



# **EXCEL ADD-IN USER MANUAL**

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## What's New

### October 2024:

DLL Version 6.3.4.7:

- New option: FX\_1st in date span currency conversion is applied before any other functions

### September 2024:

DLL Version 6.3.4.6:

- New functions added: SetNA(), HPF(), HPFC(), ABS(), LN() and TRDLN extended date spans

### March 2024:

DLL Version 6.3.4.3:

- New - Support for 8100 characters read from excel (used to be 242)
- Removed support for excel for versions before 2007

### April 2021:

DLL Version 6.3.2.0:

- New - 7 Day Daily series supported in Direct DLL

### October 2020:

DLL Version 6.3.0.7:

- New - 7 Day Daily series supported in Local DLL
- D5D7 and D7D5 added to Date Span to force 5 day or 7 day daily dates retrieved

# Ch 1 - Create DLX Worksheet

---

There are three main steps to create a DLX Worksheet:

|                              |           |
|------------------------------|-----------|
| <b>Export Codes to Excel</b> | <b>6</b>  |
| <b>Set up the Range</b>      | <b>9</b>  |
| Date Span                    | 10        |
| Types of Date Spans          | 16        |
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## Export Codes to Excel

Export codes to Excel from DLXVG3:

1. Enter Excel Mode in one of the following ways:

- If you have Excel open, go to **DLX** > **Find Data Series (DLXVG3)**



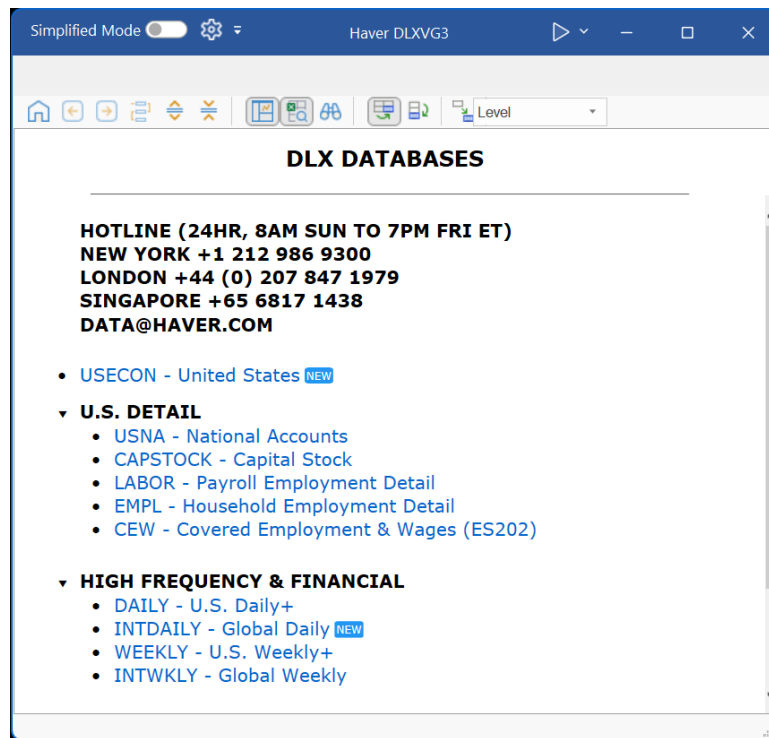
*If you are using the xla instead of the xlam, first go to **ADD-INS***

- If you have DLXVG3 open, click the Excel Mode icon  **Excel Mode** in the Home Ribbon, click the drop-down arrow and select **Excel Mode (DLXFIND)** or select the



Excel Mode  
(DLXFIND)

DLXFIND icon in the Automation Ribbon



2. Browse through the menus until you reach the page with the desired series.

3. (Optional) By default, notice that  is selected. This places codes across in a row which allows the data to be populated in columns. If you would like the codes to be placed in columns so the data will be populated in rows, do the following:

- Click  from the excel mode menu bar.

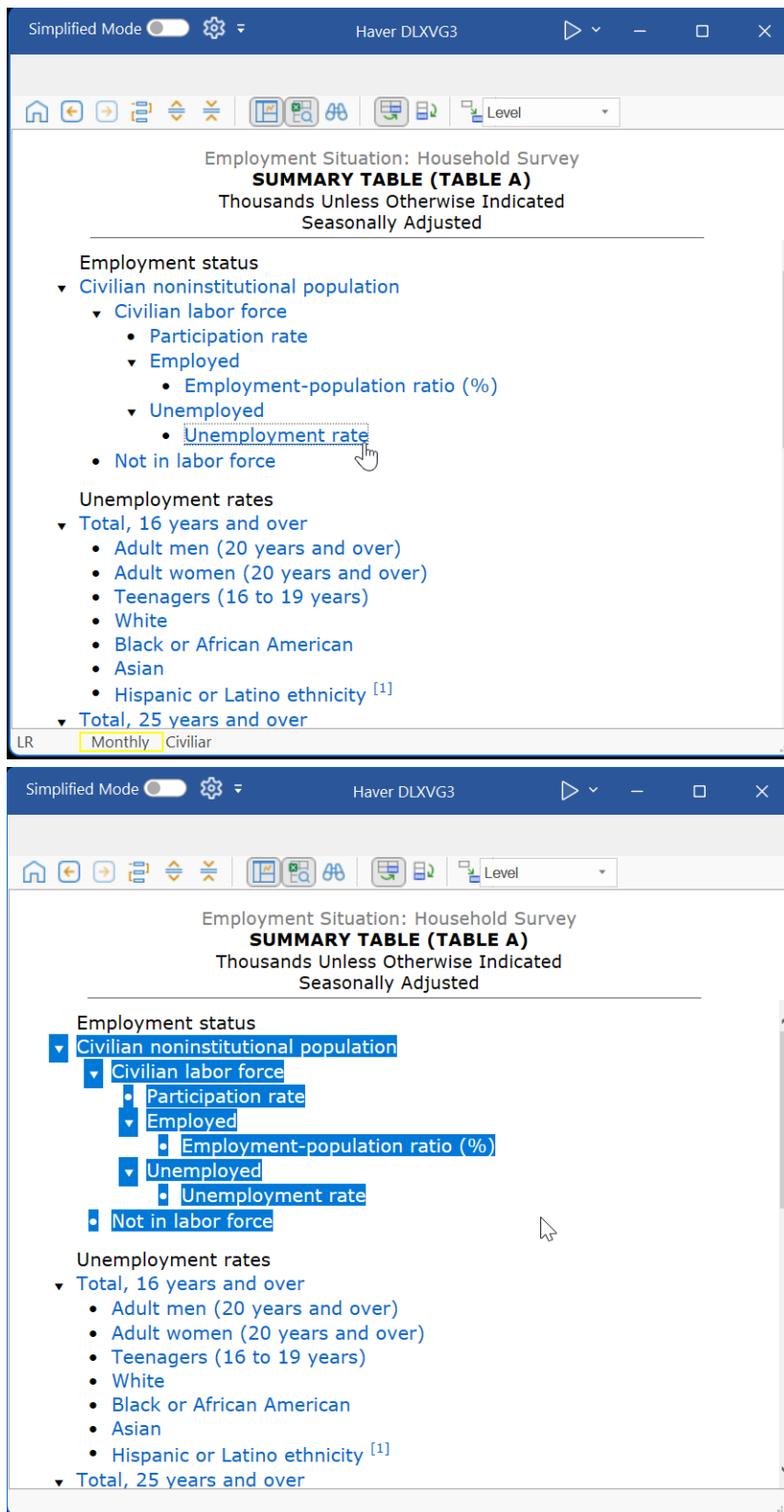


*Click  to insert an empty cell or **CTRL** + **S***

4. (Optional) To apply a function to a series, click on the drop-down arrow on the top right and select the function you wish to apply.



5. Click the series from the data directory to place the code into Excel. You can also import consecutive codes simultaneously by highlighting them as illustrated below:



 The status bar displays the frequency (highlighted in yellow) of the data which can be helpful when setting up your date span in the next step.



*To download the full table, right click in the menus > Select all > Click on one code and all the codes will be written in order to the spreadsheet*

## Set up the Range

To get started, open DLX Ranger by doing the following:

- Open Excel.
- Select **DLX** > **DLXRanger**



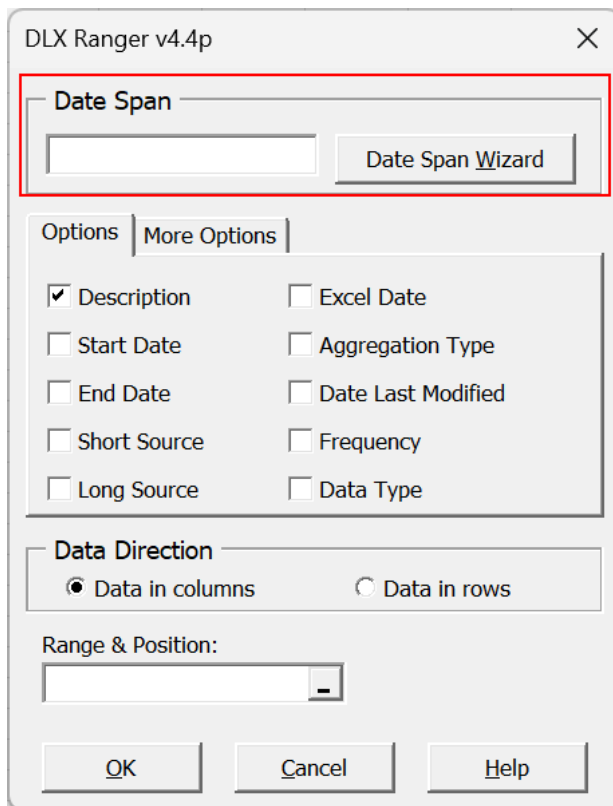
*If you are using the xla instead of the xlam, first go to **ADD-INS***

Set up the range using DLX Ranger:

|                                   |           |
|-----------------------------------|-----------|
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| <b>Parameters</b> .....           | <b>21</b> |
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| <b>Range &amp; Position</b> ..... | <b>26</b> |

## Date Span

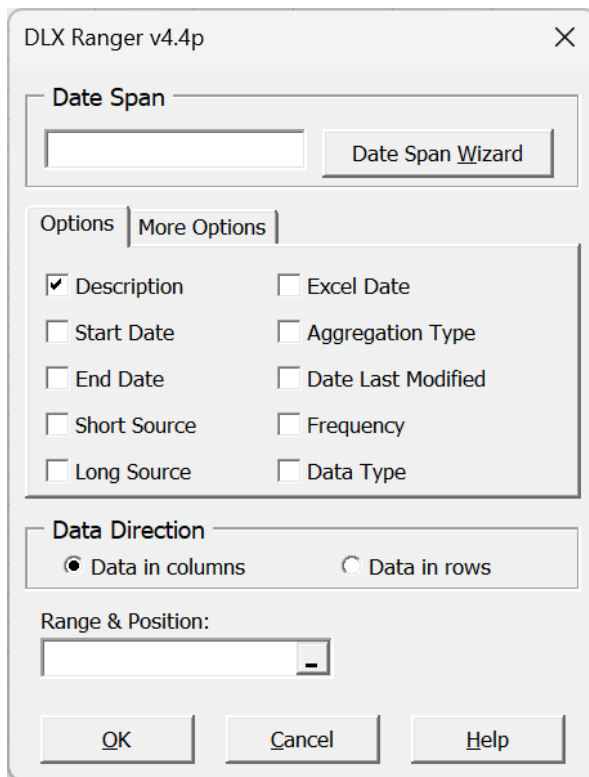
In Excel, a date span is used to set the data retrieval. Use the Date Span Wizard in the DLXRanger to create the date span, which consists of a start and end date.



## Create the Date Span

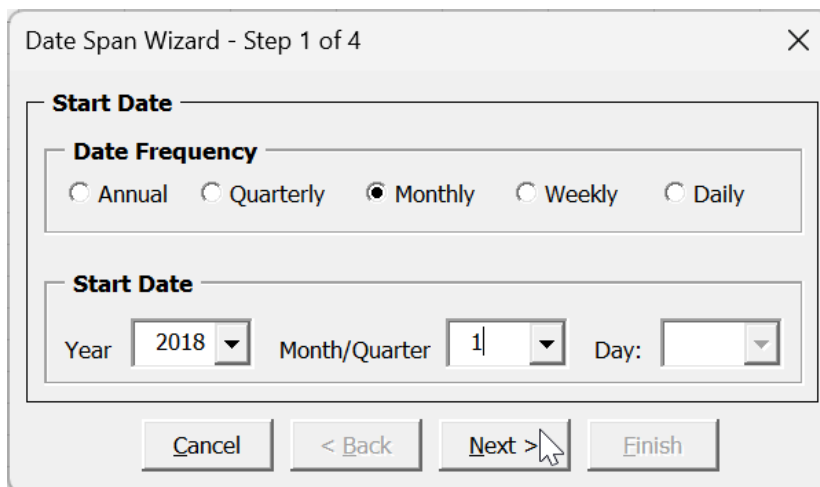
Follow these steps and example to create a date span using the Date Span Wizard:

1. Select Date Span Wizard:



The image shows the 'DLX Ranger v4.4p' dialog box with the 'Date Span' tab selected. It features a 'Date Span Wizard' button, a 'Range & Position' input field, and a 'Data Direction' section with radio buttons for 'Data in columns' (selected) and 'Data in rows'. Below these are 'Options' and 'More Options' tabs, with the 'Options' tab showing checkboxes for 'Description' (checked), 'Start Date', 'End Date', 'Short Source', 'Long Source', 'Excel Date', 'Aggregation Type', 'Date Last Modified', 'Frequency', and 'Data Type'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

2. Select the Date Frequency and Start Date:



The image shows the 'Date Span Wizard - Step 1 of 4' dialog box. It has a 'Start Date' section with a 'Date Frequency' group containing radio buttons for 'Annual', 'Quarterly', 'Monthly' (selected), 'Weekly', and 'Daily'. Below this is a 'Start Date' section with dropdown menus for 'Year' (set to 2018), 'Month/Quarter' (set to 1), and 'Day'. At the bottom are 'Cancel', '< Back', 'Next >', and 'Finish' buttons.



*The status bar in Excel Mode (DLX FIND) displays the frequency of the code(s).*

3. Select the End Date by first choosing a Date Type:

- If Dynamic, which allows the spreadsheet to be updated with current data in the future, select the Dynamic Format:

Date Span Wizard - Step 1 of 4

**End Date**

**Date Type**

☒ Dynamic ☐ Fixed

**Dynamic format**

☐ Last month ☒ This month ☐ End of data series

**Range Options**

Cancel < Back Next > Finish

- If Fixed, select the specific End Date:

Date Span Wizard - Step 1 of 4

**End Date**

**Date Type**

☐ Dynamic ☒ Fixed

**End Date**

Year: 2025 Month/Quarter: 2 Day:

**Range Options**

Cancel < Back Next > Finish

 See [Types of Date Spans](#) for more information

- (Optional) Select Range Options for additional options:

The screenshot shows the 'Date Span Wizard - Step 2 of 4' dialog box. The 'Range Options' section is highlighted with a red box. It contains two sub-sections: 'Data Options' and 'Date Order'. The 'Data Options' section includes checkboxes for 'Interpolate', 'Replace NA with' (with a dropdown), 'Remove NA rows/columns', 'Disaggregation' (with a dropdown), 'Magnitude' (with a dropdown), and 'FX' (with a dropdown). The 'Date Order' section includes radio buttons for 'Ascending' (selected) and 'Descending'. The 'End Date' section on the left has 'Dynamic' selected under 'Date Type' and 'This month' selected under 'Dynamic format'. The 'Next >' button is highlighted with a mouse cursor.

- Data Options includes options that handle observations that are not available and the currency conversion function:
  - Interpolate - estimates values for NAs
  - Replace NAs - substitutes values for NAs with any number/text you enter
  - Remove NAs - removes rows or columns with NAs (uses the first series in the retrieval as an anchor)
  - Disaggregation - displays series of different frequencies in the same range
  - Magnitude - displays all retrieved data in the specified magnitude; choose from 0, 3-26
  - FX - converts all series with a data type of LocCur or US\$ to the specified currency
- Date Order:
  - Ascending - begins the retrieval with the start date at the top
  - Descending - begins the retrieval with the latest date at the top

#### 4. Choose the Date Format:

The screenshot shows the 'Date Span Wizard - Step 3 of 4' dialog box. The 'Date Format' section is highlighted. It contains the text 'Please select the format you want for your dates in the spreadsheet.' and two radio button options: 'All numeric' and 'Alphabetic with separators' (selected). The 'Next >' button is highlighted with a mouse cursor.

## 5. Choose the Style:

- If All numeric was chosen, select the 2-digit or 4-digit year style:

The dialog box is titled "Date Span Wizard - Step 4 of 4". It has a close button (X) in the top right corner. The main area is labeled "Choose Style". Inside, there are two radio button options: "YY" (unselected) and "YYYY" (selected). At the bottom, there are four buttons: "Cancel", "< Back", "Next >", and "Finish" (with a mouse cursor icon).

- If Alphabetic was chosen, select the 2-digit or 4-digit year style followed by the format:

The dialog box is titled "Date Span Wizard - Step 4 of 4". It has a close button (X) in the top right corner. The main area is labeled "Choose Style". On the left, there are two radio button options: "YY" (unselected) and "YYYY" (selected). To the right of these, there is a list of date formats arranged in two columns. The first column contains "Jan/2018", "Jan-2018" (selected), "Jan.2018", "Jan\_2018", and "Jan:2018". The second column contains "2018/Jan", "2018-Jan", "2018.Jan", "2018\_Jan", and "2018:Jan". At the bottom, there are four buttons: "Cancel", "< Back", "Next >", and "Finish" (with a mouse cursor icon).

6. The date span created will appear in the date span window as shown below:

The image shows a dialog box titled "DLX Ranger v4.4p" with a close button (X) in the top right corner. The dialog is divided into several sections:

- Date Span:** Contains a text field with "Jan-2018 #M" and a button labeled "Date Span Wizard".
- Options:** A tabbed interface with "Options" and "More Options" tabs. The "Options" tab is active, showing a list of checkboxes:
  - ☒ Description
  - ☐ Start Date
  - ☐ End Date
  - ☐ Short Source
  - ☐ Long Source
  - ☐ Excel Date
  - ☐ Aggregation Type
  - ☐ Date Last Modified
  - ☐ Frequency
  - ☐ Data Type
- Data Direction:** Contains two radio buttons:
  - ☒ Data in columns
  - ☐ Data in rows
- Range & Position:** Contains a text field with a dropdown arrow.
- Buttons:** At the bottom, there are three buttons: "OK", "Cancel", and "Help".

## Types of Date Spans

There are two types of date spans: Dynamic and Fixed

### Dynamic

A Dynamic date span allows the spreadsheet to be updated with current data in the future. There are four different types of dynamic dates spans (the first three are available in the DLXRanger):

#### Last period (\*)

The asterisk (\*) operator retrieves data up to the previous period. This operator can be used in [rolling ranges](#).

#### Example

Dynamic date span of a monthly retrieval starting from January 2000 and ending with the previous month as shown in cell A1.

|     | A           | B                          | C                        |
|-----|-------------|----------------------------|--------------------------|
| 1   | Jan-2000 *M | LR@USECON                  | S025ELUR@G10             |
| 2   | .DESC       | Civilian Unemployment Rate | EA 20: Unemployment Rate |
| 291 | Jan-2024    | 3.7                        | 6.5                      |
| 292 | Feb-2024    | 3.9                        | 6.5                      |
| 293 | Mar-2024    | 3.9                        | 6.5                      |
| 294 | Apr-2024    | 3.9                        | 6.4                      |
| 295 | May-2024    | 4.0                        | 6.5                      |
| 296 | Jun-2024    | 4.1                        | 6.4                      |
| 297 | Jul-2024    | 4.2                        | 6.4                      |
| 298 | Aug-2024    | 4.2                        | 6.3                      |
| 299 | Sep-2024    | 4.1                        | 6.3                      |
| 300 | Oct-2024    | 4.1                        | 6.3                      |
| 301 | Nov-2024    | 4.2                        | 6.2                      |
| 302 | Dec-2024    | 4.1                        | 6.3                      |
| 303 | Jan-2025    | 4.0                        | #N/A                     |



The retrieval above was performed in February 2025.



No data was available for S025ELUR@G10 for Jan-2025 at the time of the retrieval.

## This period (#)

The hash (#) operator retrieves data up to the current period. This operator can be used in [rolling ranges](#).

### Example

Dynamic date span of a monthly retrieval starting from January 2000 and ending with the current period as shown in cell A1.

|     | A           | B                          | C                       |
|-----|-------------|----------------------------|-------------------------|
| 1   | Jan-2000 #M | LR@USECON                  | S025ELUR@G10            |
| 2   | .DESC       | Civilian Unemployment Rate | EA 20: Unemployment Rat |
| 291 | Jan-2024    | 3.7                        | 6.5                     |
| 292 | Feb-2024    | 3.9                        | 6.5                     |
| 293 | Mar-2024    | 3.9                        | 6.5                     |
| 294 | Apr-2024    | 3.9                        | 6.4                     |
| 295 | May-2024    | 4.0                        | 6.5                     |
| 296 | Jun-2024    | 4.1                        | 6.4                     |
| 297 | Jul-2024    | 4.2                        | 6.4                     |
| 298 | Aug-2024    | 4.2                        | 6.3                     |
| 299 | Sep-2024    | 4.1                        | 6.3                     |
| 300 | Oct-2024    | 4.1                        | 6.3                     |
| 301 | Nov-2024    | 4.2                        | 6.2                     |
| 302 | Dec-2024    | 4.1                        | 6.3                     |
| 303 | Jan-2025    | 4.0                        | #N/A                    |
| 304 | Feb-2025    | #N/A                       | #N/A                    |



*The retrieval above was performed in February 2025.*



*No data was available for LR@USECON for Feb-2025 or S025ELUR@G10 for Jan-2025 and Feb-2025 at the time of the retrieval*

## End of data series (!)

The exclamation mark (!) operator retrieves data through the end date for each individual series. This is useful when you want cells that follow to remain unchanged. For example, forecast series will not be overwritten with N/As. This operator cannot be used in [rolling ranges](#).

### Example

Dynamic date span of an annual retrieval starting from 2018 and ending with the last data available for the data series as shown in cell A1.

|    | A       | B                      | C                      | D                        |
|----|---------|------------------------|------------------------|--------------------------|
| 1  | 2018 !Y | UKGDP@FX4CASTS         | UKX1Y@FX4CASTS         | UKXLA@FX4CASTS           |
| 2  | .DESC   | United Kingdom: Real G | Spot Exchange Rate: Br | Exchange Rate: British F |
| 3  | 2018    | 1.4                    | 1.264                  | 1.310                    |
| 4  | 2019    | 1.6                    | 1.309                  | 1.292                    |
| 5  | 2020    | -11.0                  | 1.360                  | 1.335                    |
| 6  | 2021    | 7.6                    | 1.328                  | 1.348                    |
| 7  | 2022    | 4.0                    | 1.230                  | 1.283                    |
| 8  | 2023    | 0.4                    | 1.272                  | 1.253                    |
| 9  | 2024    | 0.8                    | 1.265                  | 1.268                    |
| 10 | 2025    | 1.2                    |                        | 1.267                    |
| 11 | 2026    | 1.4                    |                        | 1.277                    |
| 12 | 2027    |                        |                        | 1.288                    |
| 13 | 2028    |                        |                        | 1.294                    |
| 14 | 2029    |                        |                        | 1.282                    |



*The retrieval above was performed in February 2025.*

## End of data series (~)

The tilde (~) operator retrieves data through the end date for each individual series similar to the exclamation mark. A unique feature of the tilde operator is that it clears the range before the retrieval. This operator can be used in [rolling ranges](#).

### Example

Dynamic date span of an annual retrieval starting from 2008 and ending with the last data available as shown in cell A1.

|    | A       | B                      | C                      | D                        |
|----|---------|------------------------|------------------------|--------------------------|
| 1  | 2018 ~Y | UKGDP@FX4CASTS         | UKX1Y@FX4CASTS         | UKXLA@FX4CASTS           |
| 2  | .DESC   | United Kingdom: Real G | Spot Exchange Rate: Br | Exchange Rate: British P |
| 3  | 2018    | 1.4                    | 1.264                  | 1.310                    |
| 4  | 2019    | 1.6                    | 1.309                  | 1.292                    |
| 5  | 2020    | -11.0                  | 1.360                  | 1.335                    |
| 6  | 2021    | 7.6                    | 1.328                  | 1.348                    |
| 7  | 2022    | 4.0                    | 1.230                  | 1.283                    |
| 8  | 2023    | 0.4                    | 1.272                  | 1.253                    |
| 9  | 2024    | 0.8                    | 1.265                  | 1.268                    |
| 10 | 2025    | 1.2                    |                        | 1.267                    |
| 11 | 2026    | 1.4                    |                        | 1.277                    |
| 12 | 2027    |                        |                        | 1.288                    |
| 13 | 2028    |                        |                        | 1.294                    |
| 14 | 2029    |                        |                        | 1.282                    |



*The retrieval above was performed in February 2025.*

## Fixed

A Fixed date span specifies a start and end date that will not change in the future.

### Example

Fixed date span of a quarterly retrieval starting from Q1-2020 and ending in Q4-2030 as shown in cell A1.

|    | A               | B                |
|----|-----------------|------------------|
| 1  | Q1-2020 Q4-2030 | Q111HST@OEFQMACR |
| 33 | Q3-2027         | 373.3            |
| 34 | Q4-2027         | 380.0            |
| 35 | Q1-2028         | 385.0            |
| 36 | Q2-2028         | 390.0            |
| 37 | Q3-2028         | 395.0            |
| 38 | Q4-2028         | 393.0            |
| 39 | Q1-2029         | 390.0            |
| 40 | Q2-2029         | 388.0            |
| 41 | Q3-2029         | 386.0            |
| 42 | Q4-2029         | 384.0            |
| 43 | Q1-2030         | 382.0            |
| 44 | Q2-2030         | 380.0            |
| 45 | Q3-2030         | 376.8            |
| 46 | Q4-2030         | 373.5            |



*Setting a fixed end date will not bring in new data beyond the specified end date, but will incorporate revisions where applicable (by pressing CTRL+D/ Retrieve workbook)*

## Parameters

**Options** and **More Options** parameters are used to display information for each series in a retrieval.

DLX Ranger v4.4p

✕

Date Span

Date Span Wizard

Options

More Options

☒ Description

☐ Excel Date

☐ Start Date

☐ Aggregation Type

☐ End Date

☐ Date Last Modified

☐ Short Source

☐ Frequency

☐ Long Source

☐ Data Type

Data Direction

☒ Data in columns

☐ Data in rows

Range & Position:

-

OK

Cancel

Help

## Options

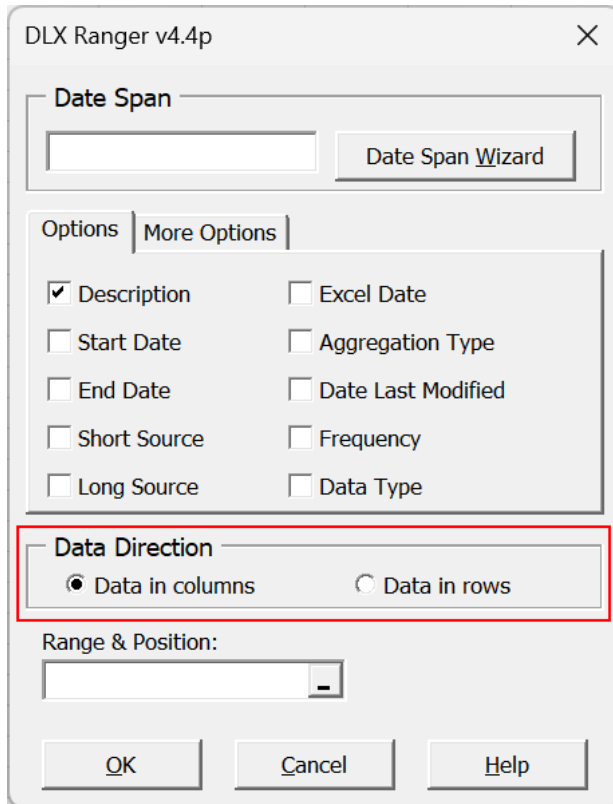
| Parameters                    | Description                                                                                                                                                                                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description<br>(.DESC)        | Description of the series.<br><i>Ex: The description of FFED@USECON is Federal Funds [effective] Rate (% p.a.).</i>                                                                                                                                                                                              |
| Start Date<br>(.T1)           | The first observation available for the series in the database.<br><i>Ex: The start date of FFED@USECON is Jul-1954.</i>                                                                                                                                                                                         |
| End Date<br>(.TN)             | The last observation available for the series in the database.<br><i>Ex: The end date of FFED@USECON is Jan-2025 (as of Feb-2025).</i>                                                                                                                                                                           |
| Short Source<br>(.SOURCE)     | Abbreviated version of the data source name for the series.<br><i>Ex: The short source of FFED@USECON is FRB.</i>                                                                                                                                                                                                |
| Long Source<br>(.LSOURCE)     | The full source name for the series.<br><i>Ex: The long source of FFED@USECON is Federal Reserve Board.</i>                                                                                                                                                                                                      |
| Excel Date Format<br>(.EXCEL) | Retrieves the Excel date format along with the Haver date format. By default, the date shown is for end of period, ".excel_last" but you can also use ".excel_first" if you want the start of period.<br><i>Highly recommended if you create Excel graphs.</i>                                                   |
| Aggregation Type<br>(.AGG)    | There are three different aggregation types assigned to most data series: average, sum or end of period. The aggregation type is undefined for annual series and not allowed for certain series where aggregating would produce incorrect results.<br><i>Ex: The aggregation type of FFED@USECON is average.</i> |
| Date Last Modified<br>(.DTLM) | The date and time when the series was last updated<br><i>Ex: FFED@USECON was last updated on Feb-03-2025 16:24 (as of Feb-2025).</i>                                                                                                                                                                             |
| Frequency<br>(.FRQ)           | There are five different frequency types for series: yearly, quarterly, monthly, weekly or daily<br><i>Ex: The frequency of FFED@USECON is monthly.</i>                                                                                                                                                          |
| Data Type<br>(.DATA_TYPE)     | The type of data of the series: %, index, ratio, units, US\$, LocCur, etc.).<br><i>Ex: The data type of FFED@USECON is %.</i>                                                                                                                                                                                    |

## Advanced Options

| Parameters                             | Description                                                                                                                                                                                                                                                                                    |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| # of Observations<br>(.NT)             | The number of observations currently available in the data series.<br><i>Ex: The # of observations of FFED@USECON is 847 (as of Feb-2025).</i>                                                                                                                                                 |
| Decimal Precision<br>(.DEC_PREC)       | The decimal precision of the data.<br><i>Ex: The decimal precision of FFED@USECON is 2.</i>                                                                                                                                                                                                    |
| Difference Type<br>(.DIFF_TYPE)        | The difference type is % calc allowed if growth rates can be calculated and % calc not allowed if they cannot. Percent series and series with negative numbers always have a difference type of 1 and the rest have 0.<br><i>Ex: The difference type of FFED@USECON is % calc not allowed.</i> |
| Magnitude<br>(.MAG)                    | The units the data are stored as (3 for thousands, 6 for millions, 9 for billions, etc.). Percent series have a magnitude of 0.<br><i>Ex: The magnitude of FFED@USECON is 0.</i>                                                                                                               |
| Update Group<br>(.GRP)                 | Each series is a member of an update group. The update group is used to control updates to assure that all data series are processed during an update.<br><i>Ex: The update group of FFED@USECON is F01.</i>                                                                                   |
| Update Group Description<br>(.GRPDESC) | The update group usually provides the name of the release, which contains the data series or a description of a subset of data on the release.<br><i>Ex: The update group description for FFED@USECON is Selected Interest Rates [FRB H. 15].</i>                                              |
| Geography<br>(.GEO)                    | The GEO code is a numeric identifier used to define the geographic area associated with the data series.<br><i>Ex: The geography of FFED@USECON is associated with the United States and has been assigned the ISO country code 111.</i>                                                       |
| Geography2<br>(.GEO2)                  | The GEO2 code is associated with the second country assigned to a series, if there is one. Exchange rates are associated with two countries.<br><i>Ex: In the case of FFED@USECON, GEO2 is not defined.</i>                                                                                    |

## Data Direction

Choose the direction of the data in columns or rows.



The image shows the 'DLX Ranger v4.4p' dialog box. It has a title bar with a close button (X). The 'Date Span' section includes a text input field and a 'Date Span Wizard' button. Below this are two tabs: 'Options' and 'More Options'. The 'Options' tab is active, showing a list of checkboxes: 'Description' (checked), 'Excel Date', 'Start Date', 'Aggregation Type', 'End Date', 'Date Last Modified', 'Short Source', 'Frequency', 'Long Source', and 'Data Type'. The 'Data Direction' section, highlighted with a red border, contains two radio buttons: 'Data in columns' (selected) and 'Data in rows'. Below this is a 'Range & Position' section with a text input field and a minus button. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

By default, data will be placed in columns, but you can choose the direction that codes are imported in [Excel Mode \(DLXFIND\)](#): 

## Data in Columns

Use this option when codes have been inserted across a row.

### Example

The codes are listed in rows so the data is retrieved in columns:

|    | A           | B                | C                      |
|----|-------------|------------------|------------------------|
| 1  | Jan-2024 #M | FFED@USECON      | LANAGRA@USECON         |
| 2  | .DESC       | Federal Funds [e | All Employees: Total M |
| 3  | Jan-2024    | 5.33             | 157049                 |
| 4  | Feb-2024    | 5.33             | 157271                 |
| 5  | Mar-2024    | 5.33             | 157517                 |
| 6  | Apr-2024    | 5.33             | 157635                 |
| 7  | May-2024    | 5.33             | 157828                 |
| 8  | Jun-2024    | 5.33             | 157915                 |
| 9  | Jul-2024    | 5.33             | 158003                 |
| 10 | Aug-2024    | 5.33             | 158074                 |
| 11 | Sep-2024    | 5.13             | 158314                 |
| 12 | Oct-2024    | 4.83             | 158358                 |
| 13 | Nov-2024    | 4.64             | 158619                 |
| 14 | Dec-2024    | 4.48             | 158926                 |
| 15 | Jan-2025    | 4.33             | 159069                 |
| 16 | Feb-2025    | #N/A             | #N/A                   |



*The retrieval above was performed in February 2025.*

## Data in Rows

Use this option when codes have been inserted down a column.

### Example

The codes are listed in columns so the data is retrieved in rows:

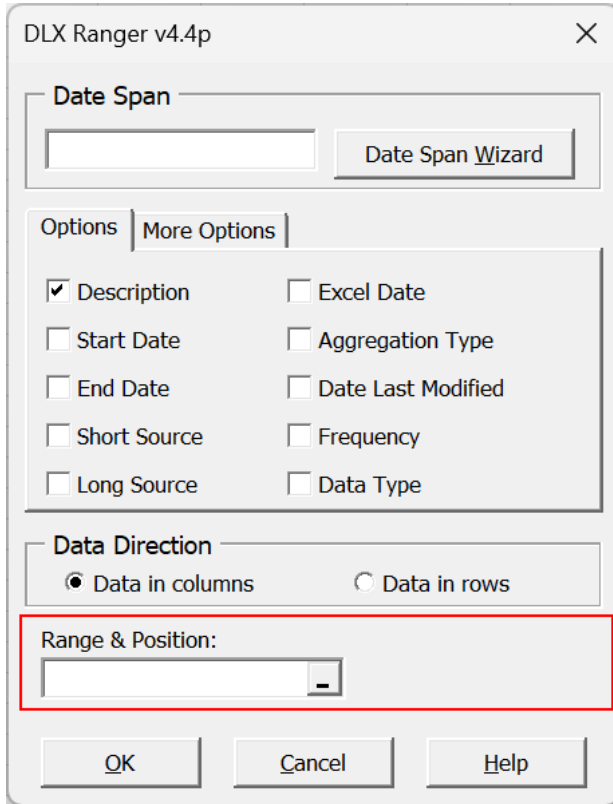
|   | A              | B         | C        | D        | E        | F        | G        | H        | I        | J        | K        |
|---|----------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1 | Jun-2024 #M    | .DESC     | Jun-2024 | Jul-2024 | Aug-2024 | Sep-2024 | Oct-2024 | Nov-2024 | Dec-2024 | Jan-2025 | Feb-2025 |
| 2 | FFED@USECON    | Federal F | 5.33     | 5.33     | 5.33     | 5.13     | 4.83     | 4.64     | 4.48     | 4.33     | #N/A     |
| 3 | LANAGRA@USECON | All Emplc | 157915   | 158003   | 158074   | 158314   | 158358   | 158619   | 158926   | 159069   | #N/A     |



*The retrieval above was performed in February 2025.*

## Range & Position

Use the Range & Position to select the span of cells containing Haver codes for the data retrieval.



DLX Ranger v4.4p

Date Span

Options | More Options

☒ Description
 ☐ Excel Date  
☐ Start Date
 ☐ Aggregation Type  
☐ End Date
 ☐ Date Last Modified  
☐ Short Source
 ☐ Frequency  
☐ Long Source
 ☐ Data Type

Data Direction

☒ Data in columns
 ☐ Data in rows

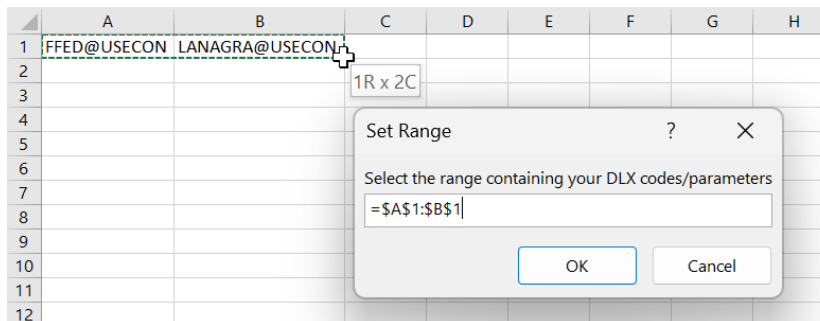
Range & Position:

### Select Range and Position

1. Click the button on the right:



2. Select the codes:



3. Click OK.

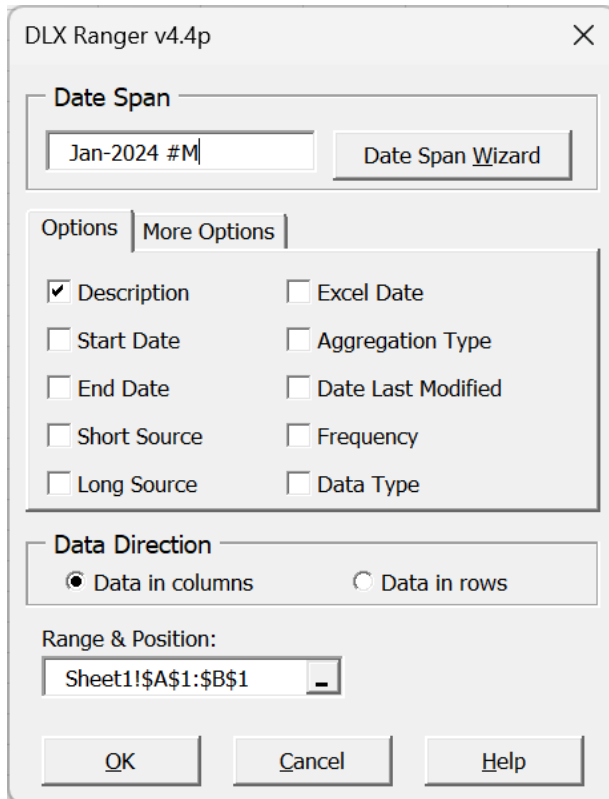


*Additional empty cells can be selected for future use or you can edit the range at a later stage.*

## Finalize the Range

The range consists of the date span created, any parameters chosen and the Haver codes imported.

- Finalize the range by clicking OK on the DLXRanger.



The image shows the DLX Ranger v4.4p dialog box. It has a title bar with the text 'DLX Ranger v4.4p' and a close button (X). The dialog is divided into several sections. The 'Date Span' section at the top contains a text box with 'Jan-2024 #M' and a button labeled 'Date Span Wizard'. Below this is a tabbed interface with 'Options' and 'More Options' tabs. The 'Options' tab is active, showing a list of checkboxes: 'Description' (checked), 'Start Date', 'End Date', 'Short Source', 'Long Source', 'Excel Date', 'Aggregation Type', 'Date Last Modified', 'Frequency', and 'Data Type'. The 'Data Direction' section has two radio buttons: 'Data in columns' (selected) and 'Data in rows'. The 'Range & Position' section has a text box containing 'Sheet1!\$A\$1:\$B\$1' and a small minus button. At the bottom are three buttons: 'OK', 'Cancel', and 'Help'.

DLX Ranger v4.4p

Date Span

Jan-2024 #M Date Span Wizard

Options More Options

☒ Description ☐ Excel Date  
☐ Start Date ☐ Aggregation Type  
☐ End Date ☐ Date Last Modified  
☐ Short Source ☐ Frequency  
☐ Long Source ☐ Data Type

Data Direction

☒ Data in columns ☐ Data in rows

Range & Position:

Sheet1!\$A\$1:\$B\$1 -

OK Cancel Help

## Retrieve Data

After setting up a range, you can perform a retrieval to view data in Excel.

### Retrieve Worksheet

Do one of the following to retrieve data in the active worksheet:

- Go to **DLX** > **Retrieve (Worksheet)**
-  **CTRL** + **D**

### Retrieve Workbook

Do one of the following to retrieve data from all the spreadsheets within the workbook:

- Go to **DLX** > **Retrieve (Workbook)**
-  **CTRL** + **SHIFT** + **D**

### Change the Shortcut Retrieval Key

1. Go to **DLX** > **Tools** > **Options**
2. Change the retrieval key to any other letter.
3. Click OK or  **ENTER**
4. Close out all instances of Excel.
5. Restart Excel to activate the new retrieval key.

# Ch 2 - Modify Existing Worksheets

---

There are many ways to modify your worksheets once a range has been set up. You can modify the codes, date span and/or range. Before modifying the date span, you should always clear the previous data before retrieving new data. Click one of the links below to learn more:

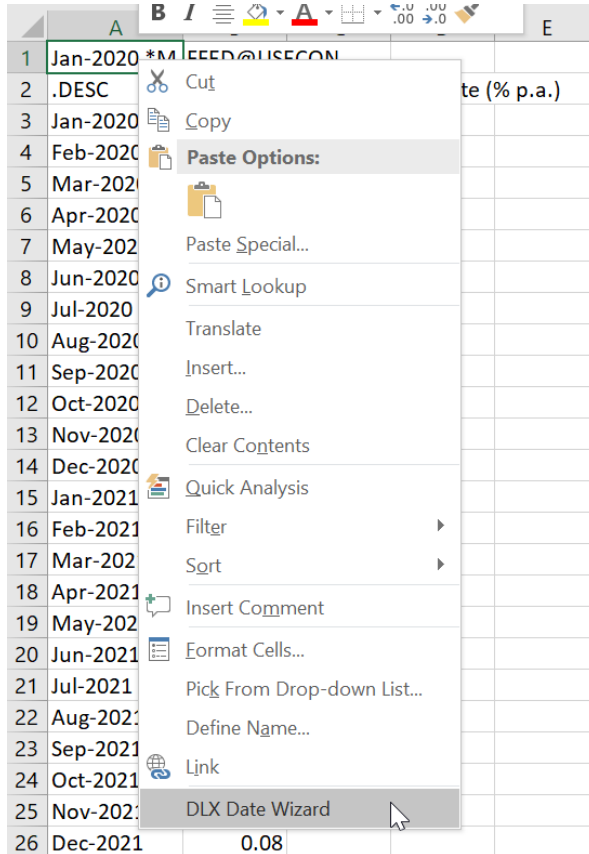
|                                             |           |
|---------------------------------------------|-----------|
| <b>Clear and Modify the Date Span .....</b> | <b>30</b> |
| <b>Wildcards .....</b>                      | <b>31</b> |
| <b>Rolling Ranges .....</b>                 | <b>34</b> |
| <b>Specific Dates .....</b>                 | <b>36</b> |
| <b>Nesting Functions .....</b>              | <b>38</b> |
| <b>Aggregation .....</b>                    | <b>40</b> |
| <b>Magnitude .....</b>                      | <b>43</b> |
| <b>Decimal Precision .....</b>              | <b>46</b> |
| <b>Currency Conversion .....</b>            | <b>48</b> |
| <b>7 Day Daily .....</b>                    | <b>53</b> |

## Clear and Modify the Date Span

After setting up a range on a worksheet you can still modify the date span in two ways:

### Using the DLX Date Wizard

1. Right click on the cell that contains the date span.
2. Select **DLX Date Wizard** at the bottom:



3. [Make the desired changes.](#)
4. [Proceed with the retrieval.](#)

### Manually

When modifying an existing date span manually, you must first clear the worksheet to prevent previous data from mixing with new data.

1. Clear the Worksheet: **DLX** > **Tools** > **Clear DLX Retrieval(Worksheet)**
2. Make the desired changes.
3. [Proceed with the retrieval.](#)

## Wildcards

Wildcards are used to request a group of data series with similar codes. This is especially useful for retrieving data for a number of countries, states or metro areas for the same concept. Wildcards can also be used to request all of the data available for one country, state or metro area. You can use a maximum of 10 wildcards per range.

### How to use Wildcards

There are two main ways that wildcards can be used during a retrieval:

- Use the question mark (?) as a placeholder for each unknown number or letter
- Use an asterisk (\*) to request data series that begin with a particular prefix

#### Example 1

If you want to retrieve all series for U.S. exports of motor vehicles by country of destination:

1. Open Excel.
2. Enter **MV???XC@USECON** in a cell.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: Jan-2020 \*M (monthly retrieval starting in January 2020 and ending in the last month):

DLX Ranger v4.4p

**Date Span**

Jan-2020 \*M

Date Span Wizard

5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cell with **MV???XC@USECON**:

|   | A              | B | C | D | E | F | G | H |
|---|----------------|---|---|---|---|---|---|---|
| 1 | MV???XC@USECON |   |   |   |   |   |   |   |
| 2 |                |   |   |   |   |   |   |   |
| 3 |                |   |   |   |   |   |   |   |
| 4 |                |   |   |   |   |   |   |   |
| 5 |                |   |   |   |   |   |   |   |
| 6 |                |   |   |   |   |   |   |   |
| 7 |                |   |   |   |   |   |   |   |
| 8 |                |   |   |   |   |   |   |   |

Set Range

Select the range containing your DLX codes/parameters

=A\$1

OK Cancel

The range will automatically expand to include all of the series defined by the wildcard request.

7. Click OK to finish creating the range:

|   | A           | B              |
|---|-------------|----------------|
| 1 | Jan-2020 *M | MV???XC@USECON |
| 2 | .DESC       |                |

8. Retrieve the Worksheet by doing one of the following:

-  CTRL + D
- Go to **ADD-INS** > **DLX** > **Retrieve (Worksheet)**

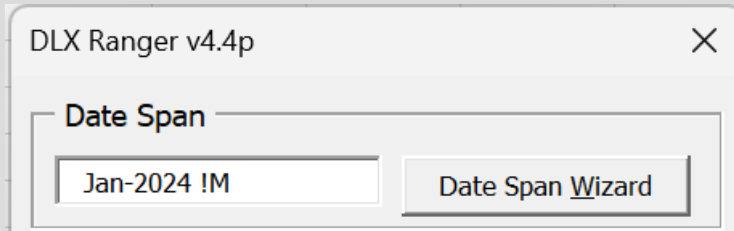
 *Wildcards can also be used for regions. If you want to look at one concept across one particular region, for example across all the Latin American countries, you can use MV2???XC@USECON.*

 *Wildcards can also be used for regions within a country. If you want to look for one concept across all the regions in Spain (e.g. Industrial Production) you can use ??ND@SPAINR. (Example for Exports: Live Animals in our UKR database UK???X00@UKR). These data are available in our regional databases.*

## Example 2

If you want to retrieve all series that begin with **IP** in **USECON**:

1. Open Excel.
2. Enter **IP\*@USECON** in a cell.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: Jan-2024 !M (monthly retrieval starting in January 2024 and with a dynamic end date using the last datapoint in the series):



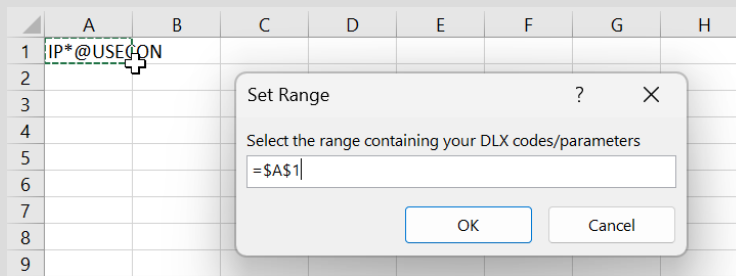
DLX Ranger v4.4p

Date Span

Jan-2024 !M

Date Span Wizard

5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cell with **IP\*@USECON**:



 *The range will automatically expand to include all of the series defined by the wildcard request.*

7. Click OK to finish creating the range:

|   | A           | B          |
|---|-------------|------------|
| 1 | Jan-2024 !M | IP*@USECON |
| 2 | .DESC       |            |

8. Retrieve the Worksheet by doing one of the following:

-  **CTRL** + **D**
- Go to **DLX** > **Retrieve (Worksheet)**

### Additional Examples:

Bring archived forecast for European Union across different archived forecasts for the annual GDP volume (% change) : **O997G??@EUARC**

Bring in all (archived) GDP forecasts: **UGDP???@UK**

## Rolling Ranges

Rolling Ranges are useful if you want to retrieve the same number of observations each time you update your spreadsheet. Three types of dynamic date spans can be used in rolling ranges: last period (\*), this period (#) or end of data series (~). To use rolling ranges you can manually set your date span in the DLXRanger and then [proceed in setting up your range](#) to perform a retrieval.

Rolling Ranges use one of the following formats, where **n** stands for the number of periods and **frequency** is either annual (Y), quarterly (Q), monthly (M), weekly (W) or daily (D):

- **-n \* frequency**
- **-n #frequency**
- **-n ~frequency**

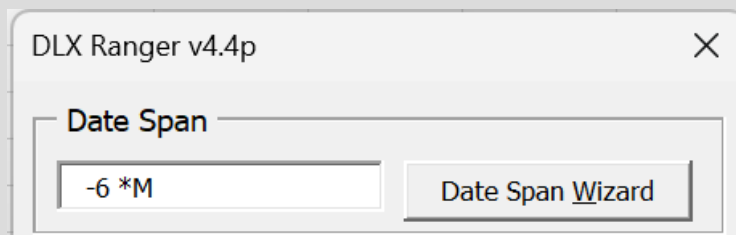


*If you edit a rolling range after setting up a retrieval, remember to [clear the worksheet](#) before proceeding with the new retrieval.*

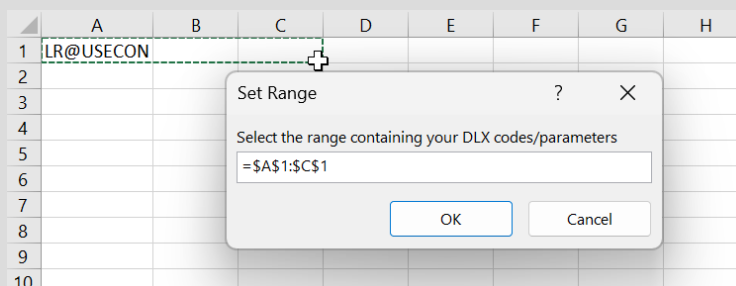
### Example 1

Create a rolling range for **LR@USECON** to view the last 7 months of data.

1. Open Excel.
2. Enter **LR@USECON** in a cell.
3. Go to **DLX** > **DLXRanger**
4. In the Date Span box, enter **-6 \*M**.



5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cell with **LR@USECON** and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.
8. Retrieve the Worksheet by doing one of the following:

-  **CTRL + D**
- Go to **DLX** > **Retrieve (Worksheet)**

|   | A      | B         |
|---|--------|-----------|
| 1 | -6 *M  | LR@USECON |
| 2 | Jul-24 | 4.2       |
| 3 | Aug-24 | 4.2       |
| 4 | Sep-24 | 4.1       |
| 5 | Oct-24 | 4.1       |
| 6 | Nov-24 | 4.2       |
| 7 | Dec-24 | 4.1       |
| 8 | Jan-25 | 4.0       |



*This retrieval was performed in February 2025.*

### Example 2

Following the steps in example 1 you can create three rolling ranges with three different date spans that retrieve the last 4 data points of daily data, weekly data and monthly data shown below:

|   | A                  | B          | C                   | D           | E                    | F           |
|---|--------------------|------------|---------------------|-------------|----------------------|-------------|
| 1 | <b>Last 4 days</b> |            | <b>Last 4 weeks</b> |             | <b>Last 4 months</b> |             |
| 2 | -3 *D              | FFED@DAILY | -3 *W               | FFED@WEEKLY | -3 *M                | FFED@USECON |
| 3 | 17-Feb-25          | 4.33       | 22-Jan-25W          | 4.33        | Oct-24               | 4.83        |
| 4 | 18-Feb-25          | 4.33       | 29-Jan-25W          | 4.33        | Nov-24               | 4.64        |
| 5 | 19-Feb-25          | 4.33       | 05-Feb-25W          | 4.33        | Dec-24               | 4.48        |
| 6 | 20-Feb-25          | #N/A       | 12-Feb-25W          | 4.33        | Jan-25               | 4.33        |



*This retrieval was performed on February 21st, 2025.*

### Example 3

As seen in the examples above, to create a rolling range of the last 7 months of data we used a date span of **-6 \*M** and to create a range of the last 4 months of data we used a date span of **-3 \*M**. If you only want to only view one data point using a rolling range, the date span will be in the format of **0 \*frequency/0 #frequency**. To view the last data point of forecast data, the date span will be in the format of **0 ~frequency**.

|   | A     | B          |
|---|-------|------------|
| 1 | 0 ~Q  | GDP@USECON |
| 2 | Q4-24 | 29700.6    |



*This retrieval was performed in February 2025.*



*You can also add a certain number of periods to a range, for example: **-3\*M+4** to retrieve an extra 4 dates.*

## Specific Dates

The Excel add-in allows you to retrieve data for any specified number of dates. To do so, you must enter the dates on the spreadsheet along with the codes in the spreadsheet. Then when using DLXRanger, leave the date span box empty and be sure to highlight all the manually entered dates and codes in the **Range & Position**. See below for an example:

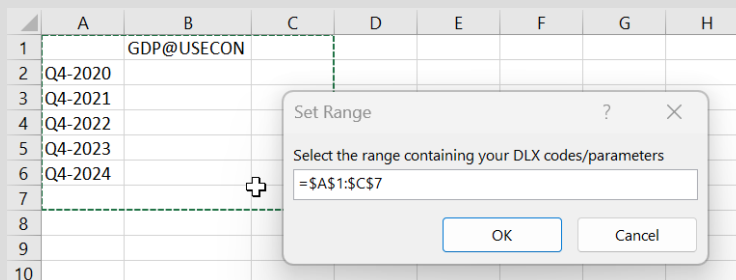
### Example

View the last quarter of data for **GDP@USECON** for the previous 5 years.

1. Open Excel.
2. Enter the dates and code as pictured below:

|   | A       | B          |
|---|---------|------------|
| 1 |         | GDP@USECON |
| 2 | Q4-2020 |            |
| 3 | Q4-2021 |            |
| 4 | Q4-2022 |            |
| 5 | Q4-2023 |            |
| 6 | Q4-2024 |            |

3. Go to **DLX** > **DLXRanger**
4. Leave the Date Span empty.
5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select the **Range & Position**.



7. Click OK to finish creating the range.
8. Retrieve the Worksheet by doing one of the following:
  -  **CTRL + D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|   | A       | B          |
|---|---------|------------|
| 1 |         | GDP@USECON |
| 2 | Q4-2021 | 24777.0    |
| 3 | Q4-2022 | 26734.3    |
| 4 | Q4-2023 | 28297.0    |
| 5 | Q4-2024 | 29700.6    |



*When manually entering dates on a spreadsheet you can retrieve dates in different formats and mix frequencies in the same range. Below is an example of this:*

|   | A       | B          | C           |
|---|---------|------------|-------------|
| 1 |         | GDP@USECON | FFED@USECON |
| 2 | Q1-2022 | 25215.5    | 0.12        |
| 3 | 2022    | 26006.9    | 1.68        |
| 4 | Q1-2023 | 27164.4    | 4.52        |
| 5 | 202312  | #N/A       | 5.33        |
| 6 | 2023    | 27720.7    | 5.02        |
| 7 | Q4-2023 | 28297.0    | 5.33        |
| 8 | 2024-Q3 | 29374.9    | 5.26        |



*This retrieval was performed in February 2025.*

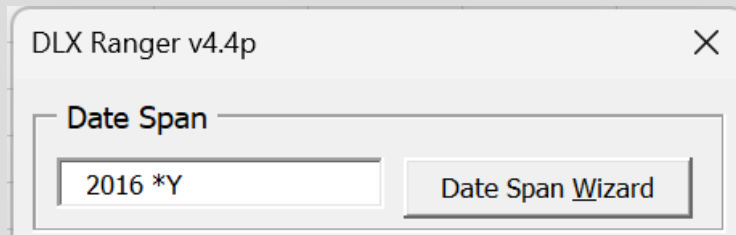
## Nesting Functions

The Excel add-in also allows you to retrieve data for nested functions. See below for an example:

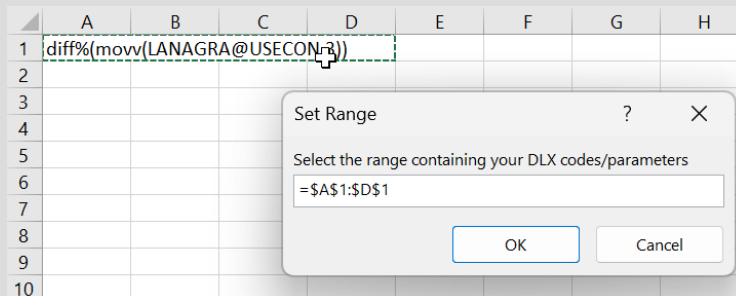
### Example

Apply a 3-month moving average to **LANAGRA@USECON** and then apply a period-to-period percent change.

1. Open Excel.
2. Enter `diff%(movv(LANAGRA@USECON,3))` in a cell.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: 2016 \*Y (yearly retrieval starting in the year 2016 and ending with the previous year):



5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cell with `diff%(movv(LANAGRA@USECON,3))` and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.
8. Retrieve the worksheet by doing one of the following:
  - **CTRL + D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|    | A       | B                             |
|----|---------|-------------------------------|
| 1  | 2016 *Y | diff%(movv(LANAGRA@USECON,3)) |
| 2  | 2016    | 1.91%                         |
| 3  | 2017    | 1.81%                         |
| 4  | 2018    | 1.64%                         |
| 5  | 2019    | 1.49%                         |
| 6  | 2020    | -1.00%                        |
| 7  | 2021    | -0.59%                        |
| 8  | 2022    | 0.37%                         |
| 9  | 2023    | 3.11%                         |
| 10 | 2024    | 2.57%                         |



*This retrieval was performed in February 2025.*

## Aggregation

Series with higher frequencies can be aggregated to a lower frequency, for example, a monthly series can be aggregated to annual data. Not all series can be aggregated, but every data series in DLXVG3 that can be aggregated has a default aggregation type. There are three different aggregation types: average, sum and end of period.

### Changing the Aggregation Type

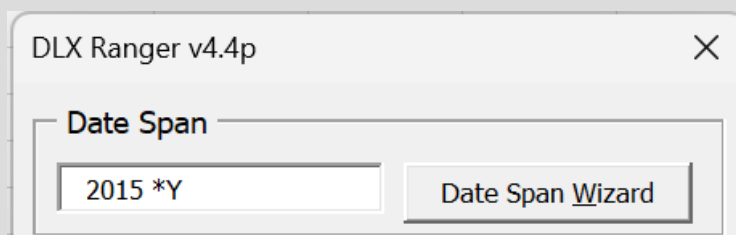
If you aggregate data series in Excel, the output will use the default aggregation type defined for that series. In order to change that aggregation type, use the following formulas:

- Average: `AGG(CODE@DATABASE, AVG)`
- Sum: `AGG(CODE@DATABASE, SUM)`
- End of Period: `AGG(CODE@DATABASE, EOP)`

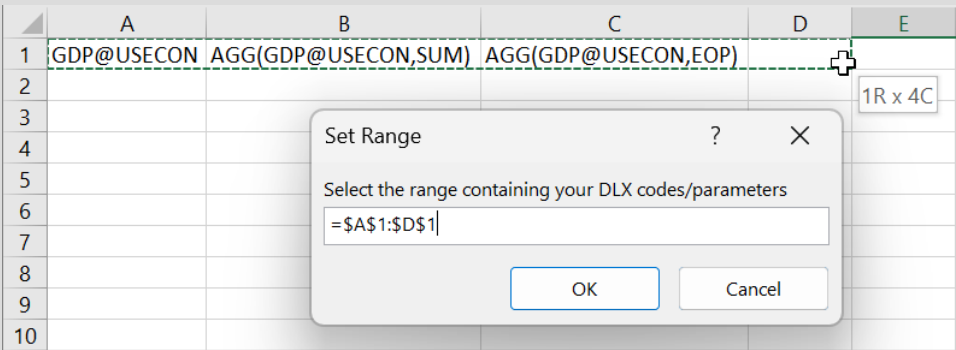
#### Example 1

Set up a range to retrieve data for `GDP@USECON` for the previous 10 years using its default aggregation type of average and change its aggregation type to both sum and end of period:

1. Open Excel.
2. Enter `GDP@USECON`, `AGG (GDP@USECON, SUM)` and `AGG (GDP@USECON, EOP)` in three cells.
3. Go to `DLX` > `DLXRanger`
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: 2015 \*Y (yearly retrieval starting in the year 2015):



5. (Optional) Select any parameters in Options or More Options or change the data direction if desired.
6. Select Range & Position and select all three cells with series in them and any additional cells if you want to add more codes to the range later on:



- 7. Click OK to finish creating the range.
- 8. Retrieve the Worksheet by doing one of the following:
  -  **CTRL + D**
  - Go to **DLX > Retrieve (Worksheet)**

|    | A       | B          | C                   | D                   |
|----|---------|------------|---------------------|---------------------|
| 1  | 2015 *Y | GDP@USECON | AGG(GDP@USECON,SUM) | AGG(GDP@USECON,EOP) |
| 2  | 2015    | 18295.0    | 73180.0             | 18435.1             |
| 3  | 2016    | 18804.9    | 75219.6             | 19089.4             |
| 4  | 2017    | 19612.1    | 78448.4             | 20037.1             |
| 5  | 2018    | 20656.5    | 82626.1             | 20917.9             |
| 6  | 2019    | 21540.0    | 86159.9             | 21933.2             |
| 7  | 2020    | 21354.1    | 85416.5             | 22068.8             |
| 8  | 2021    | 23681.2    | 94724.7             | 24777.0             |
| 9  | 2022    | 26006.9    | 104027.6            | 26734.3             |
| 10 | 2023    | 27720.7    | 110882.9            | 28297.0             |
| 11 | 2024    | 29179.1    | 116716.3            | 29700.6             |



*This retrieval was performed in February 2025.*

## Forcing Aggregation

If you try to retrieve data in Excel in a lower frequency than reported, there might be N/As in place of data points. This indicates that there were not enough data points for the aggregation to take place; however, you have the option to force the aggregation using the following commands:

- AGGANY(CODE@DATABASE) if you want to force an aggregation using the default aggregation type
- AGGANY(CODE@DATABASE, AVG) if you want to force an aggregation and change the aggregation type to average
- AGGANY(CODE@DATABASE, SUM) if you want to force an aggregation and change the aggregation type to sum
- AGGANY(CODE@DATABASE, EOP) if you want to force an aggregation and change the aggregation type to end of period



*At least one data point that is not N/A needs to be available for AGGANY to return a value. When the aggregation type is EOP, it will return the last non N/A value.*

If the aggregation type is AVG and you want to force aggregation to take place in all worksheets without having to type AGGANY, you can do so by setting the "Ignore NA" option to ☐ >

Go to  >  and check the box under Aggregation that says "Ignore NA".

## Magnitude

The magnitude function is used to change the units of the data to either show more or less digits. To change the magnitude of a series, use the following formula:

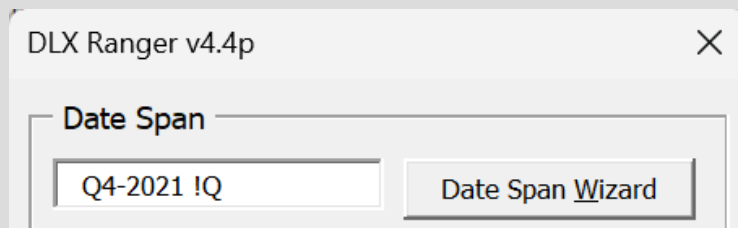
- `MAG(CODE@DATABASE, n)`

where *n* is 3 for thousands, 6 for millions, 9 for billions, 12 for trillions, etc. You can enter any number beginning with 0 and between 3 and 26.

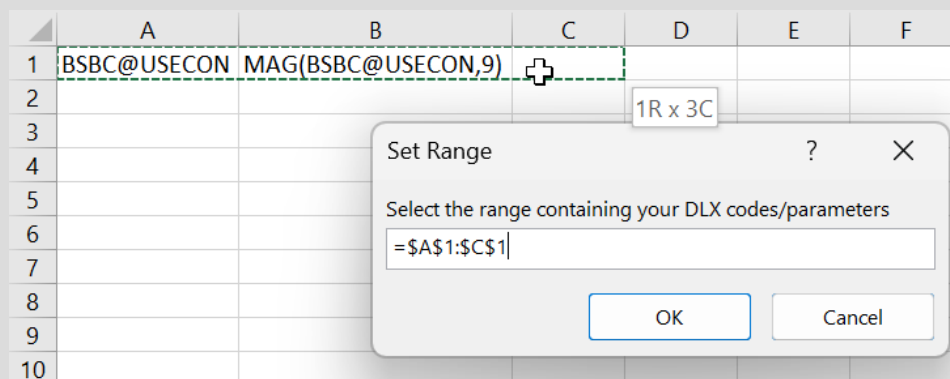
### Example

Change the magnitude of `BSBC@USECON` to billions (default magnitude is millions):

1. Open Excel.
2. Enter `BSBC@USECON` and `MAG (BSBC@USECON, 9)` in a cell.
3. Go to `DLX` > `DLXRanger`
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: Q4-2021 !Q (quarterly retrieval starting in the fourth quarter of 2021 and ending with the last data available in the series):



5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cells with `BSBC@USECON` and `MAG (BSBC@USECON, 9)` and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.

8. Retrieve the Worksheet by doing one of the following:

-  CTRL + D
- Go to **DLX** > **Retrieve (Worksheet)**

|    | A          | B           | C                  |
|----|------------|-------------|--------------------|
| 1  | Q4-2021 !Q | BSBC@USECON | MAG(BSBC@USECON,9) |
| 2  | Q4-2021    | -232248     | -232.248           |
| 3  | Q1-2022    | -291819     | -291.819           |
| 4  | Q2-2022    | -263099     | -263.099           |
| 5  | Q3-2022    | -230529     | -230.529           |
| 6  | Q4-2022    | -226651     | -226.651           |
| 7  | Q1-2023    | -230330     | -230.330           |
| 8  | Q2-2023    | -232603     | -232.603           |
| 9  | Q3-2023    | -220659     | -220.659           |
| 10 | Q4-2023    | -221784     | -221.784           |
| 11 | Q1-2024    | -240984     | -240.984           |
| 12 | Q2-2024    | -275031     | -275.031           |
| 13 | Q3-2024    | -310948     | -310.948           |

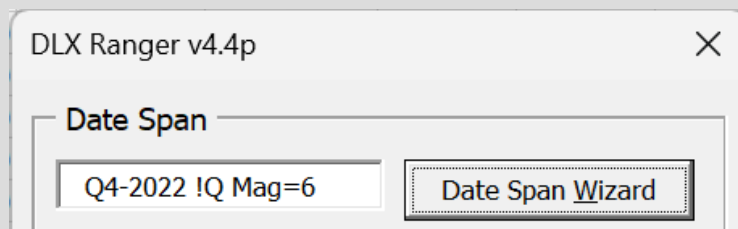


*This retrieval was performed in February 2025.*

### Example 2

Change the magnitude of all series in the range to a magnitude of millions (default magnitude is billions).

1. Open Excel.
2. Enter **UPC202@UK**, **UGC202@UK** and **UFI202@UK** in a cell.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard and under Range Options - Select Magnitude and choose 6 in the drop down (for millions) or simply enter your desired date span in the box, for example: Q4-2022 !Q Mag= 6 (quarterly retrieval starting in the fourth quarter of 2022 and ending with the last data available in the series with magnitude set to millions):



DLX Ranger v4.4p

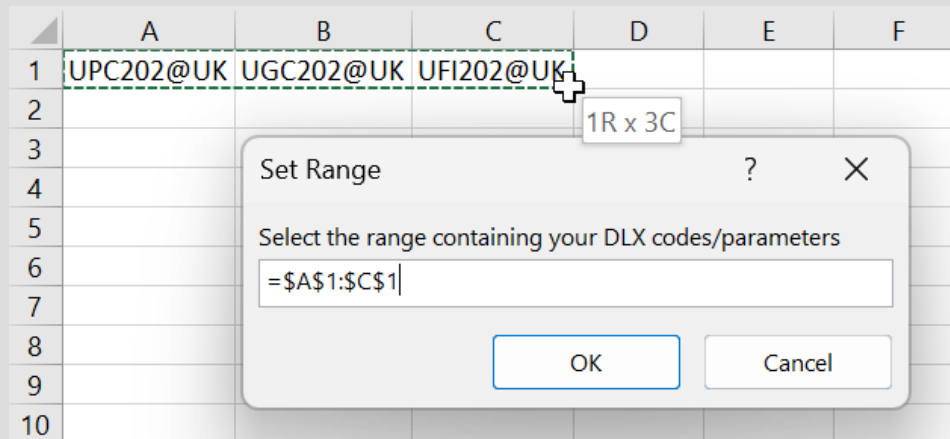
Date Span

Q4-2022 !Q Mag=6

Date Span Wizard

5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired. In this example, we will select Magnitude under More Options.

6. Select **Range & Position** and select the cells with `UPC202@UK`, `UGC202@UK` and `UFI202@UK` and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.
8. Retrieve the Worksheet by doing one of the following:
- **CTRL + D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|    | A                | B         | C         | D         |
|----|------------------|-----------|-----------|-----------|
| 1  | Q4-2022 !Q Mag=6 | UPC202@UK | UGC202@UK | UFI202@UK |
| 2  | .MAG             | 6 <- 9    | 6 <- 9    | 6 <- 9    |
| 3  | Q4-2022          | 375300.0  | 123800.0  | 106300.0  |
| 4  | Q1-2023          | 377700.0  | 124700.0  | 108500.0  |
| 5  | Q2-2023          | 380000.0  | 126800.0  | 110800.0  |
| 6  | Q3-2023          | 382100.0  | 128600.0  | 112700.0  |
| 7  | Q4-2023          | 385100.0  | 130300.0  | 114500.0  |
| 8  | Q1-2024          | 388200.0  | 131700.0  | 116300.0  |
| 9  | Q2-2024          | 391400.0  | 132800.0  | 117900.0  |
| 10 | Q3-2024          | 394800.0  | 134100.0  | 119600.0  |
| 11 | Q4-2024          | 398300.0  | 135500.0  | 121200.0  |
| 12 | Q1-2025          | 401900.0  | 137000.0  | 122800.0  |
| 13 | Q2-2025          | 405200.0  | 138600.0  | 124400.0  |
| 14 | Q3-2025          | 409200.0  | 140200.0  | 126000.0  |
| 15 | Q4-2025          | 412600.0  | 141700.0  | 127600.0  |
| 16 | Q1-2026          | 416300.0  | 143300.0  | 129100.0  |



*This retrieval was performed in 2025.*



*If 6 for millions is not easily remembered, we can replace it with mil either in the date span "Mag=mil" or in the code, ex: mag(UPC202@UK,mil)*

## Decimal Precision

The decimal precision function is used to change the number of digits shown after the decimal point. This is most useful when changing the magnitude of a series. To change the decimal precision of a series, use the following formula:

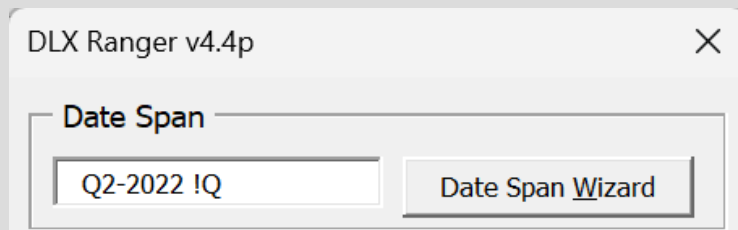
- `DEC(CODE@DATABASE, n)`

where n is a number between 0 and 9

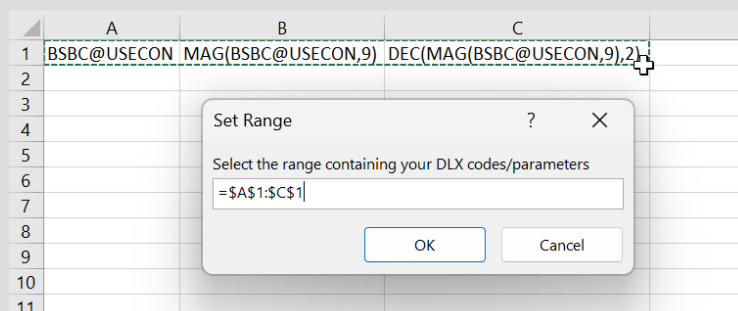
### Example

Change the magnitude of `BSBC@USECON` to billions and then change the decimal precision to 3. (default magnitude is millions and default decimal precision is 0):

1. Open Excel.
2. Enter `BSBC@USECON`, `MAG (BSBC@USECON, 9)` and `DEC (MAG (BSBG@USECON, 9) , 2)` in a cell.
3. Go to `DLX` > `DLXRanger`
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: Q2-2022 !Q (quarterly retrieval starting in the second quarter of 2022 and ending with the last data available in the series):



5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select all three cells with series in them and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.

## 8. Retrieve the Worksheet by doing one of the following:

-  CTRL + D
- Go to DLX > Retrieve (Worksheet)

|    | A          | B           | C                  | D                         |
|----|------------|-------------|--------------------|---------------------------|
| 1  | Q2-2022 !Q | BSBC@USECON | MAG(BSBC@USECON,9) | DEC(MAG(BSBC@USECON,9),2) |
| 2  | Q2-2022    | -263099     | -263.099           | -263.099                  |
| 3  | Q3-2022    | -230529     | -230.529           | -230.529                  |
| 4  | Q4-2022    | -226651     | -226.651           | -226.651                  |
| 5  | Q1-2023    | -230330     | -230.330           | -230.330                  |
| 6  | Q2-2023    | -232603     | -232.603           | -232.603                  |
| 7  | Q3-2023    | -220659     | -220.659           | -220.659                  |
| 8  | Q4-2023    | -221784     | -221.784           | -221.784                  |
| 9  | Q1-2024    | -240984     | -240.984           | -240.984                  |
| 10 | Q2-2024    | -275031     | -275.031           | -275.031                  |
| 11 | Q3-2024    | -310948     | -310.948           | -310.948                  |



*This retrieval was performed in February 2025.*

## Currency Conversion

The currency conversion function can be used on any series with a data type of LocCur or US\$ to convert to any currency available in the FXRATES database. To change the currency of a series, use the following formula:

- `FX(CODE@DATABASE, ### or XXX)`

where `###` is the GEO code or `XXX` is the ISO code of the desired currency.

To change the currency of all series in the range, you have two options:

- Add `"FX=### or XXX"` to the date span to have that currency applied to all series in the range
- Add `"FX_1st=### or XXX"` to the date span to have the currency conversion function be applied to all series in the range before any other functions are applied



*In general, any functions added to the date span are applied after individually applied functions to series in the range.*

### Example 1

Change the currency of 3 series to different currencies within the same range:

1. Open Excel.
2. Enter `FX (TABCA@USECON , 112)` , `FX (N199FXD@EMERGE , 924)` and `FX (C273MAA1@IFS , 111)` in three cells.
3. Go to `DLX` > `DLXRanger`
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: Q4-2021 !Q (quarterly retrieval starting in the fourth quarter of 2021 and ending with the last data available in the series):

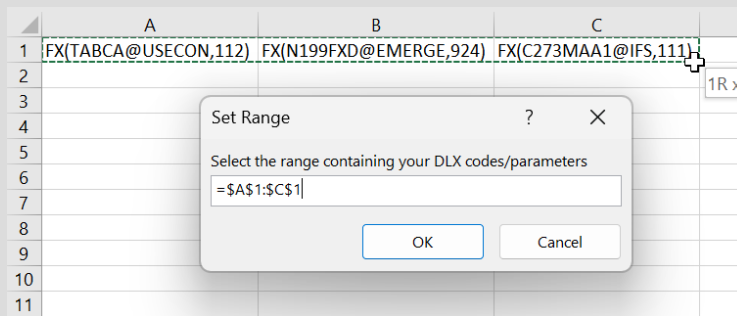
DLX Ranger v4.4p

Date Span

Q4-2021 !Q

Date Span Wizard

5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cells with `FX (TABCA@USECON , 112)` , `FX (N199FXD@EMERGE , 924)` and `FX (C273MAA1@IFS , 111)` and any additional cells if you want to add more codes to the range later on:



 You can also use the ISO code of the country to perform the currency conversion. So instead of **FX (TABCA@USECON, 112)**, you could enter **FX (TABCA@USECON, GBP)**

7. Click OK to finish creating the range.
8. Retrieve the Worksheet by doing one of the following:
  -  **CTRL + D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|    | A          | B                    | C                      | D                    |
|----|------------|----------------------|------------------------|----------------------|
| 1  | Q4-2021 IQ | FX(TABCA@USECON,112) | FX(N199FXD@EMERGE,924) | FX(C273MAA1@IFS,111) |
| 2  | Q4-2021    | -208815.1            | 1022885                | 237168               |
| 3  | Q1-2022    | -253038.3            | 1102005                | 233097               |
| 4  | Q2-2022    | -245606.9            | 1134236                | 230634               |
| 5  | Q3-2022    | -228487.5            | 1123328                | 237406               |
| 6  | Q4-2022    | -232287.8            | 1133079                | 226597               |
| 7  | Q1-2023    | -220285.1            | 1113554                | 239311               |
| 8  | Q2-2023    | -220262.0            | 1125235                | 243934               |
| 9  | Q3-2023    | -206400.0            | 1138876                | 247243               |
| 10 | Q4-2023    | -216244.3            | 1122665                | 249531               |
| 11 | Q1-2024    | -215964.9            | 1143168                | 257716               |
| 12 | Q2-2024    | -235187.0            | 1190745                | 256272               |
| 13 | Q3-2024    | -234555.2            | 1237301                | 268631               |

 This retrieval was performed in February 2025.

## Example 2

Change the currency of all series in the range to the same currency.

1. Open Excel.
2. Enter **N112NGDP@G10**, **N158NGDP@G10** and **N134NGDP@G10** in three cells.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard and under Range Options - Select FX - (this drop down includes all currencies listed in the FXRATES database) - Select United States or simply enter your desired date span in the box, for example: Q4-2022 !Q FX=111 (quarterly retrieval starting in the first quarter of 2022 and ending with the last data available in the series with currency conversion to US\$ applied to all series in the range):

DLX Ranger v4.4p

Date Span

Q1-2022 !Q FX=111

Date Span Wizard

- (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
- Select **Range & Position** and select the cells with **N112NGDP@G10**, **N158NGDP@G10** and **N134NGDP@G10** and any additional cells if you want to add more codes to the range later on:

|    | A            | B            | C            | D |
|----|--------------|--------------|--------------|---|
| 1  | N112NGDP@G10 | N158NGDP@G10 | N134NGDP@G10 |   |
| 2  |              |              |              |   |
| 3  |              |              |              |   |
| 4  |              |              |              |   |
| 5  |              |              |              |   |
| 6  |              |              |              |   |
| 7  |              |              |              |   |
| 8  |              |              |              |   |
| 9  |              |              |              |   |
| 10 |              |              |              |   |

Set Range ? X

Select the range containing your DLX codes/parameters

=A\$1:\$C\$1

OK Cancel

- Click OK to finish creating the range.
- Retrieve the Worksheet by doing one of the following:
  -  **CTRL** + **D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|    | A                 | B            | C            | D            |
|----|-------------------|--------------|--------------|--------------|
| 1  | Q1-2022 !Q FX=111 | N112NGDP@G10 | N158NGDP@G10 | N134NGDP@G10 |
| 2  | Q1-2022           | 816542       | 1190.7       | 1081.98      |
| 3  | Q2-2022           | 767187       | 1064.4       | 1029.42      |
| 4  | Q3-2022           | 750954       | 981.6        | 1001.66      |
| 5  | Q4-2022           | 784150       | 1047.0       | 1048.57      |
| 6  | Q1-2023           | 810499       | 1096.5       | 1109.63      |
| 7  | Q2-2023           | 843257       | 1064.5       | 1115.17      |
| 8  | Q3-2023           | 863284       | 1003.4       | 1141.06      |
| 9  | Q4-2023           | 862798       | 1053.0       | 1160.87      |
| 10 | Q1-2024           | 889112       | 998.9        | 1155.75      |
| 11 | Q2-2024           | 884751       | 958.8        | 1141.99      |
| 12 | Q3-2024           | 931354       | 1003.6       | 1184.90      |
| 13 | Q4-2024           | 935037       | 1062.3       | 1174.10      |

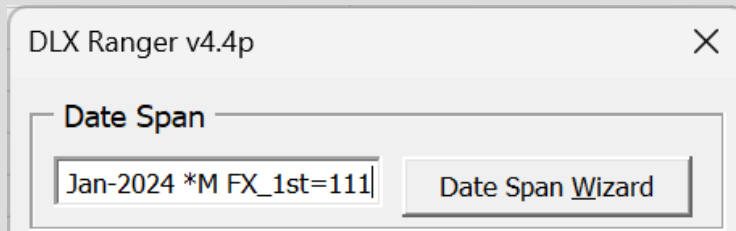


*This retrieval was performed in February 2025.*

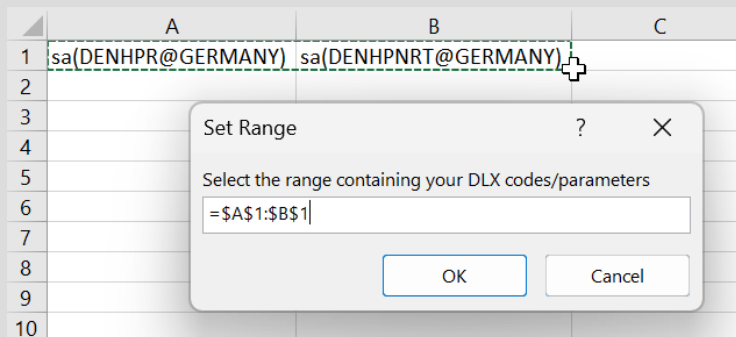
**Example 3**

Have currency conversion be applied first before other functions

1. Open Excel.
2. Enter **sa (DENHPR@GERMANY)** and **sa (DENHPNRT@GERMANY)** in two cells.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: Jan-2024 \*M (monthly retrieval starting in the January of 2024 and ending with the previous month, and then add FX\_1st=111 as illustrated below.



5. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired.
6. Select **Range & Position** and select the cells with **sa (DENHPR@GERMANY)** and **sa (DENHPNRT@GERMANY)** and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.
8. Retrieve the Worksheet by doing one of the following:
  - **CTRL** + **D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|    | A                      | B                  | C                    |
|----|------------------------|--------------------|----------------------|
| 1  | Jan-2024 *M FX_1st=111 | sa(DENHPR@GERMANY) | sa(DENHPNRT@GERMANY) |
| 2  | Jan-2024               | 4521770            | 4599977              |
| 3  | Feb-2024               | 4935657            | 5217967              |
| 4  | Mar-2024               | 4547234            | 6272015              |
| 5  | Apr-2024               | 4809146            | 4751307              |
| 6  | May-2024               | 4452032            | 4416265              |
| 7  | Jun-2024               | 4506080            | 4764137              |
| 8  | Jul-2024               | 4419461            | 4536439              |
| 9  | Aug-2024               | 4889521            | 4458006              |
| 10 | Sep-2024               | 4163553            | 4500836              |
| 11 | Oct-2024               | 4914019            | 4582958              |
| 12 | Nov-2024               | 4866922            | 4415564              |
| 13 | Dec-2024               | 4707686            | 4505850              |
| 14 | Jan-2025               | #N/A               | #N/A                 |



*The date span in cell A1 above can be edited after the range is created too*



*This retrieval was performed in February 2025.*

9. If you used "FX" instead of "FX\_1st" in the date span, then SA() would have been applied to the series first and then FX() and the values would be different as illustrated below:

|    | A                  | B                  | C                    |
|----|--------------------|--------------------|----------------------|
| 1  | Jan-2024 *M FX=111 | sa(DENHPR@GERMANY) | sa(DENHPNRT@GERMANY) |
| 2  | Jan-2024           | 4630976            | 4678186              |
| 3  | Feb-2024           | 5079253            | 5277323              |
| 4  | Mar-2024           | 4597861            | 6284617              |
| 5  | Apr-2024           | 4808132            | 4707115              |
| 6  | May-2024           | 4468602            | 4409542              |
| 7  | Jun-2024           | 4523039            | 4775714              |
| 8  | Jul-2024           | 4417959            | 4536891              |
| 9  | Aug-2024           | 4894736            | 4534902              |
| 10 | Sep-2024           | 4100712            | 4459470              |
| 11 | Oct-2024           | 4854372            | 4534167              |
| 12 | Nov-2024           | 4834496            | 4357757              |
| 13 | Dec-2024           | 4545959            | 4475611              |
| 14 | Jan-2025           | #N/A               | #N/A                 |



*This retrieval was performed in February 2025.*

## 7 Day Daily

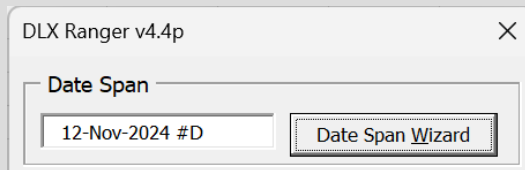
There are now two types of daily series: 5 day daily (regular daily) and 7 day daily series. When performing a retrieval, the first series in the column controls whether or not the weekend dates are brought in (5 day daily series vs 7 day daily series). You can however force the retrieval to choose how you want the daily data displayed.

### Displaying 7 Day Daily Data

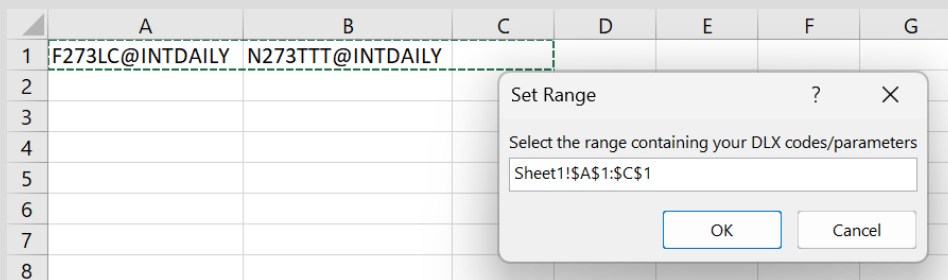
#### Example 1

Set up a range to retrieve data for **F273LC@INTDAILY** and **N273TTT@INTDAILY**.

1. Open Excel.
2. Enter **F273LC@INTDAILY** and **N273TTT@INTDAILY** in two cells.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: 12-Nov-2024 #D (daily retrieval starting on Nov 12th in the year 2024).



5. *(Optional)* Select any parameters in Options or More Options or change the data direction if desired.
6. Select Range & Position and select the two cells with series in them and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range.
8. Retrieve the Worksheet by doing one of the following:
  -  **CTRL + D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|    | A              | B               | C                  |
|----|----------------|-----------------|--------------------|
| 1  | 12-Nov-2024 #D | F273LC@INTDAILY | N273TTT@INTDAILY   |
| 2  | .FRQ           | Daily           | Daily <- Daily (7) |
| 3  | 12-Nov-2024    | 3115374.2       | 17311648           |
| 4  | 13-Nov-2024    | 3119695.7       | 16549238           |
| 5  | 14-Nov-2024    | 3135794.7       | 17590059           |
| 6  | 15-Nov-2024    | 3152020.5       | 21124229           |
| 7  | 18-Nov-2024    | 3152020.5       | 26738025           |
| 8  | 19-Nov-2024    | 3151497.2       | 25620903           |
| 9  | 20-Nov-2024    | 3147959.8       | 20211933           |
| 10 | 21-Nov-2024    | 3146001.8       | 16946312           |
| 11 | 22-Nov-2024    | 3139272.5       | 16333343           |
| 12 | 25-Nov-2024    | 3137250.4       | 15138192           |

Notice only the weekdays are listed above, because **F273LC@INTDAILY** is a 5 day daily series so no weekend dates are brought in.

9. Repeat the same steps above, but flip the order of the series in step 2, so **N273TTT@INTDAILY** is listed first:

|    | A              | B                | C                  |
|----|----------------|------------------|--------------------|
| 1  | 12-Nov-2024 #D | N273TTT@INTDAILY | F273LC@INTDAILY    |
| 2  | .FRQ           | Daily (7)        | Daily (7) <- Daily |
| 3  | 12-Nov-2024    | 17311648         | 3115374.2          |
| 4  | 13-Nov-2024    | 16549238         | 3119695.7          |
| 5  | 14-Nov-2024    | 17590059         | 3135794.7          |
| 6  | 15-Nov-2024    | 21124229         | 3152020.5          |
| 7  | 16-Nov-2024    | 28038409         | #N/A               |
| 8  | 17-Nov-2024    | 27989043         | #N/A               |
| 9  | 18-Nov-2024    | 26738025         | 3152020.5          |
| 10 | 19-Nov-2024    | 25620903         | 3151497.2          |
| 11 | 20-Nov-2024    | 20211933         | 3147959.8          |
| 12 | 21-Nov-2024    | 16946312         | 3146001.8          |

Notice now the weekend dates are also brought in because **N273TTT@INTDAILY** is a 7 day daily series and is listed first. The 5 day daily series **F273LC@INTDAILY** has N/As for the weekend dates.

## Forcing 5 day daily or 7 day daily

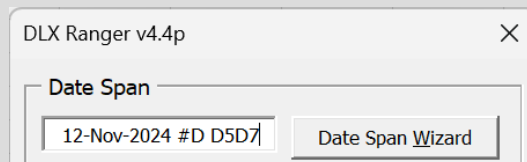
If you want to retrieve data in Excel as 5 day daily data or 7 day daily data irrespective of the series in the retrieval you can append one of these options to the date span:

- D5D7 - the retrieval will always include weekend days (7 day daily). This may result in a bunch of NAs for weekend dates if none of the series in your retrieval are 7 day daily series.
- D7D5 - the retrieval will always exclude weekend days (5 day daily). Weekend dates will not be displayed even if they are available for 7 day daily series.

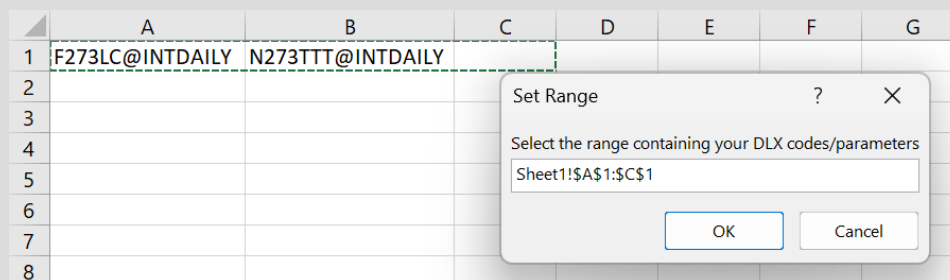
### Example 2

Set up a range to retrieve data for **F273LC@INTDAILY** and **N273TTT@INTDAILY** . with weekend dates without listing the 7 day daily series first.

1. Open Excel.
2. Enter **F273LC@INTDAILY** and **N273TTT@INTDAILY** . in two cells.
3. Go to **DLX** > **DLXRanger**
4. [Create a date span](#) using the Date Span Wizard or simply enter your desired date span in the box, for example: 12-Nov-2024 #D (daily retrieval starting on Nov 12th in the year 2024). Then add "D5D7" at the end to force the retrieval to bring in weekend dates (7 day daily)



5. (Optional) Select any parameters in Options or More Options or change the data direction if desired.
6. Select Range & Position and select the two cells with series in them and any additional cells if you want to add more codes to the range later on:



7. Click OK to finish creating the range

## 8. Retrieve the Worksheet by doing one of the following:

-  CTRL + D
- Go to **DLX** > **Retrieve (Worksheet)**

|    | A                   | B                  | C                |
|----|---------------------|--------------------|------------------|
| 1  | 12-Nov-2024 #D D5D7 | F273LC@INTDAILY    | N273TTT@INTDAILY |
| 2  | .FRQ                | Daily (7) <- Daily | Daily (7)        |
| 3  | 12-Nov-2024         | 3115374.2          | 17311648         |
| 4  | 13-Nov-2024         | 3119695.7          | 16549238         |
| 5  | 14-Nov-2024         | 3135794.7          | 17590059         |
| 6  | 15-Nov-2024         | 3152020.5          | 21124229         |
| 7  | 16-Nov-2024         | #N/A               | 28038409         |
| 8  | 17-Nov-2024         | #N/A               | 27989043         |
| 9  | 18-Nov-2024         | 3152020.5          | 26738025         |
| 10 | 19-Nov-2024         | 3151497.2          | 25620903         |
| 11 | 20-Nov-2024         | 3147959.8          | 20211933         |
| 12 | 21-Nov-2024         | 3146001.8          | 16946312         |

# Ch 3 - Additional Options

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|                     |    |
|---------------------|----|
| Excel Options ..... | 58 |
| More Options .....  | 59 |

## Excel Options

To access the DLX Excel Options go to **DLX** > **Tools** > **Options**. Here you can specify various options that will be applied to all future sessions of Excel.

Simply click the check box to apply any of these changes:

### Growth Rates

- Do not display % sign - does not display % for percent series
- Decimal precision - set the decimal precision between 1 and 10

### Aggregation

- Ignore NA - forces aggregation using the default aggregation type
- Round data before calculating growth rates - rounds data prior to calculating a growth rate on a series

### Other Options

- Excel Date- Start of Period - shows the start of period of the excel date parameter ".excel\_first" instead of the end of period which is shown by default, ".excel\_last". This setting can also be set through DLXVG3 > Options > Excel Options > "Excel Date Format"
- Disable pop-up messages during retrieval - removes the pop-up messages that alert you of an error in your retrieval
- Wrap text during retrieval - wraps text to make descriptions multi-lined (used only for transformations)
- Database list for range assignment - allows you to select the database in DLXRanger (used only when @DATABASE is not appended to the series code, which is not recommended)
- Hide Comments - allows you to hide comments so they are not shown on the spreadsheet at all times and instead are only shown when you hover over the cell with an error

### Menu and Retrieval Shortcut

- Menu Key - the menu key is D by default, but can be changed to either L, X or disabled
- Retrieval Key - the retrieval key is D by default, but can be changed to any letter A through Z

## More Options

There are additional options available in the Excel Add-In and some additional helpful options listed below:

### Auto Update on Open

Update workbooks automatically when opening the file.

1. Go to : **DLX** > **Tools** > **Auto Update on Open**
2. Copy the code.
3.  **ALT** + **F11** to open VBA Editor.
4. Paste the code in the file 'This Workbook' located under VBA project.
5. Save the VBA Editor.



*To update multiple DLX workbooks at once, ask about our "DLX Workbook Updater" tool*

### Archive SpreadSheet

Make your spreadsheet static by archiving it. This will prevent your spreadsheet from being updated with new data from a retrieval.

1. Select the spreadsheet you want to archive.
2. Go to : **DLX** > **Tools** > **Archive SpreadSheet**

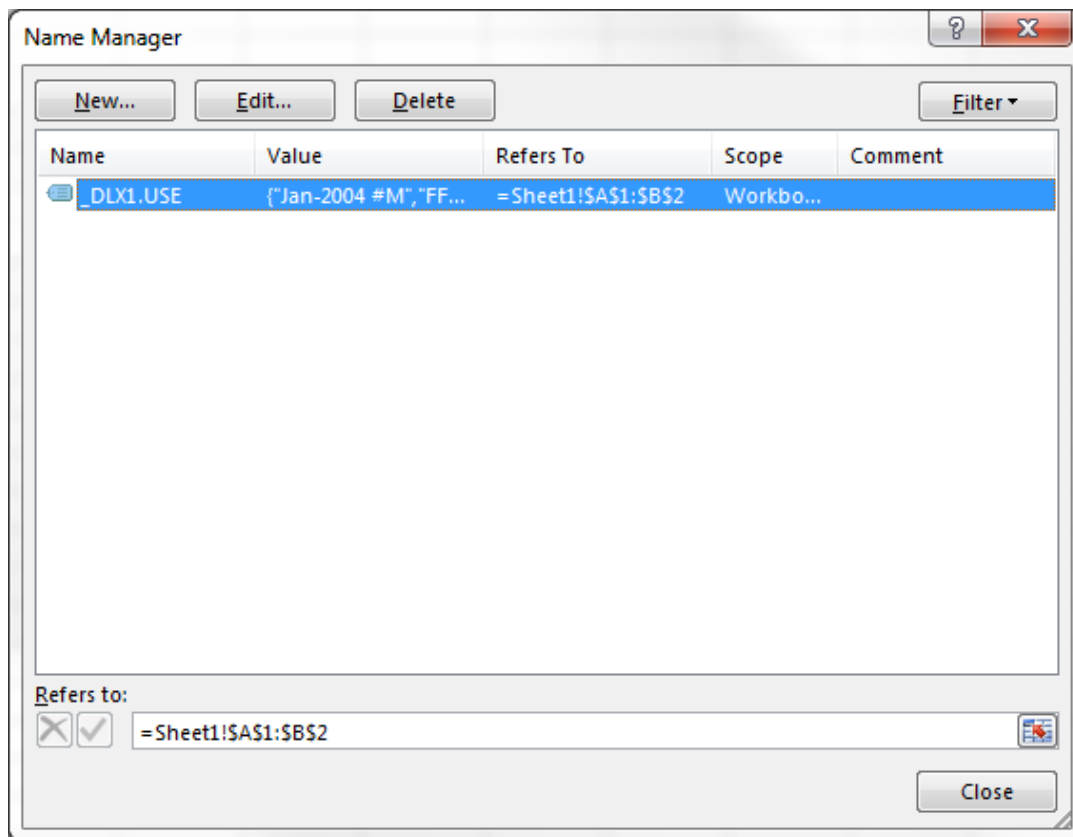


*An archived spreadsheet will contain the spreadsheet's name and the time it was archived.*

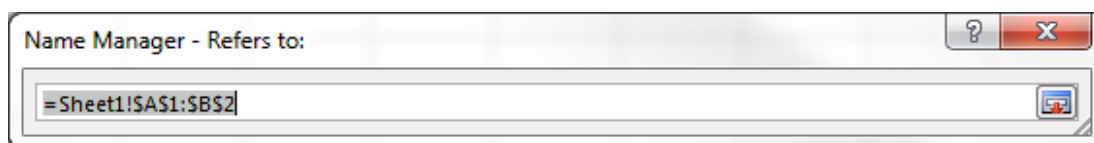
### Edit Ranges

Edit an existing range to include more cells in your retrieval. Empty cells can also be included for future code entries.

1. Do one of the following:
  - Go to **ADD-IN** > **DLX** > **Tools** > **Edit Ranges**
  -  **CTRL** + **F3**
2. Select the range name then click 



3. Select the new range of cells then click on  with the top-left most corner containing the date span:



4. Click OK.

 You can also quickly edit a range by inserting a column/row in between two active columns/rows already included in the range.

### Clear DLX Retrieval (Worksheet/Workbook)

Data should be cleared prior to changing the date span otherwise there may be left over data from the previous retrieval mixing with the new one.

1. Go to **DLX** > **Tools** then select one of the following:
  - **Clear DLX Retrieval(Worksheet)**
  - **Clear DLX Retrieval(Workbook)**

## Check Range Compatibility

Used to rename DLX ranges to properly formatted, unique range names in order to perform a successful data retrieval.

1. Go to **DLX** > **Tools** > **Check Range Compatibility**
2. Select Rename.
3. Click OK.

## Move or Copy Sheet...

Move or copy the selected sheet to the current workbook or to another workbook. It is recommended to use these functions to move or copy a sheet as they will automatically create a new range name for the new worksheet. Using copy and paste instead will result in duplicate range names which may cause retrieval errors.

### Move Sheet

1. Select the sheet you wish to move.
2. Go to **DLX** > **Tools** > **Move or Copy Sheet...**
3. Select the workbook.
4. Select where you wish to place the sheet.
5. Click OK.

### Copy Sheet

1. Select the sheet you wish to copy.
2. Go to **DLX** > **Tools** > **Move or Copy Sheet...**
3. Select the workbook.
4. Select where you wish to place the sheet.
5. Check Create a copy.
6. Click OK.



*It is important to use Move or Copy Sheet as this will maintain the range set up in your worksheet(s).*

*Simply using copy and paste will not.*

## Remove Hyperlinks

When you type in code@database, Excel will automatically make this a hyperlink. If you wish to change this in Excel:

1. Open Excel
2. Go to File > Options > Proofing > Auto Correct Options >
3. Check off the checkbox under "Replace as you type" for "Internet and network paths with hyperlinks"

## DLXFIND Window

The default behavior when you are in Excel Mode (DLXFIND) is to display this window on top of other applications. However, you know have the ability to change that setting. To do so:

1. Open DLXVG3 (either through Find Data Series) or outside of Excel.
2. Go to Options > Excel Options
3. Scroll to the bottom > Under Misc > Uncheck the checkbox under "DLXFIND Always on Top"



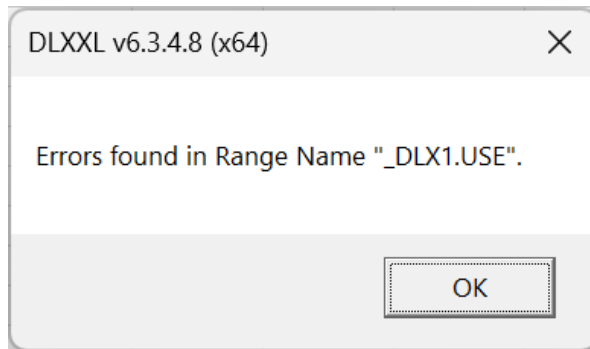
*You will need to restart DLXVG3 for this change to take effect.*

## Ch 4 - Common Errors

The Excel ADD-IN will notify you with a pop-up message when there is a problem with your range. Listed below are the most common errors you may encounter:

### Database not found or not set

If you try to retrieve data for a series that does not exist, the background of the cell with the code that does not exist will turn red and the following message will appear along with the following comment:



DLX ERROR:  
code/database not  
found.

### Example

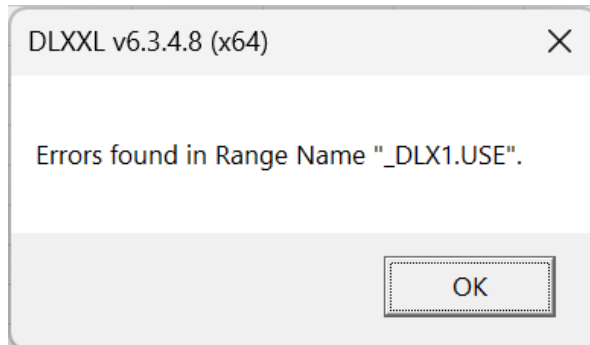
**FFEDD@USECON** is not a valid series so trying to retrieve this code turns the cell red and produces the error message as shown below:

|   | A           | B                                      | C |
|---|-------------|----------------------------------------|---|
| 1 | Jan-2020 #M | FFEDD@USECON                           |   |
| 2 |             | DLX ERROR:<br>code/database not found. |   |
| 3 |             |                                        |   |
| 4 |             |                                        |   |
| 5 |             |                                        |   |
| 6 |             |                                        |   |

To correct this error enter a valid series, such as **FFED@USECON**.

## Series cannot be disaggregated

If you try to retrieve data for a series at a higher frequency than the data available for that series (set up a range with an annual retrieval for a monthly series) the following message will appear along with the following comment:



DLX ERROR: series cannot be disaggregated.

### Example

**GDP@USECON** is a quarterly series so trying to retrieve this code in a monthly retrieval produces the error message as shown below:

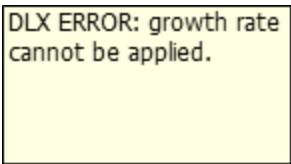
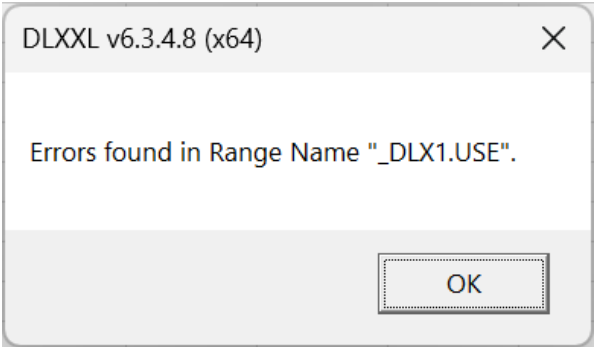
|   | A           | B                                          | C |
|---|-------------|--------------------------------------------|---|
| 1 | Jan-2020 #M | GDP@USECON                                 |   |
| 2 | Jan-2020    | DLX ERROR: series cannot be disaggregated. |   |
| 3 | Feb-2020    |                                            |   |
| 4 | Mar-2020    |                                            |   |
| 5 | Apr-2020    |                                            |   |
| 6 | May-2020    |                                            |   |

To correct this error you can [modify the date span](#) to be a quarterly or annual retrieval. For example, using a date span of "2020-Q1 #Q" or "2020 #Y" will allow you to retrieve data for **GDP@USECON**.

Another way to correct this error is to allow disaggregation when you [modify the date span](#) by selecting Disaggregation in [Range Options](#). Then your date span would be, for example, "Jan-2020 #M Disaggregate\_All".

Growth rate cannot be applied

If you try to request a growth rate that cannot be calculated, the following error message will appear along with the following comment:



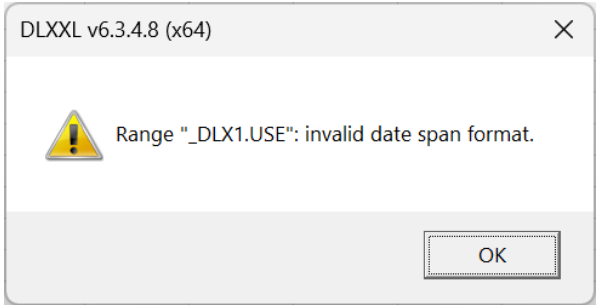
Example

**FFED@USECON** is already a growth rate so trying to apply a growth rate to it is not allowed, as shown below:

|   | A       | B                                         |
|---|---------|-------------------------------------------|
| 1 | 2020 *Y | yryr%(FFED@USECON)                        |
| 2 | 2020    | DLX ERROR: growth rate cannot be applied. |
| 3 | 2021    |                                           |
| 4 | 2022    |                                           |
| 5 | 2023    |                                           |
| 6 | 2024    |                                           |

Invalid date span format

If you manually type in the date span in DLXRanger instead of using the Date Span Wizard but use the incorrect format the following message will appear:



Example

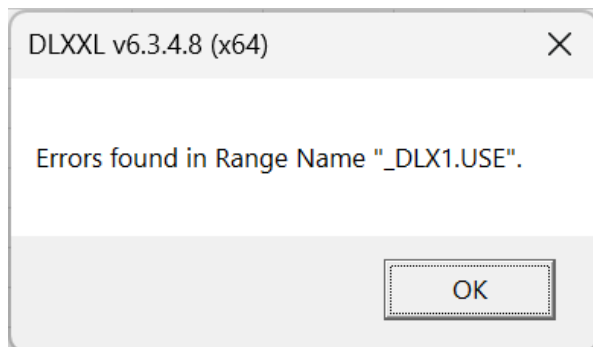
Set up a range for a monthly retrieval for **LANAGRA@USECON** using a date span of "2020 #M" will produce the error message above. Since the date span is invalid, no dates or data will be retrieved as shown below:

|   | A       | B              |
|---|---------|----------------|
| 1 | 2020 *M | LANAGRA@USECON |
| 2 |         |                |
| 3 |         |                |
| 4 |         |                |
| 5 |         |                |
| 6 |         |                |

To correct this error you can change the date span to, for example, "Jan-2020 #M" for a monthly retrieval or "2020 #Y" for an annual retrieval.

## Currency conversion function can only be applied to series with local currency [LocCur] data type

If you try to retrieve data for a series with the currency conversion function applied but its data type is not [LocCur] the following message will appear along with the following comment:



DLX ERROR: currency conversion function can only be applied to series with the local currency [LocCur] data type.

### Example

Set up an annual retrieval for the past 5 years to look at Household Debt in the G10 database across various countries:

1. Open Excel
2. Go to **DLX** > **Find Data Series**
3. Go to G10 > Selected Major Indicators by Concept > Financial > Debt Outstanding > Household & NPISHs
4. Click the drop-down arrow next to level and select FX Conversion, if you want to convert to US\$. If not, see step 8
5. Select the codes you wish to import into Excel, for example Euro Area, United Kingdom and United States. Also, select "as a % of Gross HH Disposable Income (Annual)" and bring in codes you wish to import, for example, Euro Area.
6. Go to **DLX** > **DLXRanger**
7. [Create a date span](#) using the Date Span Wizard or simply type in your desired date span in the box, for example "2020 \*Y" (yearly retrieval starting in the year 2020 and ending with the previous year).
8. *(Optional)* In Range Options you can select FX and choose the desired currency to convert to. This will be added to the date span and applied to all series with a data type of US\$ or LocCur.

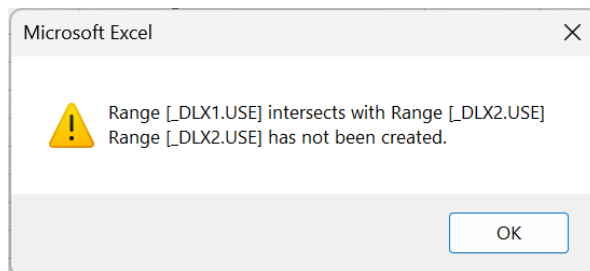
9. (Optional) Select any parameters in **Options** or **More Options** or change the data direction if desired
10. Select **Range & Position** and select all the cells with codes and any additional cells if you want to add more codes to the range later on
11. Click OK
12. Retrieve the worksheet by doing one of the following:
  -  **CTRL + D**
  - Go to **DLX** > **Retrieve (Worksheet)**

|   | A                       | B            | C            | D            | E                                                                                                                 | F |
|---|-------------------------|--------------|--------------|--------------|-------------------------------------------------------------------------------------------------------------------|---|
| 1 | 2020 *Y FX N025ZDHT@G10 | N112ZDHT@G10 | S111ZDHT@G10 | A025ZDHI@G10 |                                                                                                                   |   |
| 2 | 2020                    | 9760956      | 2812824      | 16625.82     | DLX ERROR: currency conversion function can only be applied to series with the local currency [LocCur] data type. |   |
| 3 | 2021                    | 9416953      | 2834624      | 18222.00     |                                                                                                                   |   |
| 4 | 2022                    | 9321116      | 2653572      | 19382.54     |                                                                                                                   |   |
| 5 | 2023                    | 9708334      | 2855973      | 19928.39     |                                                                                                                   |   |
| 6 | 2024                    | #N/A         | #N/A         | #N/A         |                                                                                                                   |   |

To correct this error either remove **A025ZDHI@G10** from this range since its data type is % and therefore FX() cannot be applied to it or remove the FX=111 from the date span. If you remove FX=111 from the date span, but would still like to apply FX() to some codes in the range, you can apply FX() to codes individually. By applying FX() to codes individually you have the ability to convert multiple series to different currencies in the same range.

## Intersecting Ranges

If you clear all the contents of your spreadsheet and then try to create another range using DLXRanger on top of where another one already exists, you will receive the following message and the new range will not be created:



 If you no longer want to receive these pop-up error messages go to **DLX** > **Tools** > **Options** and click the check box next to 'Disable pop-up messages during retrieval'.

 If you want the comments to be hidden, go to **DLX** > **Tools** > **Options** and click the check box next to 'Hide Comments'.

## Ch 5 - Functions

The following is a complete list of all functions, their commands and formulas. These commands can be entered directly into a cell:

### Basic Functions

| Function             | Command                    | Description                               | Formula                                                                 |
|----------------------|----------------------------|-------------------------------------------|-------------------------------------------------------------------------|
| Level<br>(default)   | CODE@DATABASE              | Untransformed data                        |                                                                         |
| % Annual Rate        | DIFA%<br>(CODE@DATABASE-E) | Percentage change at compound annual rate | $\left( \left( \frac{x(t)}{x(t-1)} \right)^{npy} - 1 \right) \cdot 100$ |
| % Period             | DIFF%<br>(CODE@DATABASE-E) | Period to period percentage change        | $\left( \left( \frac{x(t)}{x(t-1)} \right) - 1 \right) \cdot 100$       |
| % Year/Year          | YRYR%<br>(CODE@DATABASE-E) | Year over year percentage change          | $\left( \left( \frac{x(t)}{x(t-npy)} \right) - 1 \right) \cdot 100$     |
| Diff Year/Year       | YRYR<br>(CODE@DATABASE-E)  | Year over year difference change          | $x(t) - x(t-1)$                                                         |
| Diff Period          | DIFF<br>(CODE@DATABASE-E)  | Period to period difference change        | $x(t) - x(t-npy)$                                                       |
| Diff Log Annual Rate | DIFAL<br>(CODE@DATABASE-E) | Log change-compound annual rate           | $\ln \left( \frac{x(t)}{x(t-1)} \right) \cdot npy \cdot 100$            |
| Diff Log Period      | DIFFL<br>(CODE@DATABASE-E) | Log change-period to period               | $\ln \left( \frac{x(t)}{x(t-1)} \right) \cdot 100$                      |

| Function              | Command                       | Description                | Formula                                                   |
|-----------------------|-------------------------------|----------------------------|-----------------------------------------------------------|
| Diff Log<br>Year/Year | YRYL<br>(CODE@DATABASE-<br>E) | Year to year log<br>change | $\ln \left( \frac{x(t)}{x(t - n_{py})} \right) \cdot 100$ |

## Advanced Functions

For the table below, n represents the number of periods:

| Function                                          | Command                      | Formula                                                                        |
|---------------------------------------------------|------------------------------|--------------------------------------------------------------------------------|
| Point to Point %<br>Change                        | DIFF%<br>(CODE@DATABASE, n)  | $\left( \left( \frac{x(t)}{x(t - n)} \right) - 1 \right) \cdot 100$            |
| Average %<br>Change                               | DIFV%<br>(CODE@DATABASE, n)  | $\left( \left( \frac{x(t)}{x(t - n)} \right)^{1/n} - 1 \right) \cdot 100$      |
| Annualized %<br>Change                            | DIFA%<br>(CODE@DATABASE, n)  | $\left( \left( \frac{x(t)}{x(t - n)} \right)^{n_{py}/n} - 1 \right) \cdot 100$ |
| Point to Point %<br>Change Centered               | DIFF%C<br>(CODE@DATABASE, n) | Same formula as Point to Point % Change using centered values                  |
| Average %<br>Change Centered                      | DIFV%C<br>(CODE@DATABASE, n) | Same formula as Average % Change using centered values                         |
| Annualized %<br>Change Centered                   | DIFA%C<br>(CODE@DATABASE, n) | Same formula as Annualized % Change using centered values                      |
| Point to Point Dif-<br>ference Change             | DIFF<br>(CODE@DATABASE, n)   | $x(t) - x(t - n)$                                                              |
| Average Dif-<br>ference Change                    | DIFV<br>(CODE@DATABASE, n)   | $\frac{x(t) - x(t - n)}{n}$                                                    |
| Annualized Dif-<br>ference Change                 | DIFA<br>(CODE@DATABASE, n)   | $(x(t) - x(t - n)) \cdot \frac{n_{py}}{n}$                                     |
| Point to Point Dif-<br>ference Change<br>Centered | DIFFC<br>(CODE@DATABASE, n)  | Same formula as Point to Point Difference Change using centered values         |

| Function                                      | Command                      | Formula                                                                    |
|-----------------------------------------------|------------------------------|----------------------------------------------------------------------------|
| Average Difference Change Centered            | DIFVC<br>(CODE@DATABASE, n)  | Same formula as Average Difference Change using centered values            |
| Annualized Difference Change Centered         | DIFAC<br>(CODE@DATABASE, n)  | Same formula as Annualized Difference Change using centered values         |
| Point to Point Log Change                     | DIFFL<br>(CODE@DATABASE, n)  | $\ln \left( \frac{x(t)}{x(t-n)} \right) \cdot 100$                         |
| Average Log Change                            | DIFVL<br>(CODE@DATABASE, n)  | $\frac{\ln \left( \frac{x(t)}{x(t-n)} \right)}{n} \cdot 100$               |
| Annualized Log Change                         | DIFAL<br>(CODE@DATABASE, n)  | $\ln \left( \frac{x(t)}{x(t-n)} \right) \cdot \frac{npv}{n} \cdot 100$     |
| Point to Point Difference Log Change Centered | DIFFLC<br>(CODE@DATABASE, n) | Same formula as Point to Point Difference Log Change using centered values |
| Average Difference Log Change Centered        | DIFVLC<br>(CODE@DATABASE, n) | Same formula as Average Difference Log Change using centered values        |
| Annualized Difference Log Change Centered     | DIFALC<br>(CODE@DATABASE, n) | Same formula as Annualized Difference Log Change using centered values     |
| Moving Average                                | MOVV<br>(CODE@DATABASE, n)   | $\sum_{j=0}^{n-1} \frac{X(t-j)}{n}$                                        |
| Annualized Moving Total                       | MOVA<br>(CODE@DATABASE, n)   | $\sum_{j=0}^{n-1} (X(t-j)) \cdot \left( \frac{npv}{n} \right)$             |
| Moving Total                                  | MOVV<br>(CODE@DATABASE, n)   | $\sum_{j=0}^{n-1} X(t-j)$                                                  |
| Moving Average Centered                       | MOVVC<br>(CODE@DATABASE, n)  | Same formula as Moving Average using centered values                       |

| Function                         | Command                                 | Formula                                                       |
|----------------------------------|-----------------------------------------|---------------------------------------------------------------|
| Annualized Moving Total Centered | MOVAC<br>(CODE@DATABASE, n)             | Same formula as Annualized Moving Total using centered values |
| Moving Total Centered            | MOVTC<br>(CODE@DATABASE, n)             | Same formula as Moving Total using centered values            |
| Index to a Year                  | INDEX<br>(CODE@DATABASE,<br>YYYY=100)   | $x(t) = \frac{x(t)}{x(base)} \cdot 100$                       |
| Index to a Quarter               | INDEX<br>(CODE@DATABASE,<br>YYYYQ=100)  | $x(t) = \frac{x(t)}{x(base)} \cdot 100$                       |
| Index to a Month                 | INDEX<br>(CODE@DATABASE,<br>YYYYMM=100) | $x(t) = \frac{x(t)}{x(base)} \cdot 100$                       |
| Year to Date                     | YTD (CODE@DATABASE)                     |                                                               |
| Reverse Year to Date             | DYTD<br>(CODE@DATABASE)                 |                                                               |
| N/A to Zero                      | NA2Z<br>(CODE@DATABASE)                 |                                                               |
| Zero to N/A                      | Z2NA<br>(CODE@DATABASE)                 |                                                               |
| Z-Score                          | ZS (CODE@DATABASE)                      | $Z = \frac{X - \mu}{\sigma}$                                  |

## Aggregation Type

| Function            | Command                  |
|---------------------|--------------------------|
| Aggregation Average | AGG (CODE@DATABASE, AVG) |
| Aggregation Sum     | AGG (CODE@DATABASE, SUM) |

| Function                                                        | Command                     |
|-----------------------------------------------------------------|-----------------------------|
| Aggregation End of Period                                       | AGG (CODE@DATABASE, EOP)    |
| Aggregate despite missing values using default aggregation type | AGGANY (CODE@DATABASE)      |
| Aggregate despite missing values, Average                       | AGGANY (CODE@DATABASE, AVG) |
| Aggregate despite missing values, Sum                           | AGGANY (CODE@DATABASE, SUM) |
| Aggregate despite missing values, EOP                           | AGGANY (CODE@DATABASE, EOP) |

## Additional Functions

Apply seasonal adjustment, a trend lines, currency conversion, lead/lag, cumulative sum, HF Filter, Cumulative Sum, Absolute Value, Natural Logarithm or remove selected data.

| Function                                                                                                       | Command                                                     |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Seasonal Adjustment                                                                                            | SA (CODE@DATABASE)                                          |
| Seasonal Adjustment with beginning date specified                                                              | SA (CODE@DATABASE, YYYYMM)                                  |
| Seasonal Adjustment with beginning and end date specified                                                      | SA (CODE@DATABASE, YYYYMM: YYYYMM)                          |
| Insert a Trend Line                                                                                            | TRDLN (CODE@DATABASE)                                       |
| Insert a Trend Line with start date                                                                            | TRDLN (CODE@DATABASE, StartDate)                            |
| Insert a Trend Line with start and end date                                                                    | TRDLN (CODE@DATABASE, StartDate:EndDate)                    |
| Insert a Trend Line on full date span and extend/limit it to start and end date                                | TRDLN (CODE@DATABASE, *, StartDate:EndDate)                 |
| Insert a Trend Line on designated start date and extend/limit it to start and end date                         | TRDLN (CODE@DATABASE, StartDate, StartDate:EndDate)         |
| Insert a Trend Line on start and end date and extend/limit it to start and end date                            | TRDLN (CODE@DATABASE, StartDate:EndDate, StartDate:EndDate) |
| Insert a Trend Line on start and end date and extend/limit it to start date entered through end of data series | TRDLN (CODE@DATABASE, StartDate:EndDate, StartDate)         |
| Insert a Trend Line on start and end date and extend/limit it to entire date span                              | TRDLN (CODE@DATABASE, StartDate:EndDate, *)                 |
| Z-Score                                                                                                        | ZS (CODE@DATABASE)                                          |
| Currency Conversion                                                                                            | FX (CODE@DATABASE, GEO code/ ISO code)                      |
| Lead                                                                                                           | LL (CODE@DATABASE, -n)                                      |
| Lag                                                                                                            | LL (CODE@DATABASE, n or +n)                                 |
| Value Function                                                                                                 | Value (CODE@DATABASE, Date)                                 |
| Cumulative Sum                                                                                                 | CSUM (CODE@DATABASE)                                        |
| Cumulative Sum with Start Date                                                                                 | CSUM (CODE@DATABASE, StartDate)                             |
| Cumulative Sum with Start and End Date                                                                         | CSUM (CODE@DATABASE, StartDate:EndDate)                     |
| HP Filter on all data points                                                                                   | HPF (CODE@DATABASE)                                         |

| Function                                                                                                                                | Command                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| HP Filter with Start Date                                                                                                               | HPF (CODE@DATABASE, StartDate)              |
| HP Filter with Start and End Date                                                                                                       | HPF (CODE@DATABASE, StartDate:EndDate)      |
| HP Filter on all data points and lambda overwrite (ex: 150)                                                                             | HPF (CODE@DATABASE, *, 150)                 |
| HP Filter on Start and End Date and lambda overwrite (ex: 150)                                                                          | HPF (CODE@DATABASE, StartDate:EndDate, 150) |
| HP Filter cyclical - same options as HPF                                                                                                | HPFC ()                                     |
| Absolute Value Function                                                                                                                 | ABS (CODE@DATABASE)                         |
| Natural Logarithm Function                                                                                                              | LN (CODE@DATABASE)                          |
| Function to remove selected date or range of data. If you only want to remove one data point, StartDate needs to be the same as EndDate | SetNA (CODE@DATABASE, StartDate:EndDate)    |

## Contact Support

If you are experiencing problems with the Excel Add-In or have any questions, please contact us online:

- Technical Support: [tech@haver.com](mailto:tech@haver.com)
- Data Inquiries: [data@haver.com](mailto:data@haver.com)
- Sales and Information: [sales@haver.com](mailto:sales@haver.com)

Or call us anytime on our 24hr weekday hotline:

- +1 212 986 9300 (US)
- + 44 (0) 207 847 1979 (UK)
- +65 6859 0160 (SINGAPORE)
- +81 3 6860 8390 (JAPAN)