S&P Dow Jones Indices

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TalkingPoints:
Don’t Get Mad About Rising Inflation in Brazil and Mexico, Get Even With Real Assets

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At a time when the Mexican peso is relatively weak, the Mexican government is gradually ending gas price controls in order to increase market competition from foreign oil companies. Therefore, increasing inflation in Mexico is a major concern for market participants. Inflation is also a concern in Brazil as the country recovers from a recession, with demand for gasoline and diesel for passenger and freight vehicles driving prices that are already elevated due to the weak Brazilian real even higher. Market participants may seek to protect themselves from increasing inflation in these countries with the S&P Real Assets Index, which is designed to measure inflation-linked bonds, infrastructure, natural resources, and property. Furthermore, real assets generally have low correlation with traditional stocks and bonds in Brazil and Mexico, and they have historically helped to preserve capital by diversifying risk.

1. How sensitive are real assets to inflation increases from climbing gas prices due to growth and deregulation?

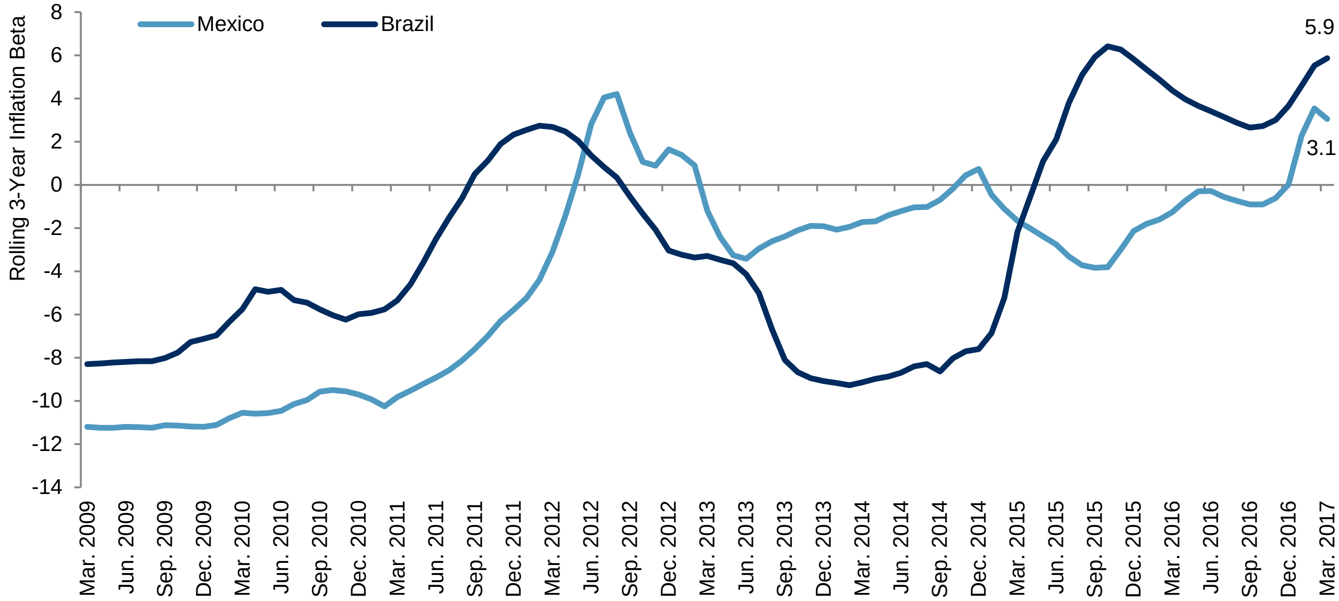
One gauge used to understand the inflation protection provided by real assets in Mexico and Brazil is called inflation beta. It measures the year-over-year return sensitivity of real assets to year-over-year inflation changes through time. Monthly data since April 2005 show that real assets had a relatively high inflation beta (3.1) to Brazil’s inflation, meaning for every 1% increase in the Brazilian Consumer Price Index (CPI), the S&P Real Assets Index increased 3.1%. This implies that market participants may get significant inflation protection with just a small allocation to real assets, which is important since Brazil has experienced high average year-over-year inflation rates over the past two years—about 8.5%—and had a recent real assets inflation beta of 5.9.

However, real asset inflation beta in Mexico has not been as historically potent. This is because gasoline prices had been heavily regulated by the government, so they held steady relative to the changes in oil prices that typically make it the most volatile component of the CPI.

After the Mexican government ended gas price controls, prices increased nearly 30% in four months. This has contributed to a major increase in Mexico’s inflation; it more than doubled, from 2.5% year-over-year in June 2016 to a rate of 5.4% in March of 2017.

Its real assets inflation beta also spiked and was at 3.1 as of March 31, 2017, meaning real assets may work for protecting against inflation today better than in the more heavily regulated regime of the past (see Exhibit 1).

Exhibit 1: S&P Real Assets Inflation Beta



Source: CPI data from www.oecd.org and index data from S&P Dow Jones Indices LLC. Data as of March 31, 2017. Index performance based on net total return (NTR) in local currencies of MXN and BRL. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

2. What is the amount of inflation protection each real assets sector may provide to market participants exposed to inflation in Brazil and Mexico?

Insight into the magnitude of inflation protection provided by each real assets sector can be gained by examining the excess returns over inflation. It is a popular measure to use in comparison with benchmarks, with a goal of CPI + X%. Overall, the S&P Real Assets Index has provided positive excess returns over inflation—an average of 4.2% in Brazil and 6.2% in Mexico.

While natural resources are typically most sensitive to inflation changes from energy exposure, infrastructure had the highest average excess return over inflation, at 6.3% in Brazil and 8.4% in Mexico. Property also had strong excess return over inflation, nicely balancing the lower excess return from natural resources, which was due to the losing energy sector through the global financial crisis and oil supply war. Lastly, inflation-linked bonds generally had high correlation to inflation, so they could be a useful addition to a real assets composite portfolio, although their excess return was lower than property and infrastructure (see Exhibit 2).

Exhibit 2: Excess Returns Over Inflation in Mexico and Brazil

COUNTRY	S&P REAL ASSETS INDEX (%)	PROPERTY (%)	INFRASTRUCTURE (%)	NATURAL RESOURCES (%)	INFLATION LINKED BONDS (%)
Brazil	4.2	5.4	6.3	1.4	2.5
Mexico	6.2	7.4	8.4	3.4	4.5

Source: CPI data from www.oecd.org and index data from S&P Dow Jones Indices LLC. Data from April 30, 2005, to March 31 2017. Index performance based on NTR in local currencies of MXN and BRL. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

3. In terms of risk and return in portfolio diversification, how much does the inflation protection in Mexico cost from using real assets?

Typically, the Sharpe ratio measures risk-adjusted returns in order to compare the efficiency of various portfolio mixes. However, over the past year, Mexican Treasury bills increased from 3.1% per year in January 2016 to 6.1% per year in February 2017, making the excess return negative for the baseline mix of 30% Mexican Stock Exchange Total Return Index (IRT) and 70% Mexico Aggregate Bond Index, which had an annualized return of 5.7%. While there is an adjustment that can be applied to the Sharpe ratio for negative excess returns, it is best used with caution for comparative analysis, because the meaning of how much a market participant earns per unit of risk may be altered. Nonetheless, adding the S&P Real Assets Index or sectors in place of Mexican equities may reduce risk with little sacrifice of return.

Exhibit 3: Adding Real Assets to Hypothetical Mexican Portfolio Mixes

PORTFOLIO	ANNUALIZED RETURN (%)	ANNUALIZED RISK (%)
IRT (100%)	9.3	24.2
IRT (30%)/Mexico Aggregate Bond Index (70%)	5.7	16.5
IRT (20%)/MEXICO AGGREGATE BOND INDEX (70%)/(10%) LISTED ASSET		
Inflation-Linked Bonds	5.1	14.7
Infrastructure (Equity + Fixed Income)	5.6	15.0
S&P Real Assets Index	**5.4**	**15.1**
Natural Resources (Equity + Fixed Income + Commodity Futures)	5.2	15.1
Property (Equity + Fixed Income)	5.4	15.6

Source: Index data from S&P Dow Jones Indices LLC and Mexico Treasury bill from https://research.stlouisfed.org/fred2/series/INTGSTMXM193N. Data from April 2005 to April 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

4. Given the relatively high Treasury bill rates for Brazil, what types of excess returns do real assets provide and for what extra risk?

In Brazil, the S&P Real Assets Index and its sectors may still provide double-digit annualized returns on average, but only with slightly positive excess returns due to high rates. Historically, replacing equities with real assets in a typical Brazilian inflation-linked bonds (80%)/S&P Bovespa Quality Index (20%) portfolio provided between 10% and 11% annualized return, which is 3%-4% lower than equities. However, the risk is reduced by almost half, from over 30% annualized to just 17%. Historically, inflation-linked bonds resulted in the lowest risk of the real assets, while property has been most volatile. Additionally, infrastructure had the highest excess return, with lower risk than property and natural resources (see Exhibit 4).

Exhibit 4: Adding Real Assets to Hypothetical Brazilian Portfolio Mixes

PORTFOLIO	SHARPE RATIO	ANNUALIZED RETURN (%)	ANNUALIZED RISK (%)
Brazil Inflation-Linked Bonds (100%)	0.10	11.4	19.4
Brazil Inflation-Linked Bonds (80%)/S&P Bovespa Quality Index (20%)	0.14	14.0	31.1
BRAZIL INFLATION-LINKED* BONDS (80%)/(20%) LISTED ASSET			
Inflation-Linked Bonds	0.03	10.0	16.4
Infrastructure (Equity + Fixed Income)	0.08	10.9	16.9
S&P Real Assets Index	0.06	10.5	17.2
Natural Resources (Equity + Fixed Income + Commodity Futures)	0.03	10.0	17.4
Property (Equity + Fixed Income)	0.06	10.6	17.6

Source: Index data from S&P Dow Jones Indices LLC. Data from April 2005 to April 2017 Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

For the variety of inflation, risk, and return characteristics across the real assets sectors, the S&P Real Assets Index may provide a high inflation beta and excess return over inflation in addition to reducing risk significantly with little return given up. A small allocation to real assets may provide significant inflation protection, given the high sensitivity of real assets to inflation in Brazil and Mexico.

PERFORMANCE DISCLOSURE

The S&P Real Assets Index was launched on December 31, 2015. All information presented prior to an index’s Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. Complete index methodology details are available at www.spdji.com.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company’s public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

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