The EBA Stress Test data set

Manual for using and managing data

The EBA has developed a range of practical tools that aim to facilitate the use of the stress test data. These include interactive maps and excel aggregation tools, as well as the complete stress test dataset in CSV format, which can be imported in any analytical software for analysis purposes.

The stress test dataset is stored in 3 different CSV files and includes all the bank-by-bank data contained in transparency templates (around 12,000 data points per bank for a sample of 123 banks). Each CSV file contains a specific stress test data category that reflects the content of one or more transparency templates as shown in the table below:

(Table 1)

CSV Name	Stress Test category	Transparency Template
Credit_risk.csv	Credit risk	29.TR_Credit MAN
Sovereign.csv	Sovereign	33.TR_Sovereign
Others.csv	Capital, RWA, P&L, Securitization, Capital measures	30.TR_Evolution of P&L; 31.TR_RWA ; 32.TR_Securitisation; 34.TR_Capital; 35.TR_Restruct Scenarios; 36.TR_Outcome Dynamic_2 Calc; 37.TR_Capital Measures_3Q2014

Along with the CSV, you will find a data dictionary and a metadata file, which will help you understand the database structure of each file (the tree databases have a different structure), as well assist you in setting up queries to extract the data.

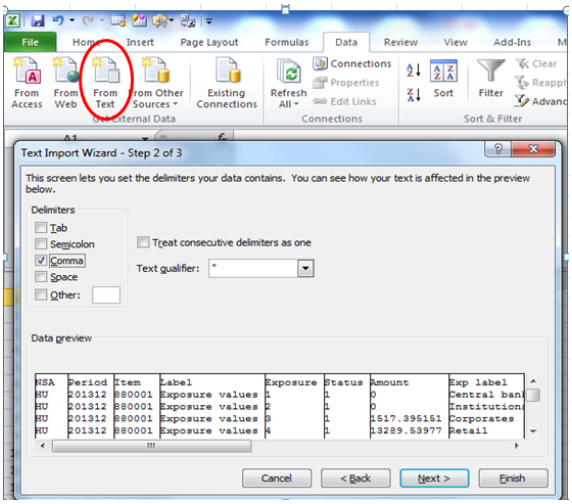
The following examples will further help you familiarise with the dataset (that the figures below show fake data). In the examples provided, the files have been converted into excel files to enable the use of the standard analytical tools embedded in excel.

Example 1:

Capital: CET1 Ratio for each bank by scenario using a pivot table

i) Once the CSV file containing data on *Capital* is downloaded (Others.csv), import it in excel using the text import wizard:

(Figure 1)



ii) The database structure will appear as follows:

(Figure 2)

	A	B	C	D	E	F	G	H
1	Period	Item	Label	Scenario	amount	lei	name	country
2	201312	992801	Operating profit before impairments	1	45.99445262	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
3	201312	992802	Impairment losses on financial and non-financial assets in the banking	1	64.89417246	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
4	201312	992803	Common Equity Tier 1 capital	1	2342.792828	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
5	201312	992804	Total Risk Exposure	1	17735.28585	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
6	201312	992805	Common Equity Tier 1 ratio, %	1	0.060875001	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
7	201612	992806	3 yr cumulative operating profit before impairments	3	136.7148219	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
8	201612	992807	3 yr cumulative impairment losses on financial and non-financial asse	3	343.0891014	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
9	201612	992808	3 yr cumulative losses from the stress in the trading book	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
10	201612	992809	Valuation losses due to sovereign shock after tax and prudential filter	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
11	201612	992803	Common Equity Tier 1 capital	3	1227.711967	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
12	201612	992804	Total Risk Exposure	3	17166.88513	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
13	201612	992805	Common Equity Tier 1 ratio, %	3	0.075276759	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
14	201612	992806	3 yr cumulative operating profit before impairments	2	450.162513	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
15	201612	992807	3 yr cumulative impairment losses on financial and non-financial asse	2	98.9985374	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
16	201612	992808	3 yr cumulative losses from the stress in the trading book	2	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
17	201612	992803	Common Equity Tier 1 capital	2	255.6010131	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
18	201612	992804	Total Risk Exposure	2	19870.49677	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
19	201612	992805	Common Equity Tier 1 ratio, %	2	0.120605556	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
20	201612	992810	Common EU wide CET1 Threshold	3	1075.325867	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
21	201612	992811	Total amount of instruments with mandatory conversion into ordinary	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE
22	201612	992812	Total Additional Tier 1 and Tier 2 instruments eligible as regulatory ca	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Sc	DE

iii) The database structure is explained in a metadata file in which you can find a description of all the values that each column can assume. For *Capital* , the database has 8 columns:

- *Period*: Time period
- *Item* : Code of each variable
- *Label*: Name of the item
- *Scenario*: code of the scenario
- *Amount*: value that the variable assumes
- *Lei*: a bank identifier
- *Name*: Name of the bank
- *NSA*: ISO code of the country of the Bank

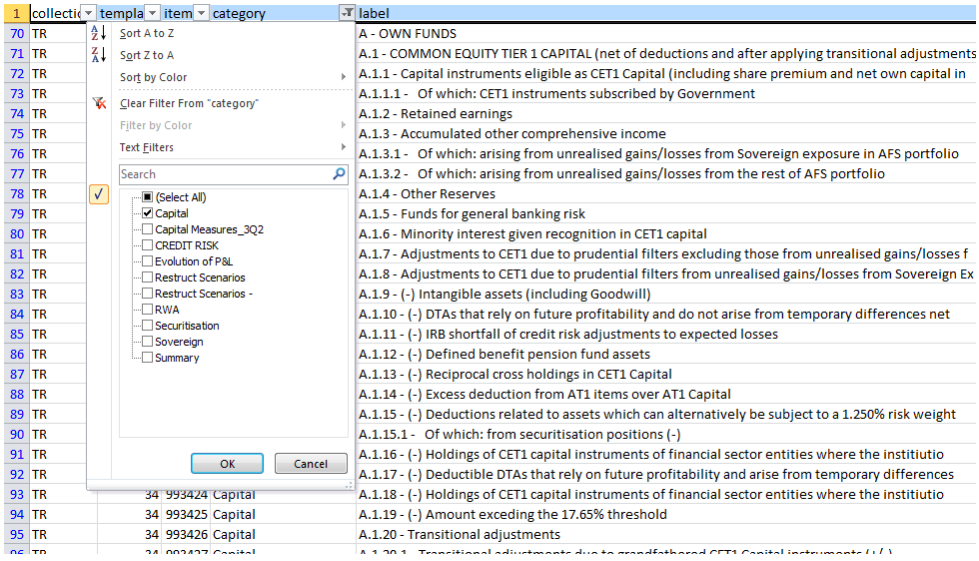
For instance, opening the metadata file regarding the *Scenario*, one can see that the variable scenario can only assume values equal to 0, 1, 2, 3 finding the corresponding description in the column label (see figure 3)

(Figure 3)

Code	Label
0	*No breakdown by scenario*
1	*Actual figures*
2	*Baseline scenario*
3	*Adverse scenario*

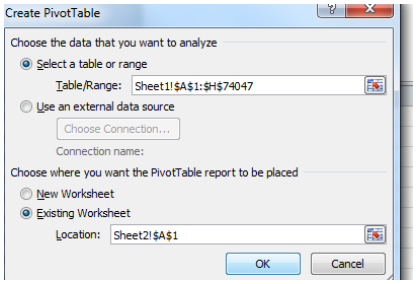
iv) Metadata are useful for building up the pivot table as well as for filtering the variables you are interested in. In the example, the CSV file *Others.csv* contains information on different stress test data categories, so the first thing to do is searching the required items in the metadata files. For instance, you can open the data dictionary file and filter the column *category* selecting *Capital*. Then select item *993441* that corresponds to *C.1 - Common Equity Tier 1 Capital ratio*. As an alternative, you can look for the name of the item in the column *Label.*

(Figure 4)



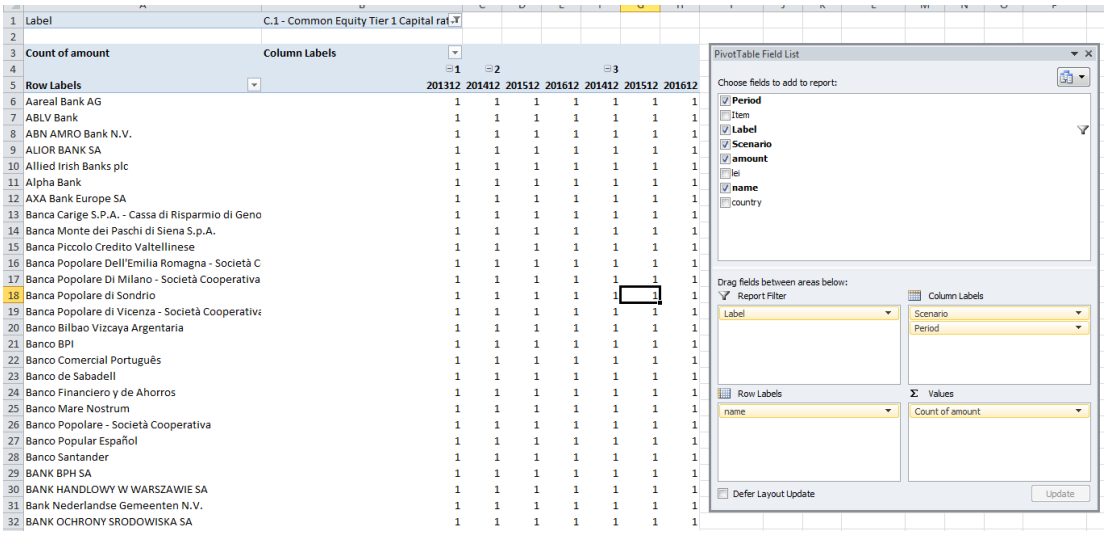
v) Now click on “Pivot table” and select the entire dataset (or a subsample if you already filtered the data you need) as the pivot table range (Figure 5).

(Figure 5)



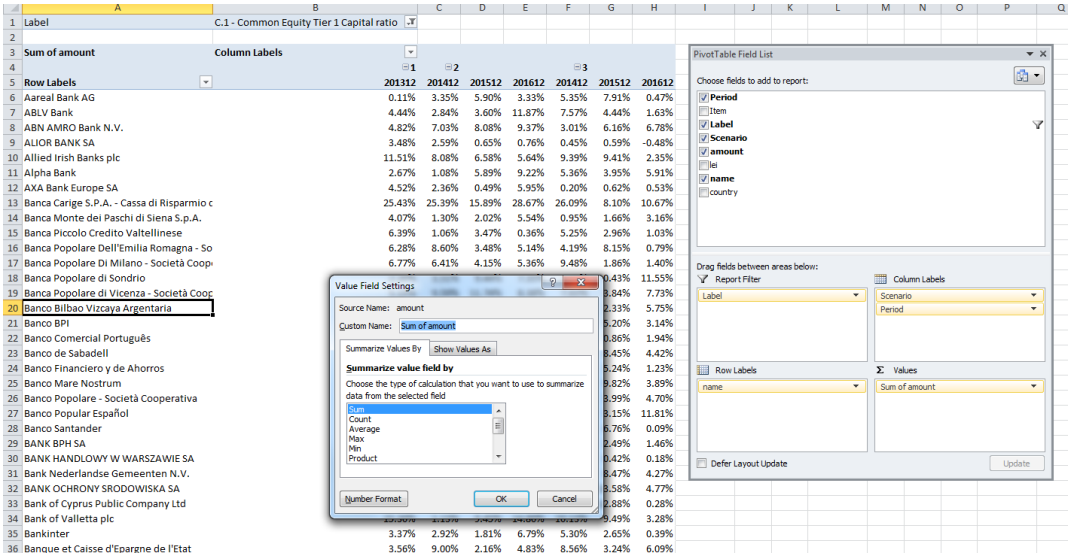
vi) The final step is setting up the pivot table structure: drag in the box *Row Label* the variable *Name,* while in the columns select the *Period* and the *Scenario* (Figure 6). Finally, drag in the box *Values* the variable *Amount* where the variables' values are stored and aggregate them by sum (Figure 7).

(Figure 6)



1	Label	C.1 - Common Equity Tier 1 Capital rat						
2								
3	Count of amount	Column Labels						
4			1			2		3	
5	Row Labels		201312	201412	201512	201612	201412	201512	201612
6	Aareal Bank AG		1	1	1	1	1	1	1
7	ABLV Bank		1	1	1	1	1	1	1
8	ABN AMRO Bank N.V.		1	1	1	1	1	1	1
9	ALIOR BANK SA		1	1	1	1	1	1	1
10	Allied Irish Banks plc		1	1	1	1	1	1	1
11	Alpha Bank		1	1	1	1	1	1	1
12	AXA Bank Europe SA		1	1	1	1	1	1	1
13	Banca Carige S.P.A. - Cassa di Risparmio di Geno		1	1	1	1	1	1	1
14	Banca Monte dei Paschi di Siena S.p.A.		1	1	1	1	1	1	1
15	Banca Piccolo Credito Valtellinese		1	1	1	1	1	1	1
16	Banca Popolare Dell'Emilia Romagna - Società C		1	1	1	1	1	1	1
17	Banca Popolare Di Milano - Società Cooperativa		1	1	1	1	1	1	1
18	Banca Popolare di Sondrio		1	1	1	1	1	1	1
19	Banca Popolare di Vicenza - Società Cooperativa		1	1	1	1	1	1	1
20	Banco Bilbao Vizcaya Argentaria		1	1	1	1	1	1	1
21	Banco BPI		1	1	1	1	1	1	1
22	Banco Comercial Português		1	1	1	1	1	1	1
23	Banco de Sabadell		1	1	1	1	1	1	1
24	Banco Financiero y de Ahorros		1	1	1	1	1	1	1
25	Banco Mare Nostrum		1	1	1	1	1	1	1
26	Banco Popolare - Società Cooperativa		1	1	1	1	1	1	1
27	Banco Popular Español		1	1	1	1	1	1	1
28	Banco Santander		1	1	1	1	1	1	1
29	BANK BPH SA		1	1	1	1	1	1	1
30	BANK HANDLOWY W WARSZAWIE SA		1	1	1	1	1	1	1
31	Bank Nederlandse Gemeenten N.V.		1	1	1	1	1	1	1
32	BANK OCHRONY SRODOWISKA SA		1	1	1	1	1	1	1

(Figure 7)



Label	C.1 - Common Equity Tier 1 Capital ratio						
Sum of amount	Column Labels						
	1			2		3	
Row Labels	201312	201412	201512	201612	201412	201512	201612
Aareal Bank AG	0.11%	3.35%	5.90%	3.33%	5.35%	7.91%	0.47%
ABLV Bank	4.44%	2.84%	3.60%	11.87%	7.57%	4.44%	1.63%
ABN AMRO Bank N.V.	4.82%	7.03%	8.08%	9.37%	3.01%	6.16%	6.78%
ALIOR BANK SA	3.48%	2.59%	0.65%	0.76%	0.45%	0.59%	-0.48%
Allied Irish Banks plc	11.51%	8.08%	6.58%	5.64%	9.39%	9.41%	2.35%
Alpha Bank	2.67%	1.08%	5.89%	9.22%	5.36%	3.95%	5.91%
AXA Bank Europe SA	4.52%	2.36%	0.49%	5.95%	0.20%	0.62%	0.53%
Banca Carige S.P.A. - Cassa di Risparmio c	25.43%	25.39%	15.89%	28.67%	26.09%	8.10%	10.67%
Banca Monte dei Paschi di Siena S.p.A.	4.07%	1.30%	2.02%	5.54%	0.95%	1.66%	3.16%
Banca Piccolo Credito Valtellinese	6.39%	1.06%	3.47%	0.36%	5.25%	2.96%	1.03%
Banca Popolare Dell'Emilia Romagna - So	6.28%	8.60%	3.48%	5.14%	4.19%	8.15%	0.79%
Banca Popolare Di Milano - Società Coop	6.77%	6.41%	4.15%	5.36%	9.48%	1.86%	1.40%
Banca Popolare di Sondrio						0.43%	11.55%
Banca Popolare di Vicenza - Società Coop						3.84%	7.73%
Banco Bilbao Vizcaya Argentaria						2.33%	5.75%
Banco BPI						5.20%	3.14%
Banco Comercial Português						0.86%	1.94%
Banco de Sabadell						8.45%	4.42%
Banco Financiero y de Ahorros						5.24%	1.23%
Banco Mare Nostrum						3.82%	3.89%
Banco Popolare - Società Cooperativa						2.99%	4.70%
Banco Popular Español						3.15%	11.81%
Banco Santander						6.76%	0.09%
BANK BPH SA						2.49%	1.46%
BANK HANDLOWY W WARSZAWIE SA						0.42%	0.18%
Bank Nederlandse Gemeenten N.V.						8.47%	4.27%
BANK OCHRONY SRODOWISKA SA						3.58%	4.77%
Bank of Cyprus Public Company Ltd						2.88%	0.28%
Bank of Valletta plc						9.49%	3.28%
Bankinter	3.37%	2.92%	1.81%	6.79%	5.30%	2.65%	0.39%
Banque et Caisse d'Epargne de l'Etat	3.56%	9.00%	2.16%	4.83%	8.56%	3.24%	6.09%

Example 2

Credit risk: Impairment rates for Retail and Corporates exposures at group level for the Adverse and Baseline scenario

i) Download the file *Credit_risk.csv* and import it in excel as shown in point *i)* and *ii)* of the previous example.

ii) The structure of the credit risk database is slightly different from the one of capital. It has additional columns containing information concerning the country of the counterparty and exposures. In particular, in addition to the ones listed in point *iv)* of the previous example it has:

- *Country*: Country of the counterparty (code)
- *Country rank*: ranking of the country of the counterparty in term of exposures
- *Exposure*: exposure class (Corporates, Retail etc..)
- Portfolio: Regulatory portfolio (Standardized, Advanced, Foundation)
- *Status*: Name of the item
-

(Figure 8)

Period	Item	Label	Country	Country_rank	Exposure	Status	Scenario	Portfolio	amount	LEI	Name	NSA
201312	992901	LTV %	0	0	15	0	1	0	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992901	LTV %	0	0	16	0	1	0	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992901	LTV %	0	0	17	0	1	0	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	1	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	2	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	3	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	12	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	13	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	4	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	15	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	16	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE
201312	992902	Exposure values	0	0	17	1	1	3	0	0SK1ILSPWNVBNQWU0W18	Banca Popolare di Vicenza - Società Cooperativa per Azioni	DE

With respect to the capital dataset, the credit risk one has also the variable *country* that helps in identifying the counterparty country of each exposure class and the variable *exposure class*. For instance, according to the country description in the metadata file, number 9 corresponds to France, number 1 to Austria and so on. In the same way, one can also look up for the description of each exposure class using the corresponding meta data file (Figure 9).

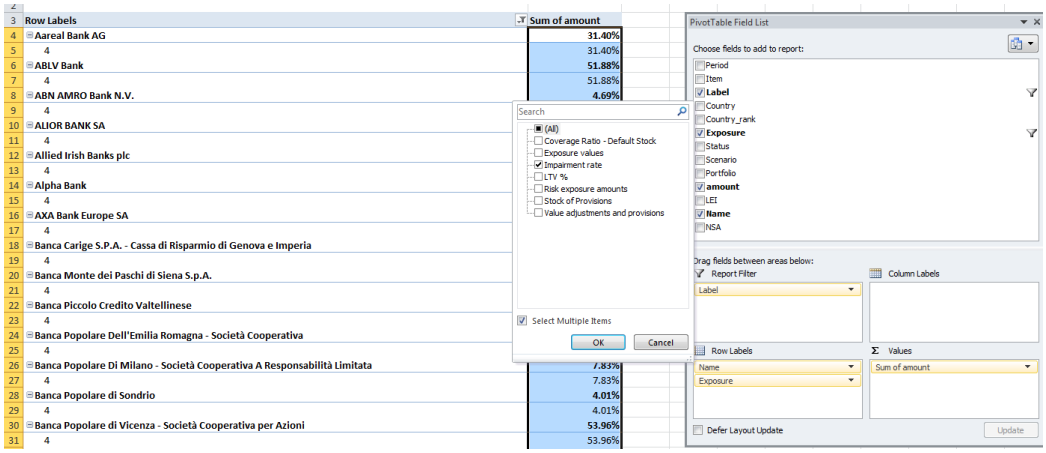
(Figure 9)

code	level	label
0	1	Total / No breakdown by portfolio
1	2	Central banks and central governments
2	2	Institutions
3	2	Corporates
4	2	Retail
9	2	Equity
10	2	Securitisation
11	2	Other non-credit obligation assets
12	3	Corporates - Of Which: Specialised Lending
13	3	Corporates - Of Which: SME
15	3	Retail - Secured on real estate property
16	4	Retail - Secured on real estate property - Of Which: SME
17	4	Retail - Secured on real estate property - Of Which: non-SME
18	3	Retail - Qualifying Revolving
19	3	Retail - Other Retail
20	4	Retail - Other Retail - Of Which: SME
21	4	Retail - Other Retail - Of Which: non-SME
22	2	Securitisation and re-securitisations positions deducted from capital

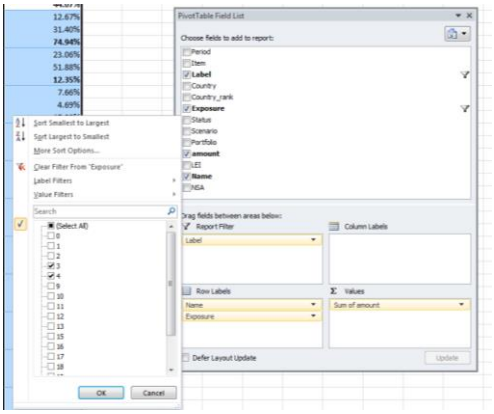
iii) Once the data has been imported in excel, set up a pivot table as explained in point *vi)* of the previous example. The first step is to put in the *Filter box* the variable *Label* and select only *Impairment rate (Figure 10).* Afterwards, we drag in the *Row label* the variable *Name* and *Exposures*. For instance, if you only need the impairments rate for the exposure class *Corporates* and *Retails*, filter *Exposure* selecting 3 and 4 (that correspond to Corporates and Retails) in the pivot table filed list (Figure 11).

iv)

(Figure 10)

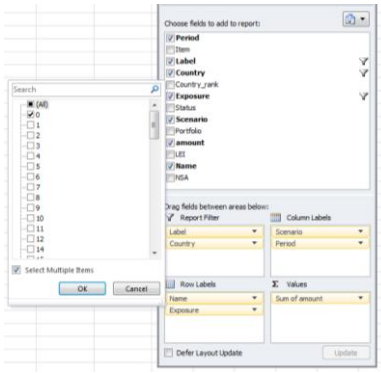


(Figure 11)



Furthermore, add in the filter box the variable *Country*, selecting only the value 0 that corresponds to the total at group level (no country breakdown).

(Figure 12)



v) Finally , drag in the column box *Scenario* and *Period* in order to have the Impairments rate for each year of the Adverse and the Baseline scenario.

(Figure 13)

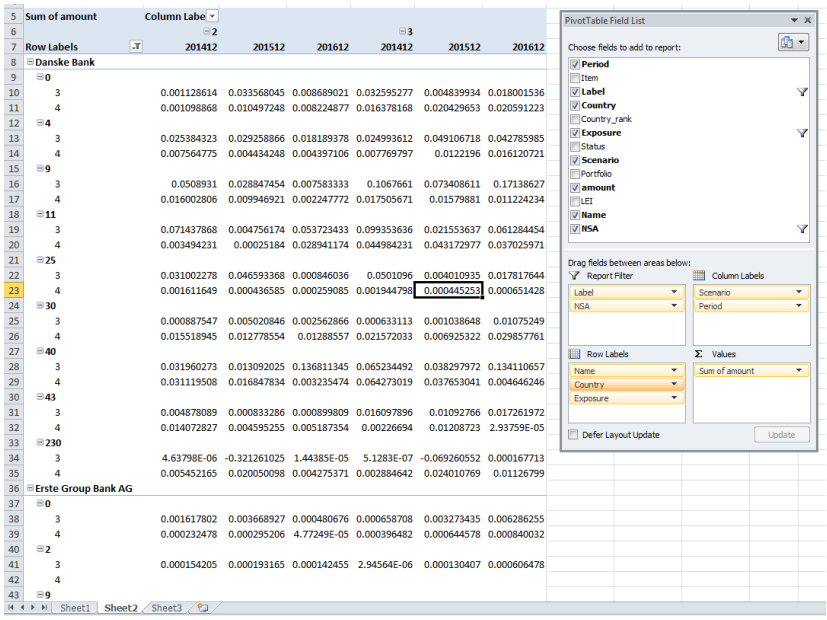
Label	Impairment r					
Country	0					
Sum of amount	Column Labe					
	2			3		
Row Labels	201412	201512	201612	201412	201512	201612
Aareal Bank AG						
3	0.23%	0.29%	0.14%	0.44%	0.51%	0.02%
4	0.42%	0.72%	0.32%	0.07%	0.97%	0.52%
ABLV Bank						
3	0.90%	0.42%	0.18%	0.41%	1.07%	0.52%
4	2.97%	3.02%	1.21%	2.38%	3.07%	2.34%
ABN AMRO Bank N.V.						
3	0.84%	0.71%	0.64%	0.11%	1.19%	0.06%
4	0.45%	0.51%	0.09%	0.17%	0.42%	0.33%
ALIOR BANK SA						
3	0.54%	0.62%	0.75%	1.38%	0.90%	1.36%
4	0.57%	0.01%	0.17%	0.62%	0.02%	0.09%
Allied Irish Banks plc						
3	0.30%	0.07%	0.02%	0.29%	0.58%	0.72%
4	0.17%	0.22%	0.23%	0.21%	0.34%	0.07%
Alpha Bank						
3	0.26%	0.03%	0.52%	0.34%	0.67%	0.77%
4	0.03%	0.04%	0.07%	0.20%	0.31%	0.20%
AXA Bank Europe SA						
3	1.72%	1.37%	1.91%	2.62%	1.86%	2.86%
4	1.48%	1.00%	1.63%	1.30%	1.12%	0.93%
Banca Carige S.P.A. - Cassa di Risparmio di Genova e Imperia						
3	0.23%	0.04%	0.26%	0.30%	0.12%	0.35%
4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Banca Monte dei Paschi di Siena S.p.A.						

Example 3

Credit risk: Greek banks Impairment rates for Retail and Corporates exposures for each country of the counterparty (Adverse and Baseline scenario)

i) From the Table in figure 13, remove from the *Report filter box* the variable *country* and drag it in the *Row label* box under *Name.* Finally, drag in the *Report filter box* the variable *NSA* and only select *GR* (bear in mind that the tables in the figures are based on fake data that's why no Greek bank names are shown in figure 14)

(Figure 13)



Sum of amount	Column Labe					
	2			3		
Row Labels	201412	201512	201612	201412	201512	201612
Danske Bank						
0						
3	0.001128614	0.033568045	0.008689021	0.032595277	0.004839934	0.018001536
4	0.001098868	0.010497248	0.008224877	0.016378168	0.020429653	0.020591223
4						
3	0.025384323	0.029258866	0.018189378	0.024993612	0.049106718	0.042785985
4	0.007564775	0.004434248	0.004397106	0.007769797	0.0122196	0.016120721
9						
3	0.0508931	0.028847454	0.007583333	0.1067661	0.073408611	0.17138627
4	0.016002806	0.009946921	0.002247772	0.017505671	0.01579881	0.011224234
11						
3	0.071437868	0.004756174	0.053723433	0.099353636	0.021553637	0.061284454
4	0.003494231	0.00025184	0.028941174	0.044984231	0.043172977	0.037025971
25						
3	0.031002278	0.046593368	0.000846036	0.0501096	0.004010935	0.017817644
4	0.001611649	0.000436585	0.000259085	0.001944798	0.000445253	0.000651428
30						
3	0.000887547	0.005020846	0.002562866	0.000633113	0.001038648	0.01075249
4	0.015518945	0.012778554	0.01288557	0.021572033	0.006925322	0.029857761
40						
3	0.031960273	0.013092025	0.136811345	0.065234492	0.038297972	0.134110657
4	0.031119508	0.016847834	0.003235474	0.064273019	0.037653041	0.004646246
43						
3	0.004878089	0.000833286	0.000899809	0.016097896	0.01092766	0.017261972
4	0.014072827	0.004595255	0.005187354	0.00226694	0.01208723	2.93759E-05
230						
3	4.63798E-06	-0.321261025	1.44385E-05	5.1283E-07	-0.069260552	0.000167713
4	0.005452165	0.020050098	0.004275371	0.002884642	0.024010769	0.01126799
Erste Group Bank AG						
0						
3	0.001617802	0.003668927	0.000480676	0.000658708	0.003273435	0.006286255
4	0.000232478	0.000295206	4.77249E-05	0.000396482	0.000644578	0.000840032
2						
3	0.000154205	0.000193165	0.000142455	2.94564E-06	0.000130407	0.000606478
4						
9						