

Dealing with the risk of a global recession

1 Q 23 Outlook

January 18, 2023

1Q23 Outlook – Dealing with the risk of a global recession

In 2023, the risk of a global recession that has been warned for some months could materialize, given the negative effects of a restrictive monetary policy to alleviate inflation, which last year, reached a maximum of several decades in a plethora of countries, but that has started to show signs of giving way. This recessive scenario will also contribute to some adverse geopolitical factors –such as the war between Russia and Ukraine, which is close to one year old– and the withdrawal of fiscal stimuli. However, it is important to note that the recession will most likely affect each region in a different way. In this context, at Banorte we maintain our expectation of a US recession that could be moderate and short-lived.

Other aspects to consider throughout the year will be the consequences of the Coronavirus, both in public policies and the global supply chain. In this sense, it will be important to see how the world is adapting to a new reality in which the Coronavirus is beginning to be seen as an endemic health risk. This could imply an important inflection point in the normalization of production and distribution chains at a faster pace than in 2022. Likewise, the gradual abandonment of strong mobility restrictions that China had been implementing since the beginning of the pandemic could accelerate the regularization of international trade, with important effects both on economic activity and on the prices of raw materials.

It is important to point out that, in the first months of the year, a more promising rhetoric has been perceived in terms of monetary conditions around the world, considering that the tightening cycle of central banks is about to end. In the case of the Federal Reserve, another moderation in the pace of interest rate hikes is expected. This idea has helped the market to take a breather in the first weeks of the year after valuations were affected in 2022 by fears of a recession.

In Mexico, economic performance will be highly dependent on how the US navigates the possible recession, but with some positive factors coming from nearshoring. Regarding monetary policy, Banxico could conclude its tightening cycle this quarter with a terminal rate of 11%, a level that could be maintained until 3Q23. Subsequently, the central bank will analyze the convenience of reducing its reference rate in the last two meetings of the year to 10%. On the fiscal front, we expect continuity in the strategy to prioritize stability. Finally, there will be interest in the legislative agenda and in the discussions around trade disputes on some fronts with the United States and Canada.

Mexico's main macroeconomic and financial forecasts

End of period

	1Q23	2Q23	3Q23	4Q23	2020	2021	2022	2023
GDP (% y/y)	<u>2.8</u>	<u>1.8</u>	<u>0.7</u>	<u>0.7</u>	-8.2	4.8	<u>3.1</u>	<u>1.5</u>
Inflation (% y/y)	<u>6.9</u>	<u>6.0</u>	<u>4.9</u>	<u>4.8</u>	3.2	7.4	7.8	<u>4.8</u>
USD/MXN	<u>19.34</u>	<u>19.37</u>	<u>20.30</u>	<u>20.20</u>	19.91	20.53	19.50	<u>20.20</u>
Banxico's reference rate (%)	<u>11.00</u>	<u>11.00</u>	<u>11.00</u>	<u>10.00</u>	4.25	5.50	10.50	<u>10.00</u>
28-day TIE (%)	<u>11.28</u>	<u>11.25</u>	<u>11.23</u>	<u>10.20</u>	4.48	5.72	10.77	<u>10.20</u>
Mexbol (points)	--	--	--	<u>59,000</u>	44,067	53,272	48,464	<u>59,000</u>

Source: Banorte. Underlined data represents our forecasts



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Winners of the award for best economic forecasters for Mexico in 2021, granted by Refinitiv



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Mexico

The Mexican economy was stronger than expected in 2022, especially favorable in a challenging backdrop characterized by sizable global monetary tightening. Private consumption and services were solid, backed by good fundamentals –such as employment and remittances– and with the pandemic left behind. Construction surprised to the upside, mainly in the non-residential sector. Manufacturing kept growing, although China's zero-COVID policy distorted international trade. All in all, we revise higher our GDP forecast for 4Q22 to 0.5% q/q (+3.6% y/y). With this, the full-year estimate rises to 3.1%. Given this, and despite lingering fears of a global recession, we increase our 2023 call to 1.5% (previous: 1.0%). We highlight five drivers that support this view: (1) Higher inertial growth due to a better performance in 4Q22; (2) more favorable investment spending, driven by nearshoring –even with higher financing costs; (3) an additional impulse from government spending, both because of [more resources for social programs](#), as well as efforts in key infrastructure projects; (4) consolidation of regional trade and higher private investment after [favorable news on rules of origin for the auto sector](#); and (5) US resilience, with a more modest deceleration that would help exports, remittances and tourism.

On inflation, dynamics have also improved at the margin, [so we modified our year-end forecast to 4.8% y/y](#) due to less pressures at the non-core. Nevertheless, risks prevail for the core, adjusting it by only -10bps to 5.6%. Implications for monetary policy are important. In the short-term, concerns about the core –as well as additional Fed hikes– would push Banxico to increase the reference rate to 11.00% by the end of the current quarter, which would be the terminal rate of this cycle. Although the latter level remains unchanged relative to what we have been anticipating for some time, we have modestly recalibrated the path. Specifically, we now expect two 25bps hikes (in February and March) instead of one 50bps increase. Moreover, we now see a slightly faster easing cycle, estimating 100bps of accumulated rate cuts in 4Q23 (-50bps in both November and December) on lower inflation by that moment, with the reference rate ending this year at 10.00% (previous: 10.25%).

Lastly, relevant events include the start of Congress' Ordinary Period on February 1st, with investors focused on the discussions about secondary laws governing elections, the election of a new President of the National Electoral Institute and three more seats in its board. Lastly, we will closely monitor the resolution process of current controversies and labor conflicts within the USMCA framework.



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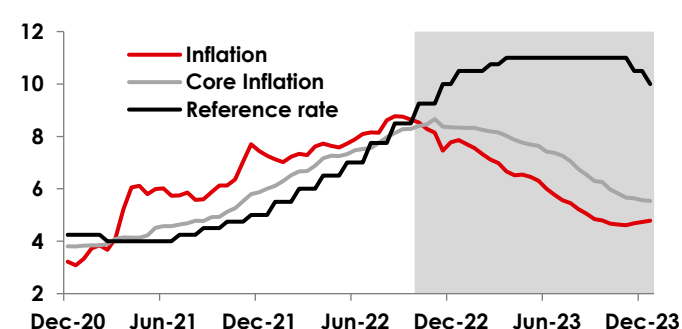
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GDP: Demand
% y/y nsa; % q/q sa

% y/y	1Q23	2Q23	3Q23	4Q23	2023
GDP	2.8	1.8	0.7	0.7	1.5
Private consumption	2.5	1.5	1.4	1.3	1.6
Investment	0.5	-0.5	-0.2	0.8	0.2
Government spending	0.7	0.9	-0.8	0.8	0.4
Exports	5.5	2.0	0.7	0.6	2.1
Imports	8.0	2.2	-2.2	0.6	1.9
% q/q					
GDP	0.3	0.1	-0.1	0.4	--

Source: Banorte

Inflation and reference rate
% y/y; %



Source: INEGI, Banxico, Banorte

Banking credit in Mexico

The relationship between economic growth and banking credit has been widely analyzed and a positive dynamic between them has been found, both theoretically and empirically. In this sense, economic agents' decisions are strongly influenced by the economic backdrop. In an expansion scenario, expectations, existing opportunities, and even higher confidence motivate loan origination for consumption and investment. Quantitatively, Vector Autoregressive (VAR) models have the capacity to synthesize the relationship between two or more variables and obtain forecasts through historical data of both the dependent variable and independent variables, which is convenient for obtaining timely information in the decision-making process.

With the goal of formalizing the relationship between economic activity and banking credit in Mexico, we use commercial banks' total loan portfolio to the non-financial private sector as the dependent variable, and Gross Domestic Product (GDP) as the independent variable. In addition, other variables such as industrial activity, remittances, and the interest rate (TIIE 28 as a proxy for the reference rate) were tested, but they did not show a significant statistical relationship. The series were used in annual frequency expressed in real terms for the period 2000-2021. An exploratory data analysis was carried out about the most adequate lags, with the first (GDP_{t-1}) exhibiting a high correlation with credit (0.8). We found that GDP_{t-1} is statistically significant and explains a large percentage of the variation in banking credit (94%). Finally, Granger's causality test shows that there is causality between the abovementioned variables. Based on strong statistical evidence of the relationship between banking credit and GDP, a VAR model of order 1 was used. A dummy was included in the model specification for 2020 to correct for pandemic distortions.

To corroborate the validity of the model, we use the methodology developed by Lütkepohl (2005)¹. The statistical significance of the terms was verified, as well as the main assumptions about the residuals. To assess its real predictive capacity, an out-of-sample backtest was performed (see table). The model predicted 1.4% credit growth in 2022, close to the 1.8% observed year-to-date until November. For 2023, the model predicts that credit will grow 4.4% in real terms, consistent with our view for the sector, which we believe will keep recovering with strong dynamics.



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Back-test and forecasts

% y/y in real terms

	Model	Actual
2019	5.5	4.6
2020	1.7	1.1
2021	-8.8	-8.6
2022	1.4	1.8*
2023	4.4	--

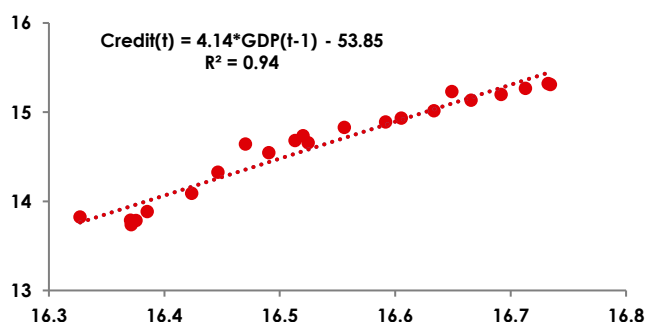
* Note: YTD Until November 2022

Source: Banorte with INEGI and Banxico data

¹Lütkepohl, H. (2005). *New introduction to multiple time series analysis*. Springer Science & Business Media.

GDP_(t-1) and Banking Credit_(t)

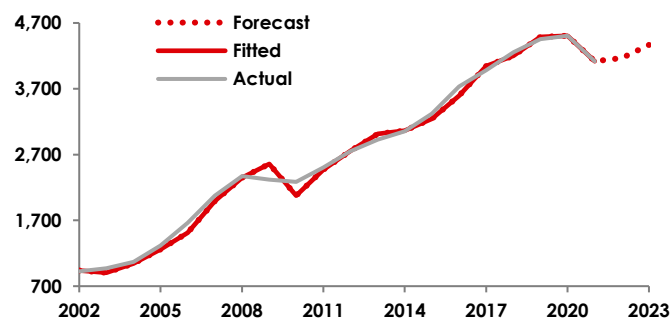
Logarithms



Source: INEGI, Banorte

Banking credit model's fitting

\$ billions



Source: INEGI, Banxico, Banorte

United States

A challenging and uncertain economic environment surrounds the beginning of the year. First, because of the effects that the Fed's aggressive hiking cycle that started in 2022 will have on inflation and growth. Second, due to the possible implications of a divided Congress after the midterm elections on President Biden's agenda ahead of the 2024 election. International dynamism will probably slow down (see Global section) and several regions will be on the verge of, or in an outright recession, which translates into risks for US external demand.

So far, the economy has stayed resilient despite higher interest rates. Based on data already available, we have revised our 4Q22 GDP estimate to 2.1% q/q saar (previous: 0.0%). With this, growth in FY2022 would have been 2.0%. However, we estimate a moderate contraction in the first half of 2023 and a slight rebound in the second half. One of the main reasons behind this dynamic would be the moderation in household consumption. Spending on goods is already posting a sharp slowdown –especially in durables, more sensitive to the increase in financing costs–, but services maintain a solid pace, although eventually with less strength due to a labor market that will gradually weaken. We also believe that the potential impact of the negative wealth effect due to accumulated losses in financial markets during 2022, as well as higher housing rents, is important (see first chart on the right). Regarding employment, despite our view of a moderation, it seems that we will still see some strength in the first quarter. We estimate a monthly average job creation of 150k- 200k (4Q22: 247k), noting that a plethora of companies have announced job cuts, especially in tech. We estimate a gradual rise in the unemployment rate, going from 3.5% in December 2022 to 3.8% by the end of the quarter.

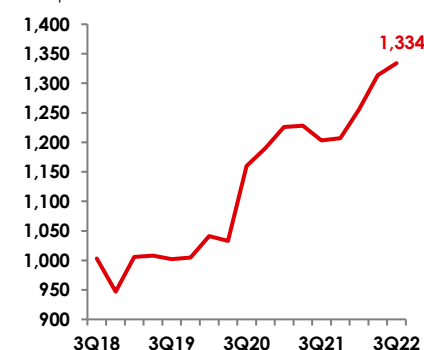
Inflation has surprised favorably and will maintain its downward trend, but we expect it to remain high at least in 1Q23, with an average of 4.9%. The main risk is centered around the performance of services, which are currently advancing at a 7.0% y/y rate (see second chart on the right). Specifically, the path of shelter costs will be key since they have accelerated again (7.5% y/y in December). In this backdrop, the market is pricing-in cumulative hikes in the *Fed funds* rate of 59bps towards the middle of the year, slightly less than our 75bps. We now expect: (1) A more moderate pace of 25bps per meeting in February, March, and May, with the range of the terminal rate at 5.00% to 5.25%; and (2) that there will be no cuts for the rest of 2023.



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Median asking rent in the US

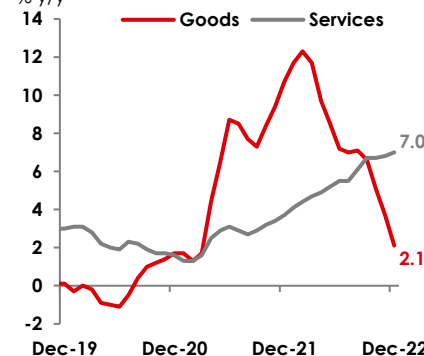
USD per month



Note: This indicator is based on the median asking price of vacant homes
Source: Banorte with data from Bloomberg

Core inflation: Goods and Services

% y/y



Source: Banorte with data from BLS

US: Banorte Estimates

	1Q23	2Q23	3Q23	4Q23	2022*	2023*
GDP (% q/q annualized rate)*	-0.4	-0.3	1.2	1.6	2.0	0.8
Private Consumption	0.3	0.5	2.4	3.5	2.9	1.7
Fixed Investment	-5.5	0.0	3.2	4.1	-0.2	-2.3
Exports	-2.8	-5.1	-1.6	-0.4	7.8	1.9
Imports	2.4	-0.8	0.4	3.2	8.5	-0.8
CPI (% y/y, average)	4.9	2.5	2.1	1.8	8.0	2.8
Unemployment rate (% eop)	3.8	4.0	4.2	4.2	3.5	4.2
Non-farm payrolls (thousands)	550	350	150	200	4,117	1,250

* All GDP estimates are % q/q saar, except for full-year 2022 and 2023, which are % y/y. eop: end of period.
Source: Banorte

Global

Over the past year, global growth forecasts for 2023 were revised downwards. In addition to the war, the outlook will be influenced by the cumulative effect of monetary tightening, still high inflation levels, less room for fiscal support, and the pandemic –including access to vaccines and the possible emergence of new variants. However, the biggest surprise during the last couple of months has been the abrupt removal of restrictions under the 'zero-COVID' strategy in China. According to the International Monetary Fund (IMF), global growth will be 2.7% this year from 3.2% in 2022. In this regard, the organization's Managing Director, Kristalina Georgieva, said a few days ago that China's reopening will be the most important driver of global growth this year.

Uncertainty about the course of said country remains very high. Among other factors, this is because they had stuck with their zero-tolerance strategy. Given its importance in international trade, the foregoing impacted global supply chains heavily (see first chart, right) and led to a sharp slowdown, growing only 3.0% in full-year 2022. After strong protests from the population and fears of an even bigger impact, Xi Jinping's administration decided late last year to open the economy abruptly. In this sense, the government has redirected its strategy to promote the economic recovery from the pandemic. Among the most notable policies, a package to help real estate developers was announced in mid-November. The recovery of the latter sector is likely a necessary condition for a broader rebound.

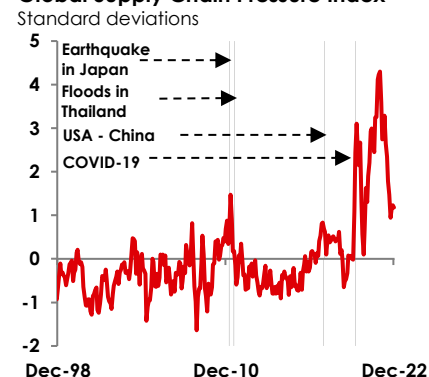
The most important question now seems to be how to balance the negative and positive effects of a quick reopening. So far, the signs point to consumers that will enter the new normal only after leaving behind the peak in infections (second chart to the right). Hopes are that higher immunity levels and the removal of restrictions will help boost confidence and consumption, supported by excess household savings. As a result of the above, upward adjustments have started to be seen on China's GDP growth estimates for 2023 (see table, right). Even with an improved outlook, concerns have been on the rise about renewed price pressures –especially for commodities– that would make the global fight against inflation more difficult.

Finally, the evolution of the relationship between China and the US will keep grabbing the headlines. Apart from the tariffs established by Trump, new provisions have been unveiled by the Biden administration to limit exports of some products for national security reasons, in addition to observing strong bipartisan support to boost domestic production of some goods, such as semiconductors, to reduce US dependency. This has opened opportunities for other economies to substitute production currently made by the Asian country, underpinning the growing interest in *nearshoring*, *friendshoring* and/or *reshoring* as strong and emerging trends in international trade.



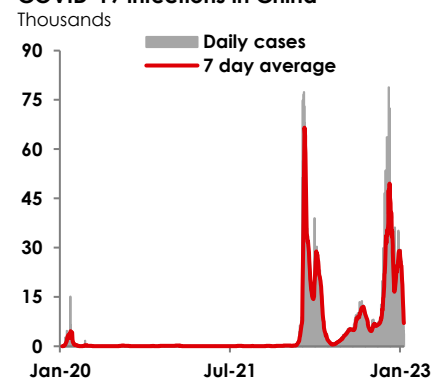
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Global Supply Chain Pressure Index*



* Note: The index comprises metrics such as the Baltic Dry Index, Harpex Index and BLS freight prices with the aim of providing a more comprehensive picture of potential disruptions affecting global supply chains. Values above zero indicate pressures greater than the historical average.
Source: Banorte with data from Bloomberg and the New York Fed

COVID-19 infections in China



Source: Banorte with data from Bloomberg

China GDP growth forecasts

	2023	2024
World Bank	4.3	5.0
IMF	4.4	4.5
OECD	4.6	4.1
Bloomberg	4.8	5.0

Source: Banorte with data from WB, IMF, OECD and Bloomberg

Fixed Income (Sovereign Debt)

Mbonos rallied at the end of 2022. Local mid- and long-term rates gained in 4Q22 amid signs of an inflation slowdown and stronger appetite for risk assets. Specifically, long-term Mbonos's yields returned slightly above 9.00% after reaching the 10.00% level in October. Meanwhile, yield curves showed a deeper inversion in both the US and Mexico, with the short-end anchored by central bank's cautious stance on monetary policy. The 2s10s spread ended at -102bps from -70bps in the previous quarter. In a similar fashion, the same metric for Treasuries closed at -55bps from -45bps.

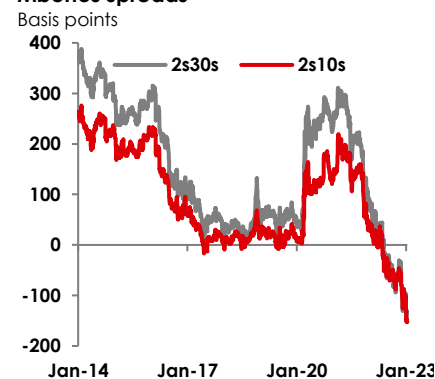
Better outlook for fixed-income as the end of restrictive cycles approaches. Given inflation's moderation, fixed-income securities suggest that the central banks of both Mexico and the US will end their restrictive cycles in 1Q23. The former would reach a terminal rate of 11.00% (+700bps), and the latter of 4.75%-5.00% (+475bps). We do not rule out further pressures on short-term rates, especially in the latter case, as pricing is still slightly below our call. However, once the end of the tightening cycle has been fully assimilated, we see an attractive opportunity in Mbono Dec'23 –trading at its highest since 2005 and undervalued according to its duration-adjusted yield– and in long/receiver positions in short-end TIE-IRS swaps. In relative terms, the belly (5 to 7 years) looks less attractive relative to the long-end after rallying 60bps rally so far this month. Although long-term Mbonos have also gained (~30bps), we are more optimistic about this section of the curve due to a potential rebound in foreigners' demand. According to Banxico's data, their holdings rose to MXN 1.39 trillion from 8-year lows of MXN 1.25 trillion at the beginning of 3Q22. Historically, these investors have preferred long-term tenors, but the sell-off after the pandemic shock and the war in Ukraine drove their holdings to lows, probably remaining below their benchmarks. Based on this, and in a scenario in which risk-on sentiment prevails, Mbonos Nov'38, Nov'42, Nov'47 and Jul'53 would likely benefit the most. However, we still do not open outright directional positions as spreads vs. Treasuries have plunged below 520bps. Notwithstanding, we reiterate our preference for nominal vs. real rates. Regarding the latter, we believe Udibonos are still not attractive enough despite the recent decline in most breakevens, especially those with 5- to 10-year maturities.



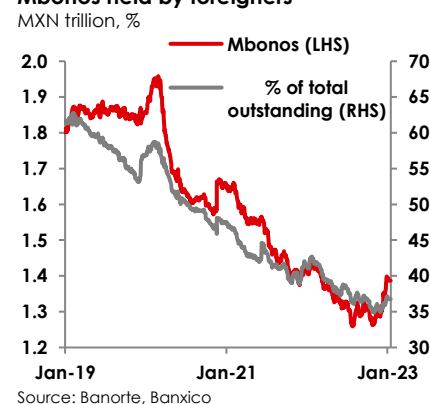
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Mbonos spreads



Mbonos held by foreigners



Banorte interest rate forecast %

Security	2019	2020	2021	2022	2022				2023 forecast				
					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Banxico's reference rate													
End of period	7.25	4.25	5.50	10.50	6.50	7.75	9.25	10.50	<u>11.00</u>	<u>11.00</u>	<u>11.00</u>	<u>10.00</u>	
Average	8.05	5.44	4.38	7.65	6.00	6.85	8.19	9.77	<u>10.75</u>	<u>11.00</u>	<u>11.00</u>	<u>10.50</u>	
28-day Cetes													
End of period	7.30	4.25	5.51	10.09	6.47	7.70	9.30	10.09	<u>11.10</u>	<u>11.08</u>	<u>11.06</u>	<u>10.04</u>	
Average	7.87	5.33	4.44	7.72	5.95	6.99	8.31	9.61	<u>10.83</u>	<u>11.08</u>	<u>11.06</u>	<u>10.54</u>	
28-day TIE													
End of period	7.56	4.48	5.72	10.77	6.72	8.03	9.54	10.77	<u>11.28</u>	<u>11.25</u>	<u>11.23</u>	<u>10.20</u>	
Average	8.31	5.69	4.63	7.93	6.36	7.09	8.50	10.05	<u>11.03</u>	<u>11.25</u>	<u>11.23</u>	<u>10.70</u>	
10-year Mexican bond (Mbono)													
End of period	6.85	5.54	7.57	9.08	8.24	9.02	9.65	9.08	<u>9.00</u>	<u>8.90</u>	<u>8.90</u>	<u>8.65</u>	
Average	7.61	6.25	6.81	8.80	7.96	8.89	8.95	9.37	<u>9.04</u>	<u>8.95</u>	<u>8.90</u>	<u>8.78</u>	
10-year US Treasury													
End of period	1.92	0.91	1.51	3.87	2.34	3.01	3.83	3.87	<u>3.80</u>	<u>3.70</u>	<u>3.50</u>	<u>3.30</u>	
Average	2.14	0.88	1.44	2.95	1.95	2.92	3.10	3.82	<u>3.84</u>	<u>3.75</u>	<u>3.60</u>	<u>3.40</u>	
10-year Spread Mex-US													
End of period	493	463	606	521	590	601	582	521	<u>520</u>	<u>520</u>	<u>540</u>	<u>535</u>	
Average	547	534	538	585	601	597	585	555	<u>521</u>	<u>520</u>	<u>530</u>	<u>538</u>	

Source: Bloomberg and PIP for observed data, Banorte for rate forecasts. Underlined numbers indicate forecasts

Foreign Exchange

Risk-on has boosted currencies against the dollar. Most of 2022, the USD acted as a safe haven, helping it reach its highest level in 20 years. However, more modest inflation and the Fed's slower pace of rate hikes at the end of 4Q22 became increasingly important headwinds. In this sense, the speculative position went from a net USD long of US\$13.29 billion at the end of 3Q22 to a net short of US\$8.75 billion by January 10th, 2023. Technically, the 50- and 200-day MA of the DXY and BBDXY had a negative exchange (technically known as a 'death cross'), reinforcing the signal of weakness ahead. With the end of the tightening cycle closer and despite high US interest rates, currency dynamics in 2023 could be much more influenced by the tradeoff between growth and inflation, as well as macroeconomic and financial risks. We believe markets will react to signals of a 'pivot' from central banks and the evolution of fiscal positions, especially towards 2H23 as markets anticipate the possibility of rate cuts.

Competition for resources amid lower liquidity. With the Fed soon reaching its terminal rate, investors will turn to other regions. The ECB stands out in developed markets, with a hiking cycle that will continue and an improved growth outlook despite of the war and prevailing recession risks. Based on our call, the spread between the ECB's deposit rate and the Fed funds rate will rise from -250bps today to -175bps by year-end. The market has already positioned for this, at least partially, shifting to a net EUR long since September. After rising 10.0% since the end of 3Q22, we do not rule out some profit-taking. For year-end, we estimate EUR/USD at 1.10.

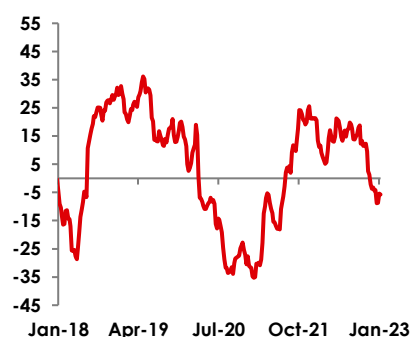
The 'super' peso will continue in 1H23. The widening of the spread between the reference rates of Banxico and the Fed, sound fiscal accounts, and positive surprises in external accounts help explain the peso's performance. We believe the MXN will remain strong in 1H23, while we adjust our year-end forecast to 20.20 per dollar (previously 21.20), with an annual trading range that could be between USD/MXN 18.50 and 21.00. In this backdrop, foreign inflows to sovereign bonds have rebounded by US\$4.40 billion since last October, reaching a market share of 36.8% of the total amount outstanding, which is still moderate. We believe strong appetite will continue amid: (1) Higher GDP growth than market consensus; (2) added benefits from nearshoring; (3) attractive volatility-adjusted carry and lower relative political risks (e.g. Brazil, Peru); and (4) more modest inflation, which implies a higher real interest rate. However, towards the second half of the year, we anticipate increasing currency pressures given our view that Banxico will begin its easing cycle before the Fed.



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Net positioning in USD futures

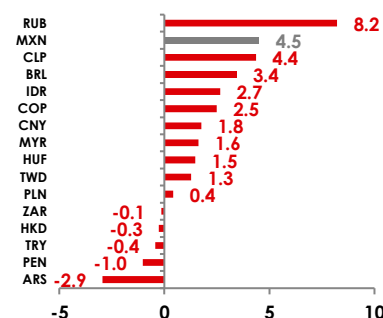
Billion dollars. Positive: net long in USD



Source: Banorte with data from CME

EM currency performance

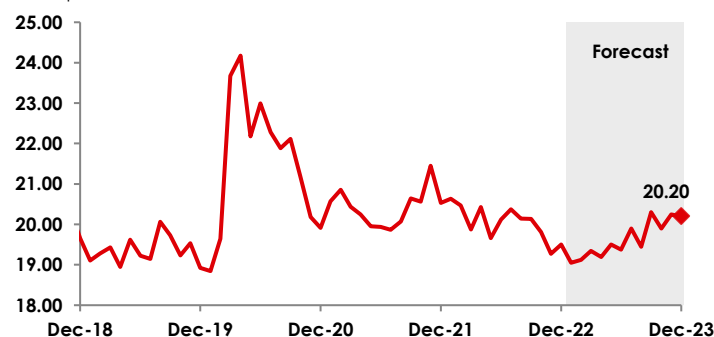
% YTD



Source: Banorte with data from Bloomberg as of January 17, 2023

USD/MXN

Pesos per dollar



Source: Bloomberg, Banorte

USD/MXN forecast

Pesos per dollar

Period	End of period	Previous forecast	Forecast	Period average
1Q22	19.87			
2Q22	20.12			
3Q22	20.14			
4Q22	19.50			
1Q23		<u>20.02</u>	<u>19.34</u>	<u>19.17</u>
2Q23		<u>20.19</u>	<u>19.37</u>	<u>19.36</u>
3Q23		<u>21.12</u>	<u>20.30</u>	<u>19.88</u>
4Q23		<u>21.20</u>	<u>20.20</u>	<u>20.12</u>

Source: Bloomberg, Banorte *Underlined numbers indicate forecasts

Stock market indices

Expectations improve, but volatility will continue in 1Q23. After a very complex and challenging 2022, the main stock indices ended last year with average losses of 12.6% in USD, exhibiting widespread declines by region. Nevertheless, the start of 2023 has reflected lower risk aversion, which has resulted, so far, in average stock market gains of 7.7% in USD. This has been supported by: (1) Bets of a less aggressive pace of interest rate hikes from central banks, particularly the Fed; (2) price pressures that have been moderating, especially in goods; (3) China's steadfast economic reopening; (4) USD losses; and (5) some dip-buying after observed declines. Despite of this, volatility will stay high during the first months of this year as a definition is still needed on the terminal level of interest rates –especially in the US, as it is the global risk-free rate– and the magnitude of the recessionary scenario, mainly in developed countries. However, China's reopening and a further normalization of supply chains will help define a better outlook, consequently benefitting corporate earnings.

Favor emerging markets, highlighting not only China, but also countries such as Mexico. In particular, the latter is supported by: (1) A stronger GDP growth outlook; (2) the beginning of Banxico's easing cycle this year; (3) a still-very-compelling valuation against peers; (4) a recovery in company's profitability given a less adverse cost environment; and (5) improving investor sentiment due to strategies that increasingly underpin the benefits of nearshoring. Although we are more optimistic and have revised upwards benchmark levels for both the S&P500 and Mexbol indices, we suggest increasing exposure to risky assets cautiously, taking advantage of bouts of profit-taking that may continue, while still favoring defensive stories in 1Q23.

S&P500 forecast. We are raising our 2023 forecast to 4,350pts vs. 4,000pts previously, considering a P/E fwd of 17.8x (above the current 17.4x). We are anticipating a re-rating due to the outlook of an earnings recovery in 2024 and the possibility of interest rate cuts by the Fed next year. We are assuming 8.8% y/y earnings growth in 2024 and 1.0% in 2023, still conservative relative to Bloomberg's estimates of 10.3% and 1.3%, respectively, given prevailing challenges.

Mexbol forecast. Not only have Mexico's growth prospects improved, but also investor sentiment. The recovery in profitability and our call of lower rates by the end of 2023 have led us to revise upwards our projection on companies' EBITDA, as well as expected valuations. Assuming a FV/EBITDA multiple of 6.7x –above its current level of 6.3x–, EBITDA growth of 4.8% (vs. 1.4% y/y previously) and net debt up by 0.7% y/y, our 2023 year-end Mexbol Index reference level stands at 59,000pts (vs. 48,800pts previously). Despite our belief that there is some upside for an additional re-rating, higher levels will be determined by the evolution of latent risks. On stock market exposure, we maintain our defensive profile with [Ac](#) and Femsas, we incorporate stories such as Lab and [Chdraui](#), and still foresee attractive potential in [Alpek](#) and [Asur](#).



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S&P500 forecast for 2023

Pts		
P/E Fwd	S&P500	Potential Return (%)
18.3x	4,480	12.3
18.1x	4,419	10.7
17.8x	4,358	9.2
17.6x	4,296	7.6
17.3x	4,235	6.1

Source: Bloomberg, Banorte

Mexbol forecast for 2023

Pts		
FV/EBITDA	Mexbol	Potential Return (%)
7.1x	63,774	20.0
6.9x	61,417	15.6
6.7x	59,060	11.2
6.5x	56,703	6.7
6.3x	54,346	2.3

Source: Bloomberg, Banorte

Commodities

Most commodities ended last year in positive territory. The GSCI and BCOM indices advanced 8.7% and 13.8% y/y, respectively. This was mainly driven by energy, which surged after the outbreak of the war between Russia and Ukraine, and even after prices moderated in 2H22. In addition, and to a lesser degree, from grains and livestock.

The outlook for crude-oil prices remains bullish. In the last quarter of 2022, crude-oil futures maintained the downward trend established since the beginning of the second half of the year, in turn driven by Fed tightening and subsequent fears of a global recession. This was compounded by a milder winter that led to more modest consumption of natural gas, mainly in the EU. Thus, the European benchmark plunged 52.7% q/q to 78.5 €/MWh. This also constrained crude-oil prices as an anticipated rebound in demand failed to materialize, even pushing the futures curve temporarily into contango at the shortest maturities (~3 months ahead). However, backwardation persists in the rest of the curve. For 2023, we expect crude-oil to remain supported by low inventories, [OPEC+'s commitment to keep the market balanced](#), and China's reopening. Although the intensity and success of the latter is highly uncertain, it will depend on COVID-19 management, stimulus measures, and other financial stability issues. With this, we anticipate Brent's trading range between 75-95 \$/bbl for 1Q23 and 70-100 \$/bbl for the rest of the year. Regarding natural gas, the EIA expects an average price below 5 \$/MMBtu for 2023 due to low domestic consumption, equivalent to a 25% y/y decline. Similarly, they expect PADD3 gasoline to average 3.3 \$/gal (-16.5% y/y) on higher refinery capacity and lower refining margins.

The annual balance for industrial metals was negative despite of gains in 4Q22. Aluminum and copper lost 15.3% and 13.9% y/y, in the same order. The main factor was the weakening of the global economy. For this sector, we expect a stronger recovery due to low inventories and the Chinese reopening. In this context, the ratio between gold and copper has decreased 3.4% since the end of November, just before China started easing COVID-19 restrictions. Regarding precious metals, gold almost completely diluted the negative effects of its carry disadvantage against the USD during the last months of 2022, advancing 9.8% q/q. However, with rates set to remain high, we believe its price will be limited to a range between 1,800 and 2,000 \$/t oz this year. Finally, we see a negative bias in grains because of lower production costs (e.g. fertilizers and transportation), albeit with possible pressures if China and India grow more vigorously, as well as the effects of climate change and the war in Ukraine.



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Gold/Copper price ratio*



Source: Banorte, Bloomberg

*A decline in this indicator is seen as a sign of a more expansionary view of the economy

Commodities price performance and market consensus forecasts

Commodity	Unit	Spot*	Performance (%)			Market consensus forecasts					
			2020	2021	2022	1Q23	2Q23	3Q23	4Q23	2023	2024
WTI	\$/bbl	81.15	-20.54	55.01	6.71	83.00	82.38	81.00	83.28	84.25	82.53
Brent	\$/bbl	86.66	-21.52	50.15	10.45	90.00	89.00	85.50	86.33	87.50	87.05
Natural Gas (H. Hub)	\$/MMBtu	3.68	15.99	46.91	19.97	5.20	4.62	4.30	4.90	4.87	4.41
Gasoline (RBOB)	\$/gal	2.57	-0.17	0.58	0.10	2.44	2.79	2.84	2.65	2.68	2.84
Gold	\$/t oz	1,914	25.12	-3.64	-0.28	1,750	1,768	1,800	1,835	1,830	1,800
Silver	\$/t oz	24.04	47.89	-11.72	2.77	21.17	21.40	22.75	22.50	21.91	21.52
Copper	\$/mt	9,105	25.79	25.17	-13.87	7,800	8,000	8,200	8,403	8,200	9,050
Corn	¢/bu	673	24.82	22.57	14.37	626	627	623	620	625	600
Wheat	¢/bu	737	14.63	20.34	2.76	736	740	747	767	730	725

Source: Bloomberg *Last closing price; RBOB (Reformulated gasoline blendstock for oxygenate blending)

Corporate Debt

Corporate debt market placements throughout 2022 added up to MXN 214.3 billion (+43.9% y/y) supported by a strong fourth quarter, with November's issued amount reaching MXN 52.7 billion, an historical high based on our records (2004). The preference for high quality bonds was clear. As of December, 82.8% of placements had the highest local-scale credit ratings ('AAA' / 'AA+'). Moreover, appetite for unsecured bonds was noteworthy, with 88.2% of the issued amount, while ABS and FF accounted for 11.8%. Floating-rate notes (TIIE-28 and O/N TIIE) represented 41.9%, followed by fixed rates at 36.1%, and real fixed with 22.0%. Given a complex economic outlook, we believe these trends will probably extend to the first months of 2023.



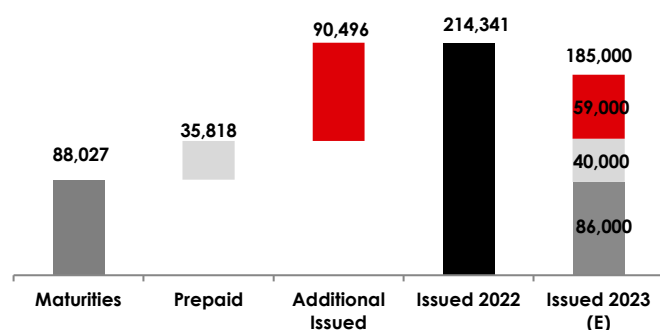
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We expect less dynamism in 1Q23 –with activity levels quite close to previous years– on the back of higher interest rates and the withdrawal of global liquidity. On top of this, we must consider that well-known issuers such as America Movil, CFE, Cetelem, Elektra, Femsa, Gruma and Orbia, among others, met their financing requirements for 2023 in advance. In our view, investors will keep favoring high quality, unsecured notes, focused on issuers and sectors considered as safe-havens (eg., Food, Beverages, Consumer Discretionary). In spreads, samples ordered by rating have stood at slightly lower levels than before the pandemic, affecting demand in the most recent auctions. This has driven premium rates at issue date downwards, as well as spreads on the rest of outstanding bonds (-6bps for 'AAA' and -17bps for 'AA+' y/y). We expect the trend from the last few months to continue, with more modest curve adjustments, but staying on the same path.

For 2023, we foresee a more cautious approach from bondholders, exacerbated by fears of a possible recession and complex inflationary dynamics still on the horizon. This could induce greater doubts about a deterioration in credit quality as it suggests a potential deceleration in companies' sales, as well as lower operating margins. Therefore, investors will closely watch corporate issuers' financial health, with stronger appetite for floating rates with relatively short maturities. Given this situation and considering this year's upcoming maturities, we expect an issued amount close to MXN 185 billion for 2023, a 13.7% y/y decline.

Issued amount 2022-2023 (E)

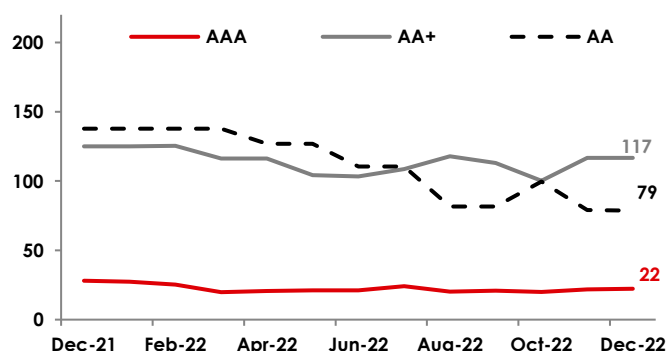
MXN Millions



Source: Banorte with information from BMV, BIVA and PiP

Spread Evolution – Unsecured TIIE-28

Bps



Source: Banorte, BMV, PiP, as of December 2022

Quantitative Analysis

Nowcasting Mexico's Economic Activity.

In previous Quarterly Outlooks, we presented a Nowcast model of IGAE's growth using high-frequency financial and transactional data, as well as incorporating a wide range of macroeconomic information as it becomes available.

As we have mentioned before, one of the most relevant economic indicators in Mexico is the IGAE (Global Economic Activity Indicator), given that it allows to monitor Mexico's growth dynamics. However, despite IGAE's good track record as a monthly GDP proxy –since it covers around 95% of Mexico's GDP in one month– it has a 56-day lag.

Our nowcast model has a high accuracy forecasting IGAE's growth just 13 days after the end of the month. Our model also gives us a fair estimate of IGAE's economic growth just one day after the end of each month. With this approach, we aim to read the real-time flow of information and evaluate its effects on current economic conditions.

The model is estimated using MIDAS regressions, which allows us to use high frequency data. To preserve parsimony, we also use factor analysis techniques to summarize the information from 300 financial and transactional series with a daily frequency.

Recent data shows that the Mexican economy has moderated its pace of growth. High interest rates, inflationary pressures, lower growth dynamics in real wages, and subdued external demand, have translated into slower growth dynamics in private consumption.

In this regard, our model forecasts:

- A 3.78 yoy nsa expansion in November's economic activity; and
- A 3.92% yoy nsa growth in December's output



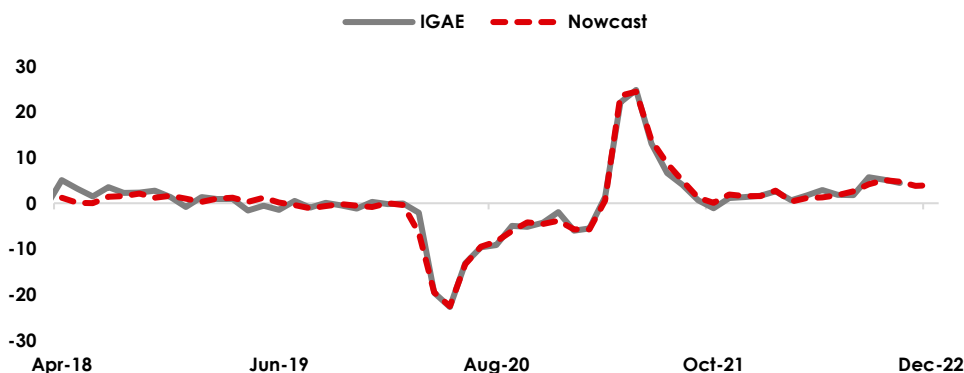
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IGAE vs Nowcast Banorte

% y/y



Source: Banorte

Quantitative Analysis

Fed's topics classification using NLP and ML techniques. We recently published a research note where we described a model using natural language processing (NLP) techniques that classify and interpret FOMC statements. In addition, it also provides a methodology to confirm whether the communication from the central bank is consistent with the monetary policy implemented afterwards (refer to: [Welcome to the Machine \(Learning\): An NLP framework for analyzing the Fed's monetary policy statements](#)).

The relationship between the Fed funds rate and the semantic classification obtained was also analyzed. In this regard, the most important finding in our research note was the degree of strength in the relationship between the Fed funds rate and the semantic classification obtained, given that the latter can explain 9 out of 10 interest rate movements. The model also defines the range of variation of the terminal reference rate.

Our model estimates a terminal rate between 4.25% and 5.25% (upper range). Despite a marginally more hawkish bias in last December's monetary policy announcement relative to the November *communiqué*, the model classified the statement with the central topic that anticipates the terminal rate between 4.25% and 5.25% (Topic 8; refer to bottom chart).

In addition, the model classified June, July, September, and November's monetary policy statements with the same topic. We also highlight that our model allowed us to anticipate, from the beginning of the restrictive cycle in the US (March 16, 2022), a terminal rate within the above-mentioned range.

We maintain our 5.25% forecast for the terminal rate (upper range). We consider that our forecast is consistent with the range of the terminal estimated from our model. Looking ahead, the above-mentioned NLP model will continue to allow us to identify any change in the Fed's terminal rate through the classification of monetary policy announcements.



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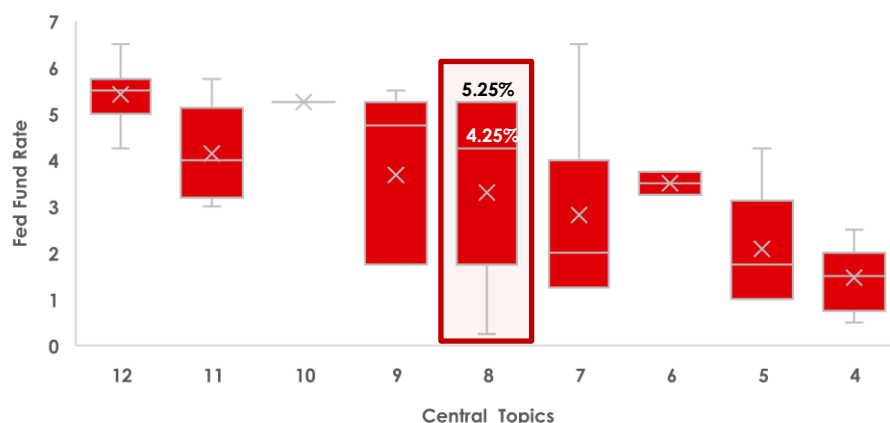


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Range of Fed Funds Rate by Topic
Central Topics



Source: Banorte and Federal Reserve Bank

Quantitative Analysis

Classifying the FOMC members' speeches. We recently published an essay where we developed analytical tools to classify and objectively interpret the tone of the speeches given by voting and alternate members of the FOMC. The classification of the speeches helps identify the hawkish or dovish tone of each member (refer to: [4Q Outlook](#), p.14).

Our NLP framework identifies each of the FOMC's dovish or hawkish bias. Our natural language processing model was trained with 981 FOMC speeches (January 2013 to September 2022) and these were classified in 25 central topics. In addition, we analyzed the semantics of the best terms that describe each preponderant topic and constructed an index that takes values between -1 and 1, where positive values correspond to hawkish speeches and negative values to dovish ones.

The model identifies a hawkish bias in the majority of FOMC's voting members. The Hawkish & Dovish Index was constructed using text analysis techniques and allows us to measure the coherence between FOMC members' speeches and their vote in monetary policy decisions. In the above-mentioned essay, the index showed that the speeches of most committee members had a hawkish bias during the first three quarters of 2022. In addition, the index confirms that all voting members of the FOMC have shown a more restrictive tone in the last quarter of 2022, while also suggests that the Fed's monetary tightening will continue in coming months (refer to the charts below).

Our ML model help us confirm that FOMC members' speeches have been coherent with their monetary policy decisions during recent FOMC meetings and that the current restrictive cycle will most likely continue in 2023. This supports our 5.25% forecast for the Fed's terminal rate (upper bound).



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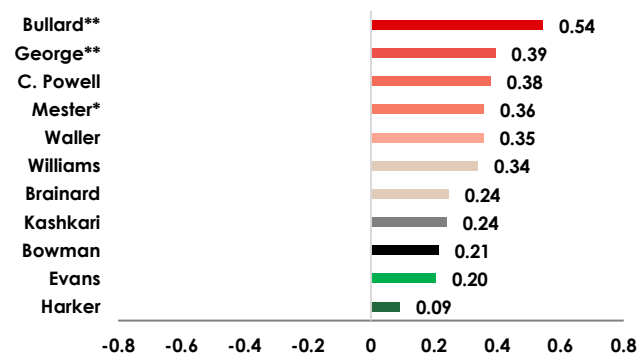
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Hawk & Dove Index

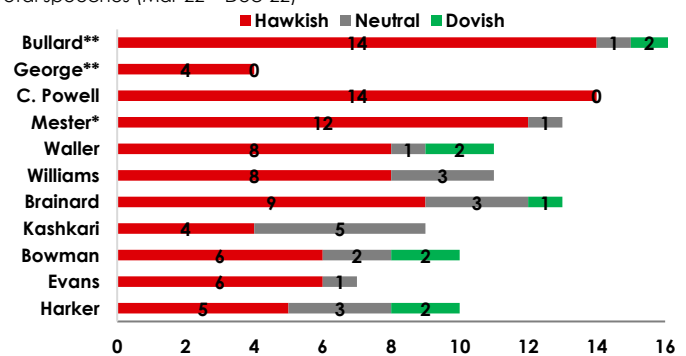
Speeches tone (Mar'22 - Dec'22)



Note: C. Powell's speeches are in his role as Fed Chairman
* FOMC alternate members in 2023
** FOMC alternate members in 2024

Speeches Classification

Total speeches (Mar'22 - Dec'22)



Source: Banorte, Federal Reserve

Quantitative Analysis

Nowcasting Model for Mexico's Private Consumption.

In 4Q22, the Mexican economy likely decelerated in sequential terms. With the slowdown in US industrial production (-0.1% & -0.2% m/m October and November, sa), the overnight rate reaching an all time high of 10.50%, and with commodity prices still on the rise, Mexico is already facing lower growth rates in non-oil exports, slower growth in remittances, high costs in some inputs, and deceleration in key sectors such as retail, construction, and agricultural goods.

Yet, there are still some drivers in services. For example, the absence of a new COVID-19 wave has contributed to higher mobility and a more significant demand for transportation supplies such as gasoline, diesel, or jet fuel, which increased by 5.6%, 42.2%, and 10.6% (y/y nsa), respectively, in October-November. In addition, celebrations such as the Day of the Dead or FIFA's World Cup, coupled with El Buen Fin (Mexico's Black Friday), have supported consumption through credit and higher transactions.

On the other hand, the labor market still looks rock solid. Formal employment grew by 4.3% y/y (nsa). In addition, after two years of a global shortage, semiconductor supply in the automotive industry has reactivated, supporting the production and sales of light vehicles, growing 8.2% and 19.7% (y/y nsa) during this period.

The above mentioned factors are taken into account in our Nowcasting model for private consumption, which estimates 4.7% and 4.1% growth for November and December (y/y nsa), in the same order. From this, it follows that private consumption in 4Q22 posted 0.5% growth (q/q sa). However, as shown in the bar chart on the right, this variable is downshifting to a much slower growth path.

For the model specification, two main types of variables were chosen. Those related to national consumption (formal and total employment, electrical consumption, gasoline, and fuel jet demand, debit and credit card transactions, hotel occupancy, interest rates, car sales, and total exports, among others) and also a set of variables related to consumption goods imports (US prices and labor data, non-oil imports, container imports volumes, and US industrial production). A set of SARIMAX models were trained with principal components as predictors. The Mean Absolute Error was used to evaluate and select the final model.

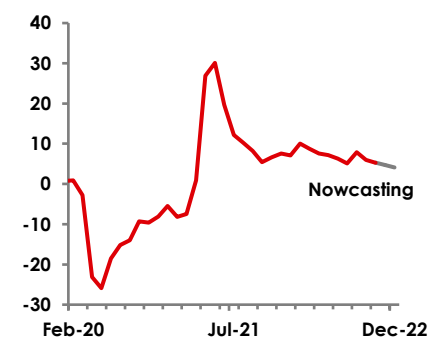


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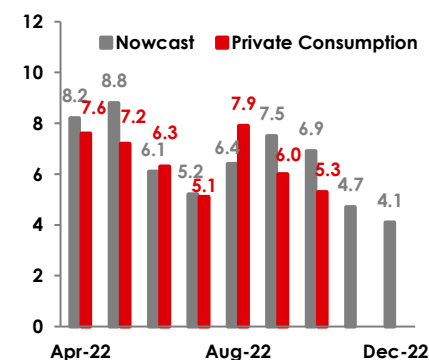
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Mexico's Private Consumption
%, y/y



Source: Banorte with data from INEGI

Nowcast model vs. official statistics
Rates %, y/y



Source: Banorte with data from INEGI

Recent research notes

Mexico

- USMCA – Resolution on auto sector rules of origin is positive for Mexico and Canada, January 12, 2023, [<pdf>](#)
- December CPI – Headline inflation closes the year at 7.82%, helped by the non-core, January 9, 2023, [<pdf>](#)
- Banxico minutes – Hikes will end in February, albeit still uncertain about the next steps, January 5, 2023, [<pdf>](#)
- Minimum Wage – 20% increase in 2023, December 1, 2022, [<pdf>](#)
- 3Q22 GDP – Dynamism prevails despite a deterioration in external conditions, November 25, 2022, [<pdf>](#)
- Fitch affirms Mexico 'BBB-' rating, maintaining a stable outlook, November 18, 2022, [<pdf>](#)
- The IMF renews Mexico's FCL in its annual revision, keeping the amount unchanged, November 17, 2022, [<pdf>](#)
- Complementary agreement to the Plan Against Inflation – Actions focused on food items, October 3, 2022 [<pdf>](#)
- Budget Proposal 2023 – A rosy scenario focused on social programs, September 9, 2022, [<pdf>](#)
- Moody's downgrades Mexico to 'Baa2', with the outlook from negative to stable, July 8, 2022, [<pdf>](#)
- S&P affirms Mexico 'BBB' rating, upgrading the outlook to stable, July 6, 2022, [<pdf>](#)

Global

- IMF and World Bank Annual Meetings – Higher need for cooperation given risks of a global recession, October 17, 2022, [<pdf>](#)
- World Economic Forum Davos 2021 – Strategies to address "The Great Reset", February 2, 2021, [<pdf>](#)

Quantitative Research

- Fed's monetary policy: Our NLP model forecast a 5.25% terminal rate, December 14, 2022, [<pdf>](#)

Fixed-Income, FX, and Commodities

- Fixed-Income and FX Weekly, January 16, 2023, [<pdf>](#)
- Pension Funds Outlook – November 2022, December 20, 2022, [<pdf>](#)
- MoF's Financing Plan 2023: The local market will stay as the main funding source, December 15, 2022, [<pdf>](#)
- 1Q23 Auction Calendar: Most issuance in most fixed-income securities, December 15, 2022, [<pdf>](#)
- New 10-year Mbono May'33 syndicated auction results, December 7, 2022, [<pdf>](#)
- OPEC+: Keeps crude-oil policy unchanged with a supply cut of 2 Mbb/d, December 5, 2022, [<pdf>](#)
- MXN is the third most traded currency in EM, November 4, 2022, [<pdf>](#)
- Closing Trade Idea: Pay TIE-IRS (26x1), receive 2-year SOFR, October 28, 2022, [<pdf>](#)
- Liability Management Transaction, October 7, 2022, [<pdf>](#)
- 3- and 6-year Bondes G syndicated auction results, July 20, 2022, [<pdf>](#)
- New 30-year Mbono Jul'53 syndicated auction results, June 29, 2022, [<pdf>](#)
- Profit taking on 2-year TIE-IRS payer, March 4, 2022, [<pdf>](#)
- New levels to protect profits in our trade idea of paying 2-year TIE-IRS, February 16, 2022, [<pdf>](#)
- MoF - Refinancing operation in the euro market, February 8, 2022, [<pdf>](#)
- The MoF issued USD bonds and refinanced its external debt, January 5, 2022, [<pdf>](#)
- Mexico announces global USD bond offering and public offering, January 4, 2022, [<pdf>](#)
- Collective release of crude oil reserves, November 23, 2021, [<pdf>](#)
- New Development Bonds indexed to the TIE funding, Bondes F, August 18, 2021, [<pdf>](#)

Equities

- *Flash GAP: 2023 guidance reaffirms sustained growth, in line with our estimates, January 17, 2023, [<pdf>](#)*
- *Flash CHEDRAUI: Better-than-expected 2023 guidance, January 16, 2023, [<pdf>](#)*
- *AIRPORTS: Asur achieves the largest passenger rise in 2022, January 6, 2023, [<pdf>](#)*
- *Flash VOLAR: Closes 2022 with positive trend in traffic and lower sequential fuel costs, January 5, 2023, [<pdf>](#)*
- *Flash CEMEX: Cemex Day with no surprises, November 17, 2022, [<pdf>](#)*
- *Flash OMA: Calls for a Shareholder's meeting to continue with Vinci's share purchase process, November 8, 2022, [<pdf>](#)*
- *Flash Orbia: Partners with Solvay to supply critical materials in North America's battery market, November 7, 2022, [<pdf>](#)*
- *Flash GMEXICO: Agreement reached to acquire Planigrupo, September 5, 2022, [<pdf>](#)*
- *EQUITY STRATEGY: GENTERA * to return to the Mexbol sample, September 5, 2022, [<pdf>](#)*
- *Flash GCC: Odessa, Texas plant expansion due to favorable market Dynamic, August 3, 2022, [<pdf>](#)*
- *Flash OMA: Fintech agrees to sell Oma shares to Vinci, August 1, 2022, [<pdf>](#)*
- *Flash ALPEK: Corpus Christi Polymers resumes plant construction in August 2022, July 18, 2022, [<pdf>](#)*
- *Flash ALFA: Alfa calls a Shareholders' Meeting to spin-off Axtel, June 27, 2022, [<pdf>](#)*
- *Flash Gentera: 2022 Guidance to the upside, June 9, 2022, [<pdf>](#)*
- *Flash: 'Orbia Day', value creation and a vertically growth strategy, May 18, 2022, [<pdf>](#)*

Corporate Debt

- *Corporate Bond Market Review: DECEMBER 2022, January 12, 2023, [<pdf>](#)*
- *PEMEX – Growth, but pressures on profitability, October 28, 2022, [<pdf>](#)*
- *MoF announced strategy to support PEMEX, December 6, 2021, [<pdf>](#)*
- *Moody's downgrades PEMEX's ratings; outlook remains negative, July 28, 2021, [<pdf>](#)*
- *PEMEX received an additional fiscal credit of MXN 73.3 billion, February 22, 2020, [<pdf>](#)*
- *Effects of the pandemic in 2020, December 17, 2020, [<pdf>](#)*
- *Credit Ratings Tutorial, December 17, 2020, [<pdf>](#)*
- *Pemex's assets exchange for Federal Government Development Bonds, December 15, 2020, [<pdf>](#)*

Note: All our publications are available in the [following link](#).

Recent trade ideas

Trade idea	P/L	Initial date	End date
Pay TIE-IRS (26x1), receive 2-year SOFR	L	18-Aug-22	28-Oct-22
Pay 2-year TIE-IRS (26x1)	P	4-Feb-22	4-Mar-22
Tactical longs in Mbono Mar'26	P	14-May-21	7-Jun-21
Receive 6-month TIE-IRS (6x1)	P	17-Dec-20	3-Mar-21
Long positions in Udibono Nov'23	L	11-Feb-21	26-Feb-21
Long positions in Mbono May'29 & Nov'38	P	7-Sep-20	18-Sep-20
Long positions in Udibono Dec'25	P	23-Jul-20	10-Aug-20
Long positions in Udibono Nov'35	P	22-May-20	12-Jun-20
Long positions in Mbono May'29	P	5-May-20	22-May-20
Tactical longs in 1- & 2-year TIE-28 IRS	P	20-Mar-20	24-Apr-20
Long positions in Udibono Nov'28	P	31-Jan-20	12-Feb-20
Long positions in Udibono Jun'22	P	9-Jan-20	22-Jan-20
Long positions in Mbono Nov'47	L	25-Oct-19	20-Nov-19
Long positions in Mbonos Nov'36 & Nov'42	P	16-Aug-19	24-Sep-19
Long positions in the short-end of Mbonos curve	P	19-Jul-19	2-Aug-19
Long positions in Mbonos Nov'42	L	5-Jul-19	12-Jul-19
Long positions in Mbonos Nov'36 & Nov'38	P	10-Jun-19	14-Jun-19
Long positions in Mbonos Jun'22 & Dec'23	P	9-Jan-19	12-Feb-19
Long floating-rate Bondes D	P	31-Oct-18	3-Jan-19
Long CPI-linked Udibono Jun'22	L	7-Aug-18	31-Oct-18
Long floating-rate Bondes D	P	30-Apr-18	3-Aug-18
Long 20- to 30-year Mbonos	P	25-Jun-18	9-Jul-18
Short Mbonos	P	11-Jun-18	25-Jun-18
Long CPI-linked Udibono Jun'19	P	7-May-18	14-May-18
Long 7- to 10-year Mbonos	L	26-Mar-18	23-Apr-18
Long CPI-linked Udibono Jun'19	P	20-Mar-18	26-Mar-18
Long 5- to 10-year Mbonos	P	5-Mar-18	20-Mar-18
Long floating-rate Bondes D	P	15-Jan-18	12-Mar-18
Long 10-year UMS Nov'28 (USD)	L	15-Jan-18	2-Feb-18

P = Profit, L = Loss

Track of directional fixed-income trade recommendations

Trade idea	Entry	Target	Stop-loss	Closed	P/L	Initial date	End date
Long Udibono Dec'20	3.05%	2.90%	3.15%	3.15%	L	9-Aug-17	6-Oct-17
5y 10y TIE-IRS steepener	28bps	43bps	18bps	31bps	P ²	15-Feb-17	15-Mar-17
5y 10y TIE-IRS steepener	35bps	50bps	25bps	47bps	P	5-Oct-16	19-Oct-16
Long Mbono Jun'21	5.60%	5.35%	5.80%	5.43%	P	13-Jul-16	16-Aug-16
Long Udibono Jun'19	1.95%	1.65%	2.10%	2.10%	L	13-Jul-16	16-Aug-16
Receive 1-year TIE-IRS (13x1)	3.92%	3.67%	4.10%	3.87% ¹	P	12-Nov-15	8-Feb-16
Long spread 10-year TIE-IRS vs US Libor	436bps	410bps	456bps	410bps	P	30-Sep-15	23-Oct-15
Receive 9-month TIE-IRS (9x1)	3.85%	3.65%	4.00%	3.65%	P	3-Sep-15	18-Sep-15
Spread TIE 2/ 10 yrs (flattening)	230bps	200bps	250bps	200bps	P	26-Jun-15	29-Jul-15
Long Mbono Dec'24	6.12%	5.89%	6.27%	5.83%	P	13-Mar-15	19-Mar-15
Relative-value trade, long 10-year Mbono (Dec'24) / flattening of the curve					P	22-Dec-14	6-Feb-15
Pay 3-month TIE-IRS (3x1)	3.24%	3.32%	3.20%	3.30%	P	29-Jan-15	29-Jan-15
Pay 9-month TIE-IRS (9x1)	3.28%	3.38%	3.20%	3.38%	P	29-Jan-15	29-Jan-15
Pay 5-year TIE-IRS (65x1)	5.25%	5.39%	5.14%	5.14%	L	4-Nov-14	14-Nov-14
Long Udibono Dec'17	0.66%	0.45%	0.82%	0.82%	L	4-Jul-14	26-Sep-14
Relative-value trade, long Mbonos 5-to-10-year					P	5-May-14	26-Sep-14
Receive 2-year TIE-IRS (26x1)	3.75%	3.55%	3.90%	3.90%	L	11-Jul-14	10-Sep-14
Receive 1-year TIE-IRS (13x1)	4.04%	3.85%	4.20%	3.85%	P	6-Feb-14	10-Apr-14
Long Udibono Jun'16	0.70%	0.45%	0.90%	0.90%	L	6-Jan-14	4-Feb-14
Long Mbono Jun'16	4.47%	3.90%	4.67%	4.06%	P	7-Jun-13	21-Nov-13
Receive 6-month TIE-IRS (6x1)	3.83%	3.65%	4.00%	3.81%	P	10-Oct-13	25-Oct-13
Receive 1-year TIE-IRS (13x1)	3.85%	3.55%	4.00%	3.85%	--	10-Oct-13	25-Oct-13
Long Udibono Dec'17	1.13%	0.95%	1.28%	1.35%	L	9-Aug-13	10-Sep-13
Receive 9-month TIE-IRS (9x1)	4.50%	4.32%	4.65%	4.31%	P	21-Jun-13	12-Jul-13
Spread TIE-Libor (10-year)	390bps	365bps	410bps	412bps	L	7-Jun-13	11-Jun-13
Receive 1-year TIE-IRS (13x1)	4.00%	4.00%	4.30%	4.30%	L	19-Apr-13	31-May-13
Long Udibono Jun'22	1.40%	1.20%	1.55%	0.97%	P	15-Mar-13	3-May-13
Receive 1-year TIE-IRS (13x1)	4.60%	4.45%	4.70%	4.45%	P	1-Feb-13	7-Mar-13
Long Mbono Nov'42	6.22%	5.97%	6.40%	5.89%	P	1-Feb-13	7-Mar-13
Long Udibono Dec'13	1.21%	0.80%	1.40%	1.40%	L	1-Feb-13	15-Apr-13
Receive 1-year TIE-IRS (13x1)	4.87%	4.70%	5.00%	4.69%	P	11-Jan-13	24-Jan-13
Receive TIE Pay Mbono (10-year)	46bps	35bps	54bps	54bps	L	19-Oct-12	8-Mar-13
Spread TIE-Libor (10-year)	410bps	385bps	430bps	342bps	P	21-Sep-13	8-Mar-13
Long Udibono Dec'12	+0.97%	-1.50%	+1.20%	-6.50%	P	1-May-12	27-Nov-12
Long Udibono Dec'13	+1.06%	0.90%	+1.35%	0.90%	P	1-May-12	14-Dec-12

¹ Carry +roll-down gains of 17bps

² Closed below target and before the proposed horizon date due to changes in market conditions that have differed from our expectations.

Short-term tactical trades

Trade Idea	P/L*	Entry	Exit	Initial Date	End date
Long USD/MXN	P	19.30	19.50	11-Oct-19	20-Nov-19
Long USD/MXN	P	18.89	19.35	20-Mar-19	27-Mar-19
Long USD/MXN	P	18.99	19.28	15-Jan-19	11-Feb-19
Long USD/MXN	P	18.70	19.63	16-Oct-18	3-Jan-19
Short USD/MXN	P	20.00	18.85	2-Jul-18	24-Jul-18
Long USD/MXN	P	19.55	19.95	28-May-18	4-Jun-18
Long USD/MXN	P	18.70	19.40	23-Apr-18	14-May-18
Long USD/MXN	P	18.56	19.20	27-Nov-17	13-Dec-17
Long USD/MXN	L	19.20	18.91	6-Nov-17	17-Nov-17
Long USD/MXN	P	18.58	19.00	9-Oct-17	23-Oct-17
Short USD/MXN	L	17.80	18.24	4-Sep-17	25-Sep-17
Long USD/MXN	P	14.40	14.85	15-Dec-14	5-Jan-15
Long USD/MXN	P	13.62	14.11	21-Nov-14	3-Dec-14
Short EUR/MXN	P	17.20	17.03	27-Aug-14	4-Sep-14
Short USD/MXN	L	12.70	13.00	26-Jul-13	21-Aug-13

Source: Banorte

Track of the directional FX trade recommendations*

Trade Idea	Entry	Target	Stop-loss	Closed	P/L*	Initial Date	End date
Long USD/MXN	18.57	19.50	18.20	18.20	L	19-Jan-18	2-Apr-18
Long USD/MXN	14.98	15.50	14.60	15.43	P	20-Mar-15	20-Apr-15
Short EUR/MXN	17.70	n.a.	n.a.	16.90	P	5-Jan-15	15-Jan-15
Short USD/MXN	13.21	n.a.	n.a.	13.64	L	10-Sep-14	26-Sep-14
USD/MXN call spread**	12.99	13.30	n.a.	13.02	L	6-May-14	13-Jun-14
Directional short USD/MXN	13.00	12.70	13.25	13.28	L	31-Oct-13	8-Nov-13
Limit short USD/MXN	13.25	12.90	13.46	--	--	11-Oct-13	17-Oct-13
Short EUR/MXN	16.05	15.70	16.40	15.69	P	29-Apr-13	9-May-13
Long USD/MXN	12.60	12.90	12.40	12.40	L	11-Mar-13	13-Mar-13
Long USD/MXN	12.60	12.90	12.40	12.85	P	11-Jan-13	27-Feb-13
Tactical limit short USD/MXN	12.90	12.75	13.05	--	--	10-Dec-12	17-Dec-12
Short EUR/MXN	16.64	16.10	16.90	16.94	L	03-Oct-12	30-Oct-12

* Total return does not consider carry gain/losses

** Low strike (long call) at 13.00, high strike (short call) at 13.30 for a premium of 0.718% of notional amount

Analyst Certification

We, Alejandro Padilla Santana, Juan Carlos Alderete Macal, Alejandro Cervantes Llamas, Manuel Jiménez Zaldívar, Marissa Garza Ostos, Katia Celina Goya Ostos, Francisco José Flores Serrano, José Luis García Casales, Víctor Hugo Cortes Castro, José Itzamna Espitia Hernández, Carlos Hernández García, Leslie Thalía Orozco Vélez, Hugo Armando Gómez Solís, Yazmín Selene Pérez Enríquez, Cintia Gisela Nava Roa, Miguel Alejandro Calvo Domínguez, Daniela Olea Suárez, José De Jesús Ramírez Martínez, Gerardo Daniel Valle Trujillo, Luis Leopoldo López Salinas, Isaias Rodríguez Sobrino, Paola Soto Leal and Daniel Sebastián Sosa Aguilar, certify that the points of view expressed in this document are a faithful reflection of our personal opinion on the company (s) or firm (s) within this report, along with its affiliates and/or securities issued. Moreover, we also state that we have not received, nor receive, or will receive compensation other than that of Grupo Financiero Banorte S.A.B. of C.V for the provision of our services.

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