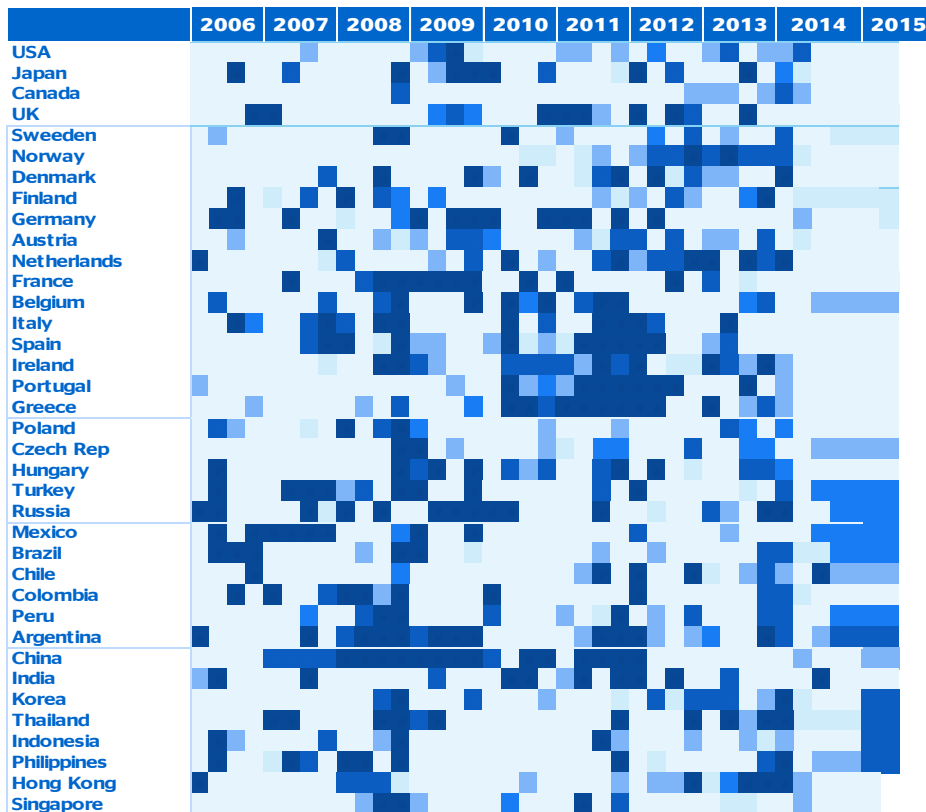
International financial markets, global risk aversion and capital flows

Reallocation continues but differentiated and mild

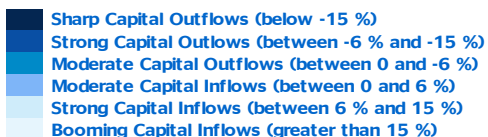
BBVA balance of payments portfolio update

(Official balance of payments data, in quarterly % change)

Updated 3 June 2015, Source: BBVA Research



- Portfolio reallocation from EMs to DMs continued, but more moderated than in the last quarter
- Further discrimination in the normalisation
Global drivers for LatAm and Asia (Fed normalisation) and regional/local for EM countries (geopolitical strains).
- Divergent policies maintained: ECB committed to QE (USD60bn monthly purchases of corporate and sovereign debt) while Fed waters the tone of the normalization. The effects of Fed policy will dominate globally but the shock is less intense than envisaged.



Q4-14: Estimation and Nowcast of BoP Data Using BBVA DFM/FAVAR
 Q2-15: Forecasting of BoP Data Using BBVA DFM/FAVAR



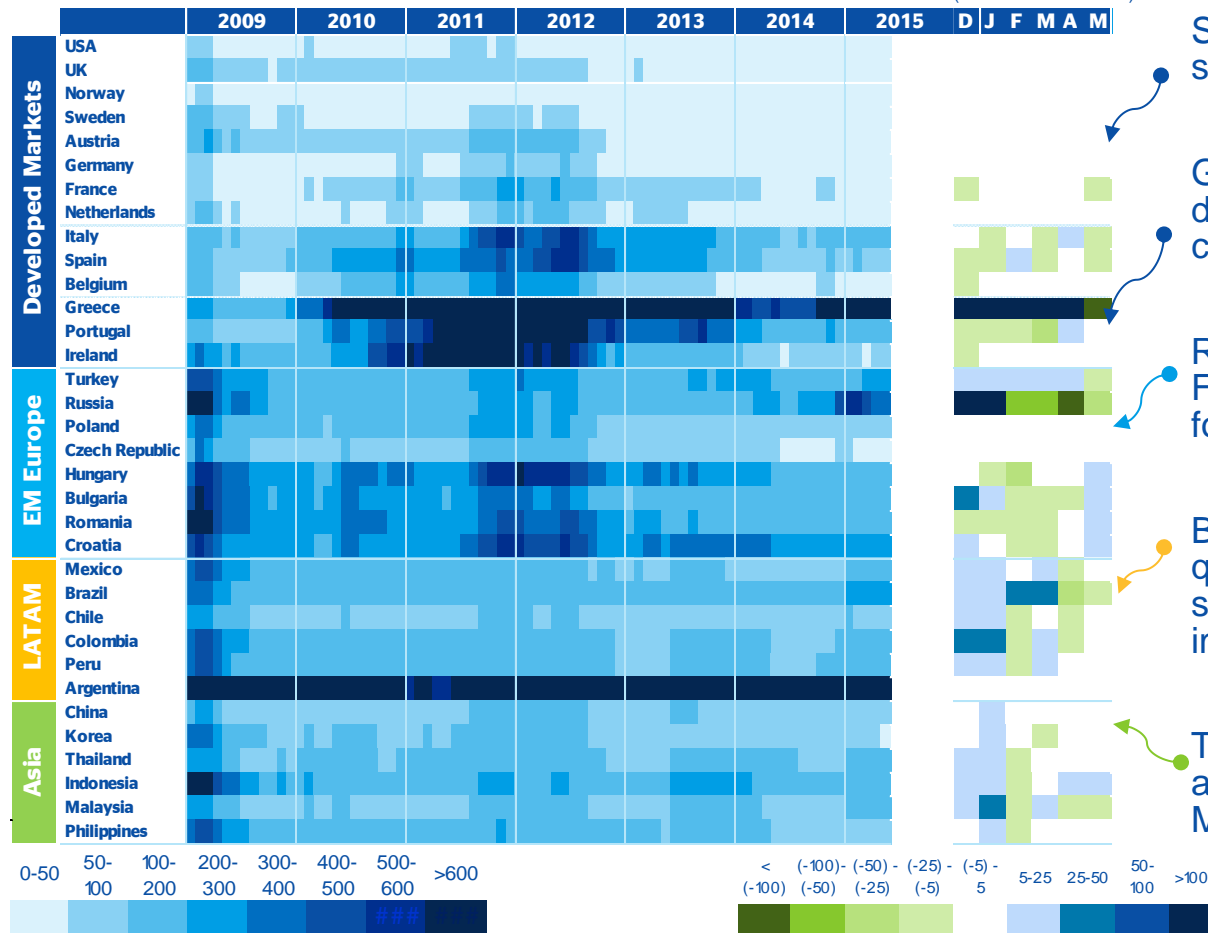
Country Risk Report

Sovereign markets and rating agencies

Stability in sovereign CDS across the board. Good performance of Russian spread

Sovereign CDS spreads

Source: Datastream and BBVA Research



Stability in Developed Economies CDS spreads.

Greece is back at levels not observed since its debt restructuring in 2012. Other periphery countries stable or improving.

Russia's CDS is improving rapidly since February. Turkey's CDS on a growing trend for a whole year.

Brazil spread is improving after previous quarter surge, but is still at high levels. Other sovereign spreads in Latam are also improving.

Tranquil quarter in Asian sovereigns spreads after some previous volatility. Thailand and Malaysia, worst performers along the year.



Country Risk Report

Sovereign markets and agency ratings

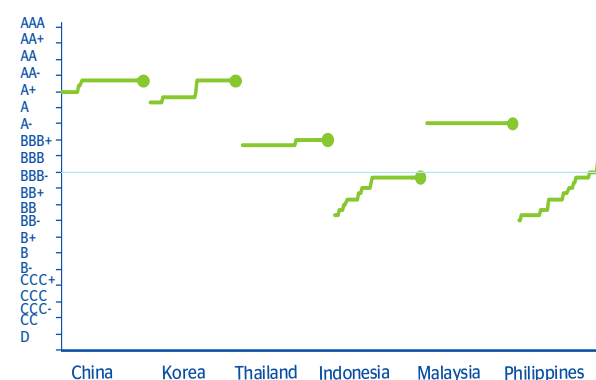
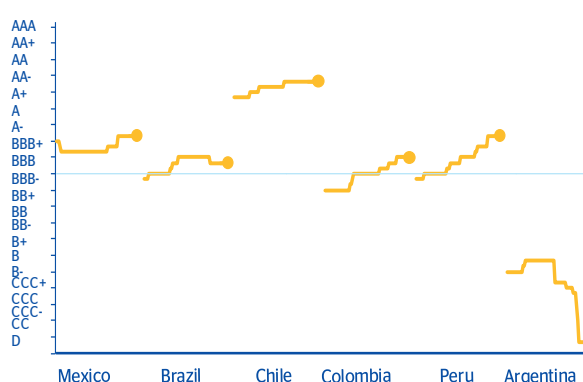
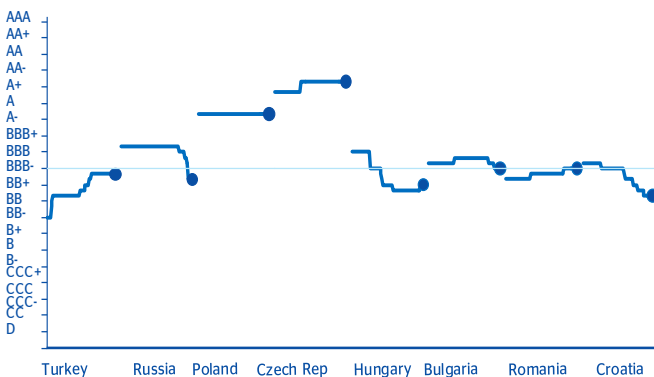
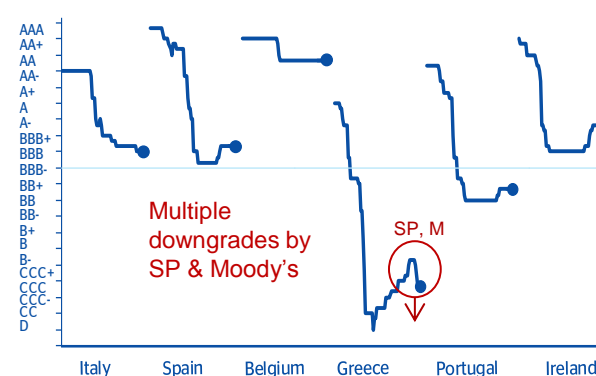
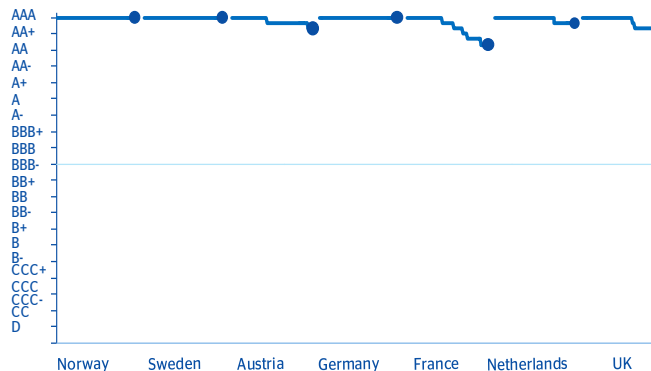
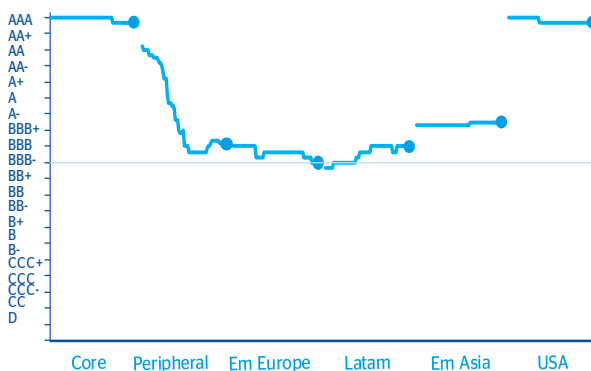
Japan downgraded. Greece moves further down

Sovereign Rating Index 2008-15

Source: BBVA Research by using S&P, Moody's and Fitch data

↑ Upgrade ↓ Downgrade

SP: Standard & Poors M: Moody's F: Fitch



Sovereign Rating Index: An index that translates the three important rating agencies ratings letters codes (Moody's, Standard & Poors and Fitch) to numerical positions from 20 (AAA) to default (0). The index shows the average of the three rescaled numerical ratings.

Country Risk Report

Sovereign Markets & Ratings Update

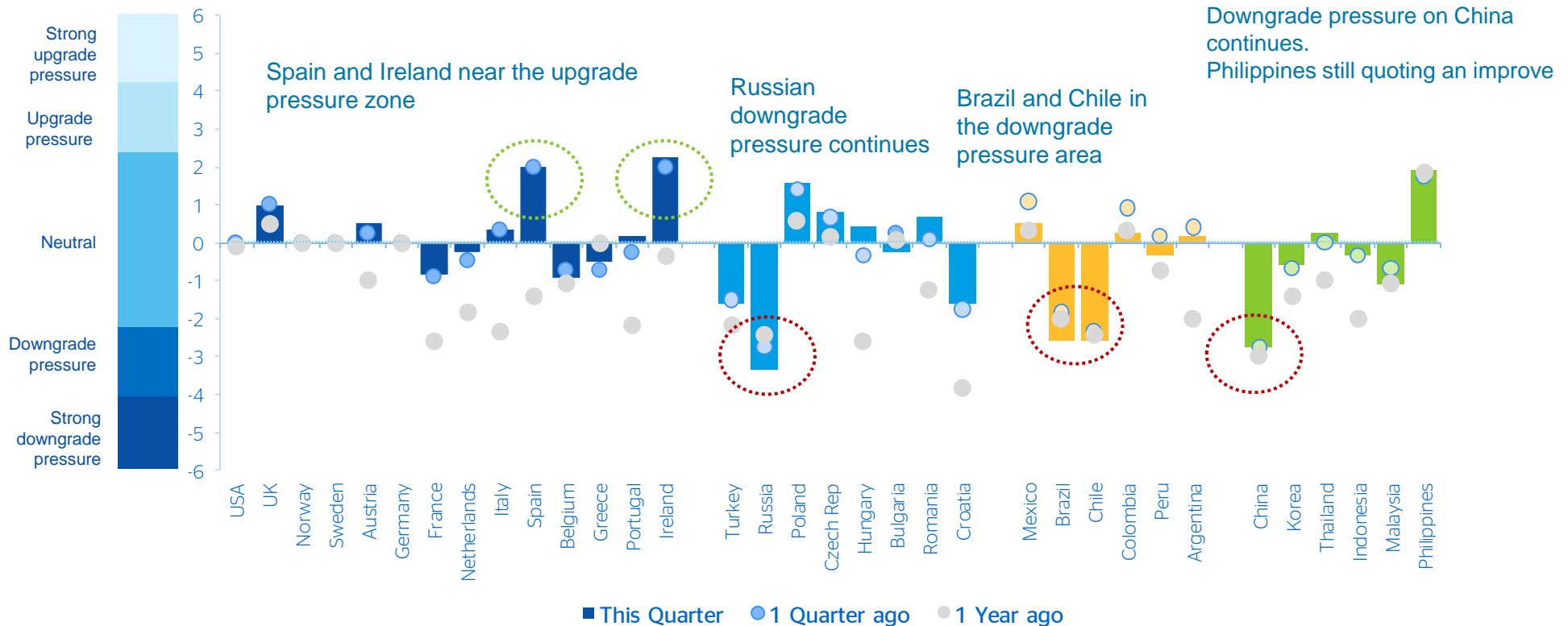
Spain and Ireland in potential upgrade.

Growing downgrade pressures on Brazil

Agency rating downgrade pressure gap (May 2015)

(CDS-implied rating minus actual sovereign rating, in notches)

Source: BBVA Research





Country Risk Report

Macroeconomic vulnerability and risk assessment

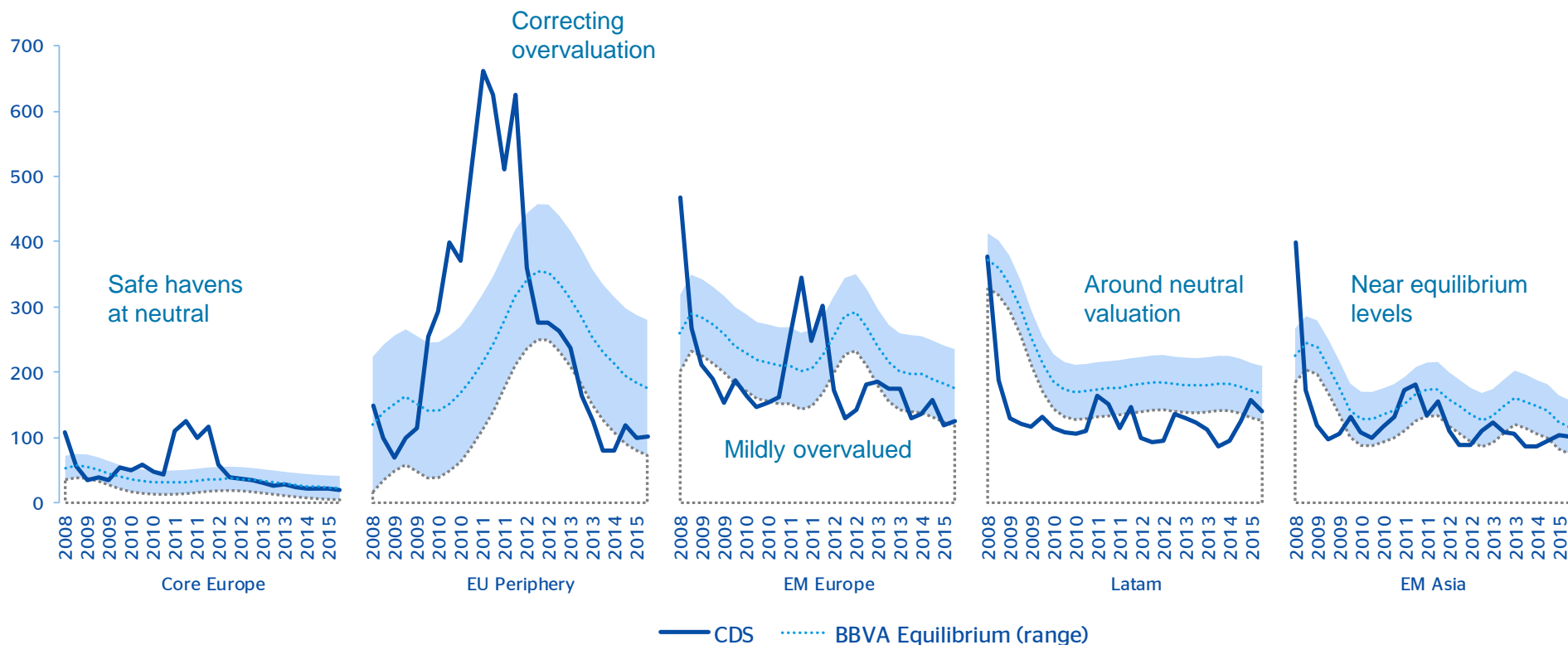
Most regions a bit overvalued, although not far from equilibrium

CDS and equilibrium risk premium

(equilibrium: average of four alternative models + 0.5 standard deviation)

*EU Periphery excludes Greece

Source: BBVA Research and Datastream





Country Risk Report

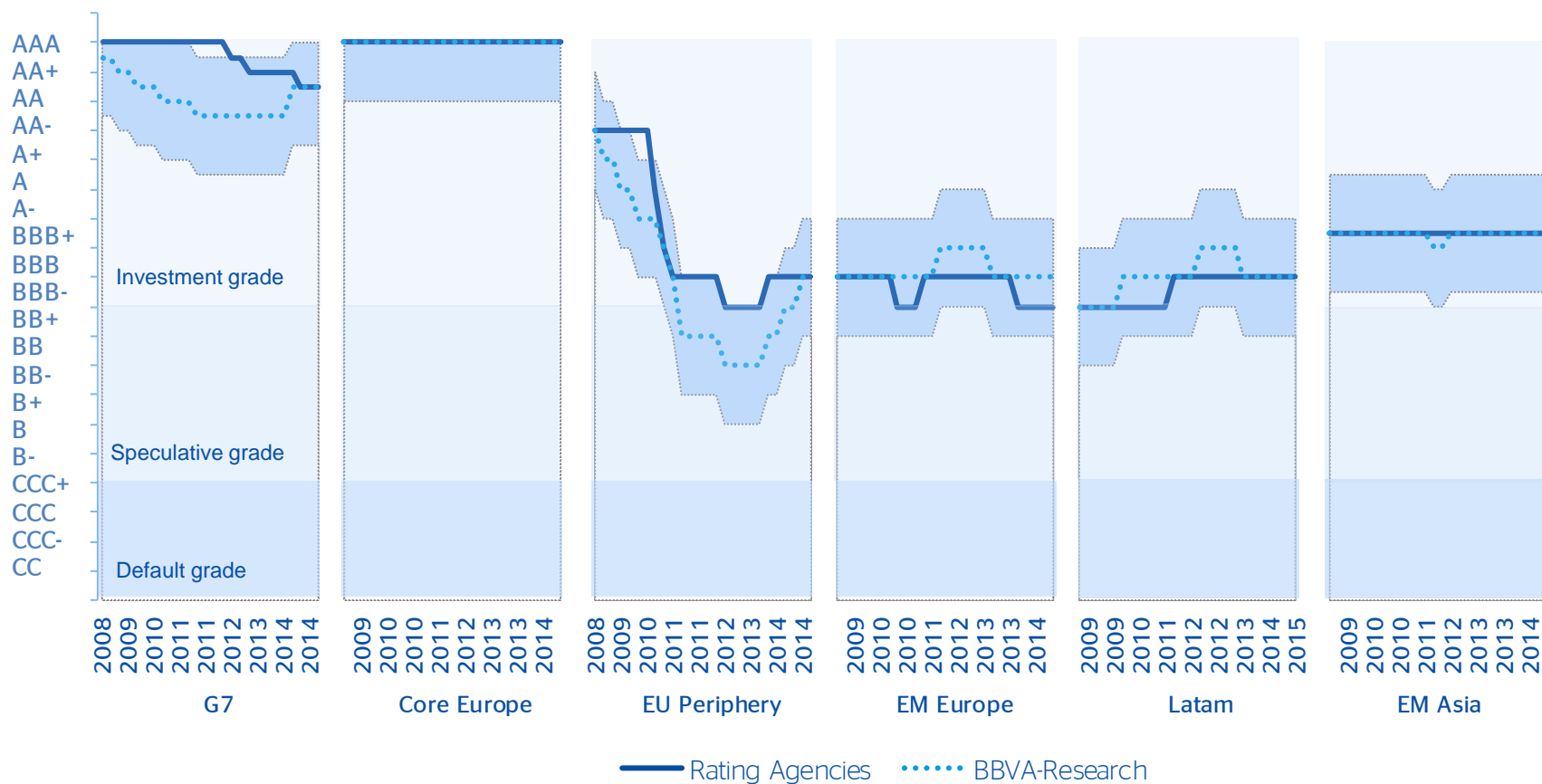
Macroeconomic Vulnerability and Risk Assessment

On a regional basis, the outlook on ratings seems stable

Agencies' Sovereign rating vs. BBVA Research

(Agencies' Rating and BBVA scores +/- 1 std dev)

Source: Standard & Poors, Moody's, Fitch and BBVA Research



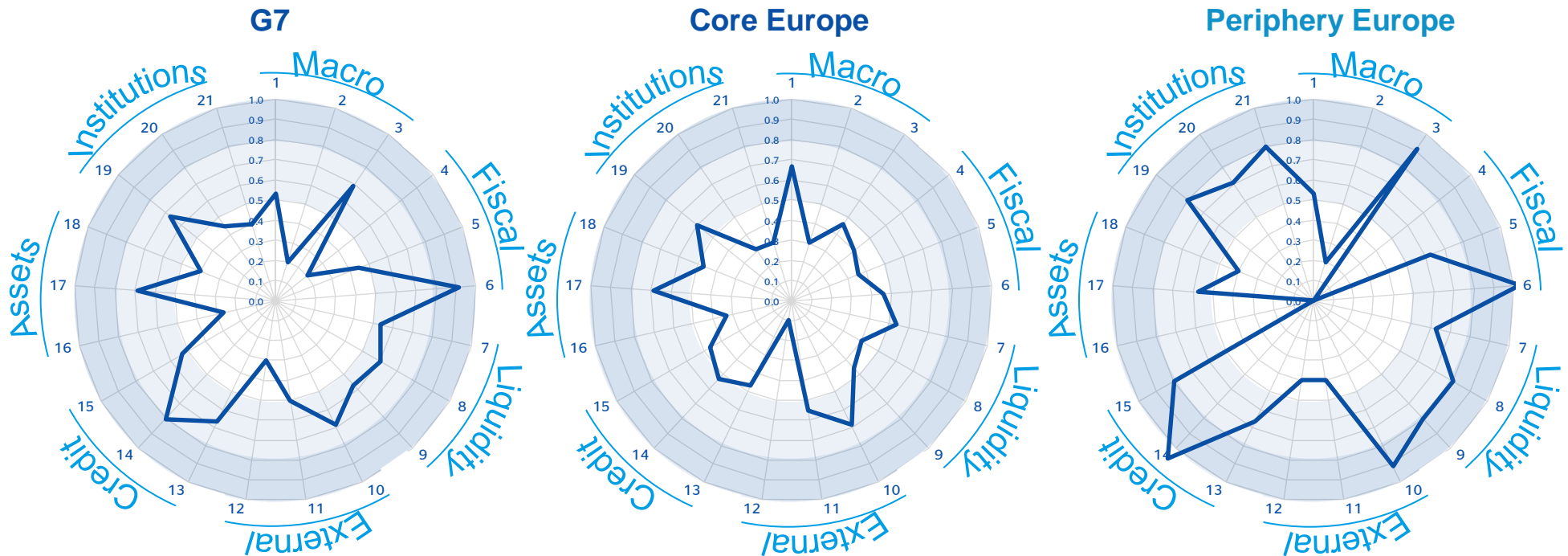
Country Risk Report

Macroeconomic vulnerability and risk assessment

Fiscal vulnerability, private leverage and external risks still high

Developed countries: vulnerability radar 2015

(Relative position for the emerging developed countries. Max risk=1, Min risk=0)
Source: BBVA Research



Public debt and corporate debt still the main vulnerabilities

Most vulnerabilities under control. Housing prices vulnerability on the rise

Unemployment, public debt and corporate debt still at worrisome levels.



Macro: (1) GDP (% YoY) (2) Prices (% YoY) (3) Unemployment (% LF)
Fiscal: (4) Structural balance (%) (5) Interest rate – GDP %YoY (6) Public debt (% GDP)
Liquidity: (7) Debt by non-residents (%total) (8) Financial needs (%GDP) (9) Financial pressure (% GDP)
External: (10) External debt (%GDP) (11) RER appreciation (%YoY) (12) CAC balance (% GDP)

Credit: (13) Household (%YoY) (14) Corporate (%YoY) (15) Credit-to-deposit (%)
Assets: (16) Private credit to GDP (%YoY) (17) Housing Prices (%YoY) (18) Equity (%) (12)
Institutional: (19) Political stability (20) Corruption (21) Rule of law

Country Risk Report

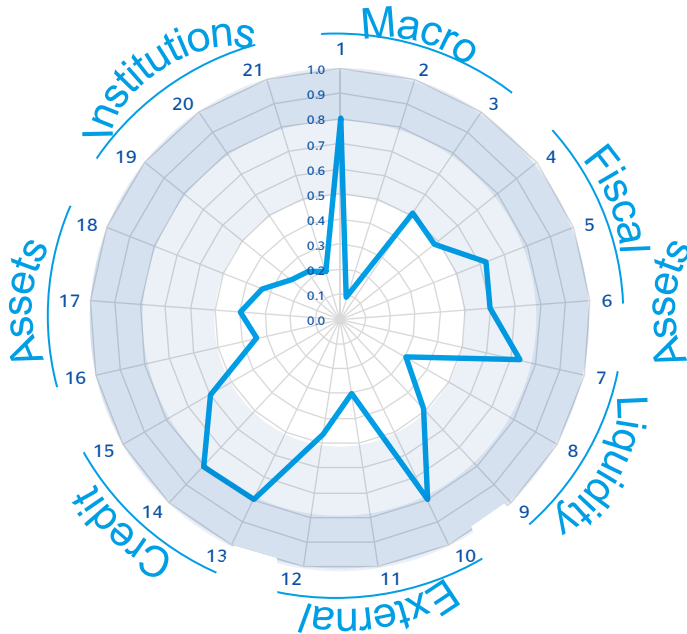
Macroeconomic vulnerability and risk assessment

Vulnerabilities in EM Europe high but decreasing, Concerns about external problems in LatAm, and fiscal in EM Asia

Emerging countries: vulnerability radar 2015

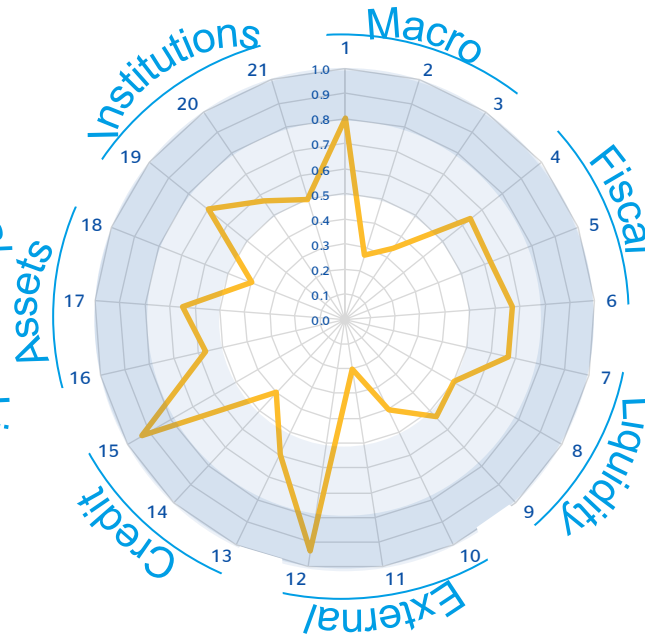
(Relative position for the emerging developed countries. Max risk=1, Min risk=0)
Source: BBVA Research

Emerging Europe



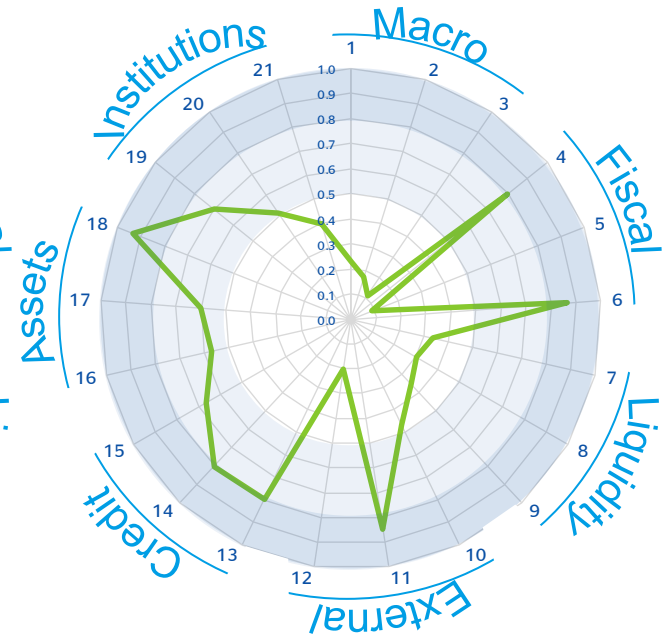
Decreasing external vulnerability, compared to previous years.

LatAm



Current account balances and credit-to-deposits at high vulnerability levels

Emerging Asia



Fast growth in equity markets should be monitored. Public balances and public debt levels have increased fiscal vulnerability



Macro: (1) GDP (%YoY) (2) Prices (% YoY) (3) Unemployment (% LF)
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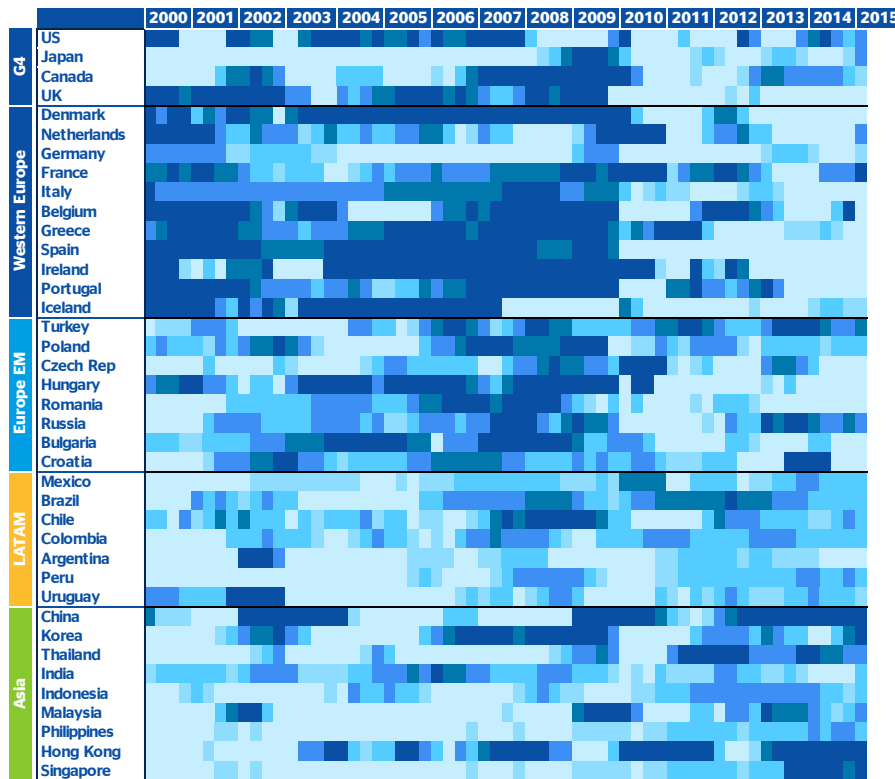
Macroeconomic vulnerability and risk assessment

Sluggish or moderate credit growth in most regions. China and Hong Kong still leveraging

Private credit color map (2000-2015 Q1)

(yearly change of private credit-to-GDP ratio (YoY))

Source: BBVA Research and Haver



Booming: Credit/GDP growth is higher than 7%
Excess Credit Growth: Credit/GDP growth between 5%-7%
High Growth: Credit/GDP growth between 3%-5%
Mild Growth: Credit/GDP growth between 1%-3%
Stagnant: Credit/GDP is declining between 0%-1%
De-leveraging: Credit/GDP growth declining
 ... Non Available

QoQ growth

Last four quarters up until Q1-2015



Q/Q growth > 5%
Q/Q growth between 3 and 5%
Q/Q growth between 1.5% and 3%
Q/Q growth between 0.5% and 1.5%
Q/Q growth between -0.5% and 0.5%
Q/Q growth between -0.5% and -1.5%
Q/Q growth between -1.5% and -3%
Q/Q growth between -3% and -5%
Q/Q growth < -5%

- Moderate growth in US and somehow higher in Japan. Deleverage in UK and Canada
- Few changes in the situation in European Periphery. France, Belgium and Netherlands showing signs of overheating
- Turkey's credit growth picking up again. Russia's leveraging halts
- Private leverage stable or growing moderately throughout LatAm.
- China, Hong Kong and Singapore keep on leveraging at a fast pace.

Country Risk Report

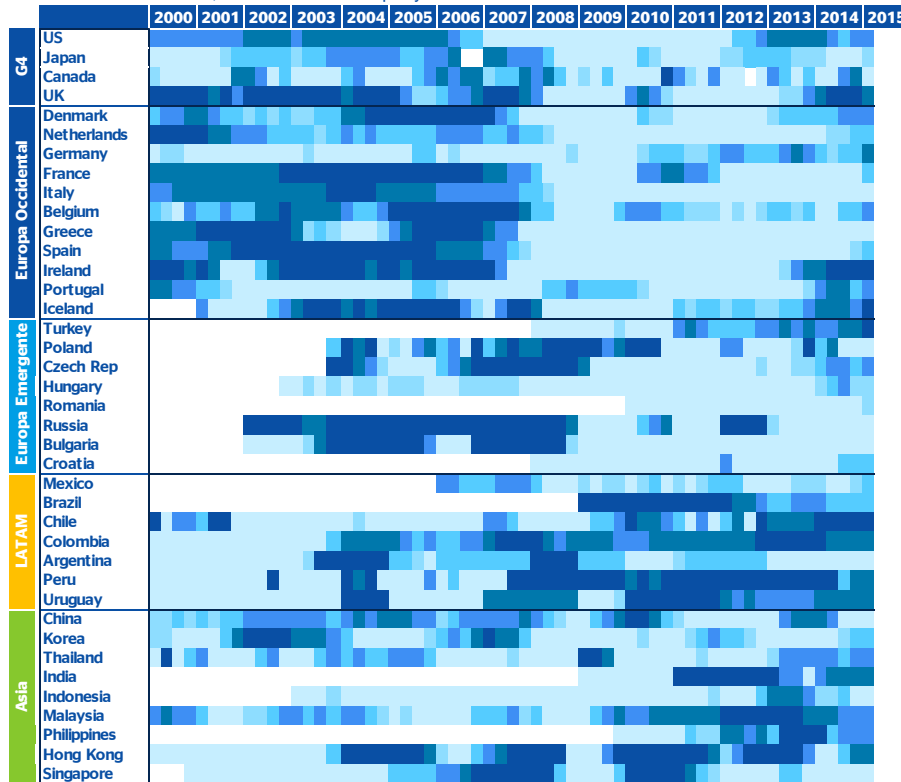
Macroeconomic vulnerability and risk assessment

Strong real growth in housing prices throughout Europe. Correction continues in China, although not in Hong Kong

Real housing prices color map (2000-2015 Q1)

(yearly change of real housing prices YoY)

Source: BBVA Research, BIS and Global Property Guide



Booming: Real House prices growth higher than 8%
 Excess Growth: Real House Prices Growth between 5% and 8%
 High Growth: Real House Prices growth between 3%-5%
 Mild Growth: Real House prices growth between 1%-3%
 Stagnant: Real House Prices growth between 0% and 1%
 De-Leveraging: House prices are declining
 Non Available Data

QoQ Growth

Last four quarters up until Q1-2015



Q/Q growth > 3.5%
 Q/Q growth between 2% and 3.5%
 Q/Q growth between 1% and 2%
 Q/Q growth between 0.5% and 1%
 Q/Q growth between -0.5% and 0.5%
 Q/Q growth between -0.5% and -1%
 Q/Q growth between -1% and -2%
 Q/Q growth between -2% and -3.5%
 Q/Q growth < -3.5%

High growth in prices in US and UK, while prices falling in Canada and are stable in Japan.

Strong quarterly growth in several countries. Spanish prices gaining pace in real terms.

Turkey, Poland, Hungary and Czech Republic prices growing fast

Chilean prices growth losing steam, but still high. Acceleration in Mexico.

China's correction continues but moderates. Growth still strong in HK, and India

Country Risk Report

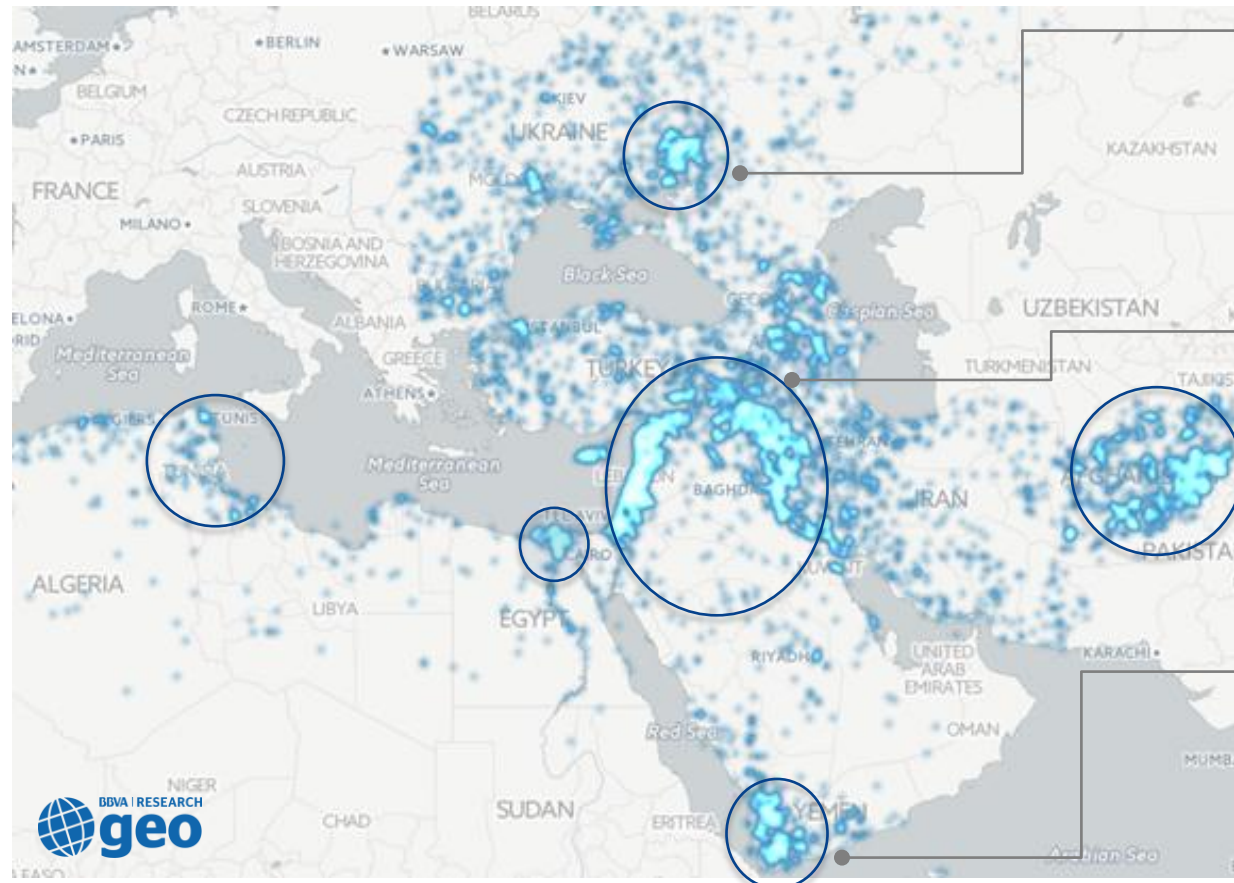
Geopolitical Risks

Geopolitical conflicts continued increasing potential risks...

BBVA Research World Conflict Heatmap (4Q14 to Jun-15)

(Number of conflicts / Total events)

Source: www.gdelt.org & BBVA Research



Ukraine-Russia conflict

The situation is still uncertain with the potential of spreading to the Balkans - Caucasus area

ISIS expanded its territory in Middle East

ISIS also spread to N. Africa and Afghanistan, increasing pressures in fail states

Proxy war in Yemen

The fighting continued and seems likely to drag on

Country Risk Report

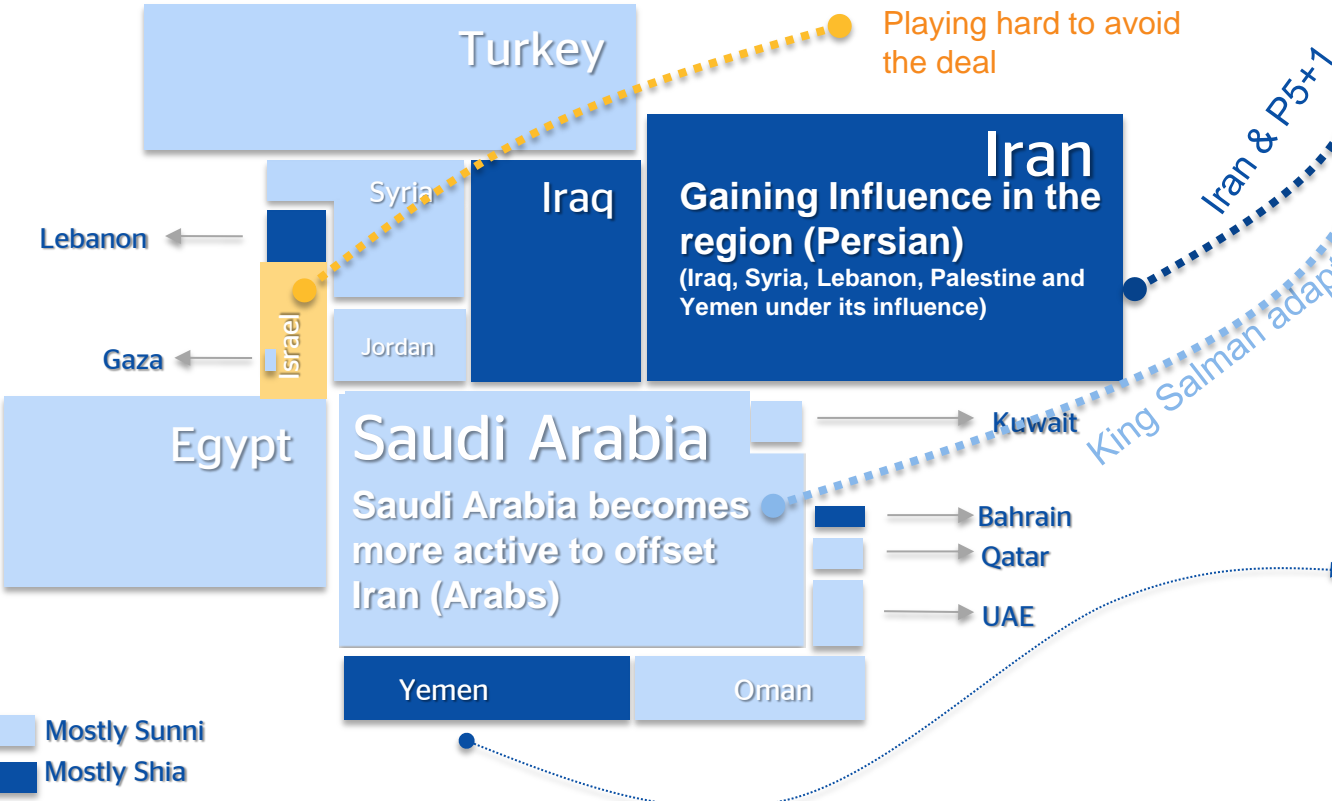
Geopolitical Risks

... and defining the geostrategic roadmap in the Middle East

The geopolitics of the Middle East

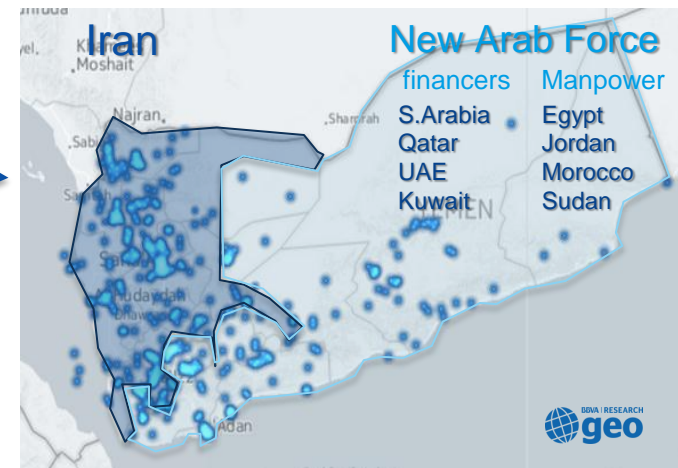
Source: BBVA Research

Still waiting to define



USA Pivot to Asia
 (the move to Asia is generating a power vacuum)

Yemen's Proxy War



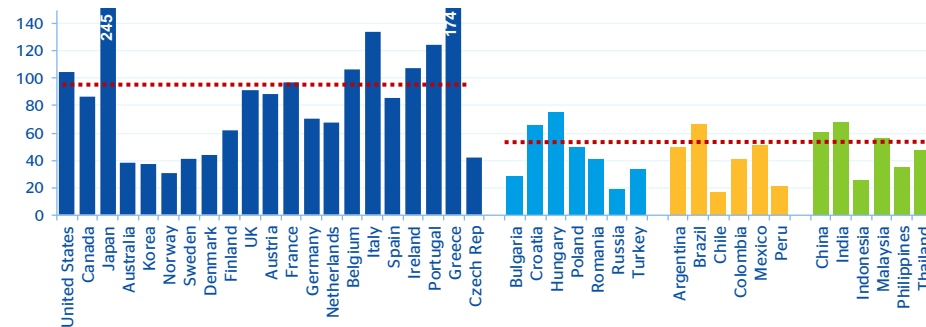
Country Risk Report

Macroeconomic vulnerability and risk assessment

Public and private debt chart gallery

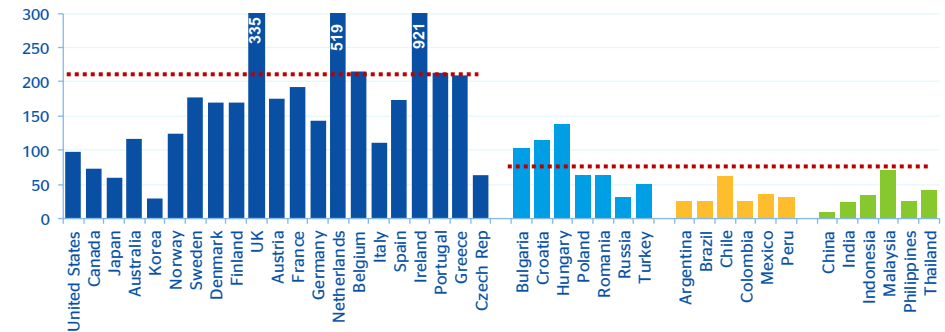
Gross Public Debt 2015

(% GDP)
Source: BBVA Research and IMF



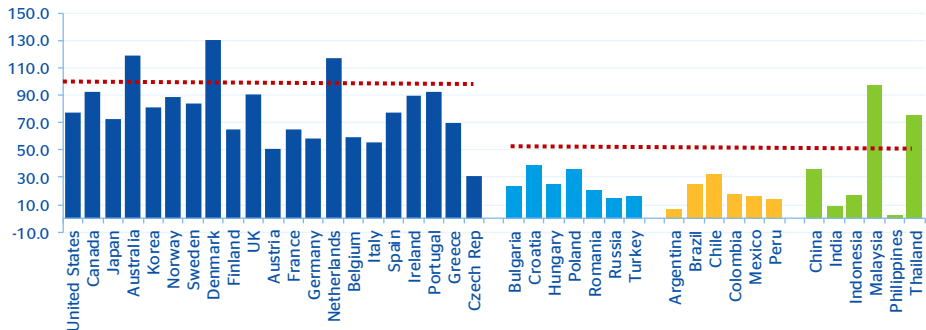
External Debt 2015

(% GDP)
Source: BBVA Research and IMF



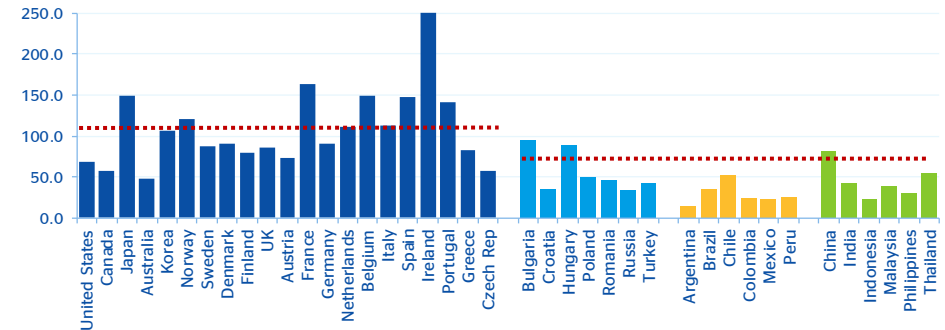
Household Debt 2015

(% GDP)
Source: BBVA Research and BIS



Corporate Sector Debt 2015

(% GDP, excluding bond issuances)
Source: BBVA Research and BIS



..... Risk thresholds

Country Risk Report

Macroeconomic vulnerability and risk assessment

Vulnerability indicators: developed economies

Vulnerability indicators* 2015: developed countries

Source: BBVA Research, Haver, BIS, IMF and World Bank

	Fiscal sustainability			External sustainability			Liquidity management			Macroeconomic performance			Credit and housing			Private debt			Institutional		
	Structural primary balance (1)	Interest rate GDP growth differential 2014-19	Gross public debt (1)	Current account balance (1)	External debt (1)	RER appreciation (2)	Gross financial needs (1)	Short-term public debt (3)	Debt held by non-residents (3)	GDP growth (4)	Consumer prices (4)	Unemployment rate (5)	Private credit to GDP growth (4)	Real housing prices growth (4)	Equity markets growth (4)	Household debt (1)	NF corporate debt (1)	Financial liquidity (6)	WB political stability (7)	WB control corruption (7)	WB rule of law (7)
United States	-1.8	-1.3	105	-3.3	98	16.0	20	14	34	2.9	0.5	5.3	3.6	4.9	7.5	77	68	61	-0.6	-1.3	-1.6
Canada	-1.3	-0.1	87	-3.5	72	-12.3	12	12	22	2.2	1.0	7.0	0.4	0.5	7.4	93	57	132	-1.0	-1.9	-1.8
Japan	-5.4	-0.8	246	1.5	60	-16.7	53	18	8	1.0	0.9	3.7	3.7	-3.1	7.1	73	150	49	-1.0	-1.6	-1.3
Australia	-1.7	0.1	38	-2.7	116	-7.2	6	6	66	2.8	2.6	6.4	10.9	4.7	0.7	119	48	134	-1.0	-1.8	-1.7
Korea	-0.2	-1.2	37	7.5	28	11.2	3	9	13	3.3	2.6	3.6	7.6	1.7	-4.8	81	107	99	-0.2	-0.5	-1.0
Norway	-9.5	-0.5	30	5.7	125	-9.7	-6	8	34	1.0	2.3	3.8	15.0	5.2	4.0	88	120	121	-1.3	-2.3	-1.9
Sweden	-1.1	-2.1	41	5.3	178	-9.0	7	12	45	2.7	0.4	7.7	0.6	8.8	9.9	84	87	204	-1.1	-2.3	-1.9
Denmark	-1.2	-0.9	44	6.4	169	-3.4	9	26	43	1.6	0.8	6.2	-3.9	4.0	20.9	130	90	329	-0.9	-2.4	-1.9
Finland	-0.4	-0.7	62	6.4	169	-3.9	8	9	79	0.8	1.2	8.7	10.0	0.5	5.7	65	80	142	-1.4	-2.2	-1.9
UK	-2.8	-0.8	91	-5.1	311	9.9	12	7	28	2.5	0.3	5.4	-6.1	7.5	-2.7	91	85	57	-0.5	-1.7	-1.7
Austria	0.9	0.7	89	2.3	175	-1.7	7	5	76	0.9	1.1	5.1	2.2	3.3	-15.2	51	73	102	-1.3	-1.5	-1.8
France	-0.3	-0.8	97	-0.9	193	-4.8	17	13	61	1.1	0.1	10.1	8.0	2.2	-0.5	65	163	111	-0.4	-1.3	-1.4
Germany	2.0	-1.0	71	7.7	143	-4.7	6	6	61	1.9	0.3	4.9	0.4	6.1	2.7	58	90	95	-0.9	-1.8	-1.6
Netherlands	1.3	-0.8	68	10.8	481	-3.8	11	12	52	1.6	0.4	7.2	3.1	2.0	5.6	117	112	100	-1.1	-2.0	-1.8
Belgium	0.3	-0.1	107	0.4	216	-4.9	20	16	59	1.3	0.5	8.4	0.0	4.7	11.1	60	149	51	-0.9	-1.6	-1.4
Italy	4.0	0.8	134	2.1	110	-4.7	21	19	36	0.7	0.0	12.6	-1.0	-2.9	0.2	55	112	110	-0.5	0.0	-0.4
Spain	0.9	0.1	85	0.9	173	-4.5	22	16	42	3.0	-0.2	22.3	-10.0	2.5	3.7	77	147	126	0.0	-0.8	-1.0
Ireland	1.0	-1.0	108	4.9	842	-8.5	10	6	62	3.9	0.3	9.8	-27.2	17.3	15.1	89	251	66	-0.9	-1.5	-1.7
Portugal	4.0	0.8	124	1.3	213	-3.4	20	17	72	2.1	0.2	13.1	-9.2	3.5	-21.1	93	141	153	-0.7	-0.9	-1.0
Greece	5.7	-1.8	173	0.6	210	-7.4	10	4	82	2.5	0.1	24.8	-0.4	-2.7	-28.9	70	83	124	0.2	0.1	-0.4

*Vulnerability indicators: (1) % GDP (2) Deviation from four-year average (3) % of total debt (4) % year on year (5) % of Total labour force (6) Financial system credit to deposit (7) Index by World Bank governance indicators

Country Risk Report

Macroeconomic vulnerability and risk assessment

Vulnerability indicators: emerging economies

Vulnerability indicators* 2015: emerging countries

Source: BBVA Research, Haver, BIS, IMF and World Bank

	Fiscal sustainability			External sustainability			Liquidity management			Macroeconomic performance			Credit and housing			Private debt			Institutional		
	Structural primary balance (1)	Interest rate GDP growth differential 2014-19	Gross public debt (1)	Current account balance (1)	External debt (1)	RER appreciation (2)	Gross financial needs (1)	Reserves to short-term external debt (3)	Debt held by non-residents (3)	GDP growth (4)	Consumer prices (4)	Unemployment rate (5)	Private credit to GDP growth (4)	Real housing prices growth (4)	Equity markets growth (4)	Household debt (1)	NF corporate debt (1)	Financial liquidity (6)	WB political stability (7)	WB control corruption (7)	WB rule of law (7)
Bulgaria	-1.8	0.4	29	0.6	103	-4.1	4	1.6	44	1.2	0.3	10.9	-8.5	-4.2	6.2	23	96	91	-0.2	0.3	0.1
Czech Rep	0.2	-1.0	42	-0.5	63	-7.9	8	16	32	2.5	0.8	6.1	-0.5	3.5	-4.3	31	58	81	-1.1	-0.2	-1.0
Croatia	0.1	1.7	65	2.2	115	-3.1	11	3.5	34	0.5	-0.6	17.3	-1.9	1.2	-2.7	38	35	91	-0.6	-0.1	-0.2
Hungary	1.2	0.0	75	4.2	137	-6.1	23	2.8	61	2.7	1.7	7.6	-4.2	0.2	-10.4	26	89	115	-0.8	-0.3	-0.6
Poland	-0.7	-0.7	49	-1.8	64	-2.0	11	3.0	57	3.5	0.4	8.0	2.8	-0.7	0.3	36	49	104	-0.9	-0.5	-0.7
Romania	-0.1	-1.4	41	-1.2	64	-1.5	8	1.5	49	2.7	2.2	6.7	-2.9	0.6	9.1	20	47	95	-0.2	0.2	0.0
Russia	-2.0	-1.0	19	4.5	31	-20.4	5	7.2	15	-3.8	12.0	6.5	3.6	-6.1	-7.1	15	34	118	0.8	1.0	0.8
Turkey	1.5	0.0	33	-4.2	50	0.6	6	0.9	36	3.1	7.0	11.4	5.9	11.1	26.4	16	43	121	1.2	-0.1	0.0
Argentina	-1.6	-10.5	49	-1.1	25	-5.0	11	1.5	59	0.0	25.1	7.8	-1.0	-28.4	59.1	7	15	72	-0.1	0.5	0.7
Brazil	1.6	4.0	66	-4.2	25	-15.5	13	7.1	17	-0.7	7.6	5.6	2.9	1.0	-2.9	26	36	121	0.3	0.1	0.1
Chile	-0.4	-0.6	16	1.0	61	-2.9	3	1.0	16	2.9	3.6	6.5	1.7	10.5	4.1	32	53	153	-0.4	-1.5	-1.4
Colombia	-0.4	1.4	41	-5.8	26	-21.7	6	3.7	25	3.4	3.4	9.0	2.4	5.9	-11.0	18	25	176	1.3	0.4	0.4
Mexico	-1.3	-0.4	51	-2.6	35	-5.1	10	1.8	33	2.5	2.8	4.7	2.1	2.5	1.9	16	22	76	0.7	0.5	0.6
Peru	-0.1	-1.1	21	-4.6	30	-8.7	3	8.9	40	3.8	2.5	6.0	2.9	5.0	-6.1	14	25	96	0.8	0.4	0.6
China	-1.1	-6.4	61	3.4	8	14.9	4	5.8	...	7.0	1.2	4.1	10.7	-7.1	35.6	36	81	164	0.5	0.4	0.5
India	-2.1	-3.8	68	-1.5	23	14.0	11	3.7	7	7.6	5.8	5.5	1.1	5.2	29.9	9	43	80	1.2	0.6	0.1
Indonesia	-1.0	-5.0	26	-2.9	34	0.0	4	2.4	56	5.2	5.4	5.8	1.0	-0.3	22.3	17	22	99	0.5	0.6	0.6
Malaysia	-1.9	-3.0	57	3.8	71	-1.8	9	1.4	28	4.8	2.7	3.0	3.5	4.4	-5.7	97	--	102	-0.1	-0.4	-0.5
Philippines	0.9	-2.7	35	4.5	26	13.0	7	7.6	31	6.7	2.4	6.2	1.2	3.5	22.8	3	30	62	1.1	0.4	0.5
Thailand	-0.6	-3.0	48	3.7	41	9.7	10	2.3	12	3.7	2.1	0.8	3.2	4.1	15.3	75	54	100	1.3	0.3	0.2

*Vulnerability indicators: (1) % GDP (2) Deviation from four-year average (3) % of total debt (4) % year on year (5) % of total Labour force (6) Financial system credit to deposit (7) Index by World Bank governance indicators

Country Risk Report Annex

Methodology: indicators and maps

- **Financial Stress Map:** It stresses levels of stress according to the normalised time series movements. Higher positive standard units (1.5 or higher) stand for high levels of stress (dark blue) and lower standard deviations (-1.5 or below) stand for lower level of market stress (lighter colours)
- **Sovereign Rating Index:** An index that translates the letter codes of the three important rating agencies' rating (Moody's, Standard & Poors and Fitch) to numerical positions from 20 (AAA) to default (0). The index shows the average of the three rescaled numerical ratings
- **Sovereign CD Swaps Map:** It shows a colour map with six different ranges of CD Swaps quotes (darker >500, 300 to 500, 200 to 300, 100 to 200, 50 to 100 and the lighter below 50 bp)
- **Downgrade Pressure Gap:** The gap shows the difference between the implicit ratings according to the Credit Default Swaps and the current ratings index (numerically scaled from default (0) to AAA (20)). We calculate implicit probabilities of default (PD) from the observed CDS and the estimated equilibrium spread. For the computation of these PDs we follow a standard methodology as described in Chan-Lau (2006), and we assume a constant Loss Given Default of 0.6 (Recovery Rate equal to 0.4) for all the countries in the sample. We use the resulting PDs in a cluster analysis to classify each country at every point in time in one of 20 different categories (ratings) to emulate the same 20 categories used by the rating agencies. The graph plots the difference between CDS-implied sovereign rating and the actual sovereign rating index, in notches. Higher positive differences account for potential Upgrade pressures and negative differences account for Downgrade potential. We consider the +/- 2 notches area as being Neutral
- **Vulnerability Radars and Risk Thresholds Map:**
 - A Vulnerability Radar shows a static and comparative vulnerability for different countries. For this we assigned several dimensions of vulnerabilities, each of them represented by three vulnerability indicators. The dimensions included are: Macroeconomics, Fiscal, Liquidity, External, Excess Credit and Assets, Private Balance Sheets and Institutional. Once the indicators are compiled, we reorder the countries in percentiles from 0 (lower ratio among the countries) to 1 (maximum vulnerabilities) relative to their group (Developed Economies or Emerging Markets). Furthermore, Inner positions (near 0) in the radar shows lower vulnerability, while outer positions (near 1) stand for higher vulnerability. Furthermore, we normalize each value with respect to given risk thresholds, whose values have been computed according to our own analysis or empirical literature. If the value of a variable is equal to the threshold, it would take a value of 0.8 in the radar.

Country Risk Report Annex

Methodology: indicators and maps

Risk thresholds table

Vulnerability Dimensions	Risk thresholds Developed Economies	Risk thresholds emerging economies	Risk direction	Research
Macroeconomics				
GDP	1.5	3.0	Lower	BBVA Research
Inflation	4.0	10.0	Higher	BBVA Research
Unemployment	10.0	10.0	Higher	BBVA Research
Fiscal vulnerability				
Cyclically adjusted deficit ("Structural Deficit")	-4.2	-0.5	Lower	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/100
Expected interest rate GDP growth diferential 5 years ahead	3.6	1.1	Higher	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/100
Gross public bebt	73.0	43.0	Higher	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/100
Liquidity problems				
Gross financial needs	17.0	21.0	Higher	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/100
Debt held by non residents	84.0	40.0	Higher	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/101
Short term debt pressure				
Public short-term debt as % of total public debt (Developed)	9.1		Higher	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/100
Reserves to short-term debt (Emerging)		0.6	Lower	Baldacci et Al (2011). Assessing fiscal stress. IMF WP 11/100
External Vulnerability				
Current account balance (% GDP)	4.0	6.0	Lower	BBVA Research
External debt (% GDP)	200.0	60.0	Higher	BBVA Research
Real exchange rate (Deviation from 4 yr average)	5.0	10.0	Higher	EU Commission (2012) and BBVA Research
Private Balance Sheets				
Household debt (% GDP)	84.0	84.0	Higher	Chechetti et al (2011). "The real effects of debt". BIS Working Paper 352 & EU Comission (2012)
Non-financial corporate debt (% GDP)	90.0	90.0	Higher	Chechetti et al (2011). "The real effects of debt". BIS Working Paper 352 & EU Comission (2013)
Financial liquidity (Credit/Deposits)	130.0	130.0	Higher	EU Commission (2012) and BBVA Research
Excess Credit and Assets				
Private credit to GDP (annual change)	8.0	8.0	Higher	IMF global financial stability report
Real housing prices growth (% YoY)	8.0	8.0	Higher	IMF global financial stability report
Equity growth (% YoY)	20.0	20.0	Higher	IMF global financial stability report
Institutions				
Political stability	0.2 (9th percentile)	-1.0 (8th percentile)	Lower	World Bank governance Indicators
Control of corruption	0.6 (9th percentile)	-0.7 (8th percentile)	Lower	World Bank governance Indicators
Rule of law	0.6 (8th percentile)	-0.6 (8 th percentile)	Lower	World Bank governance Indicators

Methodology: models and BBVA country risk

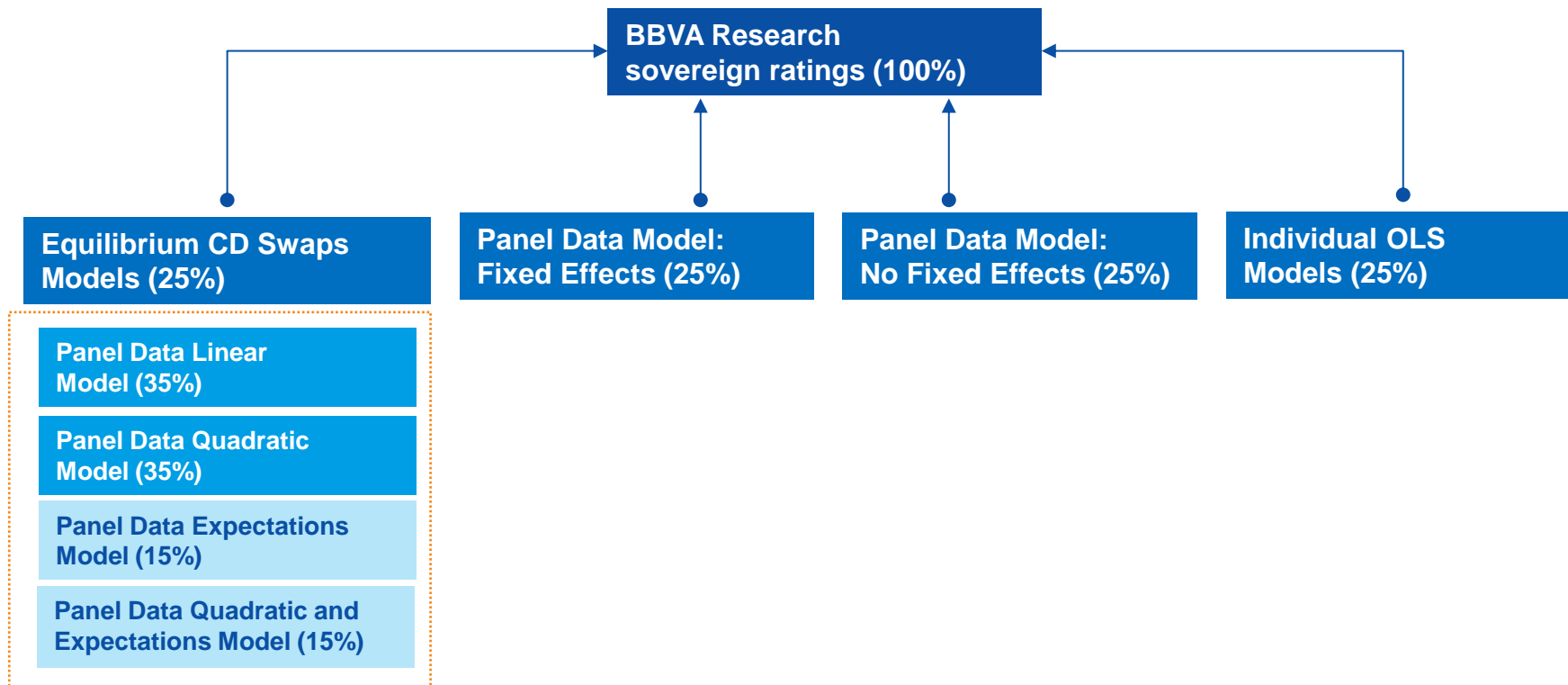
- BBVA Research sovereign ratings methodology: We compute our sovereign ratings by averaging four alternative sovereign rating models developed at BBVA Research:
 - Credit Default Swaps Equilibrium Panel Data Models: This model estimates actual and forecast equilibrium levels of CD Swaps for 40 developed and emerging markets. The long-run equilibrium CD Swaps are the result of four alternative panel data models. The averages of these equilibrium values are finally converted to a 20 scale sovereign rating scale. The CDS equilibrium is calculated by a weighting average of the four CDS equilibrium model estimates (30% for the linear and quadratic models and 15% for each expectation model to correct for expectation uncertainty). The weighted average is rounded by 0.5 standard deviation confidence bands. The models are the following
 - Linear Model (35% weight): Panel Data Model with fixed effects including global risk aversion, GDP growth, inflation, public debt and institutional index for developed economies, and adding external debt and reserves to imports for emerging markets
 - Quadratic Model (35% weight): This is similar to the Linear Panel Data Model but including a quadratic term for public (developed and emerging) and external debt (emerging)
 - Expectations Model (15% weight): This is similar to the linear model, but public and external debt account for one year's expected values
 - Quadratic Expectations Model (15% weight): Similar to the expectations model, but including quadratic terms of public debt and external debt expectations
 - Sovereign Rating Panel Data Ordered Probit with Fixed Effects Model: The model estimates a sovereign rating index (a 20 numerical scale index of the three sovereign rating agencies) through ordered probit panel data techniques. This model takes into account idiosyncratic fundamental stock and flows sustainability ratios allowing for fixed effects, thus including idiosyncratic country-specific effects
 - Sovereign Rating Panel Data Ordered Probit without Fixed Effects Model: The model estimates a sovereign rating index (a 20 numerical scale index of the three sovereign rating agencies) through ordered probit panel data techniques. This model takes into account idiosyncratic fundamental stock and flows sustainability but fixed effects are not included, thus all countries are treated symmetrically without including the country-specific long-run fixed effects
 - Sovereign Rating Individual OLS models: These models estimate the sovereign rating index (a 20 numerical scale index of the three sovereign rating agencies) individually. Furthermore, parameters for the different vulnerability indicators are estimated taken into account the history of the country, independent of others



Methodology: models and BBVA country risk

BBVA Research sovereign ratings methodology diagram

Source: BBVA Research



Country Risk Report

Annex

Methodology: tracking protests and conflicts

We have developed a tracking of protest and conflict indexes for every country in the world from 1 January 1979 to the present day with daily, monthly, quarterly and annual frequencies. To construct this, we use a rich 'big database' of international events (GDELT at www.gdelt.org) which monitors world events covered by the news media from nearly every corner of the world in print, broadcast and web formats, in over 100 languages, 24 hours a day and which stretches back to 1979 with daily updates.

- **BBVA Protest Intensity Index:** We collect every registered protest in the world for a particular time which are separately collated under the various headings of the CAMEO taxonomy: demonstrate or rally, demonstrate for leadership change, demonstrate for policy change, demonstrate for rights, demonstrate for change in institutions and regime, conduct hunger strike for leadership change, conduct hunger strike for policy change, conduct hunger strike for rights, conduct hunger strike for change in institutions and regime, conduct hunger strike not specified before, conduct strike or boycott for leadership change, conduct strike or boycott for policy change, conduct strike or boycott for rights, conduct strike or boycott for change in institutions and regime, conduct strike or boycott not specified before, obstruct passage or block, obstruct passage to demand leadership change, obstruct passage to demand policy change, obstruct passage to demand rights, obstruct passage to demand change in institutions and regime, protest violently or riot, engage in violent protest for leadership change, engage in violent protest for policy change, engage in violent protest for rights, engage in violent protest for change in institutions and regime, engage in political dissent not specified before.
- **BBVA Conflict Intensity Index:** In the same way, we collect every registered conflict in the world for a particular time considering a wide variety of conflicts under the CAMEO taxonomy headings: impose restrictions on political freedoms, ban political parties or politicians, impose curfew, impose state of emergency or martial law, conduct suicide, carry out suicide bombing, carry out car bombing, carry out roadside bombing, car or other non-military bombing not specified below, use as human shield, use conventional military force not previously specified, impose blockade, restrict movement, occupy territory, fight with artillery and tanks, employ aerial weapons, violate ceasefire, engage in mass expulsion, engage in mass killings, engage in ethnic cleansing, use unconventional mass violence not previously specified, use chemical, biological, or radiological weapons, detonate nuclear weapons, use weapons of mass destruction not previously specified.

Using this information, we construct an intensity index for both events. The number of protests and conflicts each day/month/quarter/year are divided by the total number of all events recorded by GDELT for that day/month/quarter/year to create a protest and conflict intensity score that tracks just how prevalent protest and conflict activity has been over the last quarter century, correcting for the exponential rise in media coverage over the last 30 years and the imperfect nature of computer processing of the news.



18,02	17,13	0,16	23,34	US4581401001	Inte	18,02	23,34	
-8,81	23,53	23,13	0,92	US4612021034	Intal	18,02	23,34	
1,66	46,41	44,9	0,1	US46185R1005	Intitrogen	18,02	23,34	
	22,44			US4661211016	IDS (Empire)	18,02	23,34	
	0,28			US4620181041	Jupiter Networks	18,02	23,34	
				US4824801009	KLA Service	18,02	23,34	
				US4987801051	Kilobyte Hold	18,02	23,34	
				US5128151012	Lamar Athl &	18,02	23,34	
				US5127911002	Lamar Athl &	18,02	23,34	

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