Microdata on Financial Markets in Banco de Mexico

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Lisbon May 4-7, 2016
Introduction

Financial Information in Central Banks

Traditional Monetary and Price Stability

\[ MD(i) = MS(i) \]
Monetary Aggregates

\[ AD(p) = AS(p) \]
Credit Aggregates
Balance of Payments
Flow of Funds

Interest Rate Curve

Relevant Interest Rates

Exchange Rate Information

Nominal Exchange Rates
Real Exchange Rates

Market Monitoring

Micro Prudential Supervision (Institutions)

Item-by-Item
Life Cycle
Risk Positions
Snap Shot

Aggregated
Detailed Info
Micro Data
Introduction

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Macro Financial

Sectoral Balance Sheets
Detailed Flow of Funds
Asset Prices (Financial and Non Financial)

Macro Prudential

Shadow Banking
Detailed Flow of Funds
Interlinkages
GSIBs Risks
Market Risks
Credit Risk

Market Monitoring

Micro Prudential Supervision (Institutions)

Financial transactions
Item-by-Item
↓
Life Cycle
Risk Positions
↓
Snap Shot
Market and Funding Liquidity
Capital Adequacy

Financial Information in Central Banks

Aggregated
Detailed Info
Micro Data
# Financial Information Model of Banco de Mexico

**Collected by BANCO DE MEXICO, directly from the institutions**

- Commercial banks, development banks, brokerage houses, exchange houses, other regulated financial entities
- Other financial authorities (CNBV, CNSF, CONSAR), price vendors, securities depository, credit card switches, exchanges, etc.

## Financial Information Model of Banco de Mexico

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Information Type</th>
<th>Aggregated Information (Granularity according to the type of information)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Foreign exchange ops., Derivatives, Securities (Repo / Buy – Sell / Security Lending) Interbank loans, Cross-border transactions, Time deposits, Credit &amp; debit card transactions (switches)</td>
<td>Financial products and services, FX claims and liabilities, Capital adequacy (Basel III), MXP cash transactions, USD cash transactions, Regulated intermediaries financial statements</td>
</tr>
<tr>
<td>Monthly</td>
<td>Equities holdings, Financial fees and discount rates, Mortgages, Commercial loans, Credit bureaus</td>
<td>Ratings, prices, indices, interest rates, economic and financial variables and risk factors, Liquidity (Basel III), Demand deposits</td>
</tr>
<tr>
<td>Bimonthly</td>
<td>Consumer loans (credit card, auto, personal, wage, etc.)</td>
<td></td>
</tr>
<tr>
<td>Quarterly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semmianual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Consumer loans (credit card, auto, personal, wage, etc.)
- Payment network costs
- Retail payment systems
Transaction information in Banco de Mexico

- Microdata has the biggest share in the current model of information of Banco de Mexico. According to the origin of the financial operations, this could be classified as: Microdata on operations with financial assets and microdata on other financial transactions.
  - Regarding the former, Banco de Mexico requests all trades made by banks and brokerage houses in the different financial markets: FX, securities, money market and derivatives.
  - The latter includes item by item information on “classic banking” (credit and interbank and time deposits) and payment transactions (credit and debit card transactions and cross border transactions).
- The Richness of microdata on financial market trades, has allowed that in derivative transactions Banco de Mexico function as a Central Trade Repository (TR-like).
Financial Information Model: Deposit and the Interbank Market

**Reporting institutions and regulatory templates**

- **Commercial banks**
  - Interbank Loans and Deposits and Time Deposits
    - Domestic Currency
    - Foreign Currency

- **Development banks**

**Type of transactions collected**

- **Daily**
  - **Assets**
    - Interbank loans
  - **Liabilities**
    - Interbank loans
    - Time deposits

- **Monthly**
  - **Assets**
    - Interbank deposits
    - Interbank Receivable
    - Interbank Rediscount loan portfolio
  - **Liabilities**
    - Interbank deposits
    - Interbank account payable
    - Interbank Rediscount loan portfolio

**Main characteristics of information collected**

**Daily**
- Counterparty / C Type / Residence
- Balance
- Initial and maturity dates
- Interest rate formulation
- Currency
- Location
- Instrument (Payment notes, CDs bonds, etc.)

**Monthly**
- Balance
- Counterparty
- Interests
- Currency denomination
Financial Information Model: Debt Securities

**Primary Sources**
- Banks and Brokerage Houses
- Indeval (Centralized Securities Depository)
- Price Vendors
- Prospectus
- Entities data base

**Secondary Sources**
- Money Market Funds (Bank & Securities Supervisor)
- Pension Funds (Pension Funds Supervisor)

**Information Collected (Daily)**
- Security by Security Data Base
  - Information Requirements
    - Spot transactions
    - Repo transactions
    - Securities Lending
    - Fails
  - Holdings
  - Issuer and Counterparty Characteristics
  - Portfolios

**Data bases main characteristics**
- **Common features**
  - ISIN
  - Traded amount
  - Settlement currency
  - Transaction price
  - Position in the transaction
  - Broker
  - Trade date
  - Settlement date
  - Issuer
  - Counterparty
- **Particular features**
  - Collateral
  - Repo rate
  - Lending fee
Financial Information Model: Foreign Exchange Market

**Information Collected**
(daily base)

- Stocks of foreign currency assets and liabilities
- Detailed spot transactions
  - Currency of transaction (MX-USD, MX-other currencies, other)
  - Term of transactions (24 to 96 hrs.)
  - Counterparty
- FX swaps

**Sources**

- Banks
- Brokerage Houses
- Foreign Exchange Houses

**Regulatory Requirements**

- Limits to the Net Open Position in FX
- Liabilities and Investment Regime in Foreign Currency
- Liquidity Test and Limits of Specific Transactions
Financial Information Model: Derivatives

**Financial intermediaries**
- Commercial Banks
- Development Banks
- Brokerage Houses

**Instruments**
- Forward & Futures
- Swaps
- Options and “Warrants”

**Transactions**
- Spot prices, settlement prices, up-front payment, exercise prices, etc.
- Contract size
- Cash flows
- Payment dates
- Holder/Issuer
- Maturity
- Trading platform/clearing house

**Counterparties**
- Entity identifiers
- Economic Sector
- Type of entity
- Nationality
- Type of netting agreement

**Characteristics of**
- Underlying assets (equity indexes, interest rates, currencies, equities, bonds, commodities, etc.)
- Asset’s specifications (maturity, currency)
- Market (OTC or derivative exchanges)
- Strategies (hedge/speculative)

**Life cycle (Daily)**

**Snapshot (monthly)**

**Market valuation**

**Deltas**

**Collateral**
- Asset’s specifications
- Market value
Uses of Data

• Currently, transactional data on debt securities, foreign exchange and derivatives, have different uses, mainly for data consistency, market surveillance and financial stability:

  • Detailed information of all transactions is used for regulatory compliance and information consistency.
    • Bank Balances, Capital Adequacy, Liquidity Coverage Ratio, maturity mismatches, currency mismatches, net open position in FX.
  • Monitoring the functioning of the market and compliance of market participation on regulation (authorization and market makers).
  • Market risk analysis of financial institutions portfolio by instrument and underlying assets.
  • Credit risk analysis, which considers all risk positions of a given financial institution with its counterparties.
  • Network risk analysis.
Advantages

✓ 15 years of experience collecting daily information.
✓ Close relation with users (CNBV, Financial Stability, Regulation and Supervision).
✓ Banco de México has faculties to request information to banks, brokerage houses, investment funds, and other regulated financial institutions.
✓ Cross validation with other information requirements of the institution and among institutions.
✓ Broad mandate for financial stability, access to all regulated financial institution data.
✓ Data sharing among financial authorities.
Derivatives Trade Repository: Actions Undertaken

- Banks and Brokerage houses are required to submit all their derivatives transactions (OTC and derivatives exchanges) at the closing of each business day.
- Currently, Banks and brokerage houses validate data on a monthly basis and incorporate additional information, including market valuations of each transaction, and delta values for Options and Warrants.
- Between March and September of 2015, new regulatory reports were implement to account for market developments and include international recommendations for derivatives data.
- Technological up-dating and improve transparency through dissemination of statistics.