



BRAZIL MACRO

July 14, 2022

SCENARIO UPDATE

BETTER ACTIVITY EXPECTED IN THE SHORT TERM, WITH HIGHER INTEREST RATES (EVEN) LONGER

Ana Paula Vescovi* and Brazil Macroeconomics Team anavescovi@santander.com.br +5511 3553 8567

- GLOBAL ECONOMY: Inflationary pressures continue to surprise to the upside across the globe. The war between Russia and Ukraine has brought an energy shock to the Eurozone that has spread globally. As the conflict drags on and as winter looms ahead, energy prices remain under pressure. Another aggravating factor has been the maintenance of China's "zero-COVID" policy, with severe lockdowns throughout 2Q22 creating additional friction in global supply chains. Given this scenario, and in light of a red-hot domestic demand and labor market in the U.S., the Federal Reserve has decided to accelerate the pace of monetary policy adjustment, raising the interest rate by 75 bps (to 1.75%) at the June meeting. Looking ahead, we believe the Fed is likely to raise the Fed Funds rate by 75 bps at the July meeting, before decelerating to a pace of 50-bp hikes per meeting up to February 2023. We keep our U.S. terminal rate forecast at 4.5% for the cycle, which is expected to be the most hawkish monetary policy reaction in decades. The latter makes us believe a U.S. recession is very likely next year. In the Eurozone, the European Central Bank (ECB) has sped up the process of monetary policy normalization and is expected to raise interest rates (for the first time in more than 10 years) by 25 bps in July. The ECB may also accelerate the pace to 50 bps at the following meeting, with a view to get interest rates out of negative territory as quickly as possible. In China, inflation remains under control, providing comfort for the government to introduce (fiscal, credit, and monetary) stimulus to foster an activity recovery in 2H22. In our view, that could provide a little support for commodity demand and result in a more gradual "normalization" in prices. Overall, the combination of tighter monetary policies and slower global growth will maintain a challenging global environment for emerging economies, but commodity exporters (such as Brazil) are expected to show a little more resilience for some time.
- COMMODITIES: Low inventories for most raw materials, coupled with idiosyncratic factors (e.g., adverse weather, past underinvestment, high cost of production) have contributed for the booming prices of late. The ongoing geopolitical shock from the war in Eastern Europe adds to these global supply disruptions, and the economic sanctions imposed against Russia further aggravate the supply issues for key commodities (e.g., grains, fuel, fertilizers). Yet global macro headwinds (higher interest rates, slowing economic activity) could hinder demand for raw materials. We estimate these two opposite forces on supply and demand might offset each other for some time, so that we have not made material changes to our forecasts and continue to look for a gradual softening in international material costs for the coming years. For oil, we keep our forecast at USD115/bbl for YE2022 and USD95/bbl for YE2023. For agriculture and metal commodities, however, we made a slight downward adjustment to our expected path. All in all, we keep our expectation for a downward path for the headline CRB Index and still forecast a slow "normalization" in commodity prices, meaning an extension of the cycle started in 2020.
- FX RATE: Despite the continued BRL support from the maintenance of a constructive backdrop for commodity exporters and the high level of domestic interest rates, the faster normalization of monetary policy in advanced economies and doubts regarding the dynamics in Chinese growth have weighed on the BRL, and we do not expect these elements to reverse anytime soon. Moreover, the adoption of additional fiscal stimuli (to curb the impact of higher energy prices on Brazilian households) have contributed to elevate expectations regarding the trajectory of government debt. The recent package of (stimulus) measures have also increased uncertainty about future economic policy (from 2023 onward). Thus, the combination of a shakier global environment and higher domestic uncertainties have once again weighed on the BRL, suggesting volatile market conditions at least until the middle of 4Q22. Hence, we are changing our forecasts for the USD/BRL cross to 5.30, 5.15 and 5.20 for YE2022, YE2023 and YE2024 (respectively, from 5.15, 5.00 and 5.10 previously).
- BALANCE OF PAYMENTS: We are keeping our forecasts for the current account deficit unchanged at USD25.7 billion, USD23.5 billion and USD40.3 billion for 2022, 2023 and 2024, which are quite manageable levels (between 1-2% of GDP in the period). Although the stronger-than-anticipated domestic demand for 2022 should prompt services and the primary income account to register higher deficits than previously forecast, the weaker currency path should counterbalance that influence. We continue to see the external sector as a no-problem area for Brazil's economy in the foreseeable future.



- FISCAL POLICY: We now forecast a consolidated primary budget deficit of 0.2% of GDP for 2022 (prior: +0.4%), on the back of further fiscal stimulus via tax breaks (totaling BRL85 billion for the federal government and BRL40 billion in subnational entities, according to our estimates). Additionally, we have also penciled in the recent boost in welfare programs, following a constitutional amendment (PEC1/22) that will cost around BRL41.2 billion until the end of the year. In our view, the central government should register a 0.7% of GDP primary deficit this year, partly offset by regional governments' surplus of 0.5%. We also see a worse budgetary outlook for next year, considering the lingering effects of this year's fiscal stimulus: we updated our primary deficit forecast to -1.2% of GDP for 2023 (prior: -0.6%). Moreover, we continue to foresee a deterioration in the nominal (headline) budget results due to higher debt costs (owing to a higher Selic rate), implying a steeper upward trajectory for government debt in the medium term. Our 2022 gross general government debt forecast went up to 79.9% of GDP (from 79.0%), virtually stable from 2021. For the long term, since we assume the commodity cycle will gradually fade, we continue to see a risky path toward debt stabilization, in a context of reduced efficacy of the fiscal rules, and elevated social pressures to increase expenditures (especially for the next few years, in the context of persistent inflation pressures). We now estimate the gross general government debt will peak at ~98% of GDP in 2028 (from previously seen peak of 95%). Despite the breathing room on the fiscal side provided by this extended commodity cycle, the high level of mandatory expenses continues to be a problem that needs urgent fixing (via economic reforms).
- ECONOMIC ACTIVITY CORE: We are raising our GDP forecast for 2022 but maintaining our estimates for 2023 and 2024. For 2022, considering stronger-than-expected data that improved 1H22's performance, we have raised our forecast for the full year to +1.9% (from +1.2%), mainly supported by the contribution from the services reopening, the labor market recovery, and increased disposable income (the latter will also be favored ahead by a new round of government stimulus). In terms of the quarterly path, we are upgrading our 2Q22 estimate to +0.7% (from +0.2%). For 2H22, domestic activity should turn sour once the effects of a tighter monetary policy start to kick in, but the additional fiscal stimuli may partially offset this impact for that period. We are raising our estimates for 2H22 to +0.2% QoQ-sa and -0.2% QoQ-sa in 3Q22 and 4Q22, respectively (from previously 0% QoQ-sa and -0.4% QoQ-sa). For 2023, in the absence of an additional catalysts for growth, we see a reduced impulse from commodities and the lagged effects of the monetary contraction prevailing, which should prompt a domestic recession: we estimate a 0.6% GDP contraction for 2023. For 2024, we see the economy still facing a slow pace of GDP growth: we estimate a tepid 0.5% gain, with the recovery impacted by our expectation of a U.S. recession starting in mid-2023.
- ECONOMIC ACTIVITY LABOR MARKET: It seems that the services reopening had a much stronger-than-expected influence on the job market, which could also have indirectly benefited from the overall activity impulse from commodity-led sectors. According to our monthly employment data estimates, the seasonally adjusted jobless rate reached 9.0% in May, the lowest level since mid-2015. The participation rate, which was running at historically low levels until 4Q21, has practically normalized and is now only 0.2 p.p. below the pre-pandemic level (February 2020). In this context, the surprisingly favorable employment conditions led us to further reduce our 2022 average unemployment rate forecast. We still expect the unemployment rate to rise in 2H22, as the restrictive monetary policy stance should lead to a cooling economy, thereby dominating the labor-market dynamics from 2H22 onward. However, in light of a better-than-expected starting point for the employed population, we revised the expected trajectory for the unemployment rate from 2022 to 2024. Our forecast for the average jobless rate in 2022 is now 10.0% (prior: 11.4%), and 10.8% in 2023 (prior: 12.3%). For 2024, we are reducing our forecast to 11.0% (prior: 12.4%). While we have also reduced our estimates for the structural joblessness (NAIRU, now seen somewhere around 10-11%), we continue to envision a tight labor market until 1Q23 - which adds to the difficult conditions for the disinflation process expected ahead. As for the real wage bill, the effects of a higher employment level were partially offset by lower-than-expected real average wages. The newly increased government transfers helped boost our forecasts for total real income in 2022: we project that the "expanded" real wage bill will grow 3.7%, 1.0%, and 1.1% in 2022, 2023, and 2024, respectively (we previously estimated gains of 3.1%, 0.8%, and 1.2%). This implies a probably slower deceleration in consumer spending ahead.
- ECONOMIC ACTIVITY CREDIT: Despite the lack of visibility due to the shortage of data (note: the latest available BCB report is from February, due to the strike of BCB workers), we are raising our estimates for the nominal pace of annual growth in outstanding loans. Our estimate rose to 11.2% from 9.4% for 2022; and to 7.2% from 6.8% for 2023, mainly on the back of a better level of economic activity than we previously thought earlier this year. The revision is led by non-earmarked loans to families, whose growth estimate jumped to 16.4% (prior: 12.6%), given an improvement in household consumption influenced by the strong results of the labor market early this year. Furthermore, we also anticipate the earmarked segment will post a better performance than we had previously thought for 2022: we now look for a growth of 8.1% (prior: 6.4%), given the extension of subsidized lending programs and new stimulus announced by the government (note: programs such as Pronampe and PEAC which have been made permanent). For 2023, we revised our forecast for non-earmarked loan growth to families to 9.0% (prior: 8.3%), especially due to an economic activity carryover. Despite the upward revisions in credit growth forecasts, we remain wary about the outlook (and risks) for NPLs next year, given the scenario of still-high inflation, slowing real activity and higher consumer indebtedness. Our scenario accounts for total defaulting rates close to the pre-pandemic level (February 2020).



- **INFLATION:** The main driver for the change in our inflation forecasts was the approval of brand-new tax cuts and income-supporting measures. For the short term, the tax cuts will have a direct effect of lowering prices for fuels, electricity, and telecommunications. As a result, we have lowered our forecast for IPCA 2022 to 7.9% (from 9.5%). We conjecture that the slight difference from the consensus (standing at 7.7% as of now) is that we believe this fiscal expansion means a demand impulse that will end up sustaining inflation in other sectors (industrial goods, services and food-at-home) for a while. In our view, this will offset part of the direct deflationary effect of the tax cut for the short term. Looking further ahead, we raised our IPCA 2023 forecast to 5.7% (from 5.3%), since part of the tax cuts should be reversed next year. Moreover, as the markets start to see a rising probability for a continued fiscal expansion for the medium term, inflation expectations could keep moving higher and the currency could continue to weaken, which could lead to renewed inflation pressures. As far as IPCA 2024 go, we still see envision a convergence to mid-target (3.00%) for that horizon, as cost-push shocks fade and the effects of a tight monetary policy stance work its way through the economy. The risk is that the fiscal adjustment process may fall short of what is needed to re-anchor expectations, leading to an even more difficult disinflation process ahead.
- MONETARY POLICY: In the last communications, the BCB refrained from providing a precise guidance about its probable steps after the upcoming (August 2-3) Copom meeting, amid a scenario of "higher than usual uncertainty and volatility." The Copom states that the convergence of IPCA inflation "around the target" would require "a more contractionary interest rate than that used in the reference scenario for the entire relevant horizon." Based on the BCB simulations presented in the 2Q22 inflation report, we estimate that a final Selic hike of 50bps in August (leading to a terminal rate of 13.75%), and the maintenance of that level for some time, could fit the authority's strategy to bring inflation close to ~3.5% (i.e., near the 3.25% "mid-target). Since then, however, we have witnessed a continued increase in inflation expectations, further deterioration in the balance of risks (with further fiscal impulses) and evidence of additional narrowing in economic slack (given the solid employment of late). These factors pose significant risk for the BCB's slowing GDP scenario seen for 2H22 a necessary condition for the relatively fast disinflation process projected by the BCB's models. While we continue to expect the Copom to follow a smoothing interest-rate strategy (i.e., avoiding a steeper peak for this cycle but keeping rate higher for longer) we see the necessity of additional tightening for the BCB to put inflation close to the target next year. We now forecast Selic rate at 14.25% for YE2022 (with two more hikes of 50bps in August and September), compared to our previous forecast of 13.50%. We also pushed back our expectation for rate cuts in 2023 and foresee a slower convergence to the structural level of 7%. We revised our expected Selic path to 12.00% for YE2023 (prior: 10.50%) and to 9.00% for YE2024 (prior: 8.00%).



Figure 1. Santander Brazil's Global Macro Assumptions – Summary

Global Scenario (Baseline)										
	2018	2019	2020	2021	202	2 E	2023	3 E	202	4E
Global GDP (%)	3.5	2.8	-3.5	5.9	2.6	•	2.5	\Rightarrow	2.0	-
China GDP (%)	6.7	6.0	2.3	8.1	4.8	=	5.5	=	5.0	=
US GDP (%)	3.0	2.2	-3.5	5.7	2.2	•	0.4	•	0.7	1
US Inflation (Core PCE, %)	2.1	1.6	1.5	4.9	4.8	1	3.2	1	2.3	1
US Interest Rate (FFR, %)	2.50	1.75	0.25	0.25	4.00	1	4.50	-	3.50	=
US Interest Rate (UST10y, %)	2.7	1.9	8.0	1.8	4.0	1	4.0	\Rightarrow	3.0	-
Dollar Index - DXY	96	96	90	96	109	1	100	•	100	-
Commodity Prices - CRB	409	401	444	571	555	•	521	4	495	-

Source: Bloombnerg, Santander. Note: The arrows denote the direction of changes since our previous scenario publication (as of June 2, 2022)

Figure 2. Santander Macro Forecasts for Brazil - Summary

Macroeconomic Variables		Previous		Current
	2022E	1.2	Ŷ	1.9
GDP (%)	2023E	-0.6	-	-0.6
	2024E	0.5	\Rightarrow	0.5
	2022E	9.5	4	7.9
IPCA (%)	2023E	5.3	1	5.7
	2024E	3.0	\Rightarrow	3.0
	2022E	13.50	1	14.25
Selic Rate (% end of period)	2023E	10.50	4	12.00
	2024E	8.00	Ŧ	9.00
	2022E	5.15	4	5.30
FX Rate - USDBRL (end of period)	2023E	5.00	1	5.15
	2024E	5.10	Ŧ	5.20
	2022E	-1.4	\Rightarrow	-1.4
Current Account Balance (% of GDP)	2023E	-1.2	\Rightarrow	-1.2
	2024E	-2.0	4	-2.0
	2022E	0.4	4	-0.2
Primary Fiscal Balance (% of GDP)	2023E	-0.6	•	-1.2
	2024E	-0.7	•	-1.0
	2022E	79.0	P	79.9
Gross Public Debt (% of GDP)	2023E	83.1	Ŷ	84.6
	2024E	87.2	Ŷ	88.7

Source: Santander. Note: The arrows denote the direction of changes since our previous scenario publication (as of June 2, 2022)

1

GLOBAL ECONOMY

Figure 3. Fed Funds: Historical and Expected Path



Sources: Bloomberg, Santander.

GLOBAL ECONOMY Figure 4. CPI Trends in the

Figure 4. CPI Trends in the Largest Economies



Sources: Bloomberg, Santander.

COMMODITIES

Figure 5. Historical Path and Forecasts for CRB Index

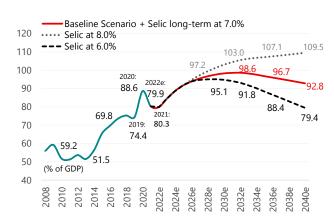
YE	2019	2020	2021	2022e	2023e
CRB Food	331	355	483	515 🖊	464 👢
CRB Energy	1647	1161	1521	1850→	1809
CRB Metal	749	887	1259	1229	1107
CRB	401	444	571	555 棏	521 👢

YE YoY	2019	2020	2021	2022e	2023e
CRB Food	1%	7%	36%	7%	-10%
CRB Energy	2%	-30%	31%	22%	-2%
CRB Metal	-11%	18%	42%	-2%	-10%
CRB	-3%	11%	29%	-3%	-6%

Sources: Bloomberg, Santander.

FISCAL POLICY

Figure 6. Gross Government Debt Outlook (% GDP)



Sources: Brazilian Central Bank, Santander.

BALANCE OF PAYMENTS

Figure 7. Current Account Balance (% of GDP)

% of GDP	2020	2021	2022e	2023e	2024e
Current account balance	-1.7	-1.9	-1.4	-1.2	-2.0
Trade balance	2.2	2.4	3.3	3.2	2.5
Exports	14.6	18.8	17.8	16.9	16.6
Imports	12.3	16.4	14.5	13.8	14.1
Services	-1.4	-1.1	-1.6	-1.5	-1.5
Tourism	-0.2	-0.2	-0.5	-0.5	-0.6
Eq. Rental	-0.8	-0.5	-0.5	-0.4	-0.4
Others	-0.5	-0.5	-0.6	-0.5	-0.5
Income	-2.6	-3.4	-3.3	-3.1	-3.1
Profits & Dividends	-1.2	-2.0	-2.3	-2.2	-2.3
Interest payments	-1.5	-1.4	-1.0	-0.9	-0.8
Transfers	0.2	0.2	0.1	0.2	0.2
Direct investment onshore	2.6	3.1	3.8	3.6	3.6
External funding (-ve=shortage / +ve=excess)	0.9	1.2	2.6	2.6	1.5

Sources: Brazilian Central Bank, Santander.

ECONOMIC ACTIVITY—CORE

Figure 8. GDP Growth (QoQ-sa, %)

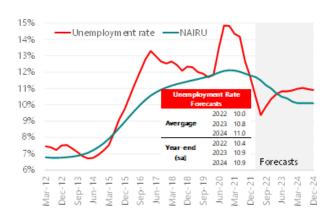


Sources: IBGE, Santander. Santander estimates for 2Q22 onwards.

4

ECONOMIC ACTIVITY—EMPLOYMENT

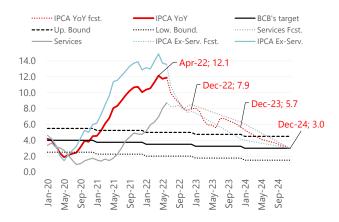
Figure 9. Unemployment Rate and the NAIRU (sa)



Sources: IBGE, Santander.

INFLATION

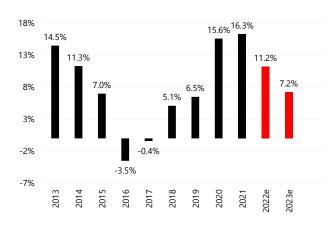
Figure 11. IPCA Inflation, Key Components (% YoY)



Sources: IBGE, Brazilian Central Bank, Santander

ECONOMIC ACTIVITY— CREDIT

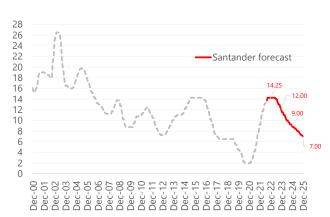
Figure 10. Growth in Outstanding Loans (%)



Sources: Brazilian Central Bank, Santander

MONETARY POLICY

Figure 12. Historical, Expected Selic Rate Path (% p.a.)



Sources: Brazilian Central Bank, Santander.

Note: Historical data in monthly averages; projections for year-end



FORECASTS: Santander & Consensus

Figure 13. Evolution of Santander and Consensus Forecasts for 2022 Since Our Last Scenario Revision

	2022E						
	Cor	nsensı	ıs	Sa	er		
	3-Jun-22		08-Jul-22	2-Jun-22		14-Jul-22	
IPCA Inflation (%)	8.9	•	7.7	9.5	•	7.9	
GDP Growth (%)	1.2	1	1.6	1.2	Ŷ	1.9	
Selic policy rate (%, year end)	13.25	•	13.75	13.50	•	14.25	
Exchange rate (USD/BRL, year end)	5.05	•	5.13	5.15	•	5.30	
Current Account (USD billion)	-10.0	•	-18.0	-25.7	\Rightarrow	-25.7	
Primary Budget Balance (% GDP)	0.1	-	0.1	0.4	•	-0.2	
Gross Govt. Debt (% GDP)	79.6	•	79.1	79.0	•	79.9	

Sources: Brazilian Central Bank, Santander. Note: Based on the BCB's Focus report.

Figure 14. Evolution of Santander and Consensus Forecasts for 2023 Since Our Last Scenario Revision

	2023E					
	Coi	nsensı	ıs	Santander		
	3-Jun-22		08-Jul-22	2-Jun-22		14-Jul-22
IPCA Inflation (%)	4.4	T	5.1	5.3	1	5.7
GDP Growth (%)	0.8	•	0.5	-0.6	\Rightarrow	-0.6
Selic policy rate (%, year end)	9.75	1	10.50	10.50	•	12.00
Exchange rate (USD/BRL, year end)	5.05	1	5.10	5.00	•	5.15
Current Account (USD billion)	-29.5	•	-32.3	-23.5	->	-23.5
Primary Budget Balance (% GDP)	-0.4	1	-0.2	-0.6	•	-1.2
Gross Govt. Debt (% GDP)	82.4	•	81.5	83.1	1	84.6

Sources: Brazilian Central Bank, Santander. Note: Based on the BCB's Focus report.



Figure 15. Evolution of Santander and Consensus Forecasts for 2024 Since Our Last Scenario Revision

	2024E						
	Соі	nsensı	ıs	Santander			
	3-Jun-22		08-Jul-22	2-Jun-22		14-Jul-22	
IPCA Inflation (%)	3.25	•	3.30	3.00	-	3.00	
GDP Growth (%)	2.0	•	1.8	0.5	-	0.5	
Selic policy rate (%, year end)	7.50	•	8.00	8.00	•	9.00	
Exchange rate (USD/BRL, year end)	5.04	•	5.06	5.10	1	5.20	
Current Account (USD billion)	-41.0	•	-40.0	-40.3	-	-40.3	
Primary Budget Balance (% GDP)	-0.2	1	0.0	-0.7	•	-1.0	
Gross Govt. Debt (% GDP)	83.7	•	83.6	87.2	•	88.7	

Sources: Brazilian Central Bank, Santander. Note: Based on the BCB's Focus report.



CONTACTS / IMPORTANT DISCLOSURES

Dun-il Manus Dansa	and to		
Brazil Macro Resea			
Ana Paula Vescovi*	Chief Economist	anavescovi@santander.com.br	5511-3553-8567
Mauricio Oreng*	Head of Macro Research	mauricio.oreng@santander.com.br	5511-3553-5404
Jankiel Santos*	Economist – External Sector	jankiel.santos@santander.com.br	5511-3012-5726
İtalo Franca*	Economist – Fiscal Policy Economist – Inflation	italo.franca@santander.com.br	5511-3553-5235
Daniel Karp Vasquez* Tomas Urani*	Economist – Inflation Economist – Global Economics	daniel.karp@santander.com.br tomas.urani@santander.com.br	5511-3553-9828 5511-3553-9520
Lucas Maynard*	Economist – Global Economics Economist – Economic Activity	lucas.maynard.da.silva@santander.com.br	5511-3553-9520
Felipe Kotinda*	Economist – Commodities	felipe.kotinda@santander.com.br	5511-3553-7493
Gabriel Couto*	Economist – Special Projects	gabriel.couto@santander.com.br	5511-3553-8487
Fabiana Moreira*	Economist – Credit	fabiana.de.oliveira@santander.com.br	5511-3553-6120
Gilmar Lima*	Economist – Modeling	gilmar.lima@santander.com.br	5511-3553-6327
Global Macro Resea		- J	
Maciej Reluga*	Head Macro, Rates & FX Strategy - CEE	maciej.reluga@santander.pl	48-22-534-1888
Rodrigo Park *	Economist – Argentina	rpark@santander.com.ar	54-11-4341-1272
Ana Paula Vescovi*	Economist – Brazil	anavescovi@santander.com.br	5511-3553-8567
Juan Pablo Cabrera*	Economist – Chile	jcabrera@santander.cl	562-2320-3778
Guillermo Aboumrad*	Economist – Mexico	gjaboumrad@santander.com.mx	5255-5257-8170
Piotr Bielski*	Economist – Poland	piotr.bielski@santander.pl	48-22-534-1888
Mike Moran	Head of Macro Research, US	mike.moran@santander.us	212-350-3500
Fixed Income Rese	arch		
Juan Arranz*	Chief Rates & FX Strategist - Argentina	jarranz@santanderrio.com.ar	5411-4341-1065
Mauricio Oreng*	Senior Economist/Strategist – Brazil	mauricio.oreng@santander.com.br	5511-3553-5404
Juan Pablo Cabrera*	Chief Rates & FX Strategist – Chile	jcabrera@santander.cl	562-2320-3778
Equity Research			
Miguel Machado*	Head Equity Research Americas	mmachado@santander.com.mx	5255 5269 2228
Alan Alanis*	Head, Mexico	aalanis@santander.com.mx	5552-5269-2103
Andres Soto	Head, Andean	asoto@santander.us	212-407-0976
Walter Chiarvesio*	Head, Argentina	wchiarvesio@santanderrio.com.ar	5411-4341-1564
Mariana Cahen Margulies*	Head, Brazil	mmargulies@santander.com.br	5511-3553-1684
Murilo Riccini*	Head, Chile	murilo.riccini@santander.cl	56 22336 3359
Electronic			

Bloomberg SIEQ <GO>
Reuters Pages SISEMA through SISEMZ

This report has been prepared by Santander Investment Securities Inc. ("SIS"; SIS is a subsidiary of Santander Holdings USA, Inc. which is wholly owned by Banco Santander, S.A. "Santander"), on behalf of itself and its affiliates (collectively, Grupo Santander) and is provided for information purposes only. This document must not be considered as an offer to sell or a solicitation of an offer to buy any relevant securities (i.e., securities mentioned herein or of the same issuer and/or options, warrants, or rights with respect to or interests in any such securities). Any decision by the recipient to buy or to sell should be based on publicly available information on the related security and, where appropriate, should take into account the content of the related prospectus filed with and available from the entity governing the related market and the company issuing the security. This report is issued in Spain by Santander Investment Bolsa, Sociedad de Valores, S.A. ("Santander Investment Bolsa"), and in the United Kingdom by Banco Santander, S.A., London Branch. Santander London is authorized by the Bank of Spain. This report is not being issued to private customers. SIS, Santander London and Santander Investment Bolsa are members of Grupo Santander.

ANALYST CERTIFICATION: The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed, that their recommendations reflect solely and exclusively their personal opinions, and that such opinions were prepared in an independent and autonomous manner, including as regards the institution to which they are linked, and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report, since their compensation and the compensation system applying to Grupo Santander and any of its affiliates is not pegged to the pricing of any of the securities issued by the companies evaluated in the report, or to the income arising from the businesses and financial transactions carried out by Grupo Santander and any of its affiliates: Ana Paula Vescovi*.

*Employed by a non-US affiliate of Santander Investment Securities Inc. and not registered/qualified as a research analyst under FINRA rules, and is not an associated person of the member firm, and, therefore, may not be subject to the FINRA Rule 2242 and Incorporated NYSE Rule 472 restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account.

The information contained herein has been compiled from sources believed to be reliable, but, although all reasonable care has been taken to ensure that the information contained herein is not untrue or misleading, we make no representation that it is accurate or complete and it should not be relied upon as such. All opinions and estimates included herein constitute our judgment as at the date of this report and are subject to change without notice.

Any U.S. recipient of this report (other than a registered broker-dealer or a bank acting in a broker-dealer capacity) that would like to effect any transaction in any security discussed herein should contact and place orders in the United States with SIS, which, without in any way limiting the foregoing, accepts responsibility (solely for purposes of and within the meaning of Rule 15a-6 under the U.S. Securities Exchange Act of 1934) for this report and its dissemination in the United States.

© 2022 by Santander Investment Securities Inc. All Rights Reserved.

