The current state of XVA usage in Latin America

Augusto Carvalho, Regional Director of Presales, Numerix

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When numbers matter

As we continue on our path of examining the issues impacting XVA usage across global regions, with a focus on challenges, best practices, level of adoption maturity, as well as operational and technological considerations, we wish to share with you key insights regarding the reality of XVA usage in Latin America today.

XVAs are increasingly becoming more engrained in derivatives practices across the globe. The use of XVAs can span from traditional measures, such as accounting for the cost of counterparty risk (CVA), the risk of one's own default (DVA), and for achieving a more accurate or competitive price, or the XVAs can be much more complex as an institution considers funding, initial margin or regulatory capital costs.

The bottom line is XVA calculations have a significant impact on profitability and risk management for an enterprise, and it becomes an interesting topic of conversation when you look at the degrees of XVA usage across the world and how much they can differ from region to region.

There is certainly diversity in the use of XVAs globally, and not just by institution type, but, as mentioned, by different regions as well. The market can also differ significantly in the level of XVA practices within regions. For example, the U.S. and Europe are the most advanced in terms of the implementation of XVA practices, leveraging the full range of adjustments and managing positions from centralized XVA desks. Latin America, on the other hand, is a prime example of a region that is, generally, behind in its progress of XVA implementation and usage compared to European and U.S. financial institutions.

Part of it might be a matter of outright ignoring XVAs, but I believe it is fairer to say that Latin America's adoption of XVA programs is, overall, in the "initial" stages. I spend a lot of time in Latin America, often educating banks and other institutions about XVA solutions, most often from the perspective of improving risk management and gaining a stronger competitive position.

In Latin America, financial institutions look at XVAs from risk management and competitive trade pricing points of view.

In this paper, I wish to share with you my "XVA in Latin America" observations.

Where XVAs Stand Today

It is important to recognize that regulatory pressures are not the immediate drivers for much of the XVA activity we see in the capital markets. This holds true in Latin America, where instead of looking at XVAs from a "being compliant" point of view (though it does exist to a degree), institutions in the region are looking at it from risk management and competitive trade pricing points of view.

As I indicated earlier, Latin America's XVA implementation and usage is considerably behind that of Europe and the U.S., but if recent trading trends are any signal, XVAs should gain traction as a priority in the region. According to FIA, a leading global trade organization for the futures, options and centrally cleared derivatives markets, in 2018 derivatives trading on exchanges hit a record level of 30.28 billion contracts, with Latin America growing the most rapidly by percentage of trade growth—volume on Latin American exchanges grew 40.8% to 2.78 billion contracts.

It is not surprising that the banks and other financial institutions in countries with the largest market capitalizations and with the most developed markets in Latin America are, basically, the only institutions in the region that have implemented XVAs in their derivatives trading practices. These countries include Mexico, Chile, Colombia and Peru.

Market Capitalization of Mexico, Chile, Colombia and Peru (2018)

	MEXICO	CHILE	COLOMBIA	PERU
Market Capitalization (USD billion)	385.1	250.7	103.8	93.4
Market Capitalization (% of GDP)	31.5	84.1	31.4	42.1

Sources: The World Federation of Exchanges and The World Bank

I am sure you are wondering why Brazil is not included in that group of nations, as it has, by far, the largest market capitalization in Latin America, with $916.8 billion of market value (as of 2018). Well, Brazil is very interesting when it comes to the trading of derivatives. The country has been through many financial and political crises in the past two to three decades, and, as a result, its derivatives market has become highly regulated. Brazilians even say that their "Dodd-Frank" happened a couple of decades ago.

Today, 100% of derivatives trades conducted in the country are registered under B3, the Brazilian Equities and Derivatives Exchange, either as a listed derivative or as an OTC trade. For example, when two banks trade a swap under the OTC platform, they have the option to use the services of the clearinghouse. That said, credit counterparty risk is not a priority for banks, and thus, the basic XVAs, such as CVA and DVA, don't really play an important role in Brazil. That does not mean that no other XVA will be relevant for that market. As 100% of the derivatives (listed or OTC) are registered in the B3 exchange, market participants might realize at some point the relevance of a valuation adjustment related to Initial Margin Calculation, known as Margin Valuation Adjustment (MVA).

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- Dr. Francisco Arreola, PiP

Diversity in Adoption

There is diversity as to the pace of XVA adoption in each of these four countries. For example, several of the largest European multinational banks have operations in Mexico and Chile, and so these operations are inclined to adopt XVAs because their colleagues in Europe are already being aggressive with their XVA implementations and that is a driving force for Mexico and Chile. In Colombia and Peru, on the other hand, their largest banks are local banks, so they don't have the outside pressure to use XVAs, and consequently adoption is a bit slower in those two countries.

Dr. Francisco Arreola, research director at PiP (Proveedor Integral De Precios), a valuation service provider headquartered in Mexico City, comments, "There are Spanish multinational banks that have significant independent operations in Mexico, and these operations are very advanced in terms of XVA adoption. They have sophisticated XVA desks and for several years have been calculating CVA, DVA, FVA and KVA."

What is driving this sophistication? Mr. Arreola cites that these large Spanish banks have built their XVA systems inhouse in Spain, and so since they already have the necessary technology and infrastructure, it only makes sense to replicate them in Mexico. "They believe that since European regulations make it mandatory to use XVA adjustments, they may as well operate as if these regulations apply to the other jurisdictions where they operate," he says. "Plus, it is necessary to have sophisticated XVA capabilities just to be able to compete against the other large multinational banks, particularly the massive U.S. banks, that also conduct derivatives trades in Mexico. You have to price trades correctly." He emphasizes, though, that the U.S. banks perform the XVA calculations for their Mexican trades in New York City, unlike the Spanish banks that do the calculations on site in Mexico.

Mr. Arreola also states that outside of the large banks, Mexico's local banks, with the exception of a few second-tier banks that are just starting to build XVA desks, are, generally, not even considering adopting XVAs. "But that's because they mostly have very small derivatives operations," he adds.

Outside of Mexico, the number of valuation adjustments that are addressed is not that variable from country to country. CVA (Credit Valuation Adjustment), which is the most fundamental valuation adjustment, as well as DVA (Debit Valuation Adjustment) appear to be the only valuation adjustments that are a priority today. The other valuation adjustments may not be as material or relevant to those at the less-trading intensive end of the spectrum compared to their global peers.

However, in my current experience, while these firms are mostly interested in those two base measures, they still want to be educated on where the derivatives markets are moving and what they should be thinking about in terms of sensitivities and more complex measures. They understand that the integration of XVAs is crucial to their long-term health and that, ultimately, there is a clear advantage of being more sophisticated in terms of an XVA framework.

As a specific example, a local expert in the Latin American derivatives markets, Jacques Burrus, founder and CEO of BFI, a consulting service for Latin American financial firms, says, "The successful implementation of XVA adjustments at Latin American institutions is crucial to account for the legal discrepancies between onshore and offshore liquidity pools and for fostering their long-term competitiveness."

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Drivers of XVA Usage Per Country

As I indicated, regulatory pressure is not the main driver for much of the XVA usage we see in Latin America, though it does play role. It is more about producing a better risk system and gaining a competitive advantage—or at least being at the same level on the playing field.

Here's a breakdown of the XVA drivers in each country, as I see them:

	MEXICO	COLOMBIA	CHILE	PERU
Regulatory Push		✓	✓	
Competitive Advantage	✓	✓		✓
Better Risk Management	✓	✓	✓	✓

As the derivatives trading business grows for institutions in these countries, they will start to trade with more counterparties globally, and so traders and risk managers need better capabilities to manage counterparty risk. That's why they are increasingly looking for XVA specialists such as Numerix to guide them through all aspects of counterparty credit risk management and the business cycles of CVA and DVA, and even FVA (Funding Valuation Adjustment).

Pricing considerations are also top of mind, and this leads to another driver of XVA implementation in the region, and that is to gain a better competitive footing.

Price depends on information. If one has the right information, this can be converted into profit. For example, when a local Latin American bank trades with a much larger multinational bank in the U.S., if it doesn't have all the information it needs, at least from a modeling perspective, then it will not be able to model the risk factors from both current and future price perspectives. Moreover, one needs to consider the credit counterparty risk component, which is generally poorly available in Latin American markets today. It is a complex challenge for these markets to accurately compute CVA and DVA. Therefore, when a U.S. counterparty trades with a local bank in Peru or Colombia, that local bank might not have either the necessary data or the modeling capacity in place. Therefore, the bank might not be able to argue/asses the reason why the U.S. counterparty is providing a quote for a certain OTC derivatives product, and that clearly puts that local bank at a disadvantage from a PnL standpoint.

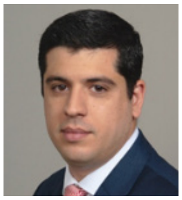
Challenges and Obstacles Exist, but Where There Is a Need, There Is a Want

Unfortunately, regardless of the drivers or facilitators that are pushing for the implementation of XVAs in Latin America, there are powerful obstacles. Problematic organizational cultures, lack of XVA knowledge, lack of budget, and lack of operational capacity are, I would say, the leading challenges to more XVA adoption in the region.

But I am beginning to find that institutions in Latin America are, more and more, looking at XVA usage from a cost-and-risk-of-doing-business point of view. They are slowly but surely understanding that is the main rationale for undertaking XVAs. Now, an XVA project can certainly be a costly undertaking, but in the long run it will be beneficial to them from an ROI perspective. It is a real need, and the more they realize that, the more it will become a real want.

The more Latin American institutions start viewing XVAs from an ROI perspective, the more they will want to adopt them.

ABOUT THE AUTHOR



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Augusto Carvalho has been working with derivatives pricing for almost 18 years. Since 2014, he has been working with Numerix as a Solution Specialist focusing on Market and Credit Counterparty Risk for Latin America and, more recently, in Southeastern USA. Prior to Numerix, his experience includes modeling credit derivatives for an investment bank in Milan, credit risk management for a pioneer mobile payment startup, and pricing and R&D at the derivatives exchange in Brazil. He holds a masters in theoretical physics and complex systems and applications to risk management and has extensive lecturing experience on derivatives pricing in universities and financial education centers in Brazil.

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