

# UP Paper

January 17, 2024

**Keywords:**

**JEL Codes:**

## **1 Introduction**

## **2 Literature Review**

Alexakis et al. (2023)

## **3 Data and Methodology**

Table 1: Descriptive Statistics

	Median	SD	Min	Max	IQR	Obs
Lending						
Commercial mortgages to corporates and households	R372.4bn	R97.9bn	R234.2bn	R569.9bn	175	188
Household unsecured lending	R309.6bn	R97.0bn	R121.6bn	R445.5bn	175	188
Leasing and installments to corporates	R110.3bn	R28.1bn	R76.5bn	R183.7bn	51	188
Leasing and installments to households	R246.9bn	R66.0bn	R145.8bn	R373.5bn	114	188
Non-financial corporate unsecured lending	R598.6bn	R181.8bn	R296.7bn	R902.6bn	365	188
Residential mortgages to households	R824.8bn	R149.9bn	R614.0bn	R1,198.5bn	219	188
Total leasing and installments	R358.6bn	R92.9bn	R232.2bn	R557.2bn	180	188
Total mortgage lending	R1,198.7bn	R246.5bn	R849.8bn	R1,768.4bn	393	188
Total unsecured lending	R919.3bn	R275.3bn	R418.3bn	R1,345.2bn	537	188
Macroprudential Narrative Indices						
Draft	0	0	0	1	0	144
Implementation	0	0	0	1	0	144
Competition Narrative Indices						
Entry_Corporate_dummy	0	0	0	1	0	180
Entry_Household_dummy	0	0	0	1	0	180
Entry_all_dummy	0	0	0	1	0	180
Entry_commercial_mortgages_dummy	0	0	0	1	0	180
Entry_credit_households_dummy	0	0	0	1	0	180
Entry_credit_non_fin_corporate_dummy	0	0	0	1	0	180
Entry_credit_non_fin_dummy	0	0	0	1	0	180
Entry_leasing_households_dummy	0	0	0	1	0	180
Entry_leasing_non_fin_corporate_dummy	0	0	0	1	0	180
Entry_mortgages_households_dummy	0	0	0	1	0	180
Exit_Corporate_dummy	0	0	0	1	0	180
Exit_Household_dummy	0	0	0	1	0	180
Exit_all_dummy	0	0	0	1	0	180
Exit_commercial_mortgages_dummy	0	0	0	1	0	180
Exit_credit_households_dummy	0	0	0	1	0	180
Exit_credit_non_fin_corporate_dummy	0	0	0	1	0	180
Exit_credit_non_fin_dummy	0	0	0	1	0	180
Exit_leasing_households_dummy	0	0	0	1	0	180
Exit_mortgages_households_dummy	0	0	0	1	0	180
competition_dummy	0	0	0	1	0	180
finance_regulation_dummy	0	0	0	1	0	180
financial_inclusion_dummy	0	0	0	1	0	180
Lending Rates						
Commercial mortgages to corporates and households rate	8.1%	1.4%	6.2%	19.9%	1	132
Household unsecured lending rate	16.3%	1.3%	14.2%	24.6%	1	132
Non financial corporate unsecured lending rate	9.0%	1.1%	6.8%	16.7%	1	132
Residential mortgages to household rate	8.6%	1.6%	6.8%	20.6%	2	132
Total mortgages lending rate	8.2%	1.5%	6.5%	20.2%	2	132
Total unsecured lending rate	12.6%	1.2%	10.5%	20.6%	1	132
Controls						
Commercial vehicles and other	1,276	460	466	2,419	513	54
Number of agencies in the Republic	84	380	5	1,071	596	54
Number of branches and agencies in foreign countries	104	77	12	228	111	54
Number of branches and sub-branches in the Republic	3,903	258	3,180	4,203	318	54
Number of cash-dispensing automated teller machines operated by the reporting bank	24,566	2,992	18,041	28,094	5,564	54
Number of current accounts, including those under cash-management schemes	21,188,508	6,873,121	6,637,754	31,508,749	7,432,905	54
Number of customers	57,026,098	6,050,714	44,136,966	72,695,186	7,077,042	42
Number of deposit accounts, excluding current accounts	39,763,305	11,097,598	23,835,003	71,443,146	10,744,246	54
Number of individual contractors rendering services to the bank	8,408	1,595	4,789	11,309	2,521	54
Number of loan accounts	16,286,366	3,911,113	0	24,392,951	4,695,696	47
Number of motor vehicles repossessed by the reporting bank :	8,236	2,676	4,697	16,915	3,064	54
Passenger cars	144,754	5,493	136,876	155,520	10,652	54
Number of personnel in employ	3	15	0	56	3	54
Number of properties repossessed by the reporting bank : Commercial properties	210	1,704	21	8,517	1,873	54
Number of properties repossessed by the reporting bank : Residential properties	476,066	17,741,967	356,414	47,876,965	33,223,716	54
Number of reporting bank's electronic data transfer (card swipe) machines at point of sale						

## **4 Results**

## **5 Conclusion**

## 6 References

Alexakis, C., Chantziaras, A., Economou, F., Eleftheriou, K., and Grose, C. (2023). Animal behavior in capital markets: Herding formation dynamics, trading volume, and the role of covid-19 pandemic. *The North American Journal of Economics and Finance*, 67:101946.

## A Appendix

### A.1 Data sources (check)

Table A1: Data Sources

	Description	Availability	Source
Macroprudential narrative index		Public data	Own analysis
Competition narrative index		Public data	Own analysis
BA900	Banking sector balance sheet data at a bank level	Public data	South African Reserve
		Aggregated data is	Bank
		public.	South African Reserve
BA930	Banking sector lending rates at a bank level	Bank specific data is	Bank
		private	
		Aggregated data is	
Controls	Banking sector performance data at a bank level	public.	Prudential Authority
		Bank specific data is	
		private	

## A.2 Aggregation scheme (check)

Table A2: Aggregation schema

BA 900 Categories	Item	Sector	Aggregation
	Number		Key
Installment sales	141	Financial corporate sector	-
	142	Non financial corporate sector	g
	143	Household sector	h
	144	Other	-
Leasing transactions	146	Financial corporate sector	-
	147	Non financial corporate sector	g
	148	Household sector	h
	149	Other	-
Farm mortgages	152	Non financial corporate sector	d
	153	Household sector	d
	154	Other	-
Residential mortgages	156	Non financial corporate sector	e
	157	Household sector	-
	158	Other	-
Commercial and other mortgages	160	Public financial corporates	-
	161	Public non-financial corporates	-
	162	Private financial corporate	d
	163	Private non-financial corporates	d
	164	Household sector	-
	165	Other	-
	166	Other	-
Credit cards	167	Financial corporate sector	a
	168	Non financial corporate sector	b
	169	Household sector	-
	170	Other	-
Overdrafts	171	Public sector (includes public corporations and local government)	-
	172	Public sector (includes public corporations and local government)	-
	181	Financial corporate sector	-
	182	Non financial corporate sector	-
	183	Unincorporated business enterprises	a
	184	Other Household sector	-
	185	Non-profit organisations serving households	b
Factoring debtors	187	Non-profit organisations serving households	-
Other loans and advances	189	Financial corporate sector	-
	190	Non financial corporate sector	a
	191	Unincorporated business enterprises	-
	192	Other Household sector	b
	193	Non-profit organisations serving households	-

The following aggregation scheme which results in nine categories was followed based on Table A2:

- a. Non-financial corporate unsecured lending: Items 168 + 183 + 190
- b. Household unsecured lending: Items 169 + 185 + 192
- c. Total unsecured lending: Non-financial corporate unsecured lending + Household unsecured lending
- d. Commercial mortgages to corporates and households: Items 152 + 153 + 156 + 163 + 164
- e. Residential mortgages to household: Item 157
- f. Total mortgage lending: Commercial mortgages to corporates and households + Residential mortgages to household
- g. Leasing and instalments to corporates: Items 142 + 147
- h. Leasing and instalments to households: Items 143 + 148
- i. Total leasing and instalments: Leasing and instalments to corporates + Leasing and instalments to households



### A.3 Bank lending rates weighting scheme (check)

The loans quantities from the BA900s are then linked to the lending rate data from the BA930s using table to create nine lending rate categories the schema on Table A3. The weights for each category are then calculated by dividing the total value of the loans in each category by the total value of all loans in the BA900s. The weights are then used to calculate the weighted average lending rate for each month. The weighted average lending rate is calculated by multiplying the lending rate for each category by the weight for that category and then summing the results.

Table A3: Weighting schema

Sector	BA 930 Categories	Item Number	Weighting Key
Corporate sector	Overdraft rate	48	a and c
	Instalment sale agreements flexible rate	49	g and i
	Instalment sale fixed rate	50	-
	Leasing transactions flexible rate	51	g and i
	Leasing transactions fixed rate	52	-
	Mortgage advances flexible rate	53	d and f
	Mortgage advances fixed rate	54	-
	Credit card rate	55	a and c
	Other	56	a and c
Household sector	Overdraft rate	58	b and c
	Instalment sale agreements flexible rate	59	h and i
	Instalment sale fixed rate	60	-
	Leasing transactions flexible rate	61	h and i
	Leasing transactions fixed rate	62	-
	Mortgage advances flexible rate	63	e and f
	Mortgage advances fixed rate	64	-
	Credit card rate	65	b and c
	Other	66	b and c

The nine categories, therefore, are as follows:

- Non-financial corporate unsecured lending: Weighted average of items 55 + 48 + 56
- Household unsecured lending: Weighted average of items 65 + 58 + 66
- Total unsecured lending: Weighted average of items 55 + 48 + 56 + 65 + 58 + 66
- Commercial mortgages to corporates and households: Weighted average of items 53
- Residential mortgages to household: Item 63
- Total mortgage lending: Weighted average of items 53 + 63

- g. Leasing and instalments to corporates: Weighted average of items 49 + 51
- h. Leasing and instalments to households: Weighted average of items 59 + 61
- i. Total leasing and instalments: Weighted average of items 49 + 51 + 59 + 61



## A.4 Competition narrative indexes (check)

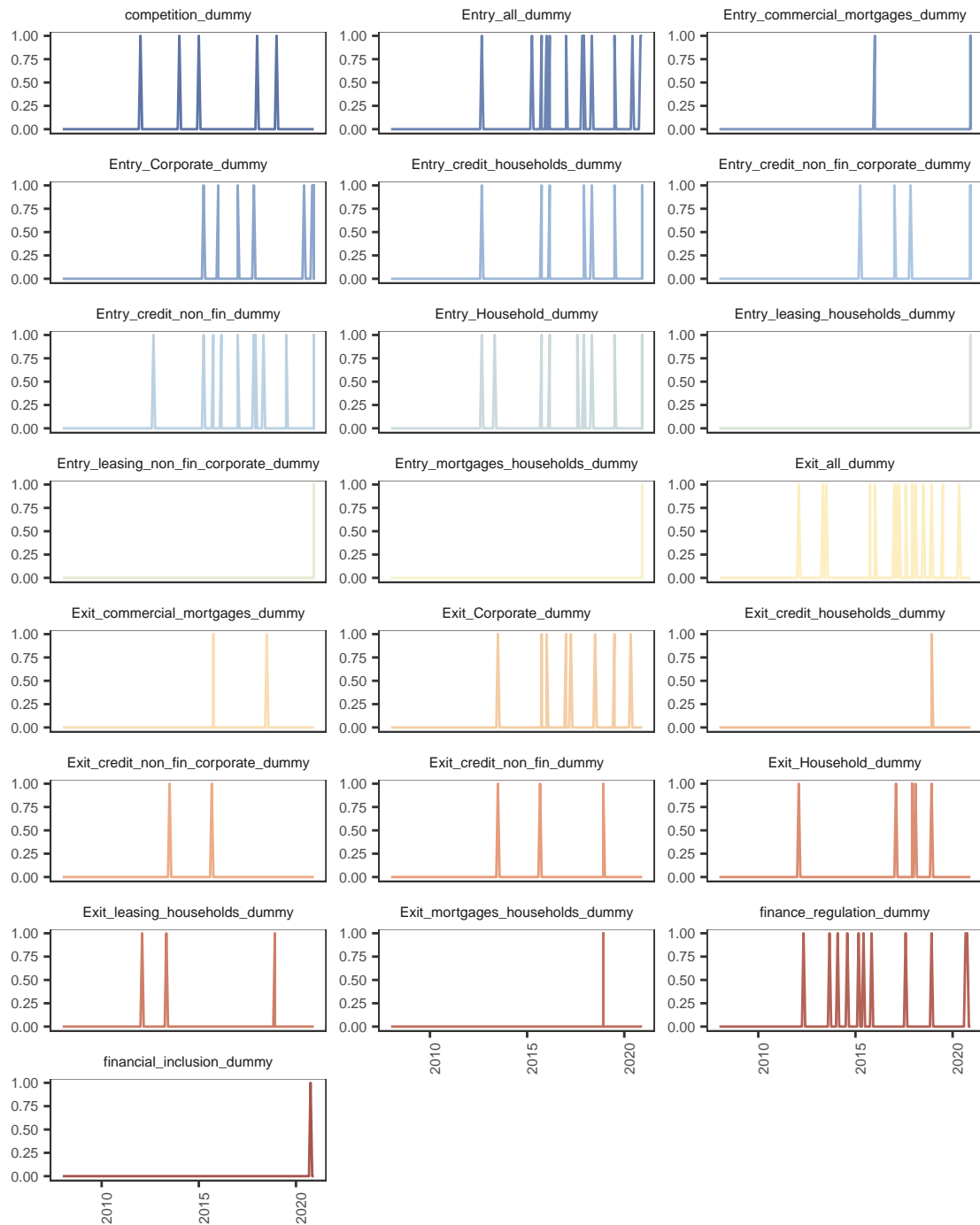


Figure A1: Competition narrative indexes

## A.5 Macroprudential narrative indexes (check)

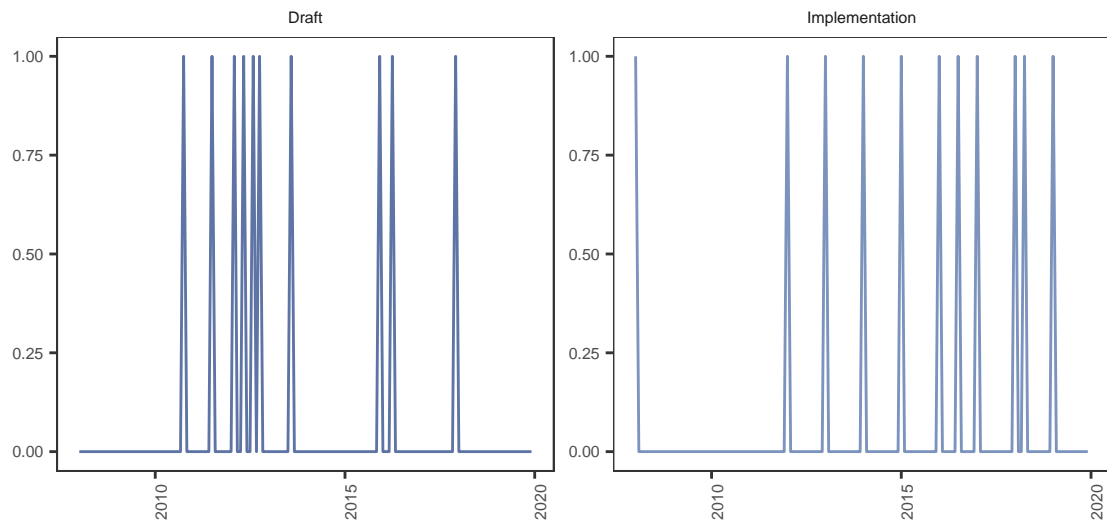


Figure A2: Macroprudential narrative indexes

## A.6 Aggregated bank lending

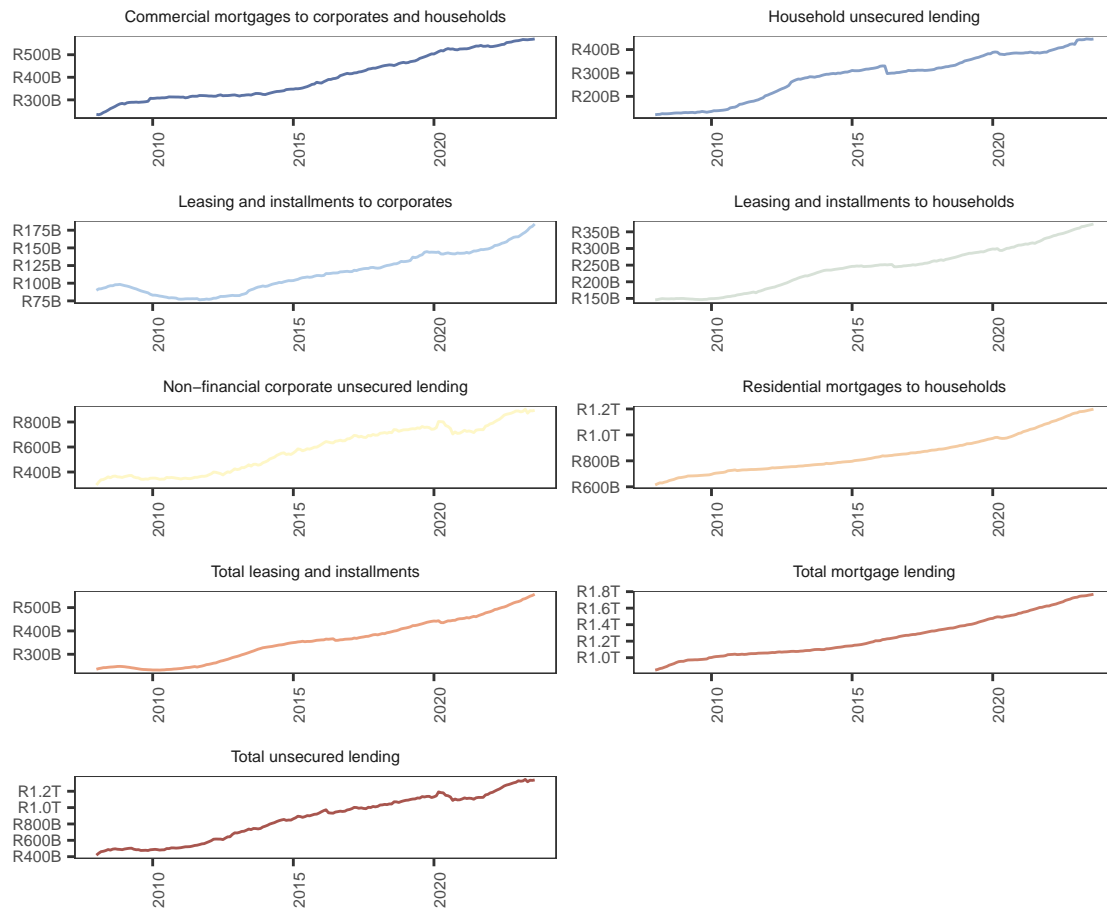


Figure A3: Total aggregated bank lending

## A.7 Average lending rates (aggregated)

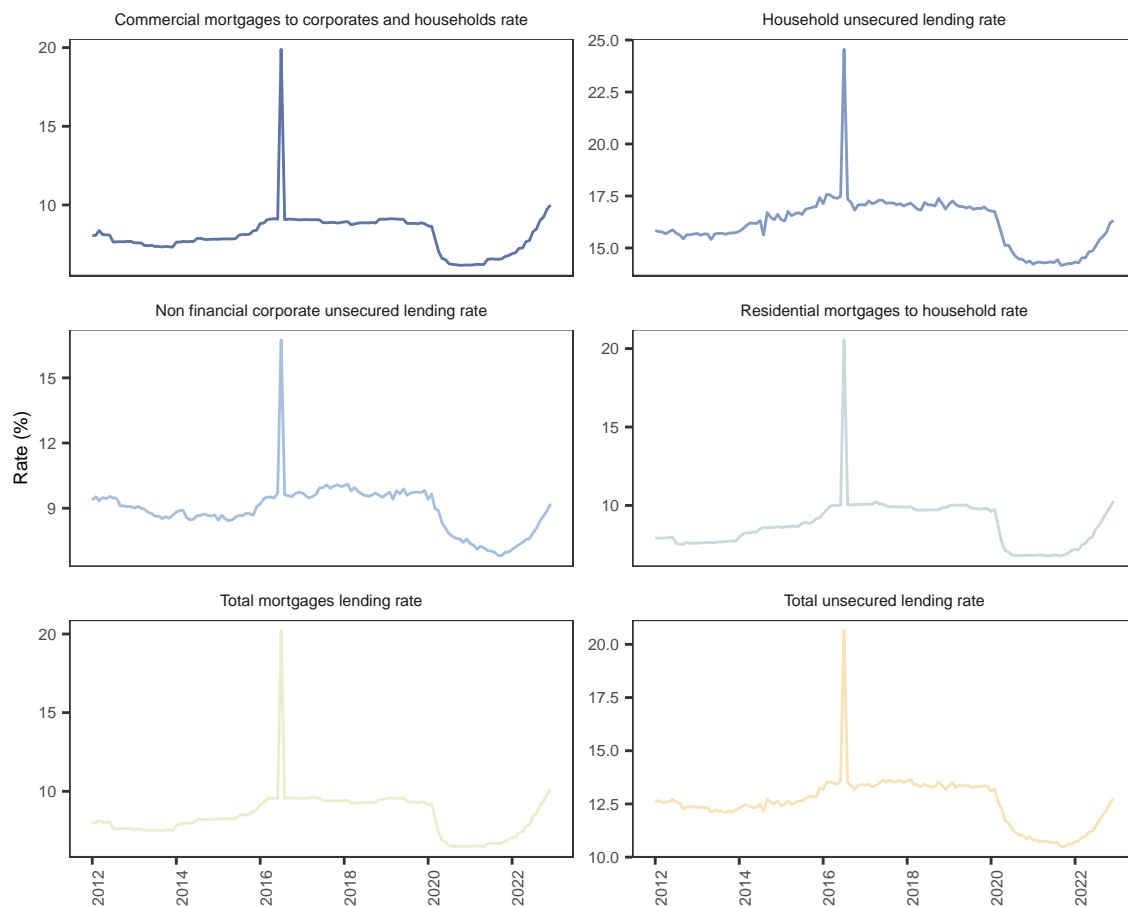


Figure A4: Average lending rates





## A.8 Aggregated bank controls (check)

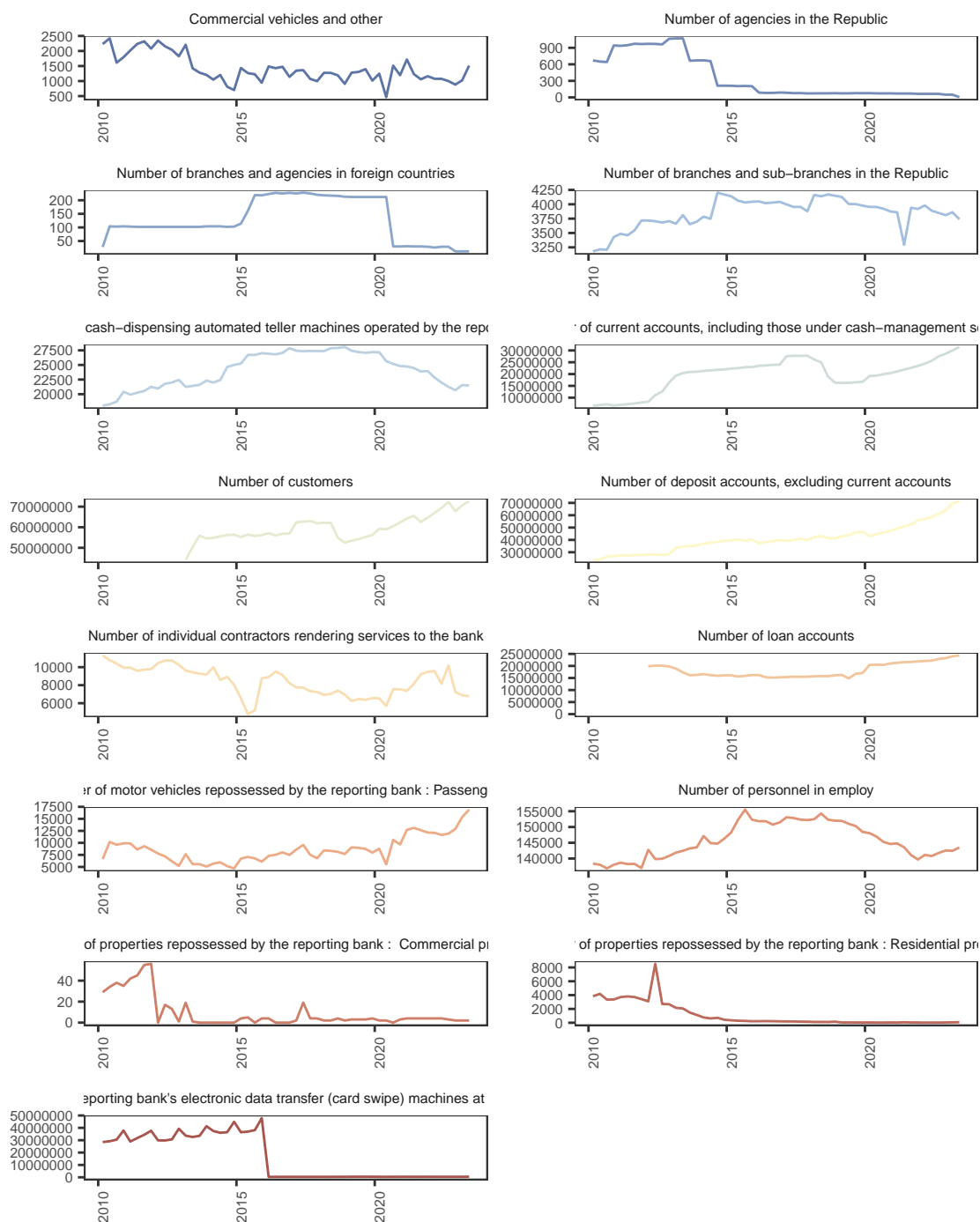


Figure A5: Aggregated bank controls