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Basel III & large exposures implementation in LAC

Dr. Serafín Martínez Jaramillo joint work with Yazmín Pérez

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Latin American Journal of Central Banking Studies

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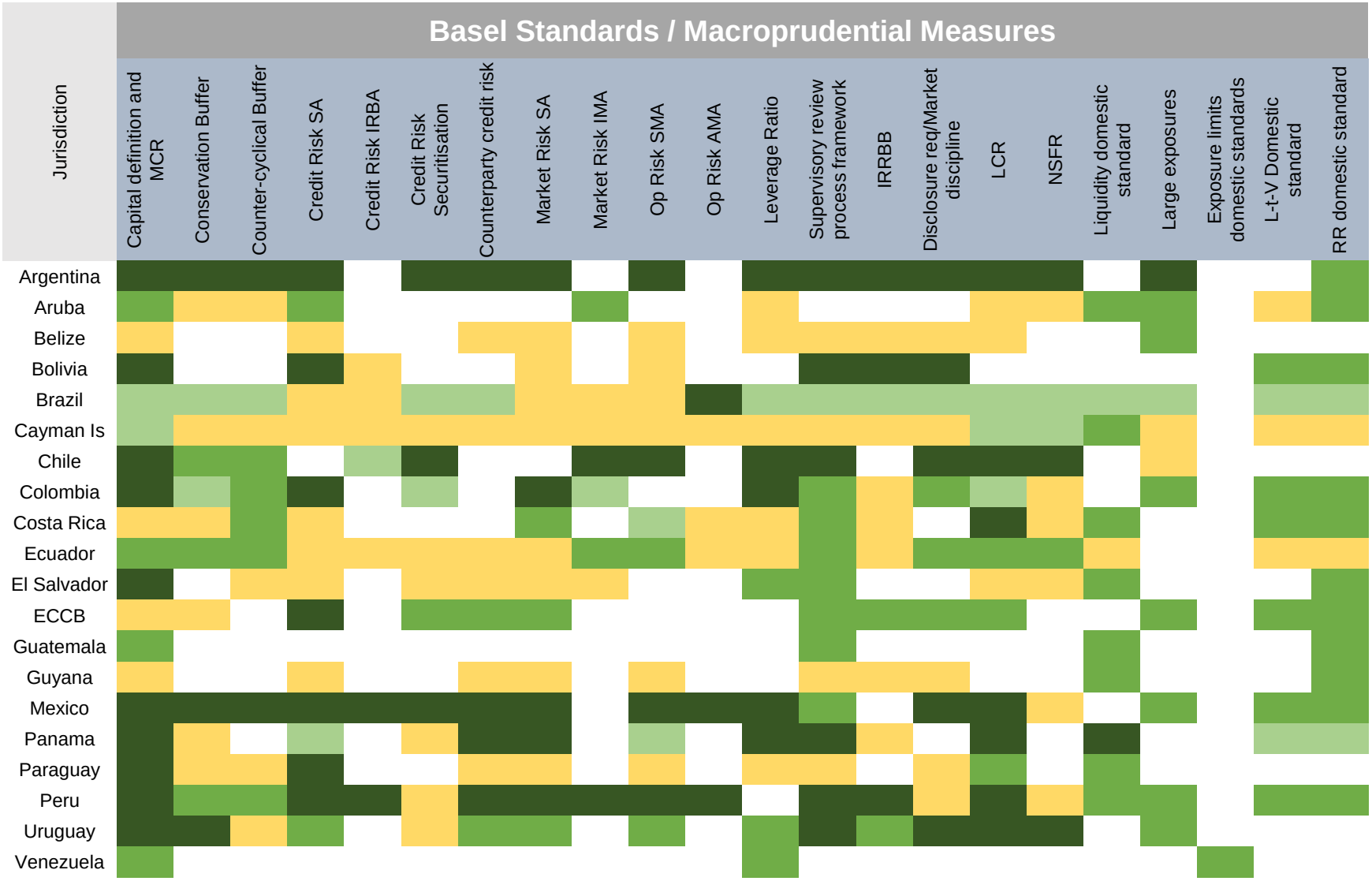
Outline

- Basel standard and other prudential measures in LAC
- Measuring and controlling large exposures
- Large exposures calibration model (Mexico)
- Large exposures standard in the region

Basel standards and other prudential measures in LAC

Implementation overview in LAC



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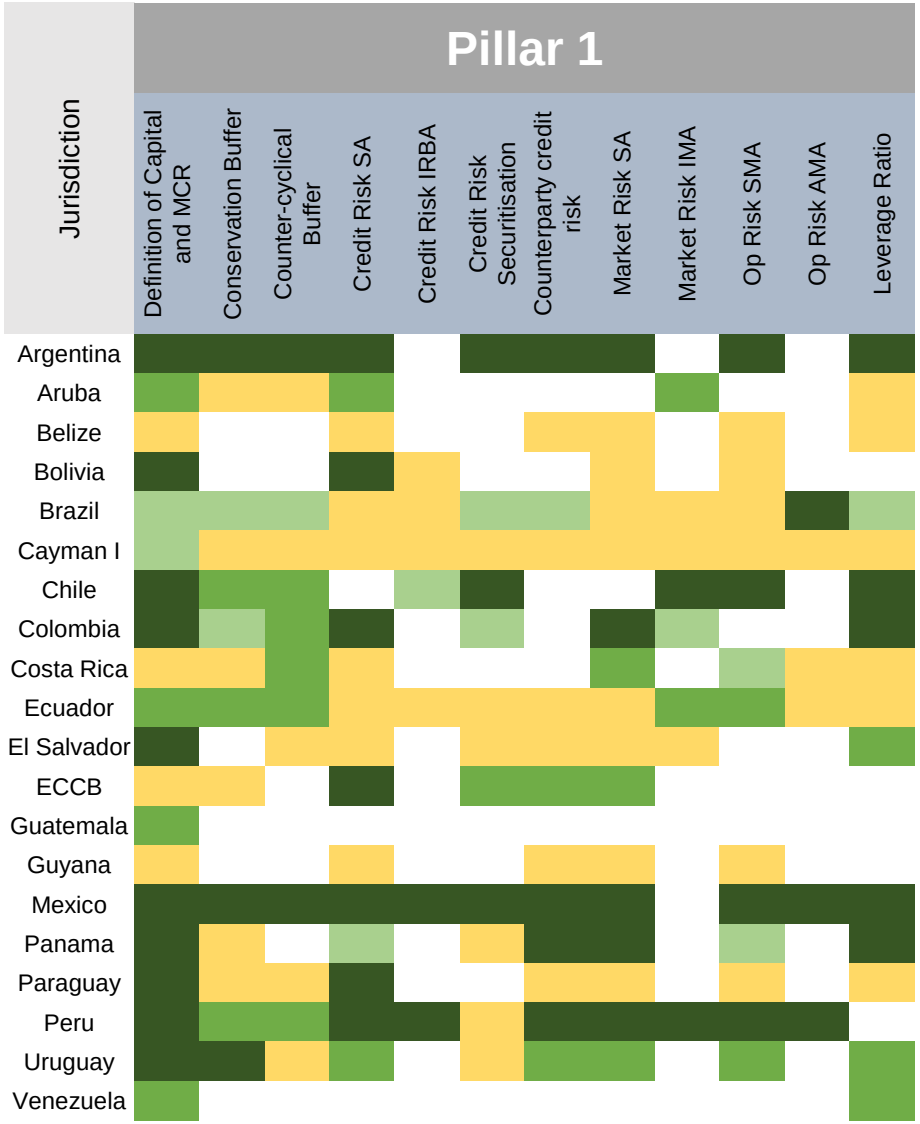
Implementation overview in LAC

- Regional survey sent to CEMLA-ASBA members (31 jurisdictions).
- Objective: Taking stock on the implementation of the Basel III standards in the Latin America and the Caribbean region, with emphasis in the large exposures framework.
- Five sections: a) Standards current stage; b) Standards specifications; c) Large Exposure Standard, d) Banking System Structure, and e) References
- Sample: 20 jurisdictions were analyzed
  - 17 responses were received
  - 3 jurisdictions' data collected through public information review
    - *Aruba (Supervisory directives, LINK)*
    - *Bolivia (Room to Manoeuvre: How Developing Countries Can Tailor Basel Standards Emily Jones, Thorsten Beck, and Peter Knaack LINK)*
    - *Chile: (Implementación de Basilea III SBIF 2018 LINK)*

Implementation overview in LAC

- Pillar 1
  - Quality and level of capital
    - 80% of the sample has implemented standards for capital definition and calculation of minimum capital requirements.
    - 40% have implemented conservation and/or counter-cyclical buffers.
  - Risk coverage
    - 55% have at least one type of credit risk standard.
    - Market risk has been covered by 60%.
    - Almost half of the sample has a standard to mitigate operational risk (45%).
  - Containing leverage
    - 35% are considering implementing a leverage ratio and 45% have already implemented it.



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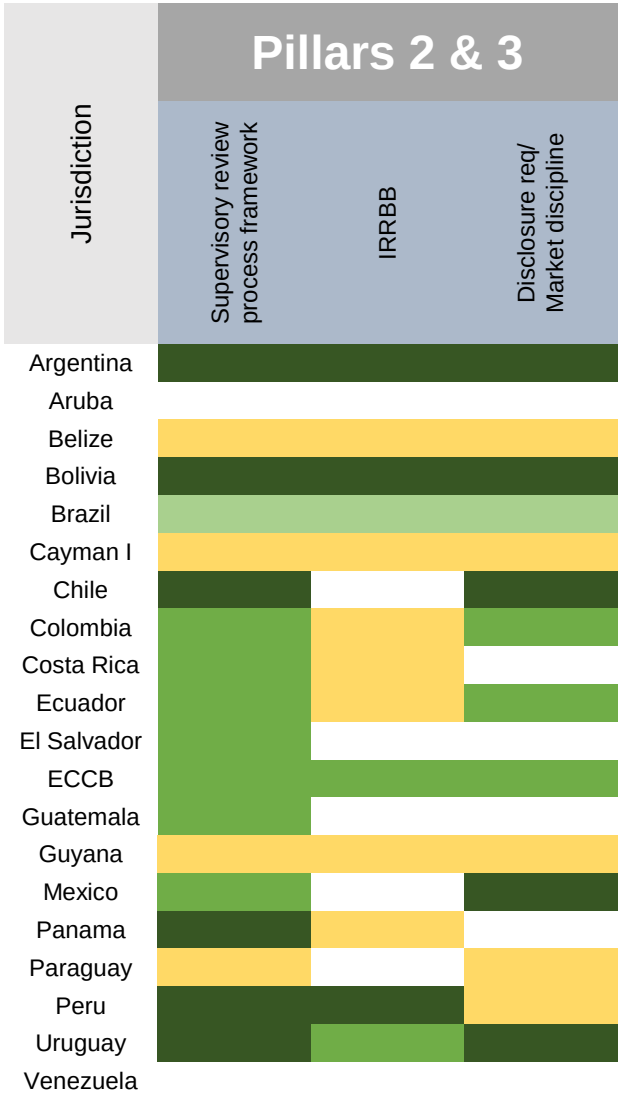
Basel Standard	Domestic standard	Proportionality approach	Under consideration	Not adopted

Implementation overview in LAC

- Pillar 2
  - Risk management and supervision
    - In 70% of the sample there is a legal and regulatory framework for the supervisory review process, of those, 43% have implemented the Basel standard.
    - 40% of the sample is considering the implementation of the Interest Rate Risk in the Banking Book standard.
- Pillar 3
  - Market discipline
    - 45% have disclosure requirements. 25% of the sample is under the Basel III standard and 15% under a domestic standard.



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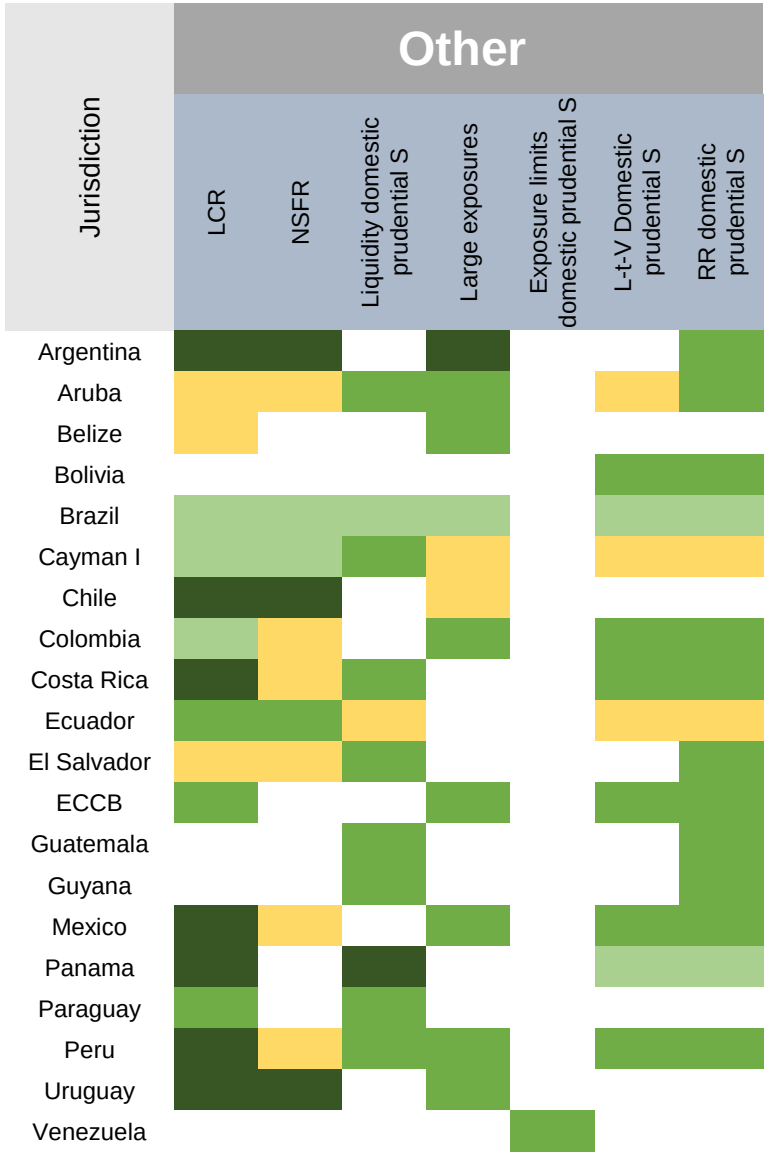
Basel Standard	Domestic standard	Proportionality approach	Under consideration	Not adopted

Implementation overview in LAC

- Liquidity
  - 90% of the sample has at least one type of liquidity coverage.
  - 65% have implemented the Liquidity Coverage Ratio and 30% the Net Stable Funding Ratio
  - 55% have at least one type of credit risk std.
- Large exposures
  - 50% have legislated on large exposures and 10% are considering it.
- Other prudential measures
  - 40% have implemented loan-to-value ratios (mostly related to real estate)
  - Reserve Requirements are used as prudential measures on 65% of the sample.



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Basel Standard	Domestic standard	Proportionality approach	Under consideration	Not adopted

Large exposures framework

Measuring and controlling Large Exposures [1]

- 2014: Basel Committee on Banking Supervision (BCBS) finalized the Supervisory framework for measuring and controlling large exposures (LE)
- This standard aims to "*limiting the maximum loss a bank could face in the event of a sudden counterparty failure to a level that does not endanger the bank's solvency*".
  - Eliminating large exposures across operations and banks' books, introducing identification and calculation rules and reducing the bank's eligible capital base.
  - Fundamental premise: mitigate systemic risks arising from interlinkages of financial institutions and concentrated exposures
  - Complementing the risk-based capital standard.
- LE has implications for:
  - Banking system
    - *Banks exposure limits*
    - *Banks business model*
  - Financial authorities
    - *Monitoring, definitions and data requirements*
    - *Monetary policy implementation*

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BCBS BIS, Supervisory framework for measuring and controlling large exposures, 2014

LE framework

Scope

- Limited to losses incurred due to a default of a single counterparty
- Linked investments
- Single counterparties
- Linked counterparties

Limits

- 25% of Tier 1 capital
- 15% when G-SIB-to-G-SIB.
- Bank must report its 20 largest exposures

Connected counterparties

- Control relationship
- Economic interdependence

LE framework

CRM techniques

- Guarantees
- Credit derivatives
- Financial collateral
- On-balance sheet netting

Exposure values

- All exposures as defined under the risk-based capital framework are subject to the LE framework

Treatment for specific exposure

- Sovereign
- Central bank
- Intraday-intrabank
- Public sector entities
- Covered bonds
- CCP
- Securitization vehicles
- Collective investment undertaking
- Other structures

Calibrating limits for large interbank exposures from a system-wide perspective

Batiz-Zuk, López-Gallo, Martínez-Jaramillo and Solórzano-Margain, Journal of Financial Stability, 2016

LE calibration model

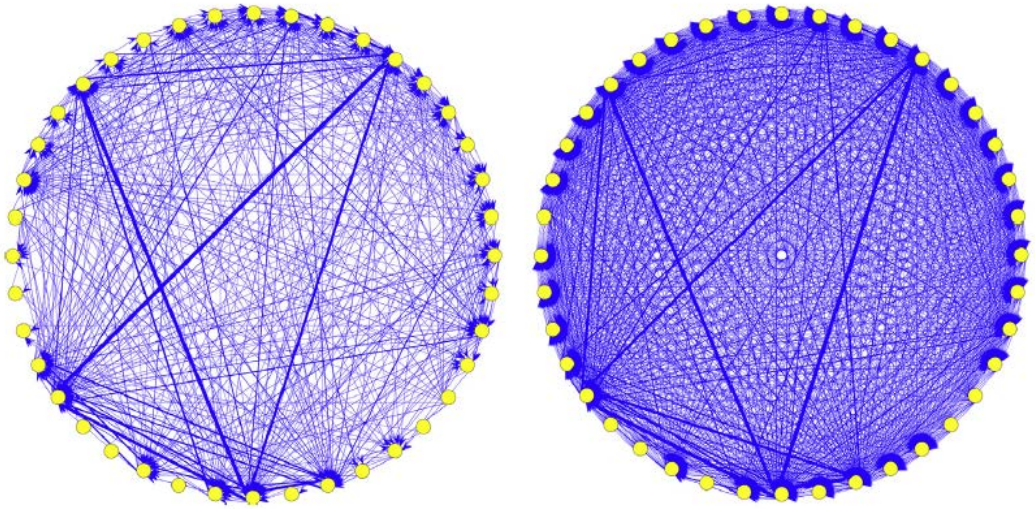
- Objective
  - Calibration framework based on network analysis is useful to assess the benefits of using tighter limits to reduce contagion risk.
- Motivation
  - Failure of a large and highly interconnected bank may lead to substantial losses and contagion in the financial system.
  - A tighter limit on interbank large exposures (LE) is a useful tool to mitigate contagion risk.
- Contribution
  - First comprehensive calibration of interbank exposures from a system-wide perspective based on actual interbank exposures.
  - Capture the strategic behavior of banks by introducing three different bank's behavioral responses in the presence of tighter limits.

LE calibration model

- Data
  - Daily Mexican interbank proprietary data (2008-2012)
  - Limit applies solely for aggregate bilateral interbank exposures
    - Exposure measure:
    - Exposure in the Mexican interbank market
    - Uncollateralized interbank lending
    - Holdings of securities issued by bank counterparts
    - Credit components that arise in derivative transactions
    - Exposures measured after credit risk mitigation
    - FX exposures not included (since these are cleared by CLS Bank)
    - Capital measure:
    - Tier 1 as measure of bank's capital
    - Deductions of Tier 1 capital in line with Basel III

LE calibration model

- In the absence of observed interbank exposures (partial/missing information):
  - Maximum entropy



  - Kartik Anand, et al (2018), The missing links: A global study on uncovering financial network structures from partial data, Journal of Financial Stability, vol. 35, issue C, 107-119

LE calibration model

- Methodology: Contagion Mechanism
  - Sequential default algorithm[2] (three-step process)

(1) A bank *i* fails by assumption due to an unknown reason;

(2) Any bank *j* fails if it has a large bilateral exposure to bank *i* such that its CR < 8% threshold. CR for any bank *j* that is exposed to bank *i* failure as:

$$CR_j = \frac{RC_j - \theta_{ji} \times x_{ji}}{RWA_j - w_{ji} \times \theta_{ji} \times x_{ji}}, \qquad where$$

CR is bank's *j* capital ratio

RC_j is bank's *j* regulatory capital

θ_{ji} is the loss given default of bank's *j* exposure to bank *i*, (i.e. θ_{ji} =100%)

w_{ji} is the regulatory risk-weight for interbank exposures, (i.e. w_{ji} = w=20%)

x_{ji} is the exposure of bank *j* to bank *i*

(3) Additional round occurs if a bank k fails due to contagion in step 2. Contagion stops when no additional banks go under the 8% threshold.

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[2]*Algorithm suggested by Guerrero-Gómez and López-Gallo, 2004*

LE calibration model

- Banks' behavioral response with a tighter limit
  - If limit is reduced from x% to y%, how would be the banks' response?
  - Two extreme scenarios (polar scenarios) for banks' behavioral responses (real-world network would lie between them).
    - *Inter-bank exposures of z% exceeding the y% limit could reduce its exposure to y% and leave the (z-y) % excess amount in its account with the central bank*
    - *Inter-bank exposures of z% exceeding the y% limit could reduce its exposure to y% but increase exposure to other banks so that interbank balance sheet does not change.*
    - For modelling allocation inter-banks lending process, *Lending Preference Index* was used.

As proposed by Cocco et al. (2009)

LE calibration model

- Lending Preference Index (LPI)
  - Measures the intensity of lending activity between banks

$$LPI_{L,B,t} = \frac{\sum_{i \epsilon t} F_i^{L \to B}}{\sum_{i \epsilon t} F_i^{L \to all}}$$

  - A feature of this index is that if L is an important lender for B, then LPI should be close to one.
  - An index with a low value highlights a weak relationship between a given pair of banks
  - In practice banks lend to each other for different reasons and show a preference to lend to specific banks. In Mexico, SIB and non-SIBs find it hard to establish new lending relationships with other borrowers and show a preference to lend to specifics banks

LE calibration model

- Allocation mechanism

In a 120-day LPI analysis, two possible allocation cases were identified

- ***Partial allocation***: we assign only the amount that is possible to be reassigned without breeching the individual limit,
  - A remainder occurs when the receiver bank does not have enough capacity to take its corresponding excess exposure
  - Remainder is kept at the bank's i current account with the central bank
- ***Full***: we assign the excess exposure as much as possible, while the remainder is re-allocated evenly on any remaining banks counterparts that have capacity to take the excess exposure.
  - Diversify the excess exposure as much as possible among the bank's counterparts
- In both cases, additional links are created
- However, artificial lending relationship occur solely in full allocation

LE calibration model

- Allocation mechanism

In practice:

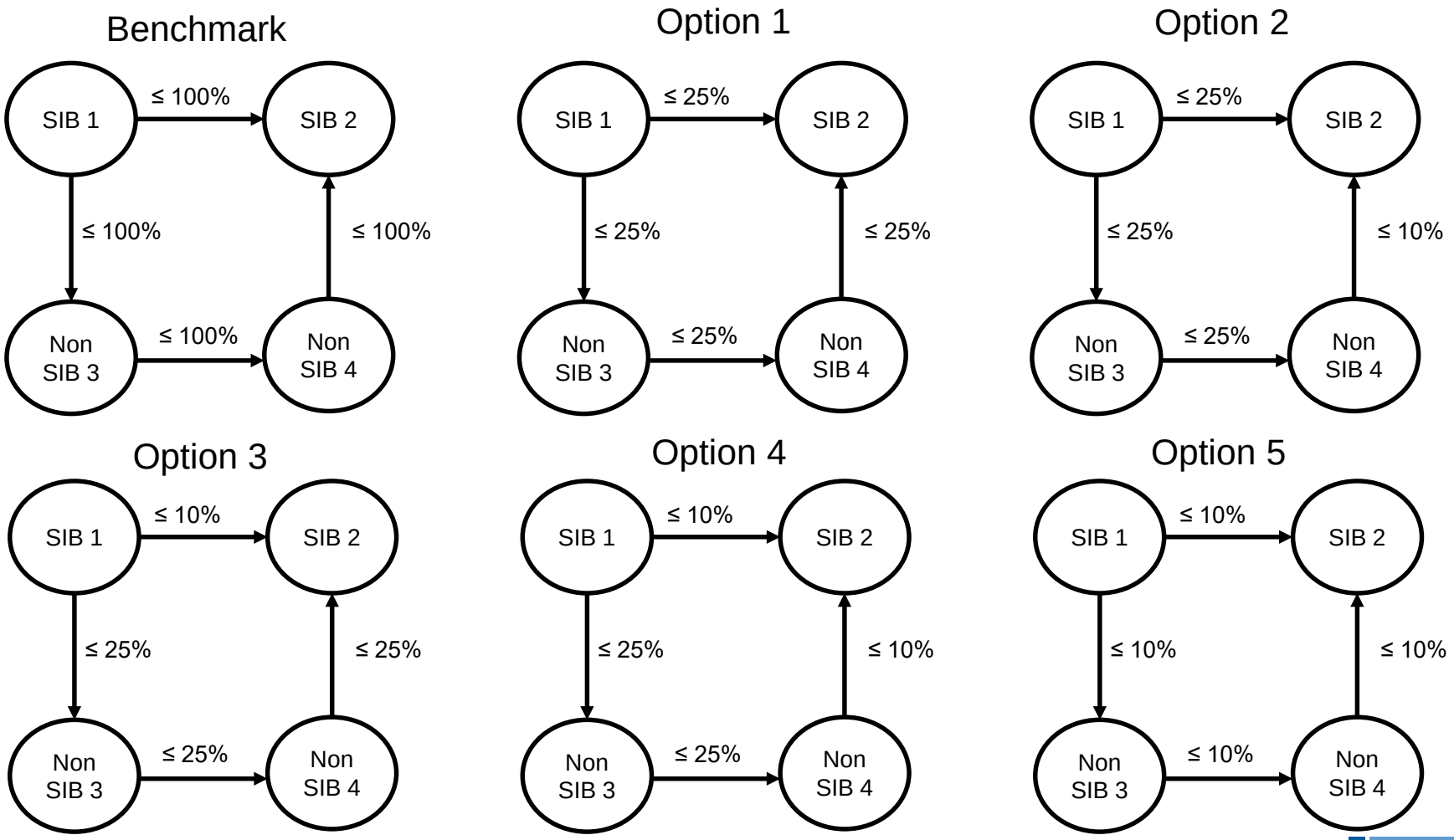
- Assume interbank market comprises five banks, *A, B, C, D* and *E*
- LPI of bank *A* to its 4 counterparts (*i.e., B, C, D, E)* are 50%, 30%, 15% and 5% respectively
- Assume that the single exposure that breaches the limit by an amount *'x'* is the exposure of bank *A* to bank *B*
- Excess exposure x can be reassigned in the following way:
  - 60% to bank *C (i.e.,* $2 * LPI_{A,C}$*)*
  - 30% to bank *D (i.e.,* $2 * LPI_{A,D}$*)*, and
  - 10% to bank *E (i.e.,* $2 * LPI_{A,E}$*)*

Full amount x is allocated among bank *A* counterparts

- Some counterparts may not be able to absorb their full excess amount
- *Partial* we leave the remainder at the central bank *(i.e., out of the network)*
- *Full* we redistribute the remainder among the counterparts that have spare capacity

LE calibration model

- Type of large exposure limits and interbank exposures



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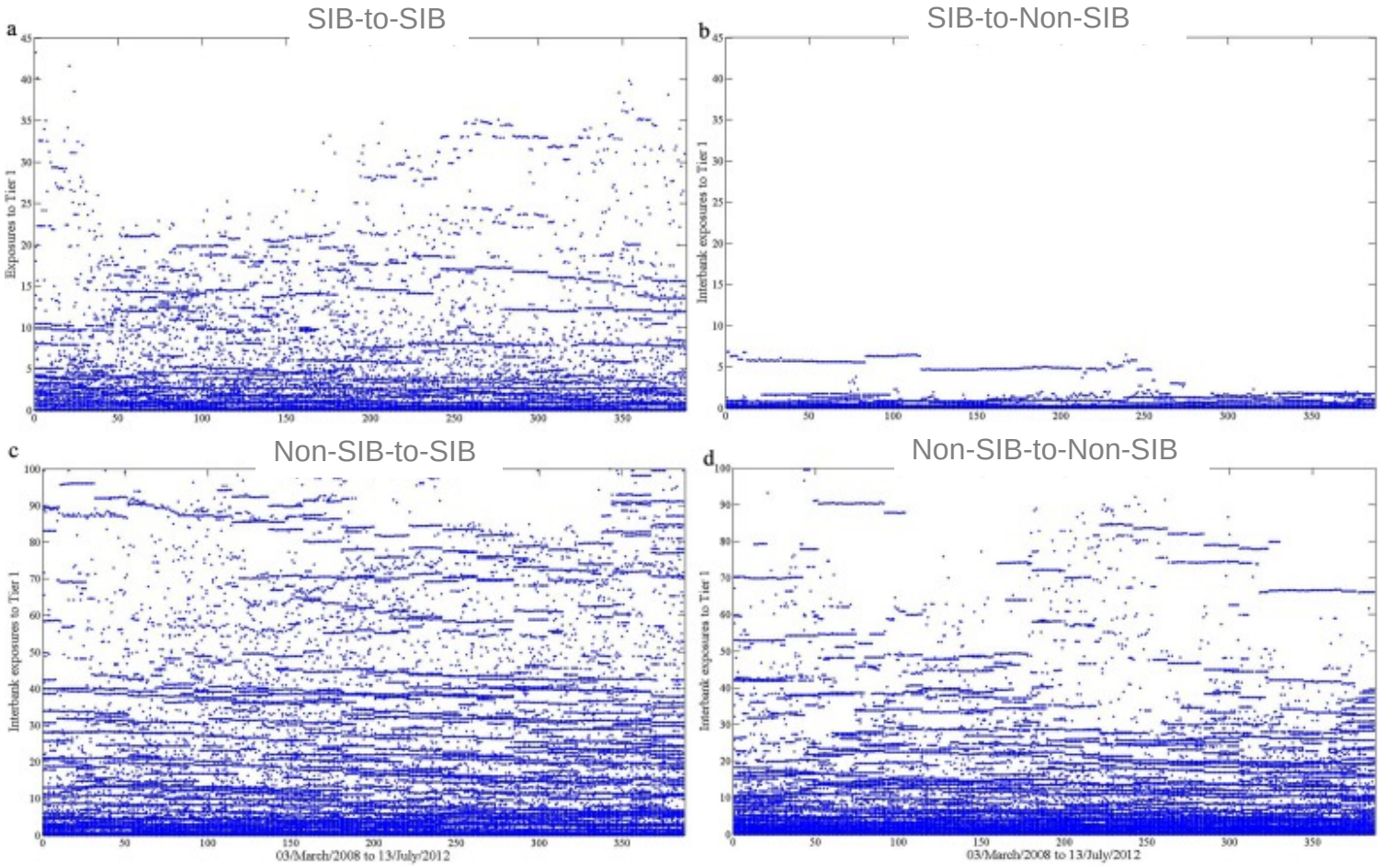
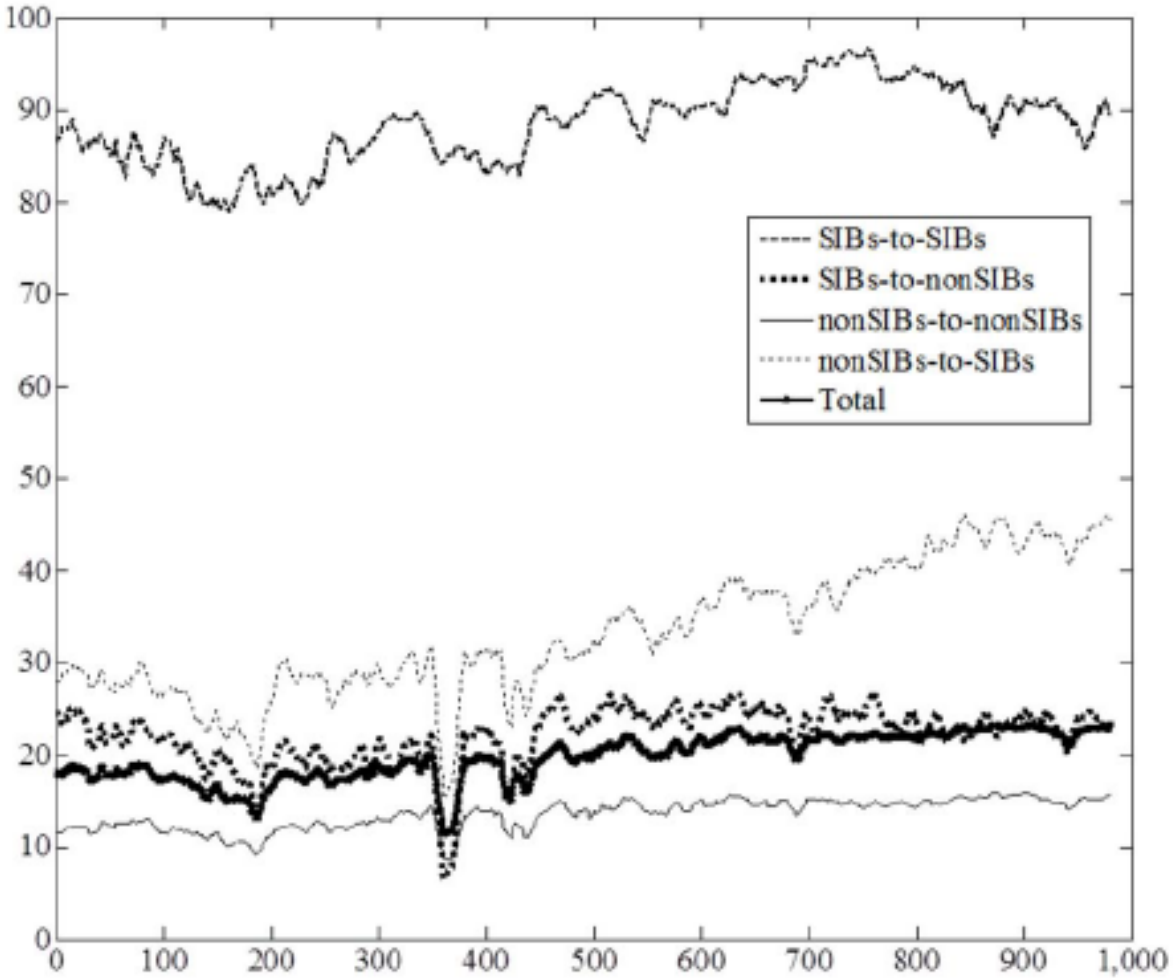
LE calibration model

- Interbank exposures to Tier 1 capital for the period of March 2008 to July 2012



LE calibration model

- Completeness Index (March 2008 to February 2012)



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LE calibration model

- Results

Loss Statistics for the shock that arises from the idiosyncratic failure of each individual bank

	Benchmark	Option 1	Option 2			Option 3			Option 4			Option 5
	Mexican regulatory limit	SIB-to-any bank, Non SIB-to-any bank	SIB-to-any bank (25%)			SIB-to-Non-SIB, Non SIB-to-any bank			SIB-to-Non SIB, Non SIB-to-Non SIB			SIB-to-any bank, Non-SIB-to-any bank
			Non-SIB-to-SIB			SIB-to-SIB			SIB-to-SIB, Non SIB-to-SIB			
Limit as a % of Tier 1 Capital	100%	25%	20%	15%	10%	20%	15%	10%	20%	15%	10%	10%
Panel A												
Maximum number of bank failures in a single contagion case	4	0	0	0	0	0	0	0	0	0	0	0
SIB failure due to contagion	1	0	0	0	0	0	0	0	0	0	0	0
Non-SIB failures due to contagion	3	0	0	0	0	0	0	0	0	0	0	0
Panel B												
Share of assets compromised due to contagion	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

- Risk of contagion occurs solely under the current LE limit in Mexico.
- The risk of contagion disappears when the limit is reduced to 25% of Tier 1.
- Result holds when even under different bank's behavioral responses. In part, this is a consequence of the highly capitalized Mexican banking system.

LE calibration model

- Results

  Stress testing and bank's behavioral responses for Option 1: 25% generalized tighter limit

	Benchmark	Option 1	Option 1: Partial	Option 1: Full
	Mexican regulatory limit	SIB-to-any bank, Non SIB-to-any bank	SIB-to-any bank, Non SIB-to-any bank	SIB-to-any bank, Non SIB-to-any bank
Limit as a % of Tier 1 Capital	100%	25%	25%	25%
Panel A				
Maximum number of bank failures in a single contagion case	11	6	15	15
SIB failure due to contagion	2	1	2	2
Non-SIB failures due to contagion	9	5	13	13
Panel B				
Maximum value of failed bank assets to sum of assets	43%	27%	44%	44%
Panel C				
Total number of arcs	263	263	467	902
Average degree	9	9	15.3	31
Completeness index	23%	23%	39%	80%

- A 25% limit is no longer enough to contain the risk of contagion.
- Panel A: at least one SIB fails due to contagion.
- Panel B: Share of assets destroyed by contagion increase from 27% to 44%.
- Panel C: Degree of interconnectedness increases significantly for *partial* and *full* cases.

LE calibration model

- Results

  Stress testing and bank's behavioral responses for Option 2: Tighter limits on Non SIB-to-SIB

	Benchmark	Option 2			Option 2: Partial			Option 2: Full		
	Mexican regulatory limit	SIB-to-any bank (25%)			SIB-to-any bank (25%)			SIB-to-any bank (25%)		
		Non SIB-to-SIB			Non SIB-to-SIB			Non SIB-to-SIB		
Limit as a % of Tier 1 Capital	100%	25%	15%	10%	25%	15%	10%	25%	15%	10%
Panel A										
Maximum number of bank failures in a single contagion case	11	5	5	5	14	13	10	12	11	13
SIB failure due to contagion	2	0	0	0	2	2	2	2	2	1
Non-SIB failures due to contagion	9	5	5	5	12	11	8	10	9	12
Panel B										
Maximum value of failed bank assets to sum of assets	43%	26%	26%	28%	43%	43%	42%	43%	48%	48%
Panel C										
Total number of arcs	263	263	263	263	405	414	414	685	720	746
Average degree	9	9	9	9	13.8	14	14	25.3	26.2	27.1
Completeness index	23%	23%	23%	23%	35%	36%	36%	65%	67%	70%

- A tighter limit on Non-SIB-to-SIB is not enough to mitigate contagion.
- Even though number of bank failures is larger under *partial* than *full,* share of assets destroyed by contagious defaults is larger for *full* allocation.

LE calibration model

- Results

  Stress testing and bank's behavioral responses for Option 3: Tighter limits on SIB-to-SIB exposures

	Benchmark	Option 3			Option 3: Partial			Option 3: Full		
	Mexican regulatory limit	SIB-to-Non-SIB, Non SIB-to-any bank (25%)			SIB-to-Non-SIB, Non SIB-to-any bank (25%)			SIB-to-Non SIB, Non SIB-to-any bank (25%)		
		SIB-to-SIB			SIB-to-SIB			SIB-to-SIB		
Limit as a % of Tier 1 Capital	100%	25%	15%	10%	25%	15%	10%	25%	15%	10%
Panel A										
Maximum number of bank failures in a single contagion case	11	5	5	5	14	13	10	12	11	13
SIB failure due to contagion	2	0	0	0	2	2	2	2	2	1
Non-SIB failures due to contagion	9	5	5	5	12	11	8	10	9	12
Panel B										
Maximum value of failed bank assets to sum of assets	43%	2%	2%	2%	5%	5%	5%	44%	19%	44%
Panel C										
Total number of arcs	263	263	263	263	394	405	409	661	675	694
Average degree	9	9	9	9	13.4	13.7	13.8	24.3	24.7	25.3
Completeness index	23%	23%	23%	23%	34%	35%	35%	62%	63%	65%

- A tighter limit on SIB-to-SIB exposures reduce contagion for the *partial* and the *no allocation.* Maximum value of failed bank assets to sum of assets remains low.
- There is a non-linear effect in the *full* allocation case.

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LE calibration model

- Results

  Stress testing and bank's behavioral responses for Option 4: Tighter limits for SIB-to-SIB and Non SIB-to-SIB

	Benchmark	Option 4			Option 4: Partial			Option 4: Full		
	Mexican regulatory limit	SIB-to-Non-SIB, Non SIB-to-Non SIB (25%)			SIB-to-Non-SIB, Non SIB-to-Non SIB (25%)			SIB-to-Non-SIB, Non SIB-to-Non SIB (25%)		
		SIB-to-SIB Non-SIB-to-SIB			SIB-to-SIB Non-SIB-to-SIB			SIB-to-SIB Non-SIB-to-SIB		
Limit as a % of Tier 1 Capital	100%	25%	15%	10%	25%	15%	10%	25%	15%	10%
Panel A										
Maximum number of bank failures in a single contagion case	11	5	5	5	6	6	7	10	10	13
SIB failure due to contagion	2	0	0	0	0	0	0	0	0	1
Non-SIB failures due to contagion	9	5	5	5	6	6	7	10	10	12
Panel B										
Maximum value of failed bank assets to sum of assets	43%	1.5%	1.5%	1.5%	1.5%	1.5%	3.1%	3.8%	3.8%	15.7%
Panel C										
Total number of arcs	263	263	263	263	405	425	429	685	734	779
Average degree	9	9	9	9	13.9	14.3	14.4	25.3	26.5	28
Completeness index	23%	23%	23%	23%	36%	36.5%	37%	65%	68%	72%

  - A tighter limit for both SIB-to-SIB and Non SIB-to-SIB is not effective in reducing contagion in the *full* allocation case
  - The non-linearity in the *full* allocation case as measured by the share of defaulting assets due to contagion persists.

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LE calibration model

- Results

  Stress testing and bank's behavioral responses for Option 5: 10% generalized limit

	Benchmark	Option 5	Option 5: Partial	Option 5: Full
	Mexican regulatory limit	SIB-to-any bank, Non-SIB-to-any bank	SIB-to-any bank, Non-SIB-to-any bank	SIB-to-any bank, Non-SIB-to-any bank
Limit as a % of Tier 1 Capital	100%	25%	25%	25%
Panel A				
Maximum number of bank failures in a single contagion case	11	0	0	0
SIB failure due to contagion	2	0	0	0
Non-SIB failures due to contagion	9	0	0	0
Panel B				
Maximum value of failed bank assets to sum of assets	43%	0%	0%	0%
Panel C				
Total number of arcs	263	263	394	661
Average degree	9	9	13.4	24.3
Completeness index	23%	23%	34%	62%

- A generalized 10% limit fully eradicates contagion risk even for the *full* allocation case.
- Efficiency costs may be especially large for Non-SIBs
- There is a need to study Non-SIB funding.

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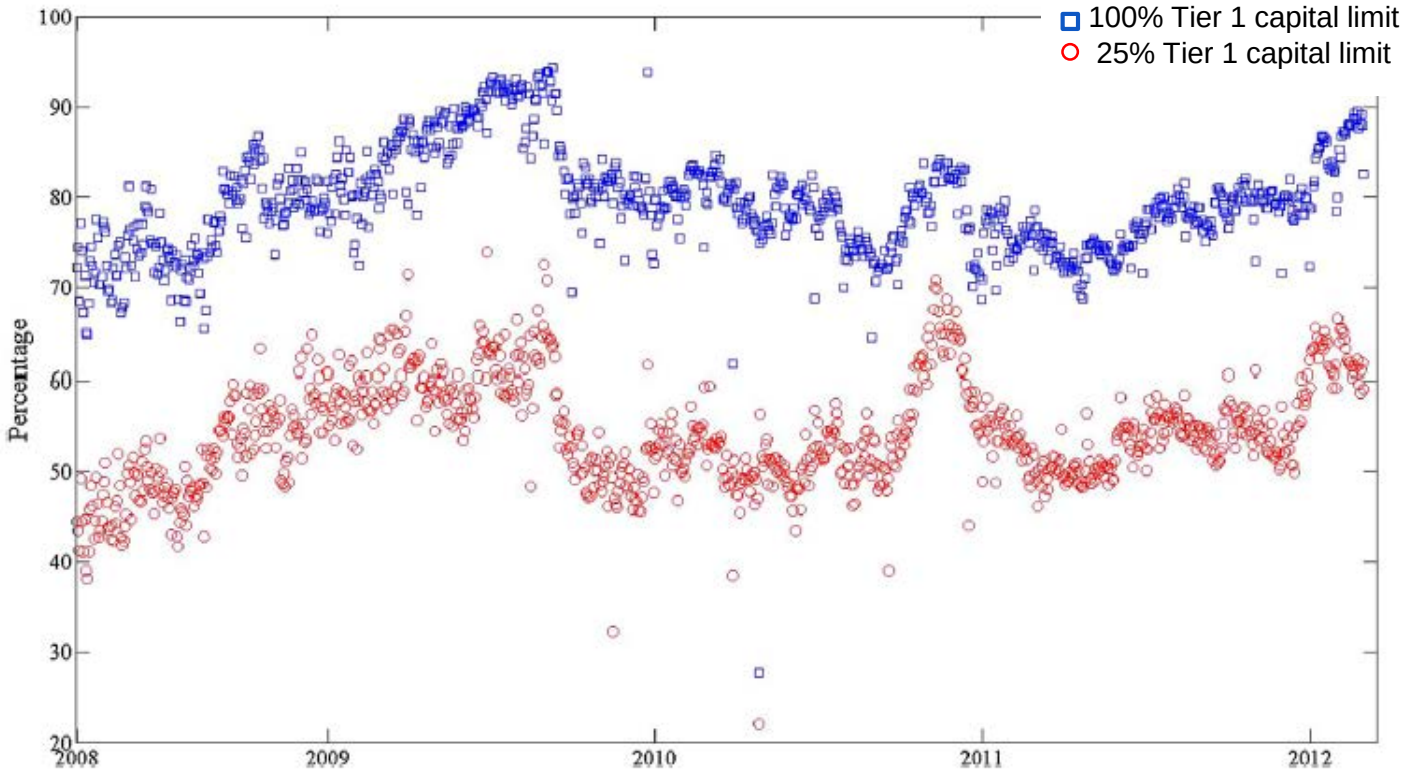
LE calibration model



- Non-SIB-to-any bank exposures are relatively large.
- A generalized 25% limit will reduce Non-SIB funding provided by Non-SIBs on average from 80% to 55%.
- An exemption of LE limits for small banks may be desirable.

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LE calibration model

- Conclusions
  - A limit of 25% of Tier Capital is enough to contain the risk of contagion under regular conditions.
  - A limit of 25% of Tier Capital is not enough under a severe stress scenario.
  - A limit of 20% solely for SIB-to-SIB exposures reduces the risk of contagion under the *no allocation* or *partial allocation* scheme.

Benefit	*Cost*
Reduction in the risk of contagion	Regulatory disclosure of the identity of SIBs

  - A limit of 10% fully eradicates contagion.
  - In case of tighter limits for small banks, more research is needed
    - Failure of small bank does not bear the same cost as the failure of large bank.
    - Funding requirements of small bank are large due to their relatively small capital base.
    - Small banks may face difficulties in obtaining financing during periods of stress

Large exposure standards in LAC

Large exposure standards in LAC

Argentina

Basel standard
(2014 LE standard)

- Counterparties limits: 15% *(10% if exposures are covered with preference guarantees)*
- Interbank limits: 25%
- Challenges: Economic interdependence criteria scope

Brazil

Proportionality approach
(2014 LE standard)

- Single-client exposures *(Counterparties, interbank and DSIB-to-DSIB limits)*: 25% of Tier 1 Capital for institutions allocated to Segments 1-4 and 25% of Simplified Capital for Segment 5.
- The total amount of large exposures is limited to 600% of Tier 1 Capital.
- G-SIB to another G-SIB are limited to 15% of Tier 1 Capital. *Currently, no institution of the SFN qualifies for a G-SIB.*

Colombia

Domestic standard

- Counterparties limits: 10% of technical equity, *if the only guarantee is the debtor's assets.*
  25% technical equity, *only if the operations have sufficient guarantees or sufficient assurances to cover the risk that exceeds 5% of the equity.*
  25% technical equity, *as long as the excess is for infrastructure projects financing (highway concessions-fourth generation)*
- Interbank limits: 30% technical equity
- Challenges: Apply proportionality and supervision

Large exposure standards in LAC

ECCB

Domestic standard

- Counterparties limits: 25% of Tier 1 Capital.
- No established interbank limits.
- Challenges: *Application of* proportionality, scope *of application of elements of the Basel framework along with* supervisory implementation challenges, *including data collection and analysis as well.*

Mexico

Domestic standard

- Counterparties limits: *is variable and depends on each institution capitalization index,* between 12% and 40% of Tier 1 Capital.
- Interbanks limit: 100% of Tier 1 Capital *(If these are subsidiaries of foreign financial entities, this limit will apply to the controlling entity and its subsidiaries as a whole).*
- Challenges: Economic interdependence criteria scope.

Peru

Domestic standard

- Regulations do not consider a combined limit for large exposures.
- LE limit (at a maximum 10% for uncollateralized exposures) is conservative compared to international standards.
- Additional Capital Requirements Regulation additional capital for single name concentration risk considering the top 20 exposures.

Large exposure standards in LAC

Uruguay

Domestic standard

- Counterparties limits: 20% of regulatory capital. If the target bank is BBB + or higher: 35% of the regulatory capital.
- 15% of regulatory capital for legal, natural person or economic group, legal persons or economic groups rated BBB + or higher: 25% of regulatory capital.

Aruba

Domestic standard

- Limits to any one client or group of connected clients may not exceed 25% test capital *(Tier 1 + Tier 2 capital)*
- Large loans, *that comprise credits which equal 15% of a credit institution's test capital* may not exceed 600% of its test capital

The Bahamas

Domestic standard

- Single exposure limit: 25% of its capital base.
- Non-capital investments in securities of a single issuer: 10% of capital base.
- Counterparties limit: 15% of its capital base.
- Aggregate limit: Non-exempt large exposures, 800% of its capital base.

Uruguay: CEMLA regional survey
Aruba and The Bahamas public information
Aruba: https://www.cbaruba.org/cba/readBlob.do?id=4795
The Bahamas: https://www.centralbankbahamas.com/download/064569200.pdf

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Regional challenges on LE implementation

- Monetary policy
- Data to start with
- Supervision/monitoring
- Definition of connected counterparties

Annex

The information model at Banco de México

		Primary Information Processes	Description	Risks	Analysis	Costs	Regulation
Markets: Microdata, Transactional or highly detailed information	Daily	Derivatives	Operation by operation OTC and Exchange Traded: Life Cycle and Snapshot Approaches (= Derivatives Repository)	✓	✓		✓
		Debt Securities	Operation by operation, security by security: lending, repos and spot sales/purchases.	✓	✓		✓
		Interbank Loans and Time Deposits	Detail of interbank funding, funding concentration and time deposits	✓	✓		✓
	Monthly	Commercial Credit	Commercial Credit Registry Loan by loan	✓	✓	✓	✓
	Bimonthly	Credit Cards	Card by card balance, interest and payments & Transaction by transaction from switches (include debit cards)	✓	✓	✓	✓
		Other Consumer Credits	Loan by loan : 1) payroll, 2) personal, 3) automobile, 4) durable goods, 5) group and 6) others	✓	✓	✓	✓
Financial Statements	Monthly	Banks' Financial Statements	Financial balances with sectorial breakdown	✓	✓		✓
		Other Regulatory Reports (other authorities)	Mortgages, operative reports, investment funds' securities portfolio, pension funds portfolio and other institutions	✓	✓		✓
		FX Operations	FX Operations	✓	✓		✓
	Qtr	Payment Systems	Checks, transfers, cards, ATMs, costs of payment systems		✓	✓	
Regulatory Compliance	Daily	FX regulatory Regimes	Liquidity and Exchange Risk	✓	✓		✓
		Fees and Commissions Registry	Costs of Deposits and Credit Financial Products (SMEs and Households)		✓	✓	✓
	Monthly	Capitalization (Basel III)	Templates with high level of detail	✓	✓		✓
		Liquidity (Basel III)	High level of detail	✓	✓		✓

Information collected by Banco de México

Information collected by other authority

Risks both Micro and Macroprudential	Contagion Models
	Market Risk Models
	Capital Requirements Model
	Liquidity Risk
	Financial Institutions
	FX positions
	Indebtness by Sector
Macrofinancial Analysis	International Banking Statistics (BIS)
	Monetary and Financial Aggregates
	Balance of Payments
	Financial Positions of Households and Firms
	Financial Programming
Costs of Financial Services	Interest Rates and Total Annual Costs
	Reports on Comparative Costs
Regulatory Compliance	Fees and Commissions Registry
	Derivatives, Securities, Interest Rates, Capital Requirements, Foreign Currency Positions

Thank you!