

9. Market risks (trading book)

The Trading Book is composed of positions held with the purpose of obtaining short-term gains, via sales or revaluations. These positions are actively managed and rigorously and frequently evaluated.

In a letter dated 30 April 2009, Banco de Portugal authorised the Group to use the internal models approach to compute own funds requirements in terms of generic market risk of the Trading Book.

This authorisation encompassed all the sub-portfolios of the Trading Book that are part of the perimeter that is centrally managed from Portugal, which includes all the trading operations related with financial markets and products, namely those carried out by Banco Comercial Português, S.A..

Thus, as at 31 December 2018 and 2017, own funds requirements for generic market risks of the Group's Trading Book were calculated in accordance with the internal models approach for generic risk, within the universe of entities centrally managed from Portugal. For the remaining entities, the own funds requirements were calculated in accordance with the standardised approach.

MARKET RISKS

Generic risk over debt instruments and equity securities	Internal Model
FX risk	Internal Model
Commodities risk and specific risk over debt instruments and equity securities	Standardised Approach

The Bank uses a standardised approach for specific risk and does not have a correlation trading portfolio (CPT). Hence, incremental risk capital charges, migration risk or specific risk measurement for the CTP do not apply.

The RWA and own funds requirements for market risks, as at 31/12/2018 and 30/06/2018 and calculated through the Standardised Approach are shown in the following tables.

TABLE 53 – TEMPLATE 34 / MR1 - MARKET RISK UNDER THE STANDARDISED APPROACH

31/12/2018		(Thousand euros)
	RWA	Capital requirements
OUTRIGHT PRODUCTS		
Interest rate risk (general and specific)	13 815	1 105
Equity risk (general and specific)	17 706	1 417
Foreign exchange risk	453 000	36 240
Commodity risk	609	49
OPTIONS		
Simplified approach		
Delta-plus method		
Scenario approach		
SECURITISATION (SPECIFIC RISK)		
TOTAL	485 130	38 810
30/06/2018		(Thousand euros)
	RWA	Capital requirements
OUTRIGHT PRODUCTS		
Interest rate risk (general and specific)	46 690	3 735
Equity risk (general and specific)	9 458	757
Foreign exchange risk	844 028	67 522
Commodity risk	239	19
OPTIONS		
Simplified approach		
Delta-plus method		
Scenario approach		
SECURITISATION (SPECIFIC RISK)		
TOTAL	900 415	72 033

9.1. CALCULATION METHODOLOGIES

The calculation of own funds requirements for generic market risk, via the standardised approach, was based on the following methodologies, according to the specific type of financial instrument:

- Debt instruments: in this portfolio, own funds requirements for generic market risk were calculated in accordance with the duration-based approach, as defined by article 340, Section 2, Chapter 2, Title IV, Part III of the CRR. These positions have been treated in accordance to the provisions of Section 1 of the same chapter.
- Capital instruments: for this portfolio, own funds requirements for generic market risk were calculated in accordance with the methodology described in Section 3, Chapter 2, Title IV, Part III of the CRR.

In addition, for the application purposes of the internal models approach, the Group applies a VaR methodology to measure generic market risk – including interest rate risk, foreign exchange risk and equity risk – for all sub-portfolios covered by the previously mentioned authorisation for internal modelling.

The valuation procedures are established in terms of the potential negative impact of market conditions, in both normal and stressful circumstances, on the Trading Book of the Group's business units.

As already mentioned, with respect to risk measurement models used in the Group, the Bank is authorized to use the internal models approach in assessing the generic market risk capital requirements of the trading sub-portfolios that are part of Portugal's centrally managed perimeter (by Banco Comercial Portugues, SA). With reference to December 31, 2018, the capital requirements calculated by internal model corresponded to 55% of the total requirements of the Group.

The methodology used to measure market risk is the Value-at-Risk (VaR), which indicates the maximum losses that can occur in the portfolios, with a certain level of confidence and time horizon. The VaR calculation considers a time horizon of ten business days and a significance level of 99%.

This methodology is widely used in the market and has the advantage of summarizing, in a single metric, the inherent risks of the trading activity, taking into account the relationships between all of them, providing an estimate of the Trading Book losses as a result of changes in the stock markets' prices, interest rates, FX rates and commodities' prices. In addition, for some positions, other risks are considered, such as credit spreads' risk, base risk, volatility risk and correlation risk.

The daily VaR is determined by calculating the impact, on the current value of the portfolio, of the historical changes of last years' risk factors, with a daily update of the observation window. As of December 31, 2018, the Bank did not apply any weighting system to the seniority of historical variations. The holding period is modelled through multiplying the 1-day VaR by the square root of 10.

In accordance with the implemented methodology, the Bank carries out a total revaluation, using the logarithmic returns of the risk factors; for interest rates, the logarithmic returns of the discount factors are used.

As a complement, other metrics are used for the remaining types of risk, namely, a non-linear risk measure that incorporates the options' risk not covered in the VaR model, with a confidence interval of 99%, and a measure defined by the standard methodology in the VaR model for commodities' risk. These measures are integrated into the market risk indicator with the conservative assumption of perfect correlation between the different types of risk (worst-case scenario).

In what concerns the capital requirements calculation, the VaR amount measured is increased by the amount measured for SVaR (stressed VaR). For both the VaR and the SVaR, pursuant to Article 366 of the CRR, a regulatory multiplier is additionally applied.

The SVaR calculation process consists of calculating historical VaR, with a confidence interval of 99%, based on the daily variations of market prices during a stress period of 12 consecutive months. The analysis to define the stress period is carried out weekly, and may lead to a review of the period to be considered as the one that maximizes the VaR of the portfolio at the time of analysis. As of December 31, 2018, the stress period considered was between 26/04/2011 and 25/04/2012.

The SVaR calculation is based on the same methodology and structure used for the VaR, the only difference being the historical period used. Regarding the process of determining the holding period, this also results from multiplying the 1-day VaR by the square root of 10.

Table 54 shows the main VaR and SVaR statistics, calculated in accordance to the approved internal model methods, exclusively for the universe of entities managed centrally from Portugal, on 31/12/2018 and 30/06/2018:

TABLE 54 – TEMPLATE 37 / EU MR3 – IMA VALUES FOR TRADING PORTFOLIOS**31/12/2018**

(Thousand euros)

VaR (10 day 99%)	
Maximum value	5 468
Average value	2 870
Minimum value	1 574
Period end	3 092
SVaR (10 day 99%)	
Maximum value	17 454
Average value	10 228
Minimum value	4 794
Period end	10 185
IRC (99,9%)	
Maximum value	
Average value	
Minimum value	
Period end	
COMPREHENSIVE RISK CAPITAL CHARGE (99.9%)	
Maximum value	
Average value	
Minimum value	
Period end	

30/06/2018

(Thousand euros)

VaR (10 day 99%)	
Maximum value	5 468
Average value	3 027
Minimum value	1 574
Period end	4 926
SVaR (10 day 99%)	
Maximum value	17 454
Average value	11 226
Minimum value	4 794
Period end	8 845
IRC (99,9%)	
Maximum value	
Average value	
Minimum value	
Period end	
COMPREHENSIVE RISK CAPITAL CHARGE (99.9%)	
Maximum value	
Average value	
Minimum value	
Period end	

Own funds requirements for specific market risk continued to be calculated in accordance with the standardised approach, including those of the sub-Trading Books regarding which Banco de Portugal authorised the use of the internal models approach to calculate the generic market risk, as previously mentioned.

These requirements were determined, for all the positions of the Group's Trading Book, pursuant to Sub-Section 1, Section 2, Chapter 2, Title IV, Part III and article 342 of Section 3, Chapter 2, Title IV, Part III of the CRR, according to the type of financial instruments at stake (debt instruments or capital instruments, respectively).

The 2018 average for the stressed VaR of the Trading Book positions amounted to € 10.23 M. Regarding the stressed VaR as at 31st of December 2018, the amount measured was of € 10.19 M.

9.2. STRESS TESTS ON THE TRADING BOOK

Besides calculating the VaR, and aiming at identifying the concentration of risks not captured by that metric and to assess other possible losses, the Group continually tests a wide set of stress scenarios on the Trading Book, analysing the results of those stress tests.

Table 55 summarises the results of these tests on the Group's global Trading Book on 31 December 2017, indicating that the exposure to the various risk factors is limited and that the main risk to take into account, under the standard scenarios tested, is an increase in interest rates, especially when accompanied by an increase in the slope of the yield curve.

TABLE 55 - STRESS TESTS OVER THE TRADING BOOK

(Thousand euros)

STANDARD SCENARIOS (tested as at 31/12/2018)	Negative result scenario	Result
Parallel shift of the yield curve by +/- 100 bps	-100 bps	-5.594
Change in the slope of the yield curve (for maturities from 2 to 10 years) up to +/- 25 bps	-25 bps	-2.855
4 combinations of the previous 2 scenarios	-100 bps and +25 bps	-2.520
	-100 bps and -25 bps	-8.735
Variation in the main stock market indices by +/- 30%	-30%	-80
Variation in foreign exchange rates (against the euro) by +/- 10% for the main currencies and by +/- 25% for other currencies	+10%, +25%	-254
Parallel shift of the yield curve by +/- 100 bps	-20 bps	-1.058
NON-STANDARD SCENARIOS (tested as at 31/12/2018)	Negative result scenario	Result
Widening/narrowing of the bid-ask spread	Widening	-670
Significant vertices ⁽¹⁾	VaR w/ diversification	-10 926
	VaR w/o diversification	-10 918
Historical scenarios ⁽²⁾	06/Oct/2008	-11 529
	18/Jul/2011	-8 874

⁽¹⁾ Scenarios in which the more adverse variations of the last seven years, relative to the portfolio's five most significant risk factors, are applied to the current portfolio.

⁽²⁾ Scenarios in which past extreme markets variations are applied to the current portfolio; in this case, the significant dates refer to the 2008 financial crisis and the Eurozone Sovereign Debt crisis in 2011.

9.3. BACKTESTING OF THE INTERNAL MODELS APPROACH

The Group carries out backtests of the internal models approach results, in relation to the theoretical results obtained by the target portfolio of the calculation, unchanged between two consecutive working days and revaluated at market prices of the second day. In parallel, the Group has a complementary process to verify the results of the model in relation to the actual results obtained, excluding the effects of operations carried out via intermediation.

The evaluation of the financial assets and liabilities included in the Trading Book is carried out by a unit that is totally independent from the negotiation of those assets, and the control of the evaluations was assured, in 2018, by the Models Monitoring and Validation Unit. The evaluation and control procedures are documented in the Group's internal regulations. The segregation between position-taking and position-evaluation duties is also contemplated at the level of information technology systems that intervene in the global process involving the management, evaluation, settlement and accounting of operations.

In what concerns the ex-post verification of the model's results, the number of excesses registered in 2018 and 2018, relative to the global Trading Book of companies centrally managed from Portugal, for which Banco de Portugal has approved the use of the internal models approach to compute generic risk capital requirements, is shown in Table 56.

TABLE 56 - BACKTESTING OF THE VAR APPROACH APPLIED IN MARKET RISK CALCULATION

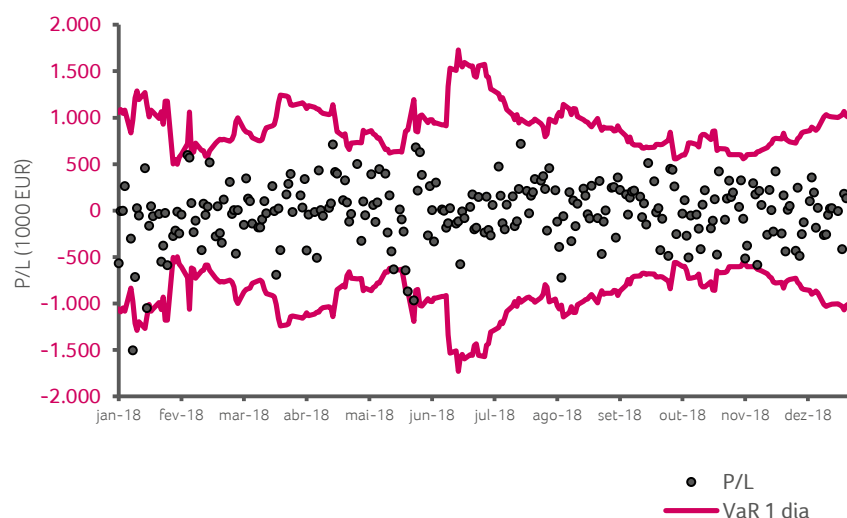
Year	Result	
	Positive	Negative
2017	4	1
2018	0	3

Note: The model used for the purpose of a posteriori verification is focused on the excesses occurred in both sides of the distribution and the expected number of excesses, according to the significance level applied, is 5 per year (2% x 250 annual observations).

The accuracy of the model used to estimate generic risk is monitored on a daily basis by the backtesting process that compares the risk values computed on a given day (VaR) with the (theoretical) result of applying the following day's market rates to those exposures.

The following charts show the results of the hypothetical and real backtesting, for the Trading Book centrally managed from Portugal, in 2018.

GRAPH 1 – HYPOTHETICAL VaR BACKTESTING (TRADING BOOK)



As illustrated by Graph 1, there were three excesses in 2018 (negative) over the hypothetical results of the model, representing a frequency of 1.17% in 257 daily observations. This result is aligned with the theoretical amount expected for bilateral excesses; hence, the model is considered to be adequate.

GRAPH 2 – REAL VaR BACKTESTING (TRADING BOOK)

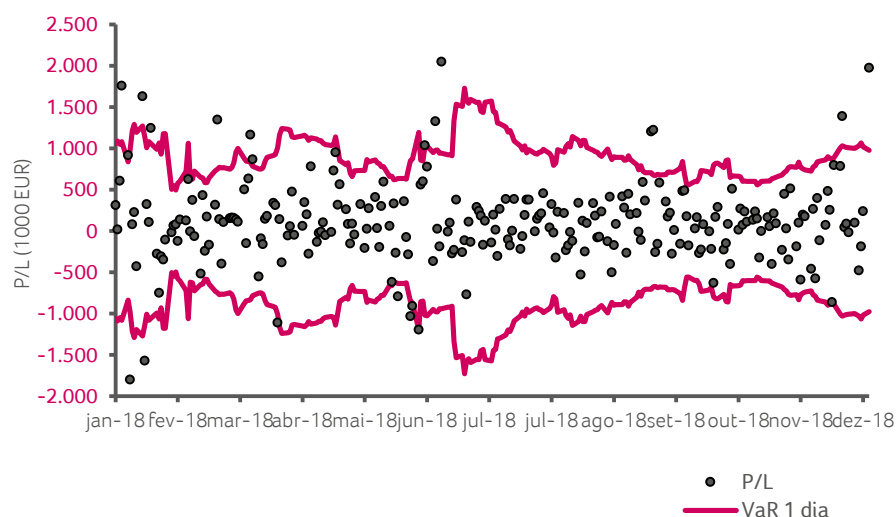


Table 57 A presents the detailed results of the daily hypothetical backtesting of the Trading Book centrally managed from Portugal in 2018. An excess occurs when the return registered for the portfolio is higher (in absolute value) than the theoretical result of the VaR model:

TABLE 57 A – TEMPLATE 38 / EU MR4 (I) - HYPOTHETICAL BACKTEST OF THE TRADING BOOK (PORTUGAL) – 2017

(Thousand euros)

Date	VaR	Theoretical result	Date	VaR	Theoretical result	Date	VaR	Theoretical result
02/01/2018	1 058	-568	06/03/2018	846	344	10/05/2018	780	86
03/01/2018	1 087	-6	07/03/2018	841	127	11/05/2018	780	442
04/01/2018	1 048	-3	08/03/2018	834	98	14/05/2018	659	396
05/01/2018	1 082	262	09/03/2018	784	-143	15/05/2018	662	-238
08/01/2018	836	-303	12/03/2018	753	-184	16/05/2018	621	161
09/01/2018 ⁽¹⁾	976	-1 505	13/03/2018	750	-184	17/05/2018	626	-442
10/01/2018	1 213	-716	14/03/2018	764	-98	18/05/2018 ⁽²⁾	635	-636
11/01/2018	1 290	24	15/03/2018	847	99	21/05/2018	637	9
12/01/2018	1 195	-55	16/03/2018	893	-30	22/05/2018	630	-98
15/01/2018	1 269	456	19/03/2018	914	262	23/05/2018	736	-228
16/01/2018	1 140	-1 053	20/03/2018	926	-7	24/05/2018	854	-644
17/01/2018	1 009	-166	21/03/2018	1 009	-693	25/05/2018 ⁽³⁾	866	-870
18/01/2018	1 083	45	22/03/2018	1 162	21	28/05/2018	1 193	-969
19/01/2018	1 060	-63	23/03/2018	1 242	-427	29/05/2018	857	677
22/01/2018	990	-39	26/03/2018	1 232	171	30/05/2018	848	215
23/01/2018	1 065	-551	27/03/2018	1 221	285	31/05/2018	1 020	626
24/01/2018	931	-380	28/03/2018	1 139	394	01/06/2018	1 028	380
25/01/2018	1 179	-28	29/03/2018	1 133	-16	04/06/2018	948	-268
26/01/2018	1 178	-590	02/04/2018	1 152	160	05/06/2018	977	263
29/01/2018	502	-278	03/04/2018	1 159	30	06/06/2018	979	4
30/01/2018	551	-219	04/04/2018	1 135	336	07/06/2018	942	-334
31/01/2018	498	-15	05/04/2018	1 098	-430	08/06/2018	942	300
01/02/2018	576	-248	06/04/2018	1 130	-44	11/06/2018	923	10
02/02/2018	606	-45	09/04/2018	1 113	-19	12/06/2018	923	-4
05/02/2018	721	596	10/04/2018	1 094	-509	13/06/2018	912	-187
06/02/2018	1 061	567	11/04/2018	1 093	431	14/06/2018	1 336	-139
07/02/2018	618	77	12/04/2018	1 063	3	15/06/2018	1 533	23
08/02/2018	629	-235	13/04/2018	1 046	-58	18/06/2018	1 508	-142
09/02/2018	726	-110	16/04/2018	1 033	28	19/06/2018	1 729	-117
12/02/2018	649	-427	17/04/2018	1 047	74	20/06/2018	1 578	-578
13/02/2018	642	71	18/04/2018	1 141	708	21/06/2018	1 547	-10
14/02/2018	585	-50	19/04/2018	990	413	22/06/2018	1 594	-82
15/02/2018	585	39	20/04/2018	851	396	25/06/2018	1 552	38
16/02/2018	642	517	23/04/2018	802	109	26/06/2018	1 557	171
19/02/2018	728	-278	24/04/2018	825	324	27/06/2018	1 451	-204
20/02/2018	747	46	25/04/2018	699	85	28/06/2018	1 435	-185
21/02/2018	769	-244	26/04/2018	657	-122	29/06/2018	1 558	145
22/02/2018	762	-349	27/04/2018	727	-38	02/07/2018	1 572	-237
23/02/2018	769	116	30/04/2018	734	497	03/07/2018	1 447	146
26/02/2018	748	305	02/05/2018	731	-329	04/07/2018	1 435	-212
27/02/2018	768	-37	03/05/2018	863	94	05/07/2018	1 307	-268
28/02/2018	820	3	04/05/2018	835	-53	06/07/2018	1 297	57
01/03/2018	959	-464	07/05/2018	861	388	09/07/2018	1 258	471
02/03/2018	999	2	08/05/2018	827	57	10/07/2018	1 198	158
05/03/2018	876	-154	09/05/2018	814	-124	11/07/2018	1 215	-137

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Date	VaR	Theoretical result	Date	VaR	Theoretical result	Date	VaR	Theoretical result
12/07/2018	1 154	-203	13/09/2018	724	203	15/11/2018	638	208
13/07/2018	1 087	63	14/09/2018	705	213	16/11/2018	650	59
16/07/2018	1 028	152	17/09/2018	705	146	19/11/2018	678	-263
17/07/2018	979	-170	18/09/2018	676	-74	20/11/2018	709	220
18/07/2018	1 032	-117	19/09/2018	672	74	21/11/2018	723	4
19/07/2018	944	229	20/09/2018	684	-152	22/11/2018	767	-227
20/07/2018	986	715	21/09/2018	678	508	23/11/2018	780	419
23/07/2018	938	211	24/09/2018	682	313	26/11/2018	772	-249
24/07/2018	931	-31	25/09/2018	713	-22	27/11/2018	833	161
25/07/2018	952	158	26/09/2018	713	24	28/11/2018	772	-440
26/07/2018	958	197	27/09/2018	710	-427	29/11/2018	753	6
27/07/2018	987	336	28/09/2018	712	-90	30/11/2018	740	49
30/07/2018	938	320	01/10/2018	759	-489	03/12/2018	726	-433
31/07/2018	901	369	02/10/2018	842	448	04/12/2018	774	246
01/08/2018	795	230	03/10/2018	690	436	05/12/2018	792	-490
02/08/2018	822	-218	04/10/2018	558	256	06/12/2018	837	-254
03/08/2018	984	455	05/10/2018	559	-257	07/12/2018	846	-127
06/08/2018	952	215	08/10/2018	600	-34	10/12/2018	859	99
07/08/2018	1 022	-122	09/10/2018	599	111	11/12/2018	900	354
08/08/2018	1 059	-392	10/10/2018	643	-273	12/12/2018	881	193
09/08/2018	1 015	-724	11/10/2018	727	-508	13/12/2018	864	-187
10/08/2018	1 145	-63	12/10/2018	728	-54	14/12/2018	886	27
13/08/2018	1 096	197	15/10/2018	713	-44	17/12/2018	1 009	-267
14/08/2018	1 033	-330	16/10/2018	684	-197	18/12/2018	1 032	-258
15/08/2018	1 097	107	17/10/2018	798	-418	19/12/2018	1 021	-48
16/08/2018	1 095	-168	18/10/2018	820	63	20/12/2018	1 013	21
17/08/2018	1 012	72	19/10/2018	820	218	21/12/2018	1 007	24
20/08/2018	977	232	22/10/2018	766	-192	24/12/2018	1 001	-8
21/08/2018	960	159	23/10/2018	853	-110	26/12/2018	1 030	-416
22/08/2018	951	-42	24/10/2018	859	120	27/12/2018	1 067	180
23/08/2018	924	-88	25/10/2018	649	-476	28/12/2018	1 021	130
24/08/2018	903	264	26/10/2018	668	421	31/12/2018	978	-927
27/08/2018	992	-82	29/10/2018	664	-99			
28/08/2018	919	317	30/10/2018	657	126			
29/08/2018	863	-468	31/10/2018	602	321			
30/08/2018	900	-120	01/11/2018	603	143			
31/08/2018	889	-1	02/11/2018	602	193			
03/09/2018	890	245	05/11/2018	603	38			
04/09/2018	858	251	06/11/2018	600	324			
05/09/2018	861	-292	07/11/2018	556	-90			
06/09/2018	912	355	08/11/2018	572	-516			
07/09/2018	864	222	09/11/2018	603	-380			
10/09/2018	802	171	12/11/2018	604	291			
11/09/2018	740	-45	13/11/2018	605	171			
12/09/2018	791	136	14/11/2018	632	-586			

(1) 10% devaluation of the Kwanza em 10%. (2) 5 bps reduction in the German bonds' rates (7 and 9 years terms) and increase of 9 to 16 bps in the Portuguese bonds' rates (terms of 3 to 20 years). (3) 6 bps reduction in the German bonds' rates (7 and 9 years terms) and increase of 7 to 12 bps in the Portuguese bonds' rates (terms of 3 to 20 years).

10-days VaR with 99% unilateral confidence level; theoretical result obtained in the ex-post VaR model validation process (daily result scaled for 10 days thorough the square root of time).

Table 57 B presents the detailed results of the daily real backtesting of the Trading Book centrally managed from Portugal in 2018. An excess occurs when the real return registered for the portfolio is higher (in absolute value) than the theoretical result of the VaR model:

TABLE 57 B - TEMPLATE 38 / EU MR4 (II) - REAL BACKTEST OF THE TRADING BOOK (PORTUGAL) – 2017

(Thousand euros)

Date	VaR	Real result	Date	VaR	Real result	Date	VaR	Real result
02/01/2018	1 058	316	06/03/2018	846	-149	10/05/2018	780	301
03/01/2018	1 087	19	07/03/2018	841	637	11/05/2018	780	597
04/01/2018	1 048	609	08/03/2018	834	1 165	14/05/2018	659	62
05/01/2018	1 082	1 759	09/03/2018	784	869	15/05/2018	662	-617
08/01/2018	836	917	12/03/2018	753	-552	16/05/2018	621	332
09/01/2018 ⁽¹⁾	976	-1 798	13/03/2018	750	-90	17/05/2018	626	-265
10/01/2018	1 213	82	14/03/2018	764	-158	18/05/2018 ⁽⁴⁾	635	-791
11/01/2018	1 290	227	15/03/2018	847	149	21/05/2018	637	361
12/01/2018	1 195	-428	16/03/2018	893	183	22/05/2018	630	-75
15/01/2018	1 269	1 633	19/03/2018	914	341	23/05/2018	736	-284
16/01/2018 ⁽²⁾	1 140	-1 570	20/03/2018	926	314	24/05/2018 ⁽⁵⁾	854	-1 030
17/01/2018	1 009	324	21/03/2018 ⁽³⁾	1 009	-1 110	25/05/2018 ⁽⁶⁾	866	-905
18/01/2018	1 083	110	22/03/2018	1 162	142	28/05/2018	1 193	-1 193
19/01/2018	1 060	1 250	23/03/2018	1 242	-381	29/05/2018	857	563
22/01/2018	990	-276	26/03/2018	1 232	-52	30/05/2018	848	599
23/01/2018	1 065	-748	27/03/2018	1 221	59	31/05/2018	1 020	1 037
24/01/2018	931	-306	28/03/2018	1 139	475	01/06/2018	1 028	779
25/01/2018	1 179	-345	29/03/2018	1 133	-46	04/06/2018	948	-364
26/01/2018	1 178	-107	02/04/2018	1 152	63	05/06/2018	977	1 327
29/01/2018	502	-14	03/04/2018	1 159	348	06/06/2018	979	27
30/01/2018	551	66	04/04/2018	1 135	201	07/06/2018	942	-186
31/01/2018	498	82	05/04/2018	1 098	-274	08/06/2018	942	2 049
01/02/2018	576	-120	06/04/2018	1 130	784	11/06/2018	923	-9
02/02/2018	606	140	09/04/2018	1 113	-133	12/06/2018	923	99
05/02/2018	721	128	10/04/2018	1 094	-21	13/06/2018	912	-269
06/02/2018	1 061	630	11/04/2018	1 093	-9	14/06/2018	1 336	-230
07/02/2018	618	-4	12/04/2018	1 063	104	15/06/2018	1 533	378
08/02/2018	629	375	13/04/2018	1 046	-50	18/06/2018	1 508	-256
09/02/2018	726	-62	16/04/2018	1 033	-11	19/06/2018	1 729	-111
12/02/2018	649	-516	17/04/2018	1 047	731	20/06/2018	1 578	-766
13/02/2018	642	432	18/04/2018	1 141	953	21/06/2018	1 547	113
14/02/2018	585	-238	19/04/2018	990	319	22/06/2018	1 594	-130
15/02/2018	585	175	20/04/2018	851	566	25/06/2018	1 552	289
16/02/2018	642	-167	23/04/2018	802	263	26/06/2018	1 557	246
19/02/2018	728	317	24/04/2018	825	84	27/06/2018	1 451	185
20/02/2018	747	1 347	25/04/2018	699	-151	28/06/2018	1 435	-165
21/02/2018	769	142	26/04/2018	657	89	29/06/2018	1 558	123
22/02/2018	762	-395	27/04/2018	727	-43	02/07/2018	1 572	-140
23/02/2018	769	110	30/04/2018	734	325	03/07/2018	1 447	196
26/02/2018	748	154	02/05/2018	731	-204	04/07/2018	1 435	15
27/02/2018	768	161	03/05/2018	863	29	05/07/2018	1 307	-304
28/02/2018	820	158	04/05/2018	835	277	06/07/2018	1 297	267
01/03/2018	959	141	07/05/2018	861	412	09/07/2018	1 258	387
02/03/2018	999	113	08/05/2018	827	36	10/07/2018	1 198	-100
05/03/2018	876	505	09/05/2018	814	-193	11/07/2018	1 215	-175

(Continues)

(Continued)

Date	VaR	Real result	Date	VaR	Real result	Date	VaR	Real result
12/07/2018	1 154	4	13/09/2018	724	591	15/11/2018	638	215
13/07/2018	1 087	386	14/09/2018	705	367	16/11/2018	650	94
16/07/2018	1 028	-216	17/09/2018	705	1 207	19/11/2018	678	-227
17/07/2018	979	-62	18/09/2018	676	1 226	20/11/2018	709	451
18/07/2018	1 032	192	19/09/2018	672	-255	21/11/2018	723	30
19/07/2018	944	380	20/09/2018	684	-155	22/11/2018	767	-345
20/07/2018	986	380	21/09/2018	678	587	23/11/2018	780	515
23/07/2018	938	-4	24/09/2018	682	358	26/11/2018	772	-186
24/07/2018	931	146	25/09/2018	713	174	27/11/2018	833	102
25/07/2018	952	185	26/09/2018	713	222	28/11/2018	772	-591
26/07/2018	958	213	27/09/2018	710	-274	29/11/2018	753	197
27/07/2018	987	455	28/09/2018	712	11	30/11/2018	740	177
30/07/2018	938	44	01/10/2018	759	-157	03/12/2018	726	-456
31/07/2018	901	324	02/10/2018	842	484	04/12/2018	774	267
01/08/2018	795	-18	03/10/2018	690	493	05/12/2018	792	-575
02/08/2018	822	-321	04/10/2018	558	178	06/12/2018	837	398
03/08/2018	984	231	05/10/2018	559	-176	07/12/2018	846	-112
06/08/2018	952	215	08/10/2018	600	31	10/12/2018	859	73
07/08/2018	1 022	-233	09/10/2018	599	168	11/12/2018	900	484
08/08/2018	1 059	-173	10/10/2018	643	-269	12/12/2018	881	254
09/08/2018	1 015	-12	11/10/2018	727	-224	13/12/2018	864	-860
10/08/2018	1 145	-122	12/10/2018	728	82	14/12/2018	886	800
13/08/2018	1 096	340	15/10/2018	713	-4	17/12/2018	1 009	786
14/08/2018	1 033	-529	16/10/2018	684	-219	18/12/2018	1 032	1 393
15/08/2018	1 097	125	17/10/2018	798	-629	19/12/2018	1 021	46
16/08/2018	1 095	-247	18/10/2018	820	170	20/12/2018	1 013	88
17/08/2018	1 012	96	19/10/2018	820	292	21/12/2018	1 007	-17
20/08/2018	977	338	22/10/2018	766	-226	24/12/2018	1 001	103
21/08/2018	960	187	23/10/2018	853	-148	26/12/2018	1 030	-477
22/08/2018	951	-76	24/10/2018	859	87	27/12/2018	1 067	-186
23/08/2018	924	-70	25/10/2018	649	-397	28/12/2018	1 021	242
24/08/2018	903	236	26/10/2018	668	511	31/12/2018	978	1 975
27/08/2018	992	-125	29/10/2018	664	16			
28/08/2018	919	414	30/10/2018	657	271			
29/08/2018	863	-501	31/10/2018	602	74			
30/08/2018	900	-171	01/11/2018	603	238			
31/08/2018	889	84	02/11/2018	602	112			
03/09/2018	890	417	05/11/2018	603	136			
04/09/2018	858	281	06/11/2018	600	237			
05/09/2018	861	-264	07/11/2018	556	150			
06/09/2018	912	448	08/11/2018	572	-320			
07/09/2018	864	203	09/11/2018	603	0			
10/09/2018	802	216	12/11/2018	604	169			
11/09/2018	740	-9	13/11/2018	605	60			
12/09/2018	791	-107	14/11/2018	632	-398			

10-days VaR with 99% unilateral confidence level; theoretical result obtained in the ex-post VaR model validation process (daily result scaled for 10 days through the square root of time).

The following tables provide quantitative data on the market risk measurement of the Trading Book using the internal model used (Table 58, with positions at the beginning and end of the last half of 2018) and on the evolution of the respective RWA and capital requirements (Table 59, with positions at the beginning and end of the last quarter).

TABLE 58 – TEMPLATE 35 / EU MR2-A – MARKET RISK UNDER THE IMA

31/12/2018		(Thousand euros)	
	RWA	Capital requirements	
VaR (higher of values a) and b))	132 678	10 614	
a) Previous day's VaR (Article 365(1) of the CRR (VaRt-1))		3 228	
b) Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR		10 614	
SVaR (higher of values a) and b))	508 036	40 643	
a) Latest SVaR (Article 365(2) of the CRR (SVaRt-1))		10 185	
b) Average of the SVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)		40 643	
IRC (higher of values a) and b))			
a) Most recent IRC value (incremental default and migration risks) calculated in accordance with Articles 370 ^o and 371 ^o of the CRR			
b) Average of the number over the preceding 12 weeks			
COMPREHENSIVE RISK MEASURE (higher of values a), b) and c))			
a) Most recent risk number for the correlation trading portfolio (Article 377 ^o do CRR)			
b) Average of the risk number for the correlation trading portfolio over the preceding 12 weeks			
c) 8% of the own funds requirement in the standardised approach on the most recent risk number for the correlation trading portfolio (Article 338 ^o , n ^o 4 of the CRR)			
OTHER			
TOTAL	640 715	51 257	

30/06/2018		(Thousand euros)	
	RWA	Capital requirements	
VaR (higher of values a) and b))	187 366	14 989	
a) Previous day's VaR (Article 365(1) of the CRR (VaRt-1))		4 539	
b) Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR		14 989	
SVaR (higher of values a) and b))	760 071	60 806	
a) Latest SVaR (Article 365(2) of the CRR (SVaRt-1))		10 276	
b) Average of the SVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)		60 806	
IRC (higher of values a) and b))			
a) Most recent IRC value (incremental default and migration risks) calculated in accordance with Articles 370 ^o and 371 ^o of the CRR			
b) Average of the number over the preceding 12 weeks			
COMPREHENSIVE RISK MEASURE (higher of values a), b) and c))			
a) Most recent risk number for the correlation trading portfolio (Article 377 ^o do CRR)			
b) Average of the risk number for the correlation trading portfolio over the preceding 12 weeks			
c) 8% of the own funds requirement in the standardised approach on the most recent risk number for the correlation trading portfolio (Article 338 ^o , n ^o 4 of the CRR)			
OTHER			
TOTAL	947 438	75 795	

TABLE 59 – TEMPLATE 36 / EU MR2-B – RWA FLOW STATEMENTS OF MARKET RISK EXPOSURES UNDER THE IMA

31/12/2018							
(Thousand euros)							
	VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWA	Total capital requirements
RWA AT PREVIOUS QUARTER END	170 225	535 560				705 785	56 463
Regulatory adjustment	142 168	425 733				567 901	45 432
RWA at the previous quarter-end (end of the day)	28 058	109 826				137 884	11 031
Movement in risk levels	12 296	17 484				29 780	2 382
Model updates/changes							
Methodology and policy							
Acquisitions and disposals							
Foreign exchange movements							
Other							
RWA at the previous quarter-end (end of the day)	40 354	127 310				167 664	13 413
Regulatory adjustment	92 324	380 726				473 051	37 844
RWA AT THE END OF THE REPORTING PERIOD	132 678	508 036				640 715	51 257

30/06/2018							
(Thousand euros)							
	VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWA	Total capital requirements
RWA AT PREVIOUS QUARTER END	187 366	760 071				947 438	75 795
Regulatory adjustment	130 632	631 623				762 255	60 980
RWA at the previous quarter-end (end of the day)	56 734	128 449				185 183	14 815
Movement in risk levels	-28 676	-18 623				-47 299	-3 784
Model updates/changes							
Methodology and policy							
Acquisitions and disposals							
Foreign exchange movements							
Other							
RWA at the previous quarter-end (end of the day)	28 058	109 826				137 884	11 031
Regulatory adjustment	142 168	425 733				567 901	45 432
RWA AT THE END OF THE REPORTING PERIOD	170 225	535 560				705 785	56 463