

## USD Supranational and non-US Agency Notes

- **Spreads:** Over the past week, US Treasury yields changed marginally in the two- to five-year area of the curve. Swap spreads tightened by 1bp to 2bp. Two-year supranational and non-US agency spreads widened mostly to swaps for most of the major issuers except for a 6bp move wider in 2yr IADB. Five-year spreads tightened by 1bp for European names and widened by 1bp to 2bp for the others. 2s5s curves generally flattened. During the same period, the US agency spreads widened by 2bp in two-year and remained unchanged in five-year (Figure 1).
- **Issuance (Figure 2)**
  - There was no major issuance in the supranational and non-US agency market last week. On the covered bond side, NDB (Norddeutsche Landesbank Girozentrale) announced a \$1 billion three-year Pfandbriefe at 61bp to Treasuries, or 50bp to mid-swaps. The new issue is rated triple-A.
- **Performance:** The supranational and non-US agency sector has outperformed the US agency sector by 0.17% in spread advantage return in October MTD (Figure 28).
- **News, Notes and Relative Value**
  - Major supranational and non-US agency issuers have already reached, or are very close to reaching their annual funding targets.
  - **BNG:** We like BNG five-year notes given historically wide spreads, a higher than average spread-to-beta ratio in ECI metrics and a high projected six-month duration adjusted return.

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Figure 1. 2s5s OAS versus Swaps for Selected Supranational and Agency Issuers

	10/12/2012			10/05/2012			Change		
	2yr	5yr	2s5s	2yr	5yr	2s5s	2yr	5yr	2s5s
EIB	2	11	9	2	12	10	0	-1	-1
KFW	-8	6	14	-8	7	15	0	-1	-1
IBRD	-12	-5	7	-14	-6	8	2	1	-1
IADB	-12	-3	9	-18	-5	14	6	2	-4
ONT	1	23	22	1	22	20	-1	1	2
RENTEN	7	8	1	6	8	3	1	-1	-1
US Agencies	-5	2	7	-7	2	9	2	0	-2

Source: Citi Research

Figure 2. Large New Issues in Last Week (10/08/2012 ~ 10/12/2012)

Ticker	Coup	Maturity	Size (\$mm)	Issue Spreads
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#### Covered Bonds

NDB 0.875 10/16/2015 1000 T+ 61, L+ 50

Source: Citi Research

### See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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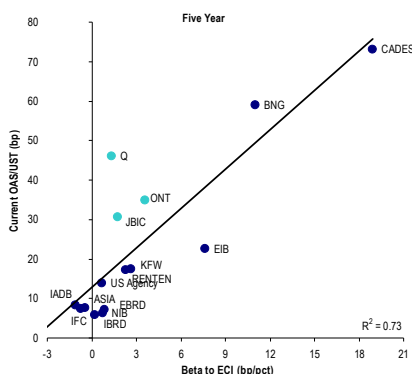
## News, Notes and Relative Value

### Major issuers are close to their annual funding targets

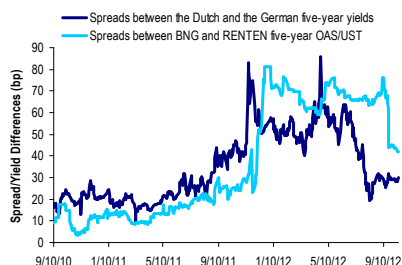
Major supranational and non-US agency issuers have already reached, or are very close to reaching their annual funding targets. EIB had completed their target by the end of September. KFW has completed 94% of their EUR 80 billion target for 2012 and RENTEN is only EUR 500 million away from reaching their annual target of EUR 10 billion.

The supranational and non-US agency sector performed well in 2012. Spreads for most of the issuers are now at their tightest levels over a one-year history with ranks all below the 25<sup>th</sup> percentile. Despite their low funding needs left for the remainder of the year, they are still looking into new USD deals to take advantage of the tight spread levels.

**Figure 3. Current OAS/UST versus beta to ECI for five-year benchmarks. Issuers not rated triple-A are highlighted in light blue. We include linear trend lines.**



**Figure 4. Spread differences between the Dutch and the German five-year yields and between BNG and RENTEN five-year OAS/UST**



Source: Citi Research

### BNG five-year issue looks attractive on different metrics

BNG is the largest public-sector lender in the Netherlands. It also offers limited lending to public-private partnerships. 50% of the bank is owned by the State of the Netherlands and the other half by the country's municipalities. S&P considers the support from the government to be extraordinary though the government has never had to provide direct support to BNG. BNG has Aaa/AAA ratings from Moody's and S&P, both with Negative outlooks in line with the Government of the Netherlands.

BNG has provided a YTD spread advantage return of 3.63% with 0.43% in October MTD, higher than the average from the supranational and non-US agency sector. The issuer also has a relatively low beta to the sector of 0.75.

In our ECI metrics, BNG five-year issues have consistently looked attractive, with a higher than average spread-to-beta ratio. The spread difference between BNG and RENTEN spreads in the five-year closely track the spreads between the Dutch and the German sovereign yields with approximately a one-month lag. Since issuance on September 20<sup>th</sup>, the new BNG five-year note (BNG 1.375 09/27/2017) has tightened by 9bp on an OAS basis to Treasuries. It's currently 42bp wider than the RENTEN five-year note while the spread between the Dutch and German five-year yields stands at 30bp. Both issuers are triple-A rated by the rating agencies and share the same double-A market-implied ratings in the five-year area. Also, the five-year BNG note has a projected six-month rolldown return of 1.06% and a projected six-month duration adjusted rolldown return of 0.25%, which is the highest among all supranational and non-US agency benchmark issues.

## Debt Spreads

Figure 5. 2yr and 5yr EIB OAS/UST



Figure 6. 2yr and 5yr EIB OAS/Swaps

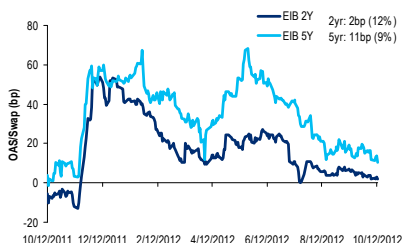


Figure 7. 2yr and 5yr KFW OAS/UST

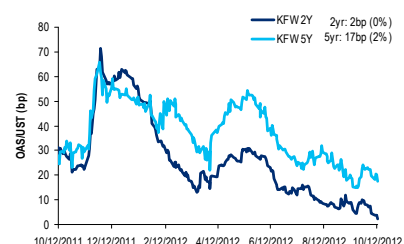


Figure 8. 2yr and 5yr KFW OAS/Swaps

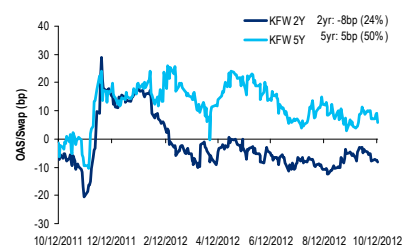
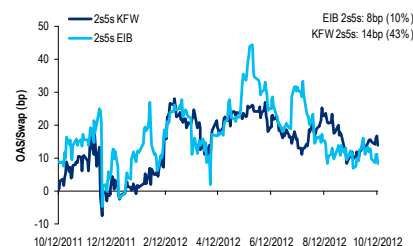


Figure 9. 2s5s Spreads on OAS/Swaps



Source: Citi Research

■ To Treasuries, EIB and KFW two- to five-year spreads tightened by 1bp to 3bp over the past week. Currently, EIB two- to five-year spreads, as well as the two-year KFW spread, are standing at their tightest levels over a year history. To swaps, two-year spreads remained unchanged for both issuers while five-year spreads tightened by 1bp. Ten-year KFW spreads tightened further by 8bp to Treasuries over the week to 28bp. This is 22bp tighter than its issuance level on September 26<sup>th</sup> on an OAS basis (Figure 10 and Figure 11).

■ EIB and KFW spreads are all less than 11bp wide to US agency bullets. In fact, two-year KFW spreads are 3bp tighter. Historically, KFW two-year spreads are 7bp wider than US agency bullets on average.

■ EIB and KFW represent the largest supranational/non-US agency issuers. We take both issuers as a proxy for observing changes in the market.

Figure 10. Historical OAS of EIB Benchmarks

OAS to Treasuries			Change				Difference vs. Agency OAS
	10/12/2012	Percentile	1 day	1 week	1 month	3 month	
2yr	12	0%	-1	-2	-8	-19	7
3yr	16	0%	-2	-3	-7	-18	10
5yr	23	0%	-3	-2	-8	-37	9
10yr	57	8%	-8	-6	-14	-45	n/a
OAS to Swaps			Change				Difference vs. Agency OAS
	10/12/2012	Percentile	1 day	1 week	1 month	3 month	
2yr	2	12%	-1	0	-4	-9	7
3yr	6	5%	-2	-2	-3	-10	11
5yr	11	9%	-3	-1	-6	-32	8
10yr	49	10%	-8	-4	-10	-36	n/a

Source: Citi Research

Figure 11. Historical OAS of KFW Benchmarks

OAS to Treasuries			Change				Difference vs. Agency OAS
	10/12/2012	Percentile	1 day	1 week	1 month	3 month	
2yr	2	0%	-2	-2	-7	-10	-3
3yr	14	13%	-2	-1	-2	0	9
5yr	17	2%	-3	-2	-1	-7	4
10yr	28	1%	-7	-8	-11	-36	n/a
OAS to Swaps			Change				Difference vs. Agency OAS
	10/12/2012	Percentile	1 day	1 week	1 month	3 month	
2yr	-8	24%	-1	0	-3	0	-3
3yr	5	50%	-2	0	1	8	10
5yr	6	17%	-3	-1	1	-1	4
10yr	31	18%	-5	-3	1	-23	n/a

Source: Citi Research

# Spread Curves

Figure 12. EIB OAS/UST

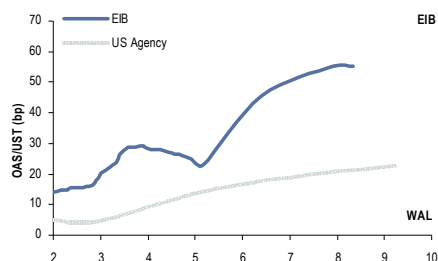


Figure 13. KFW OAS/UST

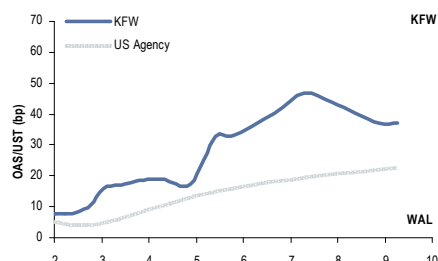


Figure 14. RENTEN OAS/UST

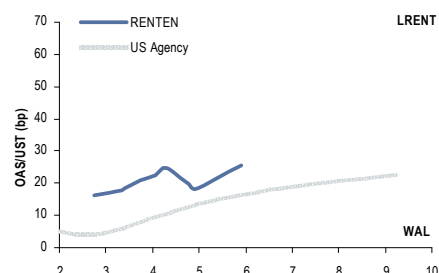


Figure 15. IBRD OAS/UST

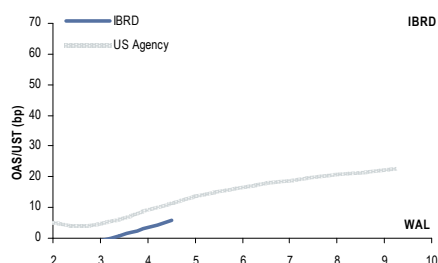


Figure 16. IADB OAS/UST

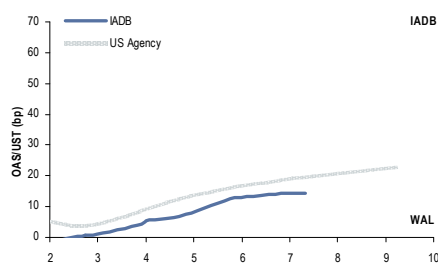
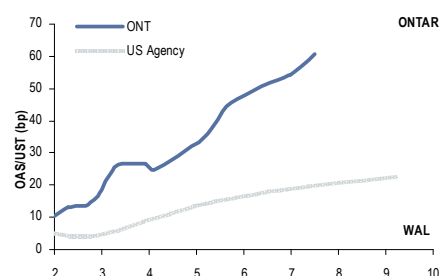


Figure 17. ONT OAS/UST



Source: Citi Research

Source: Citi Research

Source: Citi Research

Figure 18. EIB OAS/Swaps

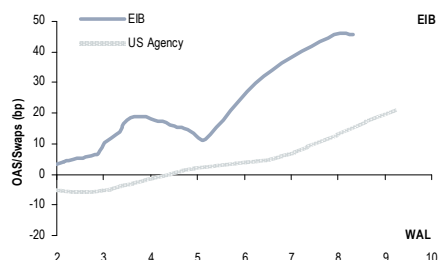


Figure 19. KFW OAS/Swaps

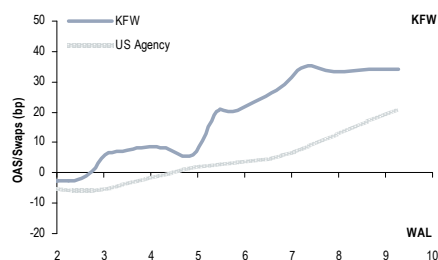


Figure 20. RENTEN OAS/Swaps

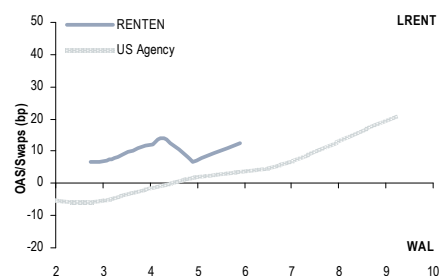


Figure 21. IBRD OAS/Swaps

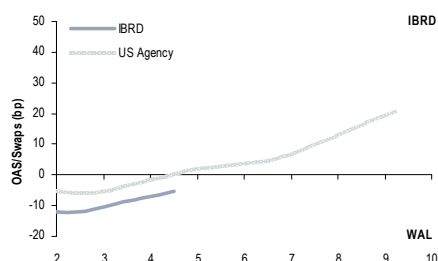


Figure 22. IADB OAS/Swaps

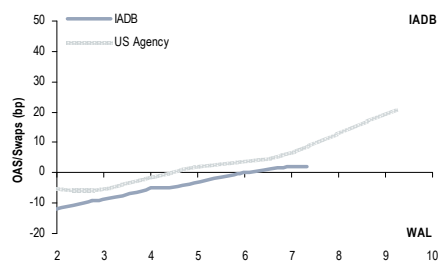
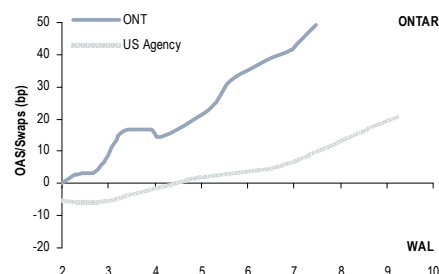


Figure 23. ONT OAS/Swaps



Source: Citi Research

Source: Citi Research

Source: Citi Research

## USD Supranational/Non-US Agency Roll-down Return Analysis

- The highest nominal projected six-month roll-down returns are still in the 8.5- to 9.5-year area. BNG 4.375% 02/16/2021 has the highest projected six-month nominal roll-down return of 1.71%.
- The highest projected duration-adjusted six-month roll-down returns are now dominated by BNG, OKB, CADES and SEK issues with maturities of 1.5- to 4.5year. Note that the BNG issue with the 1.71% nominal return also pops up (Figure 22 to 25).

Figure 24. Issues with Maximum 6-Month Projected Nominal Roll-down Return

Top Issues	Description	Nominal Return (%)
1	BNG 4.375% 02/16/21	1.71%
2	Q 2.750% 08/25/21	1.65%
3	KFW 2.625% 01/25/22	1.57%
4	KFW 2.375% 08/25/21	1.55%
5	BRCOL 2.650% 09/22/21	1.52%

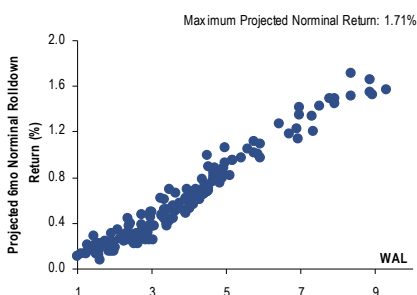
Source: Citi Research

Figure 25. Issues with Maximum 6-Month Projected Duration-Adjusted Roll-down Return

Top Issues	Description	Duration Adjusted Return (%)
1	BNG 1.500% 03/28/14	0.30%
2	OKB 1.375% 01/21/14	0.28%
3	CADES 2.125% 04/12/17	0.26%
4	BNG 4.375% 02/16/21	0.26%
5	SEK 5.125% 03/01/17	0.25%

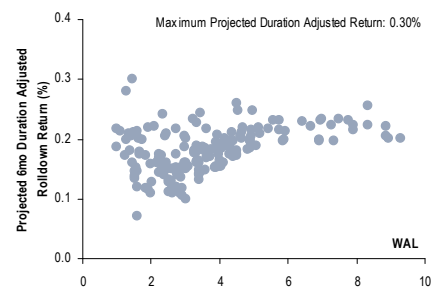
Source: Citi Research

Figure 26. Projected 6-Month Nominal Roll-down Return vs. Swap Curve



Source: Citi Research

Figure 27. Projected 6-Month Duration Adjusted Roll-down Return vs. Swap Curve



Source: Citi Research

## Return Attribution

- The supranational and non-US agency sector outperformed the US agency sector in spread advantage return by 0.17% in October MTD. The seven- to ten-year area has provided the highest return within the supranational and non-US agency sector. However, in the US agency sector, this area has had a negative return. Of the major issuers, European names EIB, KFW and RENTEN provided the highest spread advantage returns MTD (Figure 28).
- YTD the supranational/non-US agency sector has outperformed the US agency sector by 1.95%. All of the supranational or non-US agency issuers but IBRD have had YTD spread returns above 1%. EIB tops the list with a YTD spread advantage return of 3.34%. For most issuers, the seven- to ten-year bucket has performed the best. Old 30-yr EIB issues have also had very significant spread advantage returns YTD (Figure 29).

Figure 28. Sep 2012 Monthly Spread Advantage Return

		Overall	1-3 Yr	3-7 Yr	7-10 Yr	10+ Yr
SECTOR	US Agency	0.02	0.00	0.05	-0.02	0.07
	Supranational/Non-USD Agency	0.19	0.13	0.18	0.35	0.13
ISSUER	FNMA	0.03	0.00	0.04	-	0.12
	FHLMC	0.05	0.00	0.06	0.33	0.18
	EIB	0.21	0.14	0.23	0.56	0.24
	KFW	0.16	0.09	0.16	0.35	-
	IADB	0.07	0.03	0.09	0.09	-
	IBRD	0.09	0.06	0.12	-	0.07
	RENTEN	0.25	0.09	0.28	-	-
	ONT	0.14	0.13	0.14	0.19	-

Source: Citi Research

Figure 29. 2012 YTD Spread Advantage Return

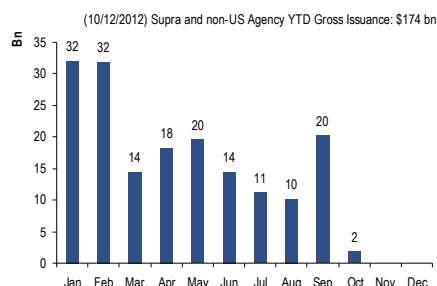
		Overall	1-3 Yr	3-7 Yr	7-10 Yr	10+ Yr
SECTOR	US Agency	0.82	0.31	1.15	1.75	1.88
	Supranational/Non-USD Agency	2.77	1.85	3.19	4.45	1.85
ISSUER	FNMA	0.74	0.31	1.12	-	2.72
	FHLMC	0.80	0.30	1.17	1.67	3.14
	EIB	3.34	2.24	4.00	6.33	10.67
	KFW	2.12	1.39	2.51	3.28	-
	IADB	1.10	0.57	1.30	1.50	-
	IBRD	0.90	0.54	1.11	-	3.04
	RENTEN	2.82	1.22	3.22	-	-
	ONT	2.55	1.52	3.03	3.77	-

Source: Citi Research

## Issuance

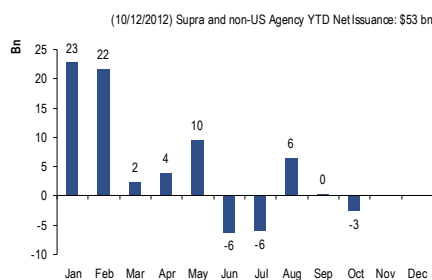
- There was no major issuance in supranational and non-US agency market last week. On the covered bond side, NDB (Norddeutsche Landesbank Girozentrale) announced a \$1 billion three-year Pfandbriefe at 61bp to Treasuries, or 50bp to mid-swaps. The new issue is rated triple-A.
- Supranational/non-US agency gross issuance YTD stayed at \$174 billion. Net issuance declined by \$2 billion to \$53 billion YTD with October net issuance currently negative at -\$3 billion. Covered bond YTD gross issuance increased to \$39 billion.

Figure 30. YTD Supra and Non-US Agencies Gross Issuance



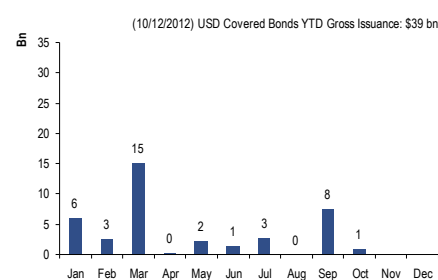
Source: Citi Research

Figure 31. YTD Supra and Non-US Agencies Net Issuance



Source: Citi Research

Figure 32. YTD US Covered Bond Gross Issuance

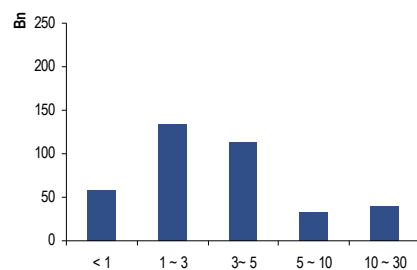


Source: Citi Research

- **USD Supranational Debt Issuance** Total USD debt outstanding of the supranational market is \$380 billion, of which \$136 billion and \$114 billion are in the one- to three-year and three- to five-year average life buckets, respectively. YTD gross issuance is \$65 billion, of which approximately 58% has been in five-year bonds and 17% has been in three-year bonds. Top issuers YTD are EIB, IBRD, IADB, ASIA and EBRD. EIB tops the list with \$25 billion gross issuance YTD.

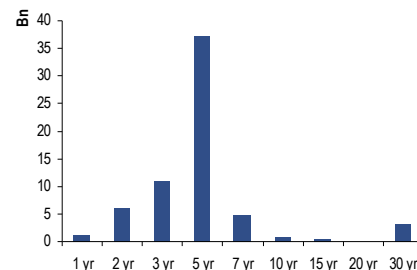
- **Non-US Agency Debt Issuance** Total debt outstanding from non-US agencies is \$597 billion. YTD issuance is \$107 billion, of which 35% is in three-year bonds and another 34% is in five-year bonds. Top issuers YTD are KFW, CADES, ONT, KBN and BNG. KFW has YTD gross issuance over \$30 billion.

Figure 33. Total Supranational Debt Outstanding by Average Life



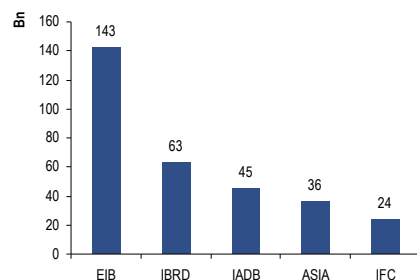
Source: Citi Research

Figure 34. Supranational Gross Issuance by Tenor YTD



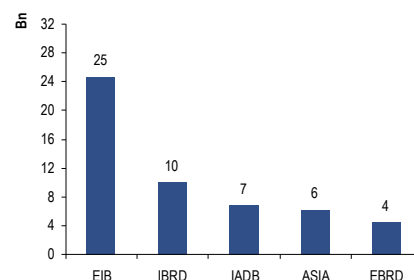
Source: Citi Research

**Figure 35. Top Supranational Issuers by Outstanding Debt**



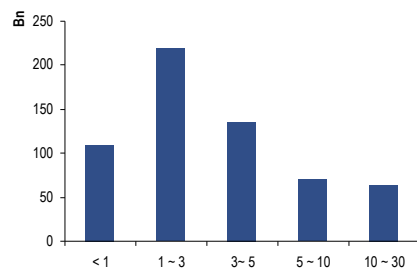
Source: Citi Research

**Figure 36. Top Supranational Issuer by YTD Gross Issuance**



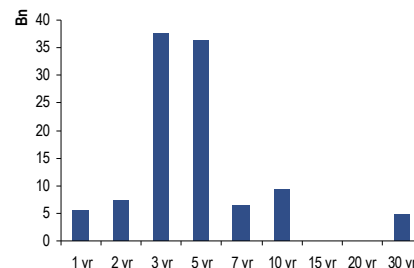
Source: Citi Research

**Figure 37. Total Outstanding from Non-US Agencies by Average Life**



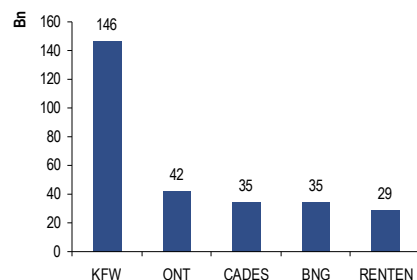
Source: Citi Research

**Figure 38. Non-US Agencies Gross Issuance by Tenor YTD**



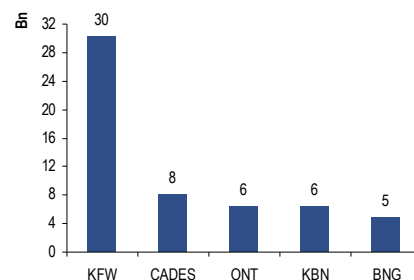
Source: Citi Research

**Figure 39. Top Non-US Agency Issuer by Outstanding Debt**



Source: Citi Research

**Figure 40. Top Non-US Agency Issuer by YTD Gross Issuance**



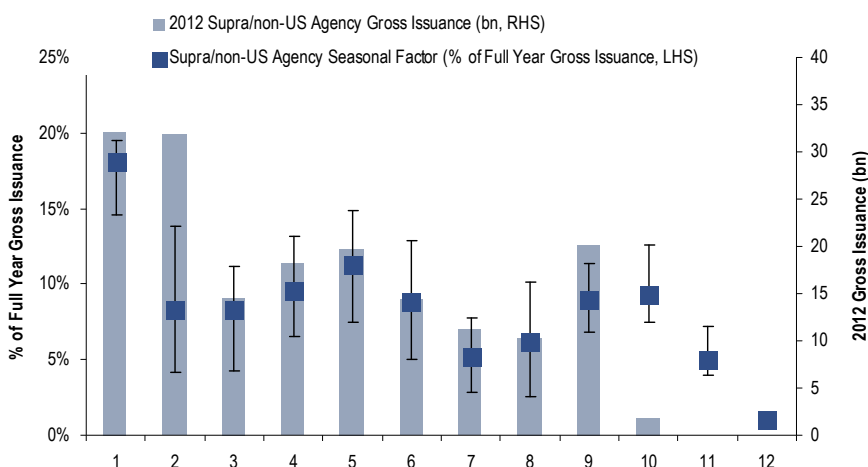
Source: Citi Research



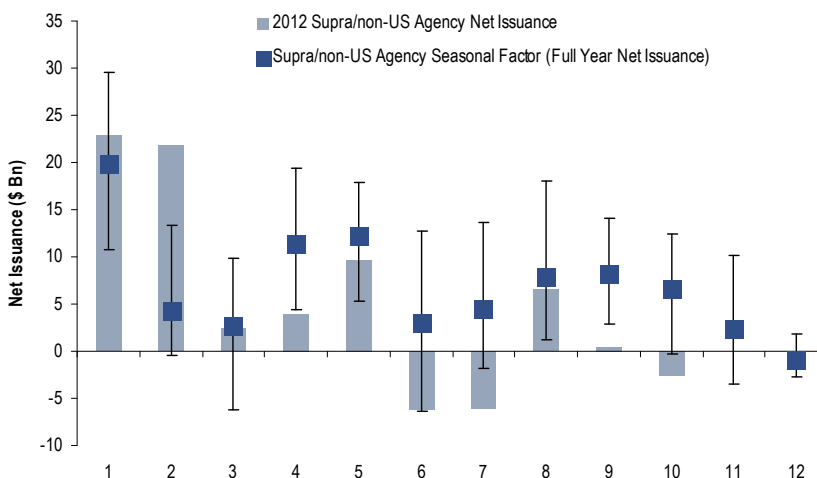
## Seasonal Issuance Factors

- Seasonal factors (calculated based on five years of data) show that January is the highest issuance month during a typical year. February and September issuance this year outpaced historical expectations with \$32 billion and \$20 billion of gross issuance respectively. Issuance in March to August has all been in line with seasonal patterns. In October, MTD issuance has lagged the historical average.
- With \$23 billion and \$22 billion net issuance in January and February respectively this year, net issuance is in line with historical averages January but higher than normal for February. In March, net issuance is at the average level of \$3 billion. Since April, net issuance has stayed low seasonally with negative net issuance in June, July and so far in October.

**Figure 41. Supranational/Non-US Agency Combined Gross Issuance Seasonal Factor and Standard Deviation (% of Full Year Gross Issuance) and 2012 Monthly Issuance (\$bn)**



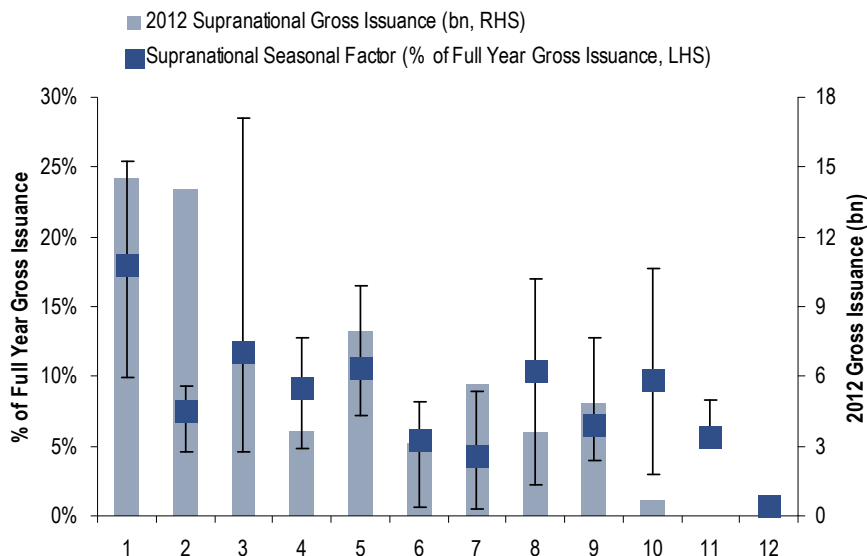
**Figure 42. Supranational/Non-US Agency Debt Net Issuance Seasonal Factor and Standard Deviation and 2012 Monthly Net Issuance (\$bn)**



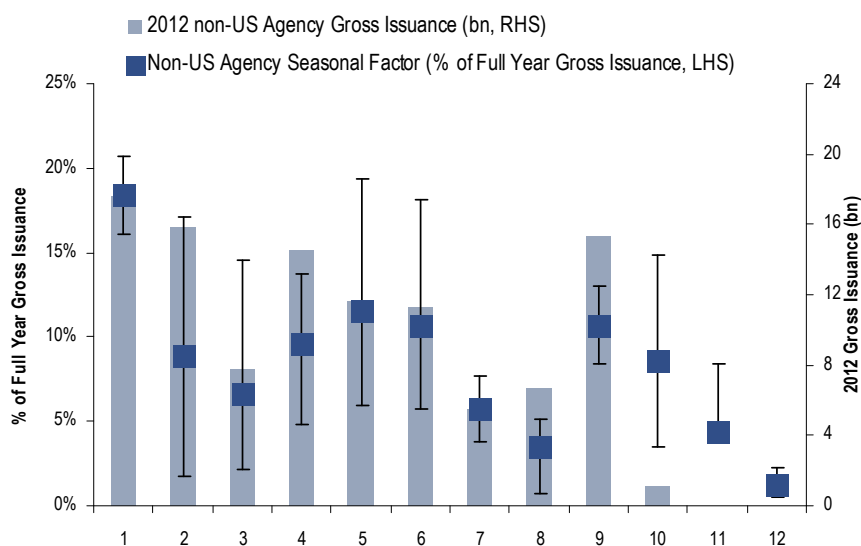
Source: Citi Research

Separating out supranational and non-US agency issuers, both groups had strong issuance in February. Supranational issuance was weaker than average in April and August and stronger in July, while non-US agency issuers had higher April and August issuance than the seasonal average. September issuance for non-US agency issuers also showed up to be very strong. March, May and June issuance was average for both groups.

**Figure 43. Supranational Debt Gross Issuance Seasonal Factor and Standard Deviation (% of Full Year Gross Issuance) and 2012 Monthly Issuance (\$bn)**



**Figure 44. Non-US Agency Debt Gross Issuance Seasonal Factor and Standard Deviation (% of Full Year Gross Issuance) and 2012 Monthly Issuance (\$bn)**



Source: Citi Research

## Appendix: USD Supranational/Non-US Agency List

Figure 45. USD Supranational/Non-US Agency Ticker List and Debt Overview

YB Ticker	BBG Ticker	Description	Country	Outstanding (USD Debt, MM)	YTD Issuance (USD Debt, MM)
AFDB	AFDB	African Development Bank	Supranational	9,221	1,349
ADEV	ASIA	Asia Development Bank	Supranational	36,250	6,156
BCIEA	CABEI	Central American Bank for Economic Integration	Supranational	25	25
CANDF	CAF	Corporacion Andina de Fomento	Supranational	4,699	645
CEURD	COE	Council of Europe	Supranational	13,915	3,188
EBRD	EBRD	European Bank Reconstruction and Development	Supranational	15,452	4,487
EIB	EIB	European Investment Bank	Supranational	142,868	24,694
EFIMA	EUROF	Eurofima	Supranational	6,700	600
IADB	IADB	Inter-American Development Bank	Supranational	45,186	6,838
IBRD	IBRD	International Bank for Reconstruction and Development	Supranational	63,377	10,046
IFC	IFC	International Finance Corporation	Supranational	23,505	3,826
IDBTS	ISDB	Islamic Development Bank Trust Services LTD.	Supranational	3,400	1,300
NIB	NIB	Nordic Investment Bank	Supranational	14,565	1,649
BCPRV	BRCOL	Province of British Columbia	Canadian Province	6,880	1,249
MAITB	MP	Province of Manitoba	Canadian Province	5,750	1,798
NBPRV	NBRNS	Province of New Brunswick	Canadian Province	2,050	-
NOSCO	NS	Province of Nova Scotia	Canadian Province	3,856	-
ONTAR	ONT	Province of Ontario	Canadian Province	42,460	6,492
QUEP	Q	Province of Quebec	Canadian Province	14,255	-
FINQB	FINQUE	Financement-Quebec	Canadian Province	500	-
HQ	QHEL	Hydro-Quebec	Canadian Province	9,893	999
SASKT	SCDA	Province of Saskatchewan	Canadian Province	1,501	-
AFD	AGFRNC	Agence Francaise de Developpement	French Agency	3,500	-
ASFA	ASFING	Asfinag	Austria Agency	1,250	-
BNGME	BNG	Bank Nederlandse Gemeenten NV	Netherlandish Agency	34,510	4,864
NAB	BZLNZ	Bank of New Zealand International Funding Ltd.	New Zealand Agency	512	165
CADES	CADES	Caisse d'Amortissement de la Dette Sociale	French Agency	34,591	7,990
CDC	CDCEPS	Caisse des Depots et Consignations	French Agency	7,376	1,716
DBJPN	DBJJP	Development Bank of Japan	Japanese Agency	6,125	1,290
KEXIM	EIBKOR	Export-Import Bank of Korea	Korean Agency	17,124	3,347
EDC	EDC	Export Development Bank Canada	Canadian Agency	13,541	3,920
EKSFN	EXPT	Eksportfinans ASA	Norwegian Agency	14,197	-
ICO	ICO	Instituto de Credito Oficial	Spanish Agency	6,640	200
JEHDR	JAPEXP	Japan Highway Public Corporation (Nihon Doro Kodan)	Japanese Agency	550	-
JFC	JBIC	Japan Finance Corporation	Japanese Agency	18,650	3,239
JFM	JFM	Japan Finance Organization for Municipalities	Japanese Agency	6,675	2,275
KDB	KDB	Korea Development Bank	Korean Agency	10,912	2,343
KFW	KFW	Kreditanstalt für Wiederaufbau	German Agency	146,327	30,237
KOMBK	KBN	Kommunalbanken AS	Norwegian Agency	24,052	6,352
KOFC	KOFCOR	Korea Finance Corporation	Korean Agency	2,150	526
KOMEF	KOMINS	Kommuninvest i Sverige AB	Swedish Agency	8,654	4,234
KMUNK	KOMMUN	KommuneKredit	Denish Agency	7,534	2,714
MFAB	KUNTA	Municipality Finance PLC	Finnish Agency	8,868	1,695
LBANK	LBANK	Landeskreditbank Baden-Wuerttemberg Foerderbank	German Agency	11,392	2,716
LOMBD	LOMB	Region of Lombardy Italy	Italian Agency	1,000	-
NDLWR	NEDWBK	Nederlandse Waterschapsbank	Netherlandish Agency	19,456	2,375
NRWB	NRWBK	NRW Bank	German Agency	18,039	1,314
OKB	OKB	Oesterreichische Kontrollbank AG	Austria Agency	14,350	3,348
SFEFN	SFEFR	Societe Financement de l'Economie Francaise	French Agency	11,500	-
LRENT	RENTEN	Landwirtschaftliche Rentenbank	German Agency	28,855	2,247
CNDBK	SDBC	China Development Bank Corporation	Chinese Agency	2,000	-
SAD	SEK	Svensk Exportkredit AB	Swedish Agency	13,807	2,097
NETRA	UKRAIL	Network Rail Infrastructure Finance PLC	British Agency	10,500	4,389

Source: Citi Research

## Appendix A-1

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