Equities

8 December 2011 | 20 pages

Brazilian Airlines

Beware Of "Clear Air" Turbulence.

Stephen Trent
+1-212-816-6901
stephen.trent@citi.com

- **Still cautious** — over the next year, we see Brazil's domestic airlines facing unit revenue pressure (with loads falling as some carriers try increasing fares for the first time in years). Over this time, we also see the market as too complacent on cost pressures from labor and airport bottlenecks (f/x and oil aside). We remain buyers of TAM (based on our M&A expectations) and sellers of GOL.

- **Delta vs. AMR** — CIRA US' Will Randow sees Delta's small investment in GOL as part of an effort to thwart American Airlines (esp. now that the latter appears to have some financial difficulties). Will cited Delta's past alleged attempts at trying to pry Japan Airlines away from **one**world, as well as its trans-Atlantic capacity additions, as AMR and BA launched shuttle service on the same corridor.

- **Valuation** — based on our revised estimates, we calculate that Delta is valuing GOL at 15.7x '12E EV/EBITDAR, a stunning level considering no control, a sub-5% stake and a board seat backed by non-voting shares. Against this benchmark, *we are more interested to see what interest Azul and Avianca Brasil might attract* (two carriers that could benefit should the CADE force GOL/Webjet to relinquish airport slots).

- **Brazilian Airlines' structural disadvantages** — looking at the quartet of CIRA-covered Latin Airlines, and we worry (not only) about the history of irrational yield strategies in Brazil, but also about Brazilian airlines higher landing fees, in-to-plane (fuel) costs and taxation (see fig 2). In our view, *this helps explain why Copa's and LAN's shares have tripled in the past 5.5 years*, with TAM's flattish and GOL's down.

- **Buy TAM** — fig 2 shows relatively better stats (vs. GOL), and at the end of the day, TAM is a bona-fide acquisition target.

- **Sell GOL** — as bulls talk up a turnaround, we are curious as to whether anyone isn't expecting at least some improvement in 2012? (We are). We increase '12E (benefit of doubt on cost savings) and assume R$280M of extra capital in 1Q12E. However, with 3Q leverage coming in higher-than-expected, no change to our US$5.50/ADR target price. With the IATA cutting global airline earnings ca. 50% this week, untenable (in our view) to advise investors to buy, based on 2013E.

	Rating		Target Price		Current Year Earnings Estimates		Next Year Earnings Estimates	
Ticker	Old	New	Old	New	Old	New	Old	New
GOL	3H	3H	US$5.50	US$5.50	US$-0.98	US$-1.57	US$-0.41	US$-0.25
TAM	1	1	US$32.00	US$32.00	US$0.79	US$-0.20	US$1.37	US$1.86

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

Summary

We remain cautious on the extent to which Brazil's airlines face *structural disadvantages* versus the likes of Copa and LAN.

We remain cautious on the Brazilian airlines, owing to what we see as their structural disadvantages versus the likes of Copa and LAN. Among other factors (aside from ephemeral periods of rational competition/pricing), we see Brazil's high airport landing fees, seemingly exorbitant fuel crack spreads and in-to-plane costs and high corporate taxation as some of the key reasons why Copa and LAN have soundly outperformed TAM and (especially) GOL over the past 5.5 years.

However, we remain buyers of TAM, based on our M&A expectations (and in contrast to GOL, we see TAM as more attractive – thanks in part to its "international muscle"). We remain sellers of GOL – although we view the small Delta Airlines investment as a short-term positive, ownership updates and the like are not enough to justify the breathtaking (short-term) run that we've seen in the shares.

Does Delta's investment in GOL now give Azul or Avianca Brasil new "ammunition," against which they might IPO (or lure foreign airline capital)?

Beyond this, we also remain concerned that the CADE will force GOL-Webjet to relinquish some airport slots, with these slots possibly ending up in the likes of Azul, Avianca Brasil and others – ***in light of Delta's very lofty implied valuation of GOL's shares, we are even more interested to see whether international airlines might look towards investing in Avianca Brasil and Azul – two carriers that could receive new airport slots (shed by GOL-Webjet), noting also that the former actually has "Local Shuttle" flights. Moreover, in our opinion, it is unlikely that either carrier is interested in being acquired by GOL or LATAM***. Even without such an investment, we believe that Delta's action now gives Azul and (possibly) Avianca Brasil "new ammunition" in the event that these carriers seek IPOs (we would further note Avianca-TACA's decision to not exercise its option for Avianca Brasil).

Finally, we have also taken this opportunity to adjust our estimates for TAM and GOL. However, in both cases, we are not adjusting our target prices – (US$32/ADR for TAM and US$5.50 for GOL). As our TAM target price is based on our LATAM Airlines pro-forma, note that we are not adjusting LAN/LATAM at this time.

In the case of GOL, we undertake a small increase to 2012E EBITDAR (benefit of the doubt on 767 retirement cost savings, etc.), and we add R$280M in new capital (assuming that hits in 1Q12E). However, our target price remains unchanged as 3Q11 net financial leverage came in materially higher than we had expected. In fact, we adjust our 2012E EV/EBITDAR target multiple from 11.5x to 12x (as we recognize Delta's lofty (in our view overvalued) investment in the company).

Delta And GOL

In our GOL alert, dated 12/7/11, we highlighted Delta's plans to acquire a ca. 2.9% stake in GOL. On the surface, although we recognize that this is a short-term positive for GOL's shares (partially on the potential for more short-covering and on potential synergies), we also believe that the transaction itself raises some important questions/issues (which investors might be overlooking short-term, as the shares rally).

<u>Will Randow's take:</u>

CIRA US Airline Analyst Will Randow sees Delta making another effort to "blunt" American Airlines (especially now that the latter has recently telegraphed financial difficulties).

On the back of this announcement, we discussed the transaction with Will Randow, CIRA's US Airline analyst. Will made the following points about Delta's investment:

**** Delta trying to blunt AMR?***: Will reminded us that Delta had allegedly tried to lure Japan Airlines out of **one**world (USA Today reported this on 11/18/09), and also noted that Delta pushed heavy capacity over the Atlantic earlier this year, in an effort

to harm American Airlines' "shuttle service" with British Airways. Therefore, on the back of American's recently-telegraphed financial headwinds, Delta might be trying to further hinder AMR's efforts in Latin America.

**** Delta taking GOL's 767s***: Will also understands that Delta recently cancelled a 787 order (so in contrast to ordering new aircraft, taking over leases for 2 Boeing 767s and purchasing a small stake in GOL for US$100 million appears to be a relatively cheap alternative).

**** AMR vs. Delta***: Will noted that, on a year-to-date basis, American Airlines' (AMR's) market share of Latin America-bound capacity stood at 40%, versus Delta at 19%. Moreover, we understand that Delta is the #2 US airline servicing Brazil (while American is #1). Therefore, ***considering that GOL is discontinuing its code-share with American Airlines, it is severing some ties with the # 1 US Airline in Brazil to partner with the #2 US Airline***. (That being said, GOL mentioned on yesterday's Portuguese call that they might still maintain some interline agreements with AMR). GOL indicated that it will have code-sharing "exclusivity" with Delta on US-bound flights, once the carrier's code share with AMR expires in 2012.

In addition to Will's comments, we would also highlight the following:

The DAL purchase looks like a "great deal" for GOL's controllers (but less rosy for minority shareholders).

**** Why preferred shares?***: Brazil's regulations prohibit foreigners from holding more than 20% of a Brazilian airline's voting capital. For example, we understand that US-based SkyWest owns 20% of Trip's voting shares. ***Assuming that Delta is truly bullish on GOL's future, then we are curious as to why the carrier opted to acquire non-voting (preferred) shares, rather than common shares – or (in other words), why obtain a board seat w/o voting rights***? (Of course, in a worst-case macro scenario for Brazil, holding GOL's preferred shares via ADRs gives Delta the chance to exit such an investment more quickly, vs. trying to sell common shares).

**** A convoluted structure?***: GOL mentioned that Delta will purchase US$100 million-worth of preferred shares (ADRs) from the carrier's controlling shareholder, at a price of R$22/share – reflecting a significant premium versus December 6th's close of (R$14.96/share). At an exchange rate of R$1.8/US$, this equates to GOL's controllers selling approximately 8.2 million preferred shares to Delta. GOL then plans to subsequently issue new preferred and common shares, under which the Constantino's (GOL's controllers) plan to use the proceeds purchase more common shares (and perhaps some preferred shares). ***While we would grant that GOL's controllers are fully reinvesting the proceeds of their sale to Delta into GOL's subsequent share sale (and we do not see anything nefarious in the structure), we wonder if the company could have employed another structure for the sale, whereby minority shareholders could have been given "an equal opportunity" to directly sell some of their holdings to Delta (at the above premium), with the added opportunity to subsequently purchase new shares at a lower price (the same deal that the Constantino's are getting).***

Also looking squarely at GOL's efforts at code-sharing and at its interline agreements, we would highlight management's comments that (A) GOL does not plan to enter any global alliance (antithetical to an LCC's strategy in our opinion, considering required membership fees, joint advertising costs, etc.), and (B) the carrier expects to discontinue its code-share with American Airlines, even though management stated that it might continue with an inter-line agreement with that carrier.

Among other things, considering that we see rival TAM eventually moving over to **one**world, and we would highlight that GOL does the least amount of collaboration with the latter's members. Similarly, while GOL does engage with SkyTeam members more frequently (Delta, Air France, etc.), the carrier has interline agreements with an even greater number of independent carriers (which could be at risk of being severed in the event that GOL formally entered any global alliance).

Figure 1. GOL Codeshare and Interline Partners

OneWorld	Star Alliance	SkyTeam	Independent				
American	Aegean	Aeroflot	Aerogal	Condor	Heli Air Monaco	Olympic Airlines	TAAG
British Airways	Avianca (2)	**Aerolineas Argentinas** (1)	Air Baltic	Conviasa	Insel Air	Passaredo	TACV Cabo Verde
Iberia	**Copa** (2)	**Aeromexico**	Air Caraibes	Cubana	Jat Airways	**Qatar**	Turkish
Japan Airlines	LOT	Air Europa	Air India	Dutch Airlines	Jet Airways	SAM	UIA
Malev	South African	**Air France-KLM**	Air Macau	El Al	Korean Air	Siberian Airlines	
Qantas	TAP	Alitalia	Air Moldova	Emirates	LA CSA	Sky Airlines	
	Thai Airways	China Airlines	Air One	Etihad	Malaysia Airlines	Sri Lankan Airlines	
	United	China Eastern	Aires (3)	EVA	Meridiana	Surinam Airways	
	US Airways	**Delta**	Aviateca	Hahn Air	Middle East Airlines	Tame	
		Korean Air	Blue Panorama	Hainan Airlines	Noar Linhas Aereas	Transaero	

Gol codeshare partners in **bold**
(1) Aerolineas Argentinas will join Skyteam in 1H12
(2) Copa and Avianca-Taca will join Star Alliance in April 2012
(3) Aires has been acquired by LAN

Source: Company Website

Brazilian Airline "Structural" Challenges

In our Latin Aviator note, dated 11/18/11, we highlighted our concerns regarding certain structural disadvantages, faced by Brazil's carriers (in contrast to the likes of Copa and LAN). Among these items, we would highlight Brazil's:

- Higher (airport) landing fees (please see figure 2 within the aforementioned Aviator piece);
- Higher jet fuel crack spreads, fuel surcharges/in-to-plane costs, etc. (and *perhaps* partially impacted by inferior ability to hedge); and
- Higher (corporate) taxation.

Looking at the quartet of CIRA-covered Latin Airlines, and we would note that Copa has the lowest effective taxation, and the lowest leverage and the most advantageous jet fuel costs (with GOL the opposite).

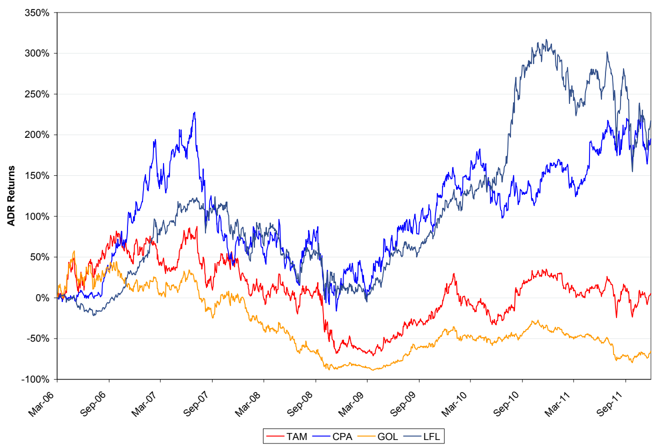
Figure 2. A Snapshot Of CIRA-covered Latin Airline Statistics

Company	Effective Tax Rate 2010	Average jet fuel price (US$/gallon) 2010	Net Debt / LTM EBITDAR 3Q11
TAM	40.1%	$3.04	5.2x
GOL	44.6%	$3.41	6.6x
Copa	5.5%	$2.38	1.9x
Lan	16.2%	$2.29	3.9x

Source: Citi Investment Research and Analysis

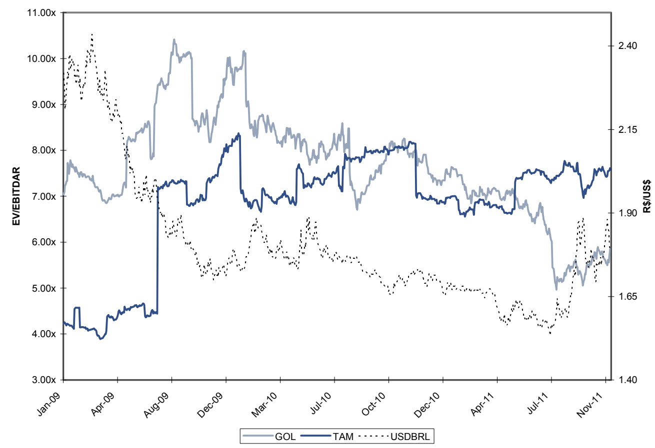
Therefore, looking at the above – and cross-referencing these statistics with each airline's long-term share performance (please also see figure 3), and we are struck by the notion that LAN and Copa shareholders have been the clear winners (considering US dollar returns from March 2006 to the present), while we have seen the opposite case for GOL. TAM's effective tax rate and average jet fuel cost per gallon are more similar to GOL's, than they are to either Copa or LAN (and relative to GOL, TAM's slightly lower average jet fuel cost/gallon *might reflect the latter doing more refueling in airports outside of Brazil*, in contrast to GOL).

Figure 3. ADR performance since March 2006



Source: Citi Investment Research and Analysis

Figure 4. GOL and TAM EV/EBITDAR vs. R$/US$



Source: Citi Investment Research and Analysis, Factset

From a trading perspective, we would note that sharp declines in the US dollar supported significant EBITDAR multiple expansion for TAM and (especially) for GOL in the early-goings of such expansion. However, the previous currency rally also suggested that the speculative surge in the above multiple expansions was relatively short-lived.

Latin Airline M&A Trends; Delta's Valuation Of GOL

Although we would not be surprised to see GOL undertake other small acquisitions, we see LATAM and Avianca-TACA as the region's main (medium-term) airline consolidators.

Earlier last year, we recall a conversation with GOL's management team, stating that they would probably shun acquisitions in an effort to maintain a strong balance sheet. This of course, now follows the carrier's acquisition of Webjet (with approval of that acquisition still pending from antitrust authorities).

Separately, O Globo reported that GOL has agreed to acquire the diminutive *Passaredo* Airlines (domestic market share of less than 1%). *Assuming that this news is true*, we would question this move, as we understand that (A) Passaredo operates *used* (50-seat) ERJ145s on short-haul flights (low route/fleet commonality potential) and (B) with WebJet's acquisition still pending, we would imagine that antitrust authorities would have something to say about this. That being said, GOL would not offer any comment when we asked them about Passaredo.

While we recognize GOL's past roles in consolidation (namely Varig), and while we also see some potential for the carrier to continue smallish acquisitions, we also see LATAM (LAN) and Avianca-TACA as the region's main consolidators going forward (please also refer to our Latin Aviator piece, dated 10/5/11).

Apropos with Will Randow's comments about Delta's competition against American Airlines, we see LATAM (LAN) and Avianca-TACA continuing to go head-to-head – it would not surprise us to see these carriers engaging in smallish M&A over the next few quarters.

We Estimate Delta's Valuation Of GOL at 15.7x EV/EBITDAR

Delta's valuation of GOL – fuel for Azul?

Considering Delta's intention to achieve a ca. 2.9% stake in GOL for US$100 million, and we calculate that the carrier is valuing GOL at a staggering 15.7x 2012E EV/EBITDAR. We arrive at this figure as follows: (A) a market cap of R$6.2 billion (US$100M, @ R$1.8/US$, divided by 0.029); (B) adding 3Q11 adjusted net debt of R$6 billion; (C) further subtracting R$280M expected to be raised in the equity

offering; (D) gets us to an implied EV of R$12.1B; and (E) dividing this EV by our revised 2012E EBITDAR figure of R$762M, we arrive at 15.7x.

In light of (what we see) as an exorbitant valuation for GOL, we are also curious to see whether Azul or Avianca Brasil might use this valuation as a benchmark, as a part of future IPO attempts.

Forecast Adjustments

For TAM and GOL, we are incorporating recent 3Q results, yield and traffic trends observed both in our recent surveys (please refer to our Eye In The Sky piece, dated 11/22/11) and in each carrier's October traffic results, and our economists' expectations for weaker end-of-period exchange rates (moving from R$1.6/US$ for 2011 and R$1.65/US$ for 2012 to R$1.8 and R$1.7, respectively).

Going forward, we see higher domestic yields (but lower load factors) for each carrier. In our view, fuel prices and currency movements are both an opportunity and a risk for both carriers (esp GOL). Separately, *we also remain concerned that the market might be too complacent regarding labor costs*.

TAM

Figure 5. TAM Forecast Changes (R$ MM, except per share data)

	2011E	2012E	2013E
Revenue New	12,723	13,303	13,882
Revenue Old	13,101	14,191	14,811
% Change	-2.9%	-6.3%	-6.3%
EBITDAR New	2,230	2,284	2,491
EBITDAR Old	1,697	2,293	2,513
% Change	31.4%	-0.4%	-0.9%
EPS New	(0.35)	3.18	3.51
EPS Old	1.32	2.23	3.49
% Change	-126.1%	42.7%	0.5%

Source: Citi Investment Research and Analysis

Figure 6. TAM Forecast Changes (US$ MM, except per share data)

	2011E	2012E	2013E
Revenue New	7,402	7,768	8,166
Revenue Old	7,851	8,733	8,976
% Change	-5.7%	-11.0%	-9.0%
EBITDAR New	1,297	1,334	1,465
EBITDAR Old	1,017	1,411	1,523
% Change	27.6%	-5.5%	-3.8%
EPADS New	(0.20)	1.86	2.06
EPADS Old	0.79	1.37	2.11
% Change	-125.4%	35.4%	-2.5%

Source: Citi Investment Research and Analysis

At this time, we are also introducing 2014 estimates for TAM, including revenue of R$ 14.5 billion, EBITDAR of R$2.7 billion and net income of R$624.5 (or equal to R$ 4.15/share).

GOL

In the case of GOL, we now assume that the company receives R$280M in new capital (in 1Q12E), as a result of the share issuance/Delta investment (therefore, some of the EPS adjustment also reflects our assumptions on increased share count in 2012E). We also give management the "benefit of the doubt" on some cost savings, such as those related to Delta's take-over of the carrier's two remaining Boeing 767s in January.

Figure 7. GOL Forecast Changes (R$MM, except per share data)

	2011E	2012E	2013E
Revenue New	7,213	7,699	8,207
Revenue Old	7,158	7,621	8,005
% Change	0.8%	1.0%	2.5%
EBITDAR New	579	762	1,015
EBITDAR Old	636	792	1,046
% Change	-9.0%	-3.8%	-2.9%
Net Income New	(743)	(131)	(0)
Net Income Old	(440)	(180)	20
% Change	-68.8%	27.2%	NM

Source: Citi Investment Research and Analysis

Figure 8. GOL Forecast Changes (US$MM, except per share data)

	2011E	2012E	2013E
Revenue New	4,197	4,496	4,827
Revenue Old	4,290	4,690	4,709
% Change	-2.2%	-4.1%	2.5%
EBITDAR New	337	445	597
EBITDAR Old	381	488	615
% Change	-11.7%	-8.7%	-2.9%
Net Income New	(432)	(77)	(0)
Net Income Old	(264)	(111)	12
% Change	-63.9%	30.9%	NM

Source: Citi Investment Research and Analysis

At this time, we are also introducing 2014 estimates for GOL, including revenue of R$ 8.7 billion, EBITDAR of R$1.1 billion and net income of R$101.0 million (or equal to R$ 0.33/share).

Figure 9. Selected Global Airline Comps

Company	Country	Ticker	Rating	Price 12/08/11	Target Price	P/E '11E	P/E '12E	EV/EBITDAR '11E	EV/EBITDAR '12E
Low-Cost									
RyanAir	Ireland	RYA.I	1	$5.03	$5.63	12.6x	13.3x	7.1x	7.3x
West Jet	Canada	WJA.TO	*NR*	$11.24	*NR*	10.2x	8.3x	*NA*	*NA*
AirAsia Bhd	Malaysia	AIRA.KL	*3*	$1.21	*NR*	12.0x	9.7x	*NA*	*NA*
Tiger Airways	Singapore	TAHL.SI	*3H*	$0.50	$0.43	NM	NM	40.1x	14.1x
Cebu Air	Philippines	CEB.PS	*1*	$1.57	$2.08	12.0x	9.5x	7.9x	7.0x
easyJet	United Kingdom	EZJ.L	1	$5.83	$7.07	8.9x	9.4x	5.2x	5.7x
GOL	Brazil	GOL.N	3H	$8.45	$5.50	NM	NM	13.3x	12.5x
Median						**12.0x**	**9.5x**	**7.5x**	**7.1x**
Low-Cost Hybrids									
JetBlue	United States	JBLU.O	2	$4.80	$4.00	18.3x	10.7x	6.6x	5.7x
Jet Airways	India	JET.BO	3H	$4.84	$4.16	NM	NM	15.4x	11.3x
Copa Airlines	Panama	CPA.N	1	$64.09	$86.00	10.0x	8.8x	7.0x	6.4x
TAM	Brazil	TAM.N	1	$19.48	$32.00	NM	10.5x	7.1x	7.2x
Median						**14.2x**	**10.5x**	**7.1x**	**6.8x**
Premium Passenger/Cargo									
LAN Airlines	Chile	LFL.N	1	$23.67	$35.50	19.2x	13.3x	11.1x	9.7x
Cathay Pacific	Hong Kong	0293.HK	3	$1.72	$1.35	10.3x	14.8x	5.4x	6.0x
Korean Air	Korea	003490.KS	*NR*	$42.85	*NR*	6.2x	5.9x	*NA*	*NA*
Singapore Airlines	Singapore	SIAL.SI	3	$7.94	$8.11	16.3x	12.9x	3.8x	3.4x
China Airlines	Taiwan	2610.TW	3	$0.42	*$0.41*	20.6x	5.9x	9.4x	6.0x
EVA Airways	Taiwan	2618.TW	3	$0.61	$0.50	23.3x	6.1x	8.1x	5.4x
Median						**17.7x**	**9.5x**	**8.1x**	**6.0x**
Legacy									
Intern. Consolid. Airlines	United Kingdom	ICAG.MC	1	$2.39	$3.35	12.7x	NM	4.3x	5.2x
Lufthansa	Germany	LHAG.DE	1	$11.80	$21.46	10.4x	24.1x	3.8x	4.0x
Scandinavian Air	Sweden	SAS.ST	1	$1.25	$2.89	19.7x	7.5x	0.8x	0.8x
Air France	France	AIRF.PA	2H	$5.46	$8.05	NM	NM	4.7x	4.8x
Air Canada	Canada	ACa_.TO	1H	$1.07	$2.48	NM	17.5x	3.7x	3.3x
Garuda Indonesia	Indonesia	GIAA.JK	1H	$0.05	$0.06	9.5x	5.6x	5.8x	4.9x
Turkish Airlines	Turkey	THYAO.IS	1	$1.24	$2.19	29.5x	9.7x	7.4x	6.6x
Air China	China	0753.HK	2H	$0.78	$0.91	6.4x	5.9x	7.0x	5.9x
China Eastern	China	0670.HK	2H	$0.38	$0.46	5.4x	5.1x	7.5x	6.4x
China Southern	China	1055.HK	1H	$0.54	$0.81	5.4x	4.8x	6.9x	5.8x
Median						**9.9x**	**6.7x**	**5.2x**	**5.1x**

Notes: (1) EPS Estimates for "NR" companies are taken from I/B/E/S or Bloomberg Consensus Estimates. All estimates and values are calendarized and are in US$.
NR = Not Rated by Citi Investment Research. NM = Not Material. NA = Not Available. RyanAir, Jet Airways, Frontier and Singapore Airlines have a fiscal year ended March 31; AirAsia and Qantas FY is ended June 30; easyJet FY is ended Sept. 30. GOL, TAM, Lan Airlines and Copa Holdings are covered by Stephen Trent. RyanAir, easyJet, Lufthansa, Royal Jordanian, Scandinavian Airlines, International Consolidated Airlines Group, and Air France - KLM are covered by Andrew Light. EVA Airways and China Airlines is covered by Timothy Chen. Turkish Airlines is covered by Osman Memisoglu. Jet Blue, and Air Canada are covered by CIRA Analyst Will Randow. Jet Airways is covered by Jamshed Dadabhoy. Cathay Pacific is covered by Anil Daswani. Tiger Airways, Garuda Indonesia, Cebu Air, and AirAsia are covered by Rigan Wong. Singapore Airlines is covered by Robert Kong. Qantas is covered by Shavarsh Bedrossian.
LAN is co-covered by Stephen Trent (CIRA) and BanChile.
Prices are intra-day levels.

Source: Citi Investment Research and Analysis

Company Focus

Tam SA (TAM)

- **Buy TAM** — please refer to pages 2-8 for further detail.

- Company Update
- Estimate Change

Buy	**1**
Price (08 Dec 11)	US$19.55
Target price	US$32.00
Expected share price return	63.7%
Expected dividend yield	0.0%
Expected total return	**63.7%**
Market Cap	US$2,930M

Price Performance
(RIC: TAM.N, BB: TAM US)

Estimates	2010A	2011E	2012E	2013E	Q111A	Q211A	Q311A	Q411E
Sales (US$M)	6,563	7,402	7,768	8,166	1,825	1,914	2,024	1,798
EBITDA adj (US$M)	967	1,038	1,045	1,171	168	127	451	305
EBITDA margin adj (%)	14.7	14.0	13.5	14.3	9.2	6.6	22.3	17.0
Net income (US$M)	368	-30	280	311	77	38	-378	206
EPS (US$)	2.44	-0.20	1.86	2.06	0.51	0.25	-2.51	1.37

Valuation					Ratios	2010A	2011E
EV/EBITDA adj	7.2	7.1	7.4	6.5	ROE adj (%)	42.2	-2.3
PE	8.0	nm	10.5	9.5	ROIC adj (%)	5.7	8.3
FCF (%)	19.9	-29.1	9.1	9.9	Debt to Capital (%)	73.8	81.4

Source: Company Reports and dataCentral, Citi Investment Research & Analysis.

Company Focus

Gol Linhas Aereas Inteligentes (GOL)

- **Sell GOL** — please refer to p 2-8 for further detail.

- Company Update
- Estimate Change

Sell/High Risk	**3H**
Price (08 Dec 11)	US$8.46
Target price	US$5.50
Expected share price return	-35.0%
Expected dividend yield	1.3%
Expected total return	**-33.7%**
Market Cap	US$2,232M

Price Performance
(RIC: GOL.N, BB: GOL US)

Estimates	2010A	2011E	2012E	2013E	Q111A	Q211A	Q311A	Q411E
Sales (US$M)	4,026	4,197	4,496	4,827	1,103	982	1,127	1,067
EBITDA adj (US$M)	565	66	188	338	101	-113	10	59
EBITDA margin adj (%)	14.0	1.6	4.2	7.0	9.2	-11.5	0.8	5.5
Net income (US$M)	124	-278	-77	0	19	-136	-240	-12
EPS (US$)	0.44	-1.57	-0.25	0.00	0.07	-0.83	-1.19	-0.04

Valuation					Ratios	2010A	2011E
EV/EBITDA adj	2.7	28.5	11.8	6.8	ROE adj (%)	7.6	-30.3
PE	19.1	-5.4	nm	nm	ROIC adj (%)	19.4	11.5
FCF (%)	-17.6	-20.6	-14.7	-13.5	Debt to Capital (%)	56.1	70.6

Source: Company Reports and dataCentral, Citi Investment Research & Analysis.

Tam SA

Company description

TAM is a Brazilian airline that has served as that nation's dominant airline for the past several years, with domestic and international market share level of approximately 44% and 89%, respectively. TAM operates regular flights to over 42 destinations throughout Brazil. It serves over 80 cities in the domestic market through regional alliances. Additionally, it maintains code-share agreements with international airline companies that allow passengers to travel to a large number of destinations throughout the world.

Investment strategy

In our view, Buy-rated TAM's operating potential is notable. The carrier, one of the most important in Latin America, has maintained its market share leadership of Brazil's (domestic and international) markets, on the back of rival Varig's financial woes over the last year and a half. TAM services the international market both directly and through code-sharing agreements.

Over the past few years, TAM has not only gained market share, but the carrier's operations have improved. This has been driven by higher aircraft utilization levels, a gradual rationalization of the carrier's fleet and routes, and by turmoil among competing carriers, such as Transbrasil and VASP.

Beyond underlying operating improvements, we also predicate our Buy rating on this stock, based on our expectation of the carrier merging with Chile's LAN Airlines.

Valuation

For TAM, we arrive at a 12-month target price of US$32/ADR. This valuation is based on the carrier's expected absorption into LATAM Airlines (essentially, Chile's LAN Airlines is acquiring TAM). For LATAM Airlines itself, we arrive at a US$35.50/ADR target price (TAM's target price of US$32 reflects nothing more than the announced ratio of 1 TAM share to be exchanged for 0.9 LATAM Airline shares, once the merger is completed).

Therefore, the valuation data below applies to LATAM Airlines (and is based on our valuation for LAN). We employ our combined, pro-forma 2012 estimates, including EBITDAR of US$2.88 billion and adjusted earnings of US$1.74/ADR. We employ 2012 multiples of 20x P/E (two-thirds weight) and 10x EV/EBITDAR (one-third) to the aforementioned 2012 estimates.

Price/Earnings

We designate our "fair valuation range" for LAN (LATAM) as 15x to 25x, given what we believe is a normalized 5-year level (P/E has ranged from 6.7x to 28.6x). In this regard, we believe that somewhere in the middle (19x) of this range is reasonable, as continued, solid earnings generation should only be partially offset by integration concerns. Investors should note that LAN had previously traded at such valuation ranges during a period when the carrier's operations were rebounding (which, on a normalized, fuel-neutral basis, seems to be occurring now). Target P/E valuation currently leads us to a valuation close to US$ $33.10/ADR.

EV/EBITDAR

On an EV/EBITDAR basis, we designate our "fair valuation range" as 7.75x to 12.5x. Our 10x multiple puts LAN around the middle of this range, and our rationale for this is similar to what we discussed above (for P/E valuation). Our EV/EBITDAR fair valuation leads us to a valuation of close to US$40.70/ADR.

Risks

TAM's company, industry, and country downside risks to the stock achieving our target price are as follows:

Competition: TAM could face increased competition in the domestic and international markets, potentially narrowing its margins and/or creating barriers to its expansion.

Currency Exposure Risk — TAM has several key operating expenses, jet fuel, aircraft rental expense, maintenance, and insurance, that are dollar-indexed. Therefore, wild swings in the currency could result in significant earnings volatility.

Merger with LAN –there is no guarantee that TAM and LAN merge. Should this merger fall apart, we believe that the entire sector (especially TAM) could de-rate. If the merger does succeed, we might also have to forget about the Star Alliance-related cost savings that TAM had previously mentioned.

Upside Risks

TAM's yield recovery on international flights could be much faster than we anticipate, resulting in an earnings recovery that occurs more quickly than we had expected. The Brazilian Real could strengthen beyond Citi's expectations, leading to stronger-than-expected coverage of dollar-indexed costs (such as jet fuel and aircraft rent).

Gol Linhas Aereas Inteligentes

Company description

GOL Linhas Aéreas Inteligentes is a low-cost Brazilian carrier. GOL provides service on routes connecting all of Brazil's major cities as well as primary destinations in Argentina, Bolivia, Chile, Paraguay, Uruguay, Venezuela, Colombia and the Caribbean through its more than 800 daily flights to 60 major airports. GOL operates a fleet of Boeing 737s. GOL's growth plans include increasing frequencies in existing markets and adding service to additional markets in both Brazil and other high-traffic South American travel destinations. GOL shares are listed on the NYSE and the Bovespa.

Investment strategy

We rate GOL Sell/High Risk (3H). We see GOL as having very good long-term potential, as the Brazilian consumer becomes wealthier (over the medium-term), and as the carrier enters into code shares with various international carriers (which should help GOL to help fill its seats). On top of this, we are also encouraged by the carrier's dominant (slot) positions in Brazil's most important airports.

Against this more positive long-term backdrop, we are also concerned that management's aggressive actions on yields (and in other areas) have resulted in

some damage to the company's ability to generate positive returns on capital. Finally, long-term traffic growth could be capped, should the Brazilian government's efforts to privatize / improve its airports fall short.

Valuation

For GOL, we have a target price of US$5.50/ADR. In contrast to other CIRA-covered Latin America-based carriers (in which we use a 2/3rd's blend forward adjusted P/E and 1/3rd forward EV/EBITDAR), we value GOL solely on forward '12E EV/EBITDAR (as we forecast negative adjusted earnings).

On an EV/EBITDAR basis, we are employing a 12x multiple to our 2012 estimate. In this case, we are using 2009's historical (forward) figures as a benchmark (a year in which the shares were severely punished but had subsequently enjoyed a huge rally (as, among other factors, global investors had sought risk). Against this backdrop, we believe that we are giving GOL the "benefit of the doubt" as a 12x EV/EBITDAR figure is in-line with 2009's peak, and compares to that year's average of 8.4x and to that year's low of 6.8x.

Risks

We rate GOL High Risk given the stock's volatile earnings figures and trading activity, as well as management's "lack of predictability" with respect to operational and corporate matters. Downside risks to our target price include:

Competition: Azul airlines' growth appears to be quicker than expected. This, together with the TAM-LAN alliance on short-haul international routes, could provide GOL with much tougher competition than the market currently anticipates. A proposal to relax foreign ownership limits on Brazil Airlines could also send capital flowing to GOL's competitors (in addition to GOL itself).

Currency Exposure Risk — Operations: While virtually all of GOL's top line is denominated in reais, some of the company's operating costs are U.S. dollar denominated or indexed; a significant depreciation of the Brazilian real could negatively affect the carrier's operating margins.

Jet Fuel Prices: GOL is exposed to fluctuations in global jet fuel prices.

Regulatory: Brazilian authorities regulate the sector to include number of aircrafts per carrier and grants/ restrictions over specific routes - unexpected changes could affect GOL's profitability. Moreover, the market seems to assume that the CADE will approve the Webjet acquisition without restrictions (seems highly optimistic to us).

Country/Regional Risk: Adverse political developments in Brazil (or in the region), could adversely affect GOL's stock price performance.

Upside risks to our target price: GOL's yield recovery on international flights could be much faster than we anticipate, resulting in an earnings recovery that occurs more quickly than we had expected. The Brazilian Real could strengthen beyond Citi's expectations, leading to stronger-than-expected coverage of dollar-indexed costs (such as jet fuel and aircraft rent). Finally, oil prices could fall well beyond Citi's expectations.

Appendix A-1

Analyst Certification

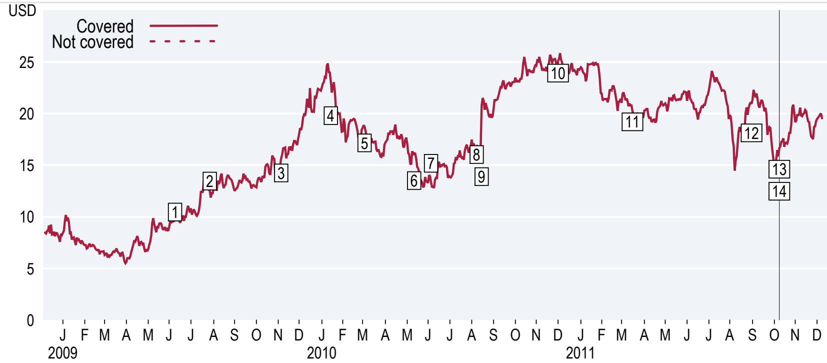
The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each 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

Tam SA (TAM.N)

Ratings and Target Price History
Fundamental Research

Analyst: Stephen Trent



	Date	Rating	Target Price	Closing Price
1	9-Jun-09	1H	*27.00	9.95
2	28-Jul-09	*2S	*16.00	12.50
3	5-Nov-09	2S	*19.00	15.69
4	14-Jan-10	2S	*27.75	23.11
5	3-Mar-10	2S	*22.00	18.74
6	12-May-10	2S	*20.00	16.16
7	4-Jun-10	2S	*17.00	13.34
8	9-Aug-10	2S	*20.25	16.85
9	15-Aug-10	*1H	*31.00	16.67
10	1-Dec-10	1H	*32.60	25.08
11	16-Mar-11	1H	*28.80	20.22
12	31-Aug-11	1H	*32.00	20.94
13	8-Oct-11	Stock rating system changed		
14	8-Oct-11	*1	32.00	15.87

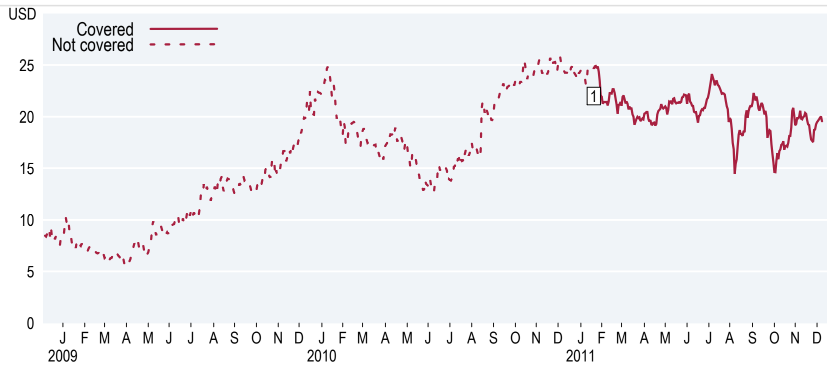
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Tam SA (TAM.N)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Stephen Trent



	Date	Rating	Target Price	Closing Price
1	20-Jan-11	*ADD MP	-	24.64

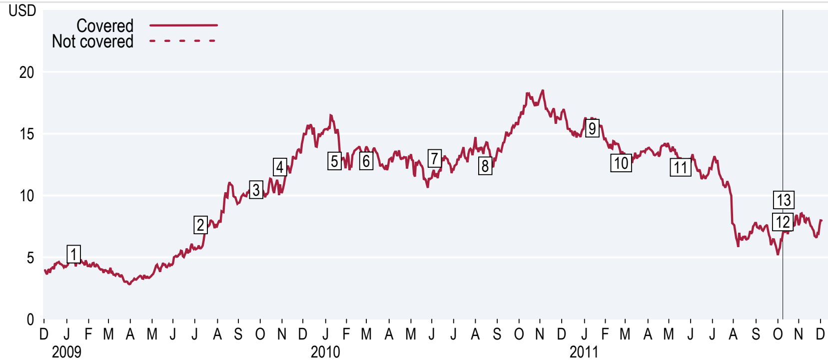
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Gol Linhas Aereas Inteligentes (GOL.N)

Ratings and Target Price History
Fundamental Research

Analyst: Stephen Trent



	Date	Rating	Target Price	Closing Price
1	12-Jan-09	*3S	*4.00	4.93
2	9-Jul-09	3S	*4.65	5.73
3	25-Sep-09	3S	*7.00	10.30
4	29-Oct-09	3S	*8.50	10.90
5	14-Jan-10	3S	*11.00	15.53
6	1-Mar-10	3S	*10.25	13.96
7	4-Jun-10	3S	*9.85	11.58
8	15-Aug-10	*1S	*19.50	13.90
9	13-Jan-11	1S	*22.65	16.25
10	23-Feb-11	1S	*20.50	13.03
11	18-May-11	1S	*20.00	13.01
12	8-Oct-11	Stock rating system changed		
13	11-Oct-11	*3H	*5.50	7.26

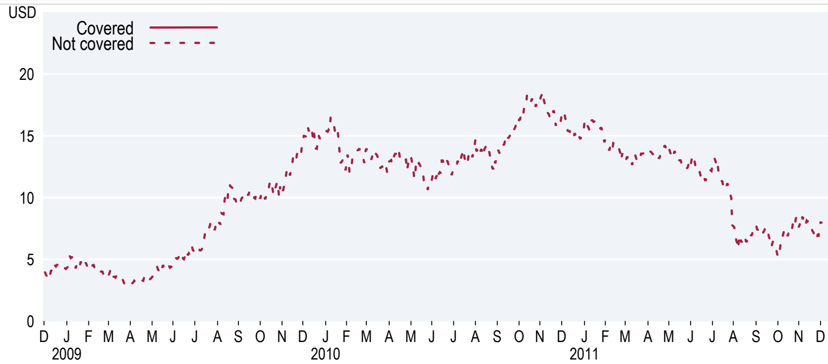
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Gol Linhas Aereas Inteligentes (GOL.N)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Stephen Trent



* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of Gol Linhas Aereas Inteligentes, Jet Airways, Lufthansa. This position reflects information available as of the prior business day.

Within the past 12 months, Citigroup Global Markets Inc. or its affiliates has acted as manager or co-manager of an offering of securities of Garuda Indonesia, Singapore Airlines.

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from Tam SA, China Eastern Airlines, Air China, China Southern Airlines, Air Canada, Air France-KLM, Cebu Air, Copa Airlines, easyJet, Garuda Indonesia, Gol Linhas Aereas Inteligentes, International Consolidated Airlines Group, S.A., Ryanair, Singapore Airlines, Tiger Airways, Turk Hava Yollari AO.

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from Tam SA, Cathay Pacific, China Eastern Airlines, Air China, China Southern Airlines, Air Canada, Cebu Air, Singapore Airlines, Turk Hava Yollari AO.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Tam SA, Cathay Pacific, China Eastern Airlines, Air China, China Southern Airlines, China Airlines, Eva Airways, Air Canada, AirAsia, Air France-KLM, Cebu Air, Copa Airlines, easyJet, Garuda Indonesia, Gol Linhas Aereas Inteligentes, International Consolidated Airlines Group, S.A., JetBlue Airways Corporation, Jet Airways, LAN Airlines, Lufthansa, Ryanair, Scandinavian Airlines System, Singapore Airlines, Turk Hava Yollari AO in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Gol Linhas Aereas Inteligentes, Tam SA, Cathay Pacific, China Eastern Airlines, Air China, China Southern Airlines, Air Canada, Air France-KLM, Cebu Air, Copa Airlines, easyJet, Garuda Indonesia, International Consolidated Airlines Group, S.A., Ryanair, Singapore Airlines, Tiger Airways, Turk Hava Yollari AO.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Tam SA, Cathay Pacific, China Eastern Airlines, Air China, China Southern Airlines, China Airlines, Eva Airways, Air Canada, AirAsia, Air France-KLM, Cebu Air, Copa Airlines, easyJet, Garuda Indonesia, Gol Linhas Aereas Inteligentes, International Consolidated Airlines Group, S.A., JetBlue Airways Corporation, Jet Airways, LAN Airlines, Lufthansa, Ryanair, Scandinavian Airlines System, Singapore Airlines, Turk Hava Yollari AO.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Tam SA, Cathay Pacific, China Eastern Airlines, Air China, China Southern Airlines, China Airlines, Eva Airways, Air Canada,

AirAsia, Air France-KLM, Cebu Air, Copa Airlines, easyJet, Garuda Indonesia, Gol Linhas Aereas Inteligentes, International Consolidated Airlines Group, S.A., JetBlue Airways Corporation, Jet Airways, LAN Airlines, Lufthansa, Ryanair, Scandinavian Airlines System, Singapore Airlines, Turk Hava Yollari AO.

Citigroup Global Markets Inc. or an affiliate received compensation in the past 12 months from Gol Linhas Aereas Inteligentes.

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.

The Firm is a market maker in the publicly traded equity securities of Cathay Pacific, Air China, Air France-KLM, JetBlue Airways Corporation, Lufthansa, Ryanair.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Investment Research & Analysis product ("the Product"), please contact Citi Investment Research & Analysis, 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 www.citigroupgeo.com. 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.

Citi Investment Research & Analysis Ratings Distribution

	12 Month Rating			*Relative Rating*		
Data current as of 10 Oct 2011	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
Citi Investment Research & Analysis Global Fundamental Coverage	59%	34%	7%	10%	79%	10%
% of companies in each rating category that are investment banking clients	45%	42%	37%	50%	43%	46%

Guide to Citi Investment Research & Analysis (CIRA) Fundamental Research Investment Ratings:
CIRA's stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.
Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.
Investment Ratings: CIRA's investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of CIRA management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.
Relative three-month ratings: CIRA may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings,** which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of CIRA's expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were:Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were:Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

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 Inc	Stephen Trent; Will Randow, CFA
Citigroup Global Markets Asia	Michael Beer; Vivian Tao; Rigan Wong
Citigroup Global Markets Ltd	Andrew Light
Citigroup Global Markets India Private Limited	Jamshed Dadabhoy
Citigroup Global Markets Singapore PTE LIMITED	Robert P Kong, CFA
Citigroup Global Markets Taiwan Securities Co. Limited	Timothy Chen
Citibank Anonim Sirketi	Osman Memisoglu

OTHER DISCLOSURES

The subject company's share price set out on the front page of this Product is quoted as at 08 December 2011 04:00 PM on the issuer's primary market.

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Air France-KLM, International Consolidated Airlines Group, S.A., Lufthansa. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citigroupgeo.com.)

Citigroup Global Markets Inc. or its affiliates beneficially owns 2% or more of any class of common equity securities of Gol Linhas Aereas Inteligentes.

This Product has been modified by the author following a discussion with one or more of the named issuers/issuers of the named securities.

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 Investment Research & Analysis (CIRA) does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of CIRA 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 Investment Research & Analysis (CIRA) research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to CIRA research reports.
Important disclosure regarding the relationship between the companies that are the subject of this CIRA 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.
For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citigroupgeo.com/geopublic/Disclosures/index_a.html.
This CIRA 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 CIRA. 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 Citigroup 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. Foro Buonaparte 16, 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 Global Equities Online (GEO) website. If you have questions regarding GEO, 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 110-180, 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 **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 1 Temasek Avenue, #39-02 Millenia Tower, Singapore 039192, 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 CIRA 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 CIRA's Products can be found at www.citigroupgeo.com.

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), CIRA concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual CIRA 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. CIRA simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by CIRA 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.