

# Leading Mexican Bank Banorte Strengthens Credit Risk Management Practices

## Banorte builds a completely new XVA desk and revamps its PFE limits management

When Banorte launched an ambitious effort to enhance its credit mitigation practice and deploy a completely new XVA desk, it chose Murex. This leading Mexican bank now utilizes and benefits from the Murex solution in its risk and front-office teams.

- **On the risk side, Banorte viewed this project's completion as an important breakthrough for the bank.** The solution enabled Banorte to adopt modern methodologies for counterparty limits management and monitoring. The implementation replaced analytical credit measures with simulated Potential Future Exposure (PFE) metrics, which require advanced integrated solutions supporting complex valuations, credit adjustments, hedging and reporting.
- **Banorte now streamlines the XVA process across the entire organization's derivatives portfolio.** Sales desks benefit from real-time pricing of XVA for new transactions and trade amendments. Trade pricing is now much better aligned with best practices, appropriately gauging counterparty and funding risks.
- **XVA is an important addition to risk-adjusted return when evaluating derivatives transactions.**

## Key ambitions: IFRS compliance and central XVA desk—along with new processes

Grupo Financiero Banorte, is one of the three largest commercial banks of Mexico by assets and loans. It is the largest retirement fund administrator. Banco Banorte is its primary subsidiary. With 2.9 trillion pesos in assets under management, Banorte was named Bank of the Year 2020 in Mexico by The Banker in recognition of its profitability and results.

Deploying the XVA desk & PFE Limits Management are important milestones in Banorte's partnership with Murex. Banorte and Murex began working together in 2010. At that time, Banorte adopted MX.3 for the bank, brokerage, Operadora and Afore XXI entities as its core capital markets platform. Banorte selected MX.3 to support the trading of Interest Rate Derivatives, Foreign Exchange Derivatives and Credit Derivatives desks, as well as operations, collateral management and accounting.

Two main objectives drove the bank:

- **Banorte wanted compliance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board.** Compliance with these standards is mandatory in Mexico starting in January 2022.
- **Banorte aimed to institute a new central XVA desk and introduce new business and decision-making processes.** This desk deployment typically poses substantial operational and technological challenges, as it requires the integration of processes and systems across the entire trading value chain.

Banorte initiated a vendor selection process to select its XVA and PFE solution. Banorte evaluated potential technology partners by four primary criteria:

- Ability to enable support for products specific to the Mexico market, including UDI (local inflation index) denominated derivatives
- Capacity to quickly deploy pre-trade exposure calculation and limit monitoring, including seamless integration with the pricing screens already used by traders
- Integration with back-office and accounting systems
- Ability to rely on market experts to accompany Banorte not only with a new system, but also an important organizational overhaul—the knowledge transfer process and the security of understanding the vendor would be a steady partner through a major transformation

### Complete XVA solution is catered to Banorte's functional and regulatory requirements

Banorte conducted an extensive, rigorous selection process. The bank selected Murex's MX.3 platform for its comprehensiveness and flexibility, and its capacity to execute:

- Counterparty Valuation Adjustment, Funding Value Adjustment, Debit Value Adjustment calculation using risk neutral models and market-based probability of default and funding curves
- CVA sensitivities calculation
- XVA fees transferred to XVA desk and XVA charges attribution of by product, desk or trade

In particular, the latter was crucial for Banorte as it implemented its new XVA desk.

XVA charges attribution empowered Banorte to appropriately include funding and counterparty risks in derivatives pricing. At the same time, it helped Banorte achieve IFRS compliance.

For risk, the MX.3 analytics engine is adapted to calculate PFE and other exposure metrics using real-world models. The engine also connects the counterparty risk limits interface for limits management and monitoring in real-time, ensuring efficient compliance checks and reducing operational risk.

Banorte now actively manages its credit exposure for IRD, FXD and CRD desks on the MX.3 platform, in a configuration that addresses the specificities of the Mexican market, including the management of synthetic credit curves by sector and rating and the need for synthetic volatilities to cope with the lack of a liquid swaption market.

### A single platform for trading, treasury, operations and risk management

MX.3 XVA capabilities are fully integrated with the platform's trading functionality. The platform provides a single tool for Banorte's traders to price, book and risk manage OTC derivatives with full XVA adjustments. As a unified and consistent platform with a single trade repository, credit data and market data for XVA computation, MX.3 ensures accurate capture of trade terms and conditions and eliminates the operational burden of heavy data mapping and reconciliation processes.

In addition to complying with Mexico's sometimes quite stringent regulatory requirements, the integration capabilities of MX.3 between Trading, Risk and the XVA desk delivered much more accuracy and efficiency in calculations. Traders and risk managers can also simultaneously monitor exposures and limits consumption. MX.3 allows Banorte users and risk takers to have common ground when the information is assessed in relevant committees, where trades are approved. MX.3's capabilities meet the heavy computational demands for XVA metrics, generating XVA results, including XVA sensitivities, in a timely manner.

**“** At Banorte, we successfully implemented the Murex PFE solution to enhance the analytical credit risk solution we had been using for many years with Murex and deploy more modern credit limit management metrics. This rollout of PFE was made possible thanks to our partnership with Murex and its Upgrade as a Service. Within 24 months, we upgraded twice and brought many new functions to our business: collateral, equity desk opening, LIBOR reform, and, of course, PFE and XVA.

**”** Murex's ownership of this process allowed Banorte to focus on our own complete internal operating overhaul for setting up a dedicated XVA desk.

- Abraham M. Izquierdo, FRM: Executive Director, Risk, Grupo Financiero Banorte

## Years of close collaboration eased deployment

An involved program such as this one required several critical steps to navigate complexities. It was crucial for Banorte and Murex to go through an extensive analysis and design stage, followed by continuous, incremental delivery drops. Banorte mandated Murex to manage the bank's platform upgrade cycle. This brought major business benefits without requiring substantial effort from Banorte in terms of implementation effort to enable new XVA functionalities. This new approach to delivering incremental business content made it easier to produce innovation while reducing the total cost of ownership of Murex technology for Banorte.

The partnership between Murex and Banorte enabled the companies to progress steadily through the key XVAs and PFE implementation project steps, which include:

- Pricing calibration and OIS discounting adoption
- Risk-neutral model calibration, PD and funding curves construction
- End of day CVAs and FVAs
- Credit Default Swap product configuration and calibration, so that the desk can hedge XVAs exposures
- Real world models calibration & limit management & monitoring adaptation
- XVAs accounting attribution
- XVAs desk implementation

Abraham noted that consulting partners assisting with vendor implementation projects must be deeply versed in the system.

*"If they end up being necessary, external partners and consulting firms involved in the implementation process must demonstrate Murex system-level expertise to assist with such ambitious programs,"* Abraham said.

With a robust network of trusted system integration partners, dedicated governance, permanent training along with Murex teams embeds, and alignment at all stages of client lifecycle, Murex leverages its delivery capabilities across the Americas.

## Immediate benefits

Going live with MX.3 for XVA and PFE allows Banorte to:

- Achieve compliance with new regulations and standards, such as IFRS.
- Reduce audit and/or supervisory findings.
- Adopt international best practices, such as pricing based on risk-neutral models and counterparty limits based on real-world models.
- Obtain better transaction pricing and selection through the inclusion of funding and counterparty risks, as well as risk-adjusted return metrics.
- Achieve better calculation accuracy by eliminating different sources and engines for pricing and risk measurement.

The XVA module implementation is a major step in Banorte's trading risks infrastructure transformation. Three additional important milestones will follow: first, setting ISDA's standard methodology for initial margins implementation (better known as SIMM™); second, the migration of the market risk engine, including VAR, Expected Shortfall and P&L attribution calculations; and, finally, the introduction of the new Basel framework for market risk. The latter will be mandatory in 2022. Internationally, it is known as the Fundamental Review of the Trading Book, or FRTB.

### ABOUT MUREX

For more than 30 years, Murex has provided enterprise-wide, cross-asset financial technology solutions to capital markets players. Its cross-function platform, MX.3, supports trading, treasury, risk and post-trade operations, enabling clients to better meet regulatory requirements, manage enterprise-wide risk, and control IT costs. With more than 57,000 daily users in more than 60 countries, Murex has clients across the financial services industry, from banking and asset management to energy and commodities. Murex is an independent company with over 2,400 employees across 18 locations. Murex is committed to providing cutting-edge technology, superior customer service and unique product innovation. MX.3 is specifically designed and engineered to meet the multifaceted challenges of a transforming financial industry. To find out more, visit [www.murex.com](http://www.murex.com).



murex.com  
info@murex.com  
@Murex\_Group

EMEA  
Paris +33 1 4405 3200  
Beirut +961 1 356 000

Americas  
New York +1 212 381 4300

Asia Pacific  
Singapore +65 6216 02 88