

## Weekly Supply Monitor

### Euro and US Supply Outlook

- **Europe:** Next week's supply comes from Finland (max €1.5bn), Germany (€4bn) and Italy (estimated €4.25bn). There will be large coupon payments (€20bn from France and Spain) and €35bn of redemptions (from France and Spain) next week.
- All things being equal, the supportive net cash requirement over the next two weeks is likely to put downward pressure on euro yields as gross supply is easily outweighed by coupons and redemptions.
- **US:** Next week's issuance falls in the 2-, 5- and 7-year sectors at approximately \$43 million/bp. Coupon payments are extremely light over the next three weeks.

---

**Nishay Patel**

+44-20-7986-1007  
nishay.patel@citi.com

**Mohit Aggarwal**

+91-22-4277-5022  
mohit1.aggarwal@citi.com

---

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

Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

# Weekly Supply Monitor

## Provisional auction calendar for the next four weeks

Figure 1. Provisional Auction Calendar for the Next Four Weeks, Gross Issuance (Billions), DV01 (USD Millions)

Date	Country	Estimated Size (Local Ccy)	Issue Details (Estimated)	DV01 \$million/bp	Approx. Number 10yr Futures TYZ2 (UST) RXZ2 (Bund)
22 Oct (Mon)	US	1.75 - 2.25	Outright Treasury Coupon Purchases: 15/2/2036 - 15/8/2042		-52k
23 Oct (Tue)	Finland	1.5	1.625% Sep22, 2.625% Jul42 (issue confirmed, max size €1.5bn)		23k
23 Oct (Tue)	US	35.0	2-Year		86k
23 Oct (Tue)	US	7 - 8	Outright Treasury Coupon Sales: 15/6/2015 - 31/8/2015		26k
24 Oct (Wed)	Germany	4.0	Bund 1.5% Sep22 reopening (issue and size confirmed)		34k
24 Oct (Wed)	US	35.0	5-Year		206k
25 Oct (Thu)	US	29.0	7-Year		235k
25 Oct (Thu)	US	4.5 - 5.5	Outright Treasury Coupon Purchases: 15/11/2020 - 15/8/2022		-52k
26 Oct (Fri)	Italy	3.5	CTZ (estimated size)		6k
26 Oct (Fri)	Italy	0.8	BTPei (estimated size)		6k
26 Oct (Fri)	US	1.5 - 2	Outright Treasury Coupon Purchases: 15/11/2022 - 15/2/2031		-33k
<b>Weekly \$DV01 of Issuance</b>				<b>43.7</b>	
<b>Total Number of Futures Contracts</b>					<b>416k 70k</b>

Date	Country	Estimated Size (Local Ccy)	Issue Details (Estimated)	DV01 \$million/bp	Approx. Number 10yr Futures TYZ2 (UST) RXZ2 (Bund)
29 Oct (Mon)	Belgium	3.0	OLO 5yr, 10yr and 15yr (estimated tenors and size)		30k
29 Oct (Mon)	US	7 - 8	Outright Treasury Coupon Sales : 15/11/2015 - 31/12/2015		26k
30 Oct (Tue)	Italy	7.0	BTP 5yr and 10yr (estimated tenors and size)		45k
30 Oct (Tue)	US	1.75 - 2.25	Outright Treasury Coupon Purchases: 15/2/2036 - 15/8/2042		-52k
31 Oct (Wed)	Germany	2.0	Bund 2.5% Jul44 reopening (issue and size confirmed)		45k
31 Oct (Wed)	France	6.5	OAT 5yr, 10yr and 15yr (estimated tenors and size)		56k
31 Oct (Wed)	US	4.25 - 5.25	Outright Treasury Coupon Purchases : 15/11/2018 - 15/8/2020		-48k
<b>Weekly \$DV01 of Issuance</b>				<b>18.7</b>	
<b>Total Number of Futures Contracts</b>					<b>-74k 175k</b>

Date	Country	Estimated Size (Local Ccy)	Issue Details (Estimated)	DV01 \$million/bp	Approx. Number 10yr Futures TYZ2 (UST) RXZ2 (Bund)
06 Nov (Tue)	Austria	1.8	RAGB 5yr and 10yr (estimated size and tenor)		12k
06 Nov (Tue)	US	32.0	3-Year		79k
07 Nov (Wed)	Germany	4.0	Bobl-164 0.5% Oct17 reopening (issue and size confirmed)		18k
07 Nov (Wed)	US	24.0	10-Year		262k
08 Nov (Thu)	Spain	3.1	Bono 2yr, 5yr and 10yr (estimated tenor and size)		13k
08 Nov (Thu)	US	16.0	30-Year		387k
<b>Weekly \$DV01 of Issuance</b>				<b>65.3</b>	
<b>Total Number of Futures Contracts</b>					<b>727k 43k</b>

Date	Country	Estimated Size (Local Ccy)	Issue Details (Estimated)	DV01 \$million/bp	Approx. Number 10yr Futures TYZ2 (UST) RXZ2 (Bund)
13 Nov (Tue)	Netherlands	2.5	DSL Jul22 reopening (issue confirmed, size €2-3bn)		21k
14 Nov (Wed)	Germany	5.0	New Schatz Dec14 (issue and size confirmed)		9k
14 Nov (Wed)	Italy	5.8	BTP 3yr, 5yr and 10yr (estimated tenor and size)		20k
15 Nov (Thu)	France	8.5	BTAN/Index-linked OAT (estimated size)		37k
<b>Weekly \$DV01 of Issuance</b>				<b>12.4</b>	
<b>Total Number of Futures Contracts</b>					<b>0k 88k</b>

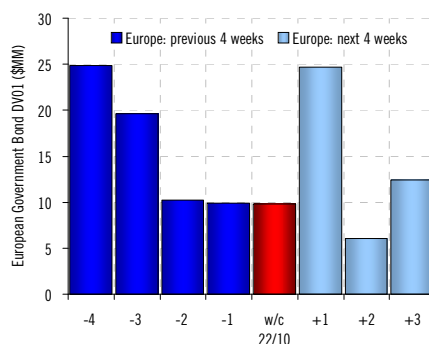
The next release of the approximate purchase and sale amounts and tentative Outright operation schedule will be at 1400 (NY Time) on 31 October 2012  
Additional issues expected in November: Finland 10yr (€0.5bn) and 15yr (€1bn). These have not been included in the cash flow tables.

Source: DMOs, Citi Research

## Historical and projected DV01 of EUR and USD issuance (weekly)

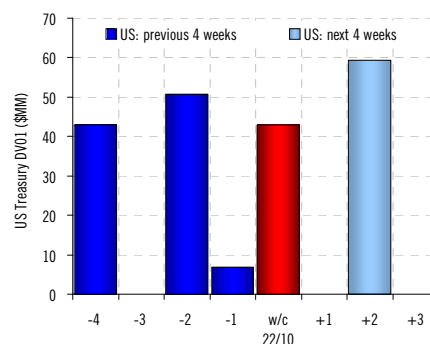
Figure 2 and Figure 3 show the \$DV01 of projected issuance over the next four weeks and the previous four weeks. The DV01 of issuance in the week commencing 22 October is shown in red.

**Figure 2. Estimated \$DV01 of Euro Bond Issuance (Previous 4 and Next 4 Weeks)**



Source: DMOs, Citi Research

**Figure 3. Estimated \$DV01 of US Treasury Issuance (Previous 4 and Next 4 Weeks)**



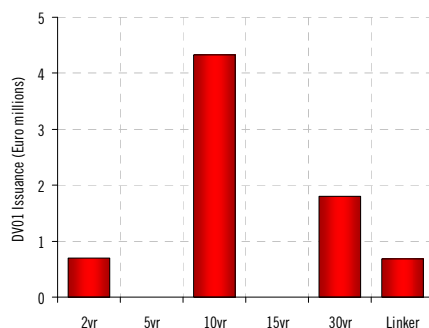
Source: US Treasury, Citi Research

## DV01 of expected EUR and USD issuance split by maturity (week beginning 22 October)

The DV01 of next week's euro issuance is light at €7.5million/bp (Figure 4). Approximately 58% of total issuance (in DV01 terms) is expected to come in the 10-year sector.

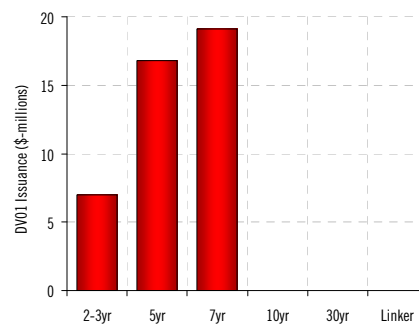
US Treasury supply falls in the 2-, 5- and 7-year sectors at approximately \$43 million/bp (Figure 5).

**Figure 4. EUR DV01: Split by Maturity (22 Oct–28 Oct)**



Source: DMOs, Citi Research

**Figure 5. USD DV01: Split by Maturity (22 Oct–28 Oct)**

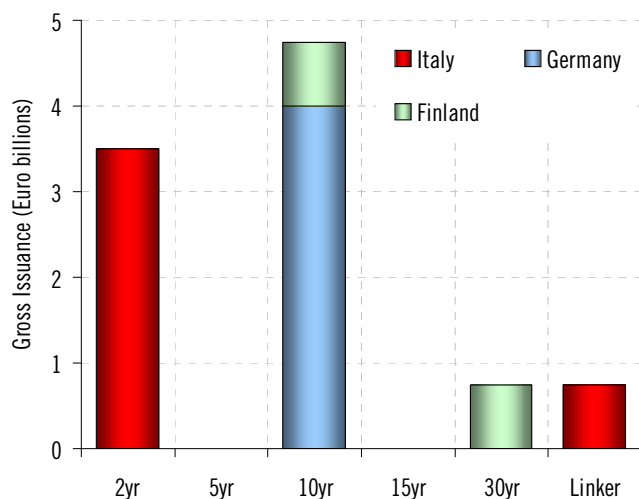


Source: US Treasury, Citi Research

### Expected euro gross and DV01 split by country and maturity (week beginning 22 October)

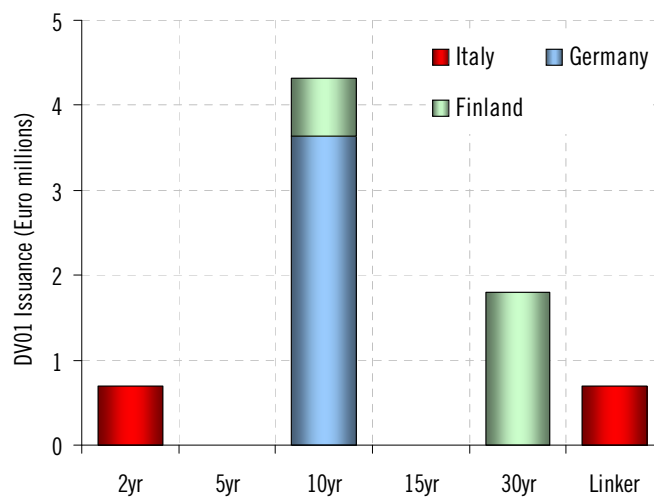
In Europe, supply comes from Finland (max €1.5bn), Germany (€4bn) and Italy (estimated €4.25bn) (Figure 6). In DV01 terms, 48% of total issuance is expected to come from Germany (Figure 7).

Figure 6. Euro Gross Issuance next week: France is the biggest issuer



Source: DMOs, Bloomberg, Citi Research

Figure 7. Euro DV01 Issuance next week



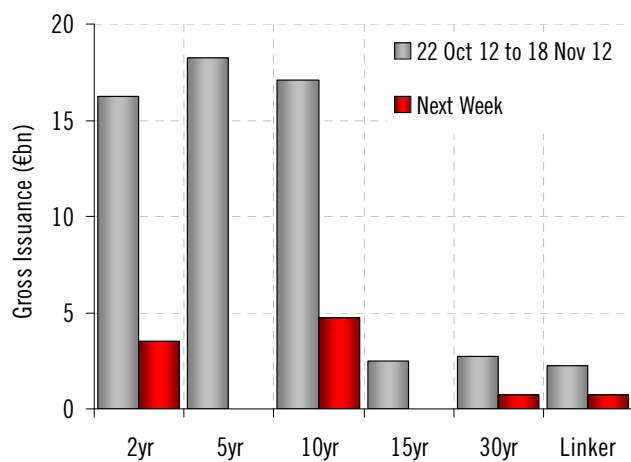
Source: DMOs, Bloomberg, Citi Research

### Expected euro issuance (gross and DV01) by maturity for the next four-weeks (22 October – 18 November)

Over the next four weeks, 30% of total issuance falls in the 5yr sector (Figure 8).

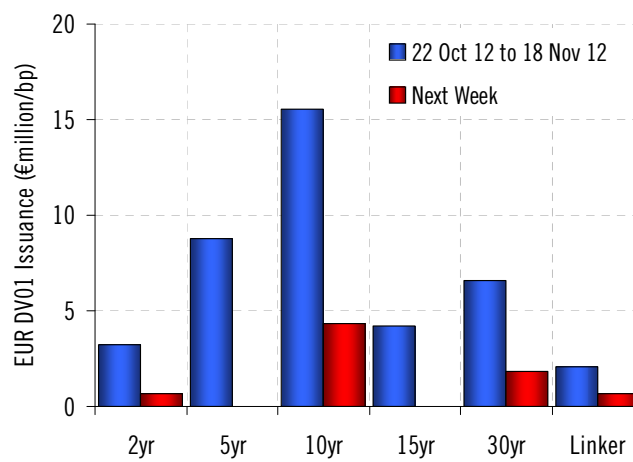
In DV01 terms, the 10yr sector accounts for 38% of total issuance at around €15.5million/bp (Figure 9).

Figure 8. Euro Gross Issuance over the Next Four Weeks



Source: DMOs, Bloomberg, Citi Research

Figure 9. Euro DV01 Issuance over the Next Four Weeks



Source: DMOs, Bloomberg, Citi Research

### Euro coupons for the next four weeks – maturity split

Next week sees €20.5bn of coupon payments (from France, Portugal and Spain) and €35bn of redemptions (from France and Spain) – Figure 10 and Figure 12. Thereafter, the coupon payments will remain light.

Figure 10. Maturity Split of Euro Coupon Payments over the Next Four Weeks (EUR-Billions)\*

Week Commencing	2yr	5yr	10yr	15yr	30yr	Linker	Total
22 Oct	4.5	5.6	7.0	1.1	2.3		20.5
29 Oct	0.3	0.6	0.7	2.8			4.4
05 Nov							
12 Nov	0.4						0.4
<b>Total</b>	<b>5.3</b>	<b>6.2</b>	<b>7.7</b>	<b>3.9</b>	<b>2.3</b>		<b>25.4</b>

Source: Bloomberg, Citi Research

\*This table is on a trade-date basis

### US coupons for the next four weeks – maturity split

US Treasury coupon payments will be light over the next three weeks. Week 4 sees \$19.7bn of coupon payments from conventional bonds (Figure 11).

Figure 11. Maturity Split of UST Coupon Payments over the Next Four Weeks (USD-Billions)\*

Week Commencing	2-3yr	5yr	7yr	10yr	30yr	Linker	Total
22 Oct							
29 Oct	2.5	1.9	0.4				4.8
05 Nov							
12 Nov	4.0	3.3	2.3	4.3	5.8		19.7
<b>Total</b>	<b>6.5</b>	<b>5.3</b>	<b>2.7</b>	<b>4.3</b>	<b>5.8</b>		<b>24.5</b>

Source: Bloomberg, Citi Research

\*This table is on a trade-date basis

### Euro coupons and redemptions split by maturity and country

Figure 12 below shows a weekly breakdown of euro coupons and redemptions, split by sector and country over the next four weeks.

**Figure 12. Euro Coupons and Redemptions by Maturity and Country for the Next 4 weeks (EUR Billions)**

WEEK 1	Week Beginning 22 Oct (Mon)		Coupons	Redemptions	WEEK 2	Week Beginning 29 Oct (Mon)		Coupons	Redemptions
		Austria					Austria		
		Belgium					Belgium		
		Germany					Germany		
		Finland					Finland		
	Coupons	France	15.8	20.1		Coupons	France		
2yr	4.5	Greece			2yr	0.3	Greece		
5yr	5.6	Ireland			5yr	0.6	Ireland		
10yr	7.0	Italy			10yr	0.7	Italy	4.4	13.5
15yr	1.1	Netherlands			15yr	2.8	Netherlands		
30yr	2.3	Portugal	0.4		30yr		Portugal		
Linker		Spain	4.4	15.0	Linker		Spain		
	20.5		20.5	35.1		4.4		4.4	13.5
WEEK 3	Week Beginning 05 Nov (Mon)		Coupons	Redemptions	WEEK 4	Week Beginning 12 Nov (Mon)		Coupons	Redemptions
		Austria					Austria		
		Belgium					Belgium		
		Germany					Germany		
		Finland					Finland		
	Coupons	France				Coupons	France		
2yr		Greece			2yr	0.4	Greece		
5yr		Ireland			5yr		Ireland		
10yr		Italy			10yr		Italy	0.4	
15yr		Netherlands			15yr		Netherlands		
30yr		Portugal			30yr		Portugal		
Linker		Spain			Linker		Spain		
	0.0		0.0	0.0		0.4		0.4	0.0

Source: Citi Research, Bloomberg

*\*This table is on a trade-date basis*

The three figures on this page show the upcoming profile gross and net supply, coupons and redemptions, and the resultant NCR, for each of the next four weeks.

These are calculated on a *settlement date* basis.

### Euro cash-flow profile over the next four weeks

The euro NCR is supportive for yields over the next two weeks as gross supply is easily outweighed by coupon payments and redemptions (Figure 13).

Figure 13. Estimated Euro Weekly Cash Flow Profile for Next Four weeks, EUR Billions

Settling in Week Commencing	A Gross Supply	B Coupons	A - B Net Supply	C Redemptions	A - B - C NCR
22 Oct	21.2	17.0	4.2	20.1	-15.9
29 Oct	18.3	8.8	9.4	28.4	-19.0
05 Nov	10.3		10.3		10.3
12 Nov	9.6	0.4	9.2		9.2
<b>Total</b>	<b>59.3</b>	<b>26.3</b>	<b>33.0</b>	<b>48.5</b>	<b>-15.5</b>
<b>Average</b>	<b>14.8</b>	<b>6.6</b>	<b>8.3</b>	<b>12.1</b>	<b>-3.9</b>
<b>YTD Average</b>	<b>16.3</b>	<b>4.1</b>	<b>12.2</b>	<b>11.1</b>	<b>1.1</b>

Source: DMOs, Bloomberg, Citi Research

### US net cash requirements (NCR) over the next four weeks

There is a large amount of issuance settling in week 2 which results in a NCR of \$49bn, as \$106bn of gross supply easily offsets \$56bn of coupon payments & redemptions and \$0.5bn of buybacks under the *Operation Twist* (Figure 14).

Figure 14. US Weekly Cash Flow Profile for Next Four weeks, USD Billions

Settling in Week Commencing	A Gross Supply	B Coupons	A - B Net Supply	C Redemptions	D Buybacks	A - B - C - D NCR
22 Oct					-1.4	1.4
29 Oct	106.0	4.8	101.2	51.2	0.5	49.4
05 Nov					0.5	-0.5
12 Nov	72.0	19.7	52.3	63.1	0.5	-11.3
<b>Total</b>	<b>178.0</b>	<b>24.5</b>	<b>153.5</b>	<b>114.3</b>	<b>0.1</b>	<b>39.0</b>
<b>Average</b>	<b>44.5</b>	<b>6.1</b>	<b>38.4</b>	<b>28.6</b>	<b>0.0</b>	<b>9.8</b>
<b>YTD Average</b>	<b>42.5</b>	<b>3.0</b>	<b>39.4</b>	<b>25.1</b>	<b>0.7</b>	<b>13.7</b>

Source: US Treasury, Bloomberg, Citi Research

### Explanation of trade-date and settlement-date

Throughout the *Supply Monitor* section coupons and redemption payments are allocated on a trade date basis *except in the cash flow tables* shown above. In these cash flow tables gross supply, coupons and redemptions are on a settlement date basis. This is to keep everything in line with US supply settling during the middle or end of the month instead of just T+3 as in Europe for example.

**Trade date basis:** In Europe if the coupon payment falls on Monday 5 March, for example, it would be allocated to the previous week (the week commencing 27 February) as that would be when you would trade to use the money you know is coming in on Monday 5 March. In other words, you don't wait for the money to hit your account to use it. Since we are trying to account for the impact of those payments we allocate them on a trade date basis, rather than settlement date.

**Settlement date basis:** The net cash requirement tables (Figure 13 and Figure 14) are on a settlement basis. In the US, conventional supply settles either during the middle of the month or at the end of the month. (If there is a Treasury auction during the last week of the month it will settle in the following week.) Consequently, if you participate in the UST 3-year auction on 7 February the money would leave your account during the w/c 13 February. In addition, TIPS often settle during a different week from conventional supply.

## EUR: Coupons & Redemptions (next 3mths)

Figure 15. EMU-11 Redemptions over the next three months (€bn)

Redemptions = €171bn											
Redemptions	DEU 41	FRA 50	NLD 16	ITA 44	ESP 15	BEL 6	AUT 0	FIN 0	PRT 0	GRC 0	IRL 0
(Thu) 25-Oct-12		20.1									
(Wed) 31-Oct-12					15.0						
(Thu) 01-Nov-12				13.5							
(Fri) 14-Dec-12	17.0										
(Sat) 15-Dec-12				18.7							
(Mon) 24-Dec-12						5.9					
(Wed) 26-Dec-12		5.5									
(Mon) 31-Dec-12				11.5							
(Fri) 04-Jan-13	24.0										
(Sat) 12-Jan-13		24.7									
(Tue) 15-Jan-13			15.5								

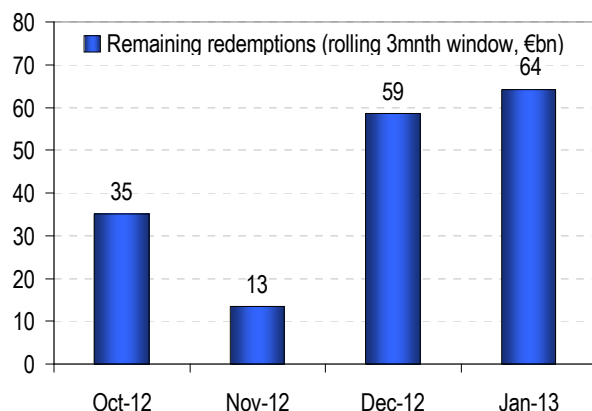
Source: DMOs, Bloomberg, Citi Research

Figure 16. EMU-11 Coupon Payments over the next three months (€bn)

Coupons = €31bn											
Coupons	DEU 0	FRA 16	NLD 0	ITA 7	ESP 4	BEL 0	AUT 1	FIN 0	PRT 0	GRC 0	IRL 1
(Thu) 18-Oct-12											1.483
(Sat) 20-Oct-12							0.9				
(Thu) 25-Oct-12		15.8							0.4		
(Wed) 31-Oct-12					4.4						
(Thu) 01-Nov-12				4.4							
(Thu) 15-Nov-12				0.4							
(Thu) 22-Nov-12							0.2				
(Sat) 01-Dec-12				1.0							
(Thu) 13-Dec-12	0.0										
(Fri) 14-Dec-12	0.2										
(Sat) 15-Dec-12				1.0							
(Sat) 22-Dec-12				0.1							
(Mon) 24-Dec-12						0.5					
(Wed) 26-Dec-12		0.5									

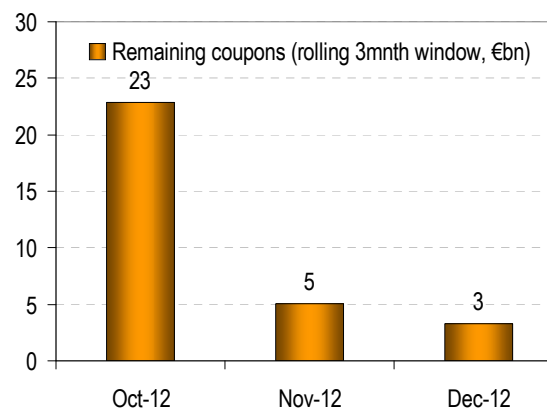
Source: DMOs, Bloomberg, Citi Research

Figure 17. EMU-11 remaining redemptions over the next 3months (€bn)



Source: DMOs, Bloomberg, Citi Research

Figure 18. EMU-11 remaining coupons over the next 3months (€bn)



Source: DMOs, Bloomberg, Citi Research

## Appendix – EMU Supply Forecasts

Figure 19. 2012 Euro Government Bond Supply – Citi Forecasts (Euro in Billions)

EMU-11	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan	22.3	26.9	26.8	3.1	10.5	2.3	92	29	63	54	9
Feb	19.7	25.1	34.9		1.6	3.2	85	13	72	38	34
Mar	24.5	17.8	15.6	2.3	8.2	4.6	73	17	56	56	
Apr	19.6	16.8	17.3	1.7	5.4	3.6	64	30	34	75	-41
May	22.0	21.1	19.3	3.5		3.6	69	5	65		65
Jun	18.4	20.8	19.1	2.7	6.3	3.1	70	5	65	29	36
Jul	20.2	26.8	22.9	2.1	3.0	2.3	77	40	37	112	-74
Aug	9.7	9.0	13.6		1.0	0.8	34	9	25	12	13
Sep	23.2	20.3	25.6	5.5	2.9	4.5	82	17	65	56	9
Oct	20.8	24.4	19.8	3.3	5.8	4.3	78	28	50	69	-19
Nov	19.8	22.0	15.0	2.0		1.5	60	5	55	13	42
Dec	12.5	11.3	9.5	1.5			35	3	31	59	-27
Total	233	242	239	28	45	34	820	201	619	572	47

GERMANY	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan	4.0	4.0	5.0		3.0		16	13	3	25	-22
Feb	5.0	4.0	9.0				18	1	17		17
Mar	5.0	4.0				2.0	11	0	11	19	-8
Apr	5.0	4.0	5.0		3.0		17	3	14	16	-2
May	5.0	5.0	5.0			1.5	17		17		17
Jun	5.0	5.0	5.0			1.0	16	1	15	19	-4
Jul	5.0	4.0	5.0		3.0	1.0	18	13	5	27	-22
Aug	5.0	4.0	4.0				13		13		13
Sep	5.0	5.0	10.0			1.0	21	1	20	18	2
Oct	5.0	4.0	4.0		2.0	1.5	17	2	14	16	-2
Nov	5.0	7.0	4.0				16		16		16
Dec	4.0						4		4	17	-13
Total	58.0	50.0	56.0		11.0	8.0	183	35	148	157	-9

FRANCE	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan	4.9	4.3	4.8		3.6	1.7	19	3	16	15	2
Feb	3.4	6.7	8.5			1.7	20	1	19		19
Mar	4.0	5.5	6.1	2.3		1.6	20		20		20
Apr	5.3	4.0	4.7	1.7	1.2	2.5	19	18	2	20	-18
May	4.1	6.6	5.9	1.9		1.4	20		20		20
Jun	4.3	7.5	3.5	2.0	0.7	1.4	19		19		19
Jul	1.8	7.1	9.4			1.3	20	8	12	29	-17
Aug											
Sep	3.3	7.0	3.9	3.8		2.0	20		19	12	7
Oct	2.4	9.5	8.2	1.5	2.3	2.1	26	16	10	20	-10
Nov	2.5	4.5				1.5	9		9		9
Dec		2.5	3.0	1.5			7		7	5	1
Total	36.0	65.2	58.0	14.6	7.8	17.1	199	46	153	102	51

ITALY	CTZ/3yr	5yr/CCT	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan	9.4	6.4	3.5			0.6	20	1	19		19
Feb	7.6	4.9	4.7			1.5	19	10	9	36	-28
Mar	8.7	4.8	4.4			1.0	19	8	11	27	-16
Apr	5.9	3.6	5.1			1.0	16	2	14	27	-14
May	7.0	4.4	3.9	0.6		0.8	17	5	12		12
Jun	6.4	2.9	5.9			0.6	16	2	14		14
Jul	8.0	2.5	4.1				15	1	14	17	-3
Aug	3.5	3.8	4.5			0.8	13	9	3	12	-8
Sep	8.2	5.3	3.4	1.7		1.5	20	8	12	10	2
Oct	7.8	5.3	3.5	0.8		0.8	18	2	16	18	-2
Nov	7.3	6.5	4.5				18	5	13	13	
Dec	6.5	6.5	4.0				17	2	15	30	-15
Total	86.3	56.8	51.5	3.1		8.5	206	54	152	192	-40

Source: DMOs, Bloomberg, Citi Research

Figure 20. 2012 Euro Government Bond Supply – Citi Forecasts (Euro in Billions)

SPAIN	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan		11.5	5.3				17	7	10		10
Feb	3.6	4.6	5.3				14		13	1	12
Mar	4.0	3.5					8		8		8
Apr	2.2	1.0	1.9				5	4	1	12	-11
May	2.6	2.9					5		5		5
Jun	2.6	1.6	0.6				5		5		5
Jul	2.6	2.1	1.3				6	8	-2	13	-15
Aug	1.3	1.2	1.0				4		4		4
Sep	6.7	1.6	0.9				9		9		9
Oct	5.6	2.3	1.5				9	4	5	15	-10
Nov	2.5	2.5	1.3				6		6		6
Dec	2.0	1.5	1.5				5		5		5
Total	35.8	36.3	20.6				93	24	68	41	27

NETHERLANDS	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan	4.1				1.5		6	4	2	14	-13
Feb		4.0	6.0				10		10		10
Mar	2.8				4.2		7		7		7
Apr	1.1	3.5			1.1		6		6		6
May	3.3		2.9				6		6		6
Jun			2.2		1.7		4		4		4
Jul	3.8	6.0		0.9			11	6	4	15	-11
Aug											
Sep			2.1		2.2		4		4		4
Oct		2.6					3		3		3
Nov	2.5		2.5				5		5		5
Dec											
Total	17.6	16.0	15.6	0.9	10.7		61	10	51	30	21

BELGIUM	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan			4.5				5		5		5
Feb		1.0	1.4		1.6		4		4		4
Mar			4.0		4.0		8	7	1	4	-3
Apr											
May		0.5	1.0	1.0			3		3		3
Jun		0.8	1.3	0.7			3		2		2
Jul		1.3	1.7	1.2			4		4		4
Aug											
Sep		0.8	4.7		0.7		6	5	1	9	-8
Oct		0.8	1.3	1.0			3		3		3
Nov		0.8	1.3	1.0			3		3		3
Dec										6	-6
Total		5.9	21.1	5.1	6.6		39	12	26	19	7

GREECE	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan											
Feb											
Mar											
Apr											
May											
Jun											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total								0	0	0	-0

Source: DMOs, Bloomberg, Citi Research

Figure 21. 2012 Euro Government Bond Supply – Citi Forecasts (Euro in Billions)

AUSTRIA	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan		0.7	3.7		2.0		6	1	6		6
Feb											
Mar			1.1				1	1			
Apr		0.7	0.6				1		1		1
May		0.7	0.6				1		1		1
Jun		3.0	0.7		2.4		6		6		6
Jul								2	-2	10	-13
Aug											
Sep		0.6	0.7				1	1			
Oct			0.6		0.8		1	1			
Nov		0.8	1.0				2		2		2
Dec		0.8	1.0				2		2		2
Total		7.2	9.9		5.2		22	7	15	10	5

FINLAND*	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan				3.0			3		3		3
Feb											
Mar											
Apr								1	-1		-1
May		1.0					1		1		1
Jun					1.5		2		2		2
Jul								1	-1		-1
Aug			4.0				4		4		4
Sep								1	-1	6	-7
Oct			0.8		0.8		2		2		2
Nov			0.5	1.0			2		2		2
Dec											
Total		1.0	5.3	4.0	2.3		13	2	10	6	4

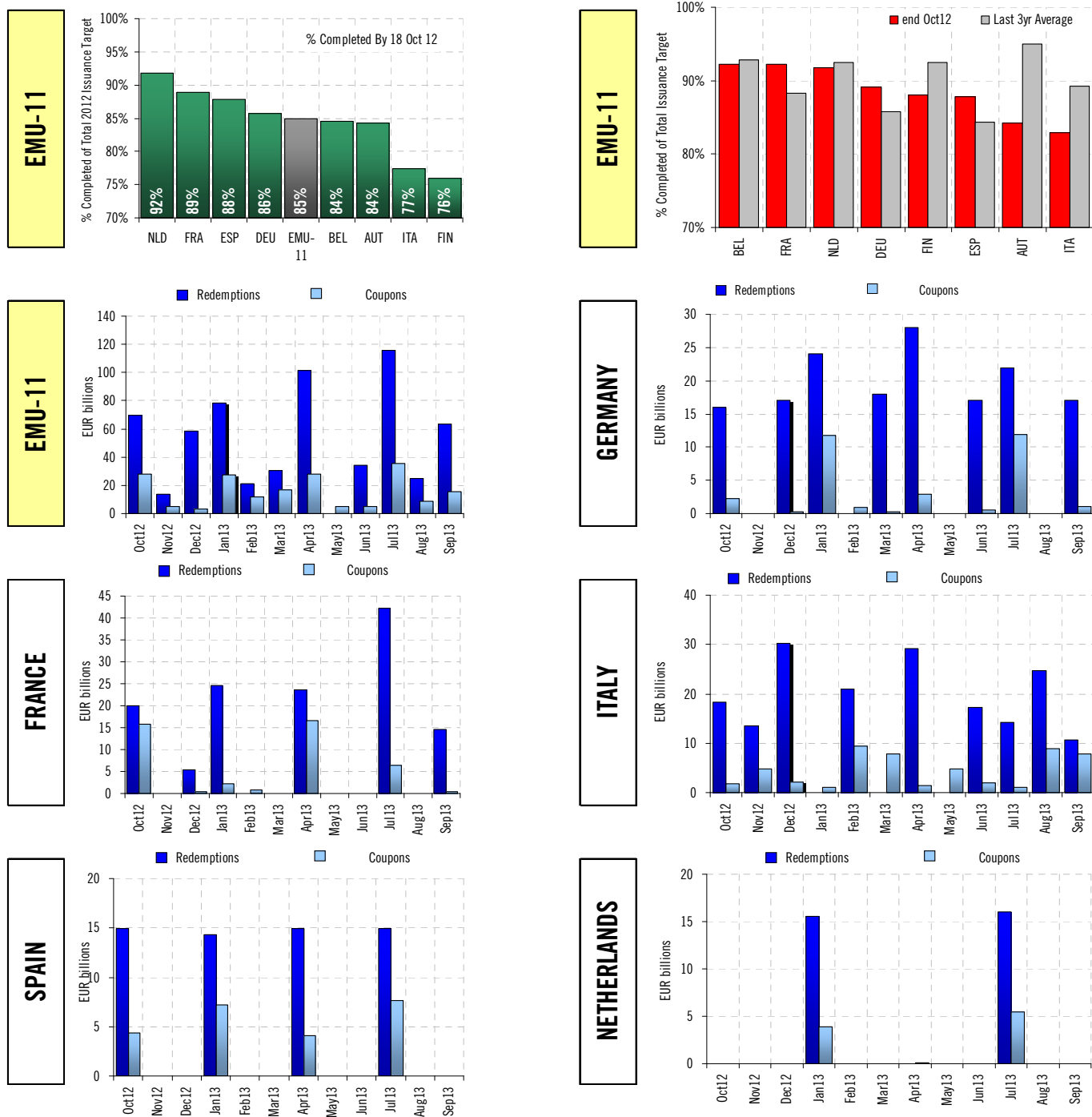
\*Finland will complete its 2012 funding requirement on 25 Oct, in our view. Given favourable market conditions we would expect the sovereign to pre-fund (in Nov 12) for next year

PORTUGAL	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan											
Feb											
Mar											
Apr								1	-1		-1
May											
Jun								2	-2	10	-12
Jul											
Aug											
Sep											
Oct								2	-2		-2
Nov											
Dec											
Total								5	-5	10	-15

IRELAND	2yr/3yr	5yr	10yr	15yr	30yr	Linkers	Gross Supply	Coupons	Net Supply	Redemptions	NCR
Jan											
Feb											
Mar								1	-1	6	-6
Apr								1	-1		-1
May											
Jun											
Jul	-1.0	3.9	1.3				4		4		4
Aug					1.0		1		1		1
Sep											
Oct								1	-1		-1
Nov											
Dec											
Total	-1.0	3.9	1.3	0.1	1.0		5	4	1	6	-5

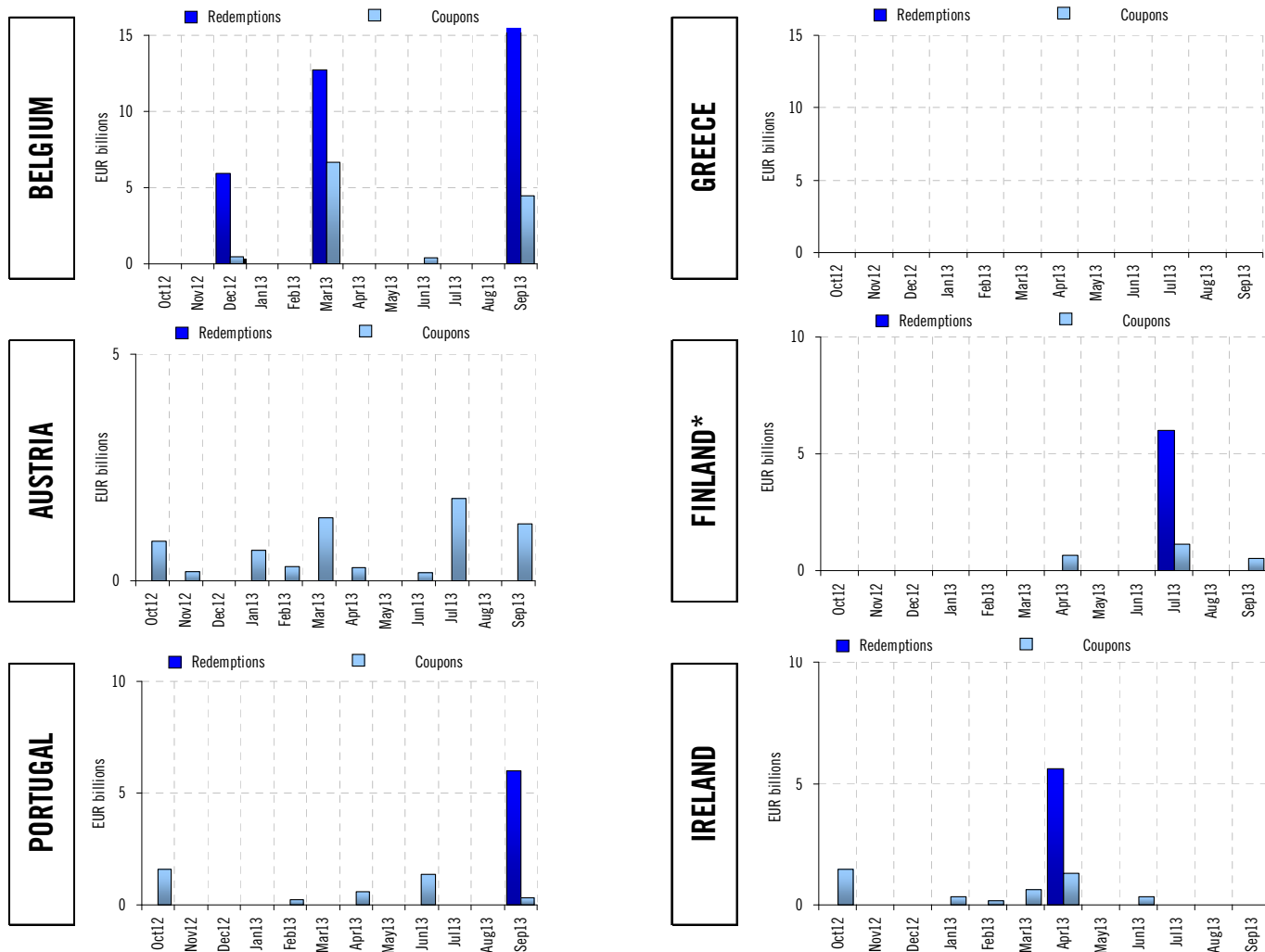
Source: DMOs, Bloomberg, Citi Research

Figure 22. 2012 EMU Issuance Progress and Cash flow profile – Citi Forecasts (Euro in Billions)



Source: DMOs, Bloomberg, Citi Research

Figure 23. 2012 EMU Issuance Progress and Cash flow profile – Citi Forecasts (Euro in Billions)



Size of bond market (fixed rate bonds and linkers)	Sector					
	2yr	5yr	10yr	15yr	30yr	Total
	Germany	France	Netherlands	Italy	Spain	Belgium
	395	293	200	63	88	1039
	362	343	283	98	99	1186
	106	81	58	13	33	290
	420	317	261	136	120	1254
	203	140	107	53	39	542
	87	80	57	27	29	280
	48	55	40	15	12	171
	18	23	17	9	2	67
	17	31	28	12	0	88
	33	30	23	0	7	94
	0	0	0	0	0	0

Credit Rating (LT local currency)	S&P		Moody's		Fitch	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
	Germany	France	Netherlands	Italy	Spain	Belgium
	AAA	Stable	Aaa	-ve	AAA	Stable
	AA+	-ve	Aaa	-ve	AAA	-ve
	AAA	-ve	Aaa	-ve	AAA	Stable
	BBB+	-ve	Baa2	-ve	A-	-ve
	BBB-	-ve	Baa3	-ve	BBB	-ve
	AA	-ve	Aa3	-ve	AA	-ve
	AA+	-ve	Aaa	-ve	AAA	Stable
	AAA	-ve	Aaa	Stable	AAA	Stable
	BBB+	-ve	Ba1	-ve	BBB+	-ve
	BB	-ve	Ba3	-ve	WD	-ve
	CCC	-ve	C	-ve	CCC	-ve

Source: DMOs, Bloomberg, Citi Research

**Notes**

**Notes**

**Notes**

## Appendix A-1

### Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

### IMPORTANT DISCLOSURES

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at [https://www.citivelocity.com/cvr/eppublic/citi\\_research\\_disclosures](https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures). Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

**Guide to Citi Research High Yield Ratings:** Coverage in the Citi Research High Yield universe is assigned a relative return based rating. Depending on the issuer under analysis ratings may be applied to either some or all of the issuer's debt securities, bank loans or other instruments. These ratings and their definitions are:

**Guide to Citi Research High Yield Issue Ratings:**

**Buy (1):** The analyst expects the six-month total return of the rated debt security or instrument to exceed the market value weighted average total return for the analyst's sector or comparable sub-index of the Citi High Yield Market Index

**Neutral (2):** The analyst expects the six-month total return of the rated debt security or instrument to be in line with the market value weighted average total return for the analyst's sector or comparable sub-index of the Citi High Yield Market Index

**Sell (3):** The analyst expects the six-month total return of the rated debt security or instrument to be below the market value weighted average total return for the analyst's sector or comparable sub-index of the Citi High Yield Market Index

**Guide to Citi Research High Yield Sector/Issuer Portfolio Weightings:**

**Overweight:** Over the next six months, the recommended sector or issuer is expected to outperform the returns on the relevant index or benchmark based on valuation and methodology provided below;

**Marketweight:** Over the next six months, the recommended sector or issuer is expected to perform in line with the returns on the relevant index or benchmark based on valuation and methodology provided below;

**Underweight:** Over the next six months, the recommended sector or issuer is expected to underperform the returns on the relevant index or benchmark based on valuation and methodology provided below;

**Under Review:** Citi Research has suspended the investment rating for this issuer because there is not a sufficient fundamental basis for determining an investment rating. The previous investment rating is no longer in effect for this issuer and should not be relied upon. To satisfy regulatory requirements, we correspond 'under review' to Hold in our ratings distribution table. However, we reiterate that we do not consider 'under review' to be a recommendation. For purposes of complying with ratings-distribution-disclosure rules, a Citi Research High Yield rating of Overweight is considered to correspond to a Buy recommendation; Marketweight and Neutral to a Hold recommendation; and Underweight to a Sell recommendation.

**Valuation and Methodology:** In Citi's High Yield Credit Research we assign a rating (Buy, Neutral or Sell) that, depending on the company under analysis, may be assigned to some or all of the company's debt securities. The rating is based on our credit view of the issuer and the relative value of its securities, taking into account the ratings assigned to the issuer by credit rating agencies and the market prices for the issuer's securities. Our credit view of an issuer is based upon our opinion as to whether the issuer will be able to service its debt obligations when they become due and payable. We may assess this by analyzing, among other things, the issuer's credit position using standard credit ratios such as cash flow to debt and fixed charge coverage (including and excluding capital investment). We also analyze the issuer's ability to generate cash flow by reviewing standard operational measures for comparable companies in the sector, such as revenue and earnings growth rates, margins, and the composition of the issuer's balance sheet relative to the operational leverage in its business.

### NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Ltd

Nishay Patel

Citigroup Global Markets India Private Limited

Mohit Aggarwal

### OTHER DISCLOSURES

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities

transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

**Important Disclosures for Morgan Stanley Smith Barney LLC Customers:** Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Research research report. Ask your Financial Advisor or use [smithbarney.com](http://smithbarney.com) to view any available Morgan Stanley research reports in addition to Citi Research research reports.

Important disclosure regarding the relationship between the companies that are the subject of this Citi Research research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at [www.morganstanleysmithbarney.com/researchdisclosures](http://www.morganstanleysmithbarney.com/researchdisclosures).

For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to [www.morganstanley.com/researchdisclosures](http://www.morganstanley.com/researchdisclosures) and [https://www.citivelocity.com/cvr/eppublic/citi\\_research\\_disclosures](https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures).

This Citi Research research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of Citi Research. This could create a conflict of interest.

**The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by.** The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations,

and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A. Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02>. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ("FAA") through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E.** these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on

request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at [https://www.citivelocity.com/cvr/eppublic/citi\\_research\\_disclosures](https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures).

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints. Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

© 2012 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST