

Country Risk Quarterly Report

BBVA Research

Cross-Country Emerging Markets Unit

March 2013

Summary

Financial Markets & Global Risk Aversion

- The positive effects of Western Central Banks actions have remained relatively intact. This has helped **to limit the rise in political uncertainty in some G7 countries** (first the US Fiscal Cliff and more recently Italian elections)
- Emerging Markets assets continued to outperform rising some doubts about asset valuation in some countries. **The debate on “Currency War” heightened as the Japanese authorities steered a sharp depreciation of the yen and capital flows into emerging markets further although moderated during february**

Sovereign Markets & Ratings Update

- **The correction in EU Sovereign markets continued. Spain’s risk premium clearly outperformed** while political uncertainty avoided further reduction in Italian spreads
- **The European credit rating cycle stabilized although there were negative news from the UK as it lost its AAA status.** Implicit ratings (CD Swaps) corrected but they are still signaling downgrade potential
- **Emerging markets upgrade cycle did not really materialize with most of the Latam and Asian ratings remaining stable. Some downgrades did take place in Eastern Europe**

Our own country risk assessment

- **Liquidity provision and the ratings cycle stabilization have provided the necessary room to reduce uncertainty in developed markets. However, important asymmetries still persist:**
- **The situation in Developed Countries** has clearly relaxed providing positive news during the past three months. The reduction of risk premiums will support the debt dynamics stabilization but as debt and public financing needs will remain mounting this year, the vulnerability to market sentiment changes will remain an issue. The private sector adjustment (“de-leveraging”) has advanced visibly 5 years after the outburst of the crisis
- **Emerging Markets’ vulnerabilities remain low** relative to historical levels and with regard to developed countries. However, **there is no room for complacency** as part of the necessary response by Western central banks poses some challenges to them. Although private and public debt remain low, **strong capital inflows could lead to credit acceleration and property price misalignments if not properly corrected. On the positive side, the latest figures show some credit moderation in emerging markets**

Summary

The “new normal” vulnerability in Emerging Markets

- The traditional growth premium of Emerging Markets (EMs) has been reinforced by a **significant reduction of their vulnerability**:
 - **On the macroeconomic side**, most emerging countries experienced rapid recoveries after the economic slump in 2008-9 and **potential growth remained virtually intact despite the recent financial crisis**.
 - **The relative high growth and declining risk premiums will contribute to maintain**, or reduce, the already **low levels of public debt** in these countries
 - **The reduction in external vulnerability has been notorious as several years of current account surpluses**, for emerging countries as a whole, **have led to a sizeable reduction in external debt**
 - **Although private credit is recovering very fast in some countries, we believe it is still manageable**. Most of the EM actually present healthy balance sheets for household, corporate and banks
- The vulnerability reduction is paying off and sovereign ratings by the main agencies have been continuously upgraded. **The increase in the number of investment grade countries since 2000 has been remarkable**: currently more than a half of the relevant EMs holds investment grade
- **But complacency is at the root of every crisis. EM’s policymakers should continue to reinforce efforts in “managing success”**. The attractiveness of EM will persist but a relevant “push factor” is in the hands of major Central Banks. One thing is sure: the debate on currency movements will continue either way

Index

- 1. International Financial Markets , Global Risk Aversion and Capital Flows**
- 2. Sovereign Markets & Ratings Update**
- 3. Macroeconomic Vulnerability and In-house assessment of country risk on a Regional basis**
- 4. Special Topics**
 - The “new normal” vulnerability in Emerging Markets

Annex

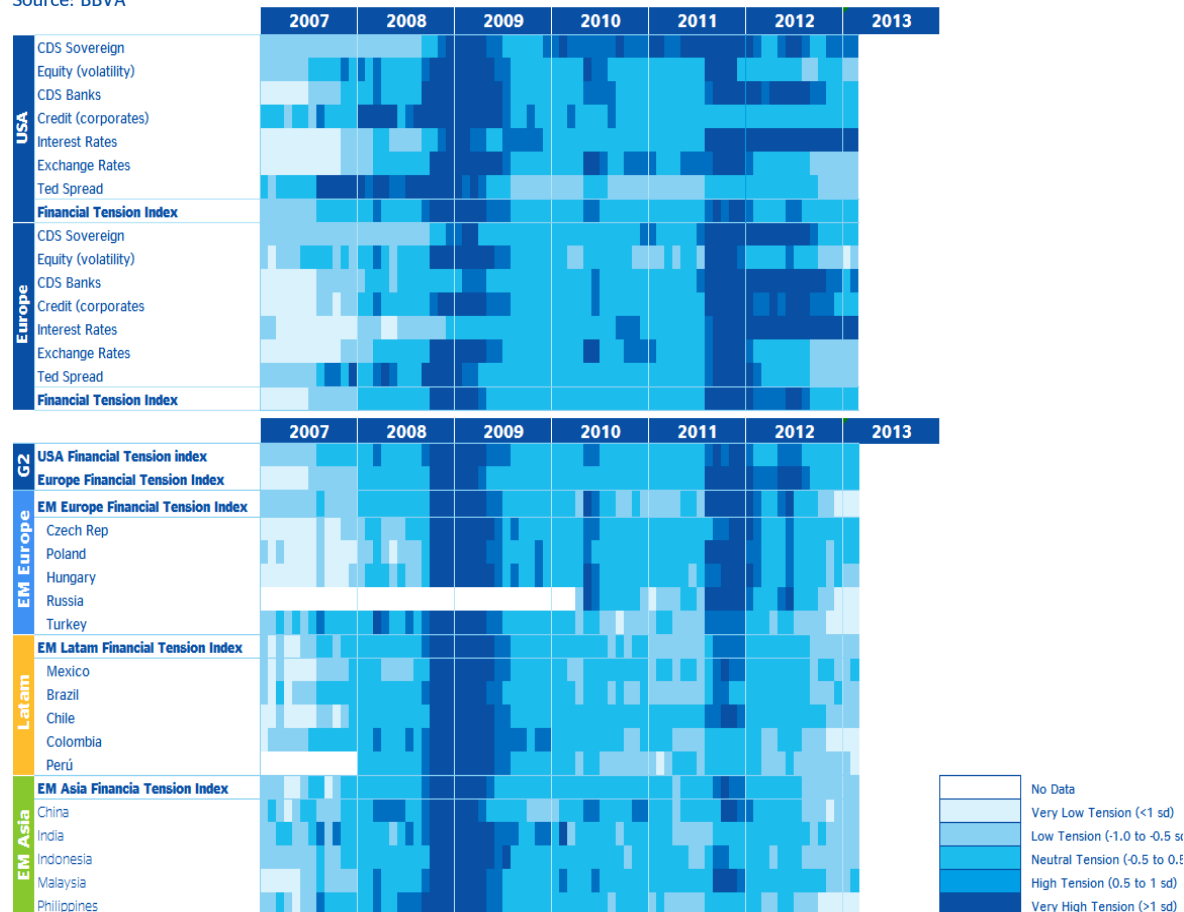
- Methodological appendix

Section 1

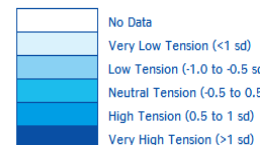
Financial Markets Stress

BBVA Research Financial Stress Map

Source: BBVA



- The positive effects of last summer’s Central Banks actions are still in place. Critical segments as Ted Spreads and CDs Banks drove our Financial Tension indexes to neutral levels
- Emerging Markets financial indicators continued to outperform extending gains from western central banks actions and increasing attractiveness
- Some of the countries (Turkey, Russia, Andeans and Philippines) entered in the very low tension area (not seen since the crisis)



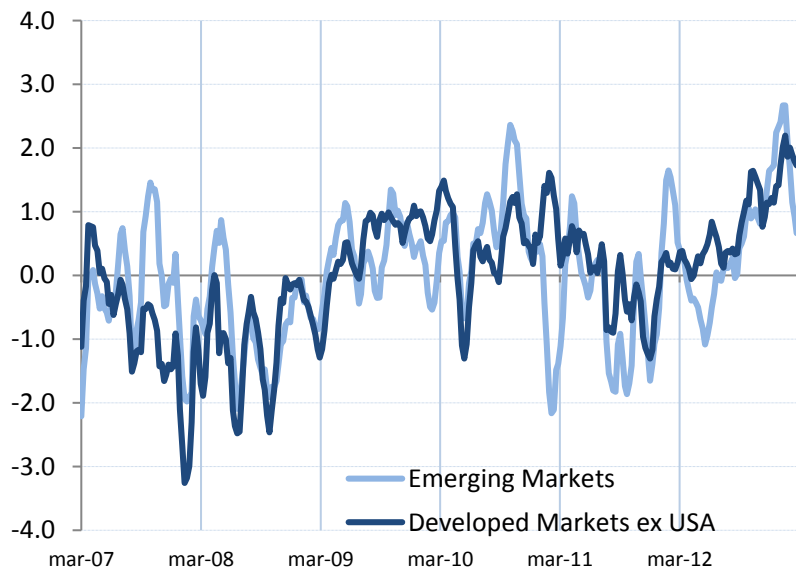
Section 1

Capital Flows Update

Equity & Bond Fund Flows 2007-feb 2013

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

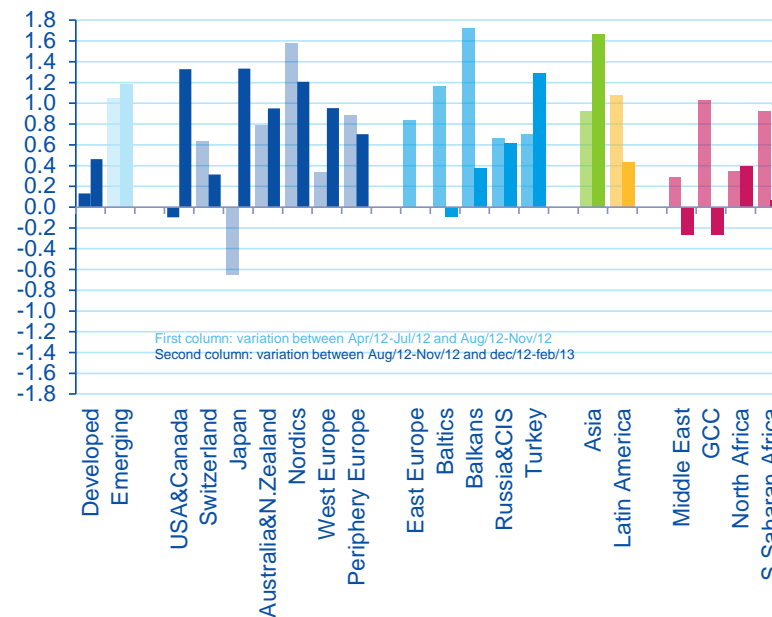
Source: EPFR and BBVA Research



Equity & Bond Fund Flows 4Q12 -1Q13

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

Source: EPFR and BBVA Research



- **Portfolio flows continued to accelerate** during the last three months. However, **uncertainty about Italian election results and doubts on the potential US monetary policy exit triggered a reversal** during February of 2013
- **Some portfolio reallocation emerged during the last reversal:** Developed markets maintained the positive momentum of the last quarter while EM flows positive momentum recede in most EM (except emerging Europe)

Section 2

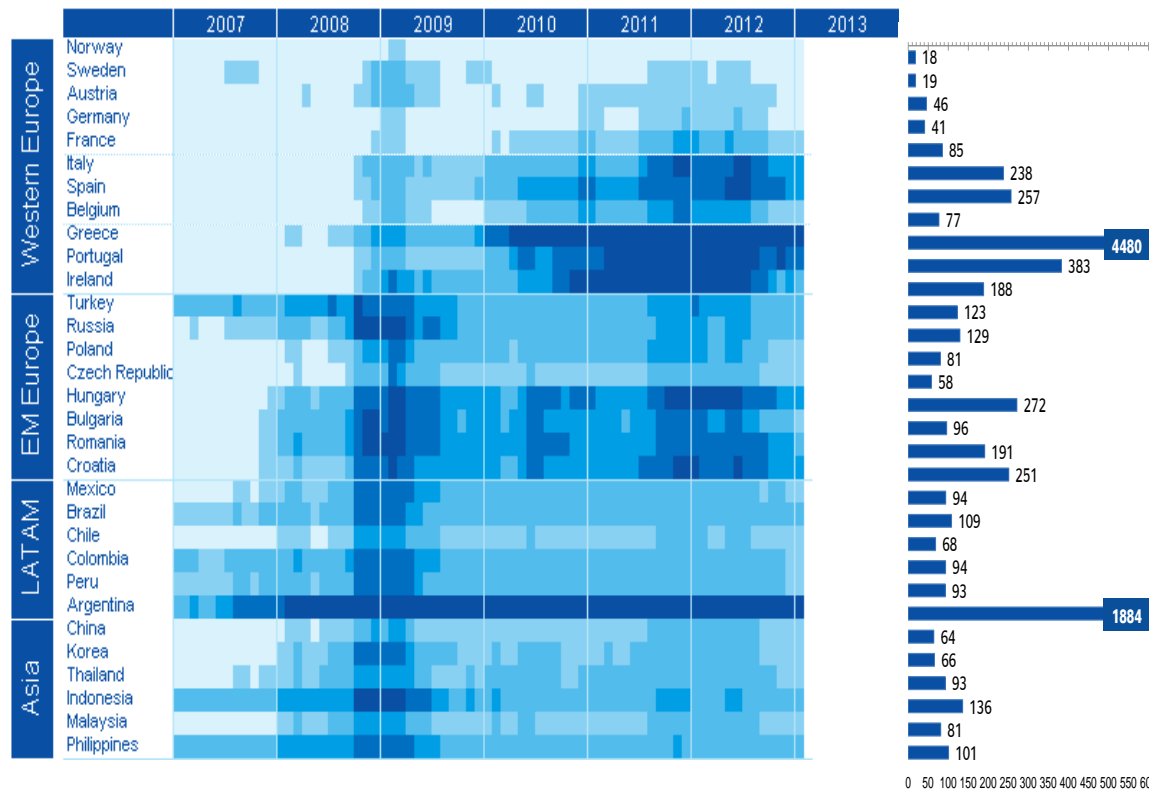
Sovereign Markets Update

Sovereign CDS spreads

Source: Datastream and BBVA Research

February 2013

End of Month



- Europe’s periphery CD Swap spreads continued to tighten although with mixed results. Spain, Portugal and Ireland led the correction while Italy’s electoral results triggers risk premium increase
- EM Europe sovereign CD Swaps outperformed.. Turkey & Russia CD Swap keeps the downward trend
- Latin America sovereign CD Swaps declined further with most of them reaching below 100 bp levels
- Asian sovereigns mostly stable during the last three months

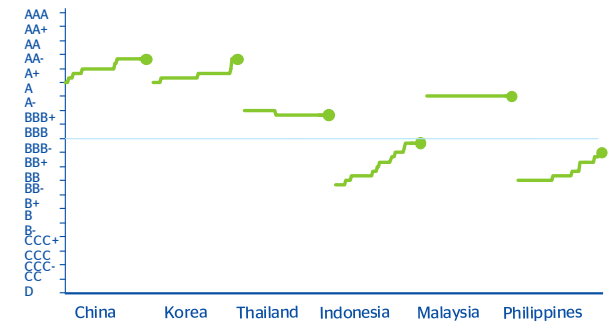
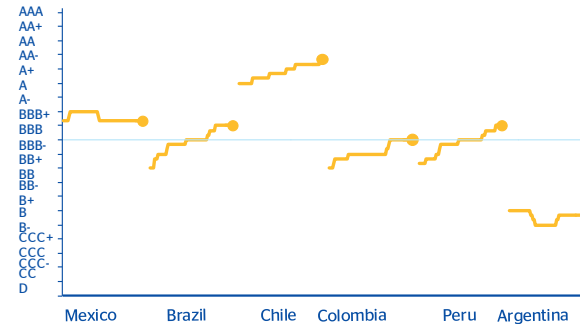
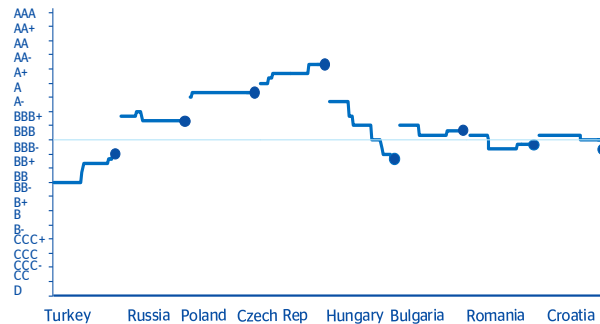
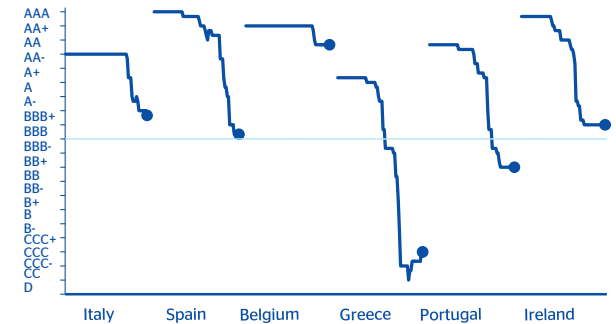
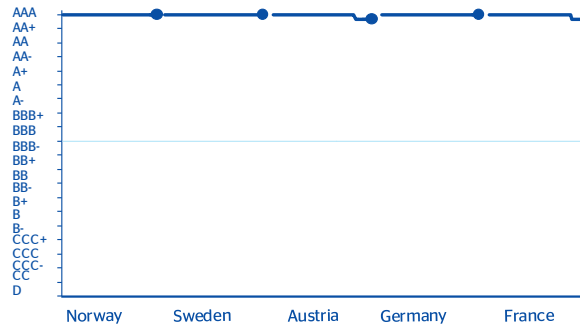
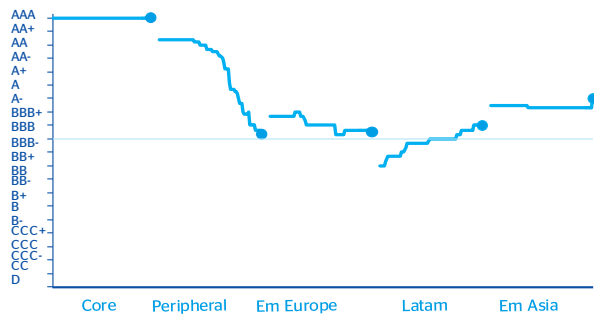
Sovereign CD Swaps Map: It shows a color map with 6 different ranges of CD Swaps quotes (darker >500, 300 to 500, 200 to 300, 100 to 200, 50 to 100 and the lighter below 50 bp)

Section 2

Sovereign Credit Ratings Update

Sovereign Rating Index 2007-2012

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:** The rating agencies downgrade cycle stabilised with some outlook improvements in EU periphery (Ireland & Portugal). However, downgrade risk remains in both AAA countries (UK was downgraded by Moody's) and EU Periphery (Italy downgraded again by Fitch). Iceland and Greece were upgraded from very low levels
- **The Emerging Markets:** downgrade ratings activity was concentrated in EMEA region (Croatia, Hungary and Slovenia). Latin America positive momentum continues (Uruguay gets the Investment Grade by Fitch and Mexico moved to positive outlook by S&P)

Section 2

Sovereign downgrade Pressures Map

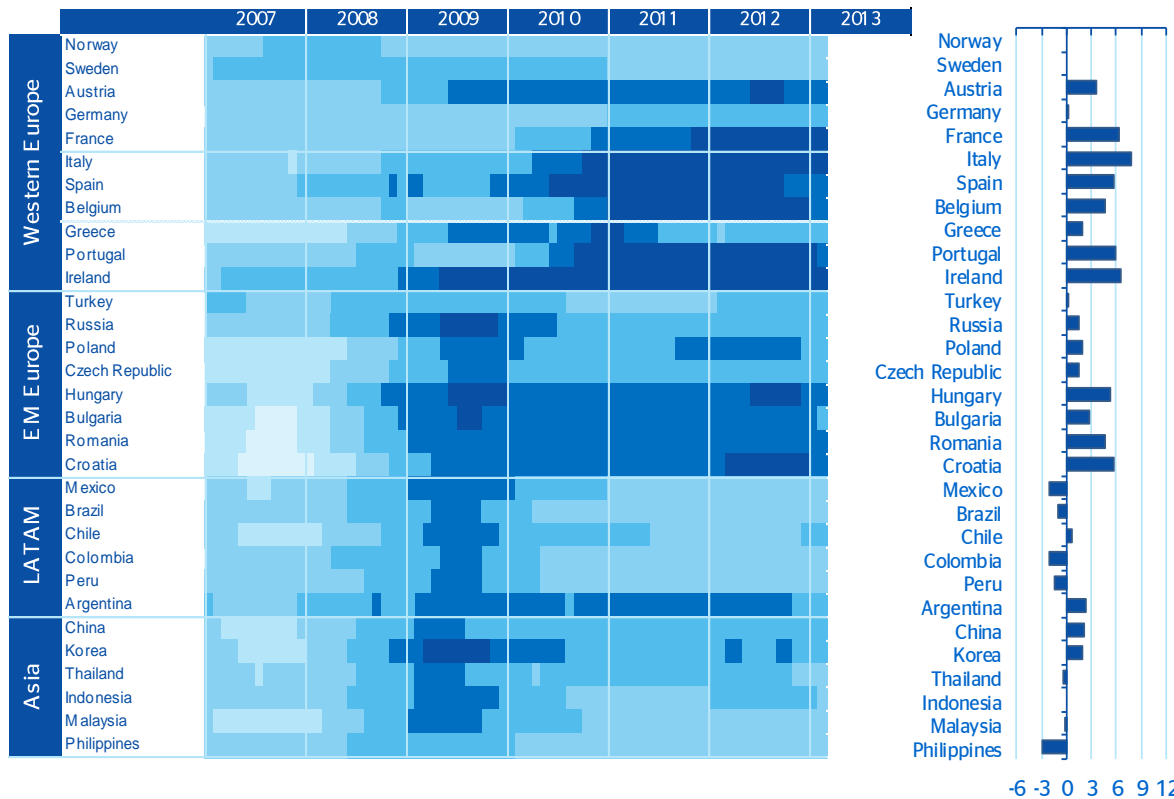
Rating Agencies Downgrade Pressure Map

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

Source: BBVA Research

February 2013

End of Month



- Implicit ratings by CD Swaps relaxed in Europe although some countries are still quoting ratings below the official ones (France ,Italy and Ireland)
- In Eastern Europe, the recent downgraded countries (Hungary and Croatia) still show potential downgrade pressure
- In Latin America news about reforms in Mexico have led to some upgrade potential. Andeans are still signalling upgrade pressure
- Asia remains in the neutral territory with Philippines upgrade pressure increasing on the Philippines

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

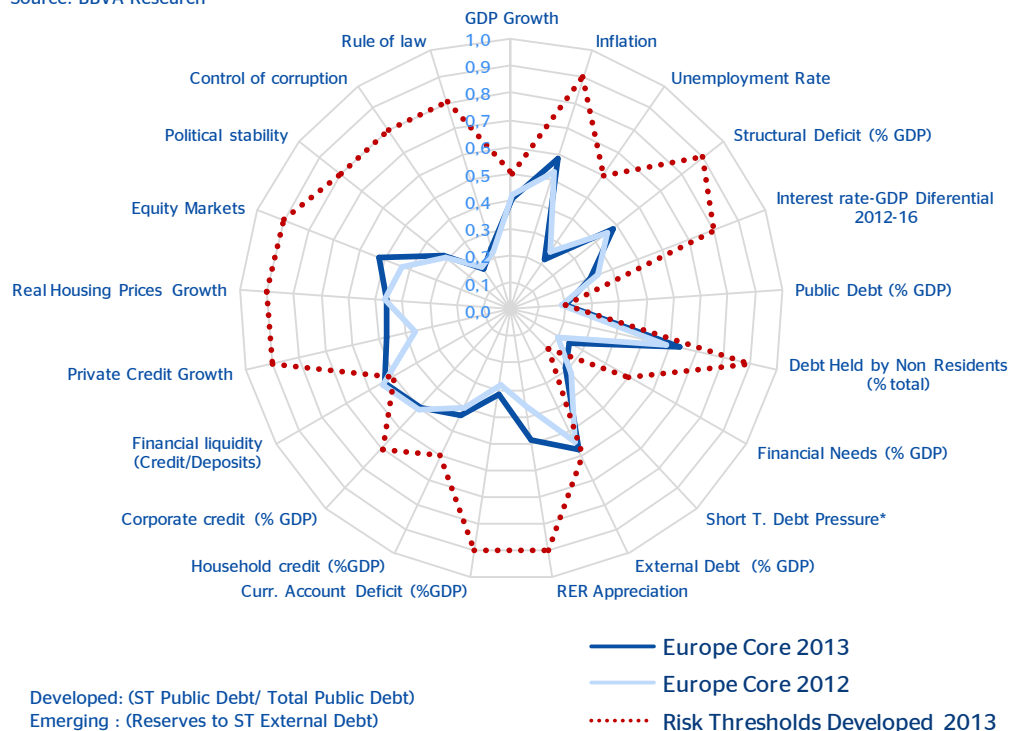
Regional Risk Update: Core Europe

Europe Core Countries: Vulnerability Radar 2012

(all data for 2012, 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



De-leveraging is reducing risks from Excess credit and housing prices. Institutional factors remains an asset



Low economic growth, not enough to correct public debt dynamics in the short term



Liquidity indicators poses some challenges. Excess credit in some countries (Scandinavian)

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

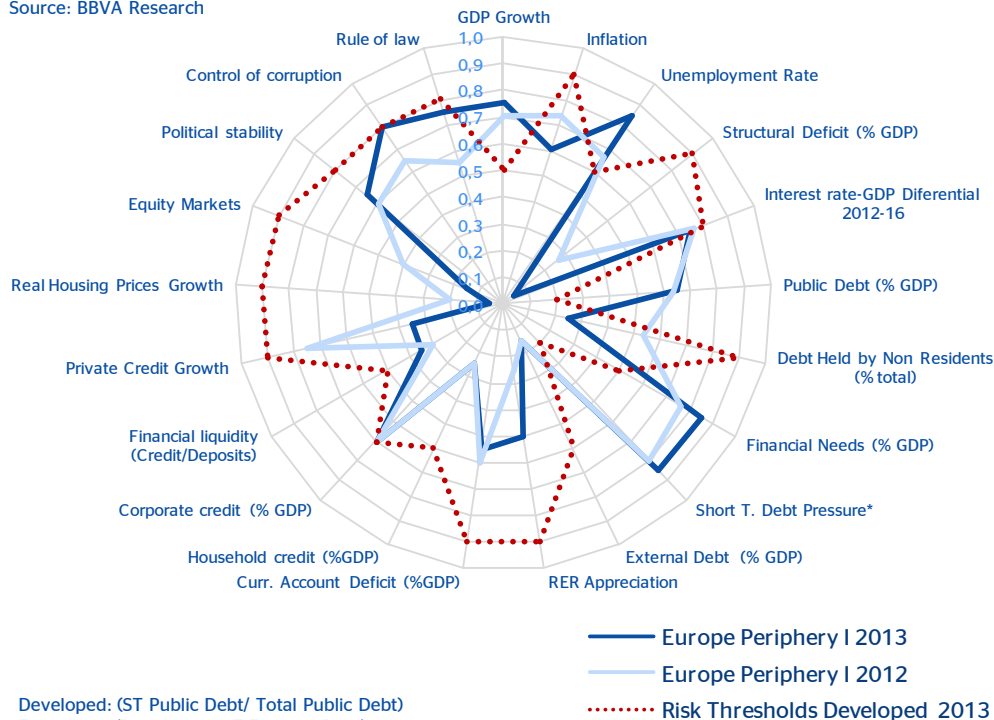
Regional Risk Update: Western Europe

Europe Periphery I: Vulnerability Radar 2013

(all data for 2012, 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 corrections in both Nominal & Structural public balances. Ongoing De-leveraging



Institutional factors deteriorate. Political uncertainty on the rise



Poor Activity and employment indicators will avoid rapid debt corrections. Public Financial Needs 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.

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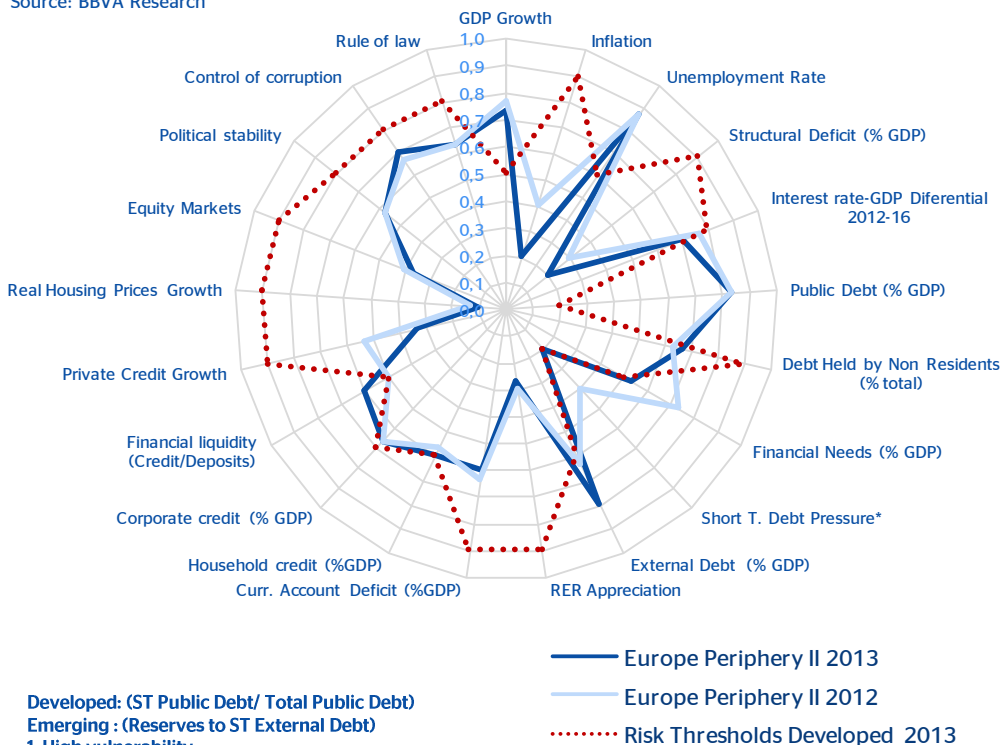
Regional Risk Update: Western Europe

Europe Periphery II: Vulnerability Radar 2013

(all data for 2012, Relative position for the Developed Market countries. Max Risk=1, Min Risk=0)

*Include Greece, Ireland and Portugal

Source: BBVA Research



Structural Budgets improve and help in the Housing & Credit excesses clean-up. Real exchange rate adjustment (domestic devaluation)



Inflation reduction will favor real devaluation but challenges debt dynamics



Very high levels of public bailed out debt (liquidity problems). Public and private debt and Banks funding gaps remain ample

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.

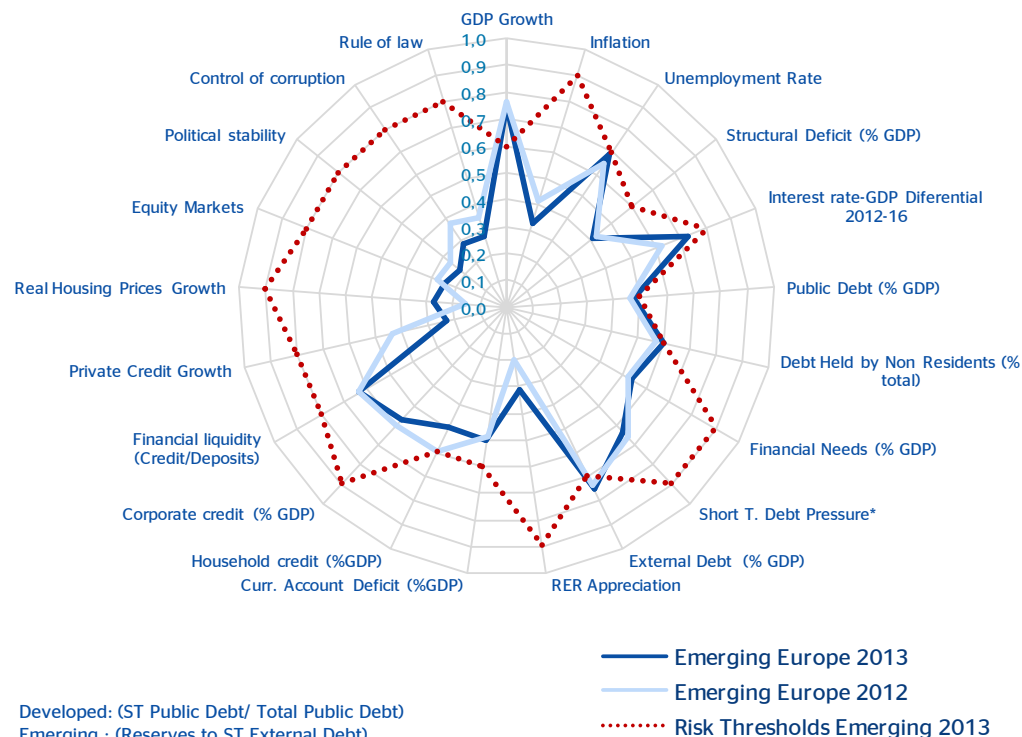
Section 3

Regional Risk Update: Emerging Europe

Emerging Europe: Vulnerability Radar 2013

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

Source: BBVA Research



Private sector de-leveraging will continue. Financial needs at safe levels



Activity and employment are still weak. External debt still near the risk area



Public and external debt high relative to the rest of Emerging Markets

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

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.

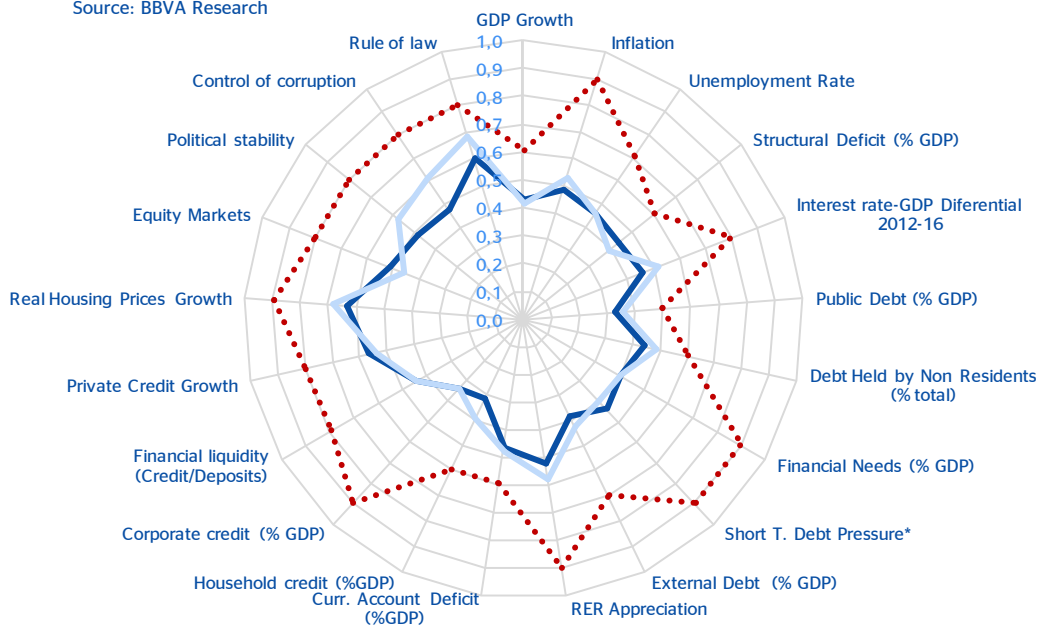
Section 3

Regional Risk Update: Latam

Latam: Vulnerability Radar 2013

(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

— Latam 2013
 — Latam 2012
 Risk Thresholds Emerging 2013



Solid macro indicators & ample liquidity buffers. Low private debt and improving Institutionals



Excess credit and housing prices need to be monitored



Structural fiscal balances should improve as some public debt levels near the EM threshold risks

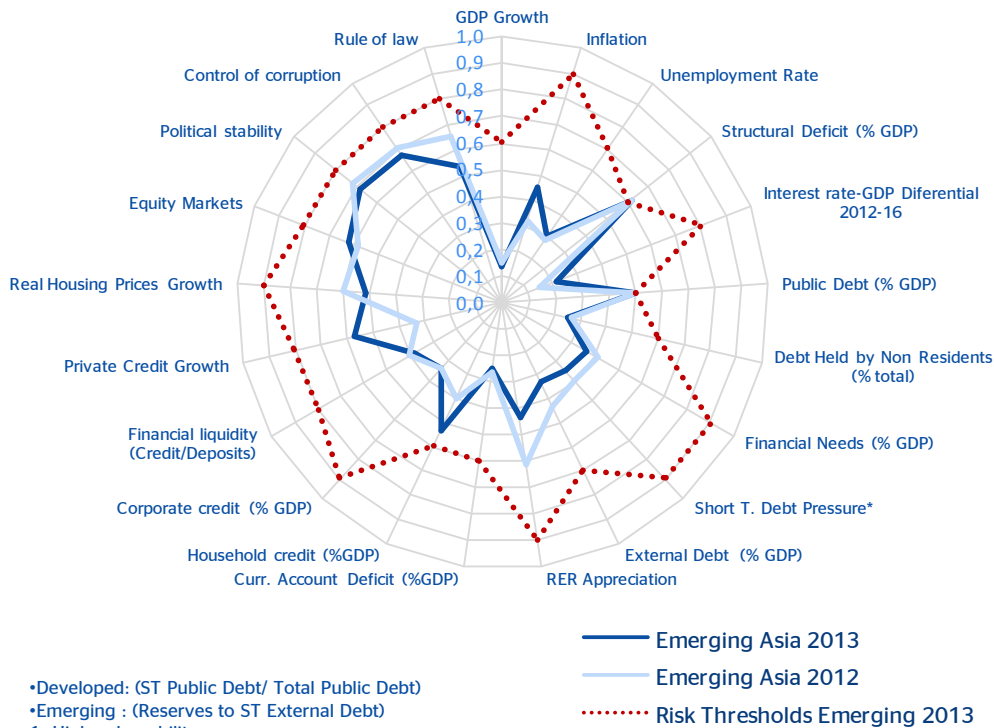
Vulnerability Radar: Shows a static and comparative vulnerability for different countries. For this we assigned several solvency , liquidity and macro variables and we reorder in percentiles from 0 (lower ratio among the countries to 1 maximum vulnerabilities.) Furthermore Inner positions in the radar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

— Emerging Asia 2013
— Emerging Asia 2012
..... Risk Thresholds Emerging 2013



Solid macro indicators & ample liquidity buffers. Strong external positions. Credit growth moderates



Inflation is on the rise in some countries. Geopolitical tensions still prevail (North-South Korea & China-Japan)



Private credit growth accelerating

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.

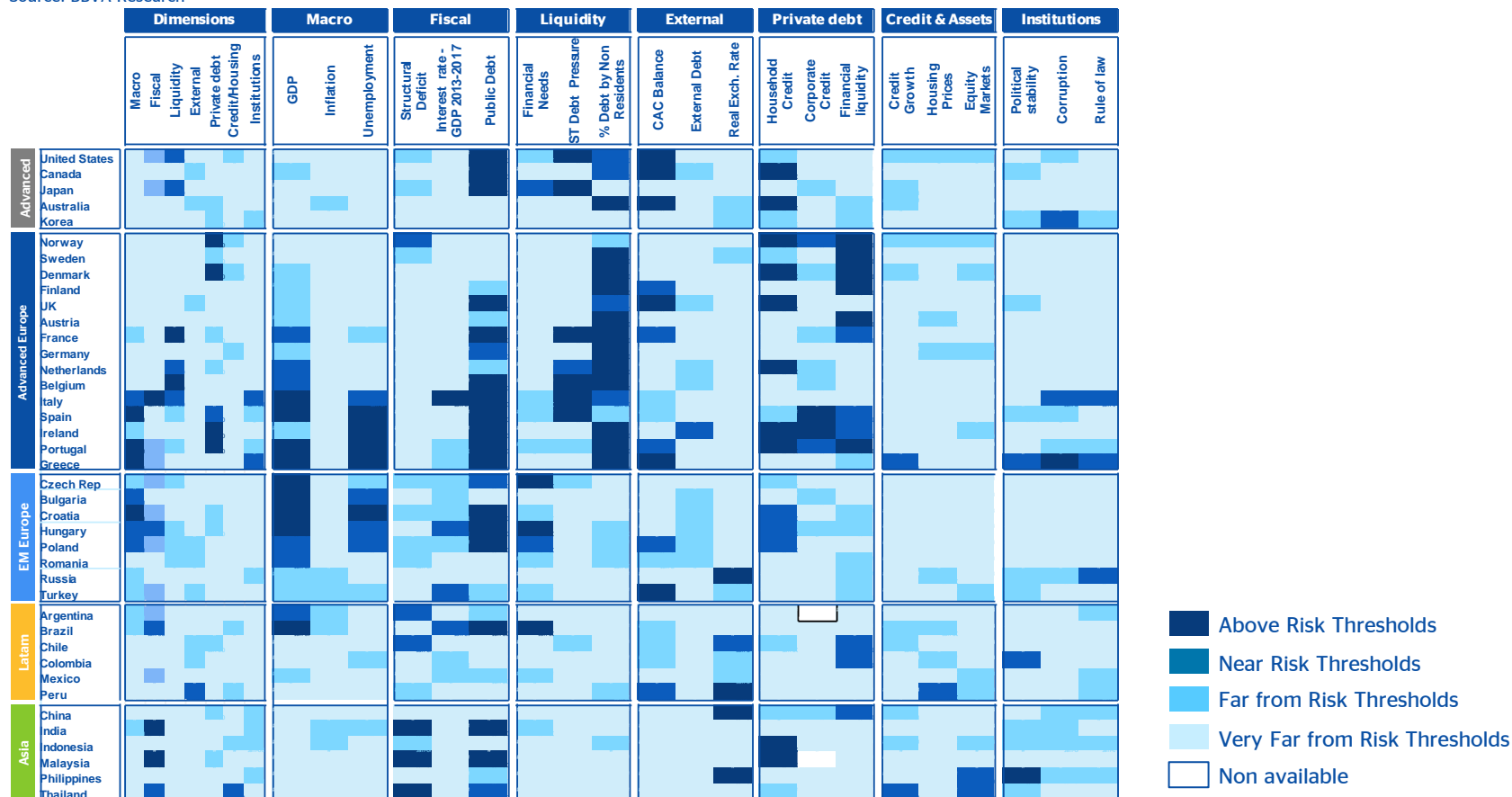
Section 3

Regional Risk Update: World Risk Map

Distance to Risk Map

(Darker colours stands for indicators above risk thresholds lighter for safe or high distance to risk thresholds)

Source: BBVA Research

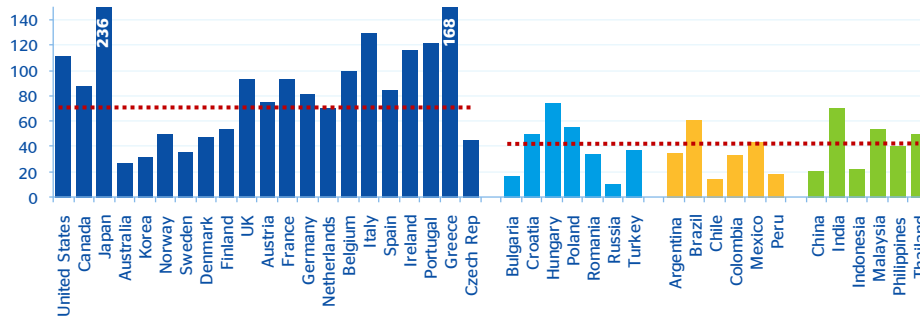


Section 3

Public and Private Debt Chart Gallery

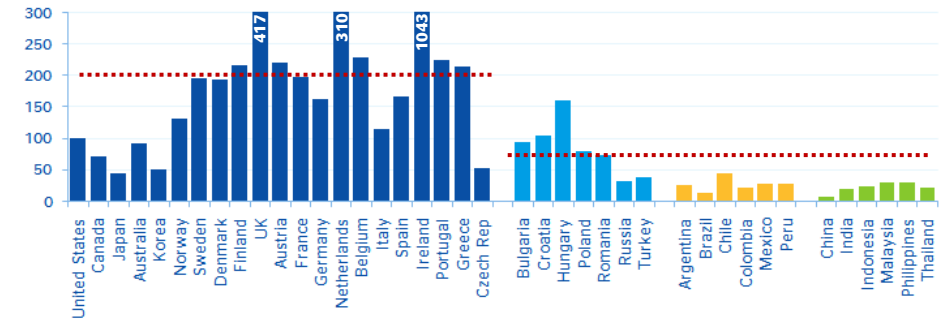
Gross Public Debt 2013 (% GDP)

Source: BBVA Research and IMF



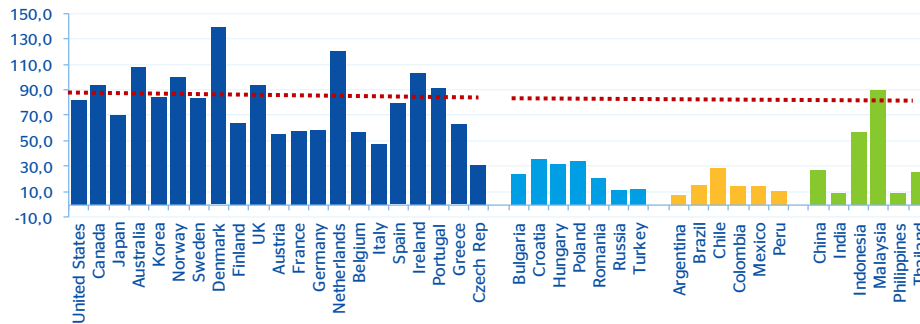
External Debt 2013 (% GDP)

Source: BBVA Research and IMF



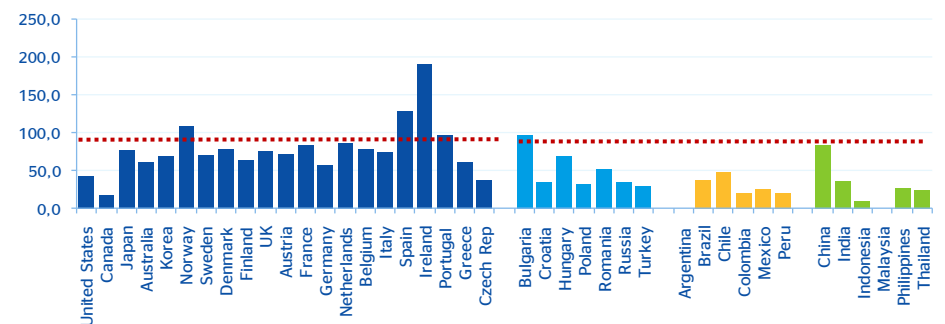
Household Debt 2013 (% GDP)

Source: BBVA Research and IMF



Corporate Sector Debt 2013 (% GDP)

Source: BBVA Research and IMF



..... Risk Thresholds

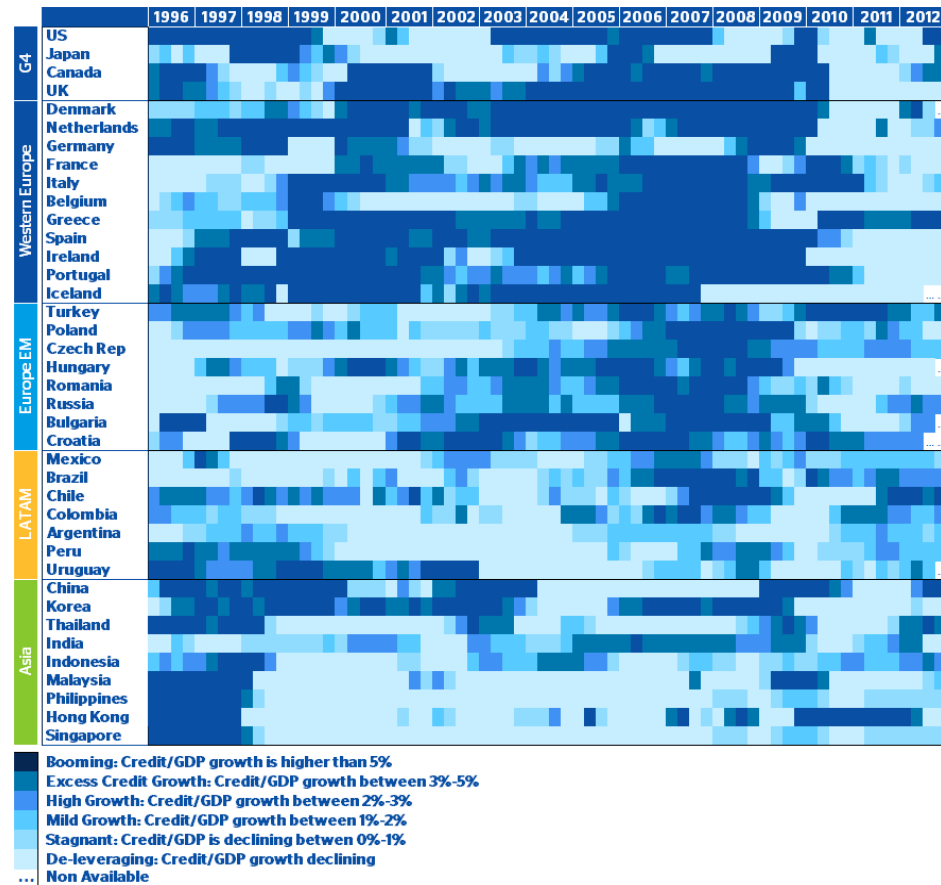
Section 3

Private Credit Pulse

Private credit colour map (1996-2012 Q3)

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

Source: BBVA Research and Haver



- Advanced economies private sector credit growth correction is to continue
- In Eastern Europe Turkey’s credit starts to moderate after two booming years. First signs of acceleration in Russian and Poland
- Latam credit to private sector should be monitored in Brazil and Chile to avoid further acceleration. Colombia moderates credit growth
- In Asia, credit growth shows some revival in China, Thailand and Malaysia. Hong Kong moderates

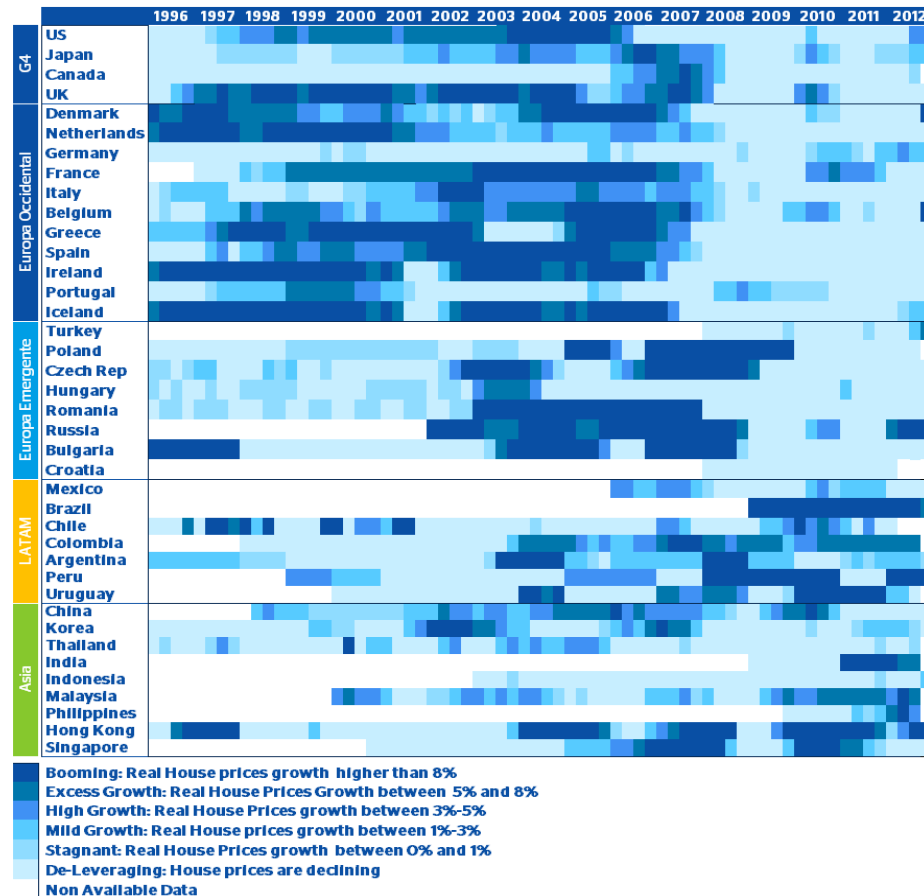
Section 3

Real Housing Prices Pulse

Real housing prices colour map (1996-2012)

(yearly change of real housing prices)

Source: BBVA Research, BIS and Globalpropertyguide



- The US, real housing prices start to recover. European real housing markets still stagnant or declining in real terms
- In Eastern Europe, Russia`s real housing prices accelerates while first signs of strong growth appeared in Turkey
- In Latam, Brazil real housing prices moderates but still growing at strong pace. Peru maintain its strong growth
- Asian Real State prices diverge. Overheating signs in India and Hong Kong while real housing prices growth in the rest presents moderate growth rates

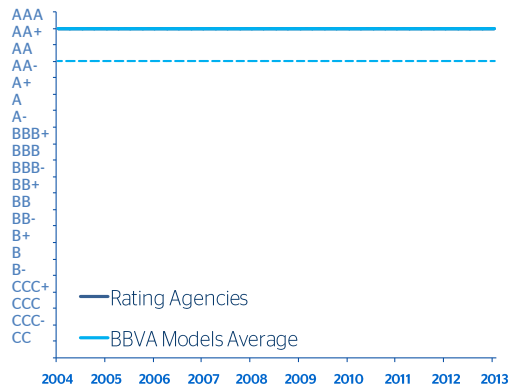
Section 3

Regional Risk Update: Western Europe

Europe Core: Sovereign Rating

(Rating agencies and BBVA scores +1std dev)

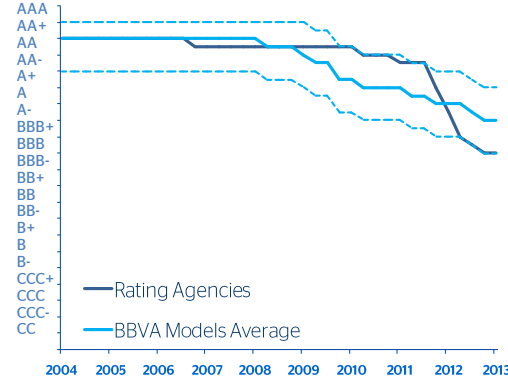
Source: Standard & Pools, Moody's, Fitch and BBVA Research



Europe Periphery I: Sovereign Rating

(Rating agencies and BBVA scores +1 std dev)

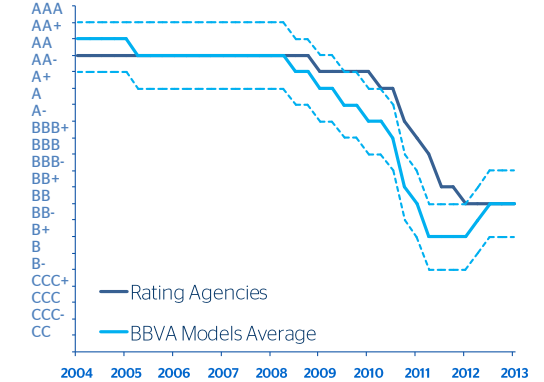
Source: Standard & Pools, Moody's, Fitch and BBVA Research



Europe Periphery II: Sovereign Rating

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

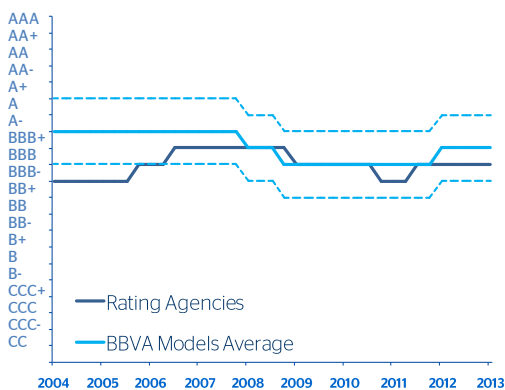
Source: Standard & Pools, Moody's, Fitch and BBVA Research



EM Europe: Sovereign Rating

(Rating agencies and BBVA scores)

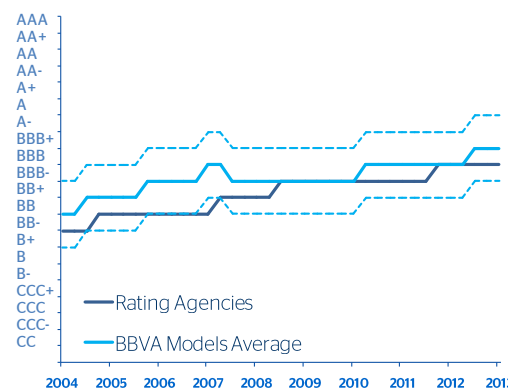
Source: Standard & Pools, Moody's, Fitch and BBVA Research



Latam: Sovereign Rating

(Rating agencies and BBVA scores)

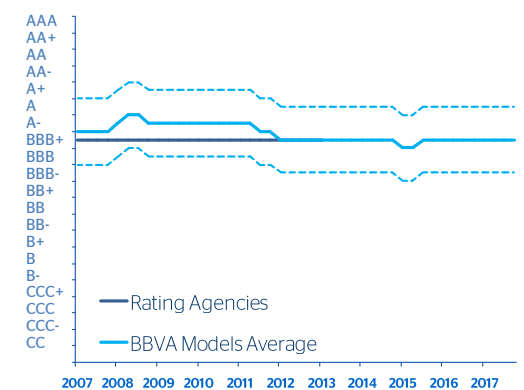
Source: Standard & Pools, Moody's, Fitch and BBVA Research



Emerging Asia: Sovereign Rating

(Rating agencies and BBVA scores)

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

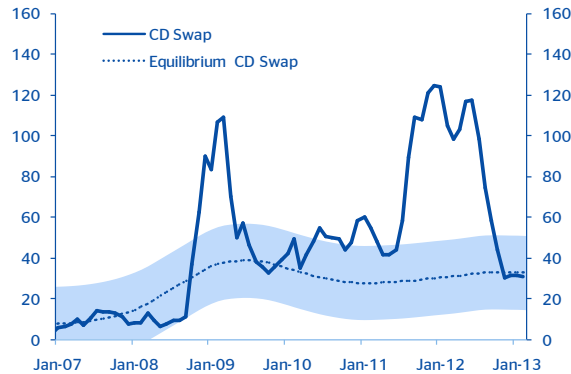


Section 3

Regional Risk: CD Swaps Update

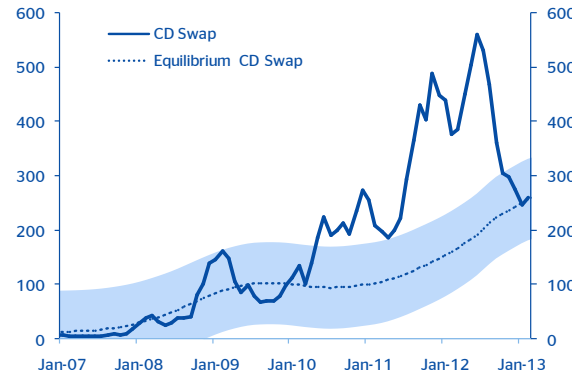
Europe Core: CD Swap 5 year

(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



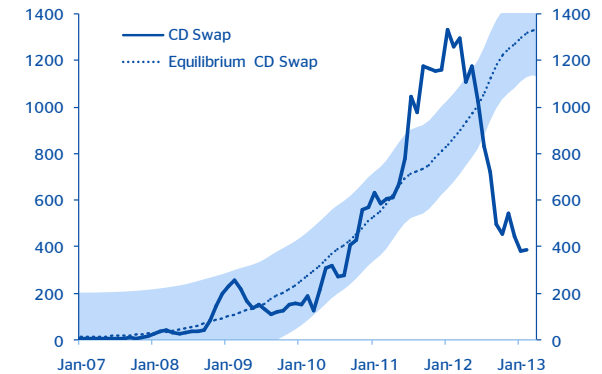
Europe Periphery I: CD Swap 5 year

(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



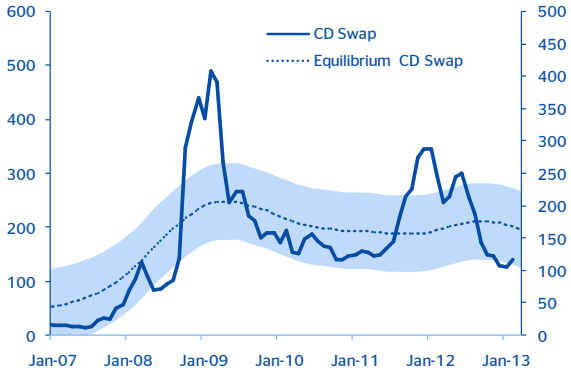
Europe Periphery II: CD Swap 5 year

(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



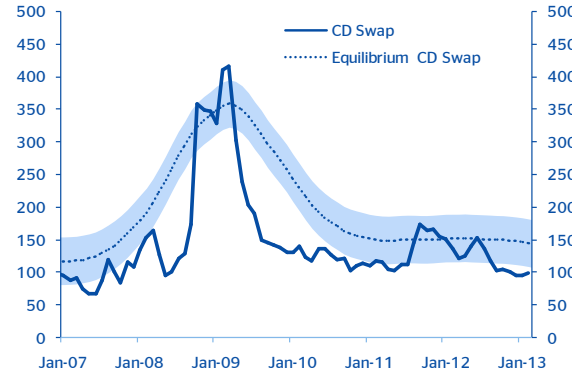
EM Europe: CD Swap 5 year

(equilibrium: average of 4 alternative models + 0.5 Standard deviation)



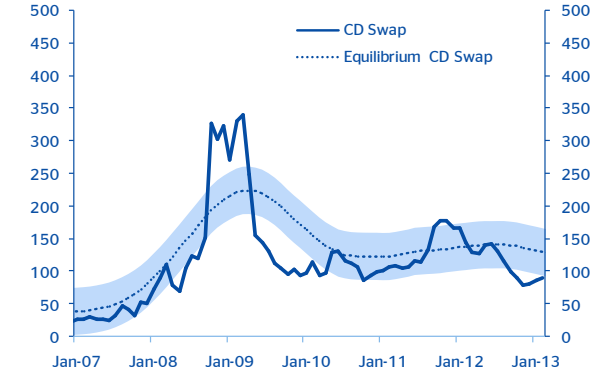
LATAM: CD Swap 5 year

(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 | -3.4 | -1.4 | 112 | -3.1 | 100 | -3.2 | 27 | 20 | 30 | 2.1 | 1.8 | 8.1 | 6.4 | 4.5 | 10.3 | 83 | 43 | 70 | -0.5 | -1.2 | -1.6 |
| Canada | -2.0 | 0.0 | 88 | -3.7 | 72 | 1.7 | 18 | 15 | 21 | 2.0 | 2.0 | 7.3 | -10.0 | 1.3 | -3.8 | 94 | 17 | 104 | -1.0 | -2.0 | -1.8 |
| Japan | -7.5 | -1.8 | 236 | 1.5 | 45 | -13.6 | 60 | 51 | 7 | 1.7 | 0.1 | 4.4 | 4.6 | 0.1 | 5.0 | 70 | 77 | 47 | -1.0 | -1.5 | -1.3 |
| Australia | -0.6 | -1.3 | 27 | -4.0 | 91 | 8.0 | 4 | 3 | 51 | 3.2 | 2.6 | 5.3 | 1.8 | -0.6 | 0.6 | 108 | 62 | 124 | -0.9 | -2.2 | -1.8 |
| Korea | 1.9 | -0.8 | 32 | 1.7 | 50 | 7.1 | 1 | 10 | 14 | 2.3 | 2.6 | 3.3 | -1.2 | 0.3 | 2.6 | 85 | 68 | 132 | -0.2 | -0.5 | -1.0 |
| Norway | -9.1 | -3.4 | 50 | 15.6 | 131 | 2.9 | -7 | 6 | 26 | 2.4 | 2.2 | 3.1 | 1.9 | 6.3 | 9.3 | 101 | 109 | 156 | -1.3 | -2.2 | -1.9 |
| Sweden | -1.6 | -1.2 | 36 | 7.8 | 196 | 4.2 | 3 | 3 | 46 | 2.2 | 2.0 | 7.7 | 0.6 | -3.2 | 3.9 | 83 | 70 | 301 | -1.3 | -2.2 | -1.9 |
| Denmark | -0.1 | -0.1 | 48 | 4.6 | 193 | -3.6 | 10 | 9 | 41 | 1.2 | 2.0 | 5.3 | 6.1 | -5.2 | 16.7 | 140 | 79 | 420 | -1.1 | -2.4 | -1.9 |
| Finland | 0.5 | -1.2 | 54 | -1.7 | 215 | -2.1 | 8 | 7 | 91 | 1.3 | 2.3 | 7.8 | 0.0 | -4.1 | -8.0 | 64 | 63 | 153 | -1.4 | -2.2 | -2.0 |
| UK | -1.5 | -0.7 | 93 | -2.8 | 417 | 2.6 | 15 | 8 | 31 | 1.0 | 2.5 | 8.1 | -16.3 | -0.5 | 2.3 | 94 | 75 | 112 | -0.4 | -1.5 | -1.7 |
| Austria | 1.0 | 0.3 | 75 | 1.6 | 219 | -1.0 | 9 | 8 | 83 | 1.1 | 1.9 | 4.5 | -0.6 | 7.3 | -4.9 | 56 | 72 | 166 | -1.2 | -1.4 | -1.8 |
| France | 1.0 | 2.2 | 93 | -1.8 | 198 | -3.2 | 19 | 17 | 64 | 0.4 | 1.5 | 10.5 | -2.6 | -3.3 | -1.5 | 58 | 83 | 144 | -0.6 | -1.5 | -1.5 |
| Germany | 2.7 | 1.2 | 81 | 5.0 | 163 | -3.1 | 8 | 10 | 62 | 1.0 | 1.7 | 5.3 | -2.6 | 2.9 | 11.5 | 59 | 57 | 69 | -0.9 | -1.7 | -1.6 |
| Netherlands | -0.1 | 0.4 | 70 | 8.2 | 310 | -2.3 | 14 | 15 | 56 | 0.4 | 1.8 | 5.7 | 0.3 | -10.8 | 1.0 | 121 | 86 | 119 | -1.1 | -2.2 | -1.8 |
| Belgium | 0.9 | 0.1 | 99 | 0.3 | 228 | -0.8 | 19 | 17 | 58 | 0.3 | 1.9 | 7.9 | -3.3 | -0.6 | -46.0 | 57 | 80 | 78 | -0.9 | -1.6 | -1.4 |
| Italy | 5.1 | 5.3 | 129 | -1.2 | 115 | -1.4 | 26 | 18 | 35 | -0.7 | 2.0 | 11.1 | 0.4 | -6.9 | -11.5 | 48 | 74 | 94 | -0.6 | 0.0 | -0.4 |
| Spain | 2.3 | 2.1 | 85 | 0.3 | 166 | -1.6 | 23 | 17 | 28 | -1.1 | 2.0 | 26.8 | -13.7 | -12.6 | -17.5 | 80 | 129 | 142 | -0.1 | -1.1 | -1.2 |
| Ireland | -0.2 | 2.5 | 115 | 3.0 | 1043 | -4.6 | 11 | 5 | 61 | 1.4 | 1.0 | 14.4 | -17.7 | -11.8 | 17.0 | 103 | 192 | 147 | -1.0 | -1.5 | -1.8 |
| Portugal | 2.2 | 3.8 | 122 | -1.9 | 225 | -1.9 | 22 | 14 | 54 | -1.2 | 1.0 | 16.0 | -14.1 | -5.5 | -12.3 | 92 | 97 | 159 | -0.7 | -1.1 | -1.0 |
| Greece | 6.3 | 2.5 | 168 | -4.0 | 213 | -3.2 | 17 | 8 | 56 | -4.0 | -1.1 | 25.4 | 11.1 | -14.1 | -19.7 | 64 | 62 | 123 | 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 | 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 | 0.4 | 0.3 | 16 | -1.5 | 95 | 1.0 | 4 | 1.5 | 40 | 1.5 | 2.3 | 11.0 | -6.0 | -6.6 | -14.8 | 24 | 96 | 96 | -0.3 | 0.2 | 0.1 |
| Czech Rep | -0.5 | 0.0 | 45 | -2.2 | 53 | -1.9 | 12 | 21 | 34 | 0.8 | 2.1 | 8.0 | -2.6 | -2.3 | -8.2 | 32 | 38 | 88 | -1.1 | -0.3 | -1.0 |
| Croatia | -0.3 | 1.3 | 50 | -1.3 | 105 | -2.8 | 11 | 1.8 | 34 | 1.0 | 3.0 | 13.3 | 0.7 | -2.6 | -12.9 | 37 | 35 | 119 | -0.5 | 0.0 | -0.2 |
| Hungary | 1.2 | 1.7 | 74 | 2.7 | 160 | -2.1 | 19 | 1.2 | 67 | 0.8 | 3.5 | 10.5 | -6.7 | -18.5 | -4.5 | 32 | 69 | 132 | -0.7 | -0.3 | -0.8 |
| Poland | 0.1 | -0.2 | 55 | -3.8 | 80 | 0.7 | 12 | 1.4 | 50 | 2.1 | 2.7 | 10.2 | -1.1 | -17.9 | 2.4 | 35 | 33 | 109 | -1.1 | -0.5 | -0.7 |
| Romania | 1.1 | -0.7 | 34 | -3.8 | 74 | 2.2 | 11 | 1.5 | 54 | 2.5 | 3.2 | 7.0 | -3.1 | -5.9 | 0.2 | 21 | 52 | 120 | -0.1 | 0.2 | 0.0 |
| Russia | 0.5 | -1.8 | 10 | 3.8 | 31 | 8.3 | 1 | 5.8 | 17 | 3.8 | 6.6 | 6.0 | -4.3 | 9.3 | -5.3 | 12 | 33 | 117 | 0.9 | 1.1 | 0.8 |
| Turkey | 1.1 | 1.8 | 37 | -7.4 | 39 | 2.4 | 10 | 1.0 | 30 | 4.4 | 5.3 | 9.0 | 1.4 | 2.6 | 14.9 | 13 | 28 | 131 | 0.9 | -0.1 | -0.1 |
| Argentina | -1.3 | -8.0 | 35 | -0.1 | 26 | -4.3 | 4 | 7.2 | 31 | 3.0 | 11.2 | 7.0 | 0.8 | 1.5 | -8.9 | 8 | -- | 77 | -0.2 | 0.4 | 0.6 |
| Brazil | 3.4 | 1.4 | 61 | -2.6 | 14 | -4.5 | 18 | 9.8 | 4 | 3.6 | 6.1 | 5.7 | 2.4 | 10.4 | 0.4 | 16 | 38 | 79 | 0.0 | -0.2 | 0.0 |
| Chile | -1.2 | -1.5 | 14 | -3.7 | 45 | 5.0 | 0 | 1.7 | 15 | 4.8 | 2.8 | 6.4 | 4.9 | -1.3 | 1.1 | 29 | 48 | 179 | -0.6 | -1.6 | -1.4 |
| Colombia | 0.4 | 0.2 | 33 | -2.7 | 21 | 4.7 | 6 | 4.3 | 28 | 4.1 | 2.6 | 10.1 | 1.5 | 7.4 | 0.5 | 14 | 20 | 201 | 1.3 | 0.3 | 0.3 |
| Mexico | 0.5 | -0.2 | 43 | -1.1 | 28 | 3.8 | 10 | 3.0 | 30 | 3.5 | 3.5 | 4.8 | 1.1 | -0.8 | 13.8 | 15 | 25 | 74 | 0.7 | 0.4 | 0.5 |
| Peru | 0.3 | -3.6 | 18 | -3.8 | 27 | 7.8 | -1 | 9.5 | 69 | 6.5 | 2.8 | 6.8 | 1.4 | 11.3 | 9.7 | 10 | 20 | 90 | 0.7 | 0.2 | 0.6 |
| China | 0.8 | -5.1 | 21 | 2.8 | 7 | 8.1 | 6 | 6.4 | ... | 8.0 | 3.3 | 4.1 | 5.4 | -3.3 | -11.6 | 27 | 83 | 154 | 0.7 | 0.7 | 0.5 |
| India | -1.9 | -7.2 | 70 | -4.6 | 21 | -3.5 | 11 | 3.5 | 6 | 6.5 | 6.6 | 9.8 | -3.8 | 5.1 | 5.4 | 9 | 35 | 78 | 1.2 | 0.6 | 0.1 |
| Indonesia | -0.6 | -1.3 | 22 | -2.4 | 25 | -1.0 | 3 | 3.0 | 53 | 6.3 | 5.1 | 5.9 | 3.0 | -0.3 | 11.7 | 57 | 10 | 86 | 0.8 | 0.7 | 0.7 |
| Malaysia | -2.4 | -5.3 | 53 | 6.9 | 29 | 2.3 | 6 | 4.0 | 3 | 4.8 | 2.6 | 3.0 | 0.8 | 5.7 | 8.2 | 90 | -- | 88 | -0.2 | 0.0 | -0.5 |
| Philippines | 0.6 | -1.5 | 41 | 2.6 | 29 | 9.4 | 10 | 10.8 | ... | 6.0 | 3.5 | 6.5 | 0.4 | 4.5 | 28.7 | 9 | 28 | 63 | 1.4 | 0.8 | 0.5 |
| Thailand | -3.1 | -5.1 | 50 | 0.1 | 21 | 2.2 | 9 | 4.1 | 7 | 4.5 | 3.4 | 0.8 | 7.1 | 0.1 | 26.1 | 26 | 24 | 98 | 1.0 | 0.4 | 0.2 |

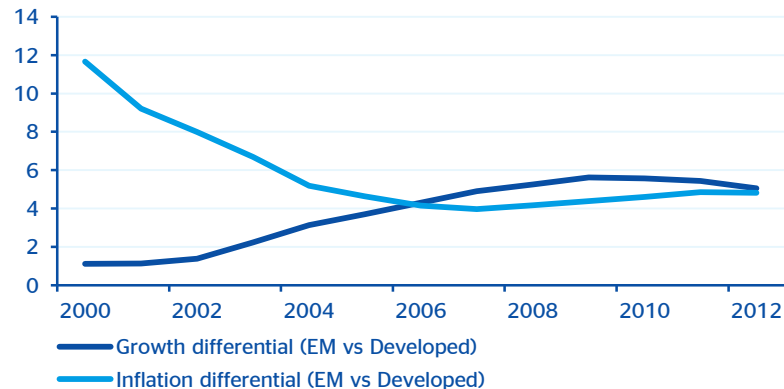
*Vulnerability Indicators: (1) % GDP (2) Deviation from 4 years average (3) % of total debt (4) % year on year (5) % of Total Labor Force (6) Financial System Credit to Deposit (7) Index by World Bank Governance Indicators

Special Topic: The “new normal” vulnerability in Emerging Markets

Emerging & Developed: Growth & Inflation differentials

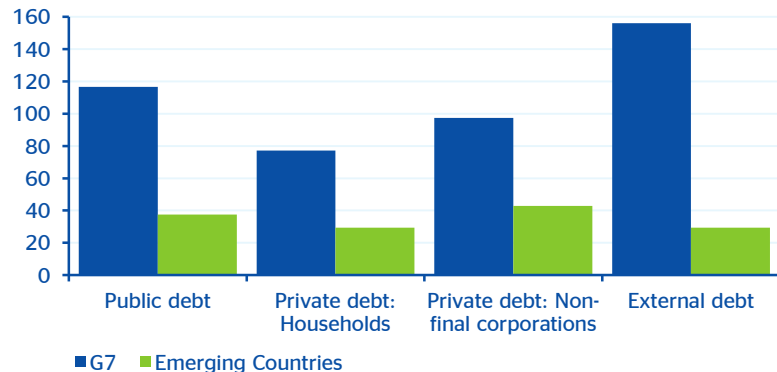
(5 yr moving average GDP and Inflation differentials)

Source: IMF and BBVA Research



Debt: Emerging & Developed Economies (% GDP)

source: BBVA Research and Haver



One of the salient features on the world economy during the last decade has been the growth premium of Emerging Markets (EMs) over Developed Markets (DMs.). Since the outburst of the financial crisis, another relevant difference is becoming more obvious: the reduction of the vulnerability in the emerging economies. This additional advantage is reinforcing the ‘pull factors’ of the EMs, adding pressure on the capital inflows already fostered by the liquidity support of the Western Central Banks (“push factor”)

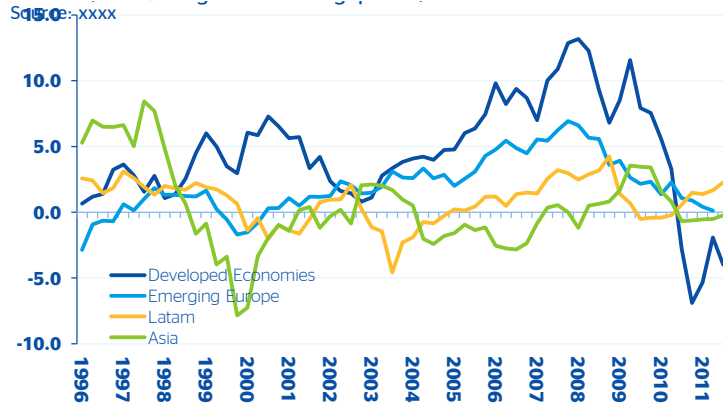
The reduction of vulnerability in EMs during the last years is not new and should be included in a gradual trend which began just after the financial crisis in EMs of the end of the nineties (Asian and Latam crisis) . Since then, most of the EM have been able to clean up most of their excesses, enhancing macro stability and implementing prudent policies. In general terms, the reduction in EM vulnerabilities has been multidimensional and is also behind the current debate on “currency wars” as pull factors also supporting the increasing capital inflows to EM:

- **On the Macroeconomic side, potential economic growth stayed intact despite the recent financial crisis and most of the countries experienced rapid recoveries after the economic slump in 2008-9.** The improvement of inflation since the end of the EM crisis in the end of the nineties has been remarkable, with the average inflation in EMs reducing from an of 13% in 1998 to 6% in 2012. This success has been partially the result of important changes in economic policy making. In general terms, most of EMs opted to implement inflation targeting and to abandon fixed or pegged exchange regimes. Meanwhile, fiscal prudence was enhanced. Looking ahead, we expect a continuation of this trend in the next years.
- **The differences in terms of Fiscal vulnerability remain important. The combination of relative high growth and declining risk premiums will contribute to maintain, or reduce, the already low levels of public debt in these countries.** While public debt in EM is near 41% of GDP (35% in the Eagles group), developed economies surpassed the prudence limits years ago. The Long term fiscal sustainability appears also safe, as the current interest rates continue to be lower than nominal GDP growth and the structural public balances remain under control in most of the EMs. The attractiveness of EM public debt will continue to be fostered by important structural changes as the increase in maturities, declining foreign denominated debt and increasing share of public debt in hands of residents

Special Topic: The “new normal” vulnerability in Emerging Markets

Private Credit: Emerging & Developed Economies

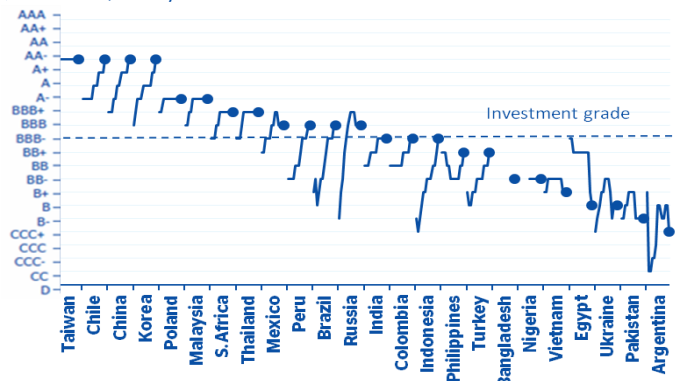
(Annual change in credit to GDP ratio)



- The reduction in external vulnerability has been also notorious. The cumulative effects of years of current account surpluses have led to a sizeable reduction in external debt during the last decade (from near 50% to 35-40% in 2012). However, EM policy makers should remain alert as this trend will start to reverse gradually as the world economy accelerates its rebalancing. Despite this, the liquidity buffer to cope with increasing external financial needs and potential problems are now wider and safer. In this sense, international reserves' coverage ratios are now safer than in the previous crises.
- Despite that private credit is recovering very fast in some countries, we believe it is still manageable. Most of the EM (except Emerging Europe) spent a long lasting de-leveraging process (almost a decade since the end of the nineties). Thus, they faced the 2008-9 crisis with healthy balance sheets in both household, corporate and banks. This help to explain the resilience of most of the EM (with the exception of Emerging Europe which is actually in the de-leveraging process) to the 2008-9 crisis. This give some additional room to EM's policy makers to try to curb excessive credit growth as we are observing in some of the EM's. As Global liquidity conditions are out of their control, they will have to be prepared to use monetary policy (both classical and macro-prudential) but also fiscal policy to avoid increasing imbalances and even bubbles. In any case, the recent worries by EM's policy makers should be welcomed.

Emerging markets: sovereign ratings 2000-12

(Source: S&P, Moody's and Fitch)



The vulnerability reduction is paying off and sovereign ratings by the main agencies have been continuously upgraded. The increase in the investment grade holders since 2000 has been remarkable and currently more than a half of the relevant EMs hold investment grade and five countries are included in the AA area. Looking ahead we should continue to observe a similar trend along the next year. Our rating models foresee that the improvement in EM sovereign ratings (see the methodology appendix) will be maintained. Some regions will be more benefited with t higher upgrade potential in LatAm and more stability in EM Europe and Asia.

But complacency is at the root of all the crisis. EM's policymakers should continue to reinforce efforts in “managing success” and fighting the “pleasant problems” derived by strong capital inflows. True, the attractiveness of EM will persist (although our equilibrium premiums suggest that part of the story is already “priced in”) but an important part of the story like the western central bank's “push factor” is out of their control. One thing is sure, the debate on currency movements will continue either way

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

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 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 | | | | |
| Publi Short Term Debt as % of Total Publi 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 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

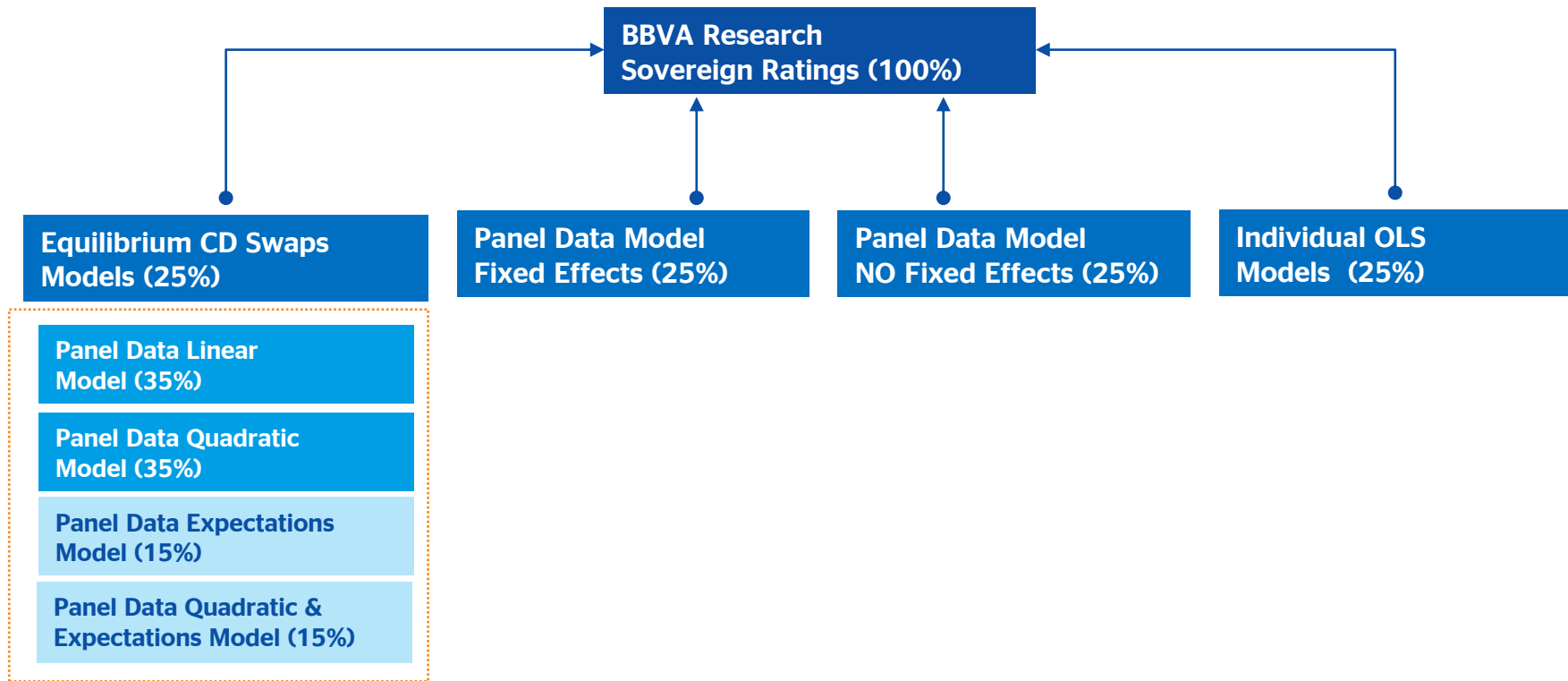
Methodology: Models and BBVA country risk

- **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 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
 - 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): It 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): It is similar to the linear model but public and external debt account for one year 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 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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