THE INTERNATIONALIZATION OF DOMESTIC BANKS AND THE BANK-LENDING CHANNEL: AN EMPIRICAL ASSESSMENT

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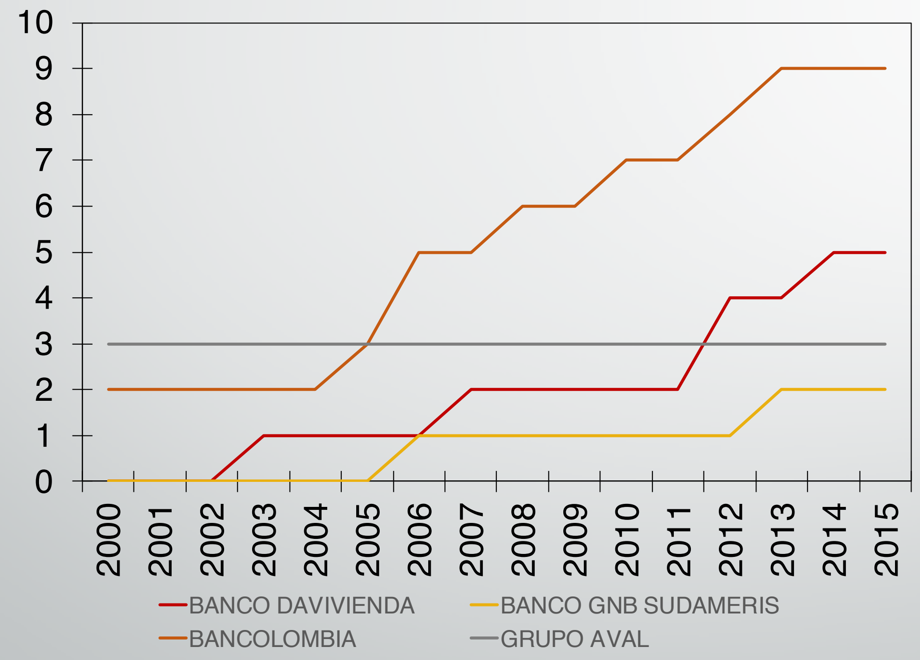
The Question

Has the strength of the bank-lending channel in Colombia changed as a result of the expansion of Colombian banks abroad*?

*(widely considered the most important structural change of the Colombian banking system in the recent past).

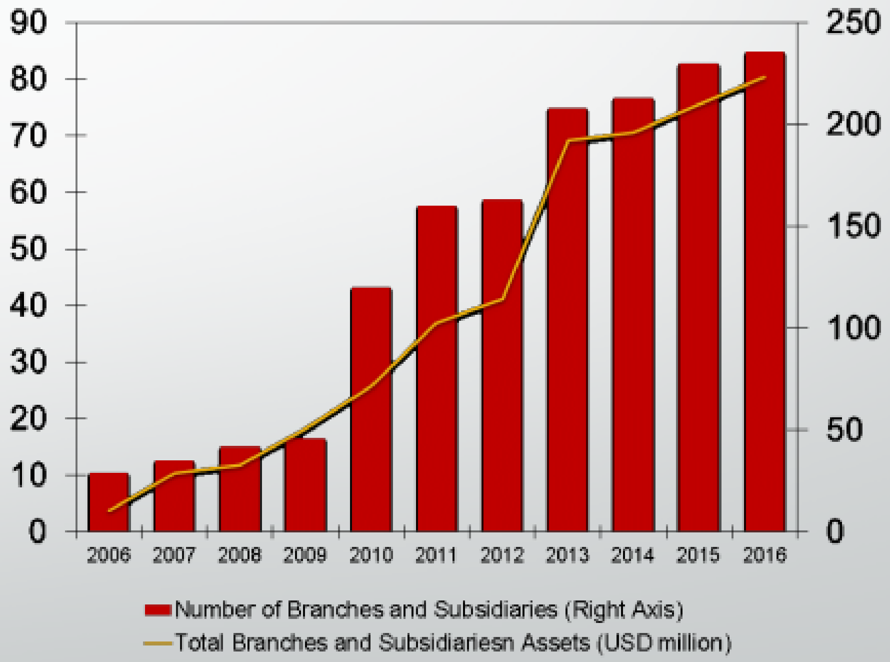
Why?

Figure X1
Average annual number of subsidiaries for the largest Colombian financial conglomerates



Source: SFC, authors' calculations

Figure X2
Colombian financial conglomerates' branches and subsidiaries abroad and foreign assets



How?

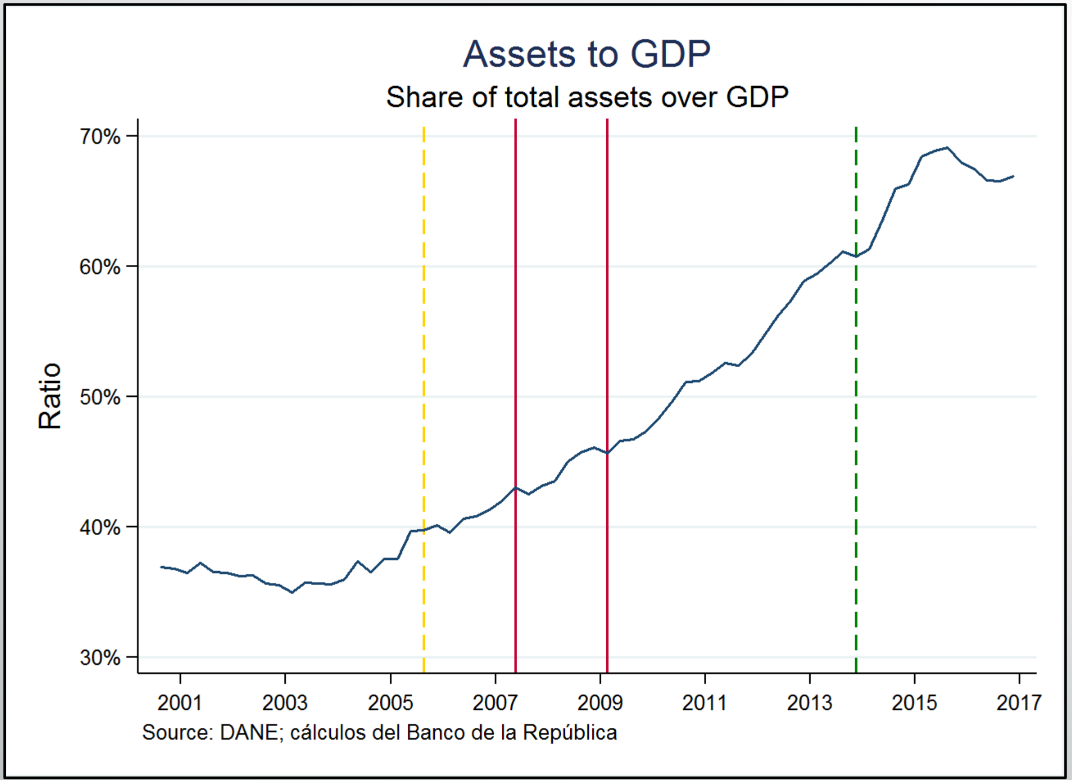
- Quarterly, loan-level data from the Colombian Credit Registry for the period between 2003 and 2016.
- Borrower and time fixed effects.
- Panel specification that relates the change in bank loans with (among others) the interaction of changes in the share of assets of Colombian subordinates abroad and changes in the number of Colombian subordinates abroad with changes in the domestic policy rate…

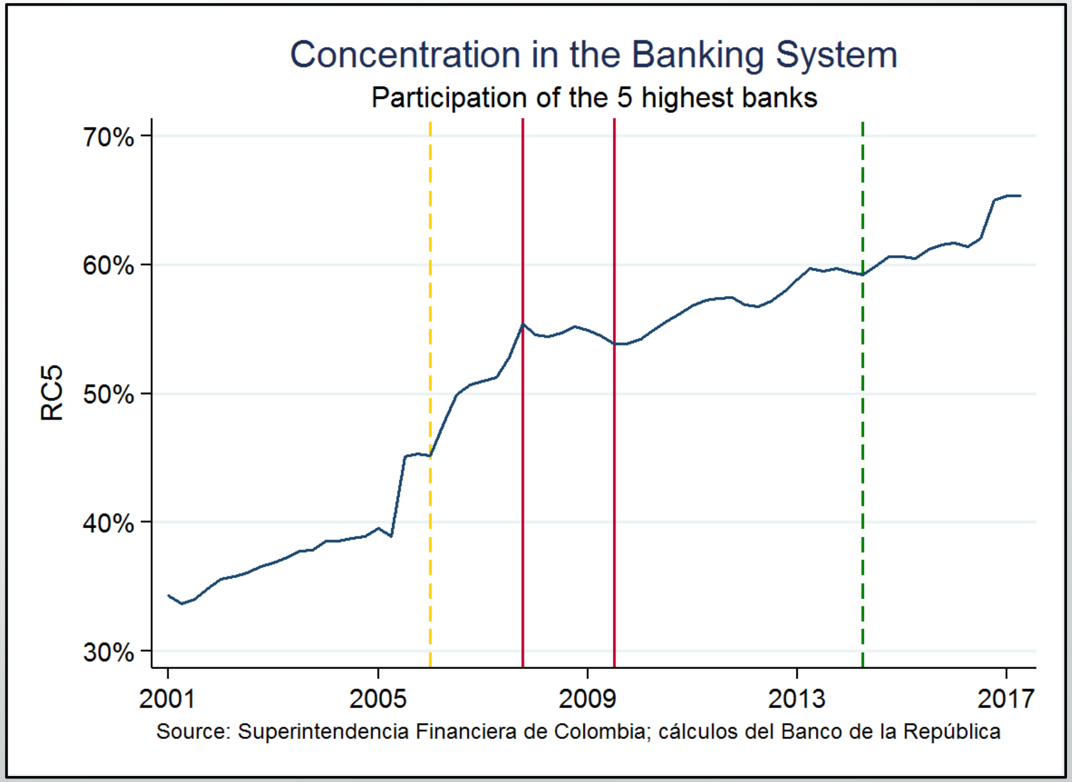
What we get

The internationalization of domestic banks had a noticeable impact on the effect of the domestic policy rate on domestic lending activity, thus altering the strength of the bank-lending channel:

- Banks tend to diversify the composition of their loan portfolio across jurisdictions.
- Higher profitability at home allows banks to isolate their lending conditions from monetary policy.

A Primer on the Colombian Financial System





A Primer on the Colombian Financial System

Table X1

Colombian credit institutions' statistics

Financial intermediary	Number of agents			Assets/GDP		
	Dec-98	Dec-08	June-18	Dec-98	Dec-08	June-18
Banks	38	18	24	44.50%	38.80%	59.10%
Financial corporations	16	3	5	6.40%	0.80%	1.37%
Finance companies (general)	27	17	12	2.00%	1.90%	1.03%
Finance companies (leasing only)	23	10	2	1.60%	2.90%	0.17%
Financial cooperatives	1	8	5	2.00%	0.60%	0.34%
Total	105	56	48	56.50%	45.00%	62.02%

Source: Superintendencia Financiera de Colombia (SFC), authors' calculations

A Primer on the Colombian Financial System

Figure X4
Financial deepening in Colombia
(credit-to-GDP ratio)

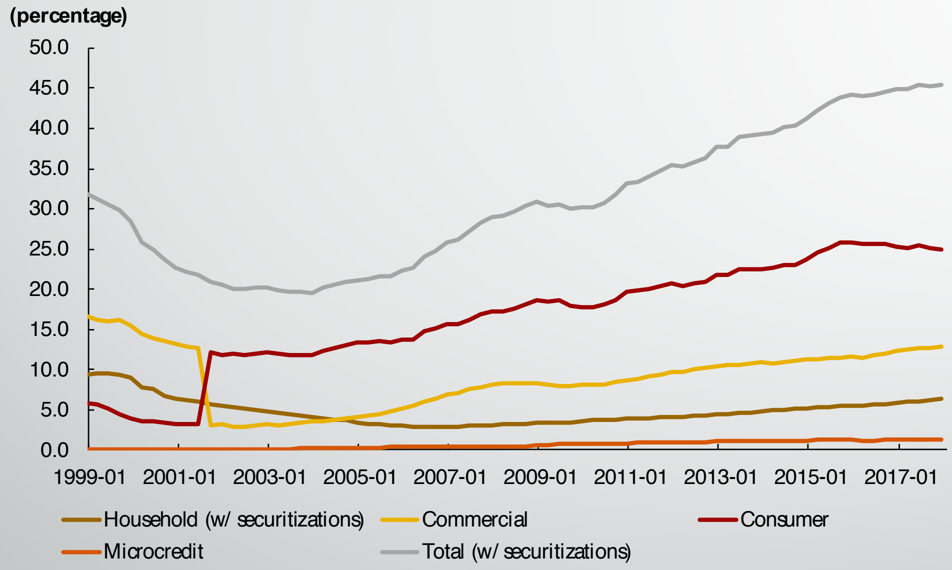
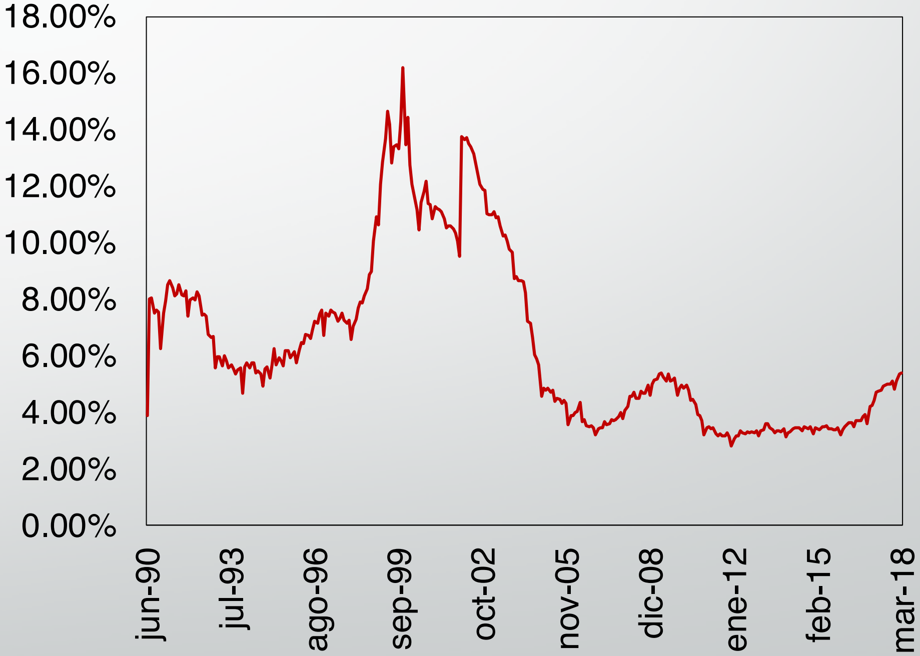


Figure X5
Non-performing loan ratio for
Colombian credit institutions



Source: SFC, authors' calculations

Data

1. Credit registry (quarterly): loan level (loan maturity, collateral, interest rate and amount), 2005:IV to 2016:IV.
2. Banks' financial statements (monthly)
3. Data on international presence of Colombian banks (annually):
    - Aggregate internationalization: share of total financial system assets invested in bank subsidiaries abroad.
    - Individual internationalization of banks: number of subsidiaries overseas of each individual domestic bank.
4. Macroeconomic controls: Real GDP, nominal exchange rate, current account and short-term policy rate.

- 2m loan observations made to 35,055 different firms by 78 different banks.

TABLE 1

Descriptive Statistics of variables used in the regression

The table provides the definition of bank, firm, relationship and macroeconomic characteristics. The mean, median, standard deviation, min and max are presented for every variable. The number of loan observations equals 3,185,036.

Variables	Units	Definition	N	Mean	St. Dev	25th percentile	Median	75th percentile	Min	Max
Dependent Variable										
Δ Log credit	%	Quarterly change on the loan amount	3,185,036	-0.06	0.83	-0.26	-0.08	0.04	-3.64	3.71
Bank-specific characteristics										
Bank lending channel standard indicators										
ln (Total assets)	-	Log of total assets	3,185,036	23.91	0.91	23.39	24.12	24.68	17.90	24.84
Bank capital ratio	%	Ratio of equity over total assets	3,185,036	14.87	5.73	11.29	13.49	17.49	5.31	96.47
Bank liquidity ratio	%	Ratio of current assets over total assets	3,185,036	1.11	1.09	0.38	0.76	1.50	0.02	13.74
Risk profile										
Doubtful loan ratio	%	Ratio of doubtful loans over total loans portfolio	3,185,036	3.41	2.27	1.60	3.12	4.41	0.00	29.33
Loan-loss provision ratio	%	Ratio of loan-loss provisions over total loans portfolio	3,185,036	2.95	1.68	1.74	2.66	3.67	0.00	17.19
Revenue mix										
Diversification ratio	%	Ratio of non-interest income over total income	3,185,036	2.31	3.76	0.60	1.02	1.68	-2.28	32.46
Commissions ratio	%	Ratio of commissions over total income	3,185,036	9.57	3.07	7.33	9.06	11.62	0.09	45.29
Bonds	%	Ratio of bonds over total assets	3,185,036	7.21	5.71	2.69	5.60	10.52	0.00	32.46
Funding										
Short-term funding ratio	%	Ratio of short-term funding over total liabilities	3,185,036	38.64	7.32	33.12	38.48	42.92	0.00	81.14
Foreign currency funding rati	%	Ratio of funding in foreign currency over total liabilities	3,185,036	4.06	2.78	2.04	3.88	5.50	0.00	17.97
Profitability										
ROA	%	Ratio of net income over total assets	3,185,036	2.32	0.97	1.90	2.32	2.70	-24.50	7.01
Foreign Presence										
Number of subsidiaries	N°	Foreign subsidiaries of the bank	3,185,036	4.87	6.21	0.00	0.00	11.00	0.00	16.00
Firm-specific characteristics										
Ln (Age as borrower)	-	The log of one plus the age as borrower	3,185,036	3.34	0.61	3.00	3.47	3.81	1.10	4.29
Previous default	0/1 %	= 1 if the firm delinquent on a loan in the past, = 0 otherwise.	3,185,036	52.87	49.92	0.00	100.00	100.00	0.00	100.00
Relationship characteristics										
Previous default with the bank	0/1 %	= 1 if firm has have an arrear before with the bank, = 0 otherwise.	3,185,036	28.85	45.31	0.00	0.00	100.00	0.00	100.00
Length of relationship	quarters	Length of the bank-firm relationship.	3,185,036	18.50	13.64	8.00	15.00	27.00	2.00	72.00
Macroeconomic controls										
Δ Log Real GDP	%	Quarterly change on the log of real GDP	3,185,036	4.00	1.89	2.61	3.53	5.75	0.35	7.95
Δ Exchange rate	%	Quarterly change of the exchange rate	3,185,036	5.38	16.80	-5.60	1.76	10.49	-23.41	50.12
Δ Current account	%	Quarterly change in the current account	3,185,036	9.03	41.60	-20.46	-1.65	28.43	-59.04	148.55
Δ ir (t-1)	%	Quarterly change in the domestic monetary policy rate	3,185,036	4.56	70.73	0.00	0.00	50.00	-250.00	100.00

Empirical Strategy: Basics

For firm f, bank b, quarter t:

$$\Delta \log \text{Credit}_{fbt} = \varphi + \sum_j \theta_j {}^* B_{bt} + T_t + firm_f + bank_b + relationship_{fb} + \varepsilon_{fbt} \quad (1)$$

specific characteristics of banks
(including the number of subsidiaries abroad)

Time, bank, firm, and bank-firm relationship effects, t
o mitigate endogeneity problems

$$\Delta \log \text{Credit}_{fbt} = \varphi + \sum_j \sum_{\tau=0}^{2} (\theta_j + \beta_{\tau j} {}^* \Delta \mathrm{i}_{\mathrm{t-j}}) B_{bt} + T_t + firm_f + bank_b + relationship_{fb} + \varepsilon_{fbt} \quad (2)$$

- Where $\Delta \mathrm{i}_{\mathrm{t-j}}$ corresponds to the quarterly change in the monetary policy rate set by the Central Bank of Colombia .
- $\sum_{\tau=0}^{2} \beta_{\tau j} > 0$ for some j in specification (2) will be taken as an indication that the bank lending channel is indeed weakened by specific characteristic j.

Empirical Strategy: Internationalization

For firm f, bank b, quarter t :

$$\Delta \log \text{Credit}_{fbt} = \varphi + \sum_j (\theta_j + \beta_j{}^{*} C_t) B_{bt} + T_t + firm_f + bank_b + relationship_{fb} + \varepsilon_{fbt} \qquad (3)$$

$C_t = B_{bt}$ corresponds to the number of subsidiaries abroad of bank b at time t

$C_t = I_t$ corresponds to the share of foreign banking assets of the aggregate of Colombian banks at time t

$$\Delta \log \text{Credit}_{fbt} = \varphi + \sum_j \sum_{\tau=0}^{2} (\theta_j + \beta_{\tau j} * C_t * \Delta \mathrm{i}_{\mathrm{t-j}})\, B_{bt} + \cdots + T_t + firm_f + bank_b + relationship_{fb} + \varepsilon_{fbt} \qquad (4)$$

- Where the double interactions are included as well.
- An estimate of $\sum_{\tau=0}^{2} \beta_{\tau j} \quad > 0$ will be interpreted as internationalization having weakened the bank-lending channel through specific characteristic j.

Results

1. Well capitalized banks tend to provide a larger supply of credit. Banks with more doubtful loans and with higher diversification provide less supply of credit.
2. Banks with more doubtful loans, more commissions income and more funding in foreign currency transmit **more** strongly changes in the monetary policy stance. Banks with higher short term funding transmit **less** strongly changes in the monetary policy rate.
3. As the number of subsidiaries abroad increase:
   - More liquid banks tend to decrease the domestic supply of credit (banks tend to diversify the composition of their loan portfolio across jurisdictions).
   - Larger banks, banks with higher loan loss-provisions ratio, higher commission income, higher participation of bonds and higher short-term funding increase the domestic supply of credit (specific internationalization business model: higher short term local funding incentivizes domestic banks to maintain separate balance sheets between parents and subsidiaries abroad).
   - More diversified banks tend to transmit more strongly a contractionary policy move.
   - Banks with higher provisions, higher commissions income and with a higher profitability tend to transmit more weakly a contractionary policy move. This results would point to indicate a particular model of international expansion of domestic banks, one based on decentralized funding and loan operations, in such a way that higher profitability at home allows them to isolate their lending conditions from monetary policy compared to banks with lower profitability at home that have also expanded abroad.

Specification (1):

Bank´s Characteristics and the Supply of Credit

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bank lending channel standard indicators							
ln (Total assets)	0.03146**						0.03175
	(0.01277)						(0.02178)
Bank capital ratio	0.32533***						0.53382***
	(0.09790)						(0.08961)
Bank liquidity ratio	-0.32429						-0.27059
	(0.35133)						(0.34348)
Risk profile							
Doubtful loans		-0.23412					-0.20912*
		(0.13943)					(0.10764)
Loan-loss provision ratio		-0.26384					-0.48931
		(0.28980)					(0.29825)
Revenue mix							
Diversification ratio			-0.02328				-0.19212***
			(0.07616)				(0.06711)
Commissions ratio			0.02546				0.07933
			(0.20749)				(0.20523)
Bonds ratio			0.12250				-0.04364
			(0.08923)				(0.12985)
Funding							
Share of short-term funding				0.00451			0.03612
				(0.05881)			(0.07243)
Share of funding in foreign currency				0.07406			-0.14531
				(0.08073)			(0.18188)
Profitability							
ROA					0.40719		0.05229
					(0.65786)		(0.46307)
Foreign Presence							
Number of Subsidiaries						0.00183	-0.00139
						(0.00130)	(0.00118)
Observations	3,185,036	3,185,036	3,185,036	3,185,036	3,179,829	3185036	3,179,829
R-squared	0.43040	0.43040	0.43040	0.43040	0.43090	0.43040	0.43100
Adjusted R-squared	0.08428	0.08419	0.08418	0.08417	0.08415	0.08418	0.08433

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

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Specification (2):

Bank´s Characteristics and the Transmission of Monetary Policy Shocks

								Interactions with ∑ j=1-2 Δi(t-j)						
Model	**(1)**	**(2)**	**(3)**	**(5)**	**(6)**	**(7)**	**(8)**	**(1)**	**(2)**	**(3)**	**(5)**	**(6)**	**(7)**	**(8)**
Bank lending channel standard indicators														
ln (Total assets)	0.03442***						0.03960**	-0.0014						0.0025
	(0.01228)						(0.01860)	0.0035						0.0053
Bank capital ratio	0.26314***						0.42414***	0.1357						0.1283
	(0.08716)						(0.08436)	0.0991						0.1092
Bank liquidity ratio	-0.37986						-0.18044	-0.0854						-0.1208
	(0.26086)						(0.29360)	0.1863						0.2286
Risk profile														
Doubtful loans		-0.16377					-0.09732		**-0.4305**					**-0.2374**
		(0.11370)					(0.10000)		**0.1713**					**0.0956**
Loan-loss provision ratio		-0.25022					-0.31837		**0.5652**					0.0475
		(0.29397)					(0.28653)		**0.255**					0.2249
Revenue mix														
Diversification ratio			-0.09168				-0.20196***			**0.2436**				0.1694
			(0.07717)				(0.06127)			**0.1368**				0.1702
Commissions ratio			0.02294				0.06129			**-0.1212**				**-0.2053**
			(0.11837)				(0.14518)			**0.0570**				**0.0876**
Bonds ratio			0.01933				-0.09760			**0.2939**				**0.3095**
			(0.08341)				(0.11550)			**0.0569**				**0.0781**
Funding														
Share of short-term funding				0.03316			0.08045				-0.0723			**0.083**
				(0.05791)			(0.05741)				0.0603			**0.0404**
Share of funding in foreign currency				0.06005			0.08144				0.1501			**-0.3057**
				(0.08875)			(0.14493)				0.1711			**0.1414**
Profitability														
ROA					0.37977		-0.27374					-0.0196		0.0442
					(0.54808)		(0.44884)					0.3067		0.2516
Foreign Presence														
Number of Subsidiaries						0.00159	-0.00220**						**0.0012**	-0.0008
						(0.00119)	(0.00095)						**0.0006**	0.0008
R-squared								0.4306	0.4304	0.4306	0.4304	0.4309	0.4305	0.4312
Adjusted R-squared								0.08451	0.08425	0.08445	0.08426	0.08416	0.08431	0.08472

Right-panel presents the estimate of $\sum_{\tau=0}^{2}\beta_{\tau j}$ for specific characteristic j. Estimates in bold are significant at a 5% confidence level.

Robust standard errors in parentheses
$***p<0.01$, $**p<0.05$, $*p<0.1$

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Specification (3):

Number of Subsidiaries Abroad and the Supply of Credit

Model	(1)	(2)	(3)	(5)	(6)	(7)
Bank lending channel standard indicators						
ln (Total assets)	0.03784**					0.04325*
	(0.01623)					(0.02147)
ln (Total assets) * Number of Subsidiaries	0.00021					0.00524***
	(0.00090)					(0.00093)
Bank capital ratio	0.31666**					0.50724***
	(0.14788)					(0.15316)
Bank capital ratio* Number of Subsidiaries	0.01111					-0.00393
	(0.01261)					(0.01410)
Bank liquidity ratio	0.67116**					0.59619**
	(0.29117)					(0.25315)
Bank liquidity ratio* Number of Subsidiaries	-0.14054***					-0.14409***
	(0.02247)					(0.02671)
Risk profile						
Doubtful loans		-0.25680*				-0.12305
		(0.13863)				(0.11189)
Doubtful loans * Number of Subsidiaries		-0.01712				0.01517
		(0.02566)				(0.01916)
Loan-loss provision ratio		-0.18312				-0.17854
		(0.27953)				(0.26943)
Loan-loss provision ratio * Number of Subsidiaries		0.08784***				0.06234**
		(0.02099)				(0.02333)
Revenue mix						
Diversification ratio			-0.02316			0.02246
			(0.11709)			(0.14261)
Diversification ratio* Number of Subsidiaries			0.00146			-0.01266
			(0.01208)			(0.01108)
Commissions ratio			-0.37777***			-0.30416**
			(0.09411)			(0.14544)
Commissions ratio * Number of Subsidiaries			0.08712***			0.10181***
			(0.01240)			(0.01099)
Bonds ratio			0.04620			-0.09748
			(0.15753)			(0.19584)
Bonds ratio * Number of Subsidiaries			0.01732**			0.04165***
			(0.00713)			(0.00958)
Funding						
Share of short-term funding				-0.01304		0.02877
				(0.05289)		(0.07000)
Share of short-term funding * Number of Subsidiaries				0.01185***		0.02865***
				(0.00305)		(0.00564)
Share of funding in foreign currency				-0.19659		0.21612
				(0.16517)		(0.17801)
Share of funding in foreign currency * Number of Subsidiaries				0.03344***		-0.02499
				(0.01111)		(0.01636)
Profitability						
ROA					0.04541	0.11393
					(0.47112)	(0.31075)
ROA * Number of Subsidiaries					0.04493	0.03344
					(0.07717)	(0.03541)
Foreign Presence						
Number of Subsidiaries	-0.00674	0.00046	-0.01052***	-0.00496***	0.00028	-0.15776***
	(0.02181)	(0.00117)	(0.00174)	(0.00169)	(0.00204)	(0.02212)
R-squared	0.4305	0.4304	0.4305	0.4304	0.4309	0.4312
Adjusted R-squared	0.08434	0.08426	0.08436	0.08420	0.08417	0.08461

Robust standard errors in parentheses
$***p<0.01$, $**p<0.05$, $*p<0.1$

Model	(1)	(2)	(3)	(5)	(6)	(7)
Bank lending channel standard indicators						
ln (Total assets)	0.00491					-0.00029
	(0.02200)					(0.02183)
ln (Total assets) * Share of Subordinate Assets	0.10245*					0.10470
	(0.05742)					(0.06606)
Bank capital ratio	0.47140					0.31155
	(0.27989)					(0.36545)
Bank capital ratio* Share of Subordinate Assets	-0.88040					-0.10679
	(1.20864)					(1.53224)
Bank liquidity ratio	-1.22652					-1.98127***
	(0.84489)					(0.37118)
Bank liquidity ratio* Share of Subordinate Assets	3.85107					6.65063***
	(4.89252)					(1.58721)
Risk profile						
Doubtful loans		1.22924***				0.46885
		(0.35477)				(0.33368)
Doubtful loans * Share of Subordinate Assets		-6.24637***				-2.47552*
		(1.77592)				(1.44848)
Loan-loss provision ratio		-0.91830*				-0.49566
		(0.52181)				(0.71353)
Loan-loss provision ratio * Share of Subordinate Assets		2.48606				1.27718
		(2.52976)				(3.63127)
Revenue mix						
Diversification ratio			-0.33464			-0.00203
			(0.29266)			(0.31535)
Diversification ratio* Share of Subordinate Assets			1.01521			-0.78260
			(1.02689)			(1.16162)
Commissions ratio			-0.55389**			-0.15202
			(0.25812)			(0.31150)
Commissions ratio * Share of Subordinate Assets			3.03144			1.90889
			(1.96694)			(2.08325)
Bonds ratio			-0.61575***			-0.69675***
			(0.20407)			(0.19748)
Bonds ratio * Share of Subordinate Assets			2.74786***			2.77367***
			(0.69365)			(0.71370)
Funding						
Share of short-term funding				0.18585		-0.09437
				(0.14922)		(0.12435)
Share of short-term funding * Share of Subordinate Assets				-0.81048		0.50187
				(0.76733)		(0.73976)
Share of funding in foriegn currency				-0.81326*		-0.31987
				(0.39777)		(0.25110)
Share of funding in foriegn currency * Share of Subordinate Assets				3.57983*		0.04752
				(1.90129)		(1.18575)
Profitability						
ROA					0.38677	0.53340
					(0.86743)	(0.82240)
ROA * Share of Subordinate Assets					0.07439	-1.59931
					(4.54994)	(4.51974)
R-squared	0.4305	0.4304	0.4305	0.4304	0.4309	0.4311
Adjusted R-squared	0.08431	0.08426	0.08430	0.08423	0.08415	0.08443

Specification (3):

Share of Subordinates Assets Abroad Owned by Colombian Banks and the Supply of Credit

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

Results

1. Well capitalized banks tend to provide a larger supply of credit. Banks with more doubtful loans and with higher diversification provide less supply of credit.
2. Banks with more doubtful loans, more commissions income and more funding in foreign currency transmit **more** strongly changes in the monetary policy stance. Banks with higher short term funding transmit **less** strongly changes in the monetary policy rate.
3. As the number of subsidiaries abroad increase:
   - More liquid banks tend to decrease the domestic supply of credit (banks tend to diversify the composition of their loan portfolio across jurisdictions).
   - Larger banks, banks with higher loan loss-provisions ratio, higher commission income, higher participation of bonds and higher short-term funding increase the domestic supply of credit (specific internationalization business model: higher short term local funding incentivizes domestic banks to maintain separate balance sheets between parents and subsidiaries abroad).
   - More diversified banks tend to transmit more strongly a contractionary policy move.
   - Banks with higher provisions, higher commissions income and with a higher profitability tend to transmit more weakly a contractionary policy move. This results would point to indicate a particular model of international expansion of domestic banks, one based on decentralized funding and loan operations, in such a way that higher profitability at home allows them to isolate their lending conditions from monetary policy compared to banks with lower profitability at home that have also expanded abroad.

								Interactions with ∑ j=1-2 Δi(t-j)						
Model	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(1)	(2)	(3)	(5)	(6)	(7)	(8)
Number of Subsidiaries	0.00159	-0.03281	-0.00022	0.00534**	0.00756**	0.00125	0.10053	**0.0012**	0.0773	-0.0011	-0.0009	0.0054	0.0003	0.1372
	(0.00119)	(0.02201)	(0.00109)	(0.00198)	(0.00290)	(0.00126)	(0.05923)	**0.0006**	0.0535	0.0013	0.0024	0.0079	0.0018	0.189
Bank lending channel standard indicators														
ln (Total assets)		0.03401**					0.04352**		-0.0017					0.0022
		(0.01556)					(0.02097)		0.0053					0.0074
ln (Total assets) * Number of Subsidiaries		0.00142					-0.00381*		-0.0034					-0.0066
		(0.00093)					(0.00221)		0.0022					0.0069
Bank capital ratio		0.30768*					0.43637***		-0.109					-0.0735
		(0.16122)					(0.15404)		0.1322					0.111
Bank capital ratio* Number of Subsidiaries		-0.00878					-0.01775		**0.0457**					0.0494
		(0.01344)					(0.01608)		**0.0086**					0.0577
Bank liquidity ratio		0.70840**					0.74781**		0.3572					0.0381
		(0.32364)					(0.32015)		0.2247					0.3676
Bank liquidity ratio* Number of Subsidiaries		-0.13308***					-0.14921***		-0.0389					0.0209
		(0.02099)					(0.02161)		0.0441					0.0734
Risk profile														
Doubtful loans			-0.15979				-0.03124			**-0.399**				**-0.1904**
			(0.10240)				(0.10871)			**0.1353**				**0.1174**
Doubtful loans * Number of Subsidiaries			0.01291				-0.00083			-0.0214				0.0287
			(0.02830)				(0.02547)			0.0295				0.128
Loan-loss provision ratio			-0.01114				-0.18059			**0.5688**				-0.0262
			(0.33255)				(0.29638)			**0.2347**				0.2029
Loan-loss provision ratio * Number of Subsidiaries			.10686***				0.16057***			**0.1018**				**0.2222**
			(0.02084)				(0.02029)			**0.036**				**0.0628**
Revenue mix														
Diversification ratio				-0.08421			-0.18956				0.2106			**1.0473**
				(0.17024)			(0.23168)				0.3875			**0.1174**
Diversification ratio* Number of Subsidiaries				0.00005			0.01743				0.0034			**-0.0901**
				(0.01450)			(0.01866)				0.0292			**0.0407**
Commissions ratio				0.26175**			-0.18701				**-0.1425**			-0.2135
				(0.09629)			(0.17076)				**0.0661**			0.1327
Commissions ratio * Number of Subsidiaries				.05288***			-0.04470*				0.0002			**0.1168**
				(0.01506)			(0.02447)				0.0245			**0.0556**
Bonds ratio				-0.01320			-0.09145				**0.2232**			0.1444
				(0.15866)			(0.18745)				**0.0913**			0.0916
Bonds ratio * Number of Subsidiaries				0.01059			0.00974				0.0005			0.044
				(0.00643)			(0.01595)				0.009			0.0595
Funding														
Share of short-term funding					0.01374		0.06995					-0.0049		**0.0791**
					(0.04626)		(0.05471)					0.0636		**0.0425**
Share of short-term funding * Number of Subsidiaries					.01931***		0.01880					-0.0119		-0.0197
					(0.00402)		(0.01627)					0.0201		0.0596
Share of funding in foreign currency					-0.12896		0.42531**					-0.05		**-0.4226**
					(0.17235)		(0.19249)					0.1791		**0.1657**
Share of funding in foreign currency * Number of Subsidiaries					).03303**		-0.03036					0.001		-0.0503
					(0.01320)		(0.02227)					0.0294		0.1009
Profitability														
ROA						-0.09123	-0.09908						-0.2906	0.3247
						(0.47605)	(0.34767)						0.3602	0.3194
ROA * Number of Subsidiaries						0.00960	-0.22717**						0.0387	**0.2243**
						(0.03846)	(0.08726)						0.0811	**0.0986**
R-squared								.4305	.4308	.4306	.4307	.4306	.431	.4316
Adjusted R-squared								0.08431	0.08484	0.08452	0.08476	0.08447	0.08431	0.08529

Specification (4):

The Transmission of Domestic Monetary Policy when Banks Expand their Business Abroad: Number of Subsidiaries

Right-panel presents the estimate of $\sum_{\tau=0}^{2}\beta_{\tau j}$ for specific characteristic j. Estimates in bold are significant at a 5% confidence level.

Robust standard errors in parentheses
∗∗∗p<0.01, ∗∗p<0.05, ∗p<0.1

Specification (4):

The Transmission of Domestic Monetary Policy when Banks Expand their Business Abroad: Share of Subordinate Assets Abroad Owned by Colombian Banks

							Interactions with $\sum j=1\text{-}2\ \Delta i(t-j)$					
Model	**(1)**	**(2)**	**(3)**	**(5)**	**(6)**	**(7)**	**(1)**	**(2)**	**(3)**	**(5)**	**(6)**	**(7)**
Bank lending channel standard indicators												
ln (Total assets)	-0.00098					-0.01187	0.0102					**0.0261**
	(0.01796)					(0.01988)	0.0138					**0.0132**
ln (Total assets) * Share of Subordinate Assets	0.13262**					0.17388***	-0.0696					-0.1006
	(0.04883)					(0.06065)	0.0722					0.0655
Bank capital ratio	0.75876***					1.00045***	**-0.4671**					**-0.82**
	(0.25945)					(0.29517)	**0.1697**					**0.2999**
Bank capital ratio* Share of Subordinate Assets	-2.49922**					-3.44552***	**2.9243**					**4.3323**
	(0.99034)					(1.19897)	**0.9363**					**1.6026**
Bank liquidity ratio	-1.56987*					-2.06768**	0.8144					**2.0558**
	(0.83918)					(0.80400)	0.6459					**0.8889**
Bank liquidity ratio* Share of Subordinate Assets	5.31128					8.08602**	-5.2066					**-12.0482**
	(4.21924)					(3.37907)	3.736					**4.9558**
Risk profile												
Doubtful loans		1.23271***				0.68797*		-0.2763				**-0.9371**
		(0.30749)				(0.34159)		0.5549				**0.5255**
Doubtful loans * Share of Subordinate Assets		6.12469***				-3.58463**		0.5589				**4.3288**
		(1.40781)				(1.50847)		2.9746				**2.3341**
Loan-loss provision ratio		-0.77335				-0.36109		0.6355				0.4306
		(0.45979)				(0.54257)		1.1496				1.0555
Loan-loss provision ratio * Share of Subordinate Assets		2.09687				1.62732		-1.0292				0.2742
		(2.63236)				(2.71492)		6.0446				5.5779
Revenue mix												
Diversification ratio			-0.25698			-0.54111			0.7429			**2.439**
			(0.35711)			(0.46647)			1.0353			**0.5255**
Diversification ratio* Share of Subordinate Assets			0.59946			1.23150			-1.916			-7.975
			(1.21617)			(1.71506)			3.4824			5.0019
Commissions ratio			-0.36670			0.61123***			-0.1648			**-1.1924**
			(0.25410)			(0.18999)			0.2838			**0.224**
Commissions ratio * Share of Subordinate Assets			2.02885			-2.59068**			-0.0307			**4.3182**
			(1.66296)			(1.10117)			1.6549			**1.317**
Bonds ratio			-0.44219**			-0.64094***			0.0848			-0.1904
			(0.16983)			(0.22643)			0.1386			0.3957
Bonds ratio * Share of Subordinate Assets			1.77169***			2.77851***			0.5623			1.3905
			(0.60391)			(0.94672)			0.6221			1.8068
Funding												
Share of short-term funding				0.04855		-0.33343***				**0.3437**		0.2637
				(0.15071)		(0.11888)				**0.116**		0.1624
Share of short-term funding * Share of Subordinate Assets				-0.05718		2.00169***				**-1.7663**		-0.8434
				(0.67989)		(0.63348)				**0.5666**		1.0927
Share of funding in foriegn currency				-0.24201		0.36853				**-1.2443**		**-0.8115**
				(0.48193)		(0.28452)				**0.6864**		**0.3651**
Share of funding in foriegn currency * Share of Subordinate Assets				1.11583		-2.03631*				5.2556		2.4218
				(2.38466)		(1.17471)				3.2824		1.7673
Profitability												
ROA					0.64502	-0.84064					-0.415	1.1224
					(0.79724)	(0.85436)					0.897	0.723
ROA * Share of Subordinate Assets					-2.18898	5.99129					2.6853	**-7.4249**
					(3.85792)	(5.07472)					5.4073	**4.2686**
R-squared							0.4308	0.4306	0.4308	0.4307	0.431	0.4316
Adjusted R-squared							0.08491	0.08452	0.08477	0.08466	0.08438	0.08521

Right-panel presents the estimate of $\sum_{\tau=0}^{2}\beta_{\tau j}$ for specific characteristic j. Estimates in bold are significant at a 5% confidence level.

Robust standard errors in parentheses
$***p<0.01$, $**p<0.05$, $*p<0.1$

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THANKS A LOT!