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Country Risk Quarterly Report

BBVA Research

Cross-Country Emerging Markets Unit

June 2013

Summary

Financial Markets & Global Risk Aversion

- Developed economies continue to navigate in different cyclical conditions. In the US, speculation about early
- exit of QE have brought higher volatility. This contrasts with the Japanese announcement of larger and longer QE which sparked the search for high yield
- The surge in buy-mood for EM assets peaked at end May but worse than expected Chinese macroeconomic data and the Fed signaling early exit of QE has sharply worsened the mood for EM assets.

Sovereign Markets & Ratings Update

- **The improvement in EU credit risk has come to a halt. EU periphery risk premiums were not immune to the increase in global risk aversion**
- **The European credit rating cycle remained stable with some of the bailed out countries being upgraded.** However, CDS still signaling downgrade potential in some of the peripheral countries and France.
- **The upgrade cycle in EM ratings was confirmed in some Latam economies (Mexico & Colombia), as well as Asian (Thailand & Philippines) and Turkey. In contrast the Brazilian rating was given a negative outlook**

Our own country risk assessment

- Global volatility in financial markets is the natural response to the different strategies of central banks' world wide as well as very different cyclical circumstances. As public and private balance sheets remain weak in developed markets , any change in strategy or macroeconomic data can bring **major swings in the perception of risk and, thereby, market volatility.**
- While Emerging Markets vulnerabilities remain relatively low**, EM Policymakers will have to step up efforts to manage their economies in such a volatile environment for capital flows**. The combination of higher global risk aversion, worse than expected macroeconomic results in some EM (particularly China) and political instability in countries like Turkey can only further increase financial volatility.

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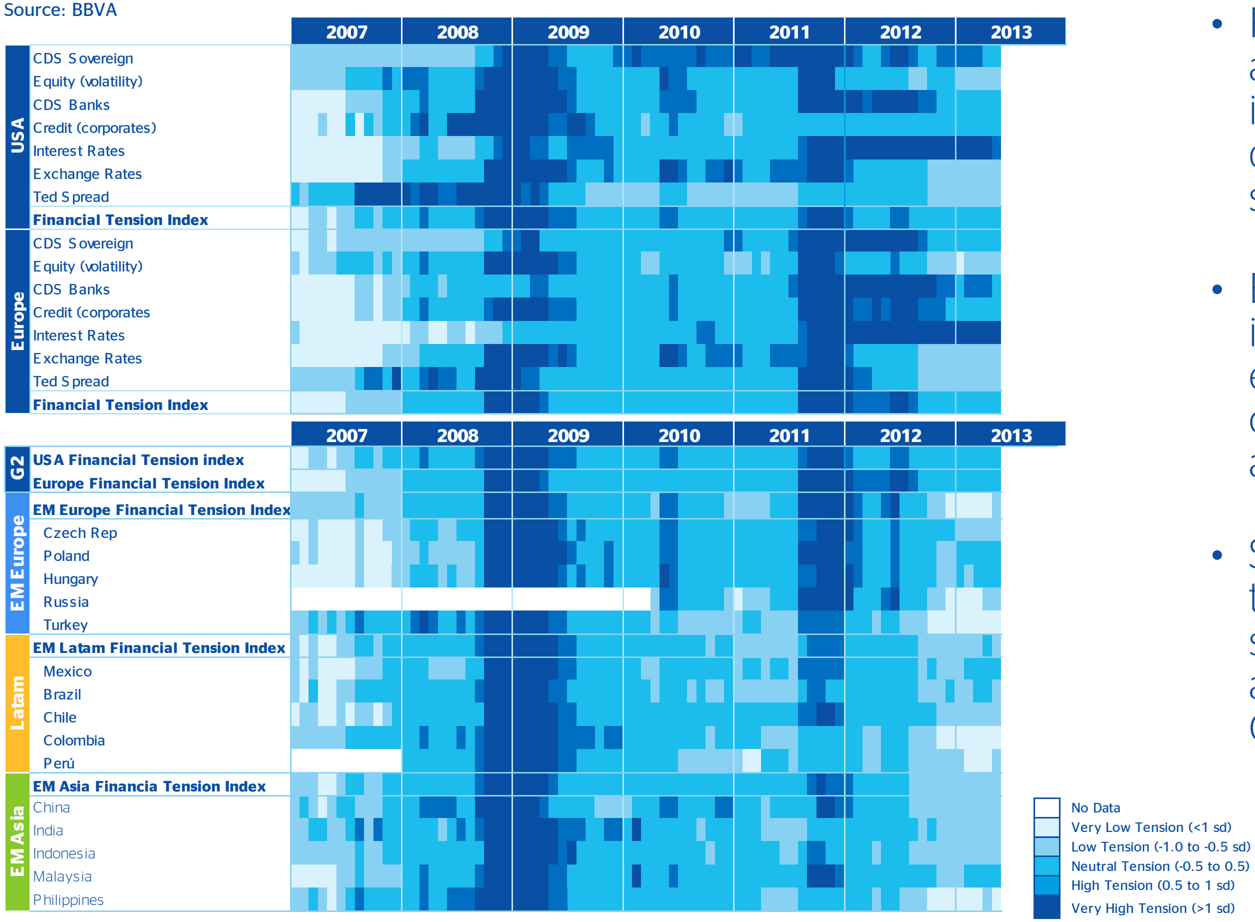
Section 1

Financial Markets Stress

BBVA Research Financial Stress Map

Source: BBVA



- Reactions to Fed Statements led to an increase in volatility in long term interest rates at the end of the quarter with corporate bond spreads widening
- Emerging Markets financial indicators continued to outperform extending gains from Western central banks actions and increasing attractiveness
- Some of the countries have begun to retreat from very low stress levels specially after the FED announcement of earlier exit from QE

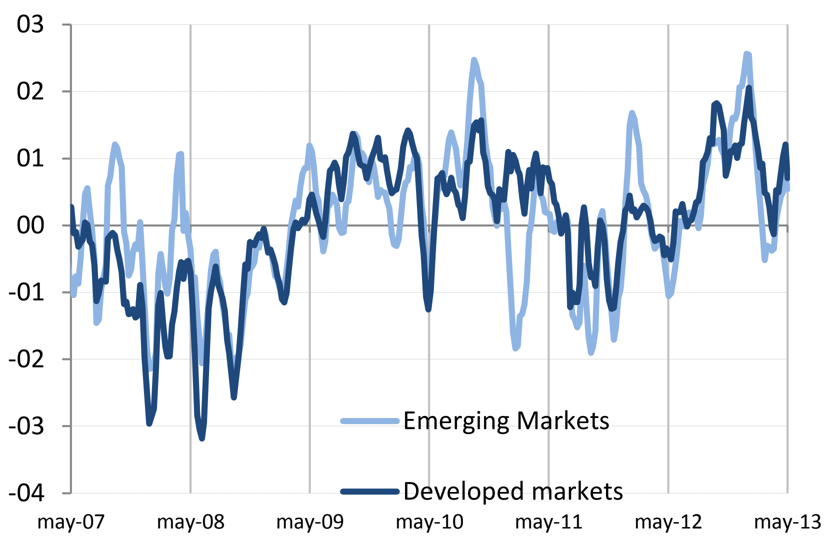
Section 1

Capital Flows Update

Equity & Bond Fund Flows 2007 - May 2013

(Standardized units of 5wMA over the 2007-2014 period)

Source: EPFR and BBVA Research

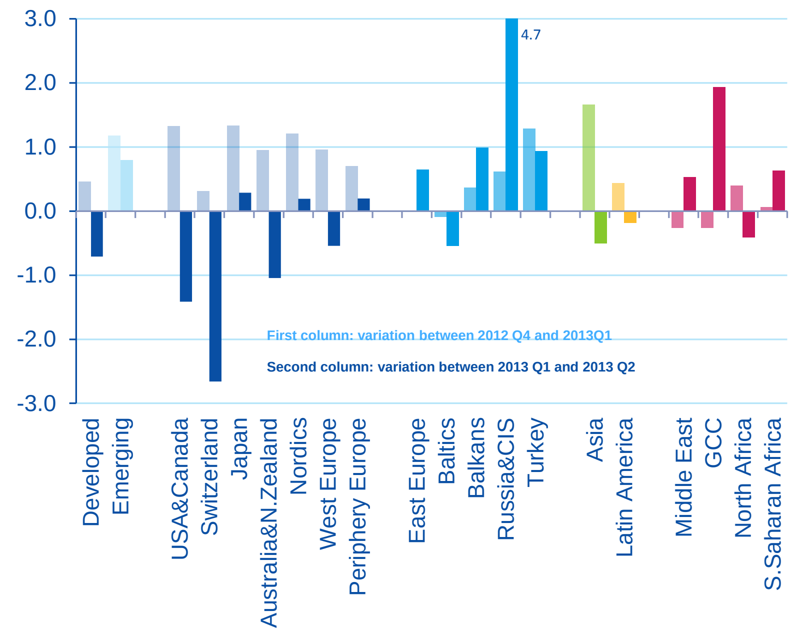


Source: EPFR and BBVA Economic Research

Equity & Bond Fund Flows 1Q13 -2Q13

(change of averages between periods; standardized units over the 2007-2012 period)

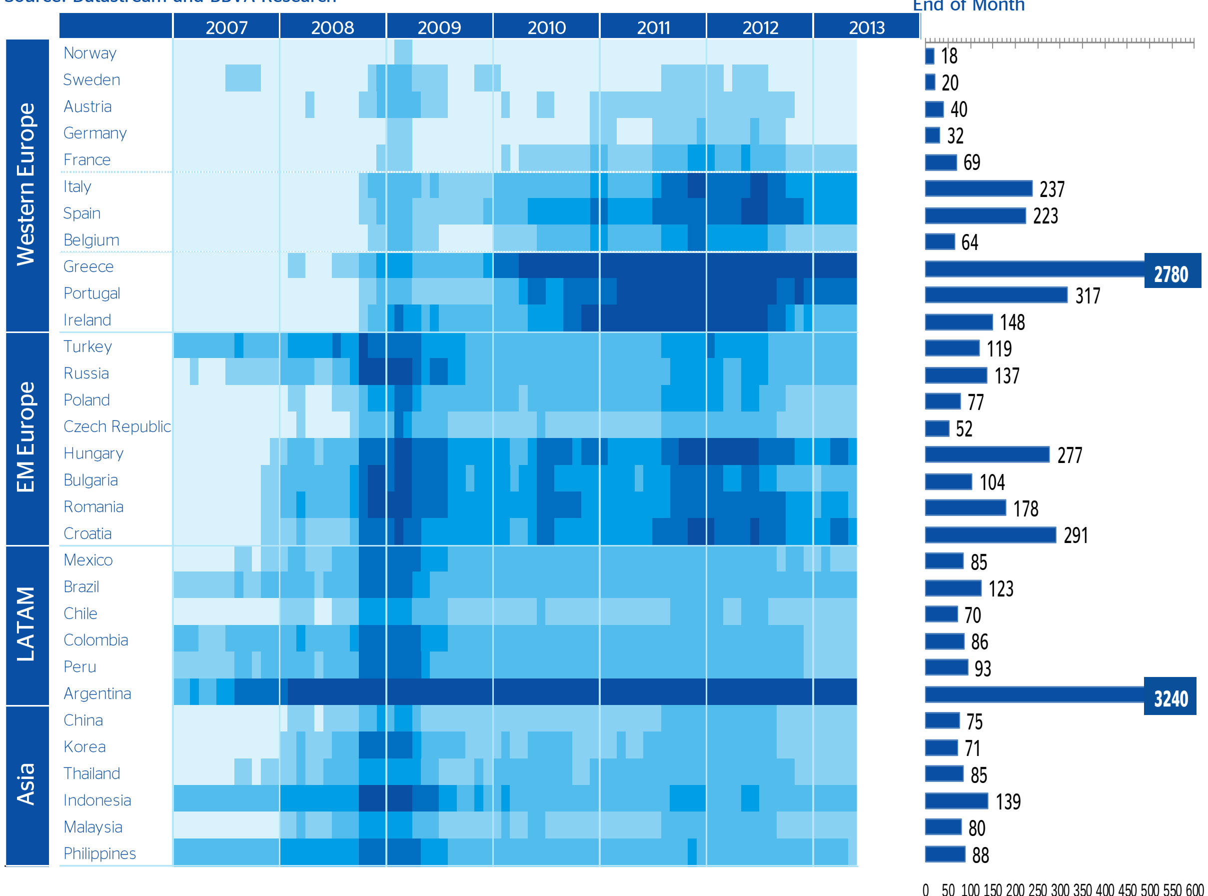
Source: EPFR and BBVA Research



- **Japanese QE triggered portfolio flows in the search for yield (push factor).** Countries with seemingly undervalued assets (EEMEA and European periphery) were the dominant receivers
- **The upgrade to investment grade given to some countries acted as additional factor (pull factor) in attracting additional portfolio flows**

Section 2
Sovereign Markets Update

Sovereign CDS spreads
Source: Datastream and BBVA Research



Sovereign CD Swaps Map: It shows a color map with 6 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)

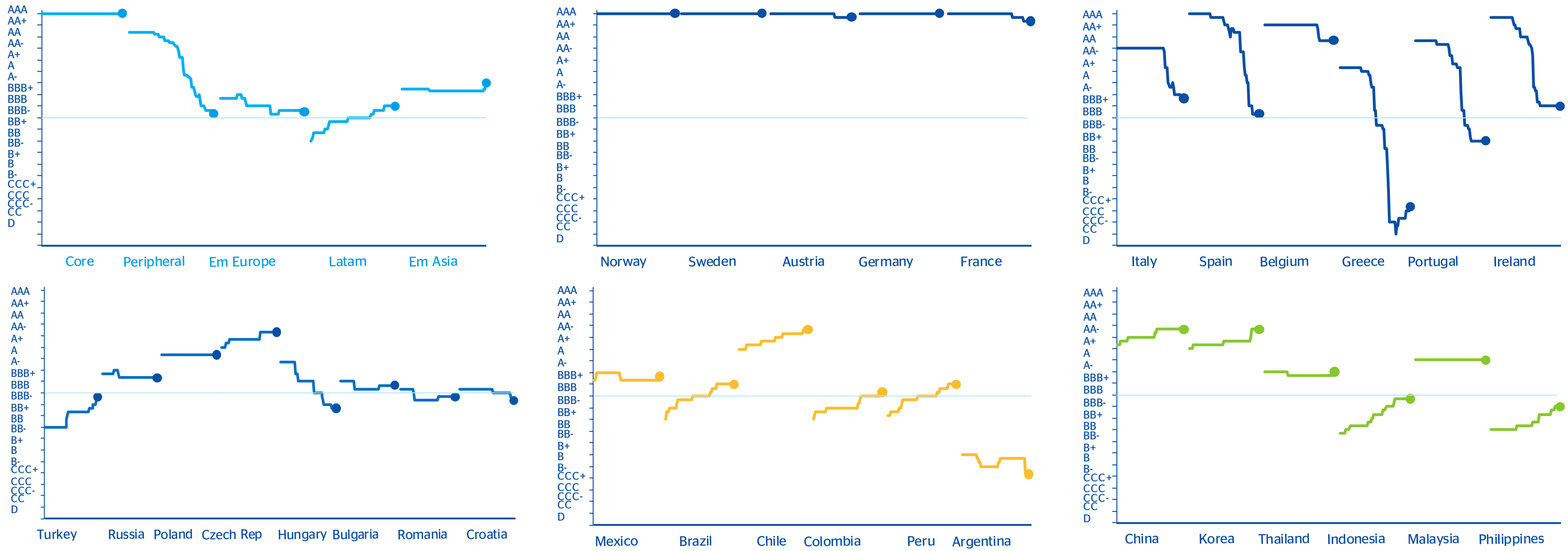
- **European periphery's** CDS spreads showed an important improvement. Spain, Portugal, Ireland and, especially **Greece** ,continued their correction while **Italy** remained stable
- **EM Europe** spreads remained mostly stable, with a small increase in **Russia**'s spread as the most noticeable change
- **Latin America** sovereign CD Swaps remained mostly stable, with the exception of a small rise in **Brazil**'s spread and a strong increase in **Argentina**'s one
- Most of **Asian** sovereigns showed a **slightly upward trend** during the last quarter, with the exception of **Philippines** who outperformed in the region

Section 2

Sovereign Credit Ratings Update

Sovereign Rating Index 2007-2013

Source: BBVA Research by using S&P, Moodys and Fitch Data



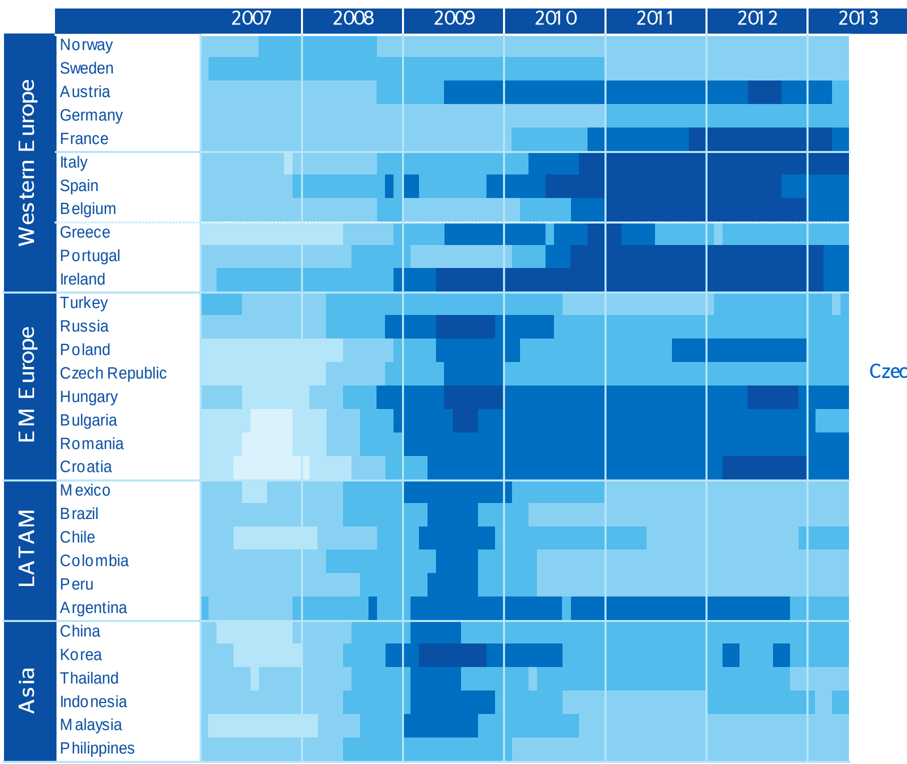
Sovereign Rating Index: An index that translates the three important rating agencies ratings letters codes (Moody´s, Standard & Poor´s and Fitch) to numerical positions from 20 (AAA) to default (0) . The index shows the average of the three rescaled numerical ratings.

- **Developed Economies:** In the previous quarter there were almost no changes in the ratings of the most developed economies and the outlook seems to continue improving in Europe's periphery, with the upgrade of **Greece** by Fitch.
- **In Emerging Markets the net balance of Rating Agencies' activity was positive and agencies kept the upgrade trend**. Colombia and Mexico in Latin America (S&P and Fitch), Philippines and Thailand in EM Asia (Fitch) and a twin upgrade of Turkey (by S&P and Moody's). In Latam, Brazilian rating outlook was changed to negative (S&P) while Slovenia was downgraded (Moody´s)

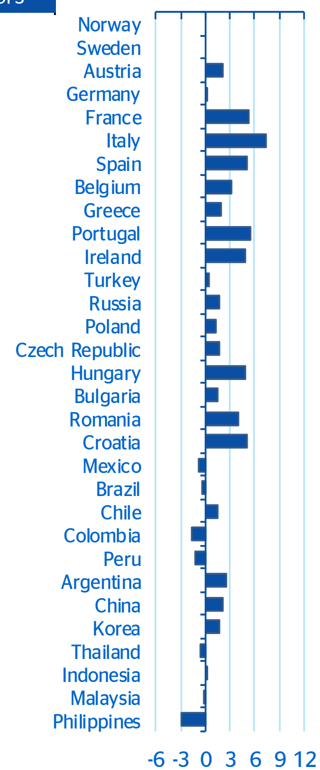
Section 2

Sovereign downgrade Pressures Map

Rating Agencies Downgrade Pressure Map
(actual minus CDS-implied sovereign rating, in notches)
Source: BBVA Research



May 2013
End of Month



- The gap between Implicit and observed ratings in **Europe's periphery** shrank further due to the general decline in CDS spreads. However, **Italy**'s implicit rating continues to indicate an important downgrade risk.
- In **Eastern Europe**, downgrade risk does not seem to recede, especially in **Hungary, Croatia and Romania**.
- The recent upgrade of Mexico has almost closed its rating gap (implicit vs. observed), while **Colombia**'s one seems to be still displaying some upgrading pressure.
- **Asian** implicit ratings remain close to observed ones, with the clear exception of **Philippines,** which has even more an upgrading pressure.

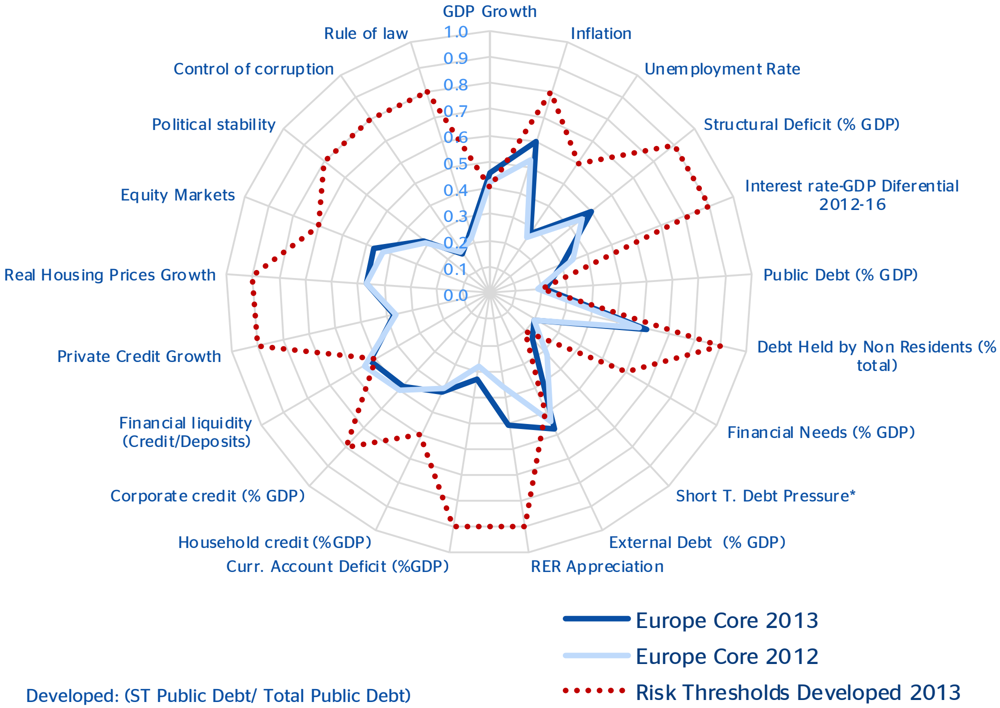
Downgrade Pressure Map: The map shows the difference of the current ratings index (numerically scaled from default (0) to AAA (20)) and the implicit ratings according to the Credit Default Swaps. We calculate implicit probabilities of default (PDs) from the observed CDS and the estimated equilibrium spread. For the computation of these PDs we follow a standard methodology as the 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.

Section 3

Regional Risk Update: Core Europe

Europe Core Countries: Vulnerability Radar 2013

(Relative position for the Emerging Developed countries. Max Risk=1, Min Risk=0)
*Include Austria, Belgium, France, Germany, Denmark, Norway and Sweden
Source: BBVA Research



Developed: (ST Public Debt/ Total Public Debt)
Emerging : (Reserves to ST External Debt)
1: High vulnerability
0: Low vulnerability

Private credit and housing prices correction continues. Most of vulnerability indicators still far from risk thresholds

Low economic growth starts to be a threat and is approaching risk thresholds

Banking Liquidity and External Debt levels very close or crossing risk thresholds

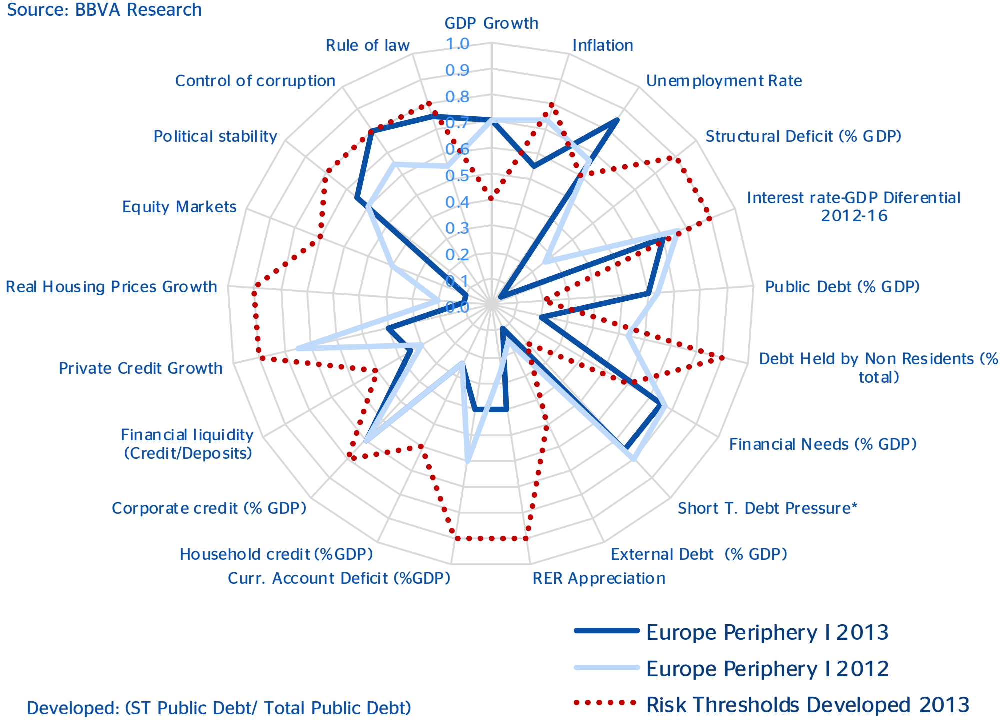
Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar shows lower vulnerability meanwhile outer positions stands for higher vulnerability.

Section 3

Regional Risk Update: Western Europe

Europe Periphery I: Vulnerability Radar 2013

(Relative position for the Developed Market countries. Max Risk=1, Min Risk=0)
*Include Spain and Italy
Source: BBVA Research



Developed: (ST Public Debt/ Total Public Debt)
Emerging : (Reserves to ST External Debt)
1: High vulnerability
0: Low vulnerability

Significant improvement in Structural Public Balance. Housing prices and Private credit adjustment accelerates. Current Account also improves. Debt held by non residents decreases

Institutional factors deteriorate. Political uncertainty on the rise

Activity and employment indicators still in a worrisome risky area. Public debt levels still high

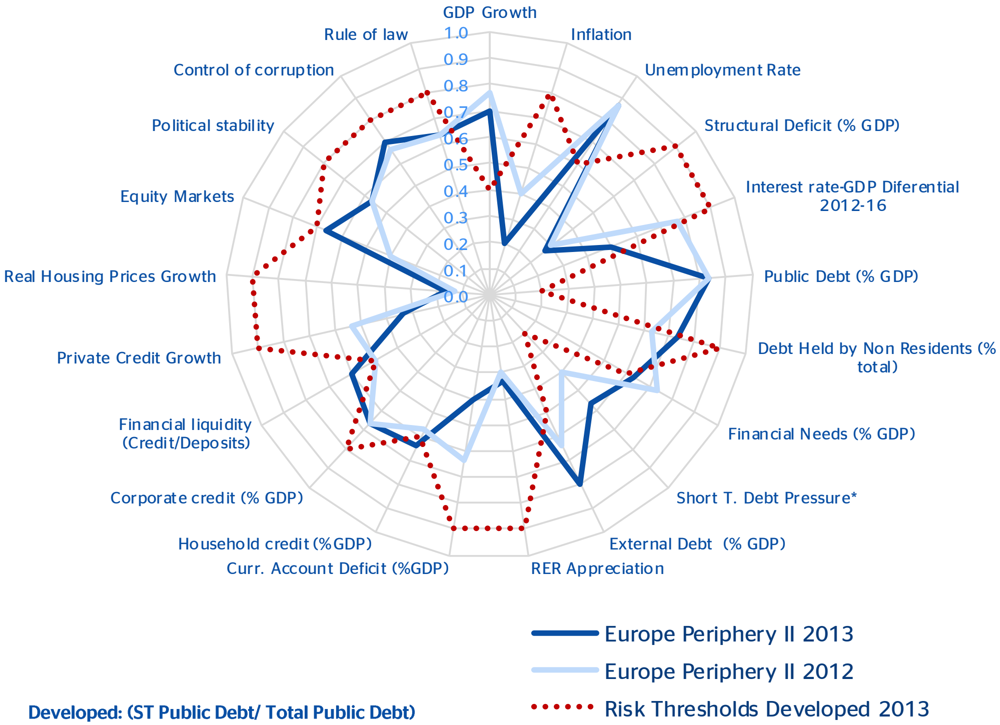
Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar shows lower vulnerability meanwhile outer positions stands for higher vulnerability.

Section 3

Regional Risk Update: Western Europe

Europe Periphery II: Vulnerability Radar 2013

(Relative position for the Developed Market countries. Max Risk=1, Min Risk=0)
*Include Greece, Ireland and Portugal
Source: BBVA Research



Developed: (ST Public Debt/ Total Public Debt)
Emerging : (Reserves to ST External Debt)
1: High vulnerability
0: Low vulnerability

Some improvement in growth and inflation with the interest rate GDP differential improving debt dynamics. Private credit and real housing prices continue to adjust

Equity Markets growth approaching risk thresholds (valuation concerns)

Public and External debt still high while liquidity pressures still above risk thresholds. Households and corporates balance sheets still poor

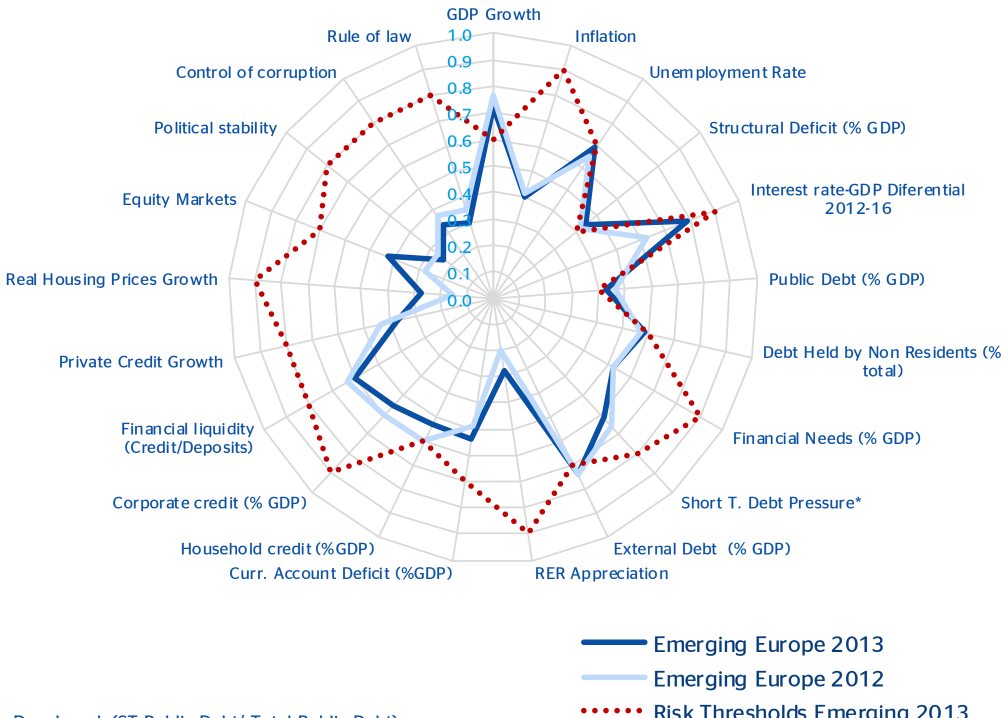
Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar shows lower vulnerability meanwhile outer positions stands for higher vulnerability.

Section 3

Regional Risk Update: Emerging Europe

Emerging Europe: Vulnerability Radar 2013

(Relative position for the Emerging Market countries. Max Risk=1, Min Risk=0)
Source: BBVA Research



Developed: (ST Public Debt/ Total Public Debt)
Emerging : (Reserves to ST External Debt)
1: High vulnerability
0: Low vulnerability

Most of the risk variables under control and below their corresponding risk thresholds

Equity Markets and Housing Prices growth still low but on the rise, with housing prices clearly into the risky area for some countries (Russia).

Public and external debt levels still high with the added risk of a growing interest rate-GDP differential

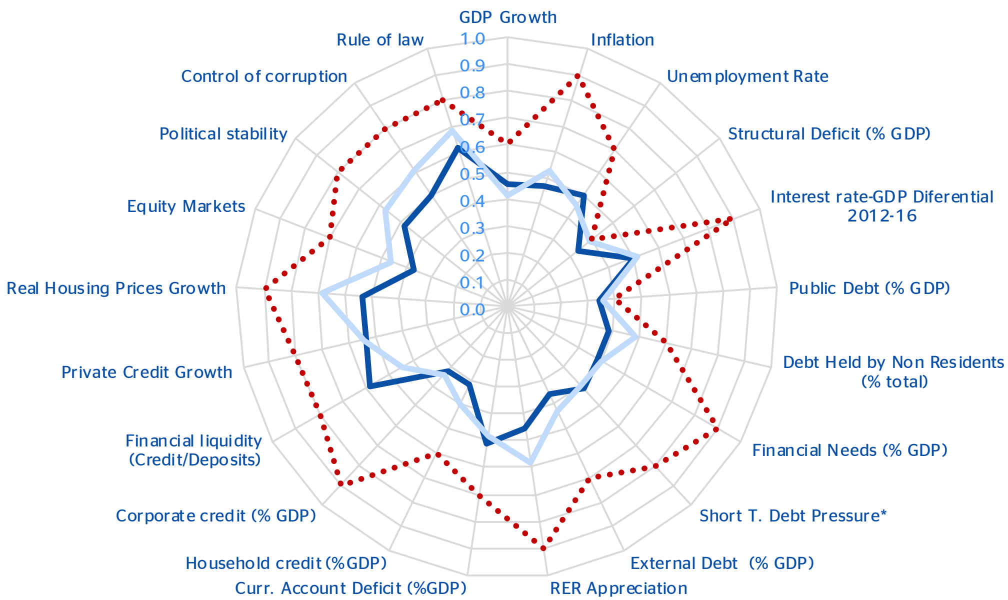
Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar shows lower vulnerability meanwhile outer positions stands for higher vulnerability.

Section 3

Regional Risk Update: Latam

Latam: Vulnerability Radar 2013

(Relative position for the Emerging Market countries. Max Risk=1, Min Risk=0)
Source: BBVA Research



Developed: (ST Public Debt/ Total Public Debt)
Emerging : (Reserves to ST External Debt)
1: High vulnerability
0: Low vulnerability

All variables below their risk thresholds and most of them improving with respect to previous year

Housing prices growth improving with respect to previous report, with some exceptions (Peru)

Diminishing banking liquidity with credit to deposit ratios increasing in some countries. The interest rate GDP differential still not enough for safe debt dynamics

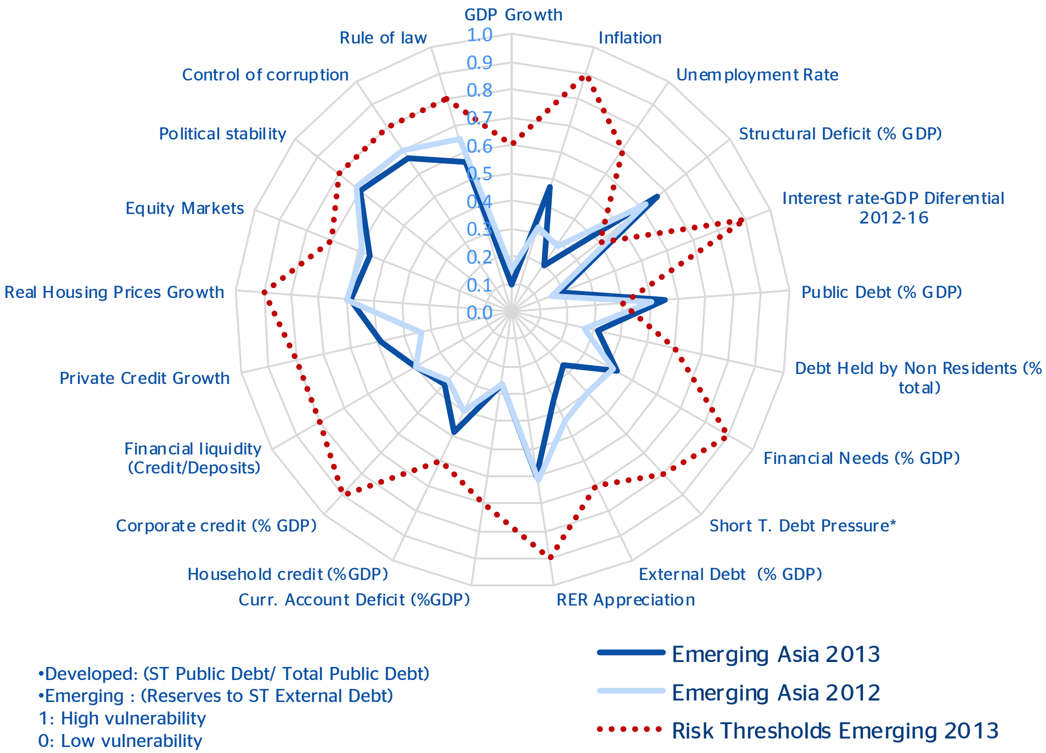
Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar shows lower vulnerability meanwhile outer positions stands for higher vulnerability.

Section 3

Regional Risk Update: Asia

Emerging Asia: Vulnerability Radar 2013

(all data for 2012, Relative position for the Emerging Market countries. Max Risk=1, Min Risk=0)
Source: BBVA Research



•Developed: (ST Public Debt/ Total Public Debt)
•Emerging : (Reserves to ST External Debt)
1: High vulnerability
0: Low vulnerability

Activity indicators are the most solid among all regions. Credit growth risk moderated

Housing prices growth risk is on the rise. Slow-down in Chinese economic data

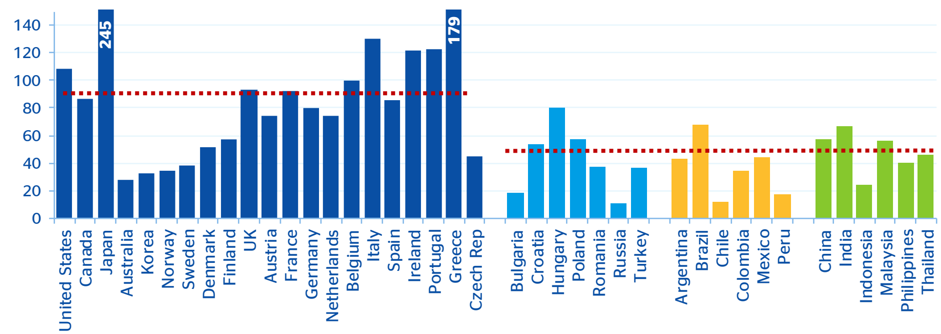
Structural deficits above the risk thresholds and deteriorating

Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar shows lower vulnerability meanwhile outer positions stands for higher vulnerability.

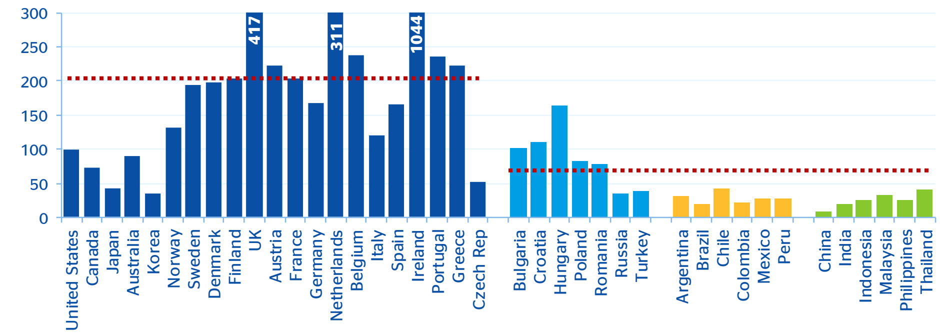
Section 3

Public and Private Debt Chart Gallery

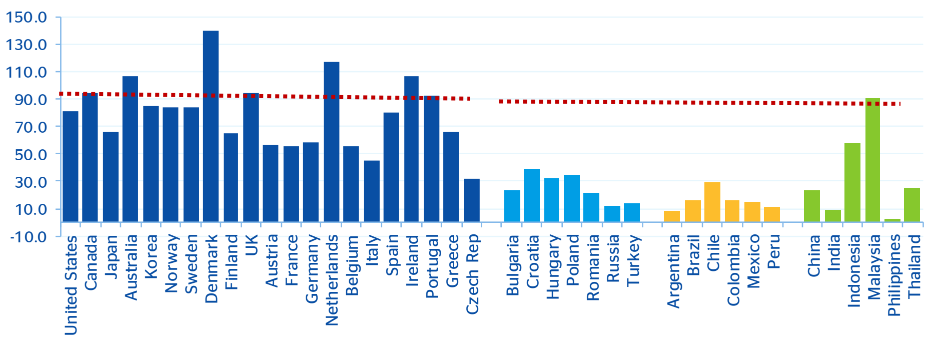
Gross Public Debt 2013
(% GDP)
Source: BBVA Research and IMF



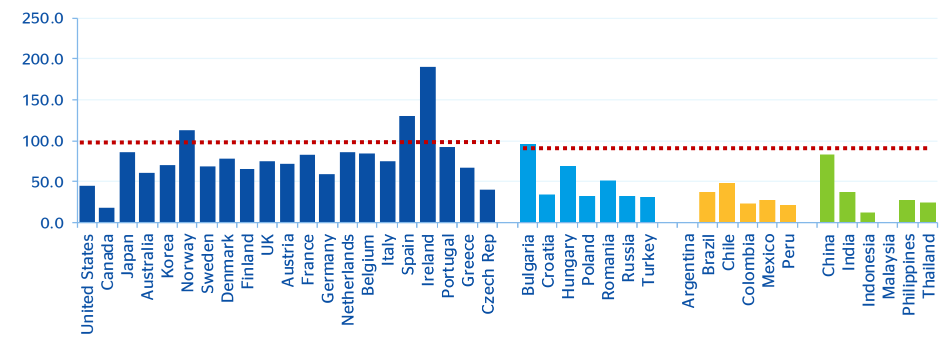
External Debt 2013
(% GDP)
Source: BBVA Research and IMF



Household Debt 2013
(% GDP)
Source: BBVA Research and BIS



Corporate Sector Debt 2013
(% GDP)
Source: BBVA Research and BIS



Risk Thresholds

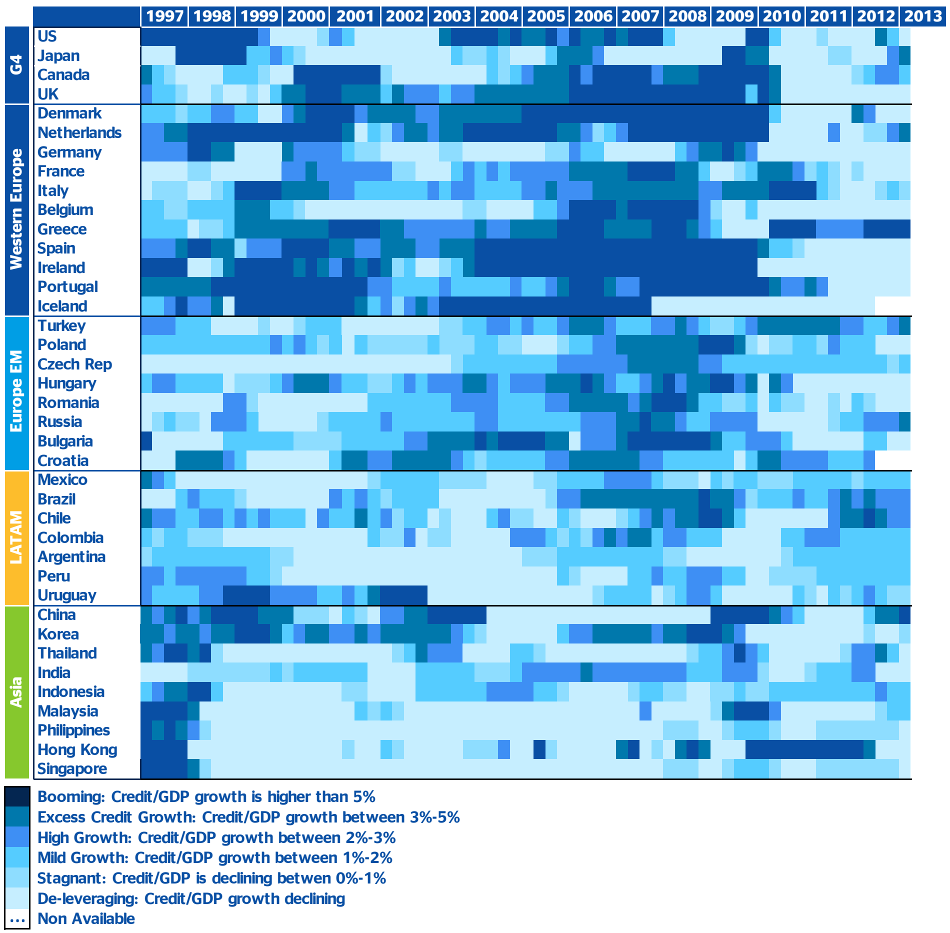
Section 3

Private Credit Pulse

Private credit colour map (1996-2012 Q3)

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

Source: BBVA Research and Haver



- Most advanced economies still going through their de-leveraging process. Some signs of higher growth in **Japan** and **Netherlands**. Credit-to-GDP ratio growing rapidly in **Greece**, but most probably due to the strong decrease in GDP.
- In Eastern Europe, **Turkey** and **Russia** are still showing signs of a high growth in private credit, but below the booming area
- Private Credit Growth in **Latin America** seems to be moderating its pace in virtually all economies.
- In Asia, credit growth accelerated in China during 1Q although may data showed some moderation

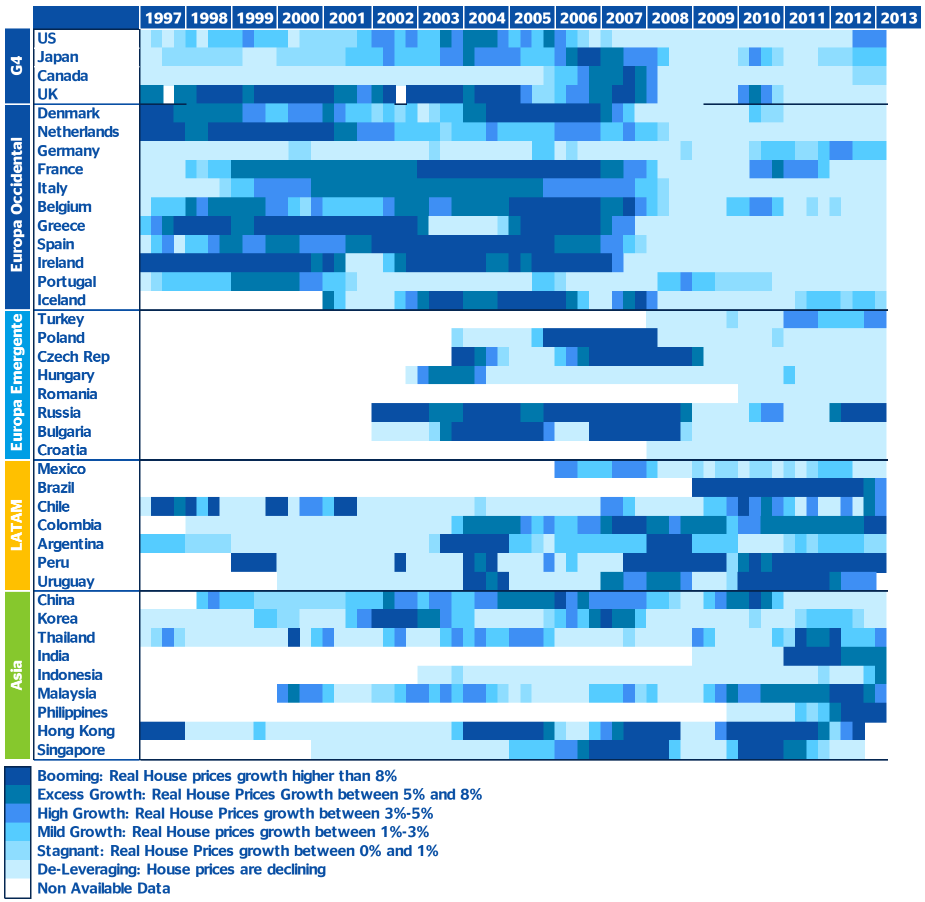
Section 3

Real Housing Prices Pulse

Real housing prices colour map (1996-2012)

(yearly change of real housing prices)

Source: BBVA Research, BIS and Global Property Guide



- Real housing prices keep on recovering in the **US**, but still far from booming levels. European real housing markets still stagnant or declining in real terms excepts Germany**.**
- In Eastern Europe, **Russia`s** real housing prices growth does not recede and complete a whole year in booming levels. Prices in **Turkey** still rising, but at a less worrisome pace.
- In Latam, housing prices growth is accelerating in **Colombia**, and keep on booming in **Peru. Brazilian** housing prices clearly moderating.
- Prices in South East Asia accelerate (**Thailand, India, Malaysia, Philippines**) with **Philippines** and **Hong Kong** showing signs of overheating.

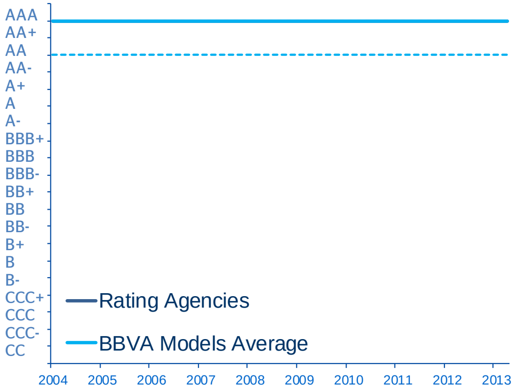
Section 3

Regional Risk Update: Western Europe

Europe Core: Sovereign Rating

(Rating agencies and BBVA scores +-1std dev)

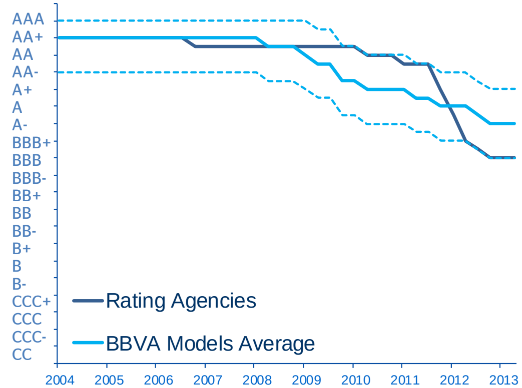
Source: Standard & Poors, Moody´s, Fitch and BBVA Research



Europe Periphery I: Sovereign Rating

(Rating agencies and BBVA scores +-1 std dev)

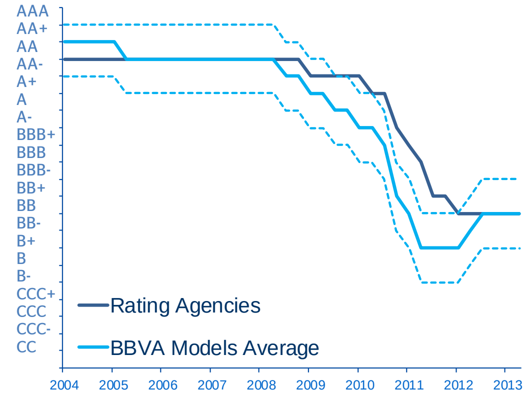
Source: Standard & Poors, Moody´s, Fitch and BBVA Research



Europe Periphery II: Sovereign Rating

(Rating agencies and BBVA scores +.1 std dev)

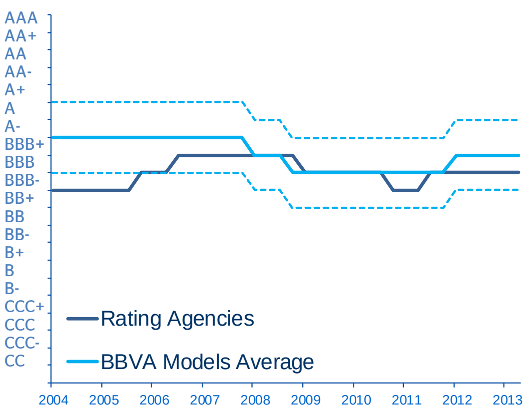
Source: Standard & Poors, Moody´s, Fitch and BBVA Research



EM Europe: Sovereign Rating

(Rating agencies and BBVA scores)

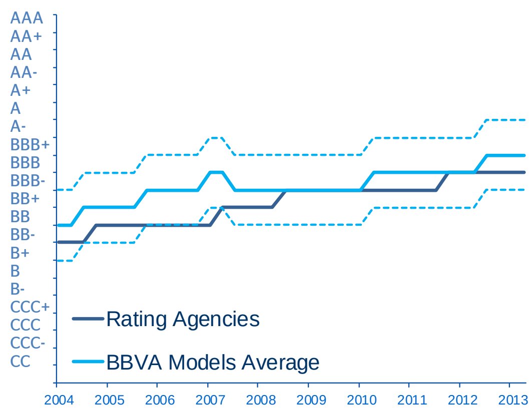
Source: Standard & Poors, Moody´s, Fitch and BBVA Research



Latam: Sovereign Rating

(Rating agencies and BBVA scores)

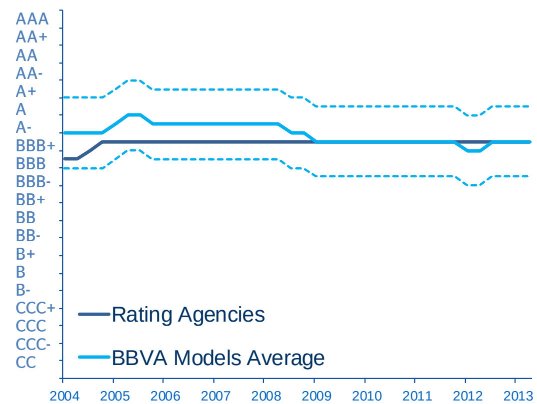
Source: Standard & Poors, Moody´s, Fitch and BBVA Research



Emerging Asia: Sovereign Rating

(Rating agencies and BBVA scores)

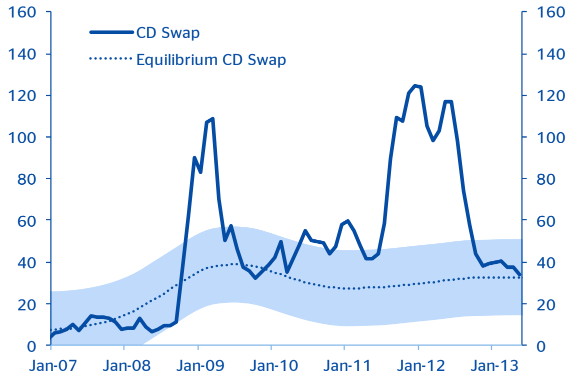
Source: Standard & Poors, Moody´s, Fitch and BBVA Research



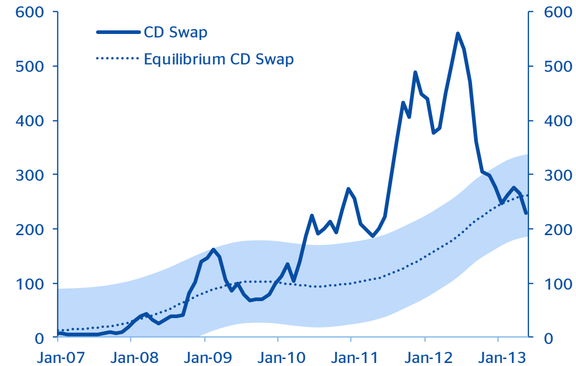
Section 3

Regional Risk: CD Swaps Update

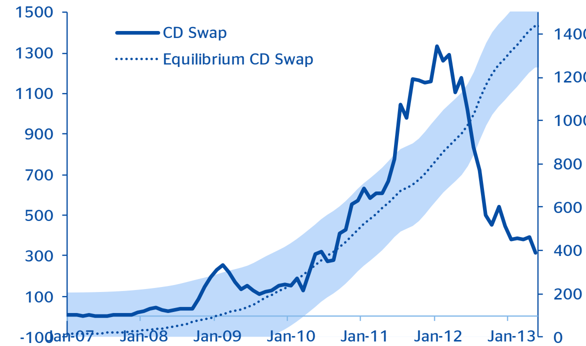
Europe Core: CD Swap 5 year
(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



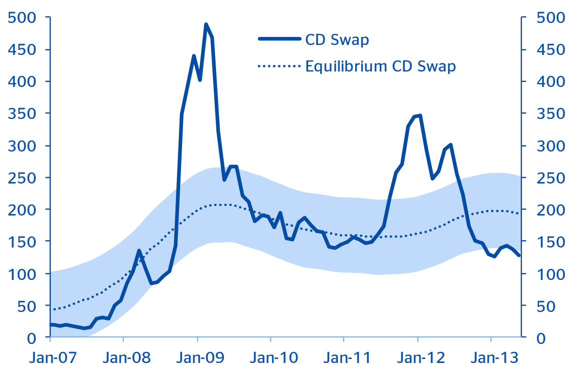
Europe Periphery I: CD Swap 5 year
(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



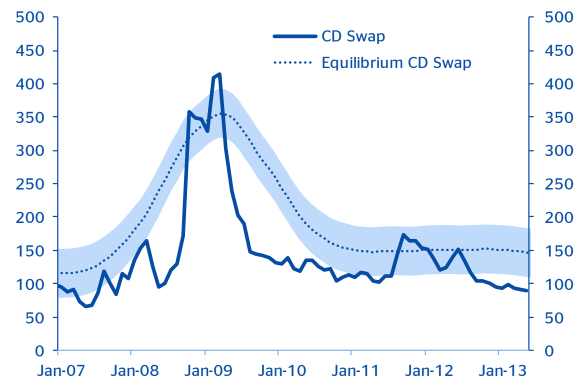
Europe Periphery II: CD Swap 5 year
(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



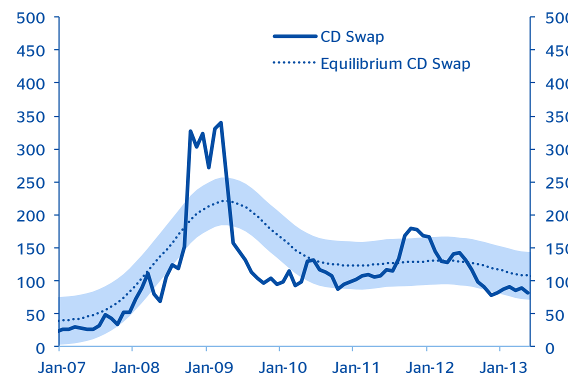
EM Europe: CD Swap 5 year
(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



LATAM: CD Swap 5 year
(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



EM Asia: CD Swap 5 year
(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



Section 3

Vulnerability Indicators: Developed Economies

Vulnerability Indicators* 2013: 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 2013-17	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	-2.7	-1.8	108	-2.9	100	-0.5	25	19	32	1.9	1.8	7.7	2.4	3.7	10.3	81	44	61	-0.5	-1.2	-1.6
Canada	-1.7	0.2	87	-3.5	72	-0.8	16	13	23	1.5	1.5	7.3	3.4	1.6	2.9	94	17	108	-1.0	-2.0	-1.8
Japan	-8.7	-1.2	245	1.2	43	-21.8	59	49	9	1.7	0.1	4.1	4.1	0.1	23.0	66	86	47	-1.0	-1.5	-1.3
Australia	-0.6	-1.2	28	-5.5	90	6.8	4	3	72	2.9	2.5	5.3	2.0	2.2	12.7	107	60	122	-0.9	-2.2	-1.8
Korea	1.7	-2.1	33	2.7	35	2.4	1	3	14	2.3	2.4	3.3	-1.1	-1.8	-0.5	85	70	130	-0.2	-0.5	-1.0
Norway	-8.6	-1.7	34	11.7	132	0.7	-8	4	39	2.5	1.5	3.1	-4.1	7.3	10.1	84	112	114	-1.3	-2.2	-1.9
Sweden	-1.9	-1.5	38	6.0	194	4.9	4	3	47	1.0	0.3	8.1	3.7	4.6	11.8	84	69	307	-1.3	-2.2	-1.9
Denmark	-1.6	0.5	52	4.7	199	-3.1	10	7	46	0.8	2.0	7.6	-2.9	-1.8	20.2	140	78	395	-1.1	-2.4	-1.9
Finland	-0.7	-1.2	57	-1.7	204	-2.0	8	6	91	0.5	2.9	8.1	1.7	-11.8	1.7	65	65	154	-1.4	-2.2	-2.0
UK	-2.4	-0.3	94	-4.4	417	0.3	13	6	32	0.7	2.7	7.8	-8.2	-0.4	11.2	94	75	111	-0.4	-1.5	-1.7
Austria	0.3	0.1	74	2.2	223	0.0	8	6	83	0.8	2.2	4.6	-3.2	4.3	8.9	56	72	155	-1.2	-1.4	-1.8
France	0.3	-0.1	93	-1.3	205	-2.8	17	13	64	-0.1	1.6	11.2	-1.1	-3.3	9.0	56	82	142	-0.6	-1.5	-1.5
Germany	2.1	0.0	80	6.1	168	-3.3	8	8	61	0.6	1.6	5.7	-3.1	1.3	12.2	59	58	68	-0.9	-1.7	-1.6
Netherlands	-0.1	0.0	74	8.7	311	-0.8	12	9	53	-0.5	2.8	6.3	4.1	-10.0	7.6	117	86	117	-1.1	-2.2	-1.8
Belgium	1.0	1.0	100	-0.1	238	-1.1	18	16	57	0.2	1.7	8.0	-4.2	-1.0	15.8	56	84	74	-0.9	-1.6	-1.4
Italy	4.9	2.4	131	0.3	120	-1.6	28	25	35	-1.5	2.0	12.0	1.8	-5.0	-4.0	45	75	91	-0.6	0.0	-0.4
Spain	1.6	2.3	85	0.5	166	-1.8	18	14	29	-1.4	1.7	27.1	-14.8	-10.8	-1.1	80	130	139	-0.1	-1.1	-1.2
Ireland	-1.3	0.4	122	3.4	1044	-3.7	13	6	64	1.1	1.3	14.2	-19.8	-4.0	21.6	107	190	139	-1.0	-1.5	-1.8
Portugal	0.9	1.2	122	0.1	236	-0.9	23	18	60	-2.3	0.7	18.3	-14.1	-4.7	10.9	92	92	157	-0.7	-1.1	-1.0
Greece	4.3	1.0	179	-0.3	223	-2.3	20	15	68	-4.2	-0.8	27.0	16.1	-15.1	19.2	66	67	118	0.1	0.1	-0.6

*Vulnerability Indicators: (1) % GDP (2) Deviation from 4 years average (3) % of total debt (4) % year on year (5) % of Total Labor Force (6) Financial System Credit to Deposit (7) Index by World Bank Governance Indicators

Section 3

Vulnerability Indicators: Emerging Economies

Vulnerability Indicators* 2013: 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 2013-17	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	0.2	-0.1	18	-1.9	101	-0.9	4	1.3	47	1.2	2.1	12.4	1.9	-7.1	24.4	23	95	107	-0.3	0.2	0.1
Czech Rep	-0.7	-0.2	45	-2.1	53	-3.9	11	8	33	0.3	2.3	8.1	1.0	-0.6	-1.1	32	39	85	-1.1	-0.3	-1.0
Croatia	-2.8	1.7	53	0.0	111	-2.7	11	2.3	34	-0.2	3.2	15.2	na	n.a.	9.5	38	34	115	-0.5	0.0	-0.2
Hungary	1.9	1.3	80	2.1	164	-4.5	21	1.2	68	0.0	3.2	10.5	-8.1	-4.4	-4.2	32	68	142	-0.7	-0.3	-0.8
Poland	-0.3	-0.1	57	-3.6	83	-0.6	12	1.4	53	1.3	1.9	11.0	-2.3	-17.9	9.4	35	32	103	-1.1	-0.5	-0.7
Romania	0.7	-0.8	37	-4.2	79	1.6	12	1.5	48	1.6	4.6	7.0	-1.6	-14.1	4.9	22	50	117	-0.1	0.2	0.0
Russia	0.2	-1.2	10	2.5	34	6.2	2	5.7	19	3.4	6.9	5.5	4.5	9.3	-5.2	12	33	116	0.9	1.1	0.8
Turkey	1.0	0.4	36	-6.9	39	1.9	9	1.1	32	4.0	6.8	8.8	4.0	4.2	37.6	14	30	116	0.9	-0.1	-0.1
Argentina	-0.4	-12.6	42	-0.1	30	-5.9	9	1.6	32	2.8	9.8	7.1	2.0	0.9	26.0	8	--	77	-0.2	0.4	0.6
Brazil	3.3	2.4	67	-3.0	19	-1.8	17	11.0	18	3.4	6.3	6.0	3.5	4.9	-12.6	16	37	116	0.0	-0.2	0.0
Chile	-0.5	0.1	11	-4.0	43	5.0	1	2.4	16	4.9	2.1	6.5	4.3	-1.3	-5.1	29	48	180	-0.6	-1.6	-1.4
Colombia	0.5	-0.6	34	-2.9	21	4.4	4	3.3	28	4.1	2.2	10.3	2.8	8.0	-6.0	15	22	188	1.3	0.3	0.3
Mexico	-0.5	-0.2	44	-1.0	28	8.2	11	3.0	33	3.4	3.7	4.8	1.7	-1.2	17.2	15	27	75	0.7	0.4	0.5
Peru	2.3	-2.7	17	-3.5	26	7.1	0	7.2	50	6.3	2.1	6.8	1.3	15.3	-15.9	11	20	90	0.7	0.2	0.6
China	-0.3	-7.7	57	2.8	7	10.6	6	6.2	...	8.0	3.0	4.1	6.7	-2.6	-5.5	23	83	154	0.7	0.7	0.5
India	-4.3	-4.5	66	-4.1	19	-2.0	13	3.4	7	5.7	6.6	0.0	-2.9	5.8	8.2	10	37	77	1.2	0.6	0.1
Indonesia	-1.4	-5.2	24	-2.0	25	0.5	4	2.8	55	6.3	5.1	6.1	2.6	5.3	19.9	57	12	88	0.8	0.7	0.7
Malaysia	-2.1	-2.4	56	10.3	33	3.5	10	4.3	29	4.8	2.6	3.0	1.6	6.7	4.7	91	--	89	-0.2	0.0	-0.5
Philippines	0.5	-1.9	40	3.3	26	9.9	8	11.0	...	6.0	3.5	7.0	0.3	11.3	34.1	2	27	65	1.4	0.8	0.5
Thailand	-2.5	-4.8	46	1.6	40	4.3	8	4.0	10	4.7	3.4	0.7	3.0	3.4	30.4	25	24	98	1.0	0.4	0.2

*Vulnerability Indicators: (1) % GDP (2) Deviation from 4 years average (3) % of total debt (4) % year on year (5) % of Total Labor Force (6) Financial System Credit to Deposit (7) Index by World Bank Governance Indicators

Annex

Methodology: Indicators and Maps

- **Financial Stress Map:** It stress levels of according to the normalized time series movements. Higher positive standard units (1.5 or higher) stands for high levels of stress (dark blue) and lower standard deviations (-1.5 or below) stands for lower level of market stress (lighter colors)
- **Sovereign Rating Index:** An index that translates the three important rating agencies ratings letters codes (Moody´s, Standard & Poor´s 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 color map with 6 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 bps)
- **Downgrade Pressure Map:** The map shows the difference of the current ratings index (numerically scaled from default (0) to AAA (20)) and the implicit ratings according to the Credit Default Swaps. We calculate implicit probabilities of default (PDs) from the observed CDS and the estimated equilibrium spread. For the computation of these PDs we follow a standard methodology as the 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 map and the graph plot the difference between the actual sovereign rating index and the CDS-implied sovereign rating, in notches. Higher positives differences account for Downgrade potential pressures and negative differences account for Upgrade potential. We consider the +-3 notches area as the Neutral one
- **Vulnerability Radars & 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 its group (Developed Economies or Emerging Markets). Furthermore Inner positions (near 0) in the radar shows lower vulnerability meanwhile outer positions (near 1) stands for higher vulnerability. Besides we compare the positions of the country with risk thresholds in red whose values have been computed according to our own analysis or empirical literature
  - **The Distance to Risk Map**: Shows in different colours a summary table of vulnerability radars. Darker colours stand for indicators above risk thresholds (developed or emerging depending the country). Lighter colours reflect safe values in the sense of a high distance to the risk thresholds. Dimensions are computed as the geometric average of the three indicators included in each of the dimensions

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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				
Ciclically Adjusted Deficit ("Strutural Deficit")	-4.2	-0.5	Lower	Baldacci et Al (2011). Assesing Fiscal Stress. IMF WP 11/100
Expected Interest rate GDP growth diferential 5 years ahead	3.6	1.1	Higher	Baldacci et Al (2011). Assesing Fiscal Stress. IMF WP 11/100
Gross Public Debt	73.0	43.0	Higher	Baldacci et Al (2011). Assesing Fiscal Stress. IMF WP 11/100
Liquidity Problems				
Gross Financial Needs	17.0	21.0	Higher	Baldacci et Al (2011). Assesing Fiscal Stress. IMF WP 11/100
Debt Held by Non Residents	84.0	40.0	Higher	Baldacci et Al (2011). Assesing Fiscal Stress. IMF WP 11/101
Short Term Debt Pressure				
Publi Short Term Debt as % of Total Publi Debt (Developed)	9.1		Higher	Baldacci et Al (2011). Assesing Fiscal Stress. IMF WP 11/100
Reserves to Short term debt (Emerging)		0.6	Lower	Baldacci et Al (2011). Assesing 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 percentil)	-1.0 (8th percentil)	Lower	World Bank Governance Indicators
Control of Corruption	0.6 (9th percentil)	-0.7 (8th percentil)	Lower	World Bank Governance Indicators
Rule of Law	0.6 (8th percentil)	-0.6 (8 th percentil)	Lower	World Bank Governance Indicators

Annex

Methodology: Models and BBVA country risk

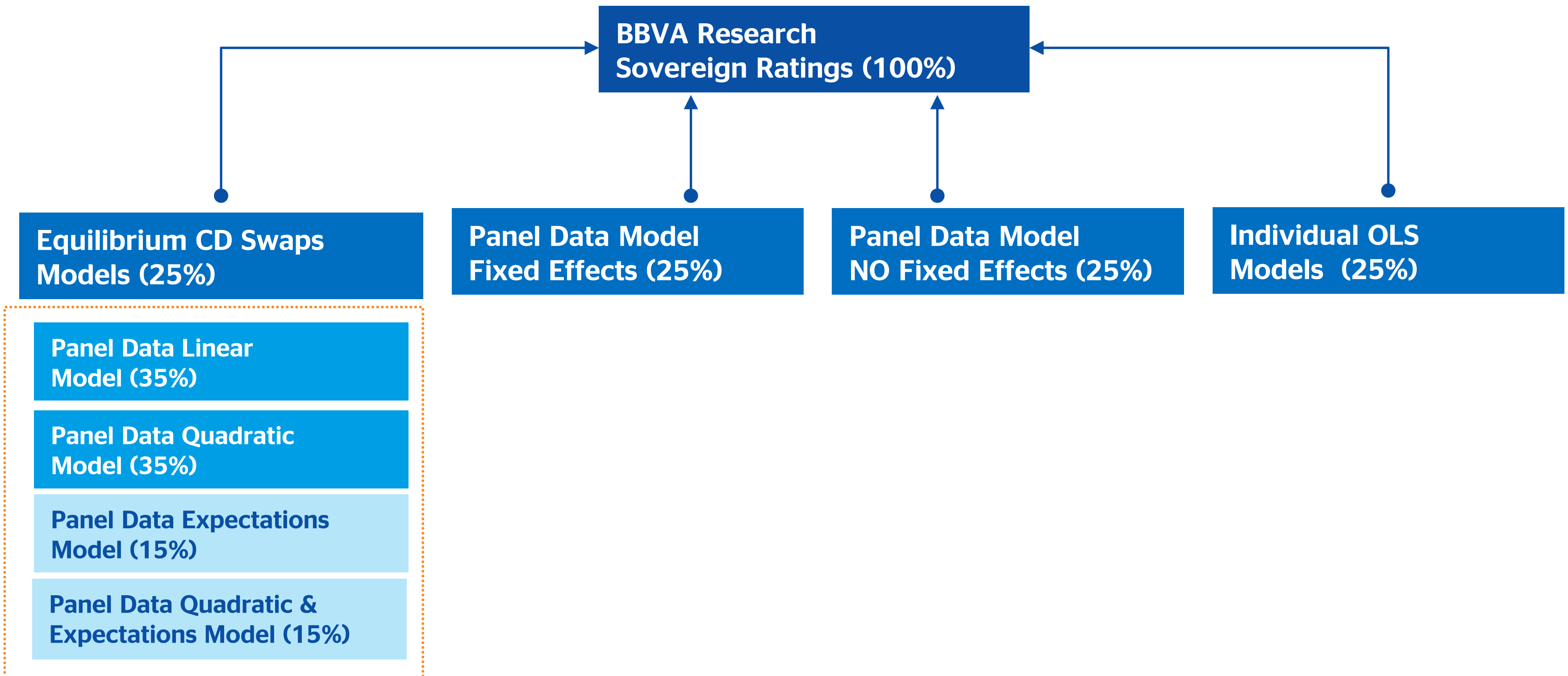
- **BBVA Research Sovereign Ratings Methodology:** We compute our sovereigns ratings by averaging four alternatives sovereign rating models developed at BBVA research:
  - **Credit Default Swaps Equilibrium Panel Data Models:** This model estimate actual and forecasts equilibrium levels of CD Swaps for 40 developed and emerging markets. The long run equilibrium CD Swaps are the result of four alternative panel data models. The average of these equilibrium values are finally are finally converted to a 20 scale sovereign rating scale. The CD Swaps equilibrium are calculated by a weighting average of the four CD Swaps equilibrium model estimations (30% for the linear and quadratic models and 15% for each expectations model to correct for expectations uncertainty). The weighted average is rounded by 0.5 standard deviation confidence bands. The models are the following
    - <u>Linear Model (35% weight)</u>: 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
    - <u>Quadratic Model (35% weight)</u>: It is similar to the Linear Panel Data Model but including a quadratic term for public (Developed and emerging) and external debt (Emerging)
    - <u>Expectations Model (15% weight)</u>: It is similar to the linear model but public and external debt account for one year expected values
    - <u>Quadratic Expectations Model (15% weight)</u>: 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 estimates 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 own history of the country independent of the rest of the countries

Annex

Methodology: Models and BBVA country risk

BBVA Research Sovereign Ratings Methodology Diagram

Source: BBVA Research



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