



**MONTE
DEI PASCHI
DI SIENA**
BANCA DAL 1472

Risk Management Report

New York Branch September 2018

Direzione Chief Risk Officer

Regulatory RWA and Internal RWA

Credit Risk Analysis of the Lending Portfolio

Interest Rate Risk Analysis of the Banking Book Portfolio

Operational Risk Management

Monitoring of credit risk by internally implemented portfolio model



New York Branch – Regulatory RWA and Internal RWA as at 30-09-2018

		NEW YORK						
		(\$ mln)						
P I L L A R 1	Regulatory / Internal RWA	set-17	dic-17	mar-18	giu-18	set-18	ΔQ	ΔQ%
	Credit and Counterparty Risk	218,19	200,71	189,90	157,93	129,23	-28,70	-18,2%
	Credit Risk	218,19	200,71	189,90	157,93	129,23	-28,70	-18,2%
	Standard	218,19	200,71	189,90	157,93	129,23	-28,70	-18,2%
	Operational Risk	16,42	18,22	14,75	14,27	13,71	-0,56	-3,9%
	REGULATORY RWA	234,61	218,93	204,65	172,20	142,94	-29,26	-17,0%



Regulatory RWA and Internal RWA

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Credit Loans Portfolio – Regulatory measures

Values in \$/mln

		Credit Risk								
Values in \$/mln		mar-17	jun-17	sep-17	dec-17	mar-18	jun-18	sep-18	ΔQtD	ΔYtD
RWA	TOTAL	277,5	299,1	218,2	200,7	190,2	158,2	129,6	-18,1%	-35,5%
	Standard	277,5	299,1	218,2	200,7	190,2	158,2	129,6	-18,1%	-35,5%
	- of which Bonis	277,4	269,2	218,2	196,3	189,4	157,6	128,9	-18,2%	-34,3%
	- of which Default	0,1	29,9	0,0	4,4	0,8	0,6	0,6	3,1%	-85,4%
	AIRB	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	- of which Bonis	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	- of which Default	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%

Values in \$/mln

		mar-17	jun-17	sep-17	dec-17	mar-18	jun-18	sep-18	ΔQtD	ΔYtD
EAD	TOTAL	415,1	361,6	345,1	305,9	395,2	211,5	192,6	-9,0%	-37,0%
	of which Intragroup	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	of which no Intragroup	415,1	361,6	345,1	305,9	395,2	211,5	192,6	-9,0%	-37,0%
	Standard	413,4	361,2	345,1	305,9	395,2	211,5	192,5	-9,0%	-37,0%
	- of which Bonis	413,4	341,3	345,1	301,5	394,4	210,9	191,9	-9,0%	-36,3%
	- of which Default	0,1	20,0	0,0	4,4	0,8	0,6	0,6	3,1%	-85,4%
	AIRB	1,6	0,3	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	- of which Bonis	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	- of which Default	1,6	0,3	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%

Performing Credit Portfolio - Analysis regulatory risk measures (focus AIRB)

Values in \$/mln

		mar-17	jun-17	sep-17	dec-17	mar-18	jun-18	sep-18	ΔQtD	ΔYtD
RWA	Corporate	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	Retail	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	Total	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
EAD	Corporate	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	Retail	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
	Total	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0%	0,0%
PD	Corporate	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
	Retail	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
	Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LGD	Corporate	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
	Retail	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
	Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

- RWA decrease from the previous quarter (-18,1%, -\$29 mln) due to the standard Corporate segment.
- The decrease of EAD observed vs. the end of June (-\$19 mln) is mainly due to the reduction of EAD above mentioned.



Regulatory RWA and Internal RWA

Credit Risk Analysis of the Lending Portfolio

Interest Rate Risk Analysis of the Banking Book Portfolio

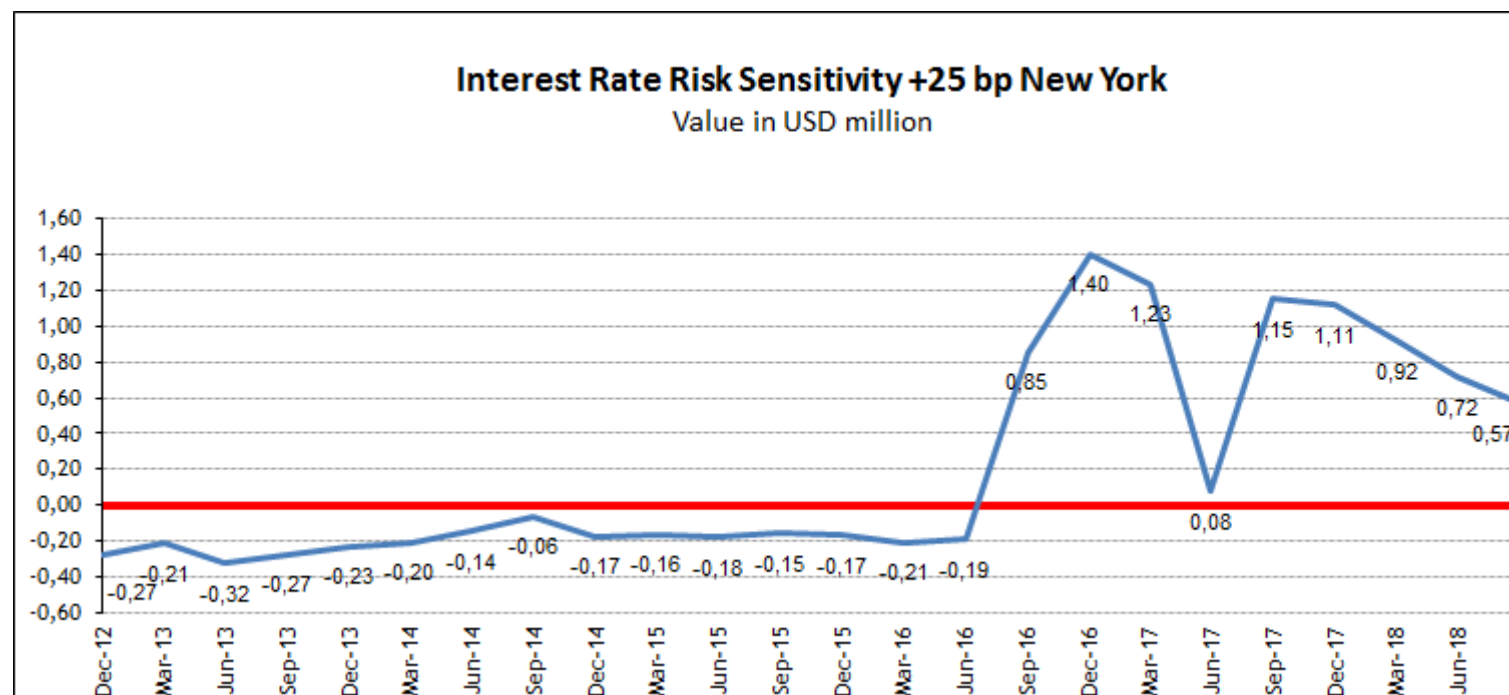
Operational Risk Management

Monitoring of credit risk by internally implemented portfolio model



Interest Rate Sensitivity

Interest rate sensitivity September 2018						Value in \$/ mln
	shock+25bp	shock-25bp	shock +100 bp	shock -100 bp	shock +200 bp	shock -200 bp
New York Branch	0,57	-0,58	2,25	-2,34	4,43	-4,77



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Operational Risk Management – Loss Data Collection overview

The process of Loss Data Collection (LDC) consists of searching and registering loss data, triggered by operational risk events, and analytically examining them in order to fully understand loss causes and their implications as far as mitigation is concerned.

The New York branch collects operational losses data from 2006; its operational losses are generally of a low amount (averagely 3,000 USD/year) and are related to errors/delays in executing operations. The branch has registered only one relevant event in the past (Map Marine lawsuit, 8.8 USD/mln, 2010).

Concerning the period under investigation, no operational risk event occurred in **Q3 2018**.



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Credit Loans Portfolio - Bonis portfolio

Credit risk information, included from the current slide to ahead, are based on managerial measurements.

USD/EUR 1,1576

September 30, 2018 - New York - \$/mln

Portfolio	Drawn	EAD	EL	Ecap	EL / EAD (bp)	Ecap / EAD %	AVG PD %
Corporate	126,08	125,71	0,35	4,56	28	3,63%	0,72%
Institutional	65,95	65,95	0,02	0,40	4	0,61%	0,08%
Family	0,01	0,01	0,00	0,00	26	1,11%	1,59%
Total	192,04	191,66	0,38	4,96	20	2,59%	0,50%

Loans* exposures – September 2018 – amount to 192,04 \$/mln. Expected Loss (EL) and Economic Capital (Ecap**) are respectively 0,38 \$/mln and 4,96 \$/mln. 126,08 \$/mln of exposure, almost 66% of whole portfolio, is represented by Corporate counterparts.

In terms of relative credit risk ratios, EL/EAD ratio is equal to 20 bps while Ecap/EAD is 2,59%.

The table below shows the recalculation of risk measures on EL and Ecap of bonis portfolio after application of the rates of pd and lgd stressed according to the approach used by the Group MPS.

USD/EUR 1,1576

September 30, 2018 - New York - \$/mln

Portfolio	Drawn	EAD_Stress	EL_Stress	Ecap_Stress	EL / EAD (bp)	Ecap / EAD %	AVG PD %_Stress
Corporate	126,08	125,71	0,59	6,12	47	4,87%	1,15%
Institutional	65,95	65,95	0,03	0,50	5	0,75%	0,10%
Family	0,01	0,01	0,00	0,00	38	1,21%	1,59%
Total	192,04	191,66	0,62	6,62	33	3,45%	0,79%

* The Portfolio considered, in line with the analysis made at Bank and Group level, does not include the defaulted positions according to the international Regulatory framework for the validated AIRB approach.

** Ecap is calculated taking into account the diversification effect at the entire Group Portfolio level



Credit Loans Portfolio – Top 20 – Bonis portfolio

Bonis portfolio - Top 20

USD/EUR 1,1576

September 30, 2018 - New York - \$/mln

Counterparty Name	Drawn	EAD	EL	Ecap	EL / EAD (bp)	Ecap / EAD %
FEDERAL RESERVE BANK OF NEW YORK	55,05	55,05	0,01	0,26	1	0,48%
ACIST MEDICAL SYSTEMS INC.	28,00	28,00	0,01	0,40	5	1,44%
TERRA MILLENIUM CORP.	14,47	14,43	0,06	0,70	41	4,86%
GENERAL NUTRITION CENTERS, INC	14,08	14,08	0,06	0,69	41	4,93%
PETROSERVE MARINE INC	12,12	12,12	0,05	0,60	42	4,95%
RAVN AIR GROUP, INC.	9,06	9,06	0,04	0,44	41	4,87%
139 EAST 23RD STREET CLUB LLC CO	8,29	8,41	0,03	0,42	42	4,95%
DEL CONCA USA INC	7,15	7,15	0,00	0,10	5	1,44%
BAYERISCHE LANDESBANK	5,00	5,00	0,00	0,02	6	0,32%
EUROTRACIATURA MEXICO S.A. DE C	5,00	5,00	0,01	0,16	18	3,11%
UNIONE DI BANCHE ITALIANE SOCIET	4,28	4,28	0,01	0,12	31	2,80%
RANA MEAL SOLUTIONS LLC	4,06	4,06	0,01	0,15	25	3,69%
BERETTA USA CORP	4,00	4,00	0,00	0,05	4	1,15%
AIRCOM US INC.	3,25	3,25	0,02	0,19	62	5,98%
DOLCE E GABBANA USA	2,54	2,08	0,00	0,05	9	2,18%
RANA REAL ESTATE LLC	2,44	2,44	0,01	0,09	25	3,69%
ALPINESTARS USA INC.	2,01	2,01	0,01	0,10	42	4,96%
VIP CINEMA HOLDINGS INC. NEW ALB	1,85	1,85	0,01	0,09	42	4,96%
JPMORGAN CHASE BANK N.A.	1,62	1,62	0,00	0,00	2	0,16%
TESMEC USA INC.	1,50	1,50	0,01	0,11	96	7,42%
Total	185,76	185,39	0,36	4,74	19	2,56%

* Counterparties highlighted represent new entries in portfolio compared with the previous quarter



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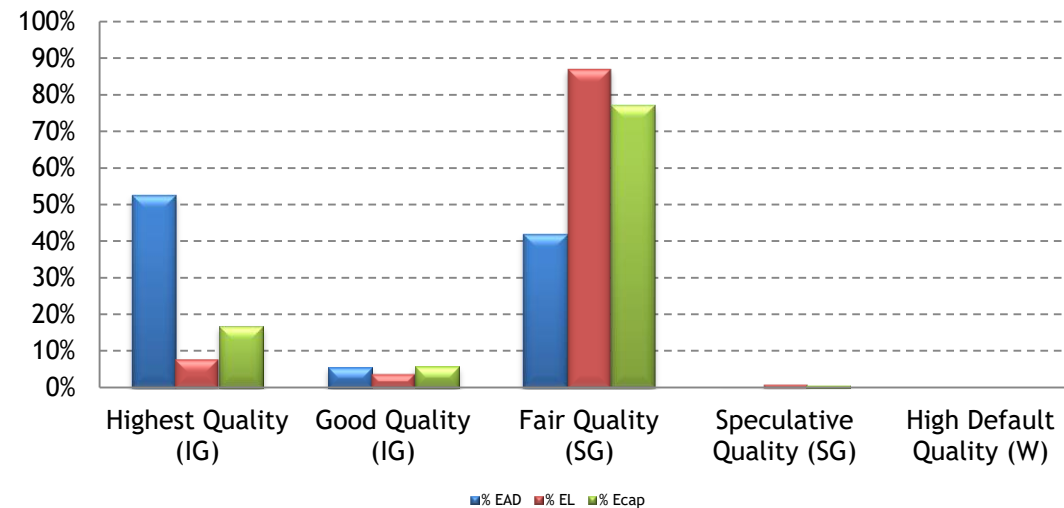
Credit Loans Portfolio – quality distribution – Bonis portfolio

Master Scale	Basis point		S&P's Rating	Description
	from	to		
Highest Quality (IG)	-	16	AAA / A-	Investment
Good Quality (IG)	16	56	BBB+ / BBB-	
Fair Quality (SG)	56	298	BB+ / BB-	Speculative
Speculative Quality (SG)	298	1.774	B+ / B-	
Hight Default Quality (W)	1.774	10.000	CCC+ / D	Watch

On September 2018, the measurement of Exposures At Risk (EAD), in terms of internal-external ratings (according to the MPS Master Scale), results in the following counterparties distribution (as also represented in the graph below):

- Investment Grade about 58%;
- Speculative Grade Class about 42% (see Fair and Speculative classes).

Master scale distribution of borrowers



Credit Loans Portfolio – Default portfolio

Default portfolio

USD/EUR 1,1576

September 30, 2018 - New York - \$/mln

Counterparty Name	Drawn	EAD	EL	LGD
M E G POLYMERS USA, LLC	10,00	10,00	6,46	64,60%
GENERAL DEVELOPMENT CORPORATION	0,02	0,02	0,02	93,01%
DOMINGO MARIO	0,01	0,01	0,01	75,56%
Total	10,03	10,03	6,49	64,66%

Loans default exposures – at September 2018 – amount to 10,03 \$/mln. Expected Loss (EL) is 6,49 \$/mln. LGD of default portfolio is 64,66%.

The table below shows the recalculation of risk measures on EL of default portfolio after application of the rates of lgd stressed according to the approach used by the Group MPS.

Default portfolio after stress

USD/EUR 1,1576

September 30, 2018 - New York - \$/mln

Counterparty Name	Drawn	EAD	EL Stress	LGD Stress
M E G POLYMERS USA, LLC	10,00	10,00	7,31	73,15%
GENERAL DEVELOPMENT CORPORATION	0,02	0,02	0,01	79,24%
DOMINGO MARIO	0,01	0,01	0,01	79,94%
Total	10,03	10,03	7,34	73,06%



Credit Loans Whole Portfolio – Transition Matrix

The table below shows the comparison between 30th September 2017 and 30th September 2018 risk ratings assigned to MPS Group Counterparties.

Credit Loans Whole Portfolio Transition Matrix

- Banca Monte dei Paschi di Siena: New York Branch -

		Pd_t																			
		0,01%	0,03%	0,05%	0,09%	0,13%	0,20%	0,30%	0,46%	0,69%	1,05%	1,59%	2,42%	3,99%	6,31%	9,95%	16,03%	22,12%	31,63%	45,00%	100,00%
Pd_t-1	0,01%																				
	0,03%		55,05																		
	0,05%			0,00																	
	0,09%				4,00																
	0,13%			1,62		5,00	0,12														
	0,20%					35,15	2,08														
	0,30%						1,43	1,52	0,16												
	0,46%								5,08	6,50											
	0,69%																				
	1,05%									52,94	3,25										10,00
	1,59%									1,06	0,01										0,01
	2,42%													1,50							
	3,99%																				
	6,31%																				
	9,95%																				
	16,03%																	0,25			
	22,12%																				
31,63%																					
45,00%																					
100,00%												0,00								0,02	
<nuovi ingressi>								0,25	4,28	10,42											

EUR/USD 1,1576

(€ millions)

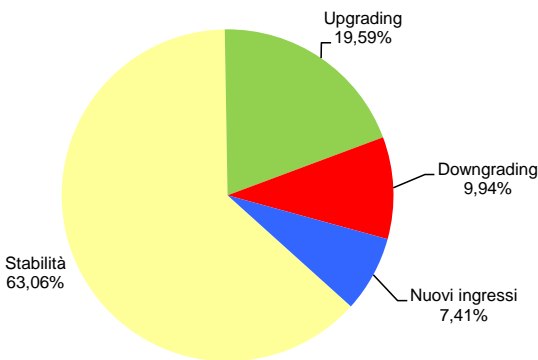
Periodo t = 30th September 2018

Periodo t-1 = 30th September 2017

Variazione	EAD (\$)	EAD (%)
Stabilità	127,19	63,06%
Upgrading	39,50	19,59%
Downgrading	20,04	9,94%
Nuovi ingressi	14,95	7,41%
Totali =	201,69	100,00%

Gruppo Montepaschi - New York Branch

Transition Matrix al 30.09.2018



Credit Loans Portfolio – Concentration Exposure: drill down by Region

The overall concentration index level of the New York Branch Bonis Portfolio (HH – Herfindhal Index) is 12,83%. The high value of concentration index is due to increased exposure with Federal Reserve. The marginal value of concentration index without Federal Reserve is 9,01%.

The table below shows both the single-name concentration within each single country and the overall Regional concentration level.

The next table shows both the single-name concentration within each industry and the overall Industry concentration level.

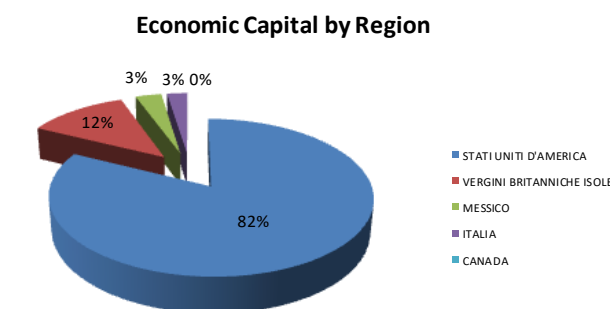
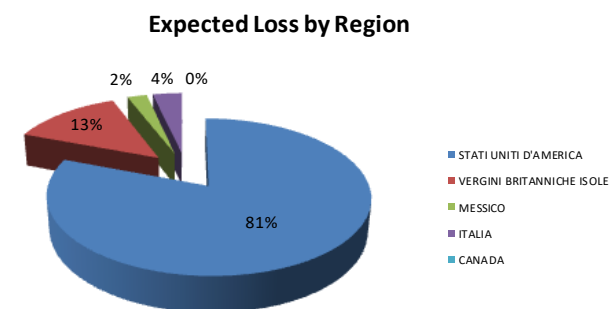
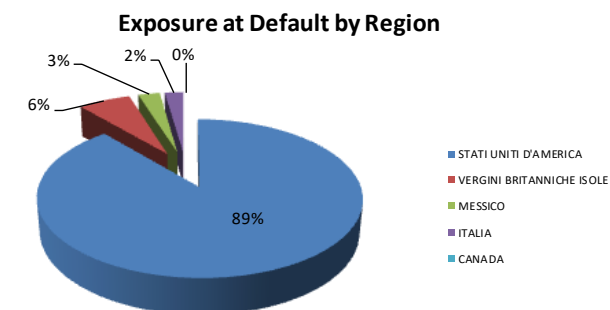
Bonis portfolio

September 30, 2018 - New York

ID_GEO	IM_EAD	IM_EL	IM_CE	AV_LGD	AV_PD	CAP_EAD	HH
STATI UNITI D'AMERICA	170,26	0,31	4,09	41,23%	0,46%	2,40%	15,32%
VERGINI BRITANNICHE ISOL	12,12	0,05	0,60	39,60%	1,05%	4,95%	80,64%
MESSICO	5,00	0,01	0,16	38,99%	0,46%	3,11%	78,12%
ITALIA	4,28	0,01	0,12	45,00%	0,69%	2,80%	48,29%
CANADA	0,00	0,00	0,00	44,40%	0,05%	0,15%	100,00%
	191,66	0,38	4,96	41,16%	0,50%	2,59%	79,43%

EUR/USD 1,1576

(\$ millions)



Credit Loans Portfolio – Concentration Exposure: drill down by Industry

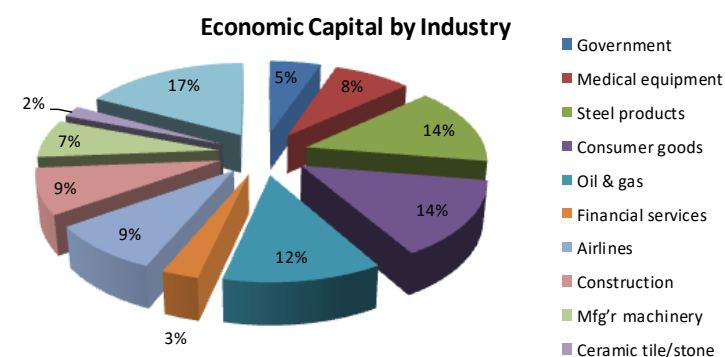
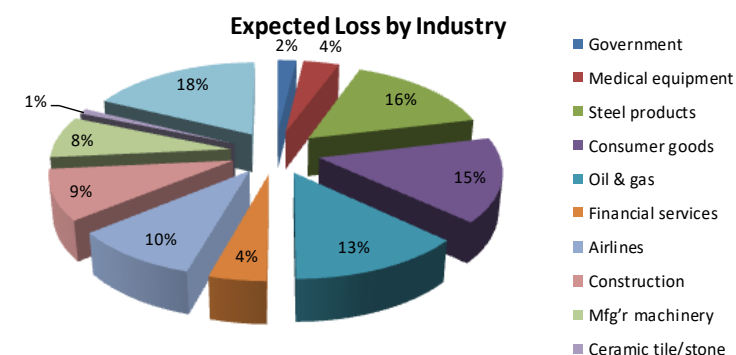
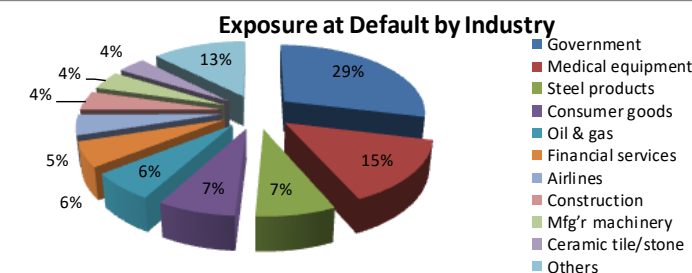
Bonis portfolio

September 30, 2018 - New York

ID_INDUSTRY	IM_EAD	IM_EL	IM_CE	AV_LGD	AV_PD	CAP_EAD	HH
Government	55,05	0,01	0,26	45,00%	0,03%	0,48%	98,70%
Medical equipment	28,00	0,01	0,40	39,05%	0,13%	1,44%	100,00%
Steel products	14,43	0,06	0,70	38,84%	1,05%	4,86%	100,00%
Consumer goods	14,08	0,06	0,69	39,45%	1,05%	4,93%	100,00%
Oil & gas	12,12	0,05	0,60	39,60%	1,05%	4,95%	80,64%
Financial services	10,90	0,02	0,14	45,00%	0,34%	1,27%	30,70%
Airlines	9,06	0,04	0,44	38,92%	1,05%	4,87%	100,00%
Construction	8,41	0,03	0,42	39,60%	1,05%	4,95%	48,53%
Mfg'r machinery	8,25	0,03	0,35	38,92%	0,91%	4,24%	38,69%
Ceramic tile/stone	7,15	0,00	0,10	39,21%	0,13%	1,44%	96,67%
Food products	6,50	0,02	0,24	36,82%	0,69%	3,69%	53,12%
Apparel	4,08	0,01	0,14	42,39%	0,62%	3,55%	49,86%
Firearms & apparel	4,00	0,00	0,05	39,60%	0,09%	1,15%	100,00%
Furniture	1,85	0,01	0,09	39,60%	1,05%	4,96%	100,00%
Industrial equipment	1,75	0,01	0,12	39,56%	2,14%	6,80%	75,25%
Agriculture	1,52	0,00	0,04	39,60%	0,30%	2,46%	100,00%
Mining & exploration	1,43	0,00	0,03	39,65%	0,20%	1,92%	45,06%
lawyer's services	1,25	0,01	0,06	39,10%	1,05%	4,90%	100,00%
Jewelry	1,18	0,00	0,05	34,52%	0,96%	3,97%	58,86%
Electric utility	0,25	0,00	0,02	39,60%	3,99%	9,17%	100,00%
Mfg'r of specialized equi	0,16	0,00	0,00	30,90%	0,46%	2,47%	100,00%
Leather goods	0,14	0,00	0,01	39,60%	1,05%	4,96%	100,00%
Dispensing products	0,08	0,00	0,00	37,07%	0,46%	2,96%	100,00%
Individual	0,01	0,00	0,00	16,22%	1,59%	1,11%	55,93%
Hotel supplies	0,00	-	0,00	0,00%	1,05%	3,33%	100,00%
Eyewear	0,00	-	-	0,00%	0,13%	0,00%	100,00%
	191,66	0,38	4,96	41,16%	0,50%	2,59%	13,20%

EUR/USD 1,1576

(\$ millions)



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Credit Portfolio Measurement System – Methodological Notes

1. Measuring and monitoring of credit risk are made in Banca MPS by means of the internally implemented portfolio model.
2. The model, under the responsibility of the Risk Management Dept, takes into account:
 - a) probability of default (PD) derived from the internal rating system for AIRB portfolio counterparties and from External Rating (if available) or benchmark approach for Standard portfolio counterparties. Until September 2015 the pd benchmark was estimated by average default rate approach above whole group portfolio. Since December 2015 the pd benchmark was estimated by average default rate approach above foreign branch portfolio, improving approximately 70-80%;
 - b) loss given default (LGD) rates obtained from specific 7-year time series of recovering and costs relating to “close” defaulted position;
 - c) coefficients of exposure at default (EAD);
 - d) data relating to different types of guarantees supporting specific transactions.
3. The model takes into account the diversification effect by means of a structural and dynamic correlation matrix which considers the concentration and diversification effects of the risk, together with the marginal redistribution of risk at single counterparty level .
4. The results of the portfolio model at Group level are regularly presented to the Risk Committee of the Corporate Center.
5. The main measures regularly presented are:
 - a) expected loss, representing the annual average estimated loss;
 - b) unexpected loss, representing the difference between the loss - measured on a yearly holding period at 99,93% confidence interval - and the expected loss;
 - c) economic capital, measure of the capital requirement originated from the positions held in the portfolio;
 - d) stress testing measures calculated on specific variables (i.e., increase in PD, etc.), representing extreme but possibile scenarios.
6. LGD parameters are estimated according to the “workout LGD” concept. LGD is calculated on the basis of historical recoveries and costs relating to defaulted positions over several years, discounted at the proper rates and adjusted through “cure-rate” methodology.
7. The parameters utilized to compute economic capital are the same according to the international Regulatory framework for the validated AIRB approach.



Credit Portfolio Measurement System – Methodological Notes

8. The Herfindahl index (also known as Herfindahl–Hirschman Index, or HHI) measures Credit Portfolio concentration. It is defined as market shares sum of squares, where the market shares are expressed as ratios. It can vary from 0 to 1.0, moving from a huge number of borrowers to a single monopolistic borrower. Herfindahl index increase generally indicates a diversification decrease and a lending portfolio concentration increase and vice-versa.

Formula:
$$H = \sum_{i=1}^N s_i^2$$

where s_i is the market share of borrower i in the lending portfolio, and N is the number of borrowers.

A HHI index below 0.15 indicates no concentration.

A HHI index between 0.15 to 0.25 indicates moderate concentration.

A HHI index above 0.25 indicates high concentration.



