

A bookdown Example

BPLIM staff

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19.40D041 - Formula in POC	99
19.41D053 - Formula in POC	99
19.42D060 - Formula in POC	100
19.43D062 - Formula in POC	100
19.44D082 - Formula in POC	100
19.45D084 - Formula in POC	101
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BANCO DE
PORTUGAL

Chapter 1

Prerequisites

This is a *sample* book written in **Markdown**. You can use anything that Pandoc's Markdown supports, e.g., a math equation $a^2 + b^2 = c^2$.¹

$$\begin{matrix} x_{11} & x_{12} & x_{13} \\ x_{21} & x_{22} & x_{23} \end{matrix}$$

The **bookdown** package can be installed from CRAN or Github:

```
install.packages("bookdown")
# or the development version

## devtools::install_github("rstudio/bookdown")
## bookdown::render_book("index.Rmd", "bookdown::epub_book")
## bookdown::render_book("index.Rmd", "bookdown::pdf_book")
## bookdown::render_book("index.Rmd", "all", new_session = TRUE)
```

Remember each Rmd file contains one and only one chapter, and a chapter is defined by the first-level heading **#**.

To compile this example to PDF, you need XeLaTeX. You are recommended to install TinyTeX (which includes XeLaTeX): <https://yihui.name/tinytex/>.

¹While...

Chapter 2

Introduction

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 2. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter 4.

Figures and tables with captions will be placed in `figure` and `table` environments, respectively.

Reference a figure by its code chunk label with the `fig:` prefix, e.g., see Figure 2.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 2.1.

```
knitr::kable(  
  head(iris, 20), caption = 'Here is a nice table!',  
  booktabs = TRUE  
)
```

You can write citations, too. For example, we are using the `bookdown` package (Xie, 2018) in this sample book, which was built on top of R Markdown and `knitr` (Xie, 2015).

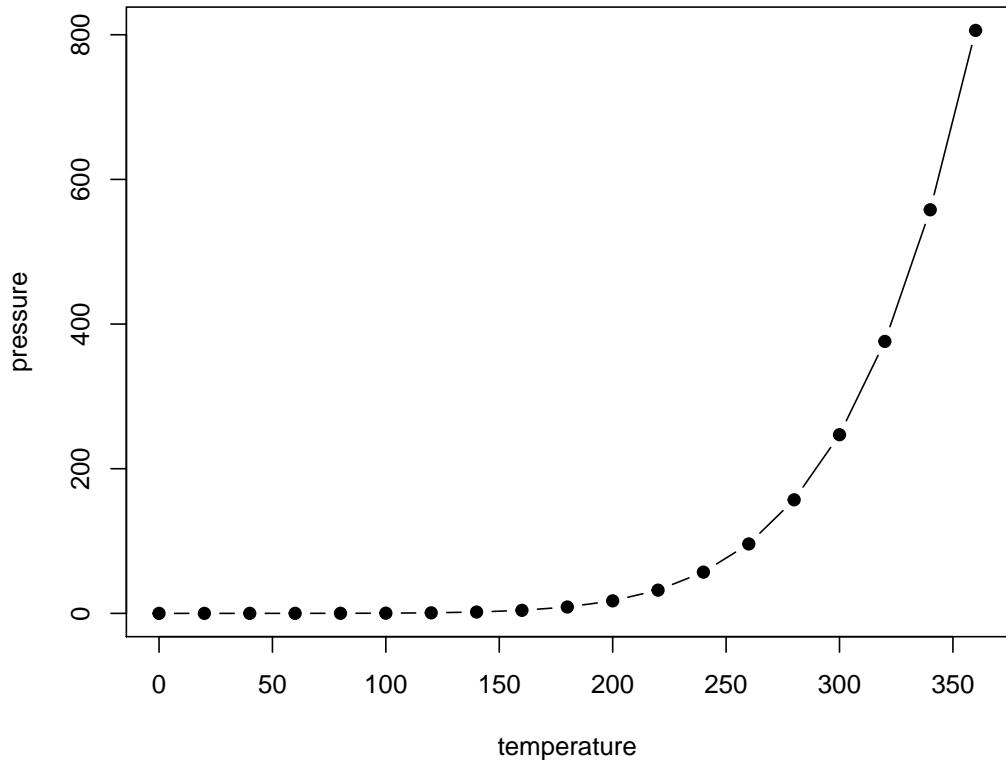


Figure 2.1: Here is a nice figure!

Table 2.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

Chapter 3

Literature

Here is a review of existing methods.

Chapter 4

Methods

We describe our methods in this chapter.

Chapter 5

Applications

Some *significant* applications are demonstrated in this chapter.

5.1 Example one

5.2 Example two

Chapter 6

Final Words

We have finished a nice book.

Chapter 7

External server

7.1 About BPLIM

The ability to collect and accumulate microdata has been a powerful function of central banks. In the scientific community, an increasing number of research has been conducted using the micro-level information. To enhance collaborations between the central bank and the researchers, an advanced data sharing platform is essential. Accordingly, the Banco de Portugal Microdata Research Laboratory (BPLIM) (*Laboratório de Investigação em Micrdados do Banco de Portugal*) is created to facilitate future scientific research effort that incorporates the use of microdata. By eliminating the data access barrier, BPLIM aims to inspire researches that effectively utilize the Portuguese administrative micro datasets and contribute to our understanding of the economic and financial challenges of our time.

7.2 Data Confidentiality

While researchers prefer unrestricted access to data, care must be given to secure the confidentiality of the data providers. All access granted to microdata should obey the applicable law and the data should only be used for research purposes.

Therefore, the data is only made available to the Banco de Portugal's internal researchers and those approved external researchers who have agreed to the bank's legal provisions concerning the use of its data. Specifically, each external researcher is required to sign a Confidentiality Agreement with the bank and will only be allowed to access a customized set of data that is tailored to his/her research needs. All micro data sets made accessible to external researchers will be anonymized and stored in information systems belonging to Banco de Portugal (BdP).

Type of access to the Microdata varies according to levels of confidentiality (low, medium, high).

- **Low:** information that can be obtained to the public or scientific community by other institutions
- **Medium:** information pertaining to institutions (firms, banks, etc.) not included in the previous case (some CB, CRC Firms, Bank Balance Sheet Data).
- **High:** information about individuals or households not included in the **Low** case (CRC Individuals).

7.3 Access to the External Server

1. Upon access approval, the User will be able to connect to the external server using one of two possibilities.

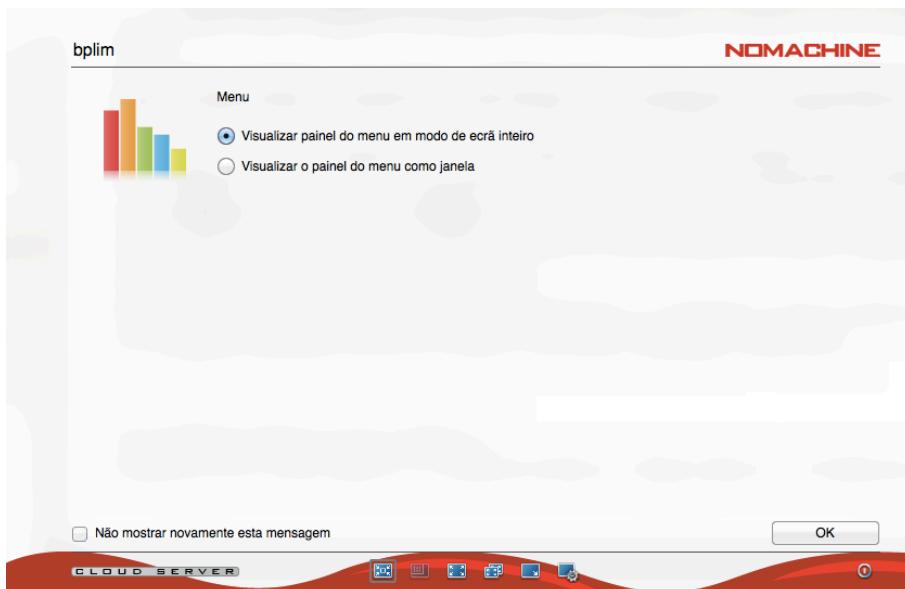
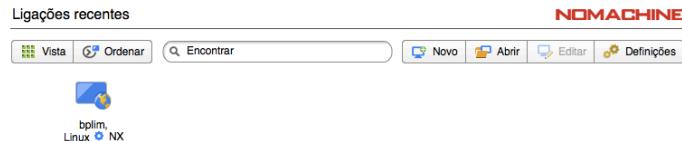
- NoMachine client access (preferred): see **Appendix 4** for details on installation and use
- Browser access (low performance): see **Appendix 5** for further details

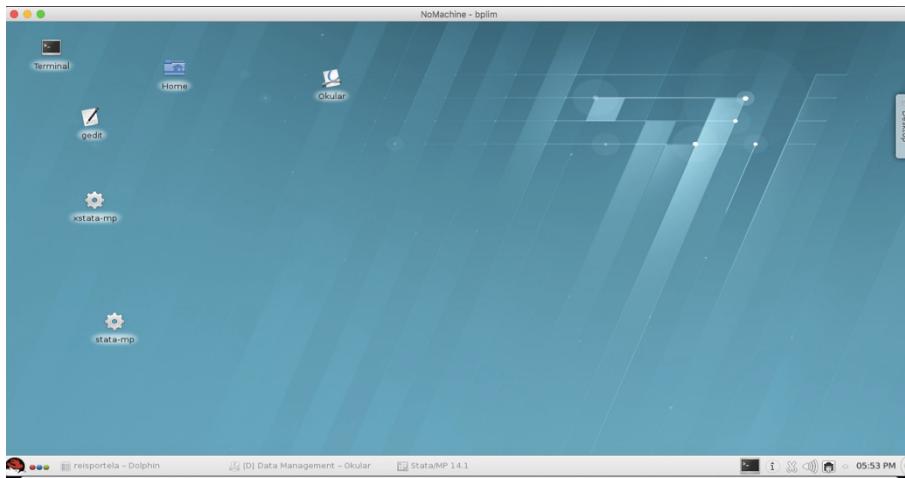
2. Password policy:

- The first password delivered must be changed at the first login.
- After 60 days the password will expire: change the password within this time frame (see Appendix 3 for instructions on how to change the password)
- The passwords to be specified must meet the requirements described in Appendix 3.

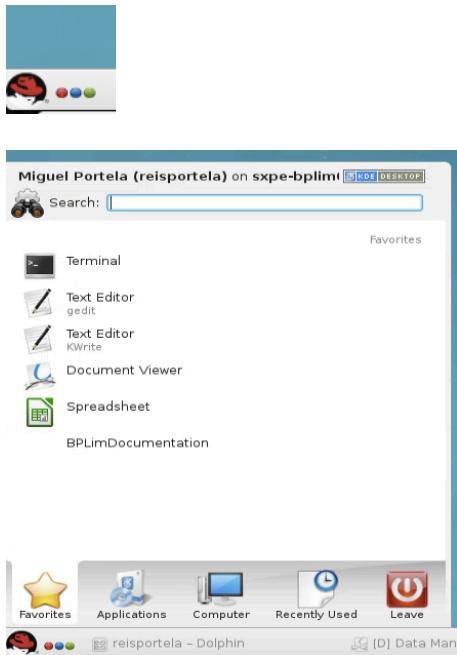
3. Upon access using ‘NoMachine’

These are the first three screens you will see





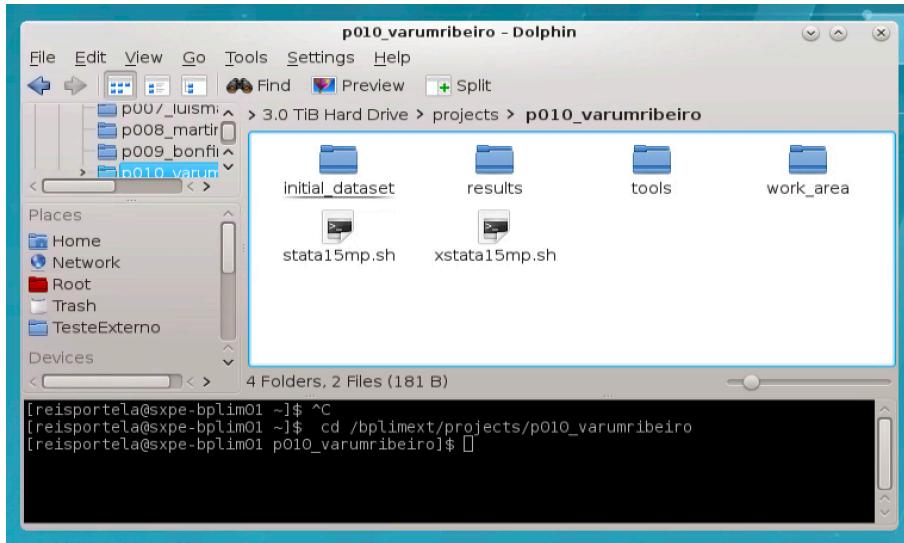
4. Select the “**Kickoff Application Launcher**” menu (in the lower left corner):



5. Then you should:

- Click on the “**Applications**” button
- Select “**BPLIM**” and click on your project (i.e., “pxxx_name”). At this stage, you should see a graphical environment ('Dolphin' application¹) like this:

¹For more information, see the manual on the Annual Data of Central Balance Sheet Database.



You can see the prompt command line together with ‘Dolphin’ using the keyboard shortcut ‘F4’.

The directories that you have access to within the folder include:

initial_dataset

Data sources provided by BPLIM.

You have read-only access to this directory.

results

Output files that researchers wish to generate and extract from the server.

You have read-write access to this directory.

tools

Specific analysis tools.

You have read-only access to this directory.

work_area

Temporary work directory.

You have read-write access to this directory.

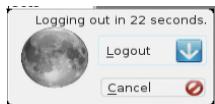
- By default you also have two files (see image above): (1) stata15mp.sh; (2) xstata15mp.sh. Files with the “sh” extension allow you to send commands to your operating system or to enter your operating system for interactive use. The first one starts Stata version 15 in non-graphical mode, while the second launches Stata 15 in graphical mode. You can start both applications by typing in the Linux shell, for example, ‘xstata15mp.sh’, or by double clicking the file name in ‘Dolphin’²
- To reset and disconnect the remote desktop connection or session, you can simply log out your remote session, as shown on the screenshot below. After you log out, close the window.³

²To see the labels in English type the following command line in Stata: ‘label language en’.

³A Micro-Entity is defined as a firm that falls below in at least two of the following criteria at the balance sheet date: i) total assets equal to 500.000 euros; ii) net turnover equal to 500.000 euros; or iii) average number of employees equal to 5. Small-sized Entities are firms satisfying at least two of the following conditions: i) total assets below 500.000 euros; ii) total gross sales and other income lower than 1.000.000 euros or; iii) average number of employees less than 20. For more details please check the manual on *Central Balance Sheet Database - Annual Data*.



Confirm before exiting by clicking on the “Logout” button to close the window⁴



- In case you do not logout, your session will be left open until your next login. You may use this facility to run your programs. However, one must be aware that this option uses resources from the server, so the efficient solution to run your programs “over night” is using the batch mode as described in Step 6 below. Furthermore, in case the server is rebooted during a maintenance procedure your session will be automatically close and unsaved documents will be lost. We recommend you save at regular intervals your statistical programs.

7.4 Using the ‘shell’ in a Linux Operating System

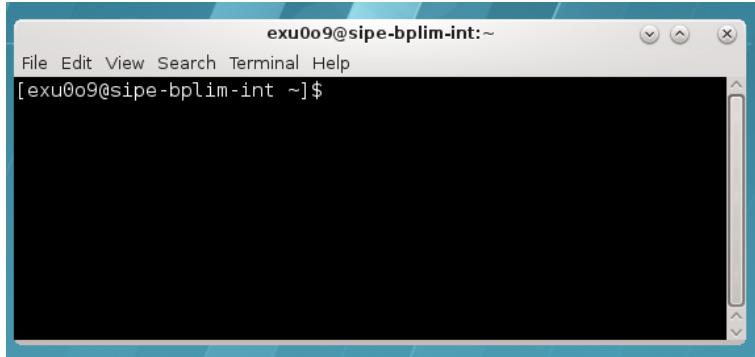
If you wish to run your programs in **batch** mode, then you must use the ‘**shell**’ of Linux. You can also use the ‘shell’ to organize the files in your working space.

1. The ‘**shell**’⁵ [⁵{.underline}]^(https://translate.googleusercontent.com/#footnote5) do Linux pode ser aberta a partir de em Linux can be accessed from

RedHat > Applications >> System >> Terminal

⁴The relative changes are defined as the difference between the value of the variable observed in year t minus the value observed in the previous year. Relative changes are computed with respect to the average of year t and t-1 and are measured in percentage.

⁵In 2010 some declarations were reported according to *Plano Oficial de Contas*. This situation occurs mostly for declarations sent in the cessation period and before or after the firms adopts a special fiscal period - a fiscal period different from calendar year.



2. See the Appendix for a list of some of the most used commands.
3. In case you are using a non-English keyboard, the ‘true’ keyboard might be different from the one you see. The changes apply mostly to the symbols, not letters or numbers. For example, in case you have a Portuguese keyboard on your computer the ‘+’ is now in key ‘?’, or the ‘*’ is in SHIFT + ?. This issue is specific to the Operating System of your computer
4. Remember that Linux is case-sensitive: e.g., “LS” and “ls” are treated as different commands.
5. You can use the arrow keys to scroll up and down through the commands you’ve entered.
6. You can use the “Tab” key to complete the command line automatically.
7. E.g., type the following line to list elements within a folder in a ‘human readable’ format, h, long list format, l, in reverse order, r, sort by modification time, t, and almost all files, A,

`ls -lArth`

7.5 Using Stata

1. Stata can be accessed in interactive graphical or non-graphical modes.⁶

- Interactive non-graphical mode

Move to the desired folder, e.g.,

```
cd /bplimext/projects/I001_jdoe/
```

and type

```
/opt/bplimext/stata15/stata-mp
```

⁶With the introduction of SNC some components that were previously classified as fixed tangible assets were reallocated to intangible assets to accommodate international standards. An example is highway concessions which were considered as tangible assets in POC and were reclassified as intangible assets in SNC.

```

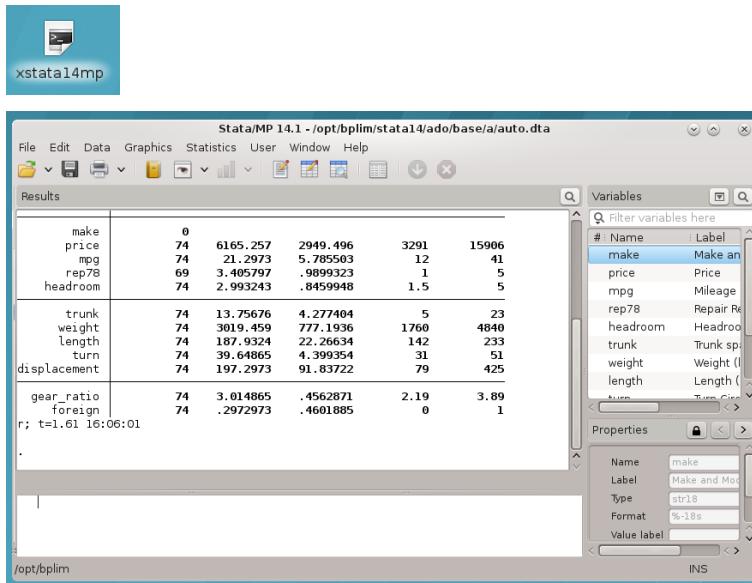
exu009 : stata-mp - Konsole
File Edit View Bookmarks Settings Help
. sysuse auto
(1978 Automobile Data)
r; t=0.00 17:36:05

. sum

Variable |   Obs      Mean    Std. Dev.     Min      Max
-----+-----+-----+-----+-----+-----+
  make |       0
  price |    74  6165.257  2949.496    3291    15906
   mpg |    74  21.2973   5.785503     12      41
  rep78 |    69  3.405797  .9899323      1      5
 headroom |    74  2.993243  .8459948     1.5      5
-----+-----+
  trunk |    74  13.75676  4.277404      5      23
 weight |    74  3019.459  777.1936    1760    4840
  length |    74  187.9324  22.26634    142     233
   turn |    74  39.64865  4.399354     31      51
displacement |    74  197.2973  91.83722     79     425
-----+-----+
 gear_ratio |    74  3.014865  .4562871     2.19     3.89
  foreign |    74  .2972973  .4601885      0      1
r; t=0.00 17:36:08
.

```

- You may add a ‘path’ to your system folder by typing, for the example on Stata 15, the following command in the shell
PATH = \$PATH:/opt/bplimext/stata15
- For the interactive graphical mode click on the icons “**xstata14mp.sh**” (Stata 14) or “**xstata15mp.sh**” (Stata 15) located in the ‘desktop’, depending on the desired Stata version,



- You can use the 'Do-file Editor' in Stata to create your own "do-files" and "ado-files", or alternatively you can use **KWrite** editor (or 'gedit'). Poder á abri-lo a partir de **[RedHat]{.underline}** \>
- You can open it from **RedHat** \> **Applications** **Applications** \>\> **Utilities** **Utilities** \> \> **KWrite** . **KWrite**. You can also launch 'KWrite' from the 'shell' by typing 'kwrite'
- In case the icon is not in your desktop, use Dolphin, move to folder '/opt/bplimext/stata15', and drag and drop the file 'xstata-mp' into the desktop

2. To look for “ado-files”:

“Ado-files” are text files containing the Stata program. It is advisable that one create and save his/her “ado-files” so the results can be replicated later by running the saved “ado-files” on the BPLIM’s datasets.

Stata looks for “ado-files” in several places. When it comes to personal ado-directories, they can be categorized in four ways:

- (SITE), the directory for “ado-files” your site might have installed;
- (PLUS), the directory for “ado-files” you personally might have installed;
- (PERSONAL), the directory for “ado-files” you might have written;
- (OLDPLACE), the directory where Stata users used to save their personally written ado-files.

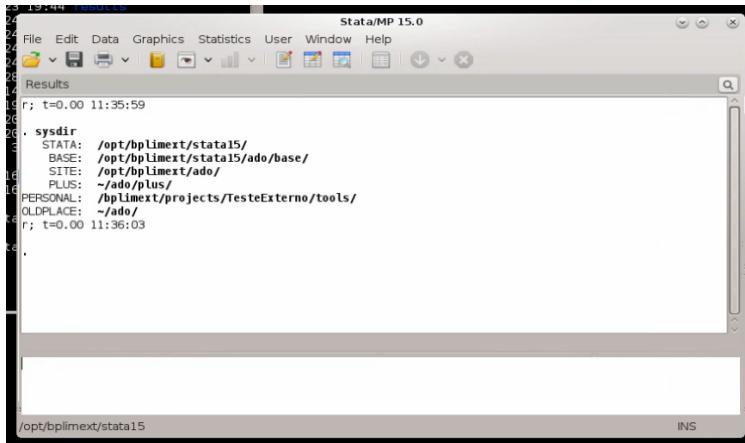
The ado-files you have just written or those created for this project can be found in the current directory (.).

Specific ‘ado-files’ you may ask to be made available in the server will be placed in your folder ‘/bplimext/projects/YOURPROJECTID/tools’. You should add this folder to your Stata ‘ado-files’ folder by executing the following command within Stata,

```
sysdir set PERSONAL "/bplimext/projects/YOURPROJECTID/tools"
```

You may also edit your ‘profile.do’ file, located in your root folder, “/home/YOURPROJECTID/”, and add key instructions you may want to be executed every time you start Stata. The above instruction is one of such cases. You can create, or edit, the file ‘profile.do’ using ‘Do-file Editor’ within Stata (‘vi profile.do’ or KWrite are also a possibility).

The ***sysdir*** command within Stata will tell you where they are on your computer:



The screenshot shows the Stata/MP 15.0 interface with the title bar "Stata/MP 15.0". The menu bar includes File, Edit, Data, Graphics, Statistics, User, Window, and Help. The main window is titled "Results" and contains the output of the "sysdir" command. The output shows the following paths:

```
r; t=0.00 11:35:59
` sysdir
  STATA: /opt/bplimext/stata15/
  BASE: /opt/bplimext/stata15/ado/base/
  SITE: /opt/bplimext/ado/
  PLUS: ~/ado/plus/
PERSONAL: /bplimext/projects/TesteExterno/tools/
OLDPLACE: ~/ado/
r; t=0.00 11:36:03
```

The status bar at the bottom shows the path "/opt/bplimext/stata15".

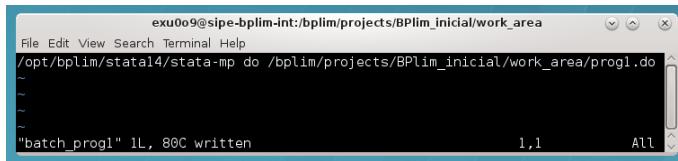
7.6 Stata in ‘batch’ mode

1. Start a ‘shell’ in Linux and navigate to the directory of the “do-file” file that you want to run (ex: prog1.do)

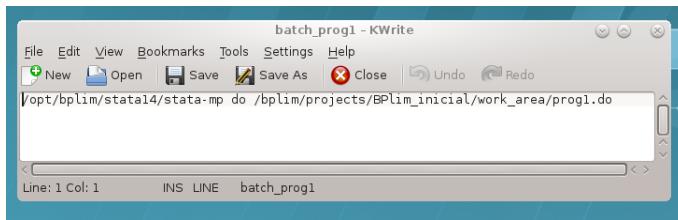
```
cd /bplim/projects/I001_jdoe/work_area/ cd /bplimext/projects/I001_jdoe/work_area/
```

2. You might find it easier to use ‘Dolphin’ (= File Manager) to move over your folder structure. In this case, we recommend activating the ‘shell’ (= ‘Terminal’) associated with ‘Dolphin’

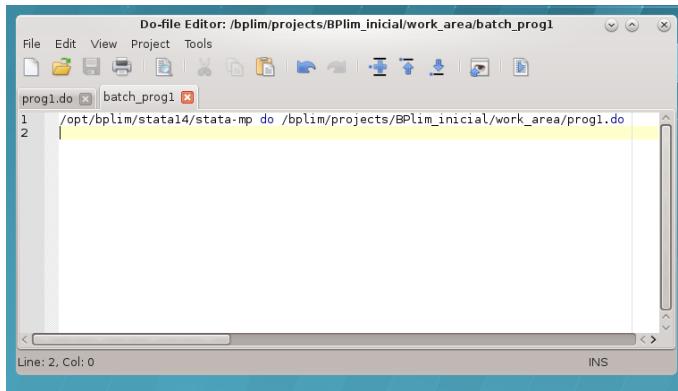
- use Dolphin/File Manager
 - click ‘F4’ to activate the shell with Dolphin. Benefit: fast transition within folders and, at the same time, the ability to run shell commands
3. Create an ASCII file named, e.g., ‘batch_prog1’
 4. Inside the file write just a line with the execution command you would type in the ‘shell’; e.g.,
`/opt/bplimext/stata15/stata-mp do /bplim/projects/BPlim_inicial/work_area/prog1.do`
 5. You can use, for example, the command line app ‘vi’ to create the batch file



6. The batch file can also be created using apps like ‘kwrite’ or Stata ‘do file editor’



or



7. You may add the extension ‘.txt’ to the name of the batch file, as sometimes Stata *doeditor* does not ‘see’ the file ‘batch’, while it ‘sees’ ‘batch.txt’
8. Once the batch file is created one runs the .do file in batch mode by typing in the ‘Terminal’: at now -f batch.txt
9. Type ‘man at’ to see further option of the command ‘at’; e.g., one could type at now + 5 hours -f batch.txt

or

```
at now + 4 minutes --f batch\_\_prog1
```

to run the Stata program within 5 hours or 4 minutes from now, respectively. ‘man’ is the help function in Linux

10. Type ‘top’ in the shell/Terminal to confirm the program is running
11. Under ‘top’ type ‘i’ to hide irrelevant processes (show less output)
12. To kill a running process with ‘top’ press ‘k’, for ‘kill’, write > the process number and then type ‘9’. The process number is > identified in the first column as PID
13. To get out of the top, type ‘q’
14. Useful features of the command ‘at’:
 - ‘atq’: use it to see programs in the batch queue (an ‘=’ sign indicates the program is running; an ‘a’ indicates it is in the queue and we see the time when it will be executed)
 - ‘atrm #’: remove a batch from the batch queue
 - one can see how the batch is running by typing
‘tail -f logcrc_may21.log’

It allows you to see an updated version of the last lines of the log; *i.e.*, it updates each time the log is changed by Stata. A key advantage of tail is that it does not interfere with the log file, namely it does not write over it.

15. Another way to run a program in the background is by using the command ‘screen’
 - ‘screen’ is useful when one wants to run Stata in interactive mode and still guarantee that if the network connection goes down one does not lose the session. We can simply kill the ‘NoMachine’ session and recover it later by typing ‘screen -r’
 - We can run several instances of screen. If this is the case, after opening a new NoMachine session we need to type in the Terminal shell ‘screen -d’ to identify the running background sessions. We can retrieve a particular session by knowing the ‘pid’ number and typing ‘screen -r 34176’

7.7 Additional Statistical Software

You can also use ‘R’ and ‘python’ by issuing in the shell the respective designation. Both applications can only be used in the ‘shell’. You can check the packages available in R by tipping ‘installed.packages()’.

7.8 Allowed outputs

Stata results can be exported to a file on disk using one of the following formats:

1. ASCII files: e.g., log files
2. graphs: as .PNG (do not use the option save, or saving, within a graph command; instead, use the separate command line ‘graph export xyz.png’)

3. csv: CSV (Comma Separated Value format), e.g., for use with MS Excel
4. rtf: Rich Text Format for use with word processors
5. xls or xlsx: Excel files with output tables
6. tex: Latex format

7.9 Remove outputs

Place in the “results” folder all the outputs you want to remove from the server.⁷

1. Send an email with the title “**project I001_jdoe**: request for result extraction” to “**bplim@bportugal.pt**”.
2. Upon validation, the results will be sent to you via email.

7.10 Scientific Support

Researchers will be provided with the necessary scientific and computational support (*i.e.*, advises on programming, computational resources, micro econometrics, and econometrics of panel data for research undertaken with the selected Microdata).

7.11 Appendix 1 – Basic ‘shell’ Commands on Linux

- **top** List the procedures that are being executed on the server
 - clicar em ‘i’ para omitir processos adormecidos; press ‘i’ > option to omit background processes;
 - clicar press ‘h’ para **help on top options**; ‘h’ > option to obtain the **top command help**.
- **pwd** Show current working directory
- **cd** Change directory
`cd /bplimext/projects/I001_jdoe/work_area/`
‘cd ~’ moves to your home folder
- **cpcp** Copy file(s) to a given path
`cp prog1.do /bplimext/projects/I001_jdoe/results`
- **mvmv** Move file(s) or rename a file from a given path
`mv prog1.do /bplimext/projects/I001_jdoe/results`
- **rmtree** Delete a file
`rm /bplimext/projects/I001_jdoe/results/prog1.do`
- **mkdirmkdir** Creates a directory
`mkdir programas`

⁷This variable has no match in *Plano Oficial de Contas*.

- **rmdirmdir** Deletes a directory
rmdir programas
- **screenscreen** Switch between screen
screen top
- **stata – mpmanman** Show the manual page for the given command
man ls
- **dudu -h** Check the information of disk usage of files and directories.

The “**-h**” option with “**du**” command provides results in “Human Readable Format”.

Ex: du /bplimext/projects/I001_jdoe/work_area/

- **dfdf -h** Check disk space utilization and show the disk space > statistics in “human readable” format.
- **vi** View ‘ASCII’ files; e.g., log files
- **ghostscript** Preview files with the extensions of **.eps** and **.pdf**

ghostscript /bplimext/projects/I001_jdoe/results/‘file_name.pdf’

- **okular** View ‘PDF’
- **find** Find files

Structure: find /path option filename

find . -name “*.do”

Send the ‘find’ output to a file:

find . -name “*.do” > find_results.txt

Look for a particular string within the ‘find’ output:

find . -name “*.do” | grep “analise”

Identify files with extension ‘.do’ that **contain** the word ‘graph’:

find . -name “*.do” -exec grep “graph export” ‘{}’ \; -print

- **passwd** Change your password
- **To exit** a program, type **CTRL + C** (‘CTRL + C’ kills a particular execution in the shell)

7.12 Appendix 2 – Using the ‘vi’ file editor

1. In the shell type ‘vi batch1.txt’
2. This are the main shortcut keys
 - a. ‘i’ insert text
 - b. ‘ESC’ key get out of the ‘insert’ mode

- c. ‘x’ delete specific characters
 - d. ‘dd’ delete a full line
 - e. ‘10 dd’ delete 10 lines
 - f. ‘yy’ copy lines
 - g. ‘p’ paste lines
 - h. ‘SHIFT + G’ go to the last line
 - i. ‘gg’ goes to the first line
 - j. ‘ESC + q!’ exit ‘vi’ without writing
 - k. ‘w!’ write and replace the file
 - l. ‘ESC + q’ exit the ‘vi’ session
 - m. Check, for example, <https://www.cs.colostate.edu/helpdocs/vi.html>
3. Much easier solution: call ‘gedit’ file editor
 4. Linux commands I have to add to the manual
 5. ‘CTRL + R’: allows me to recover a previous command
 6. vi .bash_history

7.13 Appendix 3 – External server’s password requirements

Rule	Value	Notes
Maximum Password Lifetime	60 days	After 60 days the password will expire and has to be changed in the next login. The password can be changed at any moment using: (1), “All Applications Settings System Settings – Account Details”, click “Change Password”; or, (2), in the ‘Shell’ type ‘passwd’

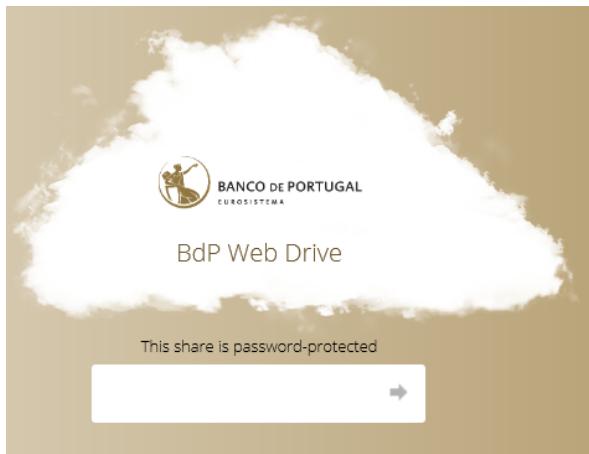
Minimum Number of Character Classes	4	You should include at least 4 classes of characters in the password. For example, small letters, capital letters, numbers and punctuation marks. There are a total of five classes:
		<ol style="list-style-type: none"> 1. Capital letters : A-Z 2. Small letters: a-z 3. Numbers: 1-9 4. Punctuation marks: <space> ! % & () * + . , { }
Minimum Length of Password	8	<p>~ " # \$ ' - / \ ^ _ ‘ </p> <p>5. Characters above 127 (0x7F): marked characters (â, á, ä, à, etc.); symbols (@, £, §, ª, º, », etc.)</p> <p>Number of characters: by using the same character 3 or more times may imply the use of an additional class (it is highly recommended that you do not use consecutively the same character more than 2 times)</p> <p>The minimum size of the password is 8 characters (it may be higher in case you repeat characters)</p>
Password History	7	<p>One cannot use a password defined in the previous set of 7 passwords</p>
Maximum Consecutive Failures	6	<p>If the user fails 6 consecutive times the password the account will be locked for the time defined in “Lockout Time”</p>
Fail Interval	60 sec.	<p>Time interval for attempts to enter a password to be considered consecutive. If more than 60 seconds have elapsed since the last attempt, consecutive attempts are no longer considered, ie the number of failures, according to the requirement “Maximum Consecutive Failures” becomes one.</p>

Lockout Time	600 sec.	Time (10 minutes) during which the account will be locked if the maximum number of failed attempts is reached.
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7.14 Appendix 4 – Download, install and configure NoMachine client

Step 1: go to the link below and use the credentials provided by BPLIM to access the site. **Note:** sometimes the internet provider, *e.g.*, an University, may block the access to this particular web site. Please check with your provider in case you get an error while trying to use the link.

<https://www.bportugal.pt/webdrive/index.php/s/irAzxZmir8KHyzD/authenticate>



Step 2: download the file with an extension compatible with your OS (Operation System)

https://www.bportugal.pt/webdrive/index.php/s/irAzxZmir8KHyzD/authenticate

BdP Web Drive

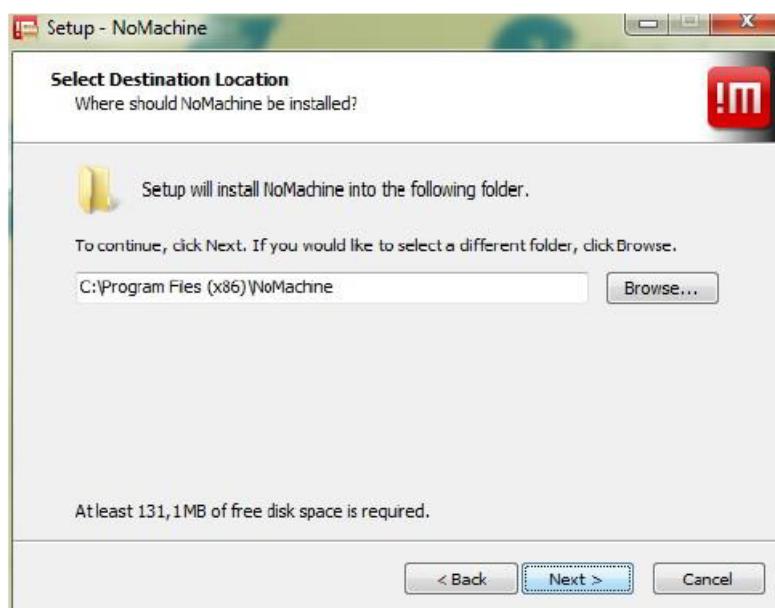
nomachine-enterprise-client_5.1.42_2.exe

nomachine-enterprise-client_6.0.62_6.dmg

2 files

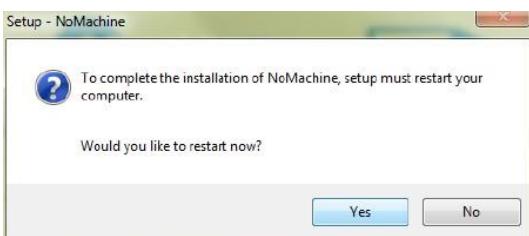
Step 3: install ‘NoMachine’





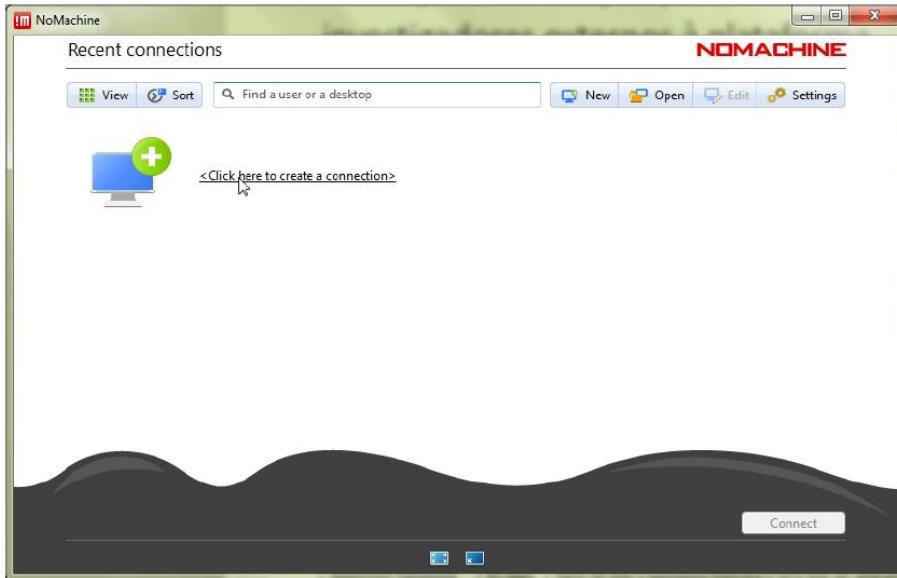


Step 4: reboot your computer



Step 5: NoMachine client access configuration

Step 5.1: start 'NoMachine' and create a new connection

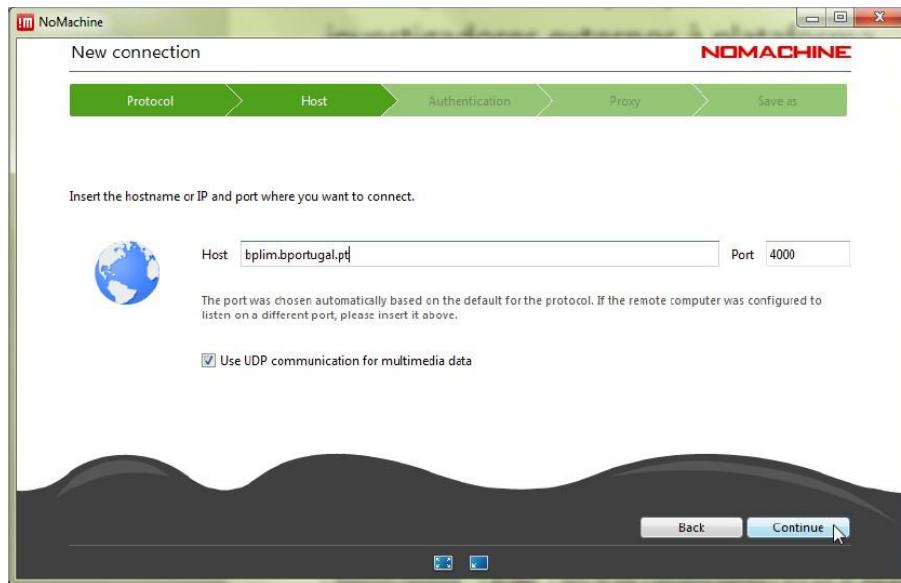


Step 5.2: Choose ‘NX protocol’



Step 5.3: Define the ‘Host’ as bplim.bportugal.pt, ‘Port’ 4000

Click ‘Use UDP communication for multimedia data’



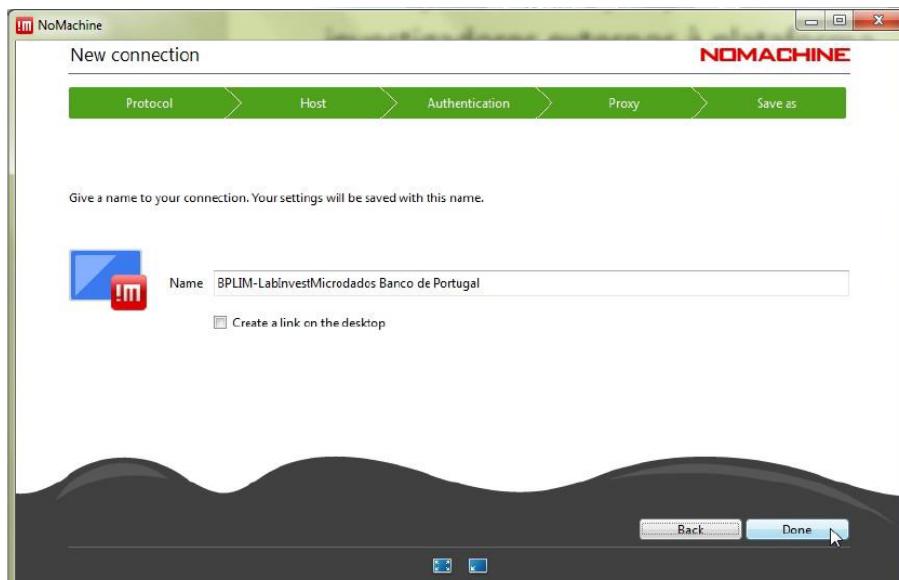
Step 5.4: Use password authentication, with or without proxy, depending on the instructions of the network administrator / user's computer support, with the name “BPLIM-LabInvestMicrodados Banco de Portugal”.



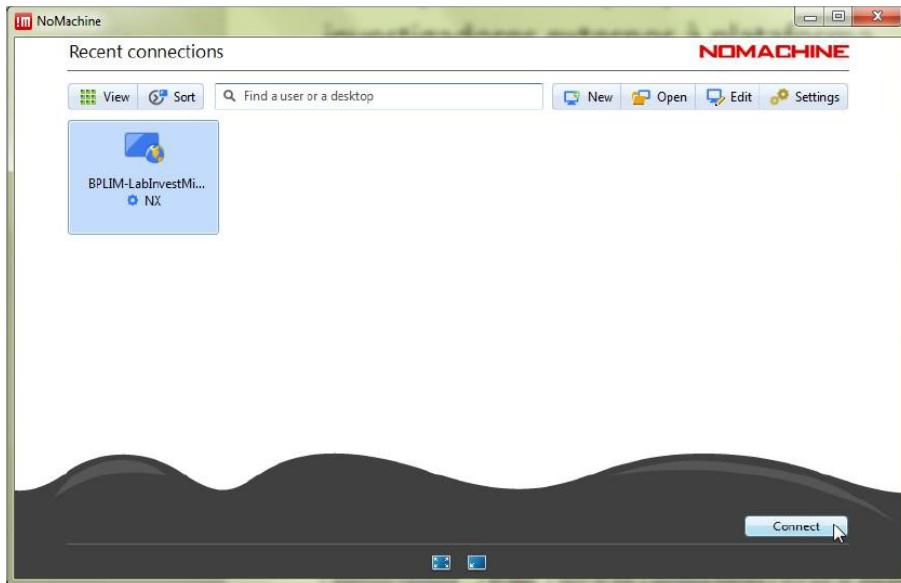
Step 5.5: Do not use a ‘proxy’



Step 5.6: Define a name for the connection



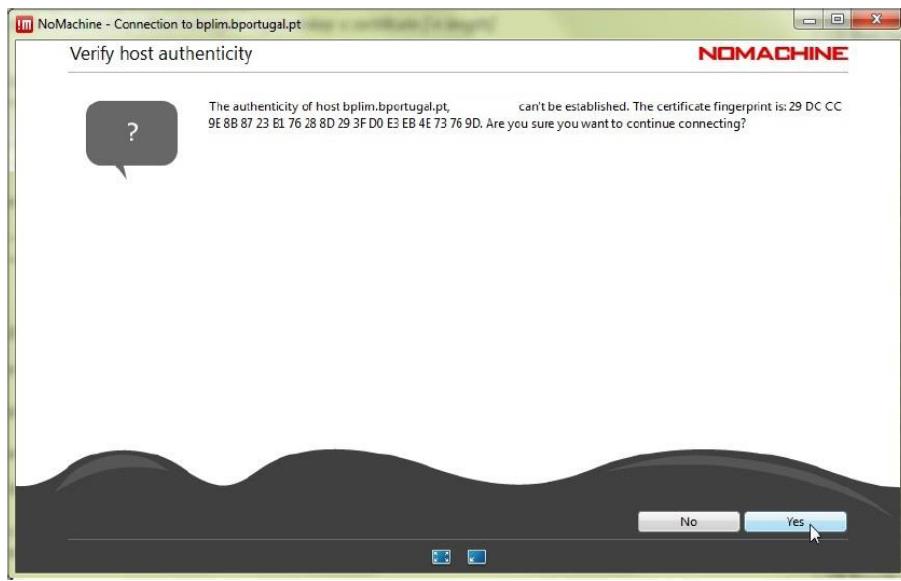
Step 5.7: Once the entry for bplim.bportugal.pt has been created, connect:



Step 5.8: Before the first effective connection it may be necessary to accept the certificate from bplim.bportugal.pt

The Investigator should verify that the "fingerprint" (verification code) is:

29 DC CC 9E 8B 87 23 B1 76 28 8D 29 3F D0 E3 EB 4E 73 76 9D



Step 5.9: Connect with the UserID (case sensitive) and password provided by Banco de Portugal:



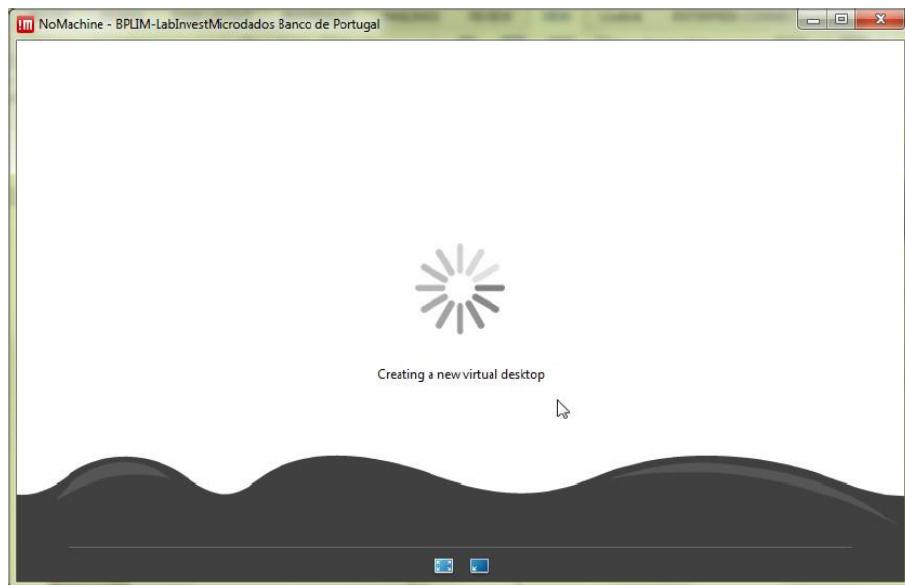
Step 5.10: After the first successful login, it is necessary to change the password, which must comply with the Password Policy defined above.

If the new password does not comply with the Password Policy, the original password provided by the Banco de Portugal will be re-requested. See Appendix 3 for details.

The NoMachine client does not tell you why the new password was not accepted – it is the responsibility of the user to verify that the new password is in compliance.

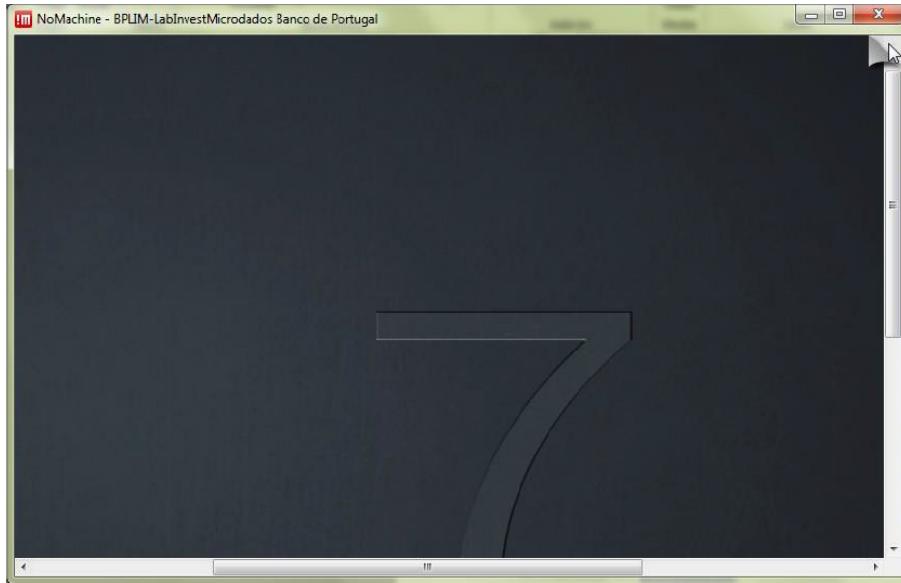


Step 5.11: Upon login success the following screens should appear



Once logged in and with access to a KDE session, click on the upper right corner of the KDE desktop, as shown below, to access the menu and then expand the screen as exemplified for greater ease of use.

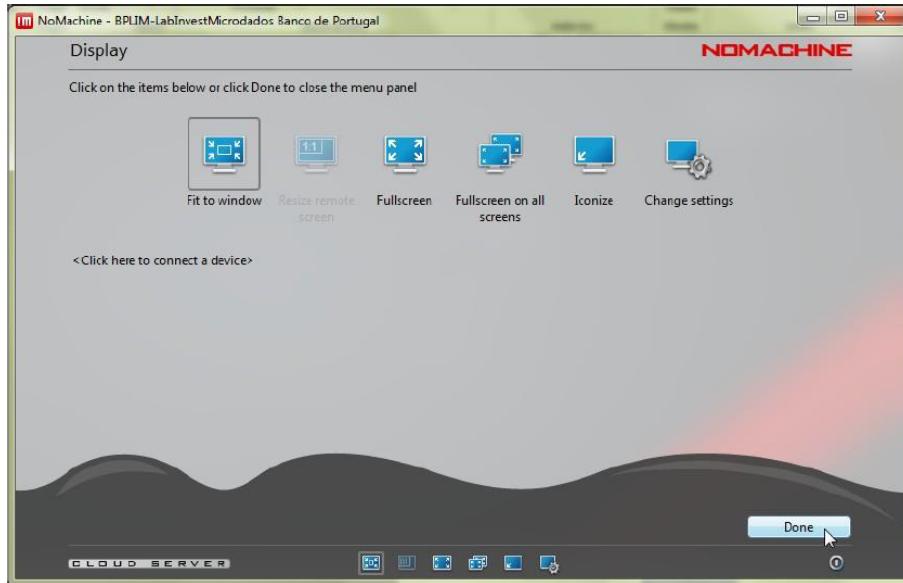
Step 5.12: You should see the following screen.



Step 5.13: Click ‘Display’



Step 5.14: Click ‘Fit to window’ and click ‘Done’



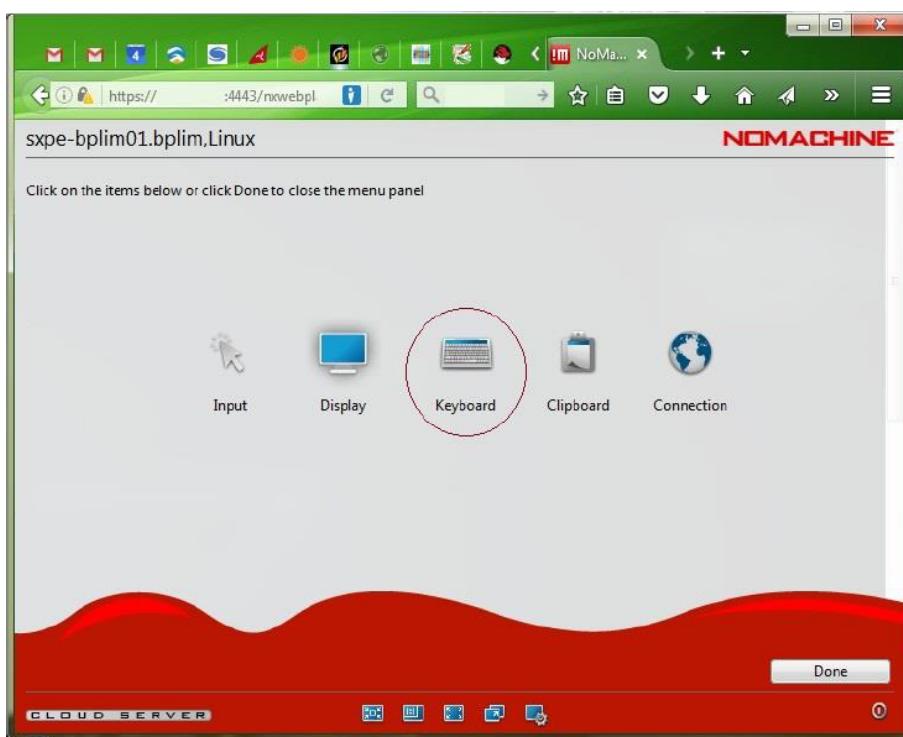
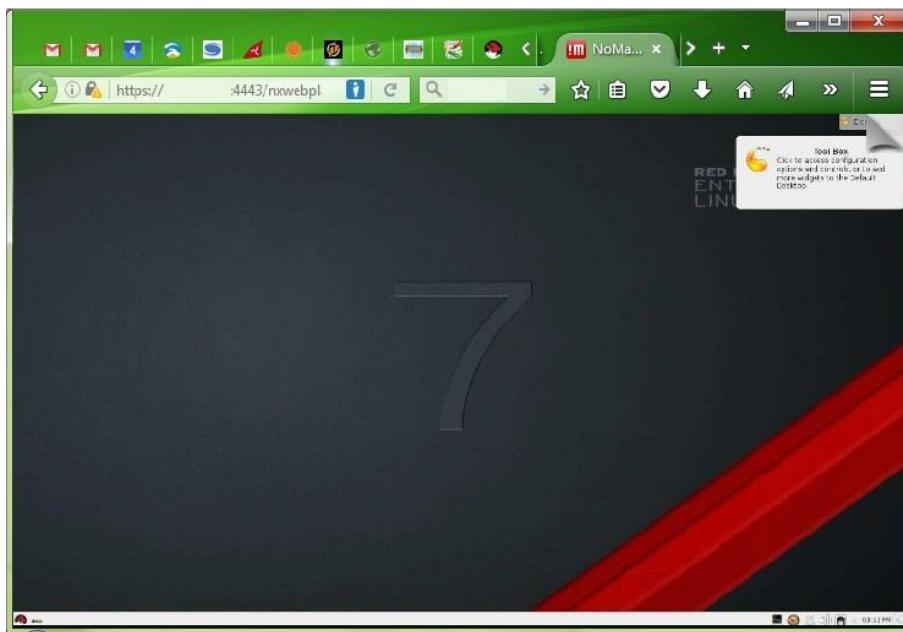
7.15 Appendix 5 – Browser access

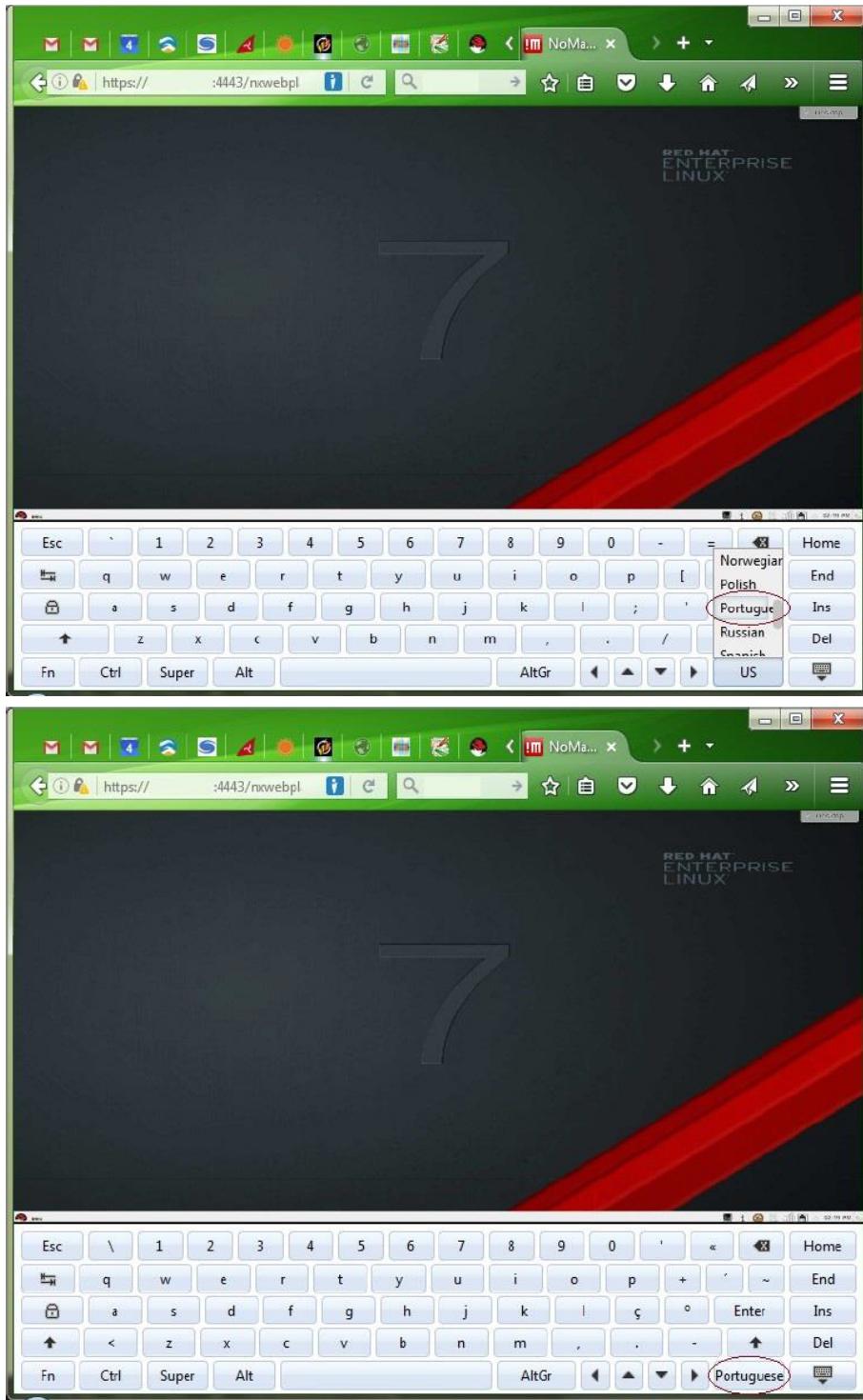
Use a browser (recommended Chrome, Firefox, Opera or Safari) and go to <https://bplim.bportugal.pt:4443>

Configuring browser access

To a large extent the configuration of the access via browser is similar to the configuration through the client NoMachine. However, the features and performance are lower than the “NoMachine client access”.

In case you are using a Portuguese Keyboard, note that the keyboard has to be set to Portuguese, as shown below, and even then some characters may have to be specified on the virtual keyboard (depending on the browser used). Please confirm the configuration of characters on your keyboard.



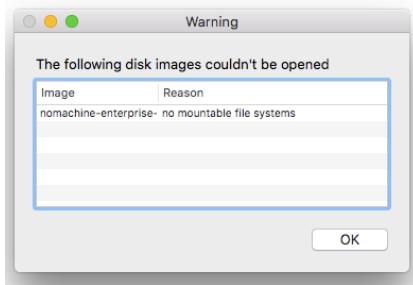


7.16 Appendix 6 – Frequently Asked Questions

1. After the login in “<https://webfa.bportugal.pt>” I am not able to download NoMachine’s setup file

It may occur that a firewall is preventing the download. We have verified such problem in some Universities and Governmental services. Please try the download outside the firewall

2. Mac users are not able to install NoMachine, receiving the following message



Please check if your Mac OSX is updated. Temporary solution: download NoMachine Enterprise Client from the official website, and run the installation file:

<https://www.nomachine.com/download-enterprise/#NoMachine-Enterprise-Client>

3. NoMachine authentication failure

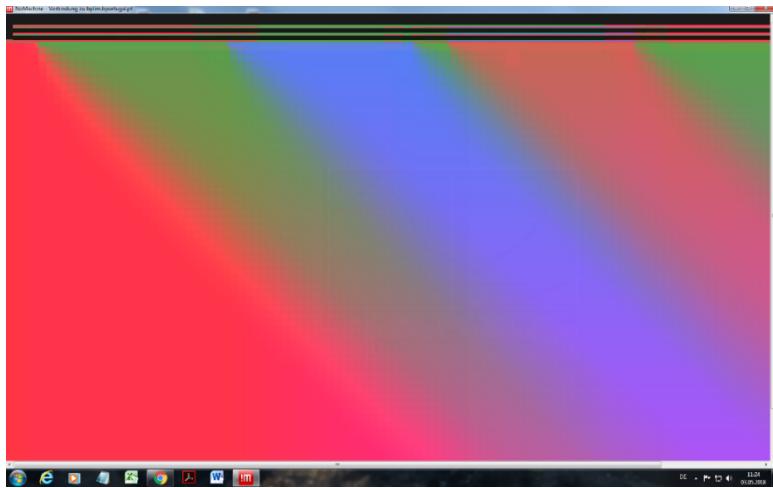


- We have observed that some users who change their password within “<https://webfa.bportugal.pt>” later are not able to login within NoMachine (error message shown in the image above). In some cases it occurs due to a different keyboard layout. For example, if you have a Portuguese keyboard, but the website assumed a US keyboard, and your password contains a symbol like ‘ç’, than you will get a “wrong password” message. Please check the keyboard layout that is active when you type the password. Alternatively, change the password after the first login with NoMachine. Use linux’s command ‘passwd’.
- Login fails and the system shows the message: ”Could not connect to the server. Error is 138: Connection is timed out” Please check if your network has a strict firewall; e.g., some researchers are not able to reach BPLIM’s server within their University network. Please check if in a different location, like at home, the connection works.

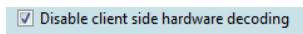
4. User pressed ‘Lock’ instead of ‘Log out’ and the unlock/password does not work:

- Check if the keyboard settings are correct (e.g., PT or UK)
- Close the ‘NoMachine’ connection and start a new one. Before the last step -before the ‘Login’- right click and choose ‘Logout’. Double-click for the new connection

5. “Cannot see the screen in NoMachine” (see image below)



5. OPTION A: move your mouse on top the upper right corner of NoMachine, you should see a “folded like sheet”, left-click your mouse, go to ‘Display’, ‘Change settings’, and click in ‘Disable client side hardware decoding’



6. OPTION B: Close the ‘NoMachine’ connection and start a new one. Before the last step -before the ‘Logout’- right click and choose ‘Logout’. Double-click for the new connection

Chapter 8

Central de Balanços (Central Balance Sheet Database) - Harmonized Panel Data

8.1 Data manual

Abstract: In 2010, the national accounting standards underwent some changes, and *Plano Oficial de Contabilidade* (POC, National Plan of Accounts) was replaced by *Sistema de Normalização Contabilística* (SNC, Accounting Normalization System). This had an impact on the base information in the Central Balance Sheet Database. This manual describes the panel data of *Central de Balanços* with harmonized variables over time available at BPLIM.

Chapter 9

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3. Population
4. Methodology
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 2. Economic and Financial Information File
 3. Employment Information File
 4. Trade Information per Market File
 5. Economic and Financial Indicators File
7. Basic Descriptive Statistics
8. Citation of this dataset
9. Auxiliary Files
10. References
11. Appendix

Chapter 10

General Information

Data Type: Longitudinal Data

Units of Analysis: Firms

Frequency: Annual

Start Date: 2006

Most recent year: 2016

Reference date: The data reports to the fiscal period declared by the firm. For most cases, the fiscal period coincides with the civil year. For those firms with fiscal period different than the civil year, the reference year is the one covering most of the days of the fiscal period.

Data Organization: Data is organized in four files:

- General Information on the firm (Cover Sheet),
- Economic and Financial Information (Balance Sheet and Profit and Loss Statements),
- Employment Information,
- Trade Information per Market.

In all files each row corresponds to one firm in a given year. All files are available in Stata format, version 15.

Version of the Data: The data made available by BPLIM corresponds to a data freeze at a certain time of the year.¹ Therefore, all files contain the information as reported in the extraction date. The most recent update of the data occurred in June 2018.

Languages Available: Variable labels and value labels are available in Portuguese and for most of the variables also in English.²

Related Datasets: This product is built based on the information from Central Balance Sheet Database.

¹For more information, see the manual on the Annual Data of Central Balance Sheet Database.

²To see the labels in English type the following command line in Stata: 'label language en'.

Chapter 11

Geographical Coverage

The data refers to firms located in the Mainland Portugal and Autonomous Regions – Azores and Madeira.

Chapter 12

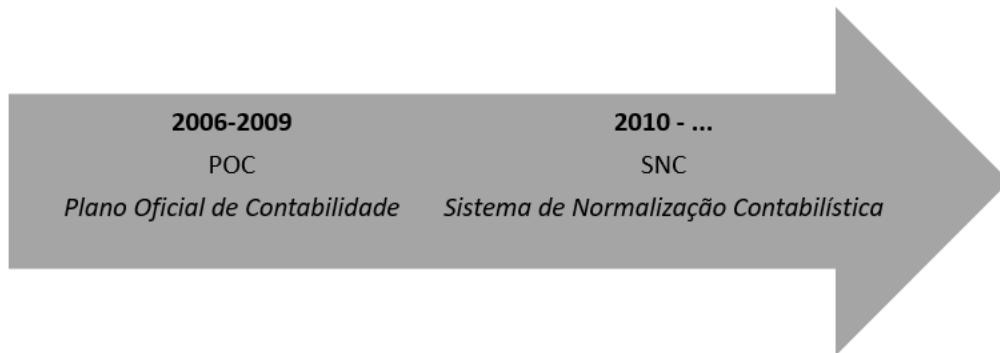
Population

The population of the panel dataset of *Central de Balanços* is the same as in the annual data, i.e. the population of all Portuguese non-financial corporations. For more information, please see the manual on *Central Balance Sheet Database - Annual Data*.

Chapter 13

Methodology

Central Balance Sheet Database provides economic and financial information on Portuguese non-financial corporations. The data is collected through *Informação Empresarial Simplificada* (IES) since 2006. In 2010, the national accounting standards underwent some changes, and *Plano Oficial de Contabilidade* (POC, National Plan of Accounts) was replaced by *Sistema de Normalização Contabilística* (SNC, Accounting Normalization System), which is closer to the International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS). This had an impact on the base information in the Central Balance Sheet Database (Banco de Portugal, 2014).



With the introduction of SNC, some accounting items were simply redenominated, some were aggregated or disaggregated, and others have no correspondence at all in the old accounting system. The Interest income (VF16150) and Net non-current assets held for sale (VF16035) are some examples of variables that are not reported in the financial statements written according to POC. Also, the asset items in POC accounting system were reported in gross terms and the amortizations and adjustments were reported separately for each item of the Balance Sheet. The financial statement written according to SNC does not have a separate item for depreciations as POC did and all variables are being reported in net terms. Finally, SNC introduced different reporting standards for firms with different sizes. After 2010, Micro-Entities and Small-sized Entities¹ were required to report a lower number of variables.

In this section, we describe the procedure to compute the harmonized variables available in the panel data of Central Balance Sheet Database. For a complete account on how each variable made available in the panel was computed, check the Description of Variables. All the calculations are done based on the annual files of

¹A Micro-Entity is defined as a firm that falls below in at least two of the following criteria at the balance sheet date: i) total assets equal to 500.000 euros; ii) net turnover equal to 500.000 euros; or iii) average number of employees equal to 5. Small-sized Entities are firms satisfying at least two of the following conditions: i) total assets below 500.000 euros; ii) total gross sales and other income lower than 1.000.000 euros or; iii) average number of employees less than 20. For more details please check the manual on *Central Balance Sheet Database - Annual Data*.

Central de Balanços. Therefore, the number of firms and the time period available are the same as in the annual files. The panel dataset is updated once per year around the month of June, at the same time as the annual data of *Central de Balanços*. The most recent extraction occurred in June 2018.

Some variables had to be aggregated to guarantee the comparability before and after 2010. Besides, the harmonized variables can only be calculated if their components are reported for all entities according to the reporting standards adopted by the firm. Therefore, the panel dataset contains a lower number of variables than those included in the annual files. Currently we make available approximately 60 harmonized variables on the Balance Sheet and Profit and Loss Statement. In the Employment Information file, we make available 18 variables and in the Trade Information per market file, 12 variables are available. All variables in the Cover Sheet File are available given that this type of information were not affected by the accounting standards.

Table 1 – Number of Harmonized Variables by type of information

Type of Information	Number of Harmonized Variables	Time Period
General Information (Cover sheet) File	23	2006-2016
Economic and Financial Information File	59	2006-2016
Employment Information File	18	2006-2016
Trade Information per Market File	12	2006-2016

The harmonization procedure is different for each file described in Table 1. While the information in the Cover sheet did not suffer any significant change with the introduction of SNC, the harmonization of the Economic and Financial Information is not a straightforward task. Therefore, we classified the harmonization methodology in three different categories:

- **Type 1:** covers the information unaffected by the change in the accounting system, which includes the Cover Sheet File. In this case, we simply append the annual datasets. The name of the variables remain the same since no change on the original data was undertaken.
- **Type 2:** covers the information that was directly affected by the change in the accounting system, i.e., the Economic and Financial Information and Trade Information per Market. It also includes the Employment Information because the variables are collected through different tables in IES and have different denominations under POC and SNC accounting systems. For this type of files, we rely on the definition of the variables under the current accounting system (SNC) and compute a formula using the POC items needed to ensure the comparability over time. For example, the procedure to compute the item Turnover (D001) is illustrated below:

ano	tina	planocont	VF03045	VF03046	VF03047	VF16132	D001
2006	500000000	POC	0
2007	500000000	POC	100	100	100	.	300
2008	500000000	POC	100	100	.	.	200
2009	500000000	POC	100	100	100	.	300
2010	500000000	SNC	.	.	.	100	100
2011	500000000	SNC	.	.	.	100	100
2012	500000000	SNC	.	.	.	100	100
2013	500000000	SNC	.	.	.	100	100
2014	500000000	SNC	.	.	.	100	100
2015	500000000	SNC	.	.	.	100	100
2016	500000000	SNC	.	.	.	100	100

The SNC variable - VF16132 (Turnover) - corresponds to the sum of the variables VF03045, VF03046 and

VF03047 in the POC accounting system. Therefore, a new harmonized variable is computed - D001 - using these auxiliary variables. After calculating the harmonized variable, the auxiliary variables are dropped and only the variables in bold are kept in the dataset. All missing values in the auxiliary variables are treated as zeros. The report of IES is mandatory for all firms that are required to send the financial statements to the Ministry of Finance. Therefore, all items have to be completed in a consistent manner so that the firm is able to submit the declaration. Therefore, the real value of a specific variable is assumed to be zero if it is not reported. The naming convention for Balance Sheet variables in the panel data is B(L)xxx, for Profit and Loss Statement is D(L)xxx, for Employment Information is Exxx and for Trade Information per Market is MGxxx.

After identifying all variables that can be potentially included in the panel dataset, we produced and analyzed technical reports on each variable. Namely, we did the following checks to ensure the compatibility of the panel variables over time:

1. analyze the evolution of the mean and medium values of the relative changes over time.² We try to identify whether there is any discontinuity in 2010, the first year in which most of the firms reported under *Sistema de Normalização Contabilística*.³
2. check whether abnormal relative changes (relative changes above 100%) are found more often in the transition to the new accounting system.
3. decomposition of the yearly variation of the total value of each variable due to the expansion and contraction of incumbents and the entry and exit of firms.
4. regression of each variable on time dummies to detect any structural change in the variable after 2010.

The link to the report on each variable is available in the section Description of Variables. The harmonization procedure tries to ensure the compatibility of the variable over time as much as possible. However, as one can see in the variable reports, some harmonized variables show a clear discontinuity in 2010.

We also produce a report checking whether the sum of disaggregated variables corresponds to the aggregated variables.

- **Type 3:** covers the Economic and Financial Indicators files containing information affected by the change in the accounting system. The information on this file is calculated using the variables available in the Economic and Financial Information File. We provide a Stata ado file to compute all the economic and financial indicators that are possible to harmonize over time given the information available in the panel dataset. By adopting this procedure, the size of the dataset is minimized. All indicators variables calculated by this ado are denominated Rxxx.

²The relative changes are defined as the difference between the value of the variable observed in year t minus the value observed in the previous year. Relative changes are computed with respect to the average of year t and t-1 and are measured in percentage.

³In 2010 some declarations were reported according to *Plano Oficial de Contas*. This situation occurs mostly for declarations sent in the cessation period and before or after the firms adopts a special fiscal period - a fiscal period different from calendar year.

Chapter 14

Description of Files

Similarly to the annual data files, the panel data of *Central de Balanços* is organized in four files. Each file provides a different type of information, namely:

Type of Information	File Name
A. General Information (Cover sheet)	CB_A_FRM_PanelyyYYeeee_ROSTO_V01.dta
B. Economic and Financial Information	CB_A_FRM_PanelyyYYeeee_CONTAS_V01.dta
C. Employment Information	CB_A_FRM_PanelyyYYeeee_PESSOAL_V01.dta
D. Trade Information per Market	CB_A_FRM_PanelyyYYeeee_MG_V01.dta

Where *A* stands for Anonymized and *yy* corresponds to the first year available and *YY* corresponds to most recent year available. *eee* reports the extraction date.

All files contain a unique firm identifier (*tina*) and a reference year (*ano*) allowing the matching of the different types of information by firm. Whenever possible, labels and value labels were attributed to all categorical variables. All data sets are anonymized.

Chapter 15

Description of Variables

15.1 A. General Information File (Cover Sheet)

The information reported in this file was not affected by the change in the accounting system. Therefore, the panel dataset includes all the variables available in the annual data files.

15.1.1 A1. Identifiers

Firm identifier (*tina*) – Unique identifier that enables tracking the legal entity firm over time. *tina* is the anonymized tax identification number. The first digit of the tax identification number contains information on the type of corporation and legal form. Therefore, this first digit is preserved in *tina*.

Reference year of the data (*ano*) – Reference year of the data.

15.1.2 A2. Other variables

All the variables available in the annual datasets are also available in the panel data of Central Balance Sheet Database. For a full description of these variables please check the manual on *Central Balance Sheet Database - Annual Data* or the auxiliary file var_rosto.html.

The variables reporting the accounting system (*planocont*) and the accounting standards (*regime*) under which the firm is reporting information are kept in the panel dataset. These variables do not have any interpretation given that all the economic and financial variables included in the panel dataset are harmonized over time. They are kept in the dataset because they may be useful in case one wants to calculate additional variables not provided by BPLIM.

15.2 B. Economic and Financial Information File

This file provides a set of balance sheet and profit and loss statement variables harmonized over time. For a full account of the SNC items included in the definition of the harmonized variable see the auxiliary file contas_snc_items.html.

15.2.1 B1. Identifiers

Firm identifier (*tina*) – Unique identifier that enables tracking the legal entity firm over time. *tina* is the anonymized tax identification number.

Reference year of the data (*ano*) – Reference year of the data.

15.2.2 B2. Balance Sheet Variables

15.2.3 Assets

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
B001	Total Assets (QS)	Total non-current assets; Total current assets	VF15991	Formula in POC	Report - B001
B004	> Total non-current assets (QS)	Fixed tangible assets and intangible assets; Financial investments; Remaining non-current assets	VF15994	Formula in POC	Report - B004
B005	> > Fixed tangible assets and intangible assets	Intangible assets (including Goodwill); Land and buildings; Basic equipment; Other fixed assets; Payments on account of fixed assets	VF15995	Formula in POC	Report - B005
B012	> > > Fixed tangible assets	Land and buildings; Basic equipment; Other fixed assets; Payments on account of fixed assets ¹	VF16002	Formula in POC	Report - B012

¹With the introduction of SNC some components that were previously classified as fixed tangible assets were reallocated to intangible assets to accommodate international standards. An example is highway concessions which were considered as tangible assets in POC and were reclassified as intangible assets in SNC.

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
B025	> > Financial investments	Investments in subsidiary and associated companies; Financial investments (excepting investments in subsidiary and associated companies)	VF16015	Formula in POC	Report - B025
B158	> > Non-current assets - Remaining non-current assets	Shareholders / partners; Deferred tax assets	VF18510	Formula in POC	Report - B158
B029	> Total Current assets (QS)	Inventories and biological assets; Customers; Remaining current assets; Cash and bank deposits; Non-current assets held for sale ²	VF16019	Formula in POC	Report - B029
B032	> > Current assets - Inventories and biological assets	Raw and subsidiary materials and consumables; Advances from customers; Inventories (excepting Raw and subsidiary materials and consumables)	VF16022	Formula in POC	Report - B032
B041	> > Current assets - Customers		VF16031	Formula in POC	Report - B041
B049	> > Current assets - Cash and bank deposits		VF16039	Formula in POC	Report - B049
B159	> > Current assets - Remaining current assets	Current assets - State and other public entities; Other current assets; Shareholders; Deferred expense	VF18511	Formula in POC	Report - B159

²This variable has no match in *Plano Oficial de Contas*.

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
B042	> > Current assets - State and other public entities		VF16032	Formula in POC	Report - B042

15.2.4 Equity

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
B060	Equity and Liabilities (QS)	Equity; Liabilities	VF16050	Formula in POC	Report - B060
B061	> Equity (QS)	Paid-up capital; Other equity instruments; Reserves and retained earnings; Other items of equity; Net income; Interim dividends	VF16051	Formula in POC	Report - B061
BL005	> > Legal reserves		VF13024	Formula in POC	Report - BL005
BL007	> > Retained earnings		VF13026	Formula in POC	Report - BL007
B074	> > Interim dividends		VF16064	Formula in POC	Report - B074
B143	> > Subscribed capital		VF16425	Formula in POC	Report - B143

15.2.5 Liabilities

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
B080	> Liabilities (QS)	Non-current liabilities; Current liabilities	VF16070	Formula in POC	Report - B080
B081	> > Non-current liabilities	Obtained funding; Post-employment benefits; Remaining non-current liabilities	VF16071	Formula in POC	Report - B081
B085	> > > Non-current liabilities - Obtained funding		VF16075	Formula in POC	Report - B085

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
B160	> > Non-current liabilities - Remaining non-current liabilities	Provisions; Other accounts payable; Deferred tax liabilities	VF18512	Formula in POC	Report - B160
B089	> > Current liabilities (QS)	Suppliers; Obtained funding; Remaining current liabilities	VF16079	Formula in POC	Report - B089
B093	> > > Current liabilities - Suppliers		VF16083	Formula in POC	Report - B093
B161	> > > Current liabilities - Remaining current liabilities	State and other public sector institutions; Other current liabilities; Deferred income	VF18513	Formula in POC	Report - B161
B094	> > > > Current liabilities - State and other public entities		VF16084	Formula in POC	Report - B094

15.2.6 B3. Profit and Loss Statement Variables

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
D021	Total income	Turnover; Remaining income	VF16152	Formula in POC	Report - D021
D001	> Turnover	Sales; Services	VF16132	Formula in POC	Report - D001
D002	> > Sales	Sales of good and products	VF16133	Formula in POC	Report - D002
DL017	> > Services		VF15599	Formula in POC	Report - DL017
D111	> Remaining Income	Operating subsidies; Variation in production; Capitalized production; Other incomes; Obtained interest and similar income ³	VF18514	Formula in POC	Report - D111
D005	> > Operating subsidies		VF16136	Formula in POC	Report - D005

³Obtained interest and similar income has to be subtracted to Remaining Income to make it compatible with the POC formula.

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
D006	> > Variation in production		VF16137	Formula in POC	Report - D006
D007	> > Capitalized production		VF16138	Formula in POC	Report - D007
DL043	Supplementary income		VF15650	Formula in POC	Report - DL043
D013	Other incomes - Income from financial assets		VF16144	Formula in POC	Report - D013
D062	Total Expenses (QS)	Costs of goods sold and material consumed; Supplies and external services; Employee expenses; Remaining expenses; Expenses/reversals of depreciations and amortizations; Interest expenses; Income tax	VF16193	Formula in POC	Report - D062
D025	> Costs of goods sold and material consumed		VF16156	Formula in POC	Report - D025
D026	> Supplies and external services		VF16157	Formula in POC	Report - D026
D029	> Employee expenses	Salaries; Social security expenses; Other employee expenses	VF16160	Formula in POC	Report - D029
D030	> > Salaries	Salaries of Corporate Bodies; Salaries of employees	VF16161	Formula in POC	Report - D030
DL011	> > Salaries of corporate bodies		VF15555	Formula in POC	Report - DL011
DL012	> > Salaries of employees		VF15557	Formula in POC	Report - DL012

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
DL045	> > Employee expenses - Other, except salaries	Social security expenses; Insurance schemes for accidents at work and occupational diseases; Expenses with social actions; Post-employment benefits; Indemnities; Other employee expenses	VF15554 - VF16161	Formula in POC	Report - DL045
DL013	> > > Social security expenses		VF15565	Formula in POC	Report - DL013
DL014	> > > Insurance schemes for accidents at work and occupational diseases		VF15566	Formula in POC	Report - DL014
D108	> Remaining expenses	Impairment (losses/reversals) and changes (gains/losses) in fair value; Provisions (increases/decreases); Other expenses	VF16572	Formula in POC	Report - D108
D041	> Expenses/reversals of depreciations and amortizations		VF16172	Formula in POC	Report - D041
D053	> Interest expenses		VF16184	Formula in POC	Report - D053
D060	> Income tax		VF16191	Formula in POC	Report - D060
D112	Impairment losses, changes in fair value and other expenses and losses in fin. invest. and fin. instrum.	Impairment (losses/reversals) and changes (gains/losses) in fair value in financial instruments and investments; Other expenses - expenses in financial investments and other financing expenses	VF18515	Formula in POC	Report - D112

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
D082	Operating net income	(Turnover; Remaining income (excepting Obtained interest and similar income) [^8; Impairment losses, changes in fair value and other expenses and losses in fin. invest. and fin. instrum.) - (Income from financial assets; Costs of goods sold and material consumed, Supplies and external services, Employee expenses and Remaining expenses)	VF16213	Formula in POC	Report - D082
D084	Earnings before Interest, Taxes, Depreciation and Amortization - EBITDA	(Turnover; Remaining income (excepting Obtained interest and similar income) ⁴⁾ - (Costs of goods sold and material consumed; Supplies and external services; Employee expenses; Remaining expenses)	VF16215	Formula in POC	Report - D084

⁴Obtained interest and similar income has to be subtracted to Remaining Income to make it compatible with the POC formula.

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
D085	Earning before Interest and Tax - EBIT	(Turnover; Remaining income (excepting Obtained interest and similar income) ⁵) - (Costs of goods sold and material consumed; Supplies and external services; Employee expenses; Remaining expenses; Expenses/reversals of depreciations and amortizations)	VF16216	Formula in POC	Report - D085

⁵Obtained interest and similar income has to be subtracted to Remaining Income to make it compatible with the POC formula.

Variable	Variable description	Definition	SNC Variable	Formula in POC	Variable Report
D086	Earnings before Tax - EBT	(Turnover; Operating subsidies; Variation in production; Capitalized production; Other income; Interest, dividends and other similar income) - (Costs of goods sold and material consumed; Supplies and external services; Employee expenses; Impairment, provisions, Losses/reversals of depreciations and amortizations; Other expenses; Financial expenses and losses) ⁶	VF16217	Formula in POC	Report - D086
D087	Net income	Total Income - Total Expenses ⁷	VF16218	Formula in POC	Report - D087
DL002	Other expenses - Cash discounts granted		VF15843	Formula in POC	Report - DL002
DL005	Other expenses - Other - Donations		VF15859	Formula in POC	Report - DL005
DL047	Indirect taxes		VF15841 + VF15842	Formula in POC	Report - DL047

15.3 C. Employment Information File

This file contains information on the number of employees and number of hours worked. Although the change in the accounting system did not have a direct impact on the report of this information, the denomination of the variables is different under both accounting regimes. Also, some variables are no longer required after 2010, such as the number of paid apprentices and home workers. The number of employees by gender only

⁶In SNC, some components of EBT are different from the ones used to compute EBIT.

⁷This variable is not computed using the total income and total expenses as given by D021 and D062, respectively. This formula corresponds to the difference between D020 - Total income and D061 - Total expenses.

started being reported after 2010. These variables are reported on Tables Q05-0507-Nota7 in the forms written according to POC and Q05A-05291-A in the forms written according to SNC.

15.3.1 C1. Identifiers

Firm identifier (*tina*) – Unique identifier that enables tracking the legal entity firm over time. *tina* is the anonymized tax identification number.

Reference year of the data (*ano*) – Reference year of the data.

15.3.2 C2. Number of employees

Variable	Variable description	SNC Variable	Formula in POC	Variable Report
E001	Number of (paid and unpaid) employees	VF15532	VF03319	Report - E001
E002	Number of paid employees	VF15534	VF03321	Report - E002
E003	Number of unpaid employees	VF15536	VF04902	Report - E003
E004	Number of (paid and unpaid) full-time employees	VF15538	VF03320	Report - E004
E005	Number of paid full-time employees	VF15540	VF04903	Report - E005
E006	Number of (paid and unpaid) part-time employees	VF15542	VF04904	Report - E006
E007	Number of paid part-time employees	VF15544	VF03324	Report - E007
E008	Number of employees allocated to research and development	VF15550	VF03326	Report - E008
E009	Service providers	VF15551	VF03325	Report - E009
E010	Temporary Agency Employment	VF15553	VF03327	Report - E010

15.3.3 C3. Number of hours of work

Variable	Variable description	SNC Variable	Formula in POC	Variable Report
E011	Number of hours worked by paid and unpaid employees	VF15533	VF03328	Report - E011
E012	Number of hours worked by paid employees	VF15535	VF03330	Report - E012
E013	Number of hours worked by unpaid employees	VF15537	VF04905	Report - E013
E014	Number of hours worked by paid and unpaid full-time employees	VF15539	VF03329	Report - E014

Variable	Variable description	SNC Variable	Formula in POC	Variable Report
E015	Number of hours worked by paid full-time employees	VF15541	VF04906	Report - E015
E016	Number of hours worked by paid and unpaid part-time employees	VF15543	VF04907	Report - E016
E017	Number of hours worked by paid part-time employees	VF15545	VF03331	Report - E017
E018	Number of hours worked by service providers	VF15552	VF03332	Report - E018

15.4 D. Trade information per market file

According to the forms written according to POC and respective filling instructions (Q0544-Nota44), some variables are reported in net terms. These variables were reported in a different table and have new denominations in the new accounting system (Q05-A-05301-A). However, there is a direct correspondence between the POC and SNC variables.

15.4.1 D1. Identifiers

Firm identifier (*tina*) – Unique identifier that enables tracking the legal entity firm over time. *tina* is the anonymized tax identification number.

Reference year of the data (*ano*) – Reference year of the data.

15.4.2 D2. Variables available

Variable	Variable description	SNC Variable	Formula in POC	Variable Report
MG001	Total Sales - Internal Market	VF15619	VF03949	Report - MG001
MG002	Total Services - Internal Market	VF15623	VF03950	Report - MG002
MG003	Total Purchases - Internal Market	VF15627	VF03951	Report - MG003
MG004	Total Sales - EU-Market	VF15620	VF03953	Report - MG004
MG005	Total Services - EU-Market	VF15624	VF03954	Report - MG005
MG006	Total Purchases - EU-Market	VF15628	VF03955	Report - MG006
MG007	Total Sales - Extra EU-Market	VF15621	VF03957	Report - MG007
MG008	Total Services - Extra EU-Market	VF15625	VF03958	Report - MG008
MG009	Total Purchases - Extra EU-Market	VF15629	VF03959	Report - MG009
MG010	Total Sales	VF15622	VF03961	Report - MG010
MG011	Total Services	VF15626	VF05195	Report - MG011
MG012	Total Purchases	VF15630	VF03962	Report - MG012

15.5 E. Economic and Financial indicators

The Economic and Financial Indicators are calculated based on the information available in the Economic and Financial Information file. For an overview of the formulas used to compute these variables check the

auxiliary file indicadores_formula.html. A Stata ado file (cbhp_addindic.ado) is provided by BPLIM upon request to create the variables listed below. These variables follow the naming convention Rxxx.

Variable Name	Variable Description
R001	Current ratio (%)
R002	Quick ratio (%)
R003	Capital ratio (%) (QS)
R006	Assets to equity ratio (%)
R007	Solvency ratio (%) QS
R009	Non-current assets coverage ratio (%)
R023	Financial Cost Effect (%)
R034	Return on sales (%)
R036	Return on assets (%)
R040	EBITDA over Turnover (%)
R041	Degree of combined leverage
R050	Asset turnover (times) - QS
R056	Coefficient Fixed non-financial assets over employee expenses
R150	Asset turnover ratio (%)
R152	Profit or loss of the year before taxes (EBT) / Equity (%)
R155	Profit or loss of the year before taxes (EBT) / Net turnover (%)
R156	Equity / Total assets (%)
R157	Trade payables / Total assets (%)
R158	Total income / Net turnover (%)
R159	Total expenses / Net turnover (%)
R160	Financial fixed assets / Total assets (%)
R161	Trade receivables / Total assets (%)

Chapter 16

Basic Descriptive Statistics

Table 1- Firm flows (as of June 2018 extraction)

```
use "S:\data\Projects\CB\Jun2018\CB_Painel\Output\Dados\Empresas\Panel\CB_A_FRM_JUN18_ROST00616_V01.dta  
panelstat tina ano, gaps pattern demog
```


Chapter 17

Citation of this dataset

Banco de Portugal (2018), Central Balance-Sheet Database: Harmonized Panel Data. Extraction: June 2018. Microdata Research Laboratory (BPLIM) Dataset.

Chapter 18

Auxiliary Files

For summary statistics, a codebook and description of each dataset please check the following auxiliary files:

File	Summary Statistics	Codebook	Dataset description
Summary of all variables (Portuguese and English labels)	variables_pt_en.html		
General Information File	stat_Rosto.html	cdbk_Rosto.html	dscr_Rosto.html
Economic and Financial Information File	stat_Contas.html	cdbk_Contas.html	dscr_Contas.html
Employment Information File	stat_Pessoal.html	cdbk_Pessoal.html	dscr_Pessoal.html
Trade Information per Market File	stat_MG.html	cdbk_MG.html	dscr_MG.html

18.1 References

Banco de Portugal (2014). Quadros do Setor e Quadros da Empresa e do Setor- Notas Metodológicas Série Longa 1995-2013. Estudos da Central de Balanços. Lisboa.

Chapter 19

Appendix

19.1 Balance Sheet Variables

19.2 B001 - Formula in POC

Total Assets

Variable name	Variable description	Coefficient
B004	Total non-current assets (QS)	1
B029	Total current assets (QS)	1

return

19.3 B004 - Formula in POC

Total non-current assets (QS)

Variable name	Variable description	Coefficient
B005	Fixed tangible assets and intangible assets	1
B025	Financial investments	1
B158	Non-current assets - Remaining non-current assets	1

return

19.4 B005 - Formula in POC

Fixed Tangible Assets and Intangible Assets

Variable name	Variable description	Item in IES	Coefficient
VF03088	Intangible assets	Q04-A0207-3-soma	1
VF03117	Tangible fixed assets	Q04-A0218-3-soma	1
VF03587	Investment in properties	Q05-0510-Nota10-A1489-9-soma	1
VF03642	Amortizations and adjustments - Financial investments - Investment in properties	Q05-0510-Nota10-A1506-4-soma	-1

return

19.5 B012 - Formula in POC

Fixed Tangible Assets

Variable name	Variable description	Item in IES	Coefficient
VF03117	Tangible fixed assets	Q04-A0218-3-soma	1
VF03587	Investment in properties	Q05-0510-Nota10-A1489-9-soma	1
VF03642	Amortizations and adjustments - Financial investments - Investment in properties	Q05-0510-Nota10-A1506-4-soma	-1

return

19.6 B025 - Formula in POC

Financial Investments

Variable name	Variable description	Item in IES	Coefficient
VF03140	Financial investments	Q04-A0227-3-soma	1
VF03587	Investment in properties	Q05-0510-Nota10-A1489-9-soma	-1
VF03642	Amortizations and adjustments - Financial investments - Investment in properties	Q05-0510-Nota10-A1506-4-soma	1

return

19.7 B029 - Formula in POC

Total current assets

Variable name	Variable description	Coefficient
B032	Current assets - Inventories and biological assets	1
B041	Current assets - Customers	1
B159	Current assets - Remaining current assets	1
B049	Current assets - Cash and bank deposits	1

return

19.8 B032 - Formula in POC

Current Assets - Inventories and Biological Assets

Variable name	Variable description	Item in IES	Coefficient
VF03159	Current assets - Inventories	Q04-A0234-3-soma	1

return

19.9 B041 - Formula in POC

Current Assets - Customers

Variable name	Variable description	Item in IES	Coefficient
VF03162	Assets - Medium and long term debt - Customers (current account)	Q04-A0235-3	1
VF03165	Assets - Medium and long term debt - Customers - Notes receivable	Q04-A0236-3	1
VF03168	Assets - Medium and long term debt - Customers - Doubtful debtors	Q04-A0237-3	1
VF03194	Assets - Short term debt - Customers (current account)	Q04-A0247-3	1
VF03197	Assets - Short term debt - Customers - Notes receivable	Q04-A0248-3	1
VF03200	Assets - Short term debt - Customers - Doubtful debtors	Q04-A0249-3	1

Variable name	Variable description	Item in IES	Coefficient
VF03289	Liabilities - Medium and long term debt - Advances from customers	Q04-A0308-1	-1
VF03307	Liabilities - Short term debt - Advances from customers	Q04-A0326-1	-1

return

19.10 B042 - Formula in POC

Current assets - State and other public entities

Variable name	Variable description	Item in IES	Coefficient
VF03182	Assets - Medium and long term debt - State and other public entities (Net Assets)	Q04-A0243-3	1
VF03214	Assets - Short term debt - State and other public entities (Net Assets)	Q04-A0255-3	1

return

19.11 B049 - Formula in POC

Current Assets - Cash and Bank Deposits

Variable name	Variable description	Item in IES	Coefficient
VF05131	Assets - Cash and bank deposits	Q04-A0268-3-soma	1

return

19.12 B060 - Formula in POC

Equity and Liabilities

Variable name	Variable description	Coefficient
B061	Equity (QS)	1
B080	Liabilities (QS)	1

return

19.13 B061 - Formula in POC

Equity

Variable name	Variable description	Item in IES	Coefficient
VF03258	Equity - Capital	Q04-A0277-1	1
VF03188	Assets - Medium and long term debt - Subscribed capital	Q04-A0245-3	-1
VF03220	Assets - Short term debt - Subscribed capital	Q04-A0257-3	-1
VF03261	Equity - Supplementary capital	Q04-A0280-1	1
VF03265	Equity - Reserves- Legal reserves	Q04-A0284-1	1
VF03266	Equity - Reserves- Statutory reserves	Q04-A0285-1	1
VF03267	Equity - Reserves- Contractual reserves	Q04-A0286-1	1
VF03268	Equity - Reserves- Other reserves	Q04-A0287-1	1
VF03269	Equity - Retained earnings	Q04-A0288-1	1
VF03259	Equity - Own shares- Nominal value	Q04-A0278-1	1
VF03260	Equity - Own shares- Discounts and Premiums	Q04-A0279-1	1
VF03262	Equity - Share Premiums	Q04-A0281-1	1
VF03263	Equity - Adjustments to investments in group and associated companies	Q04-A0282-1	1
VF03264	Equity - Revaluation reserves	Q04-A0283-1	1
VF04061	Split of account Accruals and deferrals - Investment subsidies	Q06-A0666	1
VF03270	Equity - Net income	Q04-A0289-1	1
VF03271	Equity - Interim dividends	Q04-A0290-1	1

return

19.14 B074 - Formula in POC

Interim dividends

Variable name	Variable description	Item in IES	Coefficient
VF03271	Equity - Interim dividends	Q04-A0290-1	1

return

19.15 B080 - Formula in POC

Liabilities - Total

Variable name	Variable description	Coefficient
B081	Non-current liabilities	1
B089	Current liabilities (QS)	1

return

19.16 B081 - Formula in POC

Non-current liabilities- Total

Variable name	Variable description	Coefficient
B085	Non-current liabilities - Obtained funding	1
B160	Non-current liabilities - Remaining non-current liabilities	1
VF03273	Provisions- Provisions for pension liabilities (Q04-A0292-1)	1

return

19.17 B085 - Formula in POC

Non-current liabilities - Obtained Funding

Variable name	Variable description	Item in IES	Coefficient
VF03277	Liabilities - Medium and long term debt - Bond loans: convertible	Q04-A0296-1	1
VF03278	Liabilities - Medium and long term debt - Bond loans: non-convertible	Q04-A0297-1	1

Variable name	Variable description	Item in IES	Coefficient
VF03279	Liabilities - Medium and long term debt - Participating loans	Q04-A0298-1	1
VF03280	Liabilities - Medium and long term debt - Loans from credit institutions	Q04-A0299-1	1
VF03286	Liabilities - Medium and long term debt - Group companies	Q04-A0305-1	1
VF03287	Liabilities - Medium and long term debt - Affiliate and participating companies	Q04-A0306-1	1
VF03288	Liabilities - Medium and long term debt - Other shareholders (partners)	Q04-A0307-1	1
VF03290	Liabilities - Medium and long term debt - Other loans	Q04-A0309-1	1

return

19.18 B089 - Formula in POC

Current liabilities - Total

Variable name	Variable description	Coefficient
B093	Current liabilities - Suppliers	1
B161	Current liabilities - Remaining current liabilities	1
VF03295	Liabilities - Short term debt - Bond loans: convertible (Q04-A0314-1)	1
VF03296	Liabilities - Short term debt - Bond loans: non-convertible (Q04-A0315-1)	1
VF03297	Liabilities - Short term debt - Participating loans (Q04-A0316-1)	1
VF03298	Liabilities- Short term debt - Loans from credit institutions (Q04-A0317-1)	1
VF03304	Liabilities - Short term debt - Group companies (Q04-A0323-1)	1
VF03305	Liabilities - Short term debt - Affiliate and participating companies (Q04-A0324-1)	1
VF03306	Liabilities - Short term debt - Other shareholders (partners) (Q04-A0325-1)	1
VF03308	Liabilities - Short term debt - Other loans (Q04-A0327-1)	1

return

19.19 B093 - Formula in POC

Current liabilities - Suppliers

Variable name	Variable description	Item in IES	Coefficient
VF05125	Assets - Medium and long term debt - Advances to suppliers	Q04-A0241-3	-1
VF05127	Assets - Short term debt - Advances to suppliers	Q04-A0253-3	-1
VF03282	Liabilities - Medium and long term debt - Suppliers (current account)	Q04-A0301-1	1
VF03283	Liabilities - Medium and long term debt - Suppliers - Trade accounts payable: unchecked invoices	Q04-A0302-1	1
VF03284	Liabilities - Medium and long term debt - Suppliers - Notes payable	Q04-A0303-1	1
VF03300	Liabilities - Short term debt - Suppliers (current account)	Q04-A0319-1	1
VF03301	Liabilities - Short term debt - Suppliers - Trade accounts payable: unchecked invoices	Q04-A0320-1	1
VF03302	Liabilities - Short term debt - Suppliers - Notes payable	Q04-A0321-1	1

return

19.20 B094 - Formula in POC

Current liabilities - State and other public entities

Variable name	Variable description	Item in IES	Coefficient
VF03310	Liabilities - Short term debt - State and other public sector institutions	Q04-A0329-1	1
VF03292	Liabilities - Medium and long term debt - State and other public sector institutions	Q04-A0311-1	1

return

19.21 B143 - Formula in POC

Subscribed capital

Variable name	Variable description	Item in IES	Coefficient
VF03258	Equity - Capital	Q04-A0277-1	1

return

19.22 B158 - Formula in POC

Non-current assets - Remaining non-current assets

Variable name	Variable description	Item in IES	Coefficient
VF03171	Assets - Medium and long term debt - Group companies	Q04-A0238-3	1
VF03174	Assets - Medium and long term debt - Affiliate and participating companies	Q04-A0239-3	1
VF03177	Assets - Medium and long term debt - Other shareholders (partners)	Q04-A0240-3	1
VF05135	Accruals and deferrals - Deferred tax assets	Q04-A0272-3	1

return

19.23 B159 - Formula in POC

Current assets - Remaining current assets

Variable name	Variable description	Item in IES	Coefficient
VF03182	Current assets - Medium and long term debt - State and other public sector institutions	Q04-A0243-3	1
VF03214	Assets - Short term debt - State and other public sector institutions	Q04-A0255-3	1
VF05126	Assets - Medium and long term debt - Advances to fixed assets suppliers	Q04-A0242-3	1

Variable name	Variable description	Item in IES	Coefficient
VF03185	Assets - Medium and long term debt - Other debtors	Q04-A0244-3	1
VF05128	Assets - Short term debt - Advances to fixed assets suppliers	Q04-A0254-3	1
VF03217	Assets - Short term debt - Other debtors	Q04-A0256-3	1
VF03244	Assets - negotiable securities	Q04-A0265-3-soma	1
VF05132	Accruals and deferrals - Accrued profits	Q04-A0269-3	1
VF05134	Accruals and Deferrals- Deferred daily adjustments in futures contracts	Q04-A0271-3	1
VF03203	Assets - Short term debt - Group companies	Q04-A0250-3	1
VF03206	Assets - Short term debt - Affiliate and participating companies	Q04-A0251-3	1
VF03209	Assets - Short term debt - Other shareholders (partners)	Q04-A0252-3	1
VF05133	Accruals and deferrals - Deferred costs	Q04-A0270-3	1

return

19.24 B160 - Formula in POC

Non-current liabilities - Remaining non-current liabilities

Variable name	Variable description	Item in IES	Coefficient
VF03273	Liabilities - Provisions- Provisions for pension liabilities	Q04-A0292-1	-1
VF03276	Liabilities - Provisions - Total	Q04-A0295-1-soma	1
VF03285	Liabilities - Medium and long term debt - Fixed assets suppliers - notes payable	Q04-A0304-1	1
VF03291	Liabilities - Medium and long term debt - Fixed assets suppliers (current account)	Q04-A0310-1	1
VF03293	Liabilities - Medium and long term debt - Other creditors	Q04-A0312-1	1
VF03315	Accruals and deferrals - Deferred tax liabilities	Q04-A0334-1	1

return

19.25 B161 - Formula in POC

Current liabilities - Remaining current liabilities

Variable name	Variable description	Item in IES	Coefficient
VF03292	Liabilities - Medium and long term debt - State and other public sector institutions	Q04-A0311-1	1
VF03310	Liabilities - Short term debt - State and other public sector institutions	Q04-A0329-1	1
VF03303	Liabilities - Short term debt - Fixed assets suppliers - Notes payable	Q04-A0322-1	1
VF03309	Liabilities - Short term debt - Fixed assets suppliers (current account)	Q04-A0328-1	1
VF03311	Liabilities - Short term debt - Other creditors	Q04-A0330-1	1
VF03313	Accruals and deferrals - Accrued costs	Q04-A0332-1	1
VF03281	Liabilities - Medium and long term debt - Advances on sales	Q04-A0300-1	1
VF03299	Liabilities - Short Term advances on sales	Q04-A0318-1	1
VF03314	Accruals and deferrals - Deferred profits	Q04-A0333-1	1
VF04061	Accruals and deferrals - Investment subsidies	Q06-A0666	-1

return

19.26 BL005 - Formula in POC

Legal reserves

Variable name	Variable description	Item in IES	Coefficient
VF03265	Equity - Reserves - Legal Reserves	Q04-A0284-1	1

return

19.27 BL007 - Formula in POC

Retained earnings

Variable name	Variable description	Item in IES	Coefficient
VF03269	Equity - Retained earnings	Q04-A0288-1	1

return

19.28 Profit and Loss Statement Variables

19.29 D001 - Formula in POC

Turnover

Variable name	Variable description	Item in IES	Coefficient
VF03045	Sales - goods	Q03-A0124-1	1
VF03046	Sales - products	Q03-A0125-1	1
VF03047	Services	Q03-A0126-1	1

return

19.30 D002 - Formula in POC

Sales

Variable name	Variable description	Item in IES	Coefficient
VF05908	Sales	[Q03-A0124-1]+[Q03-A0125-1]	1

return

19.31 D005 - Formula in POC

Operating subsidies

Variable name	Variable description	Item in IES	Coefficient
VF03052	Operating subsidies	Q03-A0130-1	1

return

19.32 D006 - Formula in POC

Variation in production

Variable name	Variable description	Item in IES	Coefficient
VF03049	Variation in production	Q03-A0127-2	1

return

19.33 D007 - Formula in POC

Capitalized production

Variable name	Variable description	Item in IES	Coefficient
VF03050	Capitalized production	Q03-A0128-2	1

return

19.34 D013 - Formula in POC

Other incomes - Income from financial assets

Variable name	Variable description	Item in IES	Coefficient
VF03972	Revenues - Interests income	Q05-0545-Nota45-A1439-1	1
VF05206	Revenues - Gains in group and associated companies	Q05-0545-Nota45-A1440-1	1
VF05207	Revenues - Income from equity holdings	Q05-0545-Nota45-A1442-1	1
VF03977	Revenues - Reversals and other financial revenues	Q05-0545-Nota45-A1446-1	1
VF04054	Extraordinary revenues – Disposal of financial investments	Q06-A0659	1

return

19.35 D021 - Formula in POC

Total income

Variable name	Variable description	Coefficient
D001	Turnover	1
D111	Remaining Income	1

return

19.36 D025 - Formula in POC

Costs of goods sold and material consumed

Variable name	Variable description	Item in IES	Coefficient
VF03019	Cost of goods sold and material consumed - Total	Q03-A0102-2	1

return

19.37 D026 - Formula in POC

Supplies and external services

Variable name	Variable description	Item in IES	Coefficient
VF03020	Supplies and external services	Q03-A0103-2	1

return

19.38 D029 - Formula in POC

Employee expenses

Variable name	Variable description	Item in IES	Coefficient
VF03021	Employee expenses - Salaries	Q03-A0104-1	1
VF03022	Employee expenses - Pensions	Q03-A0105-1	1
VF03023	Employee expenses - Others	Q03-A0106-1	1

return

19.39 D030 - Formula in POC

Employee expenses - Salaries

Variable name	Variable description	Item in IES	Coefficient
VF03021	Salaries	Q03-A0104-1	1

return

19.40 D041 - Formula in POC

Expenses/reversals of depreciations and amortizations

Variable name	Variable description	Item in IES	Coefficient
VF03025	Depreciation of intangible and tangible fixed assets	Q03-A0107-1	1
VF03965	Costs - Amortizations of investment in properties	Q05-0545-Nota45-A1431-1	1

return

19.41 D053 - Formula in POC

Interest expenses

Variable name	Variable description	Item in IES	Coefficient
VF03964	Interests paid	Q05-0545-Nota45-A1429-1	1

return

19.42 D060 - Formula in POC

Income tax

Variable name	Variable description	Item in IES	Coefficient
VF03041	Income tax	Q03-A0120-2	1

return

19.43 D062 - Formula in POC

Total expenses (QS)

Variable name	Variable description	Coefficient
D025	Costs of goods sold and material consumed	1
D026	Supplies and external services	1
D029	Employee expenses	1
D108	Remaining expenses	1
D041	Expenses/reversals of depreciations and amortizations	1
D053	Interest expenses (QS)	1
D060	Income tax	1

return

19.44 D082 - Formula in POC

Operating net income

Variable name	Variable description	Coefficient
D001	Turnover	1
D111	Remaining income	1
D112	(Remaining expenses) of which: Impairment losses, changes in fair value and other expenses and losses in fin. invest. and fin. instrum.	1
D013	(Remaining income) of which: income from financial assets	-1
D025	Costs of goods sold and material consumed	-1

Variable name	Variable description	Coefficient
D026	Supplies and external services	-1
D029	Employee expenses	-1
D108	Remaining expenses	-1

return

19.45 D084 - Formula in POC

Earnings before interest, taxes, depreciation and amortization - EBITDA

Variable name	Variable description	Coefficient
D001	Turnover	1
D111	Remaining Income	1
D025	Costs of goods sold and material consumed	-1
D026	Supplies and external services	-1
D029	Employee expenses	-1
D108	Remaining expenses	-1

return

19.46 D085 - Formula in POC

Earnings before interest and taxes - EBIT

Variable name	Variable description	Coefficient
D084	Earnings before Interest, Taxes, Depreciation and Amortization - EBITDA	1
D041	Expenses/reversals of depreciations and amortizations	-1

return

19.47 D086 - Formula in POC

Earnings before taxes - EBT

Variable name	Variable description	Coefficient
D085	Earnings before Interest and Tax - EBIT	1
D053	Interest expenses	-1

return

19.48 D087 - Formula in POC

Net income

Variable name	Variable description	Coefficient
D086	Earnings before Tax - EBT	1
D060	Income tax	-1

return

19.49 D108 - Formula in POC

Remaining expenses

Variable name	Variable description	Item in IES	Coefficient
VF03026	Adjustments	Q03-A0108-1	1
VF03034	Depreciation and adjustments of financial fixed assets	Q03-A0114-1	1
VF03055	Reversals of amortizations and adjustments	Q03-A0132-1	-1
VF03965	Costs - Amortizations of investment in properties	Q05-0545-Nota45-A1431-1	-1
VF03027	Provisions	Q03-A0109-1	1
VF03993	Revenues - Provisions decreases	Q05-0546-Nota46-A1463-1	-1
VF03029	Taxes	Q03-A0110-1	1
VF03030	Other operating costs	Q03-A0111-1	1
VF03033	Losses in group and associated companies	Q03-A0113-2	1
VF03035	Interest expenses - relative to group companies	Q03-A0115-1	1
VF03036	Interest expenses - others	Q03-A0116-1	1
VF03039	Extraordinary costs	Q03-A0118-2	1
VF03964	Interests paid	Q05-0545-Nota45-A1429-1	-1

return

19.50 D111 - Formula in POC

Remaining income

Variable name	Variable description	Item in IES	Coefficient
VF03052	Operating subsidies	Q03-A0130-1	1
VF03049	Variation in production	Q03-A0127-2	1
VF03050	Capitalized production	Q03-A0128-2	1
VF03051	Supplementary income	Q03-A0129-1	1
VF03053	Operating revenues	Q03-A0131-1	1
VF03057	Gains in group and associated companies	Q03-A0134-1	1
VF03058	Income from equity holdings	Q03-A0135-1	1
VF03059	Income from negotiable securities and other financial applications - relative to group companies	Q03-A0136-1	1
VF03060	Income from negotiable securities and other financial applications	Q03-A0137-1	1
VF03061	Interest Income and similar earnings- relative to group companies	Q03-A0138-1	1
VF03062	Interest Income and similar earnings - Others	Q03-A0139-1	1
VF03065	Extraordinary revenues	Q03-A0141-2	1
VF03993	Revenues - Decreases in Provisions	Q05-0546-Nota46-A1463-1	-1

return

19.51 D112 - Formula in POC

(Remaining expenses) of which: Impairment losses, changes in fair value and other expenses and losses in financial investments and financial instruments

Variable name	Variable description	Item in IES	Coefficient
VF05204	Costs - Losses in group and associated companies	Q05-0545-Nota45-A1430-1	1
VF03970	Costs - Other financial costs	Q05-0545-Nota45-A1436-1	1
VF04046	Extraordinary costs – Disposal of financial investments	Q06-A0651	1
VF03966	Costs - Adjustments of financial fixed assets	Q05-0545-Nota45-A1432-1	1

return

19.52 DL002 - Formula in POC

Other expenses - Cash discounts granted

Variable name	Variable description	Item in IES	Coefficient
VF03968	Costs - Cash discounts granted	Q05-0545-Nota45-A1434-1	1

return

19.53 DL005 - Formula in POC

Other expenses - Other - Donations

Variable name	Variable description	Item in IES	Coefficient
VF03978	Costs - Donations	Q05-0546-Nota46-A1448-1	1

return

19.54 DL011 - Formula in POC

Salaries of corporate bodies

Variable name	Variable description	Item in IES	Coefficient
VF04036	Employee expenses - Salaries of corporate bodies	Q06-A0641	1

return

19.55 DL012 - Formula in POC

Employee Salaries

Variable name	Variable description	Item in IES	Coefficient
VF04037	Employee expenses - Salaries of employees	Q06-A0642	1

return

19.56 DL013 - Formula in POC

Social security expenses

Variable name	Variable description	Item in IES	Coefficient
VF04040	Employee expenses - Social security expenses	Q06-A0645	1

return

19.57 DL014 - Formula in POC

Insurance schemes for accidents at work and occupational diseases

Variable name	Variable description	Item in IES	Coefficient
VF04041	Employee expenses - Insurance schemes for accidents at work and occupational diseases	Q06-A0646	1

return

19.58 DL017 - Formula in POC

Services

Variable name	Variable description	Item in IES	Coefficient
VF03047	Services	Q03-A0126-1	1

return

19.59 DL043 - Formula in POC

Supplementary income

Variable name	Variable description	Item in IES	Coefficient
VF03051	Supplementary income	Q03-A0129-1	1

return

19.60 DL045 - Formula in POC

Employee expenses - Other, except salaries

Variable name	Variable description	Item in IES	Coefficient
VF03022	Employee expenses - Pensions	Q03-A0105-1	1
VF03023	Employee expenses - Others	Q03-A0106-1	1

return

19.61 DL047 - Formula in POC

Indirect taxes

Variable name	Variable description	Item in IES	Coefficient
VF04032	Indirect Taxes	Q06-A0637	1

return

Footnotes

Chapter 20

References

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