

1. What have been the main trends in SME financing (i.e. types of financing, volumes, prices and maturities) since the financial crisis? How do these trends differ across jurisdictions (e.g. advanced vs emerging market economies) and sectors (e.g. high-tech vs traditional firms), as well as by firm size (micro vs small vs medium-sized firms) and age (e.g. start-ups vs mature firms)?

AND

2. What have been the main drivers of the observed trends in SME financing in recent years? How do they differ across jurisdictions, sectors, size and age of firms?

We have studied the main trends in SME financing since the financial crisis focusing on a sample of Italian Corporates with turnover between 2 and 500 €/mln, segmented in Small (2-10 €/mln), Medium (10-50 €/mln) and Large (50-500 €/mln). The Financial Statements are extracted from CE.BI database from 2002 to 2017 and we investigate 2 data points: 2008 and 2017. The sample has been checked with ISTAT official statistics: although the whole perimeter and segmentation criteria are different (ISTAT size is by number of employees), the trends are comparable.

Net Sales

Values in € billions (nominal)

ISP Sample CeBi

	2008	2017	Var %
SMALL	377	297	-21%
MEDIUM	509	458	-10%
LARGE	831	860	3%
TOTAL	1716	1614	-6%

Firms number

Values in thousands (number)

ISP Sample CeBi

	2008	2017	Var %
SMALL	79	61	-22%
MEDIUM	25	22	-11%
LARGE	6	7	3%
TOTAL	110	90	-18%

ISTAT official statistics

	2008	2016	Var %
SMALL	708	644	-9%
MEDIUM	630	594	-6%
LARGE	900	911	1%
TOTAL	2238	2149	-4%

ISTAT official statistics

	2008	2016	Var %
SMALL	200	169	-15%
MEDIUM	21	19	-6%
LARGE	3	3	-1%
TOTAL	224	192	-14%

ISP size is by Net Sales: 2-10 Small, 10-50 Medium, 50-550 Large.
ISTAT size is by num. of employees: 10-49 Small, 50-249 Medium, >=250 Large.

The sample aggregate turnover decreased by 6% in the period and the firms number by 18%. Small companies experienced the most severe decrease, while Large companies are the only segment increasing.

Moreover, we created a "balanced panel", including only "survivors" firms with an available financial statement both in 2008 and 2017. Survivors show an increase in sales of 20% in 9 years (more than 200 billion €). Investigating firms' demography, we can derive the firms entering and exiting from the sample. The net entry-exit effect from 2008 to 2017, induces a decrease in sales of more than 300 billion €, highlighting a firms' selection process.

Net Sales

Values in € billions (nominal)

Firms number

Values in thousands (number)

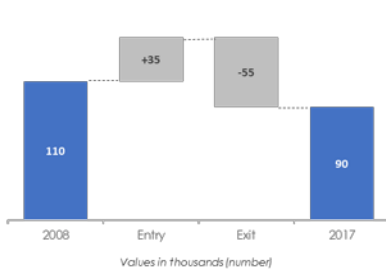
Balanced panel 2008-17

	2008	2017	Var %		2008	2017	Var %
SMALL	182	171	-6%	SMALL	35	32	-9%
MEDIUM	316	362	15%	MEDIUM	15	17	13%
LARGE	515	681	32%	LARGE	4	5	28%
TOTAL	1013	1215	20%	TOTAL	55	55	0%

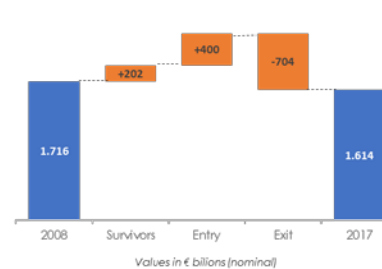
Balanced panel 2008-17 coverage on full sample (%)

	2008	2017		2008	2017
SMALL	48%	58%	SMALL	45%	53%
MEDIUM	62%	79%	MEDIUM	62%	78%
LARGE	62%	79%	LARGE	65%	81%
TOTAL	59%	75%	TOTAL	50%	61%

Firms number 2008-17



Net Sales 2008-17



Moving back to the full unbalanced sample, we can observe a re-composition effect by industry. The weight of firms in the Construction industry decreases by 3,2% in the period (5,1% for small companies). While we observe an increase in the weight of firms in the Manufacturing (but not Large) and Services sectors. The same pattern is shown by the breakdown of firms' number (not reported here).

Sales by industry (% composition)	2017				variation vs 2008			
	SMALL	MEDIUM	LARGE	TOTAL	SMALL	MEDIUM	LARGE	TOTAL
Wholesale and retail trade	31.1	30.6	24.6	27.5	-0.8	-0.2	0.4	-0.6
Manufacturing	25.6	27.2	21.2	23.7	1.0	0.4	-0.6	-0.2
Services	18.4	13.2	11.1	12.7	3.3	1.9	0.0	1.1
Other	1.1	2.6	17.4	0.2	-0.7	1.9	1.4	0.7
Food & beverages	3.5	6.1	6.3	5.7	0.3	1.3	0.8	0.9
Construction	8.9	5.3	3.6	5.0	-5.1	-3.0	-2.0	-3.2
Transporting and storage	5.6	5.2	3.8	4.5	0.7	0.7	-0.8	0.1
Computer and electronic	2.7	3.1	3.5	3.2	0.3	0.2	0.3	0.3
Utilities	0.9	1.6	3.3	2.4	0.2	0.1	-0.2	0.1
Transport equipment	0.9	1.5	2.2	1.8	0.0	-0.2	-0.2	-0.1
Agriculture	2.2	1.8	0.9	1.4	0.4	0.4	0.2	0.3
Pharmaceutical	0.2	0.6	1.2	0.9	0.0	0.1	-0.1	0.0
Other consumer goods	0.7	0.7	0.5	0.6	0.0	0.1	0.2	0.1
Energy and mining	0.4	0.4	0.4	0.4	-0.2	0.0	-0.2	-0.1
TOTAL	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0

Investigating the change in financing sources over the period, we observe an increase in the share of equity, replacing financial debt, in all sizes classes. Though still marginal, other debt (including market debt and securitization) is growing, especially for small companies.

Share of financing sources over total liabilities by size

	2017				variation vs 2008			
	SMALL	MEDIUM	LARGE	TOTAL	1 SMALL	2 MEDIUM	3 LARGE	TOTAL
EQUITY	31.6%	35.3%	36.3%	35.1%	8.4%	6.7%	8.0%	8.0%
BANK DEBT	18.0%	19.6%	17.6%	18.2%	-15.4%	-5.5%	-4.6%	-7.6%
TRADE DEBT	18.5%	21.8%	20.9%	20.7%	-2.0%	-1.0%	-1.5%	-1.4%
OTHER DEBT *	16.9%	12.6%	14.9%	14.7%	4.9%	0.7%	-0.3%	1.2%
OTHER LIABILITIES **	15.0%	10.7%	10.2%	11.3%	4.1%	-0.9%	-1.7%	-0.3%
TOTAL LIABILITIES	100.0%	100.0%	100.0%	100.0%				

Even if the total financial debt is decreasing, the debt composition shifts from short term toward medium long term, leading to a more solid financial structure. This trend is remarkable for small firms.

	MLT / FIN. DEBT		MLT / LIABILITIES	
	2017	VAR. 2008	2017	VAR. 2008
SMALL	51.7%	21.8%	12.5%	0.9%
MEDIUM	45.0%	5.8%	12.0%	-0.6%
LARGE	49.9%	7.5%	13.4%	0.0%
TOTAL	48.9%	10.9%	12.9%	0.1%

Firms in the computer, electronics and pharmaceutical industries strengthen the most their financial structure, increasing the share of equity by more than 20%. The sectors where the debt re-composition towards medium-long term is stronger are computer, electronics, energy, mining and utilities.

	2017			var. vs 2008		
	MLT / FIN. DEBT	MLT / LIABILITIES	EQUITY / LIABILITIES	MLT / FIN. DEBT	MLT / LIABILITIES	EQUITY / LIABILITIES
Agriculture	56.1%	17.2%	37.2%	8.4%	1.1%	5.2%
Computer and electronic	49.6%	11.5%	40.1%	40.5%	5.7%	22.9%
Construction	58.8%	18.1%	28.3%	12.2%	1.7%	5.8%
Energy and mining	60.1%	21.3%	34.9%	22.2%	10.2%	-3.5%
Food & beverages	43.2%	12.7%	36.8%	5.3%	-0.5%	5.9%
Manufacturing	43.5%	10.3%	38.9%	6.6%	-0.8%	8.2%
Other	56.4%	17.3%	37.4%	4.1%	-2.2%	7.1%
Other consumer goods	40.6%	11.8%	40.5%	6.1%	-0.6%	9.5%
Pharmaceutical	52.1%	8.2%	61.6%	7.0%	-3.0%	20.7%
Services	51.9%	13.1%	31.5%	5.8%	0.2%	5.6%
Transport equipment	45.0%	10.3%	35.5%	11.1%	-0.8%	11.3%
Transporting and storage	55.8%	14.3%	31.8%	2.1%	-1.2%	4.8%
Utilities	61.8%	16.7%	39.3%	13.6%	2.0%	7.1%
Wholesale and retail trade	34.0%	8.4%	30.6%	6.9%	0.3%	6.1%
TOTAL	48.9%	12.9%	35.1%	10.9%	0.1%	8.0%

SMEs show and improvement in working capital management efficiency, highlighted by a decrease in trade debt and a decrease in cash conversion cycle length.

	PAYABLES		RECEIVABLES		INVENTORIES	
	2017	Var. 2008	2017	Var. 2008	2017	Var. 2008
SMALL	153	-11	92	-7	28	-5
MEDIUM	150	1	98	-7	36	-3
LARGE	136	1	85	-9	44	2
TOTAL	150	-8	93	-7	31	-4

The firms experienced an increase in profitability (EBITDA) over the period 2008-17, therefore improving interest coverage and debt service capacity ratios.

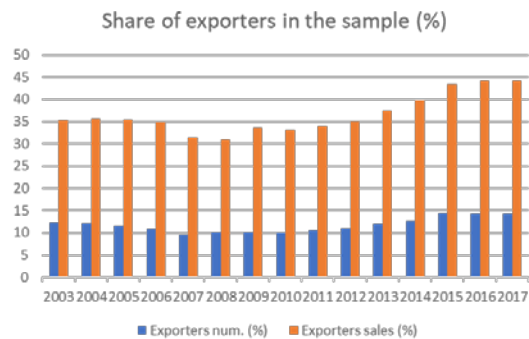
Debt service ratios (median values)								
	2017				variation vs 2008			
	SMALL	MEDIUM	LARGE	TOTAL	SMALL	MEDIUM	LARGE	TOTAL
BANK RATE	3.2%	2.4%	2.3%	2.9%	-3.7%	-4.0%	-4.0%	-3.8%
TAX RATE*	33.7%	31.4%	30.8%	32.8%	-20.3%	-18.6%	-14.3%	-19.7%
EBITDA/FC	10.8	13.9	15.5	11.8	7.0	10.4	11.7	8.1
FIN. DEBT/EBITDA	1.7	2.6	2.9	2.0	-1.5	-1.5	-1.2	-1.4
% NUM. FIRM EBITDA<=0	9.0%	8.3%	7.4%	8.7%	-2.5%	-3.3%	-2.8%	-2.8%

In the following table, we present the main profitability ratios¹ comparing 2008 and 2017. The Return on Investment increased, thanks to both increases in sales profitability and in efficiency of capital. Together with the decrease of interest rates, this led to a restore of a normal condition, where Return on Investment is higher than cost of debt (excess return). The Leverage sharply decreased following the increase in capitalization, partially offsetting the growth in ROE, however very large. The table shows the patterns for the total sample; however, they are similar for all firm sizes classes.

Profitability ratios (median values)							
	ROS	TURNOVER	ROI	BANK RATE	EXCESS RET.*	LEVERAGE	ROE B.T.*
	(a)	(b)	(c)=(a)x(b)	(d)	(e)=(c)-(d)	(f)	(g)=(c)+(e)x(f)
2017	4.0%	177.1%	7.1%	2.9%	4.2%	56.9%	9.5%
2008	3.6%	167.8%	5.9%	6.7%	-0.8%	116.5%	4.9%

We split the full sample in two sub-samples: exporters and not exporters. A firm is classified as "exporter" if it shows positive revenues from foreign countries other than Italy in the corresponding financial statement. A first evidence is that the pattern of exporters is quite different from that of the whole sample, since they grow in the period both in numbers and in turnover (with the notable exception of smallest companies).

Net Sales Values in € billions (nominal)				Firms number Values in thousands (number)			
Exporters				Exporters			
	2008	2017	Var.%		2008	2017	Var.%
SMALL	16	15	-9%	SMALL	2	2	-6%
MEDIUM	123	157	28%	MEDIUM	5	7	27%
LARGE	402	541	34%	LARGE	3	4	34%
TOTAL	541	713	32%	TOTAL	11	13	21%
Exporters coverage on full sample (%)							
	2008	2017			2008	2017	
SMALL	4%	5%		SMALL	3%	4%	
MEDIUM	24%	34%		MEDIUM	21%	30%	
LARGE	48%	63%		LARGE	46%	60%	
TOTAL	32%	44%		TOTAL	10%	14%	



Exporting firms are better capitalized, also in small and medium size classes.

¹ Return on Sales (ROS) = Operating profit / Sales; TURNOVER = Sales / (Fixed + Working capital); LEVERAGE = Total financial debt / Equity; Return on Equity before taxes (ROE B.T.) = Net income before taxes / Equity. Ratios marked with * are derived from the median values of the components.

EXPORTERS: Share of financing sources over total liabilities by size								
	2017				variation vs 2008			
	SMALL	MEDIUM	LARGE	TOTAL	1 SMALL	2 MEDIUM	3 LARGE	TOTAL
EQUITY	36.9%	39.4%	38.8%	38.9%	1.9%	5.7%	4.4%	4.1%
BANK DEBT	21.7%	21.6%	19.0%	19.7%	-4.6%	-3.9%	-2.8%	-3.1%
TRADE DEBT	19.8%	20.4%	20.2%	20.3%	0.0%	-0.3%	-0.7%	-0.6%
OTHER DEBT *	10.4%	9.8%	12.5%	11.8%	2.0%	0.9%	0.8%	0.7%
OTHER LIABILITIES **	11.2%	8.9%	9.5%	9.4%	0.7%	-0.6%	-2.2%	-1.7%
TOTAL LIABILITIES	100.0%	100.0%	100.0%	100.0%				

NOT EXPORTERS: Share of financing sources over total liabilities by size								
	2017				variation vs 2008			
	SMALL	MEDIUM	LARGE	TOTAL	1 SMALL	2 MEDIUM	3 LARGE	TOTAL
EQUITY	31.3%	33.0%	32.3%	32.2%	8.6%	6.0%	8.0%	7.6%
BANK DEBT	17.7%	18.4%	15.3%	17.1%	-16.0%	-6.5%	-7.4%	-10.1%
TRADE DEBT	18.4%	22.7%	21.9%	21.0%	-2.1%	-0.9%	-1.8%	-1.6%
OTHER DEBT *	17.3%	14.3%	19.0%	16.9%	5.2%	1.9%	1.8%	3.0%
OTHER LIABILITIES **	15.3%	11.7%	11.4%	12.8%	4.3%	-0.5%	-0.6%	1.0%
TOTAL LIABILITIES	100.0%	100.0%	100.0%	100.0%				

Comparing the profitability ratios of exporters vs not exporters, we see that exporters perform better in terms of ROS, ROE and ROE before taxes.

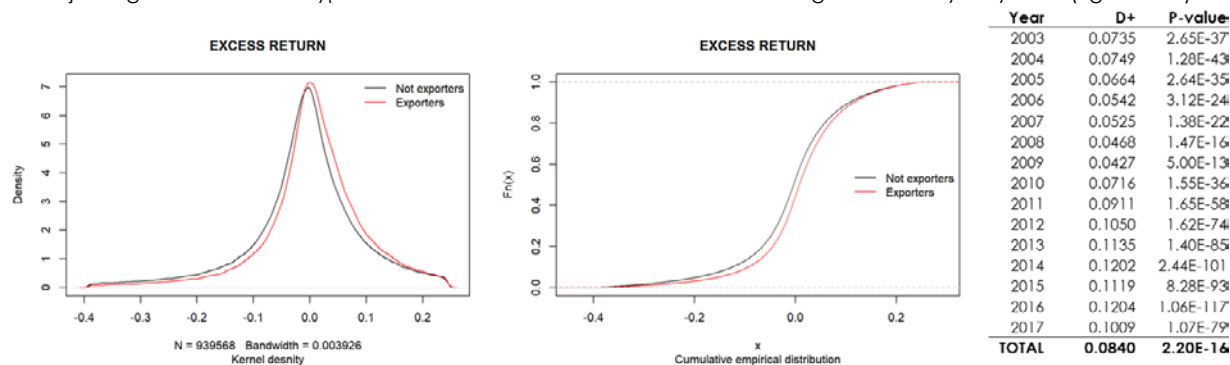
EXPORTERS: profitability ratios (median values)

	ROS	TURNOVER	ROI	BANK RATE	EXCESS RET.*	LEVERAGE	ROE B.T.*
	(a)	(b)	(c)=(a)x(b)	(d)	(e)=(c)-(d)	(f)	(g)=(c)+(e)x(f)
2017	5.0%	145.4%	7.0%	2.3%	4.7%	75.7%	10.6%
2008	4.2%	136.5%	5.6%	6.3%	-0.6%	110.7%	4.9%

NOT EXPORTERS: profitability ratios (median values)

	ROS	TURNOVER	ROI	BANK RATE	EXCESS RET.*	LEVERAGE	ROE B.T.*
	(a)	(b)	(c)=(a)x(b)	(d)	(e)=(c)-(d)	(f)	(g)=(c)+(e)x(f)
2017	3.9%	185.5%	7.1%	3.0%	4.1%	52.5%	9.3%
2008	3.5%	172.8%	5.9%	6.8%	-0.9%	117.6%	4.9%

Exporters show higher excess returns on the full period 2002-17: the distribution of excess return for exporters is stochastically greater than the one of not exporters. Running a two-sample Kolmogorov-Smirnov test² on the excess return ratio in the period 2003-17, under the alternative hypothesis that excess return of exporter is stochastically greater than of not exporter (the CDF of exporters lies below and hence to the right of that for not exporters) shows a statistics $D^+ = 0.084$ with a p-value $< 2.2e-16$, thus not rejecting the alternative hypothesis. The evidence is confirmed also running the test on yearly basis (right table).



3. Have financial regulatory reforms such as Basel III affected bank financing to SMEs (e.g. in terms of loan volumes, prices, maturities and collateralisation)? If so, how? How important have been their effects vis-à-vis other types of bank lending and compared to the main drivers identified in question 2?

AND

5. What other G20 financial reforms or other domestic financial regulations (if any) may have impacted financing to SMEs and how?

² The Kolmogorov-Smirnov is a nonparametric test of the equality of continuous probability distributions that can be used to compare two samples. The D statistic quantifies a distance between the empirical distribution functions of the two samples. It is sensitive to differences in both location and shape of the empirical cumulative distribution functions of the two samples.

The cost of bank debt fell by about 4% across all firm sizes in the period (2008-17). The new low rate environment, jointly with new financial regulations, pushed banks towards a more prudential counterparties credit risk assessment. This dynamic can be grasped observing a significantly more risk sensitive pricing strategy in 2017 for all size classes.



The per-unit cost of bank capital has not decreased as banks have become less risky. Benefits deriving from an appropriate capitalization don't offset the all-in cost coming from the need to comply with the new regulatory requirements. The impact of Basel reforms, specifically those related to implementation of higher capital requirements, Calendar Provisioning, a binding Leverage Ratio, the Liquidity Coverage Ratio ("LCR") and the Net Stable Funding Ratio ("NSFR") involve an increase in compliance and capital costs.

We provide a sensitivity of the effect of financial reforms, assuming they will lead to an average increase in the cost of capital. We estimate the pass-through of the cost of capital to corporate loans rate, performing a sensitivity analysis on Intesa Sanpaolo pricing strategy for loans to SME. The following table displays an approximated estimation, aggregated by risk levels and maturities, of the effect on corporate loans pricing (mark-ups in bps) due to an increase of 1% in the cost of capital, keeping all other terms constant.

Rating S&P	Delta Mark-up (bps)		
	1Y	5Y	10Y
A	5	10	15
BBB	10	15	20
BB	15	20	25
B/CCC	30	40	45

Those requirements, jointly with the introduction of IFRS9 accounting principles, often negatively impact the offer of specific financial products, such as unsecured lending and medium-long term loans, two of the main SME financial sources.

Further on IFRS9, the recurring update of forward-looking model estimates, based on macroeconomic outlook, can lead to high volatile banks income statements. Commercial banks, the main lenders to SMEs, are the most affected, both in terms of increasing amount and volatility of provisions. Medium and long-term loans, a relevant product for SME, are at a disadvantage because of the increased provisions (lifetime expected losses) for loans classified as Stage 2. It implies a risk associated with the transition to stage 2, leading to higher costs that translates to higher loan prices or the introductions of covenants agreement.

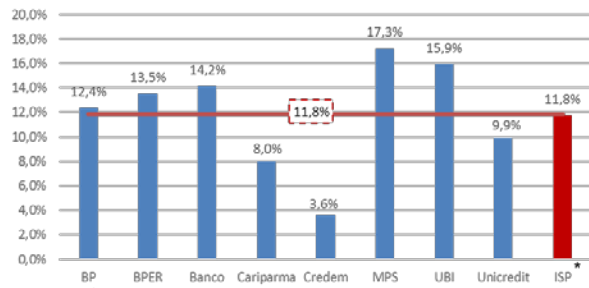
Moreover, the implementation of the IFRS9 principles requires a sophisticated methodology and the estimation of a massive number of parameters. The methodology developed at Intesa Sanpaolo is based on approximately 270,000 parameters, covering a portfolio of about 10 million loans and bonds. This imply high compliance costs, a complicated process and very high model risk.

Finally, the IFRS9 principles lead to the development by financial institutions of very heterogeneous practices, leading to mixed coverage rates and proportion of loans in stage 1 and stage 2.

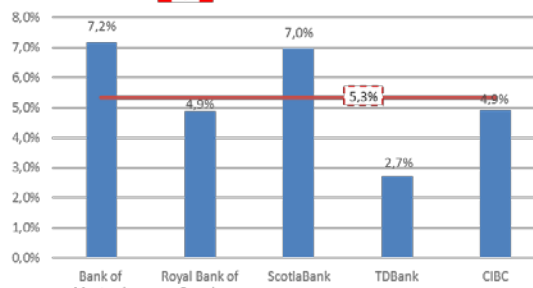
Benchmark: share of Stage 2 exposures over total performing loans and coverage ratio



Italy



Canada



Cov. S2 %

2,1	1,2	1,9	6,8	2,6	4,4	3,3	3,6	3,0	3,2
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Cov. S1 %

0,1	0,2	0,2	0,2	0,1	0,1	0,3	0,2	0,2	0,2
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Cov. S2 %

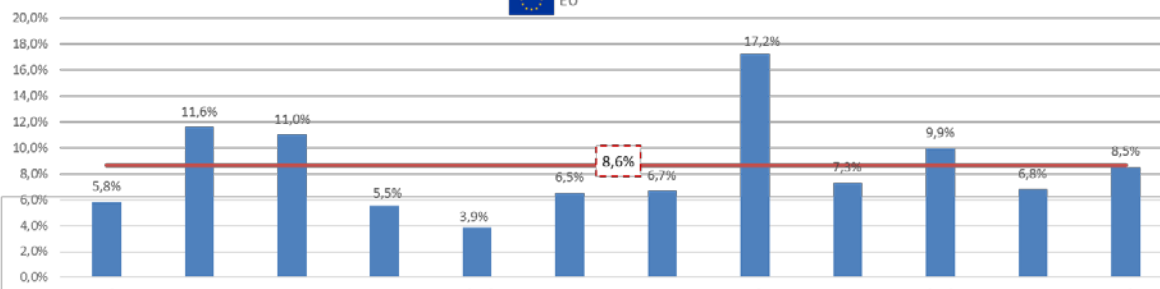
3,1	5,5	5,6	6,7	3,8	4,9
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Cov. S1 %

0,1	0,2	0,2	0,3	0,1	0,2
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EU



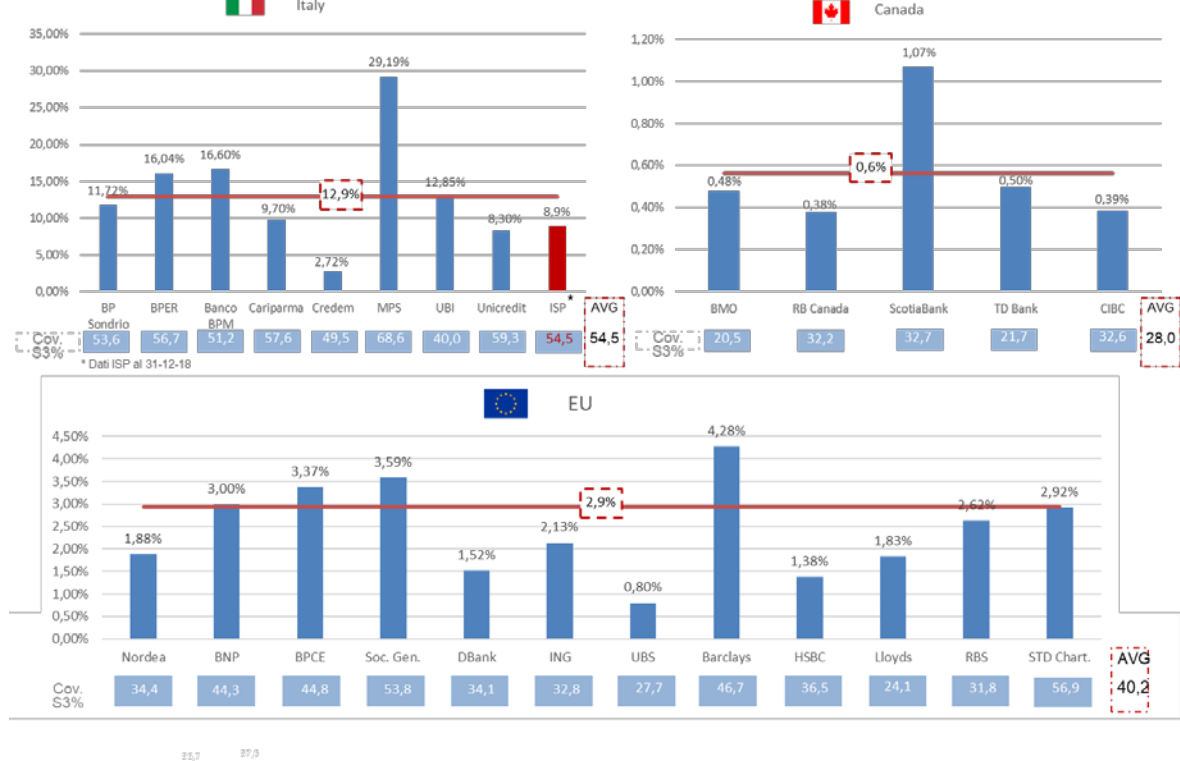
Cov. S2 %

2,2	3,9	2,7	3,7	1,9	2,5	0,8	7,3	2,7	3,4	2,6	2,2	3,0
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Cov. S1 %

0,1	0,2	0,2	0,2	0,1	0,1	0,0	0,2	0,1	0,1	0,1	0,2	0,1
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Benchmark: share of Stage 3 exposures over total performing loans and coverage ratio



4. How does the impact (if any) of financial regulatory reforms vary across banks operating in different geographies and with different size and business models?

6. Have financial reforms prompted a shift in the provision of SME financing, e.g. between banks and other financial institutions (substitution effects)? If so, how?

New entrants to the banking market, including challenger banks, non-bank payments institutions, big tech companies and financial technology start-ups (often shortened to fintech) have captured a part of the traditional banks' revenue. The level of competitive intensity and disruption in the Italian market is not yet signalling a power shift from the incumbents to the new entrants. Nevertheless, traditional banks slower to adapt and react to the new competitive environment, should be treated by newcomers.

7. Are there any other issues or relevant factors that should be considered as part of the evaluation?

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