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## Latin America Equity Strategy | Latin America

# MSCI Latam & Ibovespa: Alpha generation around index rebalances

Our analysis suggests the opportunity for alpha generation ahead of MSCI Latam index rebalances. Additions post on average +4.4% relative returns while deletions -6.7% during the 30 days before the event. For the Bovespa, deletions are over penalized and they return +11.5% over 3M after the event.

**Investment conclusion.** *In Latin America, our analysis suggests the opportunity for alpha generation ahead of the quarterly MSCI regional index rebalances. For instance, additions post on average +4.4% relative gain while deletions record on average -6.7% loss versus the regional benchmark during the 30 days before the event. More importantly, these strategies have solid success hit ratios at 76% and 22% (inverted) with 188 observations over the past 11 years.*

In Brazil, our work points towards more limited opportunities for alpha creation before the local Bovespa is rebalanced every 4 months - probably because of the smaller size of the local equity industry when compared to its global peer. *However, there appears to be an interesting opportunity right after the rebalance; deletions appear to be over penalized ahead of the event as they registered on average +3.7% gain per month afterwards (+11.5% from MO to M+3).*

**What's new?** *We assess how MSCI Latin America and local Bovespa index additions and deletions have performed around the rebalance date over the past 11 and 6 years, respectively. We tracked the performance of each stock included to and excluded from the MSCI indices and the local Bovespa over a 6-month period before, and a 3-month period after the index rebalance date, with their historical success hit ratios.*

**What's next?** *We plan to publish our regular rebalance previews for the MSCI Latin America and the Brazilian Bovespa indices in early February.*

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**Exhibit 1:** *In Latin America, our analysis suggests the opportunity for alpha generation ahead of the quarterly MSCI regional index rebalances...*

Relative perf. vs MSCI			
	-6M to -1M	-1M to 0M	0M to +3M
Average monthly returns			
Additions	3.5%	4.4%	0.2%
Deletions	-4.4%	-6.7%	0.0%
Hit ratio			
Additions	83%	76%	49%
Deletions	12%	22%	50%

Source: MSCI, Bloomberg and Morgan Stanley Research

**Exhibit 2:** *...while in Brazil there appears to be an interesting opportunity right after the Bovespa rebalance; deletions appear to be over penalized ahead of the event*

Relative perf. vs Ibovespa			
	-6M to -1M	-1M to 0M	0M to +3M
Average monthly returns			
Additions	2.5%	-0.7%	0.0%
Deletions	-3.9%	-1.2%	3.7%
Hit ratio			
Additions	76%	54%	42%
Deletions	20%	57%	57%

Source: B3, Bloomberg and Morgan Stanley Research

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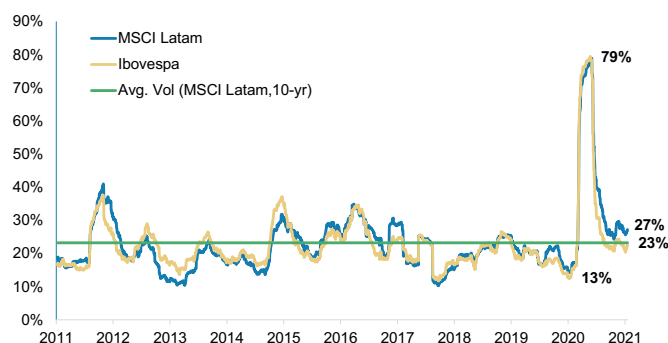
## Overview

Latin American equities have experienced increased price volatility and trading volumes over the past year, which have triggered material index constituent turnover over the period. For instance, the 3-month price volatility of the MSCI Latam index jumped from 15% in January 2020 to almost 80% in June (currently close to 30%), and the number of additions and deletions for the year are 70%+ and 60%+ above their 5-year historical averages (i.e. 9 and 16 in 2020 vs 5 and 10 historical mean), respectively.

Similarly, for the Brazilian Bovespa, a combination of high price volatility and trading volumes for some stocks have increased the number of additions to the index (i.e. 10 in 2020 vs 4 for the 5-year historical mean). However, only 1 stock was deleted from the local benchmark in 2020, or far less than the average 4 over the past years.

**Exhibit 3:** A jump in price volatility and trading volumes over the past year...

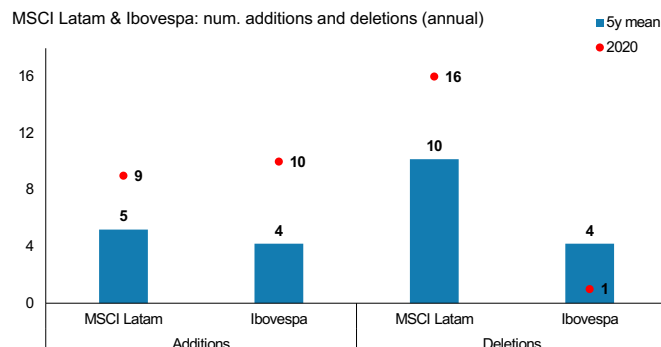
MSCI Latam & Ibovespa: 3- month annualized price volatility



Source: Bloomberg and Morgan Stanley Research

**Exhibit 4:** ...have generated material index composition changes over the period

MSCI Latam & Ibovespa: num. additions and deletions (annual)



\*Note: average 2015-2019. Source: MSCI, B3 and Morgan Stanley Research

We have noticed an increase in investors' interest in index rebalancing and its potential impact on individual stocks. Naturally, they ask about: a) potential additions and deletions to the main regional and country indexes, which we address in our recurrent publications (for reference see [here](#) and [here](#)) and b) the historical performance of newly added and deleted companies to and from the indexes to assess the efficacy of the trading strategy.

The next rebalance for the MSCI indices should happen in early March (with the official preview out in early February), while the next one for the Brazilian Bovespa should occur in early May (with the official preview out in early April). Therefore, we have 2 main objectives in this report:

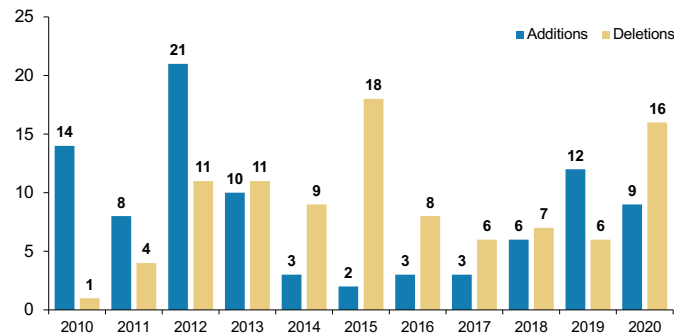
1. To assess how MSCI Latin America index additions and deletions have performed over the past 11 years; and
2. To determine how Brazilian Bovespa index additions and deletions have performed over the past 6 years.

## 1. Case study: MSCI additions & deletions

We assess how MSCI Latin America index additions and deletions have performed around the rebalance date over the past 11 years. There has been 91 additions to and 97 deletions from the MSCI Latin America index since 2010. Therefore, there has been on average roughly 8 additions to and 9 deletions from the benchmark per year during the period. Moreover, Brazilian (49 additions; 58 deletions) and Mexican (19; 13) stocks accounted for roughly 75% of the turnover in our data set.

**Exhibit 5:** There have been 91 additions to and 97 deletions from MSCI Latam since 2010

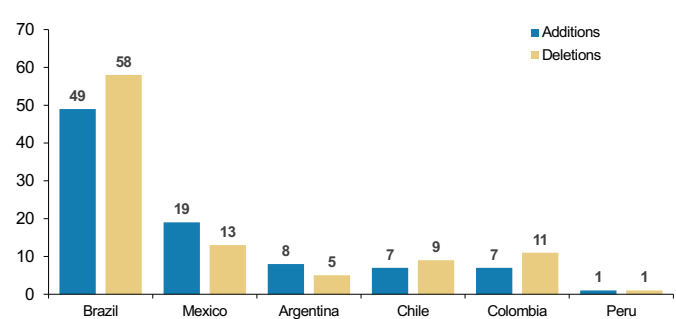
MSCI Latam: number of additions and deletions per year



Source: MSCI and Morgan Stanley Research

**Exhibit 6:** Brazilian and Mexican stocks accounted for roughly 75% of the turnover

MSCI Latam: number of additions and deletions per country since 2010



Source: MSCI and Morgan Stanley Research

### How do additions and deletions perform before and after rebalance events?

We tracked the performance of each stock included to and excluded from the MSCI region or country indices over a 6-month period before and a 3-month period after the index rebalance date, and then we calculated their average absolute USD and relative returns. Moreover, we estimated the historical hit ratios, which are calculated as the fraction between stocks (additions or deletions) which registered a positive return during the period of analysis and the total data set.

**Exhibit 7:** MSCI indices: absolute USD and relative performance and hit ratios of historical additions and deletions

	Absolute perf.			Relative perf. vs MSCI country		
	-6M to -1M	-1M to 0M	0M to +3M	-6M to -1M	-1M to 0M	0M to +3M
<b>Average monthly returns</b>						
<b>Additions</b>						
Brazil	5.7%	0.9%	1.8%	5.0%	3.9%	0.4%
Mexico	4.2%	3.2%	1.5%	3.6%	4.1%	0.2%
Chile	2.7%	-0.7%	0.6%	2.8%	2.4%	-0.1%
Colombia	2.5%	1.2%	1.0%	0.0%	8.1%	-0.1%
Latam	4.1%	2.6%	0.8%	3.5%	4.4%	0.2%
<b>Deletions</b>						
Brazil	-4.5%	-11.9%	0.8%	-4.7%	-9.1%	-0.2%
Mexico	-5.6%	-8.6%	-0.2%	-5.2%	-5.4%	-1.4%
Chile	-5.4%	6.1%	3.3%	-4.8%	4.9%	1.6%
Colombia	-3.3%	-10.2%	1.3%	-1.6%	-3.9%	2.5%
Latam	-4.9%	-8.8%	1.0%	-4.4%	-6.7%	0.0%
<b>Hit ratio</b>						
<b>Additions</b>						
Brazil	86%	53%	55%	86%	73%	47%
Mexico	89%	68%	68%	95%	74%	53%
Chile	71%	57%	43%	100%	71%	57%
Colombia	86%	29%	43%	43%	86%	43%
Latam	82%	61%	56%	83%	76%	49%
<b>Deletions</b>						
Brazil	19%	17%	47%	9%	19%	48%
Mexico	8%	31%	62%	0%	23%	38%
Chile	22%	44%	44%	33%	33%	44%
Colombia	18%	18%	64%	36%	27%	45%
Latam	16%	24%	58%	12%	22%	50%

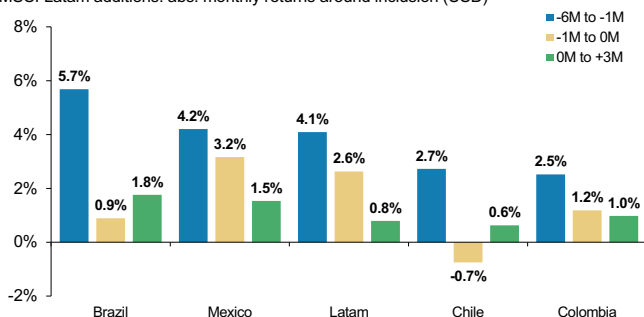
Source: MSCI, Bloomberg and Morgan Stanley Research

## Inclusions

Historically, the average absolute USD and relative performance of MSCI Latin America inclusions during the 6 months before and 3 months after the event have been positive. For instance, MSCI Latin America inclusions posted on average a solid +4.1% USD return per month with a 82% hit ratio between 6 and 1 months ahead of the event (which normally coincides with the rebalance announcement), and a +2.6% gain with a 61% hit ratio during the last month before the inclusion. Interestingly, the gains recorded by the new constituents are sustained during the 3 months after the rebalance, but they are smaller in magnitude (only +0.8% per month with a 56% hit ratio).

**Exhibit 8:** Historically, the average absolute USD performance of MSCI Latin America inclusions...

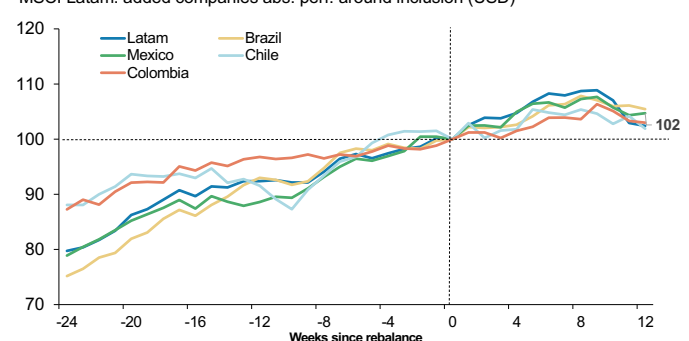
MSCI Latam additions: abs. monthly returns around inclusion (USD)



Source: MSCI, Bloomberg and Morgan Stanley Research

**Exhibit 9:** ...during the 6 months ahead and 3 months after the event has been positive

MSCI Latam: added companies abs. perf. around inclusion (USD)



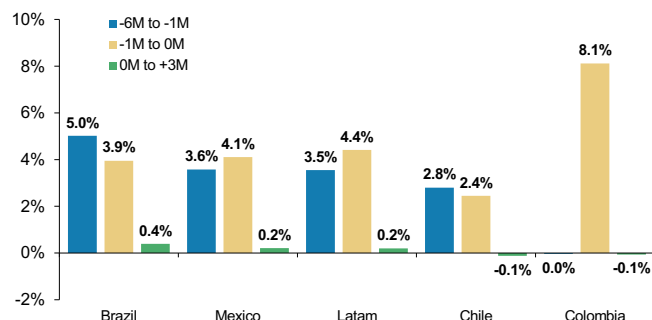
Source: MSCI, Bloomberg and Morgan Stanley Research

The conclusions of our analysis when we focus on relative returns are very similar to the ones in absolute USD terms. For example, on a relative basis, MSCI Latin America inclusions posted on average a solid +3.5% relative return per month vs the region with an 83% hit ratio between 6 and 1 months ahead of the event, and a stronger +4.4% gain with a 76% hit ratio during the last month before the rebalance. Again, the gains recorded by the new constituents are sustained during the 3 months after the inclusion, but they are small in magnitude (only +0.2% relative return per month with a 49% hit ratio).

At the country level, inclusions in Brazil registered the highest absolute USD and relative returns per month during the -6m to -1m period (+5.7%; +5.0% vs MSCI country) ahead of the event. Meanwhile, additions in Mexico delivered solid monthly gains (+4.2%; +3.6% vs MSCI country) but they had materially higher hit ratios (+1/+15 p.p. range) for both absolute USD and relative return strategies across different time periods (-6m to -1m, -1m to 0 and 0 to +3m).

**Exhibit 10:** Similarly, the average relative return of MSCI Latin America inclusions...

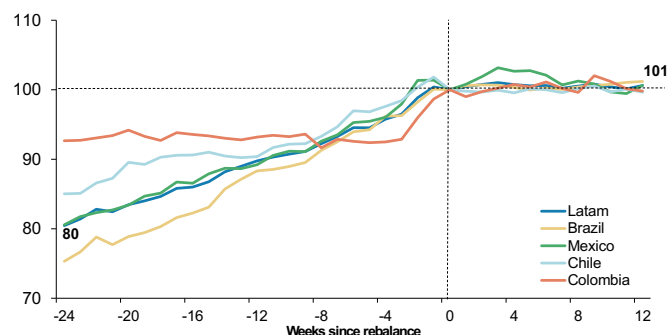
MSCI Latam additions: rel. monthly returns around inclusion (USD)



Source: MSCI, Bloomberg and Morgan Stanley Research

**Exhibit 11:** ...from 6 months ahead to 3 months after the event has been strong

MSCI Latam: added companies rel. perf. around inclusion (USD)



Source: MSCI, Bloomberg and Morgan Stanley Research

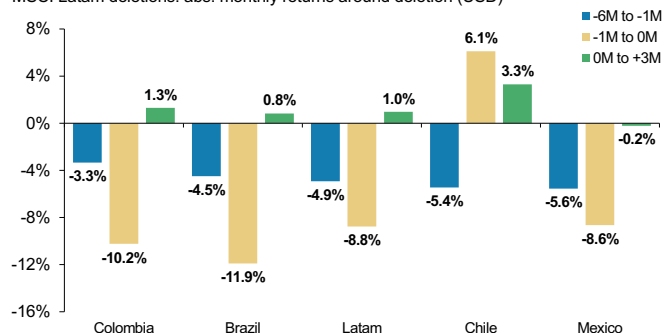
We believe the solid average performance of the stocks added to the MSCI Latin America index before the rebalance (i.e. -6m to 0m) is a result of both idiosyncratic fundamental and overall technical factors. For example, the average +4.4% relative return per month recorded between the publication of the official preview and the index rebalance (i.e. -1m to 0) is somewhat similar to the +3.5% figure posted during the previous 5 months.

## Deletions

Historically the average absolute USD and relative performance of MSCI Latin America exclusions during the 6 months before and 3 months after the event have been negative. For instance, MSCI Latin America exclusions posted on average a feeble -4.9% USD return per month with a 16% hit ratio between 6 and 1 months ahead of the event (which normally coincides with the rebalance announcement), and an even worse -8.8% loss with a 24% hit ratio during the last month before the exclusion. Interestingly, the losing streak recorded by the old constituents on average ends with the rebalance, and the stocks eke out a +1.0% absolute USD return per month during the 3 month period after the rebalance with a 58% hit ratio.

**Exhibit 12:** Deletions from the MSCI Latin America benchmark usually perform poorly...

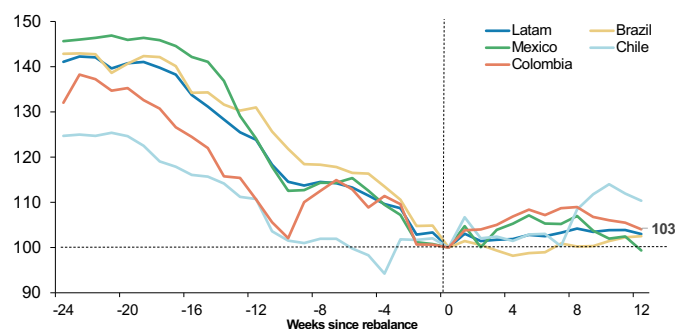
MSCI Latam deletions: abs. monthly returns around deletion (USD)



Source: MSCI, Bloomberg and Morgan Stanley Research

**Exhibit 13:** ...ahead of the event but they tend to stabilize afterwards

MSCI Latam: deleted companies abs. perf. around deletion (USD)

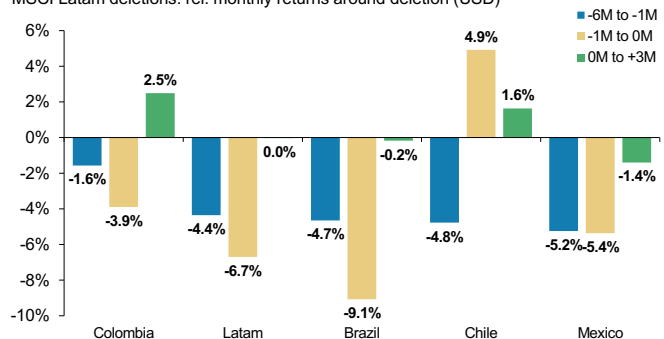


Source: MSCI, Bloomberg and Morgan Stanley Research

The conclusions of our analysis when we focus on relative returns are very similar to the ones in absolute USD terms. For example, on a relative basis, MSCI Latin America exclusions posted on average a terrible -4.4%% relative return per month vs the region with a 12% hit ratio between 6 and 1 months ahead of the event, and a worse -6.7% under-performance with a 22% hit ratio during the last month before the rebalance. Again, the losing streak recorded by the old constituents tends to disappear during the 3 months after the deletion, as the group of stocks returns are in line (0.0% with a 50% hit ratio) with the regional benchmark.

**Exhibit 14:** Similarly, the average relative return of MSCI Latin America deletions...

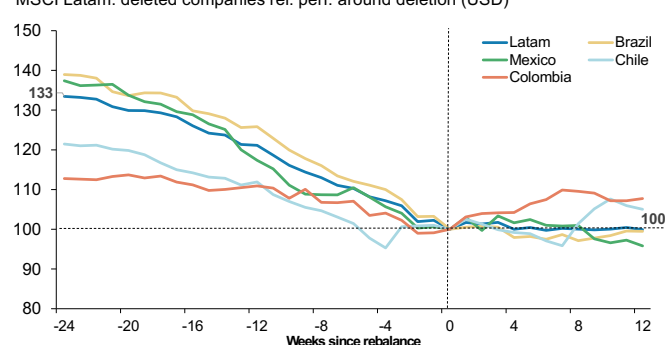
MSCI Latam deletions: rel. monthly returns around deletion (USD)



Source: MSCI, Bloomberg and Morgan Stanley Research

**Exhibit 15:** ...from 6 months ahead to the month of the rebalance has been very weak

MSCI Latam: deleted companies rel. perf. around deletion (USD)

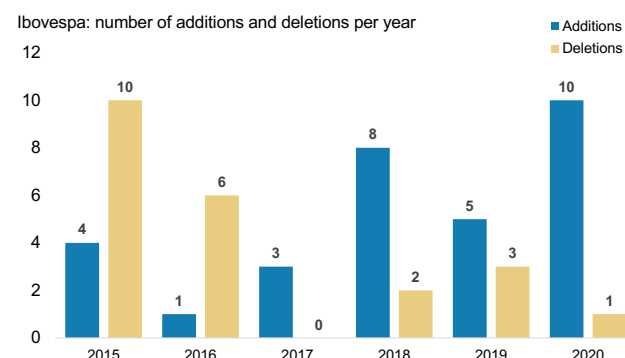


Source: MSCI, Bloomberg and Morgan Stanley Research

At the country level, exclusions in both Brazil and Mexico registered weak absolute USD and relative returns per month during the -6m to -1m period (on average close to -5.0% per month) before the event. However, in Brazil, the absolute USD and relative losses more than double in magnitude towards -11% per month between the publication of the official preview and the index rebalance (i.e. -1m to 0) - probably because of a herd mentality approach of money managers once the liquidity prospects of the stocks soon to be deleted from the benchmark deteriorate.

## 2. Case study: Ibovespa additions & deletions

**Exhibit 16:** There have been 31 additions to and 22 deletions from the Bovespa index since 2015



Source: B3 and Morgan Stanley Research

We extend our analysis of how companies added to or deleted from the benchmark have performed around the event to the Brazilian Bovespa index over the past 6 years. There has been 31 additions to and 22 deletions from the index since 2015; on average 5 additions to and 4 deletions from the Bovespa index per year.

We believe local investors are aware of the "better to travel than to arrive" mantra (i.e. markets tend to anticipate the addition or deletion of a stock) that is usually applicable to index rebalances. However, we have not found published research about pre and post event performance for the local Brazilian benchmark, and therefore we decided to run the analysis.

### How do additions and deletions perform before and after rebalance events?

We tracked the performance of each stock included to and deleted from the Bovespa index over a 6-month period before and a 3-month period after the index rebalance date, and then we calculated their average absolute BRL and relative returns. Moreover, we estimated their historical hit ratios, which are calculated as the fraction between stocks (additions or deletions) which registered a positive return during the period of analysis and the total data set.

**Exhibit 17:** Bovespa index: BRL absolute and relative performance and hit ratios of historical additions and deletions

	Absolute perf.			Relative perf. vs Ibov		
	-6M to -1M	-1M to 0M	0M to +3M	-6M to -1M	-1M to 0M	0M to +3M
<b>Average monthly returns</b>						
Additions	3.6%	5.3%	-0.5%	2.5%	-0.7%	0.0%
Deletions	-4.5%	-1.8%	5.8%	-3.9%	-1.2%	3.7%
<b>Hit ratio</b>						
Additions	74%	63%	45%	76%	54%	42%
Deletions	15%	38%	71%	20%	57%	57%

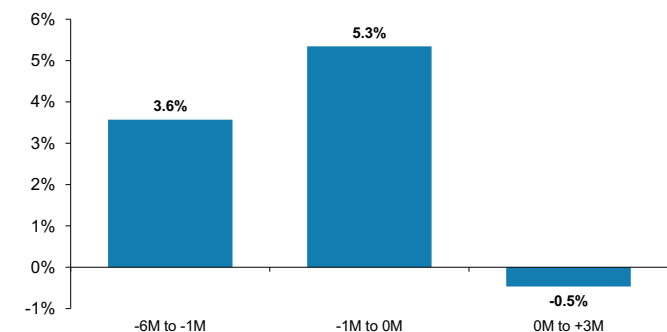
Source: B3, Bloomberg and Morgan Stanley Research

### Inclusions

Historically, the average absolute BRL and relative performance of Ibovespa inclusions during the 6 months before and 3 months after the event have been positive - despite weaker post-event returns. For instance, Ibovespa inclusions posted on average a solid +3.6% BRL return per month with a 74% hit ratio between 6 and 1 months ahead of the event (which normally coincides with the rebalance announcement), and a better +5.3% gain with a 63% hit ratio during the last month before the inclusion. Interestingly, the pace of gains recorded by the new constituents disappear during the 3 months after the event (-0.5% per month with a 45% hit ratio).

**Exhibit 18:** Additions to the Bovespa index perform well on absolute BRL terms during the 6 months ahead of the rebalance...

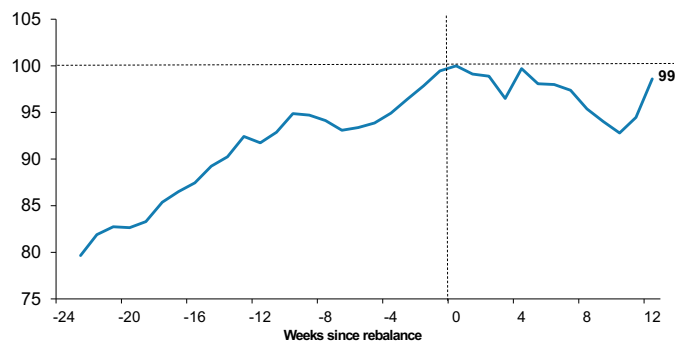
Ibovespa additions: abs. monthly returns around inclusion



Source: B3, Bloomberg and Morgan Stanley Research

**Exhibit 19:** ...while they tend to show a weaker return during the 3-month time window after the event

Ibovespa: added companies abs. perf. around inclusion

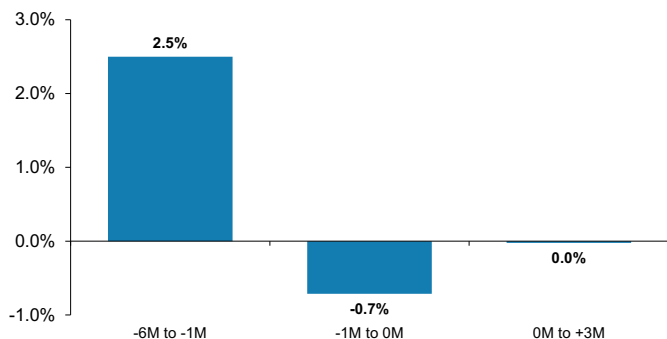


Source: B3, Bloomberg and Morgan Stanley Research

On a relative basis, the story is slightly different as Ibovespa inclusions posted on average a solid +2.5% relative return per month vs the benchmark with a 76% hit ratio between 6 and 1 month before the event, and a much weaker -0.7% loss with a 54% hit ratio during the last month before the rebalance. Last, but not least, the new constituents on average performed in-line with the benchmark during the 3-month period after the event.

**Exhibit 20:** Historically, additions have performed better than Ibovespa from -6m to -1m...

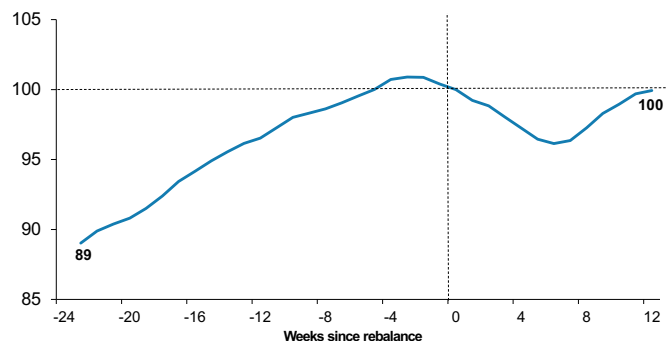
Ibovespa additions: rel. monthly returns around inclusion



Source: B3, Bloomberg and Morgan Stanley Research

**Exhibit 21:** ...while they have performed roughly in-line after the event

Ibovespa: added companies rel. perf. around inclusion



Source: B3, Bloomberg and Morgan Stanley Research

In our view, similar to the results of the MSCI Latam analysis, the strong average absolute BRL (+3.6% per month) and relative performance (+2.5%) of Ibovespa inclusions between 6 and 1 month before the rebalance suggest idiosyncratic fundamental factors are behind the solid returns. However, different from the results of the MSCI analysis, the weak average relative performance (-0.7%) of Ibovespa inclusions between 1 month before and the rebalance event suggests weaker technical factors are in play - probably because of the smaller size of the local equity industry when compared to its global peer.

## Deletions

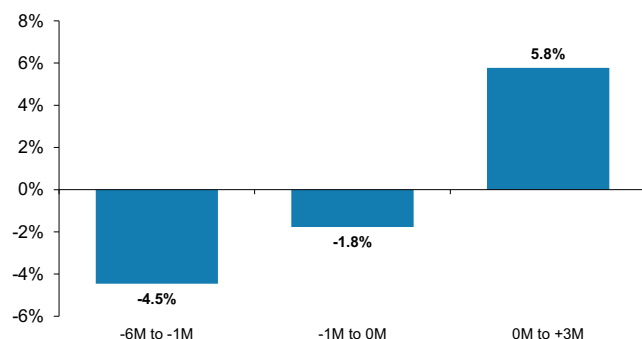
Historically the average absolute BRL and relative performance of Ibovespa exclusions during the 6 months before the event have been negative, while the 3 months after have been positive. Consequently, Ibovespa deletions seem to be over-penalized by investors ahead of the rebalance, and they on average post a solid +5.8% absolute BRL return per



month afterwards with a 71% hit ratio. For instance, Ibovespa exclusions posted on average a feeble -4.5% USD return per month with a 15% hit ratio between 6 and 1 months ahead of the event (which normally coincides with the rebalancing announcement), and a smaller -1.8% loss with a 38% hit ratio during the last month before the exclusion. Interestingly, the losing streak recorded by the old constituents on average ends with the rebalance, and the stocks rebound a solid +5.8% absolute BRL return per month during the 3 month period after the rebalance with a 71% hit ratio.

**Exhibit 22:** Investors tend to over-penalize Ibovespa deletions ahead of the rebalance and...

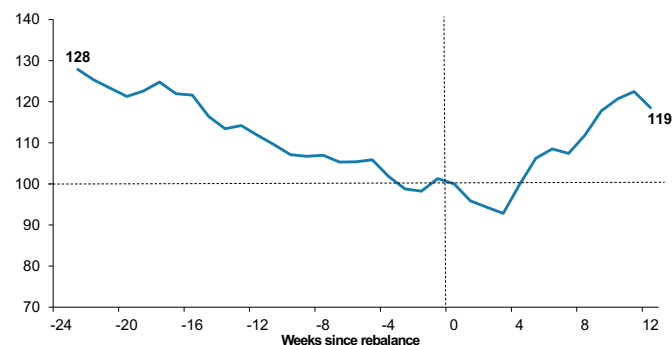
Ibovespa deletions: abs. monthly returns around deletion



Source: B3, Bloomberg and Morgan Stanley Research

**Exhibit 23:** ...consequently these stocks tend to rebound over the next 3 months

Ibovespa: deleted companies abs. perf. around deletion

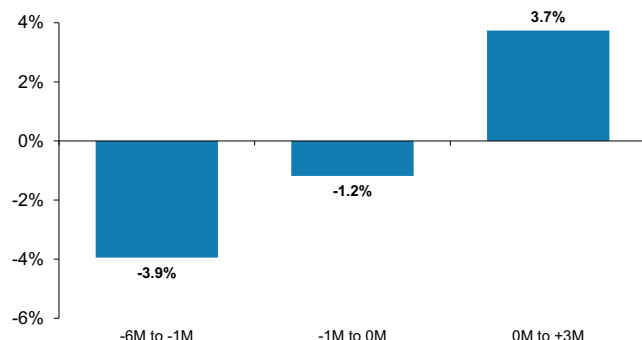


Source: B3, Bloomberg and Morgan Stanley Research

The conclusions of our analysis when we focus on relative returns are very similar to the ones in absolute BRL terms. For example, on a relative basis, Ibovespa exclusions posted on average a feeble -3.9% relative return per month vs the country with a paltry 20% hit ratio between 6 and 1 months ahead of the event, and a weak -1.2% loss with a 57% hit ratio during the last month before the exclusion. However, the old constituents appear to be over-penalized by investors, as they post on average a solid +3.7% relative gain per month during the 3 months after the deletion with a 57% hit ratio.

**Exhibit 24:** We can observe a similar return profile versus the country benchmark...

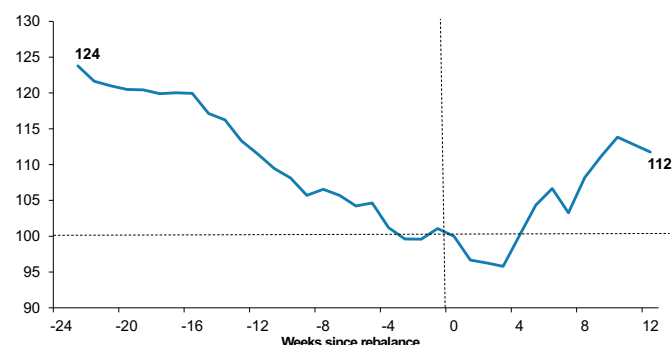
Ibovespa deletions: rel. monthly returns around deletion



Source: B3, Bloomberg and Morgan Stanley Research

**Exhibit 25:** ...with the excluded stocks being over penalized ahead of the index rebalance

Ibovespa: deleted companies rel. perf. around deletion



Source: B3, Bloomberg and Morgan Stanley Research

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(as of December 31, 2020)

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STOCK RATING CATEGORY	COVERAGE UNIVERSE		INVESTMENT BANKING CLIENTS (IBC)			OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC)	
	COUNT	% OF TOTAL	COUNT	% OF TOTAL IBC	% OF RATING CATEGORY	COUNT	% OF TOTAL OTHER MISC
<b>Overweight/Buy</b>	<b>1450</b>	<b>42%</b>	<b>378</b>	<b>47%</b>	<b>26%</b>	<b>646</b>	<b>42%</b>
<b>Equal-weight/Hold</b>	<b>1449</b>	<b>42%</b>	<b>347</b>	<b>43%</b>	<b>24%</b>	<b>648</b>	<b>43%</b>
<b>Not-Rated/Hold</b>	<b>5</b>	<b>0%</b>	<b>1</b>	<b>0%</b>	<b>20%</b>	<b>4</b>	<b>0%</b>
<b>Underweight/Sell</b>	<b>521</b>	<b>15%</b>	<b>81</b>	<b>10%</b>	<b>16%</b>	<b>223</b>	<b>15%</b>
<b>TOTAL</b>	<b>3,425</b>		<b>807</b>			<b>1521</b>	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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