



European Tertiary Education Register (ETER)

[Contract No. EAC-2015-080]

Guidelines:

Search, export and visualize ETER data

Disclaimer: The opinions expressed in his study are those of the authors and do not necessarily reflect the views of the European Commission.




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Access the ETER web interface

The ETER web interface is accessible at www.eter-project.com. On the website, you have access to all public data and you can get additional access also to restricted data by signing up. After signing up and accepting the terms of use, the ETER team will receive information of your request. Your account will be activated and you will receive an email immediately after this happened.

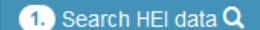
Choose your HEI data

Selecting the menu  Choose your HEI data

will lead you to the core functions of the ETER web interface. These core functions allow you to:

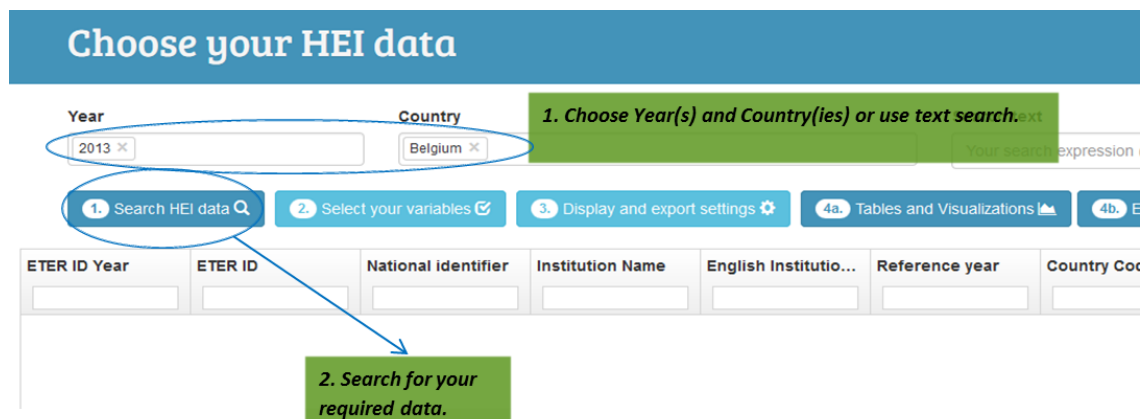
- select your data and variables of interest.
- choose your preferred display and export settings.
- visualize your data online, using a pivot grid and visualization tool.
- export your selected data including metadata information.

Select your data and variables of interest

- 1) The first step in selecting your data is to choose the year(s) and country(ies) of interest and confirming your selection with  .

If you want to retrieve all years and/or all countries at once, leave the respective search field empty, before you click the button above. Alternatively, you can also use the Text search function.

Figure 1: Select your data of interest



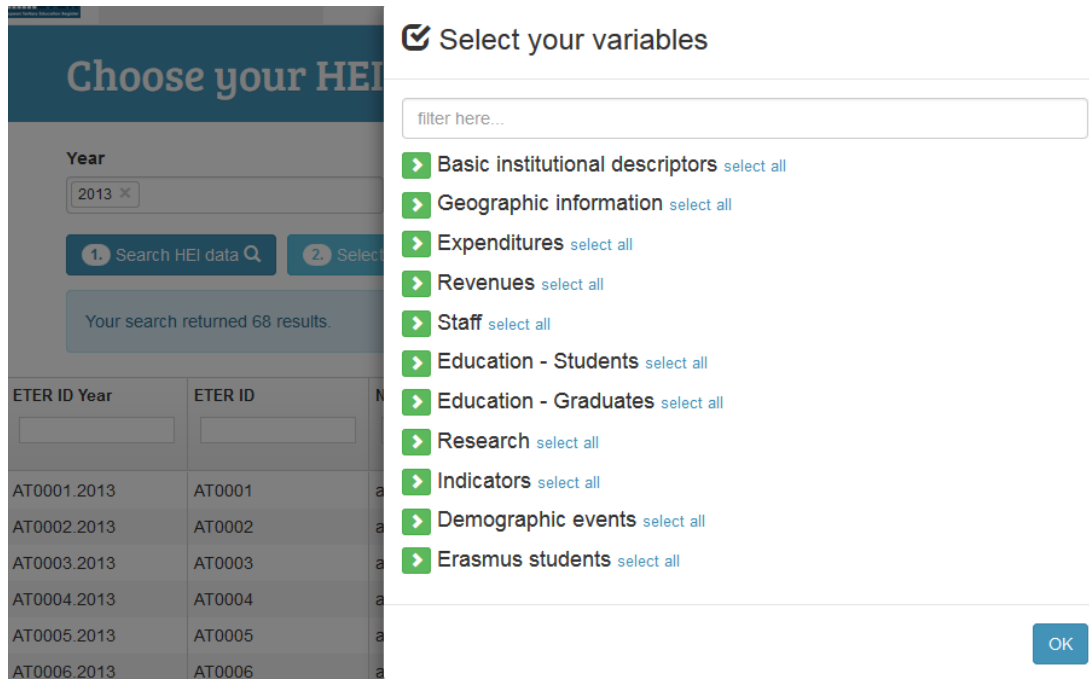
- 2) After this step, you can choose the variables you want to use for your visualizations or export. The tab



enables you to choose either whole groups of variables, by selecting *select all* after each group, or to choose single variables (by opening the menu for a certain group of variables and selecting your choices). After confirming with *Ok*, your selection will be displayed in the result mask and will subsequently be used for

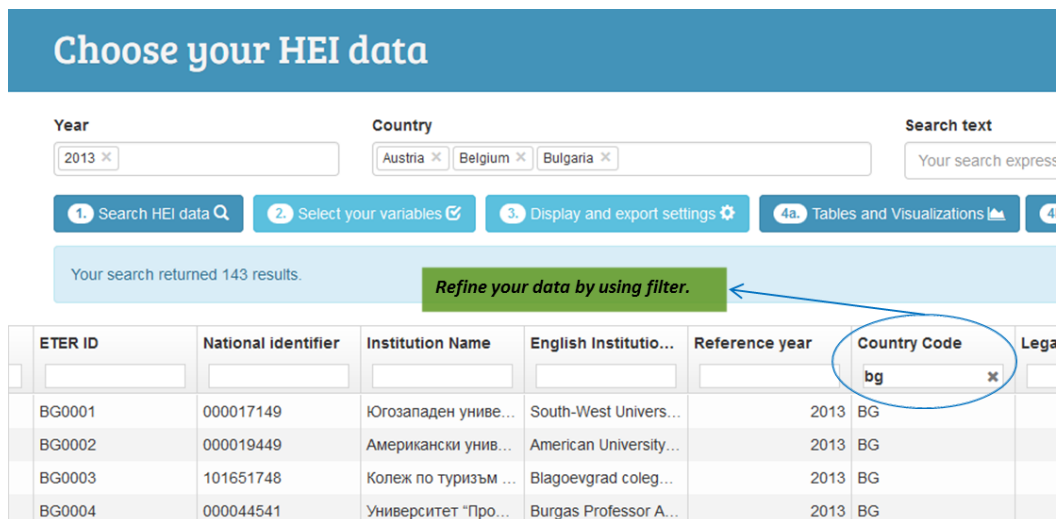
- a. the following tables and visualizations, and
- b. the data export if you choose to export only the visible data.

Figure 2: Select your variables of interest



- 3) You can now refine your data by using filter below each variable label. In the example below, we searched for 2013 and the countries Austria, Belgium and Bulgaria. Using a filter for the variable 'Country Code' would allow us to only use Bulgarian data for export or visualizations. If you want to use filter data for following tables and visualizations, we would recommend using filter options on a later stage within the respective tool. This would allow you to analyze your data by using different filter options without going back to the search mask every time.

Figure 3: Example of filtering data



Choose your preferred display and export settings

The menu **3. Display and export settings**

allows you to choose between different display and export possibilities, which will increase the usability of the data. Depending on the analysis you want to make and the programmes you use, you can:

- replace variable codes (for nominal variables), special codes (for missing variables) and flags with their full labels in order to support statistical analyses and graphical illustrations.

Table 1: Variable codes and their labels

Variable	Code	Labels
Legal status	0	public
	1	private
	2	private government dependent
Institution Category standardized	0	other
	1	university
	2	university of applied sciences
Foreign Campus	0	HEI is not a foreign campus
	1	HEI is a foreign campus
University hospital	0	HEI has not a university hospital
	1	HEI has a university hospital
Multi-site institution	0	not multi-sited
	1	multi-sited
Accounting system of capital expenditure	0	not included in university account
	1	cash accounting
	2	capitalized expenditure
Tuition fees	0	no fees
	1	partial fee
	2	fees for all students
Inclusion of PhD students	0	most PhD students are not included in staff data
	1	most PhD students are included in staff data
Lowest/Highest degree delivered	0	ISCED 5
	1	ISCED 6
	2	ISCED 7
	3	ISCED 8
Distance education institution	0	no
	1	yes
Research active institution	0	no
	1	yes
Demographic events	0	no demographic event
	1	entry
	2	exit
	3	birth
	4	death
	5	merger
	6	split
	7	take-over
8	spin-out (spin-off)	
Affected institutions	0	no other institutions affected by demographic event

Table 2: Special codes for missing variables and their labels

Special codes	Labels
a	not applicable
m	information missing
x	breakdown not available, but included in total
xc	included in another subcolumn
xr	included in another row
c	confidential
s	value larger than 0 and below or equal to 3 recoded for confidentiality reasons
nc	Data not collected (refers to variables introduced at later stage)

Table 3: Flags and their labels

Data flags	Labels
b	break in time series
d	definition differs
de	break in time series due to a demographic event
i	see metadata
ic	inconsistent
rd	rounded
c	confidential
ms	missing subcategory
p	provisional, data might be revised at later stage

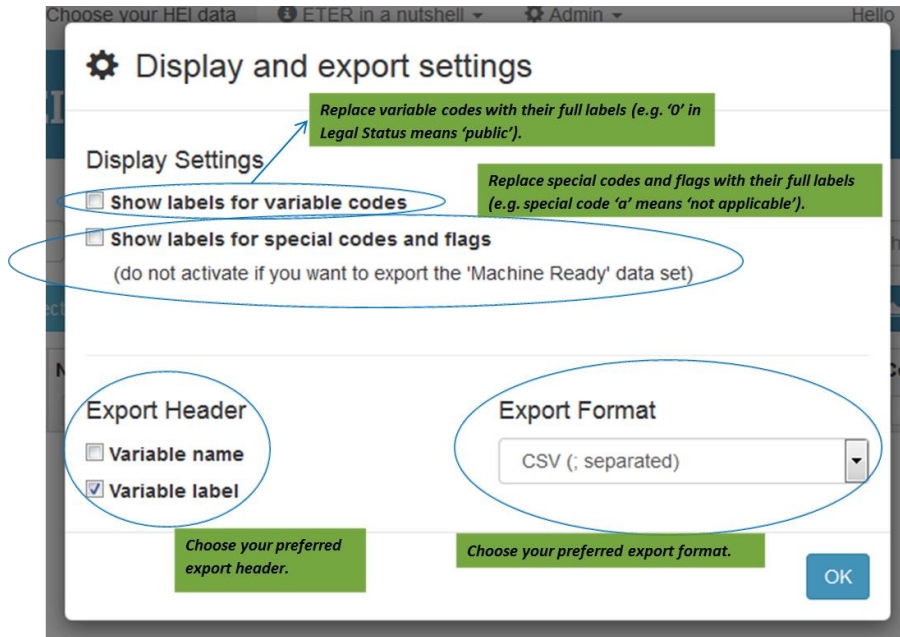
- choose your preferred export header in order to use either variable labels (full name) or variable names (systematic variable naming). Also, it is possible to export the data with both header options.
- choose your preferred export format, where the following possibilities are available:
 - .csv (both ; and , separated),
 - Microsoft Excel (.xlsx), and
 - 'Machine Ready', where special codes are replaced with fixed values in order to allow the respective statistical software to recognize missing values and therefore save time before starting data analysis. Two different types of machine ready exports are provided, targeting especially the statistical programmes SPSS and STATA. The following replacements take place if you choose the export format 'Machine Ready':

Table 4: Replacing special codes for missing variables in export format 'Machine Ready'

Special codes	Recode for SPSS	Recode for STATA
a	-1000	.a
m	-1001	.m
x	-1002	.x
xc	-1003	.y
xr	-1004	.w
c	-1005	.c
s	-1006	.s
nc	-1007	.nc

The following figure shows you where to find the options available in the menu for display and export settings:

Figure 4: Choose your preferred display and export settings

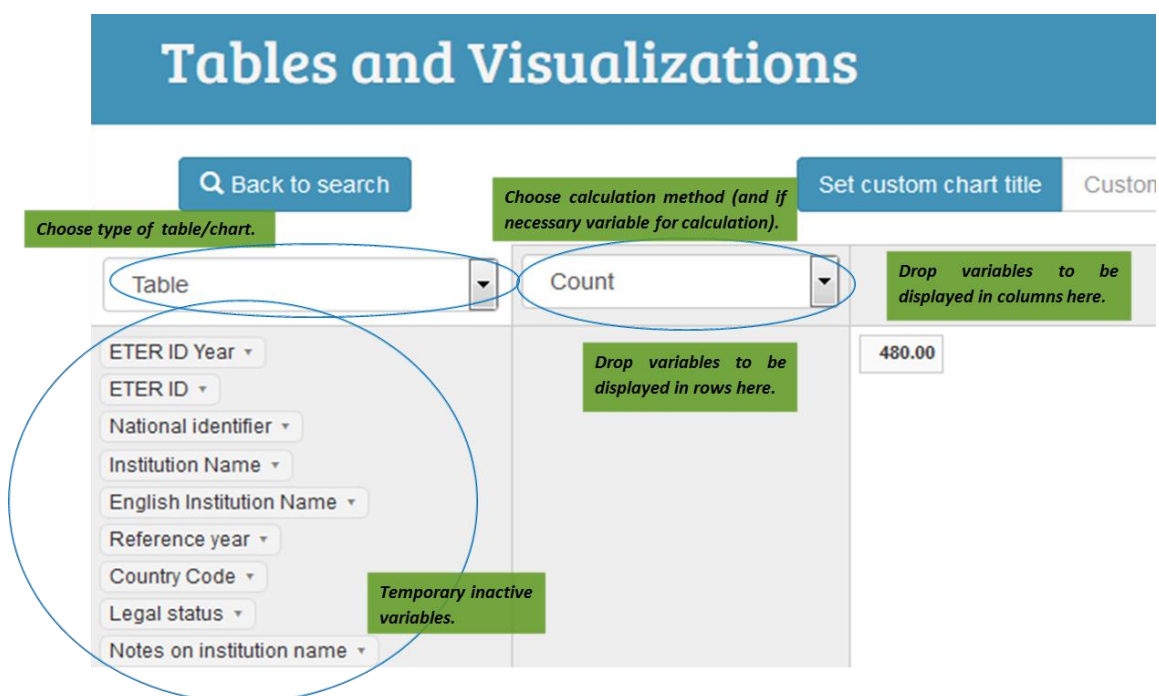


Calculate, count and visualize your data online

After selecting your preferred data and display settings, you can start to visualize ETER microdata directly on the web interface by choosing [4a. Tables and Visualizations](#).

The following mask shows a Pivot grid, which includes several visualization and calculation possibilities. The default display option is 'Table', which allows you to arrange your data by dragging and dropping them from the list on the left side into the column or row areas and see the result in a table. Additionally, you can filter your variables by selecting the small triangle besides each variable label. If any filters are active, the variable font colour is shown in blue. It may occur that you recognize that you have missed to select some variables or that you have to change your display settings. In this case, the button [Back to search](#) can be used to get back to your last search.

Figure 5: Overview on the Pivot grid



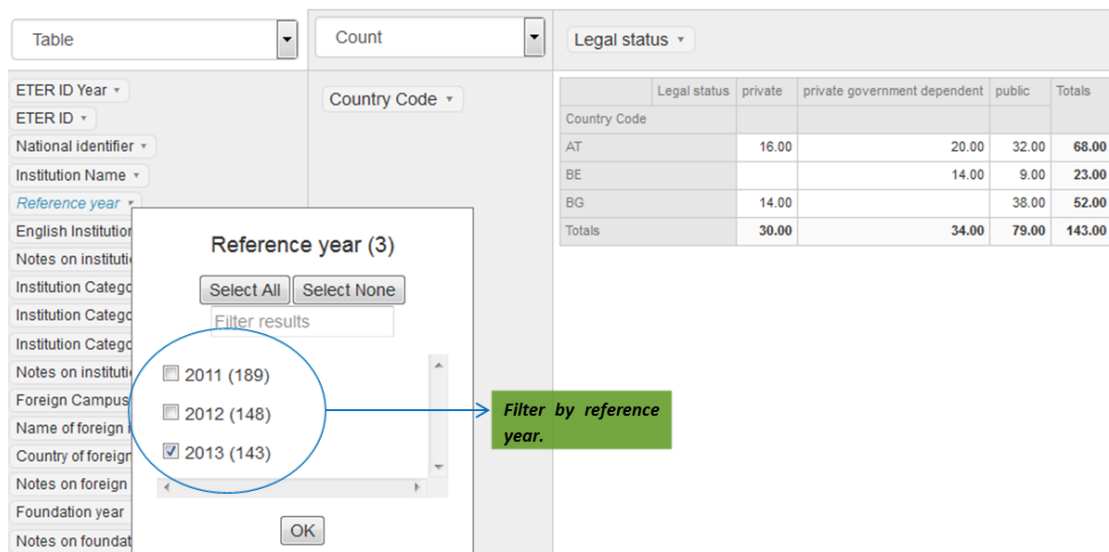
Calculation and counting options

Since the ETER data enable different types of analyses, several calculation respectively counting methods have been included in the visualization tool. The following section describes them in more detail.

Count

This function counts the number of institutions by selected characteristics. By dropping one or several characteristics in the designated space (see Figure 5), you can arrange your table in any order you want. The following example shows the number of institutions by country and legal status, using also a filter for the reference year.

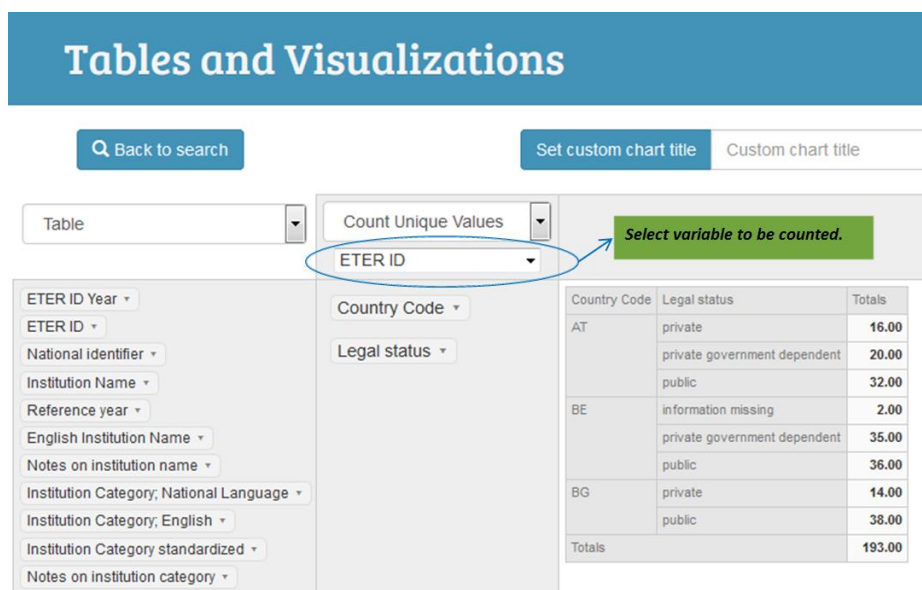
Figure 6: Number of HEIs by country and legal status 2013



Count Unique Values

This option counts unique values by selected characteristics and additionally requires selecting the variable which should be counted (see the following figure). It is useful if you e.g. want to know how many unique institutions have been included in the data over the years. As above, you can add any characteristics to display more details in your tables or figures.

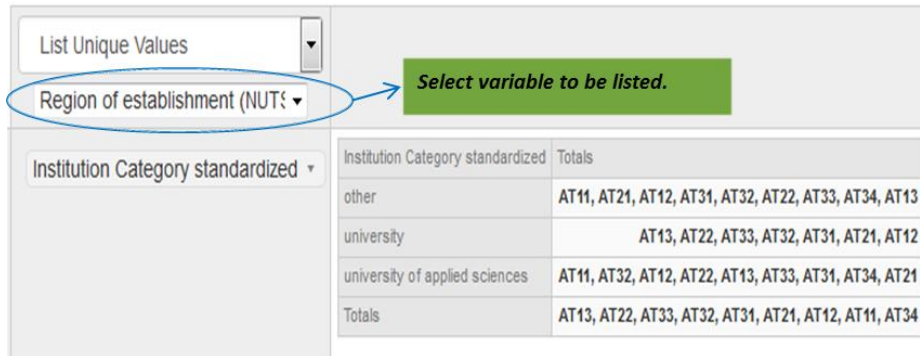
Figure 7: Number of unique ETER IDs between 2011 and 2013 by country and legal status



List Unique Values

This option lists unique values by selected characteristics. Similar to *Count Unique Values*, this function requires additional selection of the variable which should be listed. It is useful if you e.g. want to know, which type of institutions exist in which region.

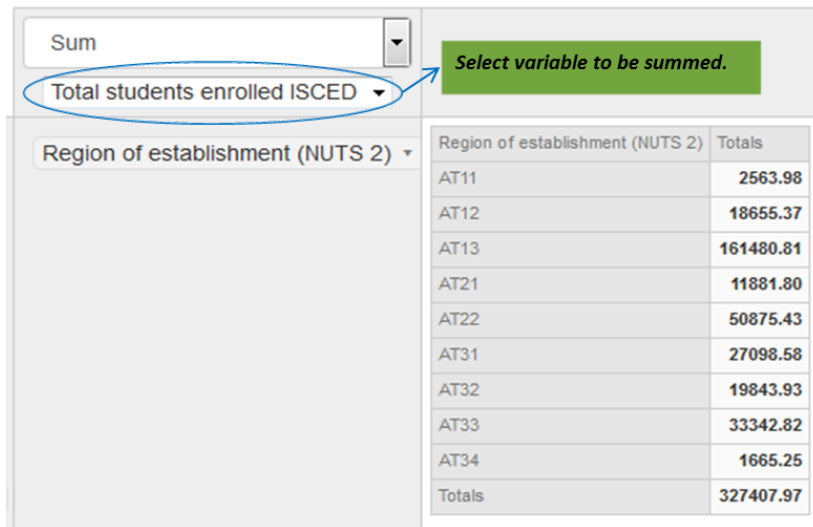
Figure 8: List of unique NUTS 2-regions by type of institution in Austria



Sum, Average, Minimum, Maximum

Using this function, you can calculate the sum, average, minimum or maximum of a selected variable. As in the functions above, you can also include several characteristics. If you e.g. want to calculate the sum of a variable, you have to choose the variable directly below sum-option. You can sum up any numerical ETER data by any characteristics selected (which is also true for the calculation of average, minimum and maximum).

Figure 9: Number of students at ISCED level 5-7 in Austrian NUTS 2-regions 2013



Sum as Fraction of Total, Rows, Columns

With this function, you can calculate the share of selected characteristics of selected variables. The calculation possibilities include three different options:

- Sum as Fraction of Total: this option is sufficient if only one characteristic (e.g. country) is chosen.
- Sum as Fraction of Rows: please use this option, if you want to calculate the share of a characteristic you have placed in the rows (e.g. share of each type of institution in a country).
- Sum as Fraction of Columns: please use this option, if you want to calculate the share of a characteristic you have placed in the columns (as above, depending on how you arranged your data).

Figure 10: Share of students at ISCED level 5-7 by country and legal status 2013

Sum as Fraction of Ro		Legal status			
Total students enrolled		private	private government dependent	public	Totals
Country Code	Legal status	private	private government dependent	public	Totals
Country Code					
AT		0.04	0.13	0.83	1.00
BE			0.59	0.41	1.00
BG		0.17		0.83	1.00
Totals		0.07	0.21	0.72	1.00

Count as Fraction of Total, Rows, Columns


This option is equivalent to *Sum as Fraction of Total, Rows, Columns*, but takes the number of institutions to calculate shares.

Figure 11: Share of institutions by country and legal status 2013

Count as Fraction of C		Country Code				
Legal status		Country Code	AT	BE	BG	Totals
Legal status	Country Code	AT	BE	BG	Totals	
Legal status						
private		0.24		0.27	0.21	
private government dependent		0.29	0.61		0.24	
public		0.47	0.39	0.73	0.55	
Totals		1.00	1.00	1.00	1.00	

Visualization options

After selecting your calculation respectively counting options and arranging the data in a way useful for your analysis, you can either copy and paste the data and use them in another programme or visualize them directly on the web interface. Some basic information on how to visualize data on the website:

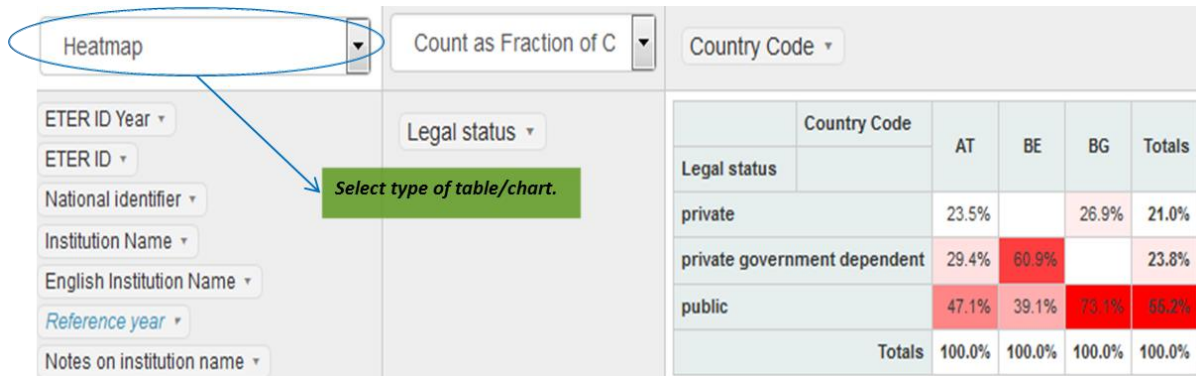
- In order to visualize your data, you simply have to choose one of the graphical options from the menu (see Figure 5).
- You can change the default chart label by inserting your own title into Custom chart title and confirming with [Set custom chart title](#).
- Using the symbol , which can be found on the upper right corner of each graph, you can either print or download (PNG, JPEG, PDF, SVG) your chart.
- By clicking on a variable characteristic in the legend of a chart, you can activate and deactivate certain characteristics.

As indicated above, several visualization possibilities are provided on the website and one, namely *Table*, has been showed so far in this guidelines. The following sections provide some detailed information and examples for the practical usage of the tool.

Heatmap

This option is equivalent to all the tables above with the only difference, that data are visualized in colours depending on their value. This is useful in order to quickly gather the differences with values.

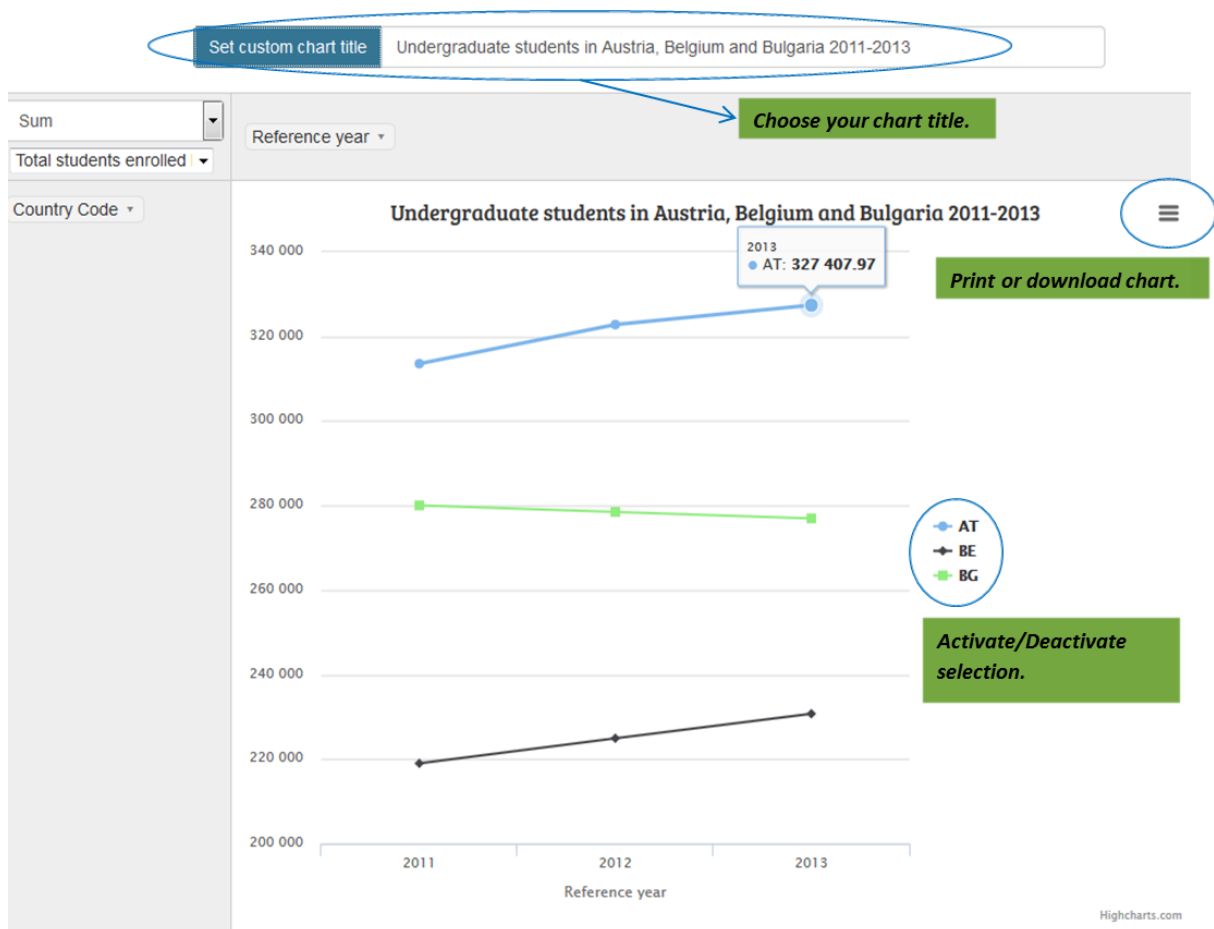
Figure 12: Heatmap equivalent to table in Figure 11



Line Chart

This option enables you to show changes in the data over time. This will be especially interesting after the inclusion of longer time series.

Figure 13: Line Chart of students at ISCED level 5-7 in Austria, Belgium and Bulgaria 2011-2013



Bar Chart, Column Chart

Bar charts and column charts are in principle the same except for their orientation. While bar charts have horizontal bars, column charts have vertical bars.

Figure 14: Column Chart of share of students at ISCED level 5-7 by legal status for Austria, Belgium, and Germany 2013

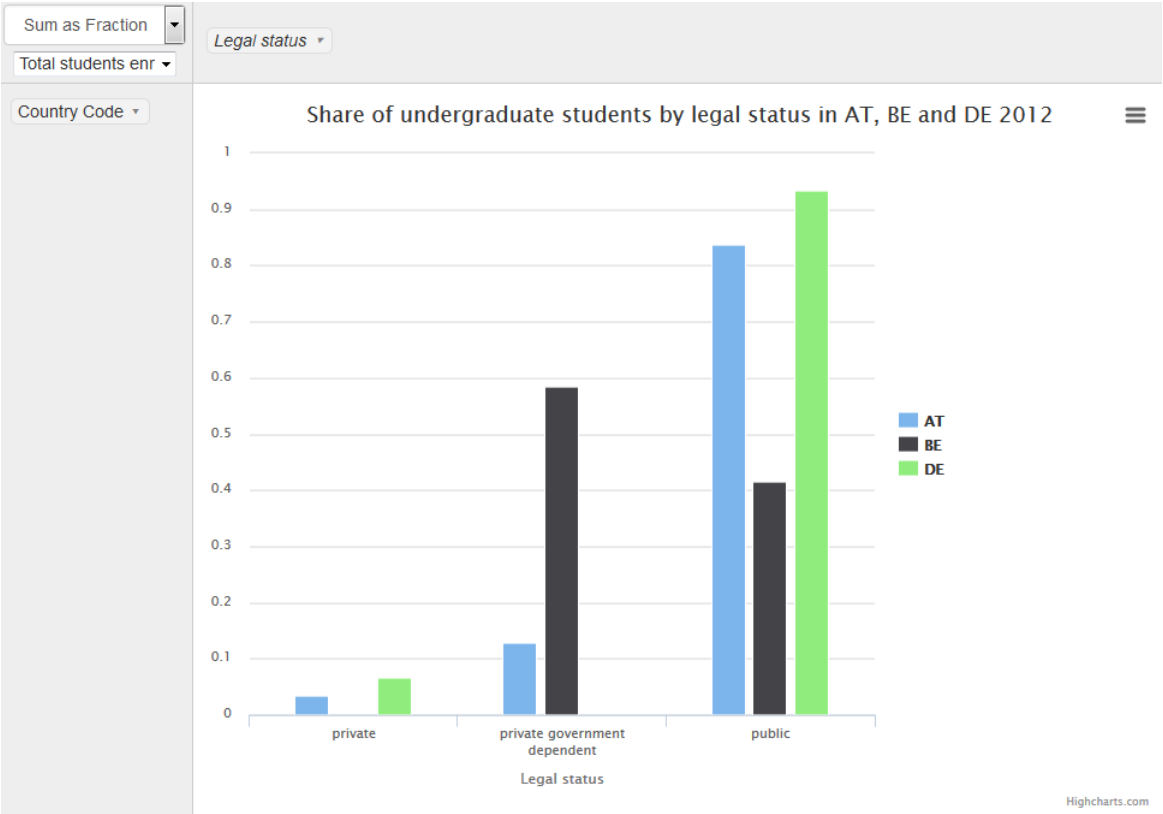
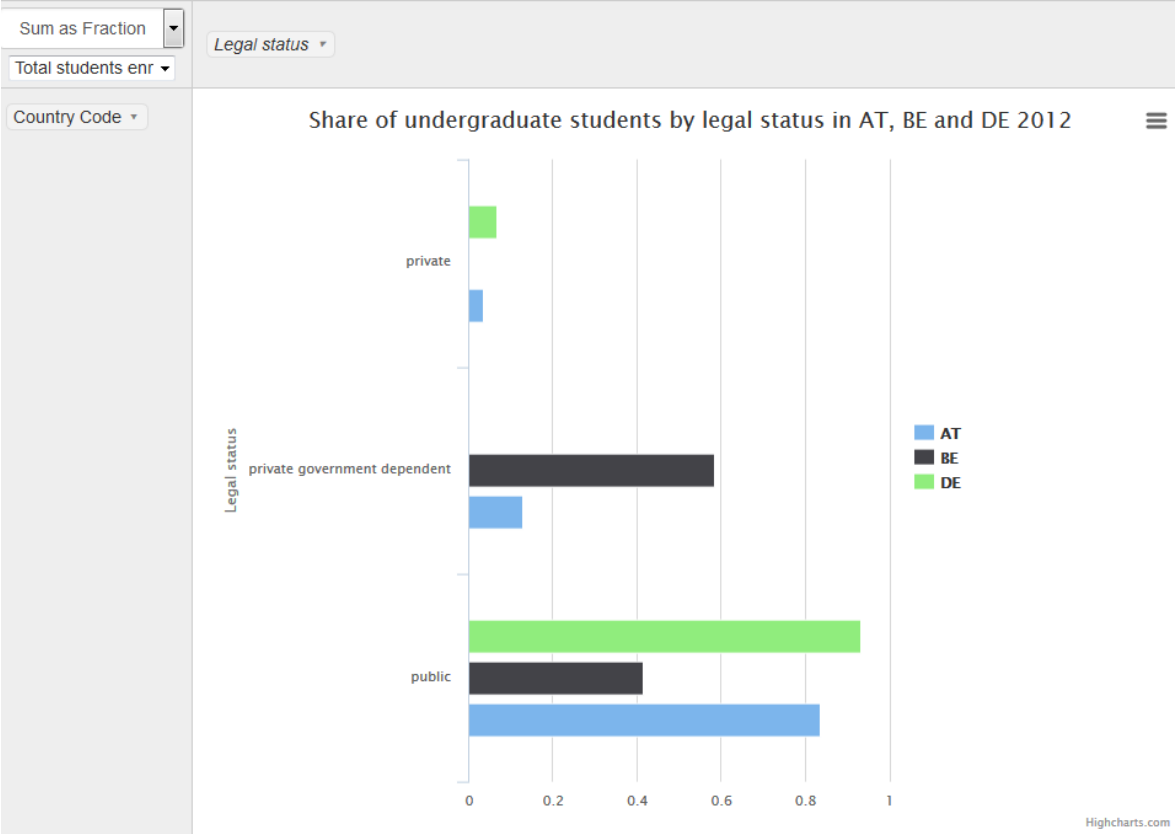


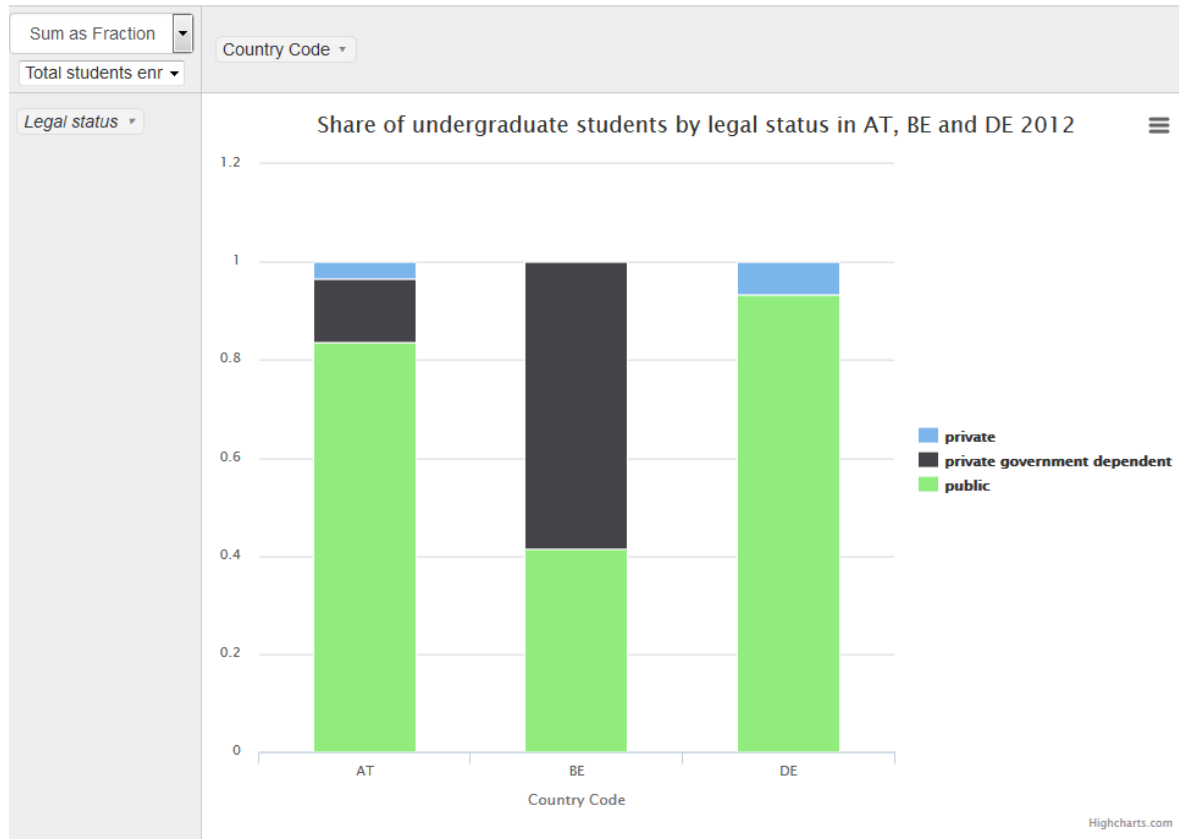
Figure 15: Bar Chart of share of students at ISCED level 5-7 by legal status for Austria, Belgium, and Germany 2013



Stacked Bar, Column Chart

Besides the possibility to arrange bars side by side, you could also stack them. As for bar and column charts, this can be done either horizontally or vertically. The example below shows a stacked column charts with the data from above. Please notice that the data have been rearranged and 'Sum as Fraction of columns' was selected in order to get the result below.

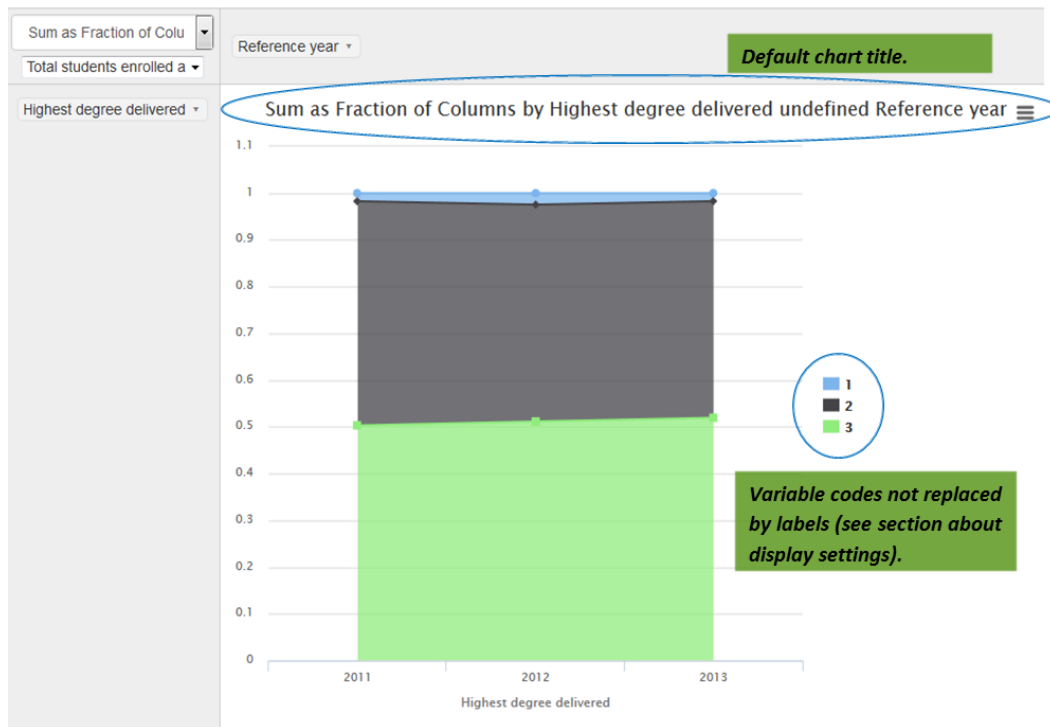
Figure 16: Stacked Column Chart of students at ISCED level 5-7 by legal status for Austria, Belgium, and Germany 2013



Area Chart

Area charts can be used to emphasize differences in data, either by years or other characteristics. The following example shows the changes in ISCED 6 students by the highest degree delivered of institutions in Germany. Please notice the differences, which occur by not customizing the chart title and by using variable codes instead of variable labels.

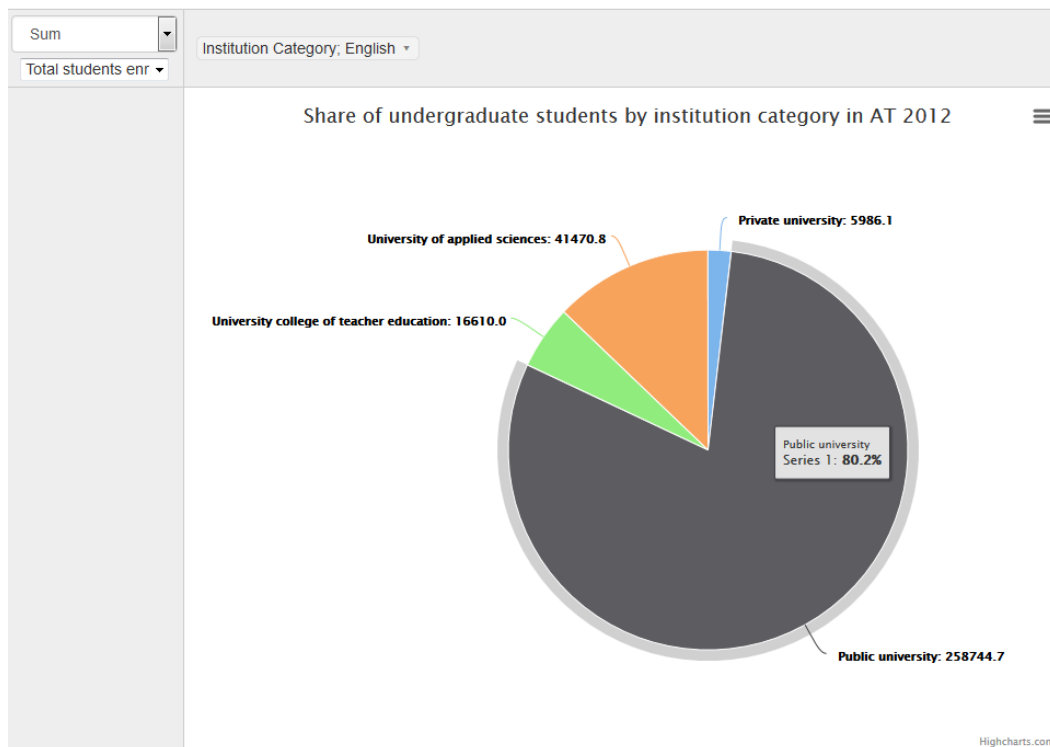
Figure 17: Area Chart of Share of ISCED 6 students by highest degree delivered in institution in Germany 2011-2013



Pie Chart

The pie chart option can be used to emphasize the distribution of a variable. The example below shows for example that a large part of Austrian students at ISCED level 5-7 are enrolled in public universities.

Figure 18: Pie Chart of students at ISCED level 5-7 in Austria by type of institutions 2013



Export your selected data and metadata

The second option besides visualization, after choosing your preferred data and display respectively export settings, is to export the data by selecting **4b. Export data**. The export function is dedicated to usability in order to support data analysis, which means that the user has several possibilities to customize the data before exporting (see chapter *Choose your preferred display and export settings*).

While the export settings have been defined already in **3. Display and export settings**, the export function itself provides some options for your choice of export:

- *Export all data*. This means that all variables are exported for the year(s) and country(ies), which have been chosen, independent of any selections in **2. Select your variables**.
- *Export visible data*. Only your selected variables will be exported.
- *Export metadata*. This option will provide you a Microsoft Excel sheet with all metadata information at the country level for the year(s) and country(ies) of your search. It is highly recommended to include metadata information in your analysis of higher education data.

Figure 19: Choose your preferred export option

The screenshot shows a navigation bar with four buttons: **2. Select your variables**, **3. Display and export settings**, **4a. Tables and Visualizations**, and **4b. Export data**. The **4b. Export data** button is active, and its dropdown menu is open, showing three options: **Export all data**, **Export visible data**, and **Export metadata**. A green callout box with the text *Choose to export microdata or metadata for selected institutions.* points to the **Export metadata** option. Below the menu, a table header is visible with columns: **National identifier**, **Institution Name**, **English Institutio...**, **Reference year**, and **Country Code**.