Emerging Insight

Costa Rica – Stronger exchange rate driven by Balassa-Samuelson effect

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GEM Fixed Income Strategy & Economics
Global

Alexander Müller
Andean(ex-Ven) Carib Economist
BofAS
alexander.muller@bofa.com

Pedro Diaz
Caribbean Economist
BofAS
pdiaz2@bofa.com

David Hauner, CFA >>
Global EM FI/FX Strategist
MLI (UK)
david.hauner@bofa.com

Claudio Irigoyen
Global Economist
BofAS
claudio.irigoyen@bofa.com

See Team Page for List of Analysts

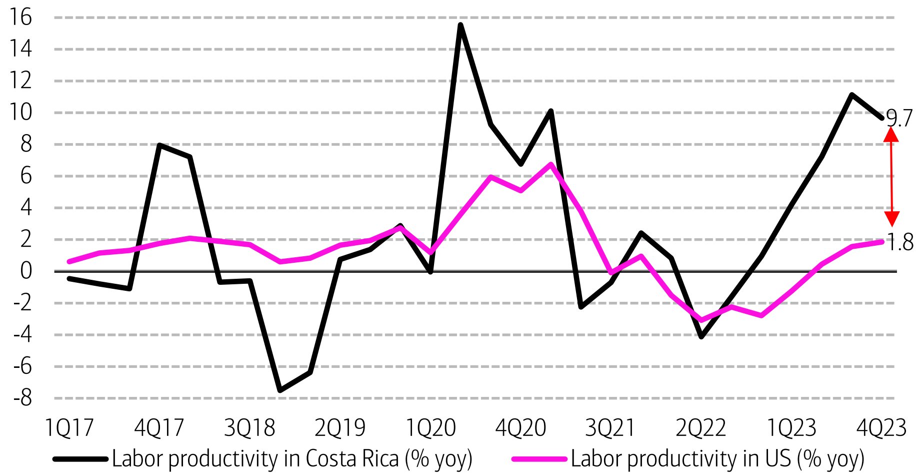
Key takeaways

- Costa Rica is showing signals of the "Balassa Samuelson effect" which is conducive to a stronger exchange rate.
- Labor productivity in Costa Rica is growing five times faster than in the US, and real wages are increasing robustly.
- We forecast the exchange rate at 505 Colones to the US Dollar by year-end 2024, stronger than median expectations (535).

By Alexander Müller and Pedro Diaz

Chart of the Day: Labor productivity (driven by tradable sectors), measured as output per worker, is growing more than five times faster in Costa Rica than in the US

This suggests the Balassa-Samuelson effect may be causing a permanently stronger Costa Rican Colon



Source: Central Bank (BCCR), Statistics Institute (INEC), US Bureau of Labor Statistics, BofA Global Research

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Costa Rica in Focus

All but a textbook case: The Balassa-Samuelson effect

Costa Rica is showing strong signals of the "Balassa Samuelson effect". According to this theory, if the productivity of tradable sectors in Costa Rica (such as Free Trade Zone manufacturing and services exports) grows faster than in trading partners, then these sectors should absorb labor and push up the wages of the economy, leading to higher prices in non-tradable services and a stronger exchange rate.

Refer to important disclosures on page 8 to 10.
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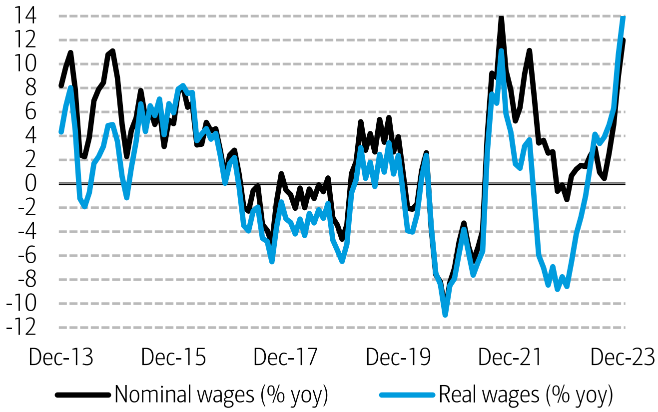
Labor productivity in Costa Rica growing 5x times faster than in US

Notably, labor productivity in Costa Rica is growing five times faster than in the US (9.7% yoy vs. 1.8%, see Chart of the Day). By labor productivity we mean output divided by the number of workers. The data for the US comes from the Bureau of Labor Statistics. Meanwhile, real wages are increasing at the highest pace in over twenty years (14% in December, see exhibit 1). Exhibit 2 shows the rise of wages is even sharper in the tertiary (services) sectors, consistent with Balassa-Samuelson. Services inflation is currently running at 1.1% yoy, above all the other aggregated price indices (CPI -1.9% yoy, core -0.3% yoy, goods -3..8% yoy), regulated -3.5% yoy) which are in deflation territory. Services inflation is likely to increase in coming months.

Exhibit 1: Growth of wages for the overall economy
Real wages growing at highest levels in over 20 years



Source: Statistics Institute (INEC), Central Bank (BCCR), BofA Global Research
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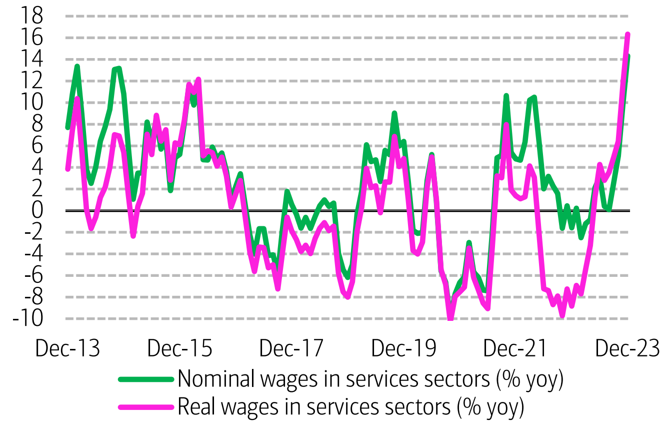
Exhibit 2: Growth of wages for tertiary (services) sectors
Real wages in services are increasing more than for the overall economy



Source: Statistics Institute (INEC), Central Bank (BCCR), BofA Global Research
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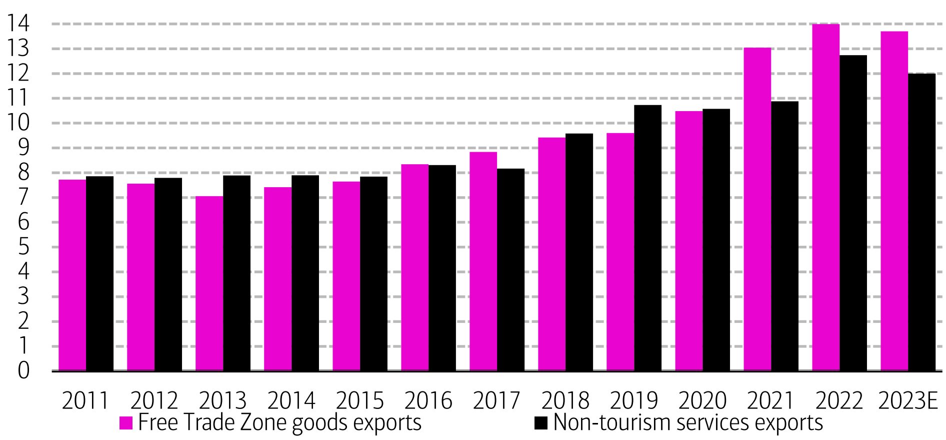
Export-led growth is the origin of Costa Rica's Balassa-Samuelson effect

Goods exports from free trade zones and services exports have increased a lot compared to the pre-pandemic year (more than 5pp of GDP, added up together). That change is structural and should get reinforced by the ongoing nearshoring of US investments which is flowing into the free trade zones. Arguably the only two countries in LatAm where US nearshoring is already tangible in the statistics are Costa Rica and Mexico.

Exhibit 3: Booming Free Trade Zone goods exports and non-tourism services exports (% of GDP)
The bulk of non-tourism services exports are professional services



Note: Data for 2023 are rolling four quarters ended in 3Q2023 (latest data point in the balance of payments).
Source: Central Bank (BCCR), BofA Global Research
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We forecast a stronger Costa Rican Colon by year-end; out of consensus

We forecast the nominal exchange at 505 Colones to the US dollar by the end of 2024, based on the idea that the Balassa Samuelson effect will continue playing out in Costa Rica, among other considerations (see our recent report, "Jaguar Economy and the Spillovers from Export-Led Growth"). This is an out-of-consensus view considering the central bank's survey of macroeconomic expectations says local experts expect the CRC to weaken to around 535 in the next twelve months (2.6% from January 2024).

Exhibit 4: Summary of macroeconomic forecasts for Costa Rica

We expect robust GDP growth and a declining public debt ratio

Variable	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023F	2024F	2025F
GDP growth (%)	3.5	3.7	4.2	4.2	2.6	2.4	-4.3	7.9	4.6	5.1	4.2	3.8
Nominal GDP (US$ bn)	52.0	56.4	58.8	60.5	62.4	64.5	62.4	64.9	69.4	86.6	96.7	102.5
CPI inflation (eop, %)	5.1	-0.8	0.8	2.6	2.0	1.5	0.9	3.3	7.9	-1.8	1.9	2.6
Nominal exchange rate (CRC/US$, eop, + depreciation)	539	537	553	569	607	571	613	642	593	523	505	518
Monetary policy rate (eop, %)	5.25	2.25	1.75	4.75	5.25	2.75	0.75	1.25	9.00	6.00	5.00	4.50
Central Government primary balance (% of GDP)	-3.2	-2.9	-2.4	-2.9	-2.3	-2.6	-3.4	-0.3	2.1	1.6	1.9	1.9
Central Government overall balance (% of GDP)	-5.5	-5.5	-5.1	-5.9	-5.7	-6.6	-8.0	-5.0	-2.5	-3.3	-2.8	-2.5
Central Government gross public debt (% of GDP)	37.6	39.9	44.1	47.1	51.9	56.4	66.9	67.6	63.0	61.1	59.0	57.2
Current account balance (% of GDP)	-4.8	-3.4	-2.1	-3.6	-3.0	-1.3	-1.2	-3.1	-3.7	-1.5	-1.7	-1.7
International reserves (US$ bn)	7.211	7.834	7.574	7.150	7.501	8.937	7.232	6.921	8.554	13.225	13.025	12.775

Source: BofA Global Research, Ministry of Finance (Hacienda), Central Bank (BCCR)

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Appendix: Empirical analysis

Statistical significance of productivity differential

As a relative price that clears markets, the exchange rate depends on relative supply and relative demand. For relative supply, our regression analysis includes the productivity differential of tradable sectors in Costa Rica versus the US. This is the Balassa-Samuelson effect. The coefficient sign should be negative, meaning that if productivity in Costa Rica grows faster than in the US, that is associated with a stronger Costa Rican Colon. The exchange rate is defined in such form that a higher value implies depreciation, and a lower value means appreciation. For relative demand, we use the terms of trade (ratio of export prices to import prices). The sign should be negative too.

Exhibit 5: Regression of Bilateral exchange rate

The productivity differential (Balassa-Samuelson effect) is statistically significant at 99% confidence in the first equation (in levels) and its coefficient has the correct sign (negative). The statistical significance disappears when the equation is cointegrated, but the sign of the coefficient remains appropriate.

Dependent variable	Log(real bilateral exchange rate USDCRC)	
Estimation method	Ordinary least squares	
Sample	104 monthly observations (February 2015 to September 2023)	
Regression	(1), equation in levels	(2), equation in 1st differences (cointegrated)
Explanatory variables	Individual coefficients are statistically significant at *90%, **95%, and ***99% confidence levels. Standard errors are in parenthesis under coefficients.	
Intercept	10.3332 *** (0.4218)	0.0005 (0.0012)
Log(Labor productivity in tradable sectors of Costa Rica / Labor productivity in tradable sectors of US)	-0.2062 *** (0.0755)	-0.0789 (0.0809)
Costa Rica monetary policy rate minus US Fed funds rate	-0.0079 ** (0.0032)	0.0045 (0.0033)
Log(Costa Rica's terms of trade)	-0.7883 *** (0.0899)	-0.7020 *** (0.2217)
Costa Rica's international investment position/GDP	-0.0118 *** (0.0009)	-0.0061 * (0.0032)
Residual of equation in levels (lagged one period)		-0.0958 ** (0.0467)
R-squared (%)	0.8077	0.1497
Adjusted R-squared (%)	0.7999	0.1058
Joint significance test (Prob, F-statistic)	0.0000 ***	0.0069 ***

Source: BofA Global Research, Central Bank (BCCR), Statistics Institute (INEC), US Bureau of Labor Statistics

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Additionally, we include the interest rate differential between the Central Bank of Costa Rica's monetary policy rate and the US Fed funds rate, and the net international investment position expressed as a pecent of GDP (to control for changes in net foreign wealth). A larger interest rate differential implies better returns for Colon-denominated assets and therefore should appreciate the exchange rate. By the same token, an increase in a country's net foreign wealth (measured by the NIIP) is associated with real exchange rate appreciation, as it is accompanied by higher domestic demand.

News and Views

Brazil: Mid-February IPCA increased 0.78% mom, below expectations

David Beker +55 11 2188 4371
Natacha Perez +55 11 2188 4127

IPCA-15 increased 0.78% mom in mid-February (from 0.31% mom in mid-January), according to the Brazilian Institute of Geography and Statistics (IBGE). The print was below our (0.80% mom) and market expectations (0.83% mom). Annual inflation accelerated to 4.49% yoy (from 4.47% yoy), but still within the upper bound of inflation target (3.00% + 1.5%). Compared to our forecast, main downward pressures came from Transportation (fuels) and Education (school tuition). Regarding underlying measures, core average accelerated at the margin (0.57% vs 0.33% in the previous month), while declined to 4.10% in 12 months (from 4.21%). Also, core industrials decelerated to 2.32% yoy (vs 2.40% yoy), while core services accelerated to 4.99% (vs 4.91%) due to personal services upward pressure (notably banking services). Diffusion ex-food increased to 64.4% (vs 62.9%), at high levels. Total diffusion index at 60.5%.

- **To follow:** Underlying inflation is showing early signals of deterioration, notably services. This is the BCB's largest concern at the moment. Thus, we continue to expect another 3 cuts of 50bp to the selic rate and a terminal rate of 9.50% (stable from august onwards). For inflation, we see it decelerating until reach 3.7% in 24YE and 3.5% in 25YE.

Brazil: IPCA forecasts revised down for 2024 and 2025

David Beker +55 11 2188 4371
Natacha Perez +55 11 2188 4127

According to the Brazilian Central Bank's (BCB) weekly survey (Focus), market analysts now see slightly lower inflation for 2024 and 2025, though forecasts remained unchanged for the rest of the horizon (2026–2027). The median forecast for IPCA is running at 3.80% (from 3.82%) for YE24 and 3.51% (from 3.52%) for YE25, while YE26 and YE27 remained at 3.50%. For GDP, forecasts went up to 1.75% (from 1.68%) for 2024 and remained at 2.00% for the rest of the years. Selic rate median expectation stood still at 9.00% for 2024, and 8.50% for 2025, 2026 and 2027. Regarding FX, exchange rate expectations stood still at R$4.93/US$1 for YE24, R$5.00/US$1 for YE25, R$5.04/US$1 for YE26 and R$5.10/US$1 for YE27.

- **To follow:** Consensus for IPCA is above our forecasts of 3.7% for 2024 and 3.5% for 2025. Regarding interest rates, consensus see a lower Selic for 2024 and 2025, as we expect the selic rate at 9.5% by the end of both years. GDP consensus is below our 2.2% growth expectation for 2024, and 2.5% in 2025. Regarding FX, market participants foresee a weaker currency than us by the end of 2024 (R$4.75/US$1), but similar level at 2025 year-end (R$5.00/US$1).

Mexico: Trade balance posted a deficit of -US$0.30bn sa in January

Carlos Capistran
+1 646 743 2921

The trade balance in January surprised to the downside with a -US$4.31bn deficit (E. deficit -US$2.39bn). Once adjusted for seasonality, the trade balance showed a deficit of -US$0.30bn, down from a surplus of US$1.66bn in December (revised to the downside from US$1.86bn). Exports fell -2.5% mom sa (vs 1.0% in December) mostly due to the decrease of non-oil manufacturing exports at -3.4% mom sa, where auto exports at -8.9% mom sa account for most of the fall. Imports, on the contrary, grew 1.5% mom sa (vs -2.5% in December). The increase was broad-based, but oil imports at 16.5% mom sa and imported goods imports at 0.9% mom sa lead it. Capital asset imports grew as well, at 3.3% mom sa. The oil balance posed a deficit of -US$0.62bn (vs -US$0.28bn in

December), while the non-oil balance showed a surplus of US$0.32bn (vs US$1.94bn in December).

- **To follow**: Weakness in the economy continues in January, at least in the external sector, another data that point to Banxico cutting in March.

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Research Analysts

Global Economics

Claudio Irigoyen
Global Economist
BofAS
+1 646 855 1734
claudio.irigoyen@bofa.com

Antonio Gabriel
Global Economist
BofAS
antonio.gabriel@bofa.com

Global EM FI/FX Strategy

David Hauner, CFA >>
Global EM FI/FX Strategist
MLI (UK)
+44 20 7996 1241
david.hauner@bofa.com

Asia FI/FX Strategy & Economics

Helen Qiao
China & Asia Economist
Merrill Lynch (Hong Kong)
+852 3508 3961
helen.qiao@bofa.com

Claudio Piron
Emerging Asia FI/FX Strategist
Merrill Lynch (Singapore)
+65 6678 0401
claudio.piron@bofa.com

Jojo Gonzales ^^
Research Analyst
Philippine Equity Partners
jojo.gonzales@pep.com.ph

Abhay Gupta
Emerging Asia FI/FX Strategist
Merrill Lynch (Singapore)
abhay.gupta2@bofa.com

Pipat Luengnaruemitchai
Emerging Asia Economist
Kiatnakin Phatra Securities
pipat.luen@kkpfg.com

Miao Ouyang
China & Asia Economist
Merrill Lynch (Hong Kong)
miao.ouyang@bofa.com

Xiaoqing Pi
China Economist
Merrill Lynch (Hong Kong)
xiaoqing.pi@bofa.com

Benson Wu
China & Korea Economist
Merrill Lynch (Hong Kong)
benson.wu@bofa.com

Ting Him Ho, CFA
Asia Economist
Merrill Lynch (Hong Kong)
tinghim.ho@bofa.com

Janice Xue
Emerging Asia FI/FX Strategist
Merrill Lynch (Hong Kong)
janice.xue@bofa.com

Chun Him Cheung, CFA
Emerging Asia FI/FX Strategist
Merrill Lynch (Hong Kong)
chunhim.cheung@bofa.com

Kai Wei Ang
Asia & ASEAN Economist
Merrill Lynch (Singapore)
kaiwei.ang@bofa.com

Anna Zhou
China & Asia Economist
Merrill Lynch (Hong Kong)
anna.zhou@bofa.com

EEMEA Cross Asset Strategy, Econ

Mai Doan
CEE Economist
MLI (UK)
+44 20 7995 9597
mai.doan@bofa.com

Zumrut Imamoglu
Turkey & Israel Economist
MLI (UK)
zumrut.imamoglu@bofa.com

Vladimir Osakovskiy >>
EM Sovereign FI/EQ strategist
Merrill Lynch (DIFC)
vladimir.osakovskiy@bofa.com

Jean-Michel Saliba
MENA Economist/Strategist
MLI (UK)
jean-michel.saliba@bofa.com

Merveille Paja
EEMEA Sovereign FI Strategist
MLI (UK)
merveille.paja@bofa.com

Mikhail Liluashvili
EEMEA Local Markets Strategist
MLI (UK)
mikhail.liluashvili@bofa.com

Tatonga Rusike
Sub-Saharan Africa Economist
MLI (UK)
tatonga.rusike@bofa.com

LatAm FI/FX Strategy & Economics

David Beker >>
Bz Econ/FI & LatAm EQ Strategy
Merrill Lynch (Brazil)
+55 11 2188 4371
david.beker@bofa.com

Jane Brauer
Sovereign Debt FI Strategist
BofAS
+1 646 855 9388
jane.brauer@bofa.com

Carlos Capistran
Canada and Mexico Economist
BofAS
+1 646 743 2921
carlos.capistran@bofa.com

Ezequiel Aguirre
LatAm FI/FX Strategist
BofAS
ezequiel.aguirre2@bofa.com

Pedro Diaz
Caribbean Economist
BofAS
pdiaz2@bofa.com

Christian Gonzalez Rojas
LatAm Local Markets Strategist
BofAS
christian.gonzalezrojas@bofa.com

Lucas Martin, CFA
Sovereign Debt FI Strategist
BofAS
lucas.martin@bofa.com

Alexander Müller
Andean(ex-Ven) Carib Economist
BofAS
alexander.muller@bofa.com

Natacha Perez
Brazil Economist
Merrill Lynch (Brazil)
natacha.perez@bofa.com

Sebastian Rondeau
Southern Cone & Venz Economist
BofAS
sebastian.rondeau@bofa.com

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