A Loan-level Analysis of The Determinants of Credit Growth and The Bank Lending Channel in Peru

Central Bank of Peru

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Objective

The study focus on how changes in bank-specific characteristics (bank size, liquidity, capitalization, funding mix, etc.) may affect the supply of credit. Also, we will analyze how these characteristics affect banks' response to monetary policy shocks. Finally, we analyze how the link between these characteristics and credit supply is affected by global financial conditions and uncertainty measures.

DATA

⇨ Sources of infomation:

- Banks' Financial Statements (quarterly) BCRP
- Firms' Financial Statements (annually) INEI
- Credit Registry Data (quarterly) SBS

⇨ Amount of Information:

– After the merge of the datasets we kept with:

- Banks 17
- Firms 4 413
- Loan Observations 179 519

DATA

Bank specific characteristics will be classified into five categories:

1. Main indicators:

size (Index of total assets), liquidity ratio (cash and securities over total assets), bank capital ratio (equity-to-total assets).

2. Risk profile:

loan-loss provisions, non-performing loans, doubtful loans, indicator for a bank's securitization activity (dummy equal to 1 if the bank is active in the securitization market).

3. Revenue mix:

diversification ratio (non-interest income to total income), share of net fees and commission income (net fees and commissions to operating income), share of trading income (trading income to operating income), and assets held for trading as a share of total assets.

DATA

4. Funding composition:

the share of deposits over total liabilities, share of short-term funding, funding in foreign currency over total funding; funding from foreign sources over total funding.

5. Profitability:

return on assets, return on equity, efficiency ratio (operating costs to total income), number of employees or branches per total assets.

Firms:

Log of Assets, Capital Ratio, Return On Assets, Liquidity Ratio, Investment on Equipment, Number of relationships with Banks**.**

DATA

Variables	Min	25th percentile	Median	Average	75th percentile	Max
Main indicators						
Size (log of assets)	5,4	9,8	10,5	10,3	11,0	11,7
Bank capital ratio	4,4	6,0	6,7	7,3	8,1	38,8
Bank liquidity ratio	0,02	19,5	25,7	29,8	34,8	1 436,2
Risk profile						
Loan-loss provisions as a share of total loans	-0,6	1,4	1,8	1,8	2,1	17,3
Non-performing loans as a share of total loans	0	2,2	2,7	3,3	3,5	37,8
Doubtful loans as a share of total loans	0	2,6	3,1	3,5	3,8	44,9
Securitization activity	0	0	1	0,6	1	1
Revenue mix						
Diversification ratio	6,7	42,6	47,9	46,1	51,7	88,6
Share of net fees and comission income	1,9	15,5	20,1	19,7	23,5	213,1
Share of trading income	-1,5	6,1	8,8	9,2	11,5	174,1
Assets held for trading as a share of total assets	0	5,0	8,1	9,6	12,4	38,4
Funding composition						
Share of deposits over total liabilities	42,4	63,8	66,4	68,4	70,8	107,2
Share of short-term funding	0,9	42,3	48,3	48,3	54,2	99,1
Share of funding in foriegn currency	6,6	53,9	58,1	57,2	61,6	96,0
Share of funding from foreign sources	0	11,0	14,1	13,2	16,2	61,9
Efficiency ratio						
ROA	-13,2	1,9	2,3	2,2	2,7	8,1
ROE	-78,3	19,0	24,8	23,9	30,5	46,0
Efficiency ratio	1,1	2,7	3,2	3,6	3,9	40,1
Number of employees per total assets	1,2	12,0	17,6	19,5	22,6	419,1
Number of branches per total assets	0,01	0,5	0,6	0,7	0,9	38,7

1. Impact at the loan-level

The main question to answer is how certain bank-specific characteristics affect the supply of credit to the non-financial sector.

$$\Delta \log \text{Loan}_{fbt} = \beta X_{bt-1} + \alpha_b + firm * time + \varepsilon_{fbt} \quad (1)$$

The dependent variable $\Delta \log \text{Loan}_{fbt}$ is the change in the logarithm of outstanding loans by bank b to firm f at time t. X_{bt-1} is a vector of bank-specific characteristics.

α_b: correspond to time invariant bank fixed effects and $firm * time$: correspond to time variant firm fixed effects.

$$\Delta \log \text{Loan}_{fbt} = \beta X_{bt-1} + \alpha_{fb} + macro_t + firm_{ft-1} + \varepsilon_{fbt} \quad (2)$$

α_{fb}: correspond to bank-firm time-invariant fixed effects and $macro_t$ and $firm_{ft-1}$ are, respectively, time varying macroeconomic and firm controls

Table 1: Role of Bank-Specific Characteristics on the Supply of Credit in Peru

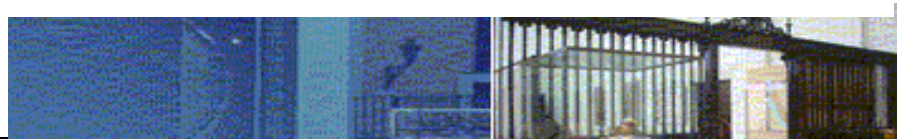
ΔLog (Credit)	(1) Main	(2) Risk	(3) Revenue	(4) Funding	(5) Profit	(6) All
Main indicators						
Total assets Index (t-1)	-0.0002					-0.0013
	(0.977)					(0.895)
Capital ratio (t-1)	0.579 ***					0.612 ***
	(0.0041)					(0.006)
Liquidity ratio (t-1)	0.0191					0.0238 *
	(0.110)					(0.090)
Risk Profile						
Loan-loss provisions/total loans (t-1)		0.296				0.0161
		(0.503)				(0.975)
NPL / total loans (t-1)		-0.504				-0.0050
		(0.296)				(0.993)
Doubtful loans / total loans (t-1)		0.204				-0.129
		(0.689)				(0.818)
Securitization activity (t-1)		0.0049				0.0069
		(0.550)				(0.479)
Revenue Mix						
Diversification ratio (t-1)			-0.0924 *			-0.0308
			(0.062)			(0.641)
Net fees and comission income (t-1)			-0.177 *			0.0089
			(0.051)			(0.945)
Share of trading income (t-1)			-0.032			-0.0753
			(0.792)			(0.585)
Assets held for trading / total assets (t-1)			-0.0804			-0.0858
			(0.224)			(0.322)
Funding						
Deposits / total liabilities (t-1)				0.0147		0.0092
				(0.841)		(0.912)
Short-term funding (t-1)				-0.106		-0.107
				(0.120)		(0.240)
Funding in foreign currency (t-1)				-0.0855 *		-0.0882 *
				(0.076)		(0.096)
Funding from foreign sources (t-1)				0.193 **		0.168
				(0.016)		(0.117)
Profitability						
Return on equity (t-1)					-0.0646	-0.0063
					(0.196)	(0.918)
Efficiency ratio (t-1)					-0.692	-0.235
					(0.267)	(0.733)
Employees per total assets (t-1)					0.0685	-0.0114
					(0.504)	(0.917)
Number of branches per total assets (t-1)					-1.029	-0.747
					(0.490)	(0.643)
Number of debtors * t	41 650	41 651	41 650	41 650	41 650	41 650
Number of banks	17	17	17	17	17	17
Observations	111 081	111 066	111 080	111 081	111 073	111 065
R^2	0.402	0.402	0.402	0.402	0.402	0.402

Standard errors in parentheses. All regresions include bank and firm*time fixed effects.
***p<0.01, ** p<0.05, * p<0.1

Table 2: Role of Bank-Specific Characteristics (BSC) on the Supply of Credit in Peru

ΔLog (Credit)	(1)	(2)
Main indicators		
Total assets Index (t-1)	0.0037	0.0023
	(0.669)	(0.804)
Capital ratio (t-1)	0.574 ***	0.461 ***
	(0.008)	(0.000)
Liquidity ratio (t-1)	0.022 *	0.0365 ***
	(0.077)	(0.003)
Risk Profile		
NPL / total loans (t-1)	-0.292 *	0.129
	(0.094)	(0.417)
Securitization activity (t-1)	0.0058	-0.0062
	(0.520)	(0.676)
Revenue Mix		
Diversification ratio (t-1)	-0.0507	0.0225
	(0.398)	(0.657)
Net fees and comission income (t-1)	0.0085	-0.0857
	(0.943)	(0.346)
Share of trading income (t-1)	-0.123	-0.133
	(0.300)	(0.208)
Funding		
Funding in foreign currency (t-1)	-0.0838	-0.0695
	(0.101)	(0.331)
Funding from foreign sources (t-1)	0.171 *	0.161 *
	(0.062)	(0.056)
Profitability		
Return on equity (t-1)	0.0055	-0.0876
	(0.923)	(0.143)
Employees per total assets (t-1)	-0.0642	0.016
	(0.346)	(0.844)
Firm characteristics	No	Yes
Macro controls	No	Yes
Seasonal Dummy	No	Yes
Bank fixed effects	Yes	No
Firm*Time fixed effects	Yes	No
Bank-firm fixed effects	No	Yes
Sample	MBR	ALL

- The result shows that there is a positive relationship between the growth of credit and assets, capital, and liquidity indicators.
- For example, the estimated coefficient of capital ratio imply that a 1-percentage point increase in the bank capital ratio increases the growth in bank credit by 0.57 percentage points
- There is a negative relationship between the growth of credit and risk indicators (NPL), and revenue mix indicators (Diversification ratio and share of trading income).
- Regarding funding indicators, we find that banks with a lower funding in foreign currency and a higher share of funding from foreign sources grant more credit.
- Regarding the indicators of profitability indicators, more profitable (ROE) and more efficient (number of employees per total assets) banks tend to grant more credit. However, all these coefficients are not statically significant.



2. Bank lending channel

Our second question to answer is how the supply of credit of banks with different characteristics react to domestic monetary shocks.

$$\Delta\, log\ Loan\ _{fbt} = \beta X_{bt-1} + \sum_{j=0}^{1} \delta_j \left(\Delta i_{t-j} * X_{bt-1}\right) + \alpha_b + firm * time + \ \varepsilon_{fbt} \quad (3)$$

α_b: correspond to time invariant bank fixed effects and $firm * time$: correspond to time variant firm fixed effects.

$$\Delta \log \text{Loan}\ _{fbt} = \sum_{j=0}^{1} \gamma_j \Delta \text{i}_{\text{t-j}} + \beta X_{bt-1} + \sum_{j=0}^{1} \delta_j \left(\Delta \text{i}_{\text{t-j}} * X_{bt-1}\right) + \alpha_{fb} + macro_t + firm_{ft-1} + \ \varepsilon_{fbt} (4)$$

α_{fb}: correspond to bank-firm time-invariant fixed effects and $macro_t$ and $firm_{ft-1}$ are, respectively, time varying macroeconomic and firm controls

In this preliminary paper, we run regressions using only domestic currency variables.

Table 3: Interaction between Bank-Specific Characteristics and MP Shocks

ΔLog (Credit)		(1) Main	(2) Risk	(3) Revenue	(4) Funding	(5) Profit	(6) All
Total assets Index (t-1) *	Δi(t)	0.0034					0.0366 ***
		(0.269)					(0.000)
	Δi(t-1)	-0.0002					-0.0144
		(0.941)					(0.151)
Capital ratio (t-1) *	Δi(t)	-0.0623					-1.169 **
		(0.786)					(0.023)
	Δi(t-1)	-0.552 **					-0.655
		(0.012)					(0.198)
Liquidity ratio (t-1) *	Δi(t)	0.043 **					0.0023
		(0.030)					(0.944)
	Δi(t-1)	-0.0177					-0.0298
		(0.258)					(0.192)
Loan-loss provisions/total loans (t-1) *	Δi(t)		-0.828				-1.748
			(0.256)				(0.191)
	Δi(t-1)		0.611				0.944
			(0.321)				(0.456)
NPL / total loans (t-1) *	Δi(t)		-0.779				-0.527
			(0.415)				(0.674)
	Δi(t-1)		1.351				-0.751
			(0.114)				(0.534)
Doubtful loans / total loans (t-1) *	Δi(t)		0.826				0.543
			(0.417)				(0.711)
	Δi(t-1)		-1.601 *				0.118
			(0.072)				(0.931)
Securitization activity (t-1) *	Δi(t)		-0.0142				0.0028
			(0.141)				(0.871)
	Δi(t-1)		0.0099				-0.037 **
			(0.310)				(0.024)
Diversification ratio (t-1) *	Δi(t)			-0.0328			-0.231
				(0.709)			(0.102)
	Δi(t-1)			0.0908			0.26 *
				(0.285)			(0.076)
Net fees and comission income (t-1) *	Δi(t)			-0.162			-0.332
				(0.170)			(0.137)
	Δi(t-1)			0.117			0.579 **
				(0.307)			(0.014)
Share of trading income (t-1) *	Δi(t)			-0.0789			-0.539 ***
				(0.506)			(0.004)
	Δi(t-1)			-0.0508			0.298 *
				(0.639)			(0.097)
Assets held for trading / tot assets (t-1) *	Δi(t)			0.171			0.0408
				(0.153)			(0.826)
	Δi(t-1)			-0.0183			0.35 *
				(0.892)			(0.081)

Table 3 (Cont.): Interaction between Bank-Specific Characteristics and MP Shocks

ΔLog (Credit)		(1) Main	(2) Risk	(3) Revenue	(4) Funding	(5) Profit	(6) All
Deposits / total liabilities (t-1) *	Δi(t)				-0.353 ***		-0.392 **
					(0.001)		(0.026)
	Δi(t-1)				0.29 **		0.455 **
					(0.027)		(0.013)
Short-term funding (t-1) *	Δi(t)				-0.0534		-0.0276
					(0.452)		(0.872)
	Δi(t-1)				0.0754		-0.211
					(0.311)		(0.248)
Funding in foreign currency (t-1) *	Δi(t)				-0.0782		0.174
					(0.274)		(0.152)
	Δi(t-1)				0.0815		-0.225 *
					(0.244)		(0.072)
Funding from foreign sources (t-1) *	Δi(t)				-0.112		-0.423
					(0.445)		(0.105)
	Δi(t-1)				0.0575		0.654 ***
					(0.673)		(0.009)
Return on equity (t-1) *	Δi(t)					0.0057	-0.0595
						(0.879)	(0.480)
	Δi(t-1)					0.0271	-0.0275
						(0.482)	(0.788)
Efficiency ratio (t-1) *	Δi(t)					-0.343	2.459 *
						(0.613)	(0.070)
	Δi(t-1)					0.215	-0.248
						(0.763)	(0.869)
Employees per total assets (t-1) *	Δi(t)					0.0156	-0.193
						(0.855)	(0.273)
	Δi(t-1)					-0.0705	-0.0472
						(0.406)	(0.790)
Number of branches per total assets (t	Δi(t)					0.724	1.78
						(0.459)	(0.311)
	Δi(t-1)					0.0589	1.213
						(0.948)	(0.420)

Table 4: Interaction between Bank-Specific Characteristics and MP Shocks

ΔLog (Credit)		(1)	(2)
Total assets Index (t-1) *	Δi(t)	0.0197 ***	0.0082 *
		(0.008)	(0.077)
	Δi(t-1)	-0.0086	-0.0028
		(0.248)	(0.486)
Capital ratio (t-1) *	Δi(t)	-0.736	-0.691
		(0.113)	(0.108)
	Δi(t-1)	-0.609	0.305
		(0.177)	(0.276)
Liquidity ratio (t-1) *	Δi(t)	0.0413 *	0.053 **
		(0.067)	(0.017)
	Δi(t-1)	-0.0153	-0.0097
		(0.357)	(0.443)
Loan-loss provisions/total loans (t-1) *	Δi(t)	0.168	-0.322
		(0.833)	(0.577)
	Δi(t-1)	0.511	-0.167
		(0.509)	(0.721)
NPL / total loans (t-1) *	Δi(t)	0.127	0.308
		(0.818)	(0.363)
	Δi(t-1)	-0.239	-0.656
		(0.646)	(0.109)
Diversification ratio (t-1) *	Δi(t)	-0.223 **	-0.193 **
		(0.037)	(0.020)
	Δi(t-1)	0.174	-0.042
		(0.170)	(0.661)
Net fees and comission income (t-1) *	Δi(t)	-0.376 **	-0.197
		(0.033)	(0.313)
	Δi(t-1)	0.223	0.202 *
		(0.251)	(0.065)
Funding in foreign currency (t-1) *	Δi(t)	0.155	0.135
		(0.146)	(0.205)
	Δi(t-1)	-0.121	0.0413
		(0.258)	(0.441)
Funding from foreign sources (t-1) *	Δi(t)	-0.0809	0.0348
		(0.655)	(0.813)
	Δi(t-1)	0.254	-0.25 *
		(0.160)	(0.057)
Return on equity (t-1) *	Δi(t)	-0.051	-0.0551
		(0.423)	(0.242)
	Δi(t-1)	-0.0621	0.0397
		(0.358)	(0.233)
Employees per total assets (t-1) *	Δi(t)	0.0262	0.0485
		(0.660)	(0.162)
	Δi(t-1)	-0.0432	-0.0421
		(0.507)	(0.283)
Firm characteristics		No	Yes
Macro controls		No	Yes
Seasonal Dummy		No	Yes
Bank fixed effects		Yes	No
Firm*Time fixed effects		Yes	No
Bank-firm fixed effects		No	Yes
Sample		MBR	ALL

- We find that banks with a high index of assets and higher liquidity are less affected by monetary policy shocks.
- Also, we find that well-capitalised banks are less sheltered against monetary policy shocks. However, these negative coefficients are not statically significant.
- The results show that banks with commercial business models (net fees and commission income) are more affected by monetary policy shocks.
- Also, we show that banks with a higher diversification ratio are more affected by monetary policy shocks.

Regarding funding indicators, we find that bank with a higher funding in foreign currency and funding from foreign sources are less affected by monetary policy shocks.

Finally, banks with a high ratio of NPL, RoE, Employees per total assets reduce more their credit supply when faced with a monetary policy shock.

2. Impact of Global Factors

we evaluate the impact that external conditions (global factors) could had on the way that bank-specific characteristics interact with the supply of credit. So, we assess how the bank-specific characteristics shield banks from a group of global factors/external shocks.

$$\Delta \log \text{Loan}_{fbt} = \beta X_{bt-1} + \delta_j C * X_{bt-1} + \alpha_b + firm * time + \varepsilon_{fbt} \quad (5)$$

Where C corresponds to a global variable that characterises external conditions. In particular, we consider five possible sources of shock:

Global financial uncertainty: measured by the VIX index (level or dummy for high volatility period).

Global liquidity: measured by the Wu-Xia shadow rate for the US monetary policy (level or dummy for the ZLB period).

Economic political uncertainty: measured by the Baker, Bloom and Davis index (level or dummy for high level periods).

Global commodity price: measured by a commodity price index (level or dummy for low price periods).

Great financial crisis: dummy that takes the value of 1 in the period 2008:q3 and 2009:q4 and 0 elsewhere.

Table 5: Interaction between Bank-Specific Characteristics and Global Factors - Level variables

ΔLog (Credit)	(1) Global Financial Uncertainty	(2) Global Liquidity	(3) Economic Poltical Uncertainty	(4) Global Commodity price
Shock*				
Total assets Index (t-1)	0.0003	0.0004	-0.0000	-0.0001
	(0.470)	(0.837)	(0.641)	(0.223)
Capital ratio (t-1)	-0.0101	-0.164 **	0.0103 **	0.0095 *
	(0.698)	(0.015)	(0.040)	(0.058)
Liquidity ratio (t-1)	0.0020	-0.0083	0.0004	0.0003
	(0.193)	(0.279)	(0.315)	(0.400)
Loan-loss provisions/total loans (t-1)	0.0623	-0.0019	-0.011	-0.0256 **
	(0.295)	(0.991)	(0.394)	(0.024)
NPL / total loans (t-1)	-0.0637 *	0.0448	0.0020	-0.0096 *
	(0.097)	(0.635)	(0.781)	(0.088)
Diversification ratio (t-1)	-0.0155 **	0.0275	-0.0023	0.0004
	(0.016)	(0.263)	(0.128)	(0.653)
Net fees and comission income (t-1)	0.018 *	-0.0159	0.0025	0.0002
	(0.095)	(0.636)	(0.152)	(0.876)
Funding in foreign currency (t-1)	0.0136 *	-0.0289	-0.0011	-0.0017
	(0.058)	(0.337)	(0.436)	(0.204)
Funding from foreign sources (t-1)	-0.0091	-0.011	0.0024	0.0051 **
	(0.343)	(0.796)	(0.333)	(0.010)
Share of trading income (t-1)	-0.0035	-0.0301	0.0023 **	0.0026 **
	(0.369)	(0.127)	(0.039)	(0.017)
Employees per total assets (t-1)	0.0029	-0.013	-0.0006	0.0013
	(0.490)	(0.443)	(0.560)	(0.188)

Table 6: Interaction between Bank-Specific Characteristics and Global Factors - Dummy variables

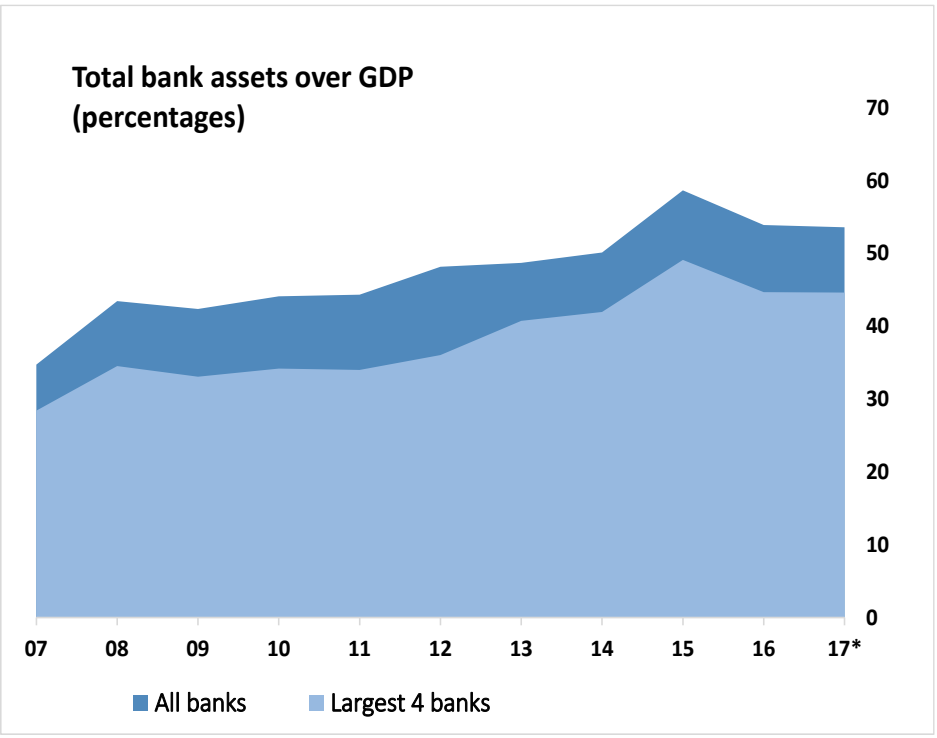
ΔLog (Credit)	(1) Global Financial Uncertainty	(2) Global Liquidity	(3) Economic Poltical Uncertainty	(4) Global Commodity Price	(5) Great Financial Crisis
Shock*					
Total assets Index (t-1)	-0.0001	0.0018	-0.0082	0.0037	-0.0018
	(0.991)	(0.793)	(0.293)	(0.583)	(0.882)
Capital ratio (t-1)	0.569	1.224 ***	0.241	0.652	0.313
	(0.311)	(0.002)	(0.634)	(0.154)	(0.605)
Liquidity ratio (t-1)	0.051	0.0211	0.0606	-0.0537 **	-0.0347
	(0.144)	(0.381)	(0.144)	(0.046)	(0.435)
Loan-loss provisions/total loans (t-1)	1.56	-1.292	-0.731	0.898	-0.155
	(0.188)	(0.188)	(0.626)	(0.376)	(0.920)
NPL / total loans (t-1)	-0.656	-0.335	0.637	0.113	-0.457
	(0.454)	(0.663)	(0.579)	(0.875)	(0.675)
Diversification ratio (t-1)	-0.202	-0.121	-0.0758	-0.0307	-0.155
	(0.195)	(0.208)	(0.610)	(0.695)	(0.528)
Net fees and comission income (t-1)	0.315	0.0986	-0.0524	0.0965	0.357
	(0.142)	(0.500)	(0.741)	(0.603)	(0.240)
Funding in foreign currency (t-1)	0.0396	0.0434	-0.0364	0.0252	0.0326
	(0.760)	(0.653)	(0.773)	(0.831)	(0.855)
Funding from foreign sources (t-1)	-0.0273	0.176	0.404 *	-0.19	0.144
	(0.909)	(0.308)	(0.064)	(0.323)	(0.547)
Share of trading income (t-1)	0.0655	0.195 **	0.0714	-0.0161	-0.0136
	(0.430)	(0.018)	(0.478)	(0.852)	(0.877)
Employees per total assets (t-1)	0.0068	0.0119	0.0009	-0.0954	-0.0335
	(0.937)	(0.887)	(0.992)	(0.213)	(0.738)

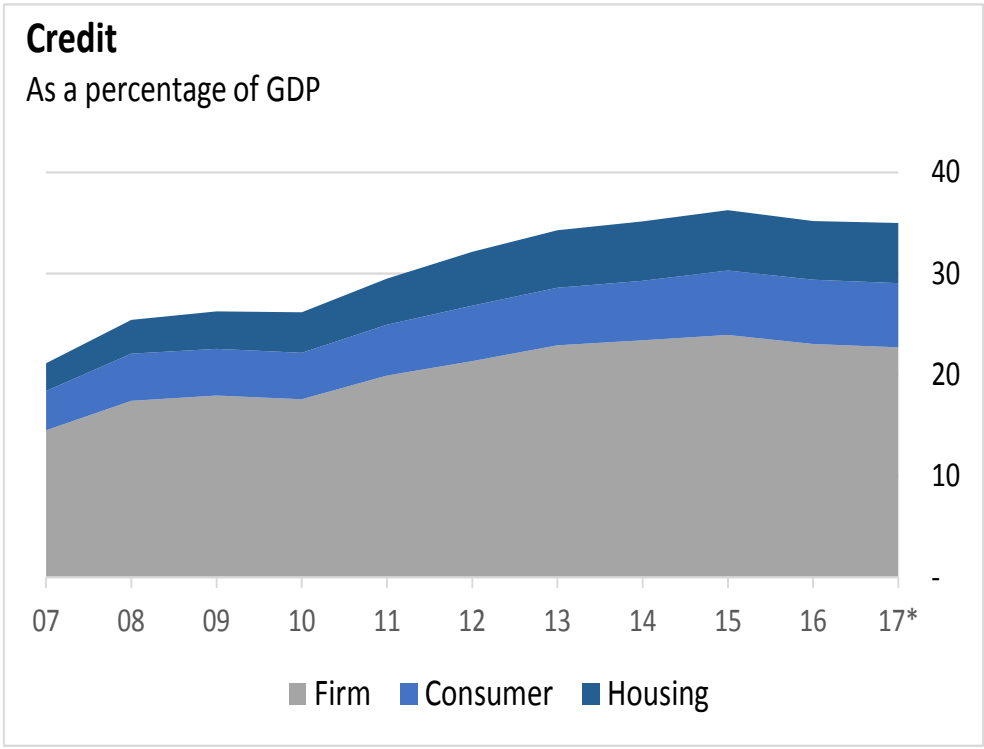
Thank you

Table 7: Interaction between Bank-Specific Characteristics and MP Shocks (interest rate and rr)

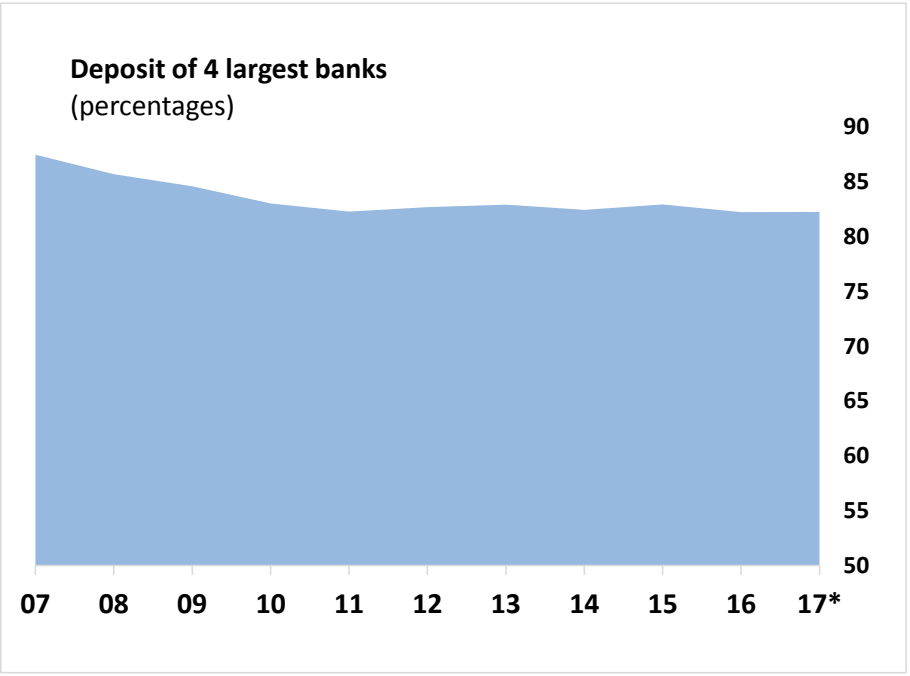
ΔLog (Credit)				
Total assets Index (t-1) *	Δi(t)	0.0185 **	Δr(t)	0.0043
		(0,012)		(0,204)
	Δi(t-1)	-0.0082	Δr(t-1)	-0.0020
		(0,255)		(0,518)
Capital ratio (t-1) *	Δi(t)	-0.844 **	Δr(t)	0.233
		(0,048)		(0,122)
	Δi(t-1)	-0.288	Δr(t-1)	-0.128
		(0,454)		(0,489)
Liquidity ratio (t-1) *	Δi(t)	0.0288	Δr(t)	0.0046
		(0,217)		(0,644)
	Δi(t-1)	-0.0098	Δr(t-1)	-0.0019
		(0,621)		(0,838)
Loan-loss provisions/total loans (t-1) *	Δi(t)	-1.037	Δr(t)	0.137
		(0,312)		(0,737)
	Δi(t-1)	0.0895	Δr(t-1)	-0.0934
		(0,915)		(0,833)
Securitization activity (t-1) *	Δi(t)	-0.0185	Δr(t)	0.0145 **
		(0,208)		(0,043)
	Δi(t-1)	-0.013	Δr(t-1)	-0.0001
		(0,331)		(0,988)
Share of trading income (t-1) *	Δi(t)	-0.419 **	Δr(t)	-0.211
		(0,017)		(0,133)
	Δi(t-1)	0.146	Δr(t-1)	0.0771
		(0,341)		(0,588)
Net fees and comission income (t-1) *	Δi(t)	-0.237	Δr(t)	-0.0004
		(0,197)		(0,995)
	Δi(t-1)	0.422 *	Δr(t-1)	-0.0727
		(0,051)		(0,291)
Funding in foreign currency (t-1) *	Δi(t)	0.0432	Δr(t)	0.043
		(0,654)		(0,345)
	Δi(t-1)	-0.114	Δr(t-1)	0.0011
		(0,269)		(0,98)
Funding from foreign sources (t-1) *	Δi(t)	-0.0439	Δr(t)	0.0601
		(0,809)		(0,375)
	Δi(t-1)	0.238	Δr(t-1)	-0.0051
		(0,205)		(0,941)
Efficiency ratio (t-1) *	Δi(t)	0.703	Δr(t)	-0.313
		(0,519)		(0,387)
	Δi(t-1)	-0.229	Δr(t-1)	0.0072
		(0,85)		(0,987)
Employees per total assets (t-1) *	Δi(t)	0.064	Δr(t)	0.0372
		(0,525)		(0,439)
	Δi(t-1)	-0.0205	Δr(t-1)	-0.0083
		(0,857)		(0,871)

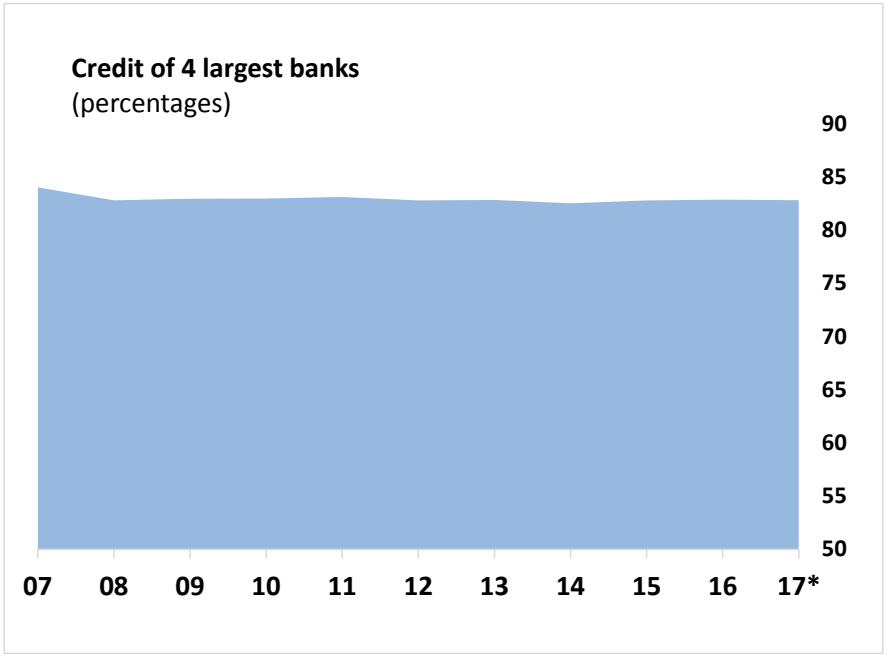
The size of the banking sector has had a stable growth.
…. Also, financial deepening has increased in the past ten years.



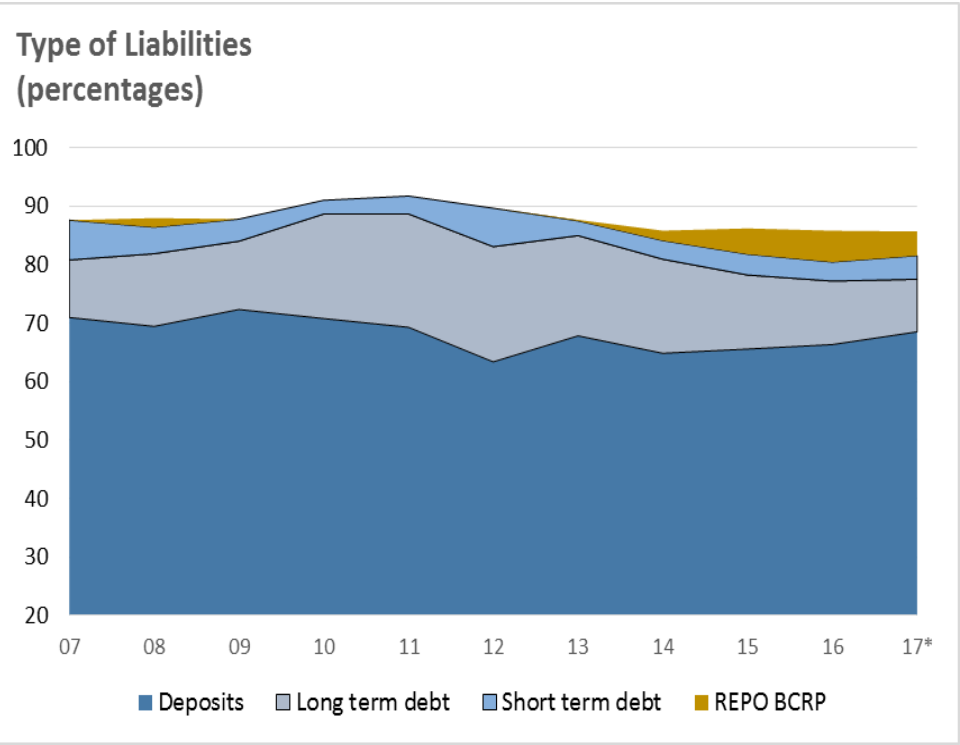


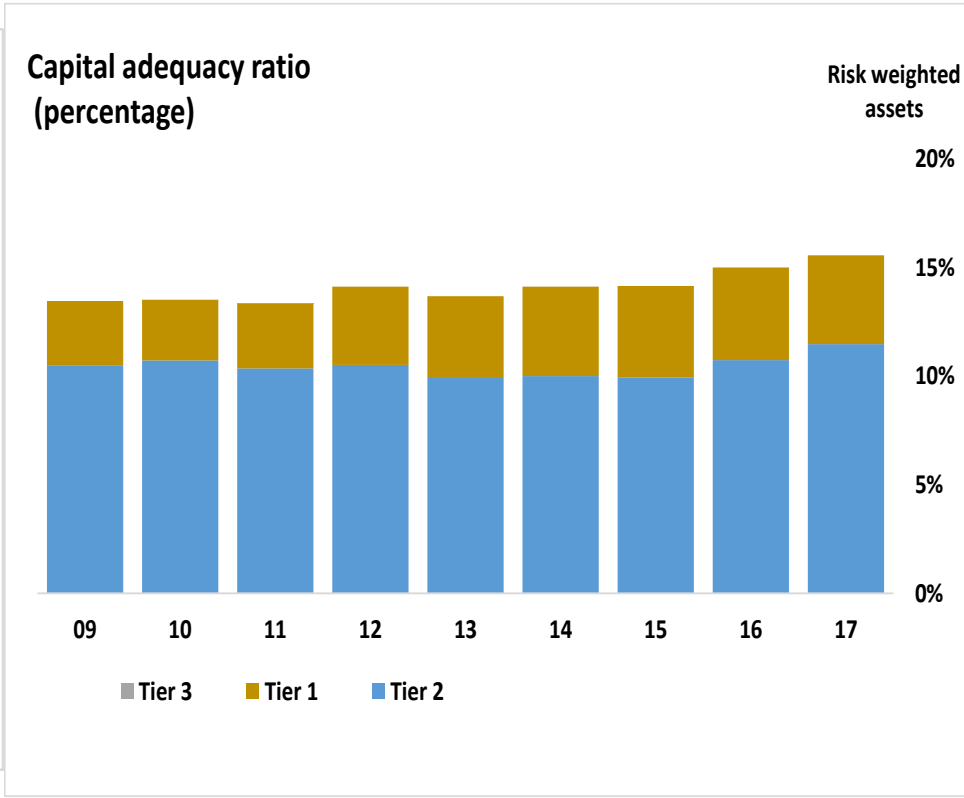
The 4 largest banks have a market share about 80% of banking-system deposits and credit. This indicates that there is a high degree of concentration in the sector.



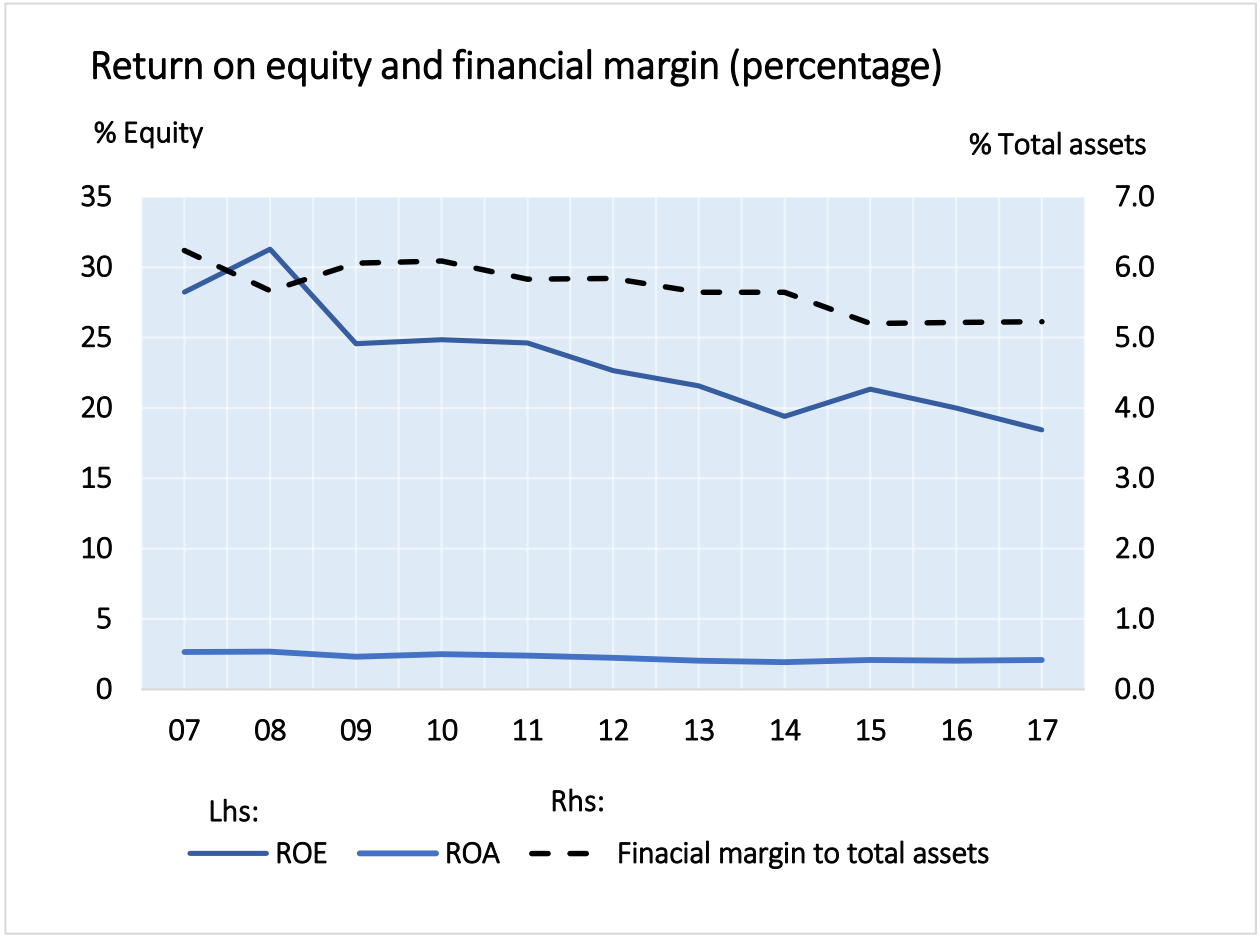


Banks have relied on deposits as their main source of funding. Also, the capital adequacy ratio has remained above 13% in the year for the past ten years.

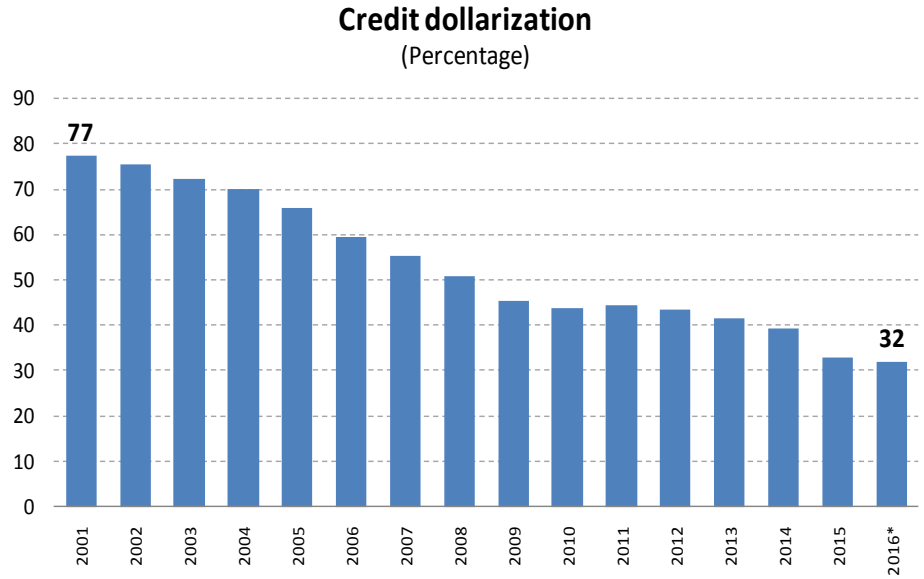


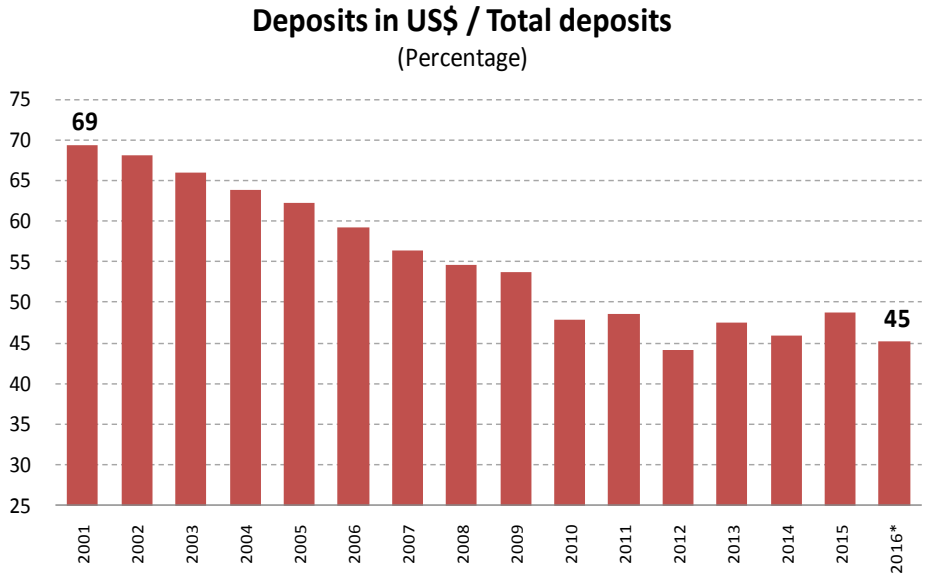


The return on equity (ROE) suffered a drop after the Financial Crisis. Also, the net interest income as a share of total assets and the return on assets (ROA) have maintained stable.



The credit dollarization ratio has continuously declined from 77% in 2001 to 32% in 2017.





The credit contracted after the financial crisis, but it recovered rapidly.