

BBVA Research

Country Risk Report

A Quarterly Guide to Country Risks – January 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

- Financial tensions are **building up** in several regions and **volatility is on the rise** in different markets (particularly in FX)
- **Geopolitical risks are still alive** even though markets are ignoring them.
- Portfolio flows will continue to digest the Fed's wording probably until the path of rate increases settles in. Reallocation from EMs to DMs continues.

Sovereign markets and ratings agencies update

- Increased divergence in CDS sovereign markets. The **ECB's push** limits Greece's spill-overs
- **Increasing activity from rating agencies**. Russia, Greece, Austria and France downgraded. Ireland, Slovenia and Philippines upgraded.
- **Market pressure for a new downgrade in Russia continues**. Downgrade pressure still high for China. **Potential upgrade for Spain and Ireland**.

Our own country risk assessment

- Monetary policy divergence will continue to affect flows and markets further.
- Some key EM markets with potential spill-overs still in difficulties: Russian **woes** should be monitored.
- As FED's monetary policy normalizes, the monitoring and correcting imbalances should be enhanced

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**
- 5. Special topic:**

- A look into European Credit Lines Interconnectedness

Annex

- Methodological appendix

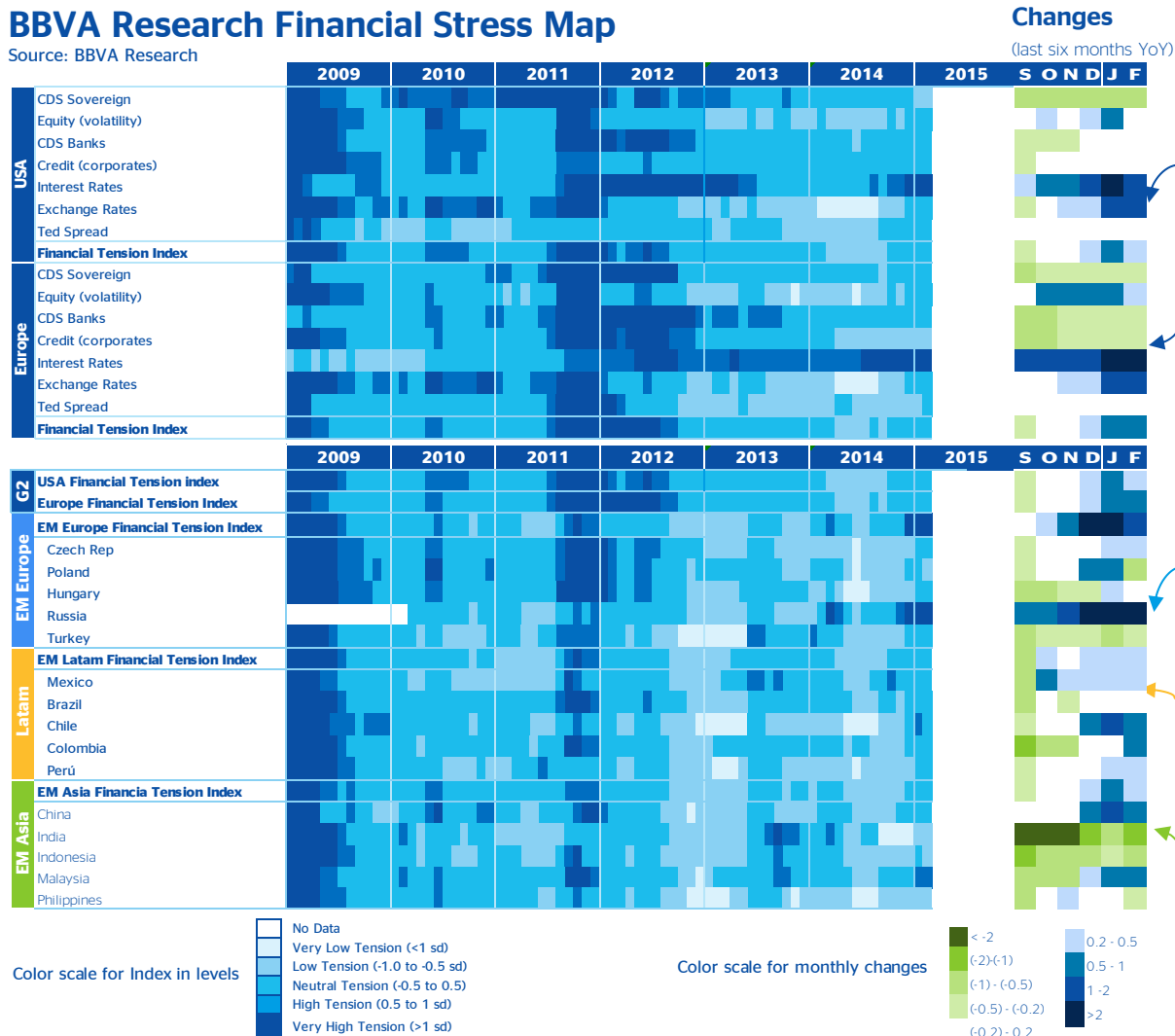
Country Risk Report

International financial markets, global risk aversion and capital flows

Mixed signals but financial tensions on the rise

BBVA Research Financial Stress Map

Source: BBVA Research



Changes
(last six months YoY)

Sharp increase in interest rates and exchange-rate volatility in the US.

Increasing tension in interest-rate volatility in Europe passing through gradually to equity and exchange rates markets.

Moderating financial tensions in corporate bonds and banks' CDS.

Financial tensions in Russia have surged, dragging up EM Europe financial tension. Mixed signals in Turkey (increasing, but still lower in annual terms).

Pressures are building up in LatAm. Brazil and Chile the worst affected, followed by Mexico.

Mixed signals in EM Asia. High financial tensions in Malaysia, and on the rise in China.

Color scale for Index in levels

- No Data
- Very Low Tension (<1 sd)
- Low Tension (-1.0 to -0.5 sd)
- Neutral Tension (-0.5 to 0.5)
- High Tension (0.5 to 1 sd)
- Very High Tension (>1 sd)

Color scale for monthly changes

- < -2
- (-2)-(-1)
- (-1)-(-0.5)
- (-0.5)-(-0.2)
- (-0.2)-0.2
- 0.2-0.5
- 0.5-1
- 1-2
- >2



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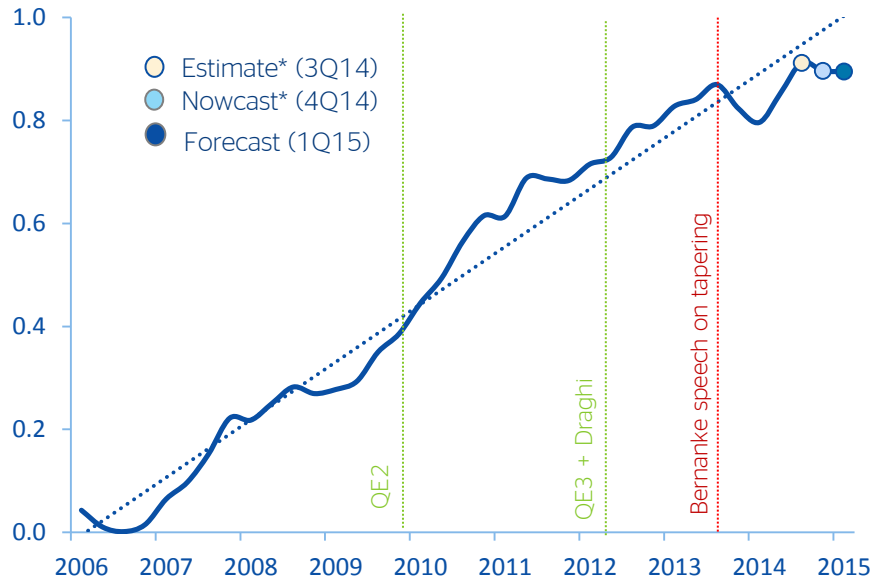
International financial markets, global risk aversion and capital flows

Official Portfolio Flows react to Fed's wording

BBVA cumulative EM portfolio flows (BoP)

(Country flows over total assets cumulated since 2005)

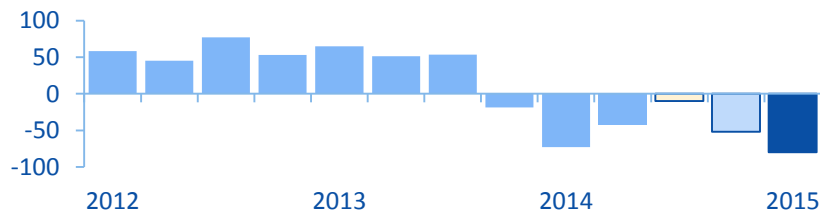
Source: BBVA Research



- **Official BoP data releases**
(offers first evidence of reversal as Fed signals policy normalisation)
- **EM flows adjustment still at play**
(USD896bn in 4Q14 or -USD15.7bn vs. 3Q14)
- **The adjustment will continue in 1Q15**
(-USD1.5bn vs 4Q14)

Official Data Imbalance Assessment

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



Reaching close to USD80bn below long-term trend (USD79.8bn in 1Q15)



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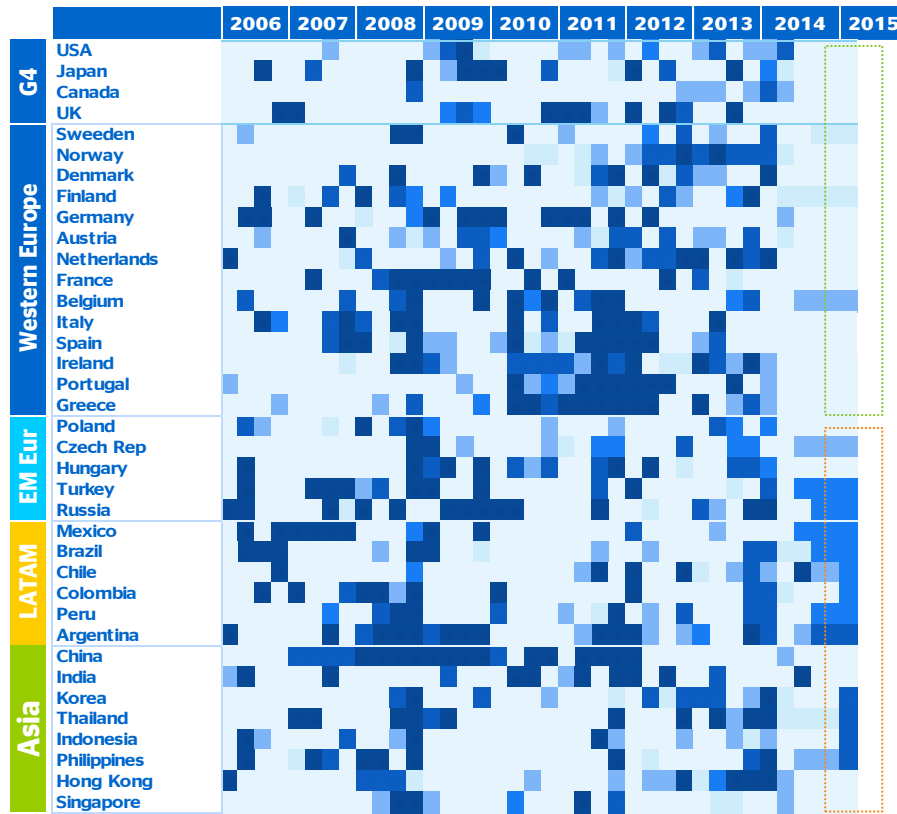
International financial markets, global risk aversion and capital flows

Reallocation continues, EM Europe & LatAm worst hit

BBVA balance of payments portfolio update

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

Updated 10 March 2015, Source: BBVA Research



- **Portfolio reallocation from EMs to DMs expected to continue**, but moderates with respect to last quarter.
- **Emerging Europe and LatAm worst affected** but drivers are different, global for LatAm (Fed normalisation) and regional/local for EM (geopolitical strains).
- **Divergent policies**: the ECB surprised by activating a more intense than anticipated QE (close to USD60bn monthly purchases of corporate and sovereign debt). The effects of Fed policy will dominate globally with central bank decoupling in some regions
- **We expect a net negative effect for portfolio flows to EMs** derived from global monetary policy.

Sharp Capital Outflows (below -15 %)

 Strong Capital Outflows (between -6 % and -15 %)

 Moderate Capital Outflows (between 0 and -6 %)

 Moderate Capital Inflows (between 0 and 6 %)

 Strong Capital Inflows (between 6 % and 15 %)

 Booming Capital Inflows (greater than 15 %)

▶ Q4-14: Estimate and Nowcast of BoP data using BBVA DFM/FAVAR

 ▶ Q1-15: Forecasting of BoP Data using BBVA DFM/FAVAR



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Sovereign markets and rating agencies

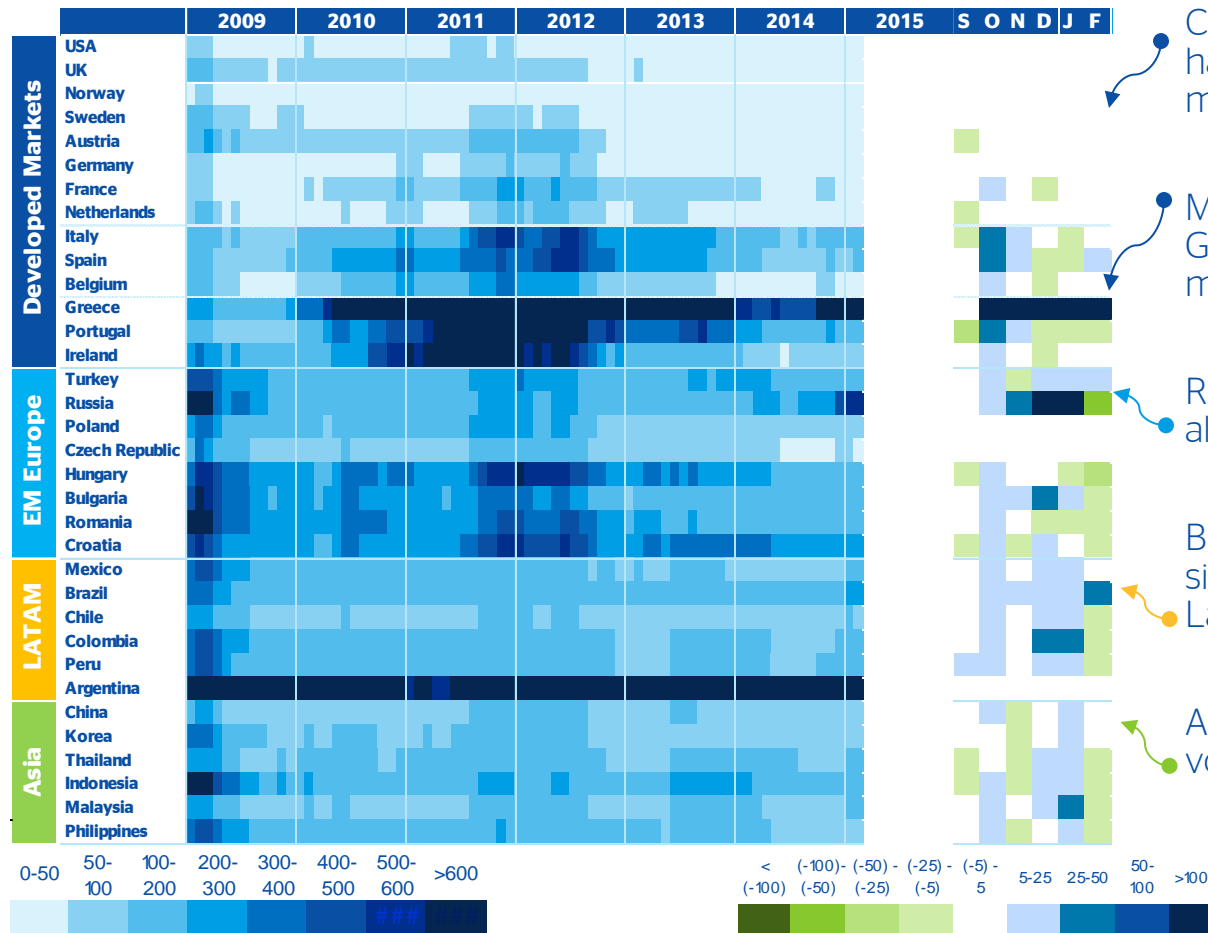
Volatile risk premiums. Russia and Greece still worst performers

Sovereign CDS spreads

Source: Datastream and BBVA Research

Changes

(last six months MoM)



CDS spreads in the most advanced markets have completed more than two years at minimum levels.

Mixed performance of periphery CDS spreads. Greece is the worst performer again; meanwhile Portugal is at a five-year low.

Russia's CDS blew up during the last quarter, although it corrected in February.

Brazil spread has reached levels not observed since Lehman. Other sovereign spreads in LatAm are also deteriorating.

Asian sovereigns spreads are showing some volatility and mixed signals.



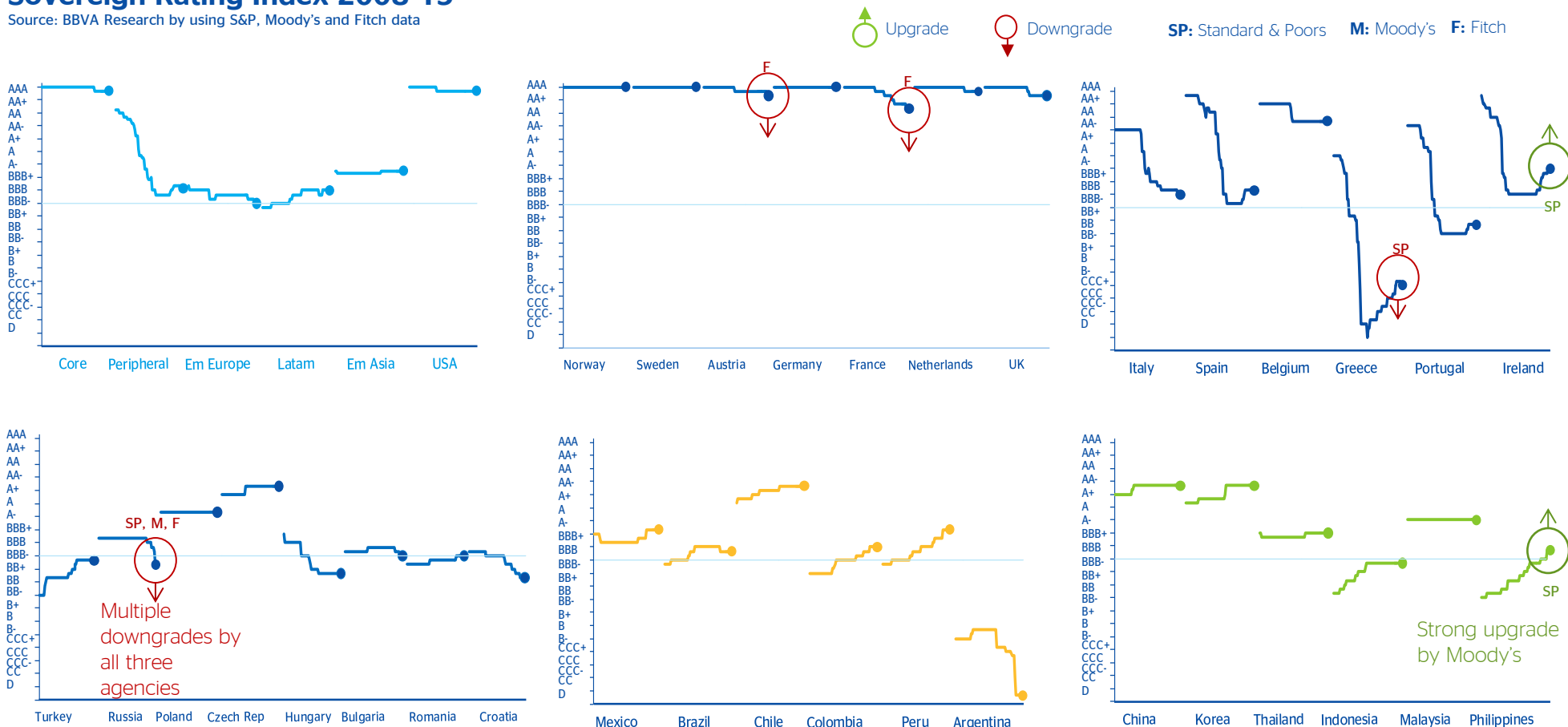
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Sovereign markets and agency ratings

Russia goes to Junk. Greece moves backwards

Sovereign Rating Index 2008-15

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



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.



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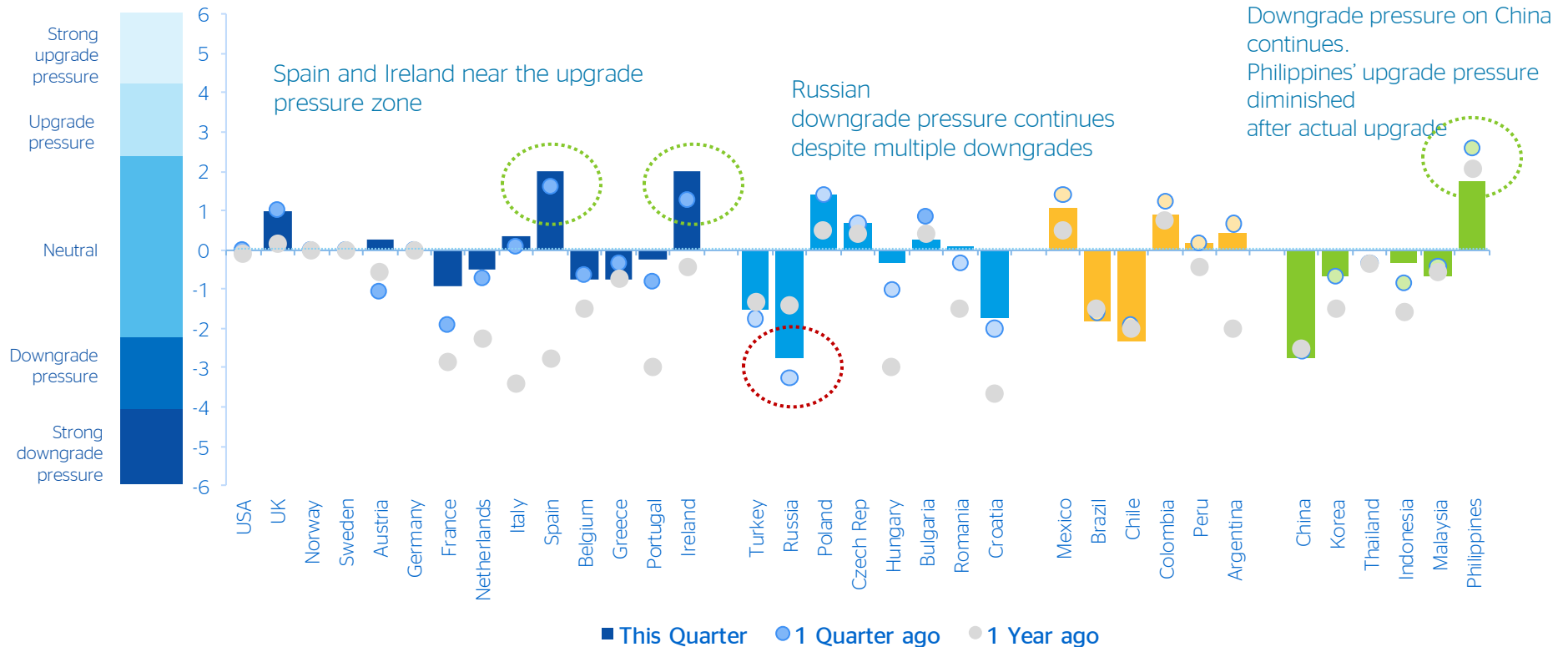
Sovereign Markets & Ratings Update

Spain and Ireland in potential upgrade. Pressures to downgrade Russia continue

Agency rating downgrade pressure gap (Feb. 2015)

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

Source: BBVA Research



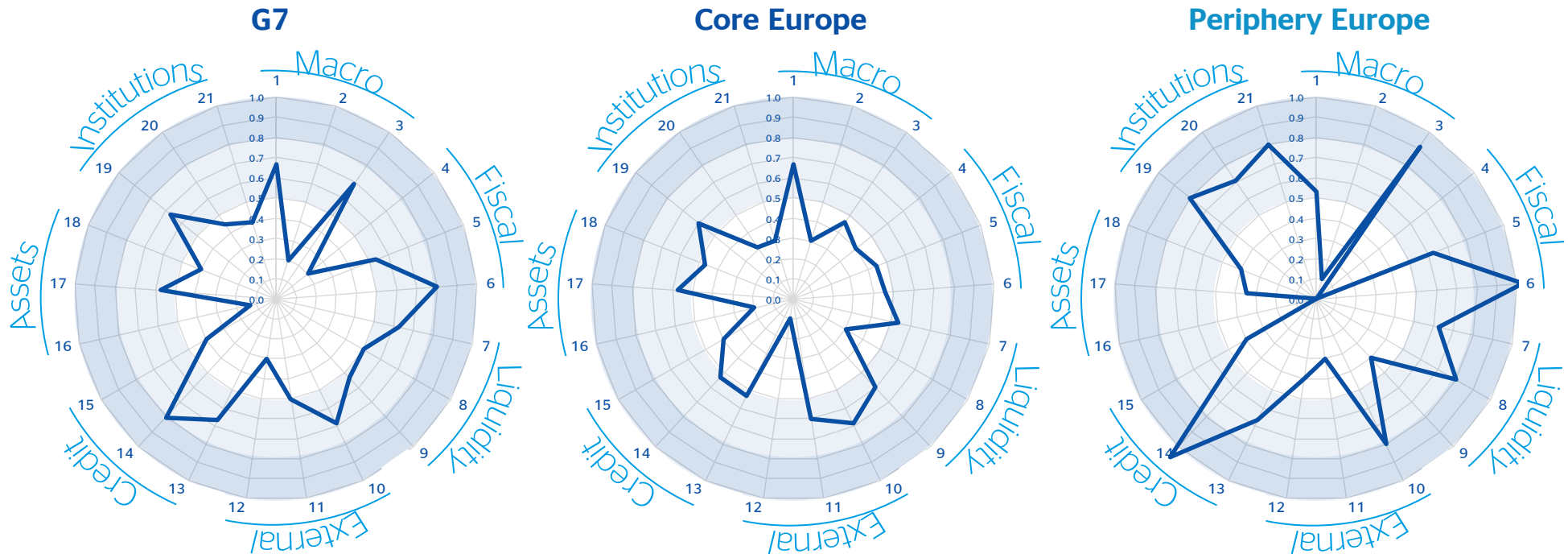
Country Risk Report

Macroeconomic vulnerability and risk assessment

Macro outlook improves, but fiscal 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. External debt should be monitored

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 (%) (19) Institutional: (19) Political stability (20) Corruption (21) Rule of law

Country Risk Report

Macroeconomic vulnerability and risk assessment

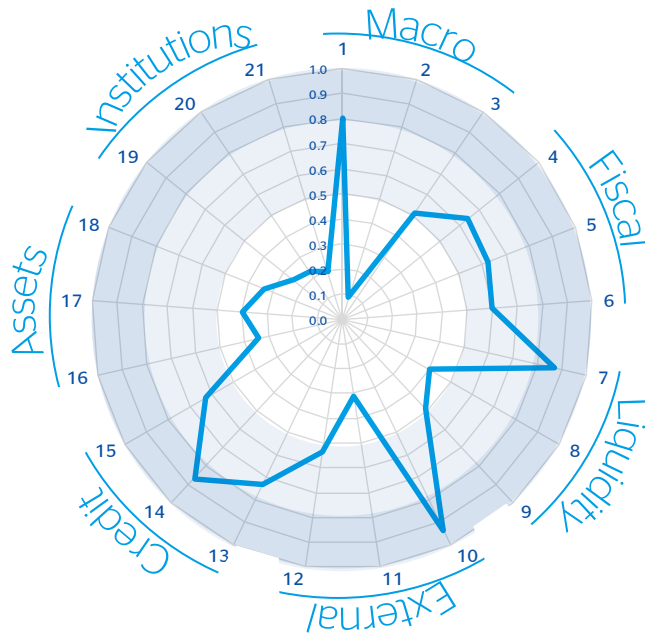
Liquidity & External risk in EM Europe, Fiscal vulnerability increasing in both LatAm and EM Asia

Emerging countries: vulnerability radar 2015

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

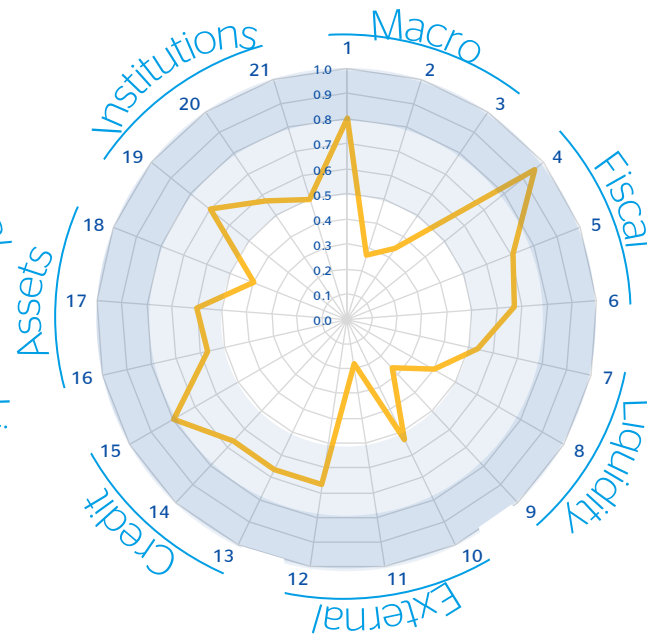
Source: BBVA Research

Emerging Europe



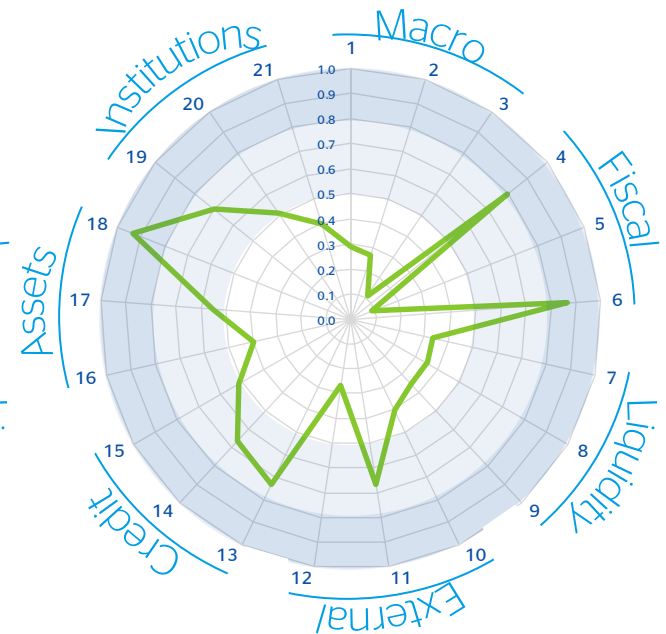
Very high external vulnerability, stemming from both high corporate and public external leverage.

LatAm



Fiscal vulnerability has grown due to a low-growth environment and lower commodity prices

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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Country Risk Report

Macroeconomic vulnerability and risk assessment

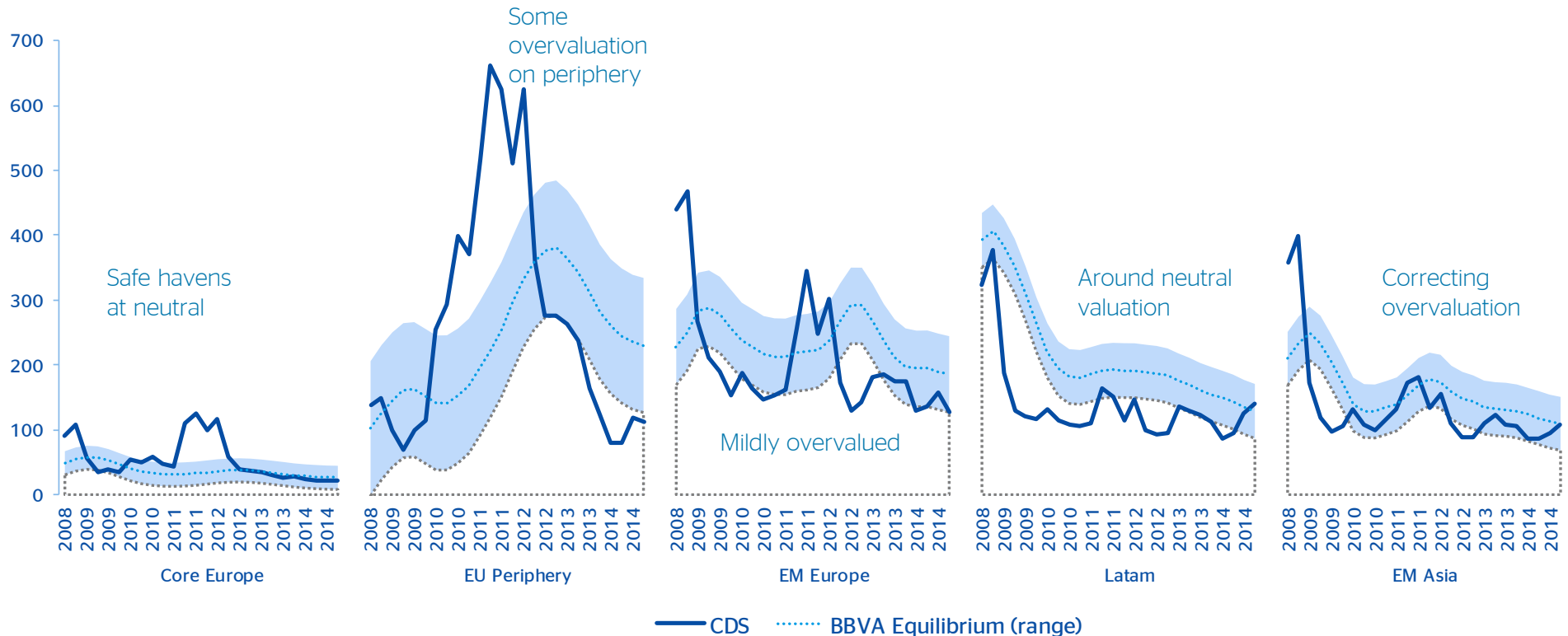
Europe slightly overvalued after ECB's push, Latam and Asia back to equilibrium

CDS and equilibrium risk premium

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

*EU Periphery excludes Greece

Source: BBVA Research and Datastream





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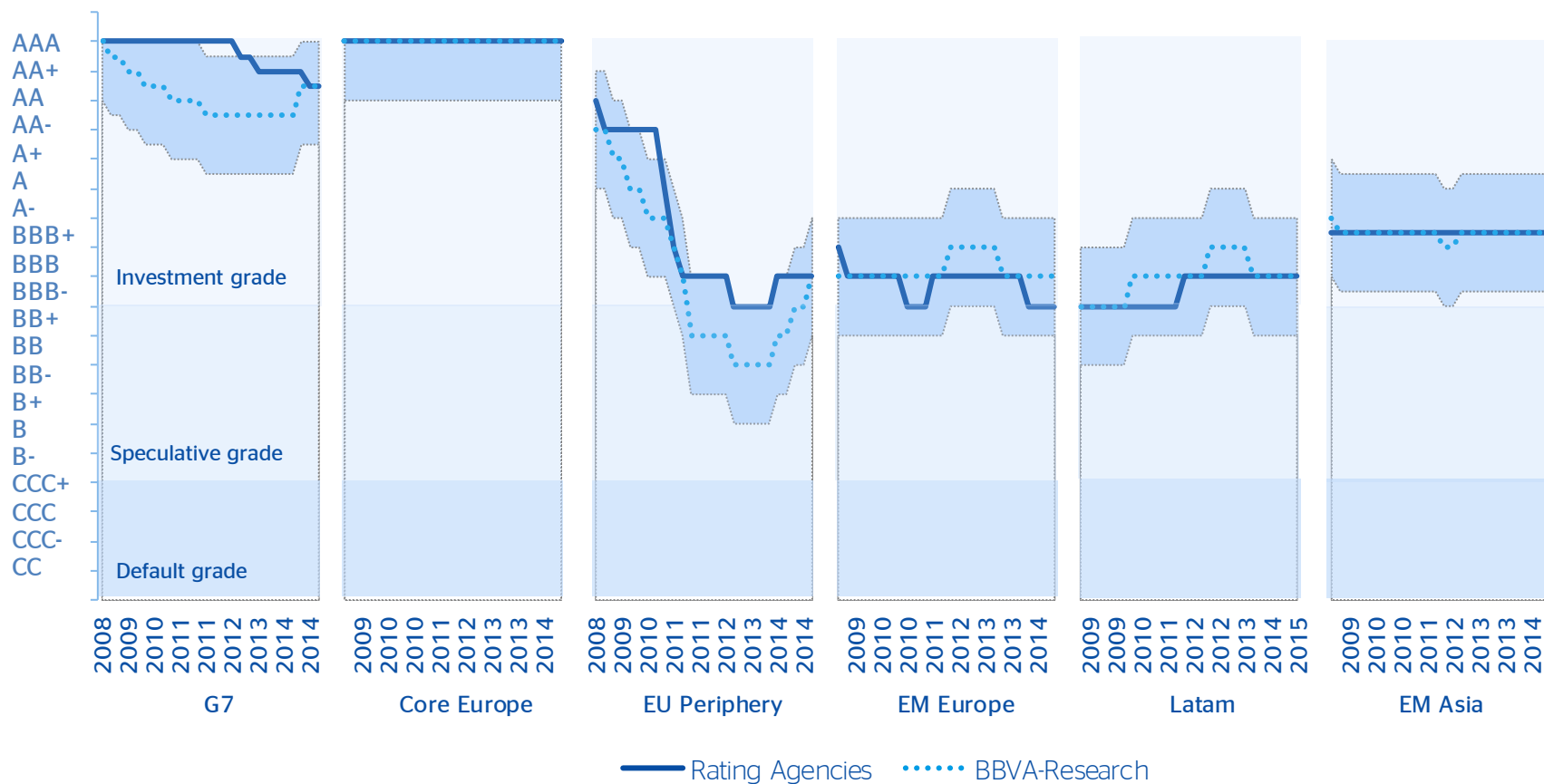
Macroeconomic Vulnerability and Risk Assessment

Europe recovering positions and EM stable so far

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

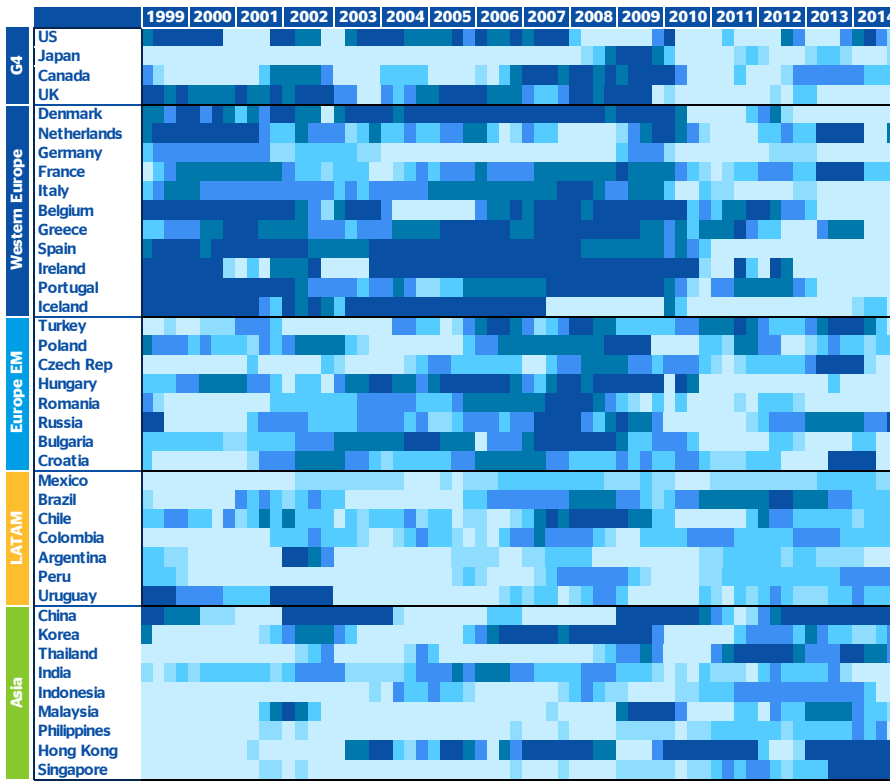
Macroeconomic vulnerability and risk assessment

FX peggers in EM Asia should be monitored. China and Turkey moderates and Russia accelerates

Private credit colour map (1999-2014 Q4)

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

Source: BBVA Research and Haver



QoQ growth

Last four quarters up until Q4-2014



- Sluggish credit growth in the US and Canada
- Signs of excessive growth in the Netherlands. Central & peripheral Europe deleveraging intensifies.
- Turkey's leverage growth has stalled. Russia's leveraging accelerates
- Private leverage stable or growing moderately in LatAm.
- China's credit growth still high in annual terms, but moderated during the quarter. Hong Kong & Singapore still at high levels

Booming: Credit/GDP growth is higher than 5%
Excess Credit Growth: Credit/GDP growth between 3%-5%
High Growth: Credit/GDP growth between 2%-3%
Mild Growth: Credit/GDP growth between 1%-2%
Stagnant: Credit/GDP is declining between 0%-1%
De-leveraging: Credit/GDP growth declining
 ... Non Available

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%

Country Risk Report

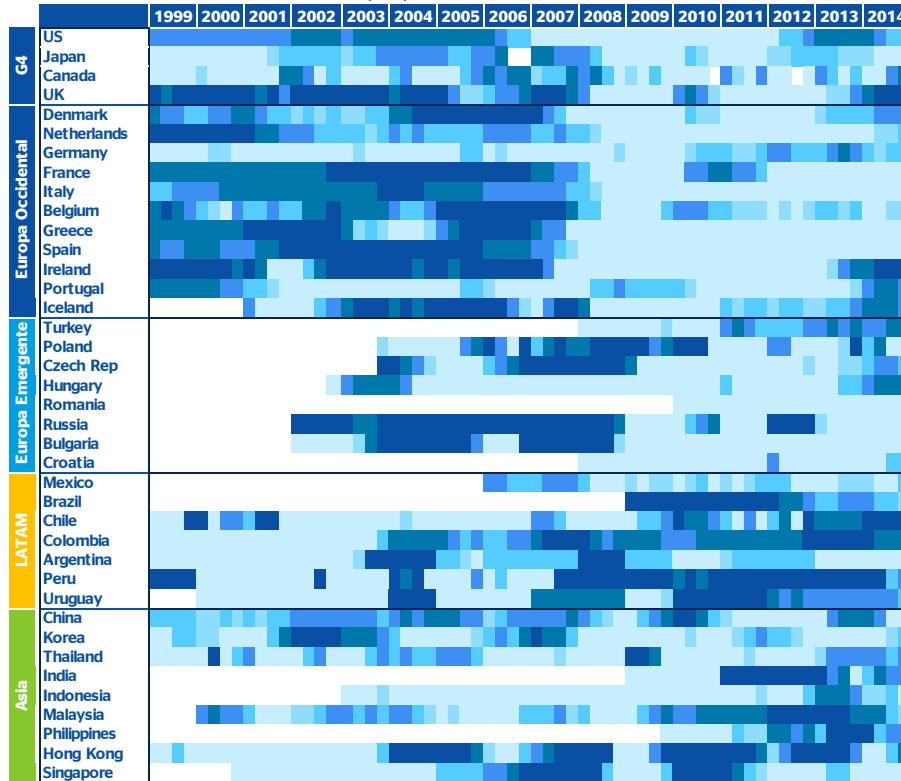
Macroeconomic vulnerability and risk assessment

Mixed signals in European housing market. Correction in China is under way

Real house prices colour map (1999-2014 Q4)

(yearly change of real housing prices YoY)

Source: BBVA Research, BIS and Global Property Guide



QoQ Growth

Last four quarters up until Q4-2014



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

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%

- Mixed signals from US and Canada. UK prices growing fast, but decelerating.
- Strong recovery in Ireland and Portugal. Spanish prices are still stagnant.
- Turkey, Hungary and Romania still showing strong growth
- Chilean prices still growing fast. Colombia's growth continues at a moderate pace and Peru is decelerating
- China's correction continues for a second quarter. Growth still strong in HK and Philippines



Country Risk Report

Geopolitical Risks

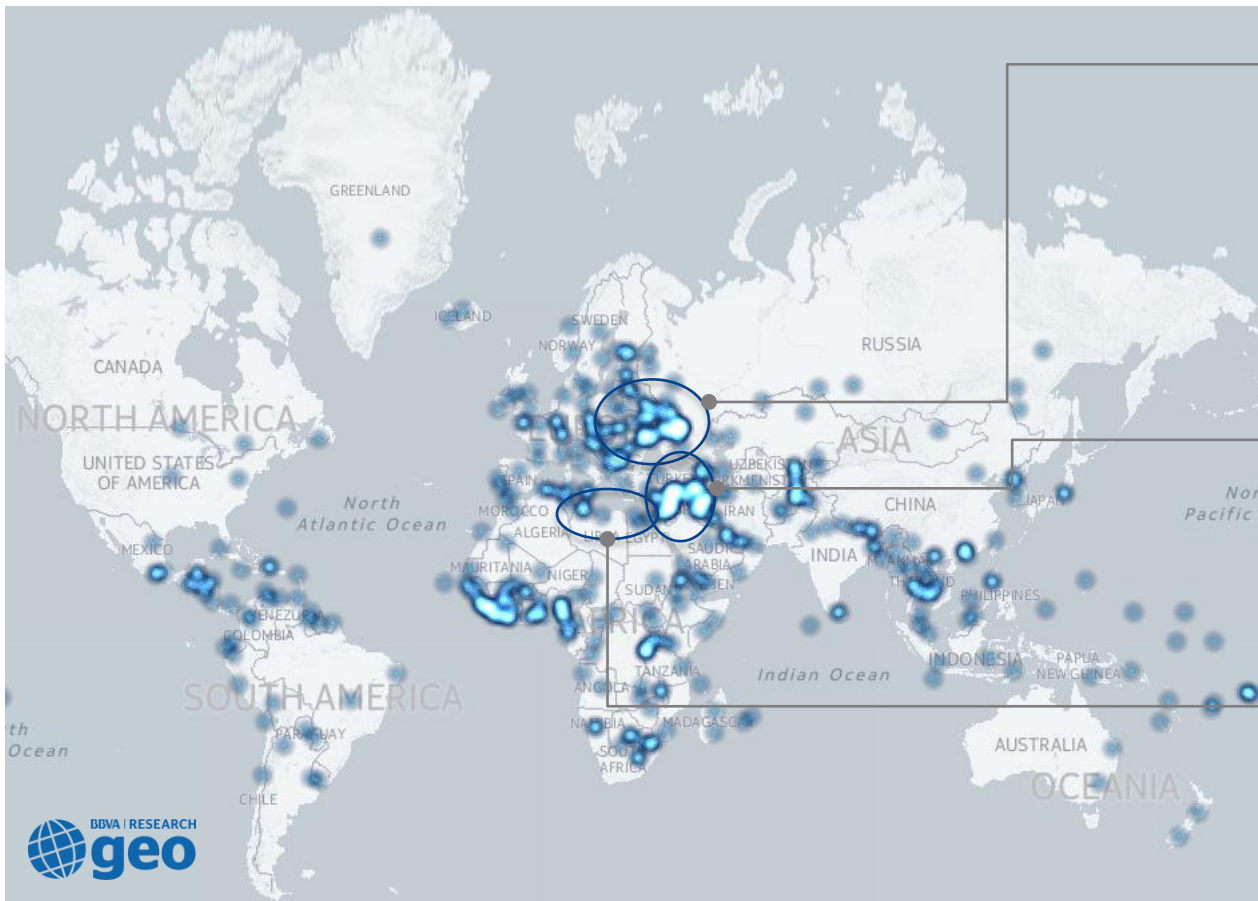
Geopolitical conflicts still alive

Russia-Ukraine & IS still there raising potential risks

BBVA Research World Conflict Heatmap (2H 2014 to 2015)

(Number of conflicts / Total events)

Source: www.gdelt.org & BBVA Research



Ukraine-Russia

A new ceasefire agreement has been reached, but is still very fragile

Failure of the Minsk II agreement would imply an escalation of the conflict

IS still in Middle East

The Coalition recovered Kobane, but threats remained in Mosul and Aleppo

IS spreads to N. Africa

ISIS is taking a more active role in Libya and Egypt

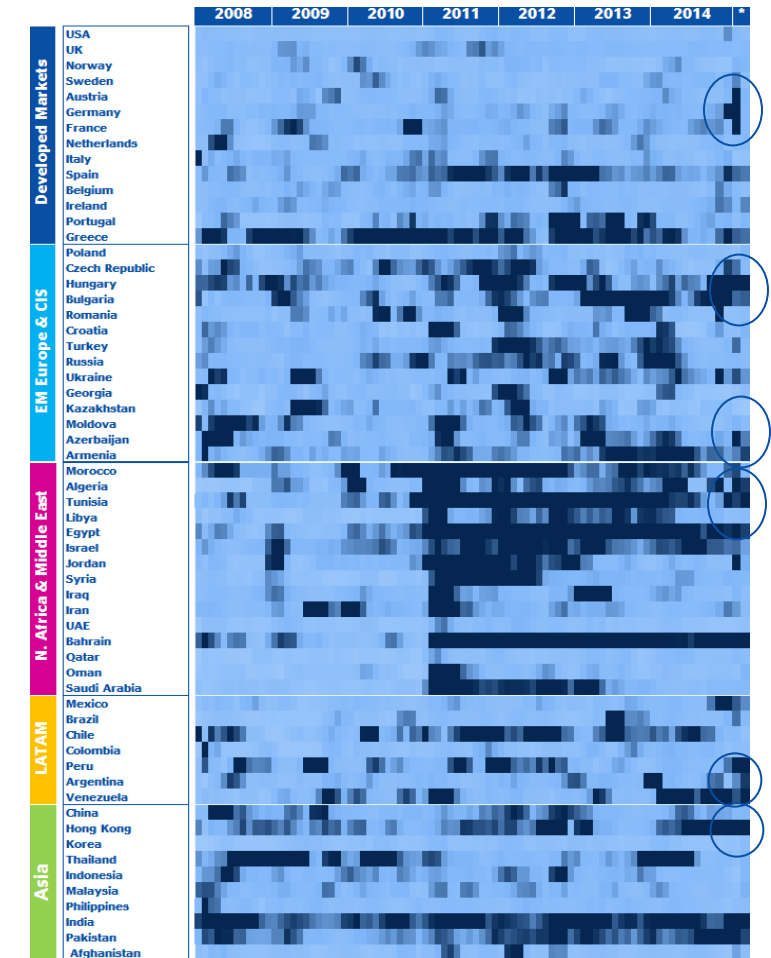
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Geopolitical Risks

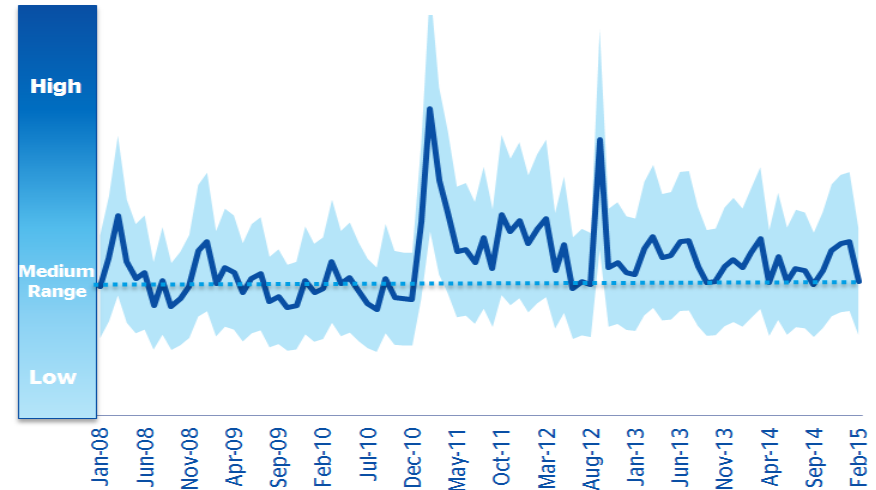
Social unrest seemed to ease last month, But above normal during the quarter



BBVA Research World Protest Intensity Map
 (Number of protests / Total events. Dark Blue: High Intensity)
 Source: www.gdelt.org & BBVA Research



BBVA Research World Protest Intensity Index
 (Number of protests / Total events. Dark blue: High intensity)
 Source: www.gdelt.org & BBVA Research



Protest intensity back to normal ...

- Relaxed in Western Europe
- Increasing tensions in Emerging Europe
- North Africa remains tense
- Rising tensions in the Caucasus
- Some incipient signs in LatAm
- Hong Kong protest still alive

Country Risk Report

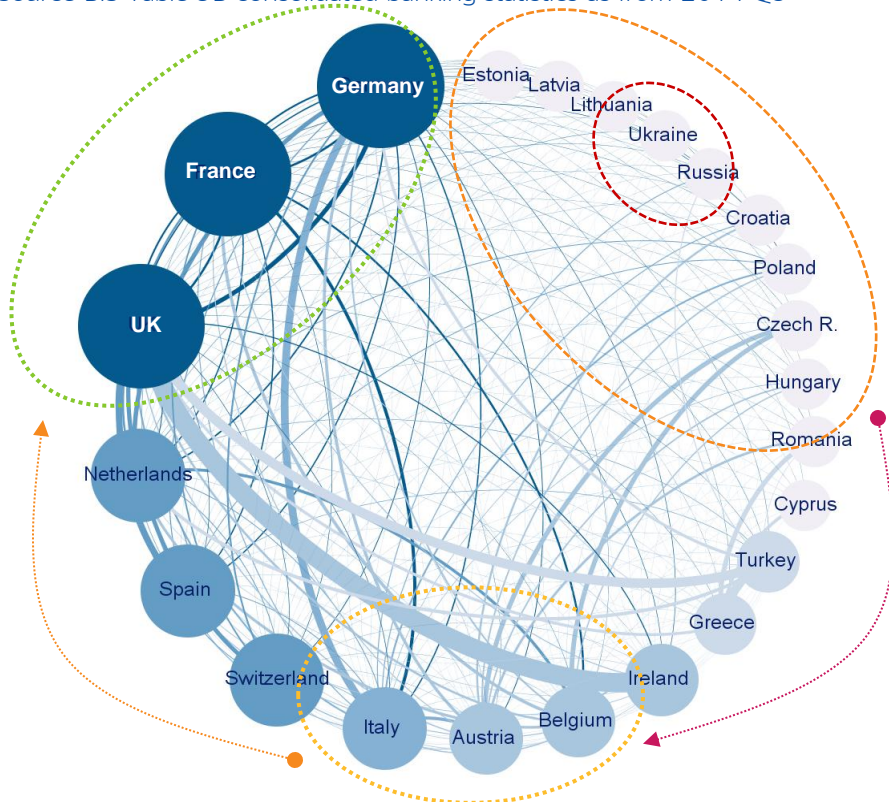
International financial markets, global risk aversion and capital flows

A look into European Credit Lines Interconnectedness

Interbank interconnectedness in Europe 3Q14

(Nodal chart of interbank relations)

Source BIS Table 9B consolidated banking statistics as from 2014 Q3



- According to official BIS data*, we can find **two interbank European clusters: greater Western European countries (creditors) and EM European borrowers (debtors)**. This interconnectedness between East and West has remained stable through time though with increasing intensity.
- **The direct exposure to risky countries in EM Europe (Russia and Ukraine) are marked in red. It is significant for some countries (i.e. Italy), but in general terms is well-diversified and should not give rise to serious problems.**
- However, we enter a **more serious scenario if we move to the rest of EM Europe (Czech Republic, Hungary, Poland, Romania and Croatia). If the crisis reaches these countries (in orange), important Western European creditors such as Austria, Italy and Belgium (in orange) would be affected.**
- This situation could become challenging. Although the indirect exposure is less straightforward, it can be easily checked in the graph on the left. **Pivotal countries mentioned above would move the exposure to key Western countries such as Germany, France and the UK**, which have the potential to trigger more important risks to the European and the global economies.

NOTE: Node size is the size of each country's banking system relative to the total. Lines are assets/liabilities (credit financing outflows/inflows) and the colour tone corresponds to the origin of the flow, while the size of the lines is relative to these flows. Eastern European countries (apart from Turkey) do not report assets.

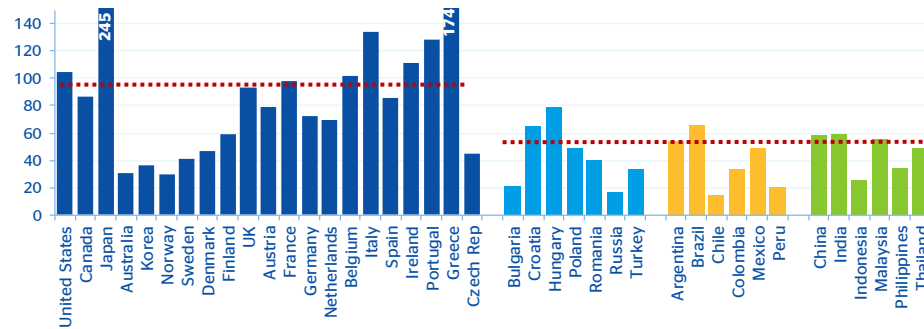
Country Risk Report

Macroeconomic vulnerability and risk assessment

Public and private debt chart gallery

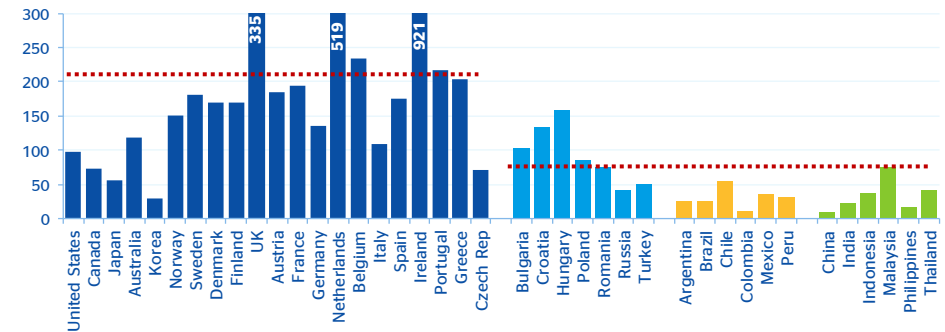
Gross Public Debt 2015

(% GDP)
Source: BBVA Research and IMF



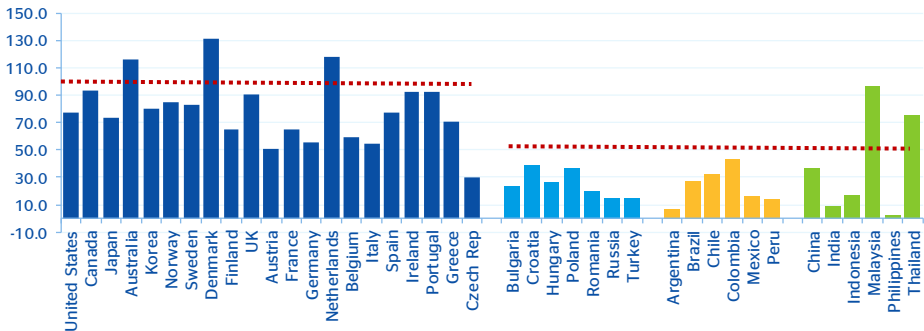
External Debt 2015

(% GDP)
Source: BBVA Research and IMF



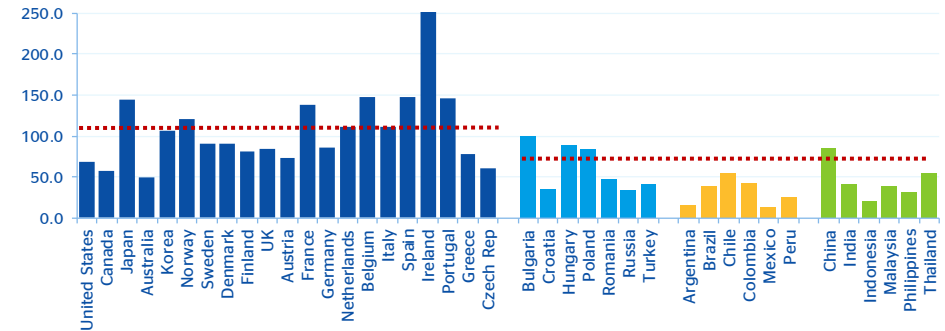
Household Debt 2015

(% 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	-1.3	-1.6	105	-1.6	98	10.0	22	17	33	3.1	0.9	5.3	0.7	3.0	7.5	78	68	229	-0.6	-1.3	-1.6
Canada	-1.3	-0.6	87	-3.5	72	-11.5	15	15	21	1.5	1.5	7.3	1.7	0.0	7.4	94	57	143	-1.0	-1.9	-1.8
Japan	-4.7	-1.2	245	1.5	55	-20.1	56	21	8	0.8	-0.3	3.6	0.6	5.2	7.1	74	144	79	-1.0	-1.6	-1.3
Australia	-1.0	-0.2	31	-3.1	119	-9.1	4	7	47	2.6	2.8	5.6	4.3	0.6	0.7	116	49	122	-1.0	-1.8	-1.7
Korea	0.1	-2.1	36	8.6	29	10.0	3	11	12	3.5	1.7	3.5	4.2	1.1	-4.8	80	106	194	-0.2	-0.5	-1.0
Norway	-8.8	-1.0	30	6.3	151	-11.5	-6	8	45	0.3	2.1	3.8	-2.1	3.8	4.0	85	121	332	-1.3	-2.3	-1.9
Sweden	-0.6	-1.8	41	5.2	181	-9.1	7	19	46	1.7	0.5	7.3	6.8	8.8	9.9	83	90	285	-1.1	-2.3	-1.9
Denmark	-1.8	-0.2	47	6.4	170	-1.6	10	15	40	1.7	1.2	5.8	-2.7	3.4	20.9	131	90	364	-0.9	-2.4	-1.9
Finland	0.1	-0.4	59	6.4	170	0.5	7	10	84	1.7	1.2	5.8	3.1	-0.1	5.7	65	81	162	-1.4	-2.2	-1.9
UK	-1.5	-0.5	93	-4.1	323	6.8	11	6	28	2.8	0.4	2.2	-11.9	8.9	-2.7	91	84	102	-0.5	-1.7	-1.7
Austria	1.1	0.3	79	2.3	185	-0.4	7	14	77	1.3	0.9	5.1	-5.5	3.7	-15.2	51	74	124	-1.3	-1.5	-1.8
France	-0.2	-0.3	98	-1.5	195	-3.3	19	14	63	1.0	0.1	9.8	1.2	-0.2	-0.5	65	139	126	-0.4	-1.3	-1.4
Germany	1.7	-0.7	72	7.2	135	-3.1	7	9	62	1.4	0.3	6.6	-1.1	2.3	2.7	55	87	58	-0.9	-1.8	-1.6
Netherlands	0.9	-0.2	70	10.2	488	-2.7	16	16	57	1.2	1.1	7.9	6.5	1.3	5.6	118	112	104	-1.1	-2.0	-1.8
Belgium	1.2	0.5	102	1.4	234	-2.6	18	12	63	1.2	0.5	8.3	-0.5	0.6	11.1	59	148	63	-0.9	-1.6	-1.4
Italy	4.6	1.9	134	1.3	109	-2.7	29	19	36	0.6	-0.2	12.6	-1.1	-4.2	0.2	55	111	84	-0.5	0.0	-0.4
Spain	-1.4	1.0	85	0.9	175	-4.4	20	14	43	2.7	-0.4	22.5	-15.0	-0.5	3.7	77	147	123	0.0	-0.8	-1.0
Ireland	1.8	0.4	112	5.0	856	-6.5	5	1	63	3.1	1.9	10.1	-63.0	16.3	15.1	92	259	185	-0.9	-1.5	-1.7
Portugal	2.8	0.5	129	0.5	216	-2.7	19	12	71	1.5	-0.1	12.8	-19.9	4.1	-21.1	93	146	139	-0.7	-0.9	-1.0
Greece	5.7	-0.6	171	1.3	203	-7.1	10	6	86	2.5	-1.3	24.0	-5.0	-4.2	-28.9	71	78	94	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	-0.7	0.4	21	-0.5	103	-2.3	4	1.6	44	1.8	0.3	11.9	-0.1	-5.3	6.2	23	100	98	-0.2	0.3	0.1
Czech Rep	-0.1	-0.9	44	-0.5	71	-8.4	8	14	36	2.5	0.2	7.1	-0.5	2.3	-4.3	30	60	83	-1.1	-0.2	-1.0
Croatia	-2.8	1.7	65	1.0	133	-3.0	11	3.2	34	0.5	1.5	18.9	-1.9	1.2	-2.7	39	35	91	-0.6	-0.1	-0.2
Hungary	0.9	1.1	79	5.0	158	-9.0	20	1.6	65	2.5	0.7	6.8	-3.9	7.1	-10.4	27	89	115	-0.8	-0.3	-0.6
Poland	0.0	-1.0	49	-1.9	84	-4.1	9	2.4	57	3.5	0.9	10.9	2.2	-9.6	0.3	36	84	107	-0.9	-0.5	-0.7
Romania	0.3	-1.1	40	-0.4	75	0.1	10	1.5	50	2.5	1.5	5.0	-3.4	-0.6	9.1	20	48	115	-0.2	0.2	0.0
Russia	-0.2	-1.4	17	3.2	40	-32.8	3	4.6	17	-3.6	7.3	6.7	8.4	-6.1	-7.1	15	34	121	0.8	1.0	0.8
Turkey	0.5	-2.5	33	-4.5	50	0.6	5	1.0	37	3.7	6.1	9.9	0.0	7.4	26.4	15	41	128	1.2	-0.1	0.0
Argentina	-1.4	-20.0	54	-1.0	24	-8.8	12	1.5	26	1.2	26.4	8.2	-0.5	-39.1	59.1	7	16	73	-0.1	0.5	0.7
Brazil	2.3	4.0	66	-4.0	26	-7.0	15	11.7	22	0.6	6.5	5.5	2.1	0.6	-2.9	28	38	127	0.3	0.1	0.1
Chile	-0.5	4.0	15	-1.1	53	-7.7	2	2.5	16	3.1	2.3	7.0	1.9	10.9	4.1	32	54	218	-0.4	-1.5	-1.4
Colombia	0.9	1.2	33	-4.9	10	-17.3	4	4.0	28	3.6	3.4	9.4	1.7	6.3	-11.0	43	43	218	1.3	0.4	0.4
Mexico	-1.3	-0.2	49	-2.0	35	-2.9	9	8.2	34	3.5	2.9	4.6	0.6	1.7	1.9	16	13	105	0.7	0.5	0.6
Peru	-1.0	-3.3	20	-5.2	32	-8.7	2	8.9	38	4.8	2.0	6.0	3.6	5.0	-6.1	14	25	95	0.8	0.4	0.6
China	0.0	-7.5	58	3.2	8	14.7	5	5.8	...	6.5	2.8	4.1	11.0	-4.9	35.6	37	85	221	0.5	0.4	0.5
India	-2.2	-3.9	60	-0.9	21	-1.8	11	3.7	7	6.4	7.7	5.5	-2.7	4.2	29.9	9	41	78	1.2	0.6	0.1
Indonesia	-0.8	-4.9	26	-1.9	36	-2.1	4	2.2	55	5.6	7.0	5.7	-0.4	-1.1	22.3	17	21	103	0.5	0.6	0.6
Malaysia	-1.0	-3.5	55	3.5	74	-1.7	9	1.3	26	4.7	2.5	3.2	0.8	0.9	-5.7	97	--	100	-0.1	-0.4	-0.5
Philippines	0.8	-2.7	34	4.6	16	10.0	7	9.3	30	6.0	3.5	7.0	-0.1	3.5	22.8	3	32	60	1.1	0.4	0.5
Thailand	-0.4	-2.9	48	5.3	40	5.2	8	2.3	11	3.6	3.2	0.9	4.0	3.8	15.3	76	55	126	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 differential 5 years ahead	3.6	1.1	Higher	Baldacci et al (2011). Assessing fiscal stress. IMF WP 11/100
Gross public debt	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 Commission (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 Commission (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 (8th percentile)	Lower	World Bank governance Indicators

Methodology: models and BBVA country risk

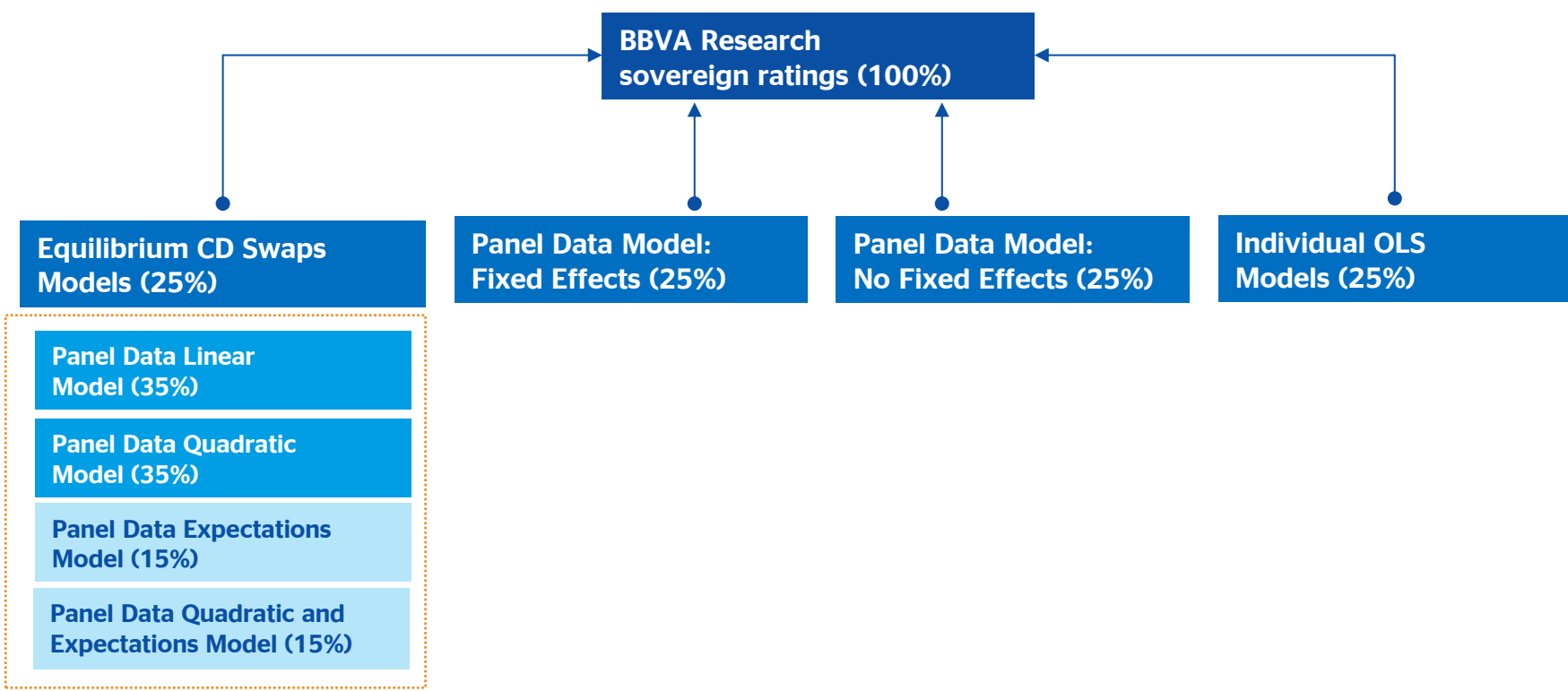
- **BBVA Research sovereign ratings methodology:** We compute our sovereign ratings by averaging four alternative sovereign rating models developed at BBVA Research:
 - **Credit Default Swaps Equilibrium Panel Data Models:** This model estimates actual and forecast equilibrium levels of CD Swaps for 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.



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