

# I.Stat User Guide

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#### Introduction

ISTAT has implemented I.Stat (the corporate statistical data warehouse) starting from a set of statistical software components and services that OECD has developed for the delivery of its statistical data warehouse applications (OECD Stat Product).

The activities have been conducted under a Memorandum of Understanding ("MOU") and everything will be carried out in accordance with the respective rules and practices of both Organizations. ISTAT will use the OECD Stat Product for the sole purpose of its statistical data warehouse applications.

I.Stat provides a single online platform where users can discover and access statistical databases from the Italian National Institute of Statistics. You will be able to build tables and extract data from across databases as well as work within individual databases.

Use Browse Themes or Search to find the statistical information you need.

Each database includes detailed metadata to help you understand the numbers.

- I.Stat offers a number of opportunities for improving data management, in particular in the following areas:
  - General data identification, taxonomy and classification
  - · Data accessibility and security
  - Data relevance by the provision of related metadata
  - · Fostering coherency of statistical data and metadata
  - Eliminating duplication of effort by maintaining a single copy of key series.

## I.Stat Concepts

I.Stat features the following main concepts:

- Catalogues of information on themes, datasets, dimensions, dimension members and reference series
- Storage of metadata at all levels from dataset through to cell level
- · Storage of numeric data figures, as well as cell-level flags
- · A data warehouse searching mechanism

## **Data Organisation**

#### Datasets

Within I.Stat, statistical data are organised in the form of datasets. A **DATASET** is a collection of numerical values and their associated textual information, with all values sharing a common set of dimensions. Each dataset is attached to a specific statistical activity or subactivity.

#### **Dimensions**

The **DIMENSIONS** of a dataset are the axes on which the data are described. **TERRITORY** and **YEAR** are two common examples of dimensions. Dimensions can be presented as either a flat list or as a hierarchy.

#### Dimension Members

Every dimension contains a pre-defined list of items, called **DIMENSION MEMBERS**. In the Territory dimension for example, the dimension members are the list of **REGIONS**, **PROVINCES** etc.

#### Metadata

Qualitative data, attached to the quantitative data in I.Stat is called **METADATA**. Metadata can be found at various levels, ranging from an abstract found at the level of an entire dataset, territory- or series-level footnotes which apply to a broad selection of data within a dataset, and down to the level of a single cell.

#### Flags

When a qualitative note is recurrent in a dataset, and the exact same note can be attached to many individual data figures, this may be stored as a *FLAG*. A flag is a letter, which appears alongside the numerical data in any table cell where it applies. A legend appears beneath the table, explaining the signification of each flag present in the table. Flags are frequently used to note general data properties such as "confidential", "provisional" and "estimated".

#### Search

A text-based search facility, which searches through dataset names, dimension names, dimension member names and metadata, can be used to quickly locate relevant datasets and view tables.

#### The LStat Web Browser

The I.Stat **Web Browser** provides the online user environment to access the Italian National Institute of Statistics data. The browser has been designed to allow both experienced and new users to rapidly locate and retrieve statistical data and related metadata.

#### Main features include:

- Links to frequently requested tables access the latest versions of the most frequently requested Istat
- "Table View" view data, flags and metadata from a table that includes a number of features for customising the layout of the data.
- "Data Basket" save data queries for later viewing, and share them with others.
- Merged Queries combine queries to allow cross-dataset comparisons along common
- dimension(s).
- Metadata access access all metadata from dataset level down to series footnotes and data flags.
- Full Text Search rapidly locate series across data sets, data dimensions and metadata.
- Dynamic graphics visualize data dynamically in a line chart, bar chart or other.

#### **User Guide**

The I.Stat Web Browser has been designed to be straightforward and intuitive in use. It does, however, contain a number of advanced features, which reflect the diversity of the ISTAT statistical resources. This User Guide has been prepared to help acquaint first-time users with these features, by stepping through them with the aid of selected screen shots.

## Getting Started Page

From the *Getting Started* page, the user has the option of finding ISTAT statistical data and metadata through a number of different avenues.

Data can be located in various ways:

- LStat Search
- Browse Themes
- Browse Queries

Each of these options will be explained in more detail in the remainder of the User Guide. The browser is best used in full-screen view at 1024x768 pixel screen resolution or higher.

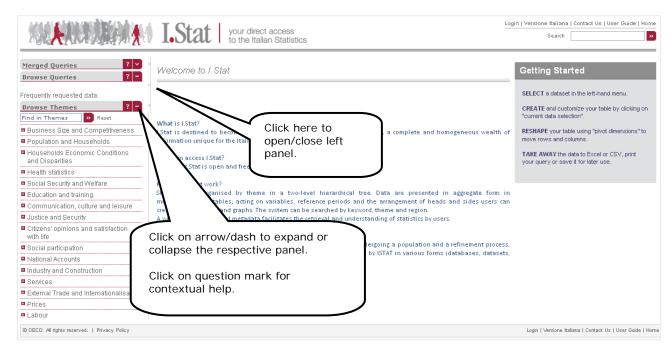


Figure 1: I.Stat Browser Getting Started page

## Language Selection

The interface and data can be viewed in Italian or English. The language can be changed by clicking on the language option, located at the top of the screen.

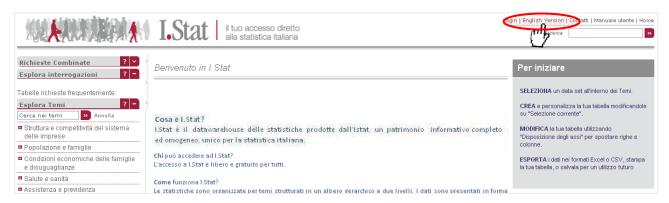


Figure 2: Changing the language of the browser

## Locating Data through the I.Stat Search

Data can be located by entering keywords in the I.Stat Search box, at the top right of the page. This will return a list of links giving the name of each dataset in which the keywords were found, and providing further details as to where the keywords are present within each dataset. The most relevant links are shown first based on the frequency with which the keywords appear in each dataset, and at which level they were found.

A keyword found in the name of a dataset is considered more relevant than a keyword found only in one of the dimension members of a dimension of the dataset or in the metadata.

Clicking on the link will open the dataset with the default view.

The tables resulting from a search will contain any references to the search keywords entered that could be found in the data.

These tables can be modified and used as a starting point to find data related to the keywords entered



Figure 3: Results from the search ranked in order of relevance

## Locating Data by Browsing Themes

In the Browse Themes panel, click a theme title, click a sub-theme title and so forth, until you can select a dataset. Datasets can be recognised by the table icon in front of their name. A pre-defined, default view of the table will open. This view can be customized (see next section).

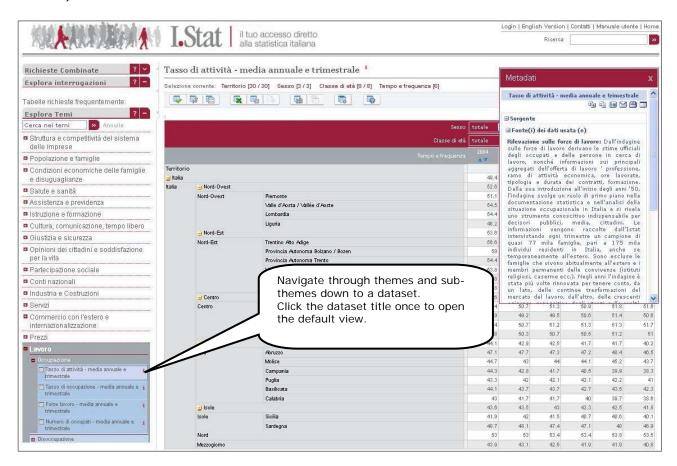


Figure 4: Browsing through themes to view data

## Locating a dataset or a query in the theme list

At the top of the **Browse Themes** panel click the text box and enter a key term to search for within the theme and data set list. Click the ">>" sign or press **ENTER** to execute the search. All found entries will be highlighted in yellow.

To start over, simply click **Reset** to the right of the text box and click the text box again in order to enter a new key term.



Figure 5: Find a theme or data set

This search routine will look for exact matches of the entered text string, including spaces but irrelevant of miniscule or majuscule characters.

This method also allows a quick lookup for well known Istat data sets.

## Using the Table Features

When a dataset is first opened, a table in a default view is presented. This default data selection can be modified using the features found atop the table.

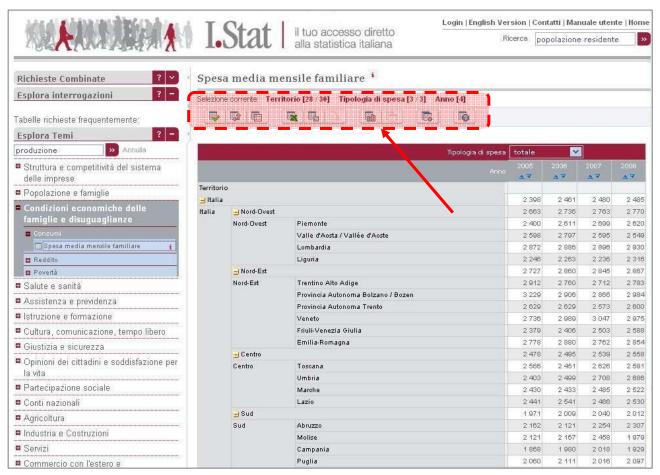


Figure 6: Default dataset view and Current Selection values

The **CURRENT DATA SELECTION** information shows the dimensions of the dataset with an indication, in parentheses, of the number of items, or members, selected in each dimension. If you click a dimension title, a list of the members you can chose from will be shown.

Once you have made your data selection, you can:

- click on one of the several option buttons to customize the layout ( , ) and/or display ( ) of the current table
- click the Export to Excel button ( ) to save your selection as an MS Excel file
- click the **OTHER EXPORT** button ( ) to save your selection as a CSV file, or as one of the other file types available, or download related, ready-made files
- click on the CHART BUTTON ( 🔚 ) to dynamically graph the displayed data
- click the **Merge Queries** button ( ) to add your current table view as a query for further work. You will need to login first to take full advantage of all query features.

#### Selecting Dimensions and their Variables

The items selected for each dimension, often referred to as dimension members, can be modified by clicking on the button to **Select Dimensions** ( ) at the top of a table.

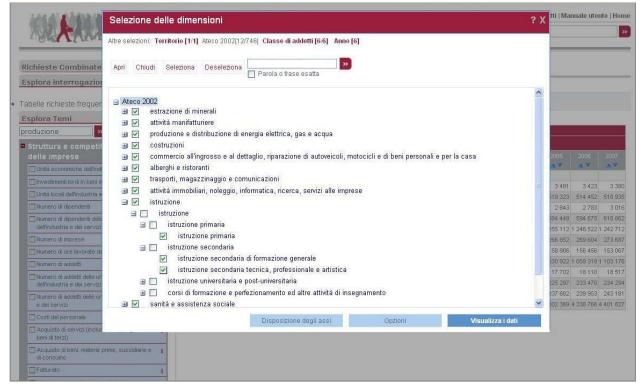


Figure 7: Using the Dimension Selector

To select or deselect an item, click the check box to the left of the item. In hierarchical dimensions, a plus (+) or minus (-) will appear next to parent-level items. Clicking on this symbol will allow you to show or hide the child items.

At the top of the screen, a series of options appear.

To apply your modified selection of items for the current dimension and see a table of data corresponding to this new selection, click **VIEW DATA**. Alternatively, after changing the selection for one dimension, you can click on another dimension to modify, before viewing the new table of data.

For hierarchical dimensions, clicking on **Expand Branch** or **Collapse Branch** will show or hide all the child-level items of the dimension.

Note: If all members of a hierarchical dimension are selected, the resulting table could contain empty rows or columns corresponding to the higher levels (see below).

#### **Dimension Member Colour Coding**

The I.Stat Web Browser uses colour coding to help you identify for which dimension members data exists. This is especially important for sparse datasets where data can be found in only a small proportion of dimension combinations. This function has been provided to save time by avoiding searching for non-existent data.

The colours for each dimension member indicate the following: Based on the current selection for all other dimensions...

Dark Blue: The item has data.

Blue: The item has no data but some of its children have data.

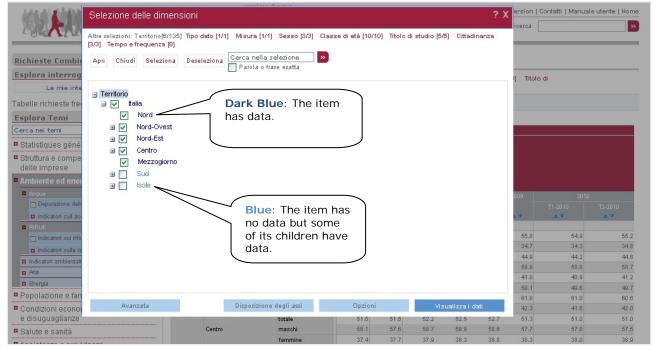


Figure 8: Dimension Member Colour Coding

Remember: The colour coding takes into account the current selection for all other members. In other words, the colours indicate the existence of data for the territory, years, etc. currently selected.

Another option is to search in the dimension selector to display dimension members matching the search criteria.

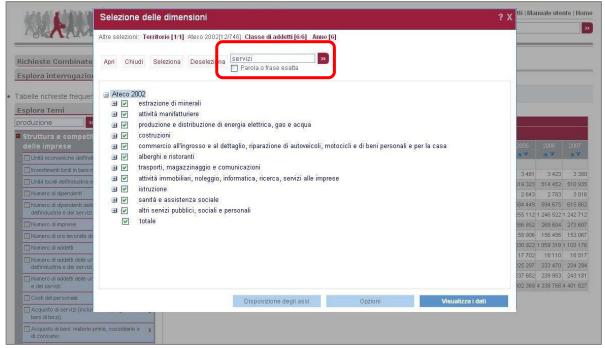


Figure 9: Searching in the dimension selector

All matching dimension members will be displayed and automatically selected.

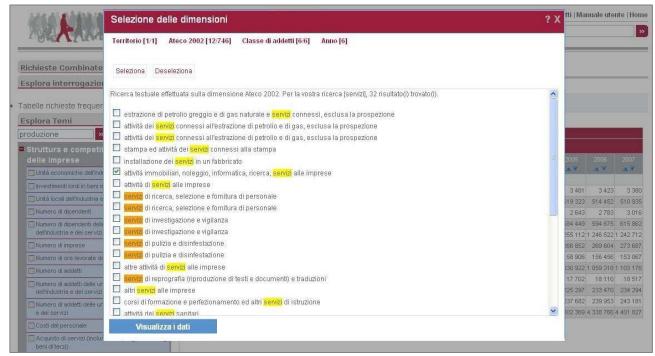


Figure 10: Results of a Search in the dimension selector

## **Changing the Time Dimension**

The options available for changing the selected dates of a time dimension are different from those presented for other dimensions. Dates can be selected either using the **DATE RANGE SELECTION** method or the **TIME PERIOD SELECTION** method.

#### **Date Range Selection**

All frequencies available for the selected dataset are shown on the screen. If the data is only annual, for example, the controls for selecting quarters, semesters and months will not appear.

First tick the boxes next to the frequencies to be included in the selection. Then choose either a specific range of dates (from 1980 to 2000, for example) by clicking **Select Date Range**, or indicate that you wish to have the most recent data available (last 5 years, for example) by clicking **Select Latest Data**.

When selecting a date range, it is possible to select a start year, quarter, month, etc. and automatically include all available data from that date onward by ticking the box next to **LATEST AVAILABLE DATA**.

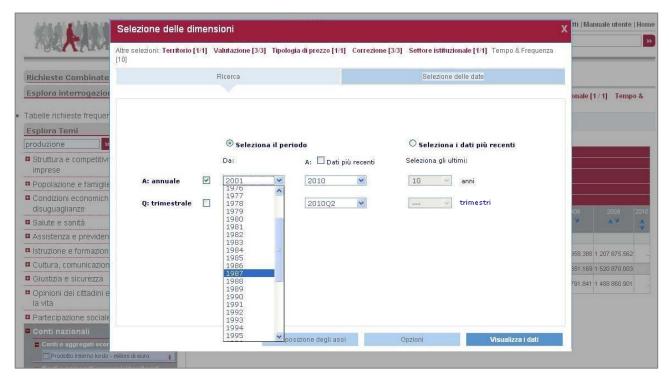


Figure 11: Date Range Selection

#### **Time Period Selection**

It is also possible to select individual years, quarters, months, etc. by ticking the box next to each item. This is necessary if the selection of dates you wish to include is not a continuous series, but instead contains breaks or time periods outside the main date range.

This works in a manner identical to the general dimension selector described above.

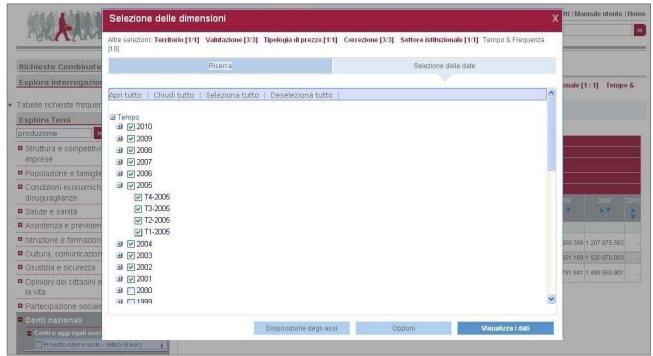


Figure 12: Time Period Selection

Note: It is advisable to select a general range of dates using the Date Range Selection first, and then include or exclude individual time periods using the Time Period Selection screen. The inverse, making changes to a Time Period Selection using the Date Range Selection screen, may result in some of the individual time periods selected being lost, as the Date Range Selection screen is only able to manage continuous, non-broken series of dates.

#### **Rotating Dimensions by Adjusting the Dataset View**

The different dimensions of a dataset can be displayed on either the horizontal or vertical axis of a table, or in the filter area at the top of the table. To move a dimension from one place to another, either click once on the name of the dimension within the table itself or click the PIVOT DIMENSIONS button above the table. A dialog box will pop up that allows you to visually drag and drop a dimension to the desired location.

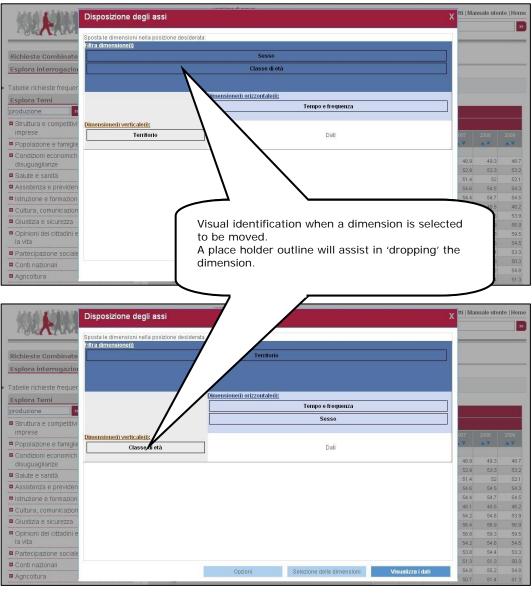


Figure 13: Moving a dimension to rotate the data view

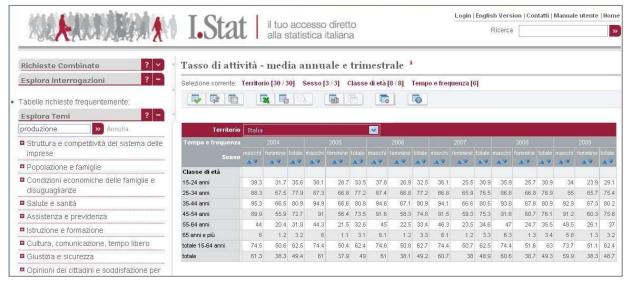


Figure 14: Moving result on table view

If a dimension for which more than one item has been selected is placed into the filter area at the top of the page, a drop-down list will become available. To change the filter currently applied to the data, simply select the appropriate value in the drop-down list.

If the dimension in question does not have a drop-down list, then only one item has been selected. To include other items, click on the dimension name in the **CURRENT DATA SELECTION** box on the left, and follow the instructions provided above to select more items.



Figure 15: Changing the view using Territory drop-down list

#### **Formatting Options**

A set of options is available to allow you to format the view of the displayed table, e.g. you can select the number of digits after the decimal point to be displayed, or select a "scaling", which allows you to display the figures in unit value, hundreds, thousands, hundredths, thousandths, etc.

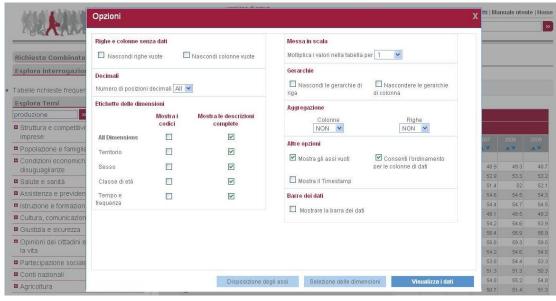


Figure 16: FORMATTING OPTIONS Panel

#### **Showing Codes Instead of Names**

All datasets, dimensions and dimension members have short codes as well as names. If it is useful, the codes can be displayed instead of names, by ticking the option **Use Codes** instead of full descriptions.

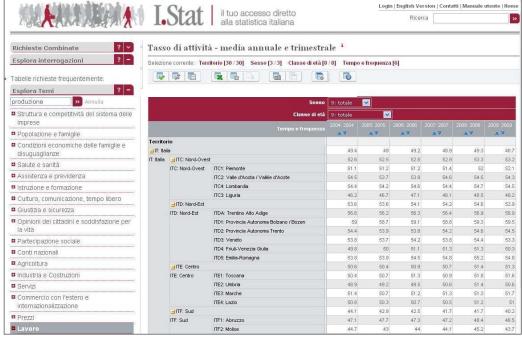


Figure 17: Table showing codes instead of names

#### **Hiding Empty Rows or Columns**

If a table of data has many rows or columns containing no data, it can be useful to hide these rows or columns, in order to condense the table and improve readability.

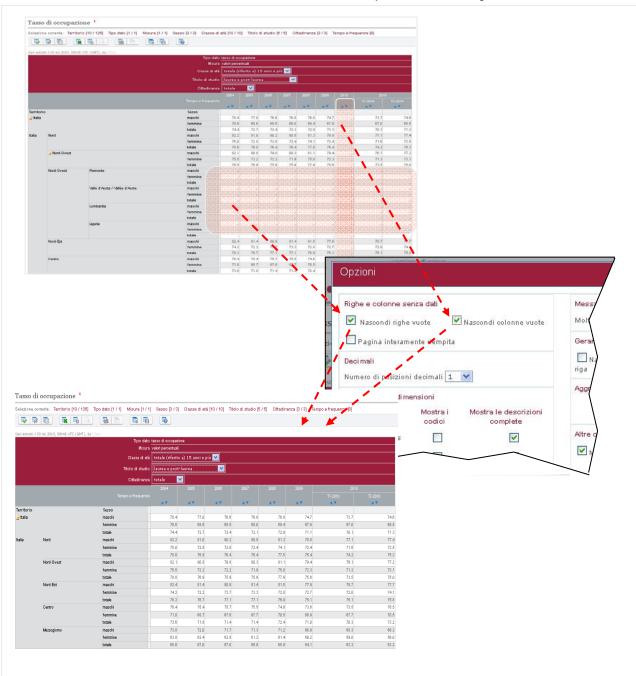


Figure 18: Using the HIDE EMPTY Rows AND COLUMNS options

#### **Exporting to Excel**

Click on the **EXPORT TO EXCEL** button ( ) to export your data selection to a MS Excel file. You will be prompted to either save the MS Excel file to disk or open it directly. As your computer settings may not allow for the file to be directly opened, it is recommended that you save the file to your desktop and then open it from there.

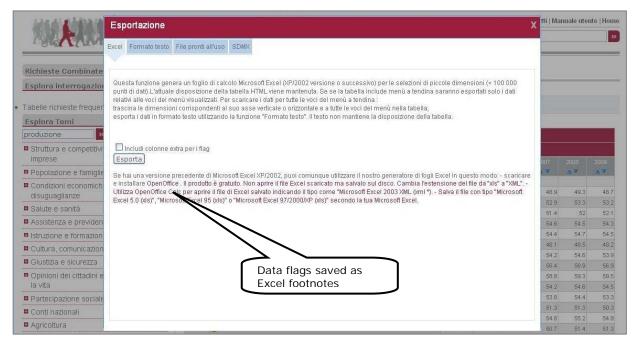


Figure 19: Using the EXPORT TO EXCEL option to save data in Excel format

#### Exporting to a CSV file

Larger tables can be saved to a CSV file; to do so simply click on the **OTHER EXPORT** button ( ) above the table.

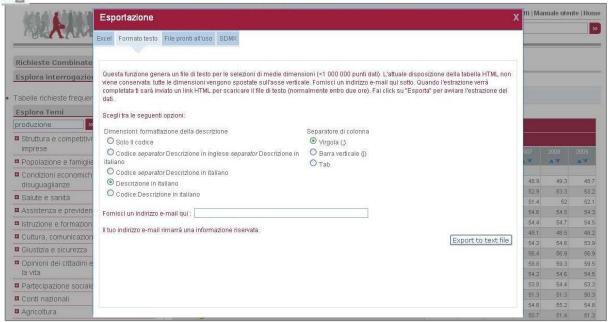


Figure 20: Using the Other Export option to save data as a CSV file

You will be prompted to select a dimension label format and a column separator. The dimension label format determines what information will be included in your file for each territory, variable, etc. The column separator determines which character will be used to separate columns in the file.

Enter your e-mail address in the box in the middle of the dialog box and click the **EXPORT TO TEXT FILE** button. The file will be created and an e-mail sent to you informing you how to retrieve it. The file will not be included as an attachment to the e-mail, as it could potentially be very large. Instead the e-mail will contain a link allowing you to download the file.

#### Downloading related files and large data selections

Any number of documents related to a given dataset may be available for download through the data browser. To view the list of files, click on the dataset name, either in the **Browse**THEMES list on the left, or in the list of recently-updated datasets visible in the centre of the

GETTING STARTED page.

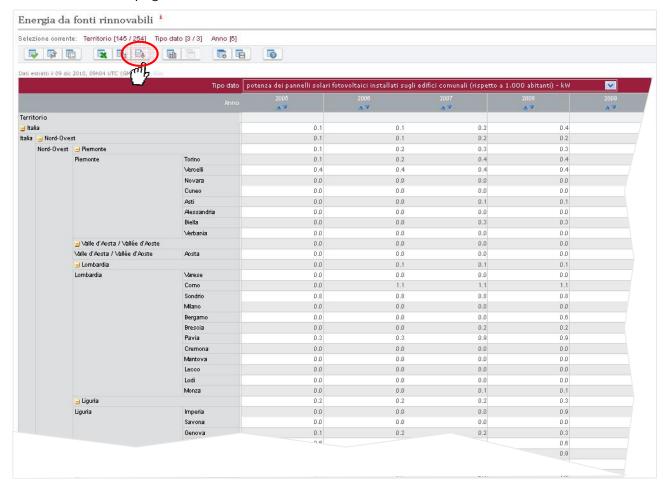


Figura 21: Finding files related to a dataset

The **Related Files** button ( ) at the top of the table will be displayed. Click on it to view a list of files related to the dataset.

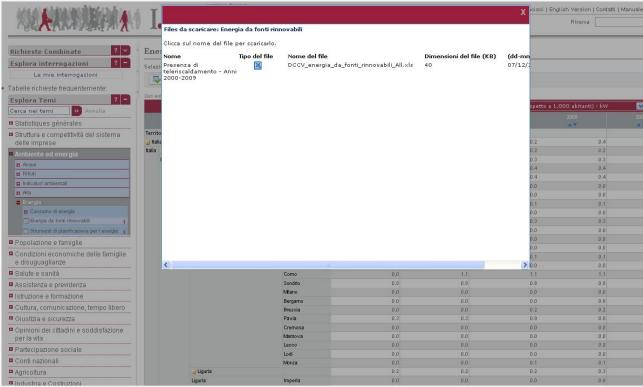


Figure 22: Selecting a file to download

The list of files may contain documents in any format, or large prepared selections of the data in text format. Click on the name of a file to begin downloading.

### **Charting Data**

The I.Stat web browser includes a dynamic charting feature ( a) enabling the display and animation of line charts, bar charts and pie charts based on the current data selection.

The navigation options of the chart dialog box include a button to animate the displayed chart, advancing it in even intervals.

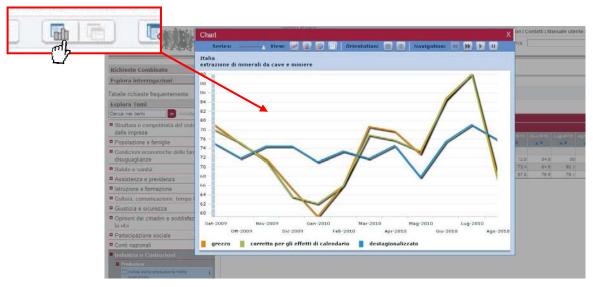


Figure 23: Charting - Line chart



Figure 24: Charting - Bar chart

## Viewing Metadata

Metadata can be viewed at all levels, from the dataset-level abstract down through to cell level footnotes. The presence of metadata is flagged by a small, red "i".

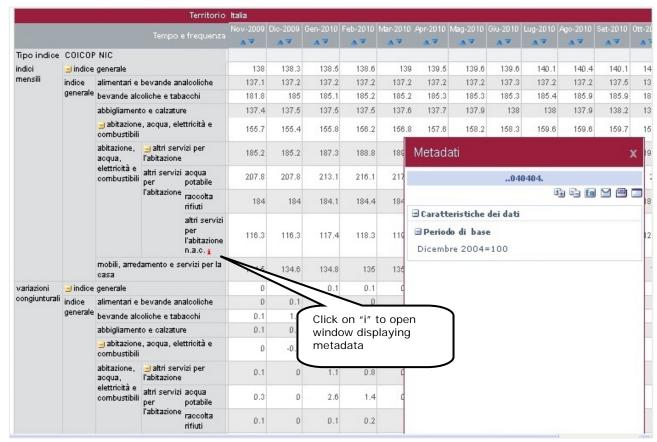


Figure 25: Footnotes and Dataset-level metadata

Clicking on the red "i" will bring up the related metadata window in the right-hand area of the screen. The window can be moved around and closed by clicking on the "x" in the top right corner of the window.

#### Other Related Metadata

If there are other metadata available in the data sets, which are closely related to the metadata displayed on screen, a set of links to these other metadata will appear in the metadata window, below the metadata text.

#### **Flags**

Certain pieces of metadata, which are recurrent within the dataset, are treated differently by the system and referred to as flags. These flags appear as letters in parentheses in the cell alongside the piece of data to which they correspond. Below any data table containing flags will appear a legend, explaining the meaning of each letter used as a flag in the table.

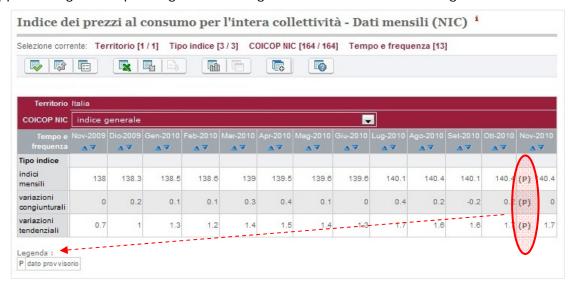


Figure 26: Viewing the Data Flag Legend

## Working with Queries

## Saving a Query

When working with queries most features require you to log in, e.g. the **SAVE QUERY** button is only displayed when you logged in via the **LOGIN** link at the top right of the page. Once logged in your name will be displayed at the top right of the page.

Your data selection, or query, can be saved at any time by clicking the **Save Query** button ( ) above the table, typing the name of the query, and then clicking the **Save Query** button in the centre area of the screen. On subsequent visits to the browser, this saved query can be opened to view the latest data available within the selection.



Figure 27: Saving a Query



Figure 28: Saving a query with optional renaming

### **Merge Queries**

Data from two or more datasets can be viewed in a combined table, using the **Merged Query** function. Any common dimensions between the different datasets should be automatically combined, provided that the data has been correctly entered into the system. Other dimensions will automatically be displayed along the vertical axis, underneath section headings indicating which dataset they come from.

### **Creating a Merge Query**

To create a Merge Query, first create a customized view in one dataset. Then click the **Merge Query** button ( ) above the table to put this query into your "data basket".

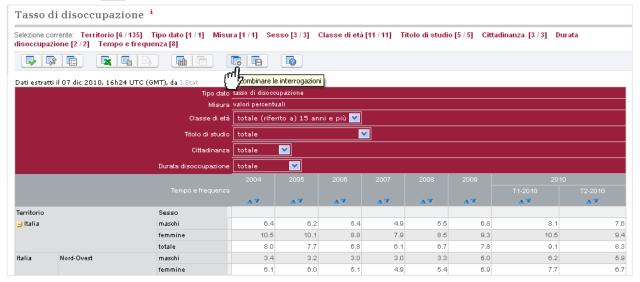


Figure 29: Adding a selection of data to a Multi-Dataset Query

Repeat this for each dataset that you wish to include in the multi-dataset query.

#### Viewing the Query

When all selections of data have been added, expand the **Merged Queries** panel in the lefthand area of the screen and click **View** to see the combined data table. dati.

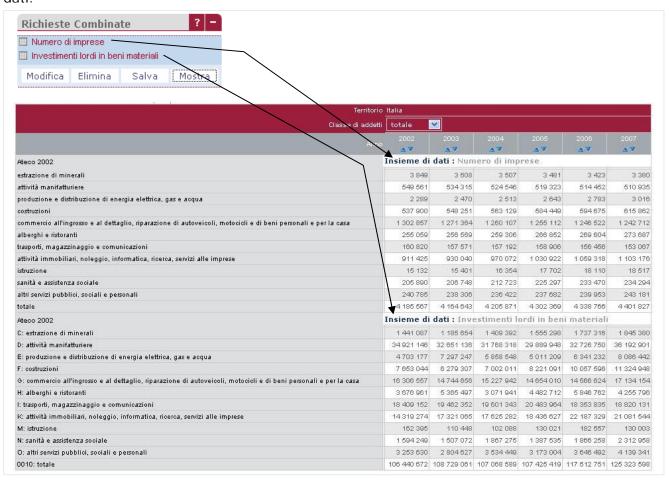


Figure 30: Viewing a Merge Query

### **Changing the Query**

#### Modify a selection

To modify any of the selections of data in the view, click the name of the dataset in the MERGED QUERIES panel, and then click EDIT. The selection will appear on screen in the same format as a single-dataset query. Make your changes and click once again on the MERGE QUERY button. Click VIEW in the MERGED QUERIES panel to see the modified query.

#### Remove a selection

To remove one of the selections in a Merged Query, click the name of the dataset in the **Merged Queries** panel, and then click **Remove**. Click **View** in the **Merged Queries** panel to see the modified query.

## Saving a Multi-Dataset Query

You can save your Multi-Dataset Query by clicking **Save** in the **Merged Queries** panel; typing a name and then clicking **Save** once again.

## Viewing Frequently Requested and Saved Queries

Clicking on My Query Manager in the left panel displays the list of all queries which you have personally saved together with a list of recent queries. This feature requires the user to login.

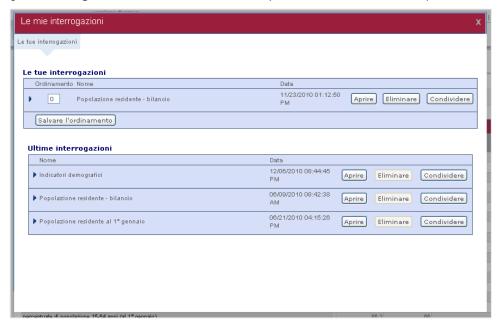


Figure 31: Viewing saved and recent queries

The **Query Manager** allows you to re-sort and save the list of queries as well as open and delete any of them.



Figure 32: Sharing Saved Queries

Additionally, clicking the **SHARE** button displays a reference URL pointing to your saved query which can be shared with colleagues, e.g. sent via email. Appropriate access rights will be required to view the query.

## **Providing Feedback**

The I.Stat Project Team can be contacted via E-mail using the Contact Us link, at the top of the screen.

Please note that in order to address your concerns in a timely manner, we have set up three separate e-mail accounts.

- <u>i-stattecnico@istat.it</u>: It should be used for any technical questions or bugs that you encounter.
- <u>i-statcontenuto@istat.it</u>: It will provide responses to questions regarding the actual data content of I.Stat
- <u>i-statfeedback@istat.it</u>: It can be used for sending comments, suggestions and observations about the system.

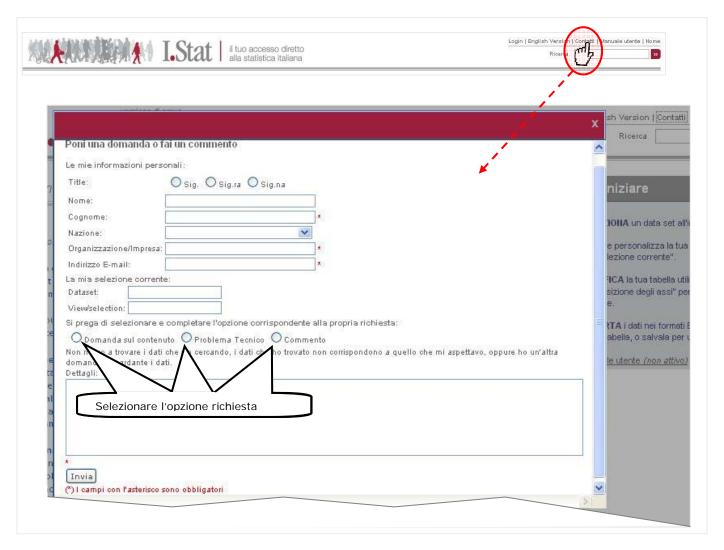


Figura 33: Creazione di una e-mail per lo staff di I.Stat