



# IMF SDMX CENTRAL

## User Guide

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# 1 Document Overview

This user guide aims to help IMF member countries to create and maintain the machine-readable (SDMX) component of their National Summary Data Page (NSDP) using SDMX Central, a cloud-based tool. SDMX Central provides member countries the ability to convert data in excel into SDMX format. In addition, member countries can register their SDMX services, if available.

The National Summary Data Page ([NSDP](#)) is a “data portal” for countries participating in [the IMF’s Data Standards Initiatives](#): SDDS Plus, SDDS, and e-GDDS ([more information here](#)). The NSDPs allow users to access country data, view metadata, or browse links to online datasets for all available categories on one portal.

This document is made up of the following sections:

1. **Convert Data.** This section includes details on the compliance checks performed by SDMX Central on the dataset before converting it into an SDMX file.
2. **Excel Data Format.** This section describes how Excel datasets should be formatted for SDMX Central to be able to process the file for conversion.
3. **Dataset Authoring using Excel Plugin.** This section describes how to use the Excel plugin provided by SDMX Central to enable dataset creation from within Excel.
4. **Registering Data.** This section describes how to register datasets with the SDMX Central service (*required for SDDS Plus only*).
5. **Subscribing as a Service.** This section describes how to subscribe to both Data Registration events and Structure changes in SDMX Central.

## 2 Convert Data

### 2.1 Convert Datasets from Excel or SDMX Files

Figure 1: Convert page of [sdmxcentral.imf.org](https://sdmxcentral.imf.org)

SDMX Central provides convert data functionality from the following URL:

<https://sdmxcentral.imf.org/data/load/data-load.html>

This page can be accessed by clicking the Convert button on the home page of SDMX Central, or from the Data→Convert Data menu item on the left-hand menu bar.

The Convert facility converts input datasets into SDMX Version 2.1 Structure Specific Data, SDMX Version 2.1 Generic Data, SDMX Version 2.0 Generic Data, SDMX Version 2.0 Compact Data, CSV, JSON, EDI and Excel. Input datasets can be in SDMX format and Excel format. The accepted Excel format is described later in this document.

The 'Quick Convert' option can be used by simply dragging and dropping a dataset file into the drop zone to the right of the Load Data form (the grey box as shown in the image above). Alternatively, from the data conversion selection fields, click the '**Choose File**' text option in the DATA section, which will open up a file browser enabling file selection.

Whether drag/drop or file selection, the source file will be analysed for conversion. If the data file contains information about the source Data Structure Definition (DSD) or Dataflow, and the Quick Convert functionality is used, SDMX Central will automatically convert the data, and it will be downloaded into your Downloads folder. If the Load Data functionality is used, the conversion must be triggered manually by clicking 'Convert Data' (see Figure 5). If the data file does not contain information about the DSD, or if it references an unknown DSD, additional pop-up boxes will ask for this information to be provided. The boxes look slightly different depending on the use of the drag/drop or file selection, as shown in the images below.

Figure 2: In this case a file with no information about the DSD was uploaded using Quick Convert. SDMX Central requires the DSD selection before it can proceed with conversion.

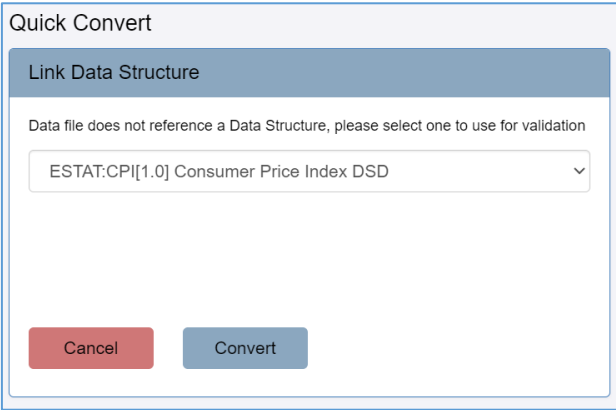
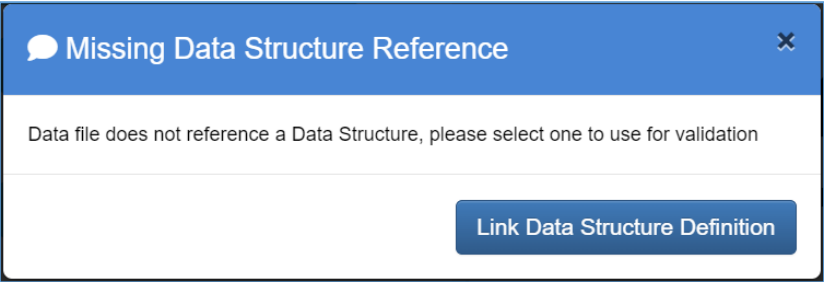


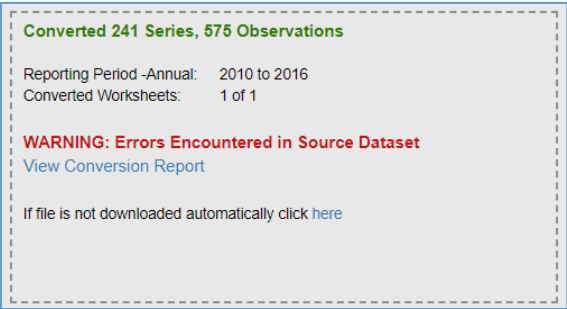
Figure 3: In this case a file with no information about the DSD was uploaded using Load Data



To continue with the conversion, select the Data Structure (DSD) to which the dataset conforms, and then click convert. Upon successful conversion, the data file will be downloaded to your Downloads folder in SDMX format. To convert another dataset file, either drag and drop another file into the drop zone or refresh the page to bring back the **Choose File** link. If the former method is chosen, it is sometimes necessary to refresh the page.

When using Quick Convert, a summary pop up box is surfaced, see image below, that highlights the outcomes of the conversion. If present, additional warnings and instructions are surfaced in the pop-up box to alert users of potential issues in the conversion. A dataset can be converted even if the dataset contains invalid content. However, a file can fail conversion if certain rules are not present. SDMX Central provides a detailed report on the checks that were performed on the dataset. To review these checks in detail, please click on '**View Conversion Report**', this will show a breakdown of test results as described in the next section.

Figure 4: Drop zone text on successful data conversion, but with errors in the source data



## 2.2 Dataset Conversion Report

The Dataset Details report, shown below, lists all relevant information acquired during conversion. Attention should be paid to the test results at the bottom of the page.

Figure 5: Summary of checks that were performed on the data file

**Dataset Details**

Filename: Data\_Pop\_Bahamas.xml

File Format: Structure Specific (Compact) v2.1

Dataset: 1

Data Structure: IMF.ECOFIN\_DSD(1.0) - ECOFIN Data Structure Definition

Data Flow: Select Dataflow (optional)

Provision Agreement: Select Provision Agreement (optional)

Data Provider: Select Provision Agreement

Number of Series: 3

Number of Observations: 60

Number of Groups: 0

Action: Load Data Re-Verify Data Convert Data

Verification checks:

- Semantically Compliant ✓
- Duplicate Observations ✓
- Mandatory Components ✓
- Obs Status ✓
- Time Period Format ✓
- Valid Calculations ✓
- Valid Constraint ✓
- Valid Representation ✓
- Valid Structure ✓

SDMX Central performs the following checks:

- Semantically Compliant:** Ensures the underlying dataset is correct with regards to the specification, for SDMX this includes ensuring the XML namespaces are correct and the Header is compliant with the specification. For Excel this includes ensuring the Dates are reported in the worksheet columns ascending order. This is the only error category that is specific to the data format, all other errors are based on the content of the message as opposed to the file format.
- Duplicate Observations:** Ensures that, in a data file, for each time series there is only one observation value reported for each time period.
- Mandatory Components:** Ensures all Measures and Attributes, as defined in the Data Structure Definition (DSD), are reported if they are marked as Mandatory.
- Obs Status:** Ensures the OBS\_STATUS observation attribute (if it exists) as defined by SDMX:CL\_OBS\_STATUS is consistent with the reported observation value. In particular, if OBS\_STATUS indicates the value is missing (e.g. O,M,L,H or Q), the rule will check that no value is reported.

- **Time Period Format:** If the DSD contains a Frequency dimension, this check ensures that all reported time periods are consistent with the reported Frequency. For instance, if time periods are of the form YYYY-MM, the rule will check that FREQ=M. The available frequencies can be found in the [Codelist](#) CL\_FREQ. The following table shows the expected date format for each frequency of data:

**Table 2: Frequency vs Date Format**

Frequency Name	Frequency Code	Date Format	Example
<b>Annual</b>	A	YYYY	2010
<b>Semester</b>	S	YYYY-Sn	2010-S1
<b>Trimester</b>	A_3	YYYY-Tn	2010-T1
<b>Quarterly</b>	Q	YYYY-Qn	2010-Q1
<b>Monthly</b>	M	YYYY-MM	2010-01
<b>Weekly</b>	W	YYYY-Www	2010-W53
<b>Daily</b>	D	YYYY-MM-DD	2010-01-01
<b>Date Time</b>	I	YYYY-MM-DD-Thh:mm:ss	2010-01-01T20:22:00

- **Valid Calculations:** If any additional rules exist in Validation Schemes to perform mathematical calculations to ensure compliance, then these tests are run, and any failures are reported against this category.
- **Valid Constraint:** A Dimension or Attribute in the dataset may report a value which is valid with regards to the DSD but has been restricted for the reporting entity in the Reporting Constraints. For example, the Reporting Country **UK** is valid in the country codelist, but the data provider **FR** will not be allowed to report this data. These are additional checks performed when a Dataflow and/or Provision Agreement is selected.
- **Valid Representation:** Ensures the reported values for Dimensions, Attributes, and Observation values comply with the DSD. For example, if a Dimension provides a list of valid Code IDs, and the reported value is not contained in this list then it will fail this test.
- **Valid Structure:** Ensures the Dataset reports all Dimensions and does not include any additional Dimensions or Attributes. For example, if a Dimension is missing then it will fail this test.

In addition to the standard SDMX validation rules, some ad-hoc checks are applied to the ECOFIN DSD:

- **Ecofin Bad Indicators:** this validation rule fails if (a) the reported INDICATOR value is not in the IMF:CL\_INDICATOR codelist AND (b) the reported INDICATOR value does not start with the three letter ISO country code of the reporting country. This error appears under the 'Valid Representation' category of validation checks. For example, the following values are reported:
  - INDICATOR = BE\_BAR
  - REF\_AREA = BE

BE\_BAR does not exist in CL\_INDICATOR. The REF\_AREA value BE maps to the three-letter country code BEL. Validation fails because this does not match the expected start of the INDICATOR code (i.e. "BEL\_...").
- **Ecofin Good Indicators:** this validation rule raises a warning if (a) the reported INDICATOR value is not in the IMF:CL\_INDICATOR codelist AND (b) the reported INDICATOR value does

start with the three letter ISO country code of the reporting country.  
This warning appears under the 'Valid Representation' category of validation checks.  
For example, the following values are reported:

- INDICATOR = FJI\_FOO
- REF\_AREA = FJ

FJI\_FOO does not exist in CL\_INDICATOR. However, the REF\_AREA value FJ maps to the three-letter code FJI which matches the start of the INDICATOR value. The rule therefore warns the reported value is missing from CL\_INDICATOR but complies with the requirement to start with the three-letter code of the reporting country.

## 2.3 Convert Datasets from URL

To convert a dataset from a URL pointing to a dataset, navigate to the Load data page.

Figure 6: Load Data page

The screenshot shows the 'Load Data' page. On the left is a sidebar menu with the following items: Home, Organisations, Data (highlighted), Data Definitions (with sub-items Data Structures and Dataflows), Data Reporting (with sub-items Provision Agreements, Reporting Constraints, Reporting Templates, and Validation Schemes), Data Dissemination (with sub-items Publication Tables and Registered Data Sources), and Convert Data (with sub-item Convert Data). The main content area is titled 'Data Set Details' and contains three sections: 'Data Source' with a dropdown menu set to 'Load From URL', 'Data Format' with a dropdown set to 'Auto Detect', and 'Structure Details' with a dropdown set to 'Auto Detect'. Below these is a 'Data' section with a text input field labeled 'Data URL' and a large orange 'Load Data' button at the bottom.

Select Load from URL as the Data Source, and then type in or copy paste the URL into the text box provided. Click Load Data to proceed to the convert test results page, from which the Dataset can be converted into SDMX format (see Figure 7 above). For the conversion to be successful, the data should conform to the structure dictated by the SDMX framework.





When the data is read, the value for the dimension FREQ will be derived from the corresponding date format. The following rules are used:

**Table 2: Derived FREQ code Id against the format of the date String in the date column**

Frequency Name	Frequency Code	Date Format	Example
Annual	A	YYYY	2010
Semester	S	YYYY-Sn	2010-S1
Trimester	A_3	YYYY-Tn	2010-T1
Quarterly	Q	YYYY-Qn	2010-Q1
Monthly	M	YYYY-MM	2010-01
Weekly	W	YYYY-Www	2010-W53
Daily	D	YYYY-MM-DD	2010-01-01
Date Time	I	YYYY-MM-DD-Thh:mm:ss	2010-01-01T20:22:00

- It is permissible to have multiple worksheets with data. This mechanism can be used to report different frequencies of data per worksheet. In this case, the Header section of each worksheet must be identical in terms of layout and content with the exception of frequency ("FREQ") in each worksheet., as shown in the image below.

**Figure 10: Worksheet 1 with Quarterly Data**

	A	B
1	Dataflow	IMF:BOP_BPM6(1.0)
2	DataStructure	IMF:ECOFIN_DSD(1.0)
3	Dataset Action	Information
4	DATA_DOMAIN	BOP6
5	REF_AREA	XX
6	COUNTERPART_AREA	W1
7	FREQ	Q
8	UNIT_MULT	6
9	TIME_FORMAT	P3M
10	OBS_STATUS	A
11		
12	INDICATOR	1995-Q1
13	BCA_BP6_EUR	11

**Figure 11: Worksheet 2 with Annual Data**

	A	B
1	Dataflow	IMF:BOP_BPM6(1.0)
2	DataStructure	IMF:ECOFIN_DSD(1.0)
3	Dataset Action	Information
4	DATA_DOMAIN	BOP6
5	REF_AREA	XX
6	COUNTERPART_AREA	W1
7	FREQ	A
8	UNIT_MULT	6
9	TIME_FORMAT	P3M
10	OBS_STATUS	A
11		
12	INDICATOR	1995
13	BCA_BP6_EUR	99

- Observation Attributes may be reported in the header section, which applies this as a default value for all observations.

**Figure 12: Demonstrating rule #3 – Applying a default value for an observation attribute**

	A	B	C	D	E	F	G	H	I
1	DATA_DOMAIN	BOP6							
2	REF_AREA	JP							
3	COUNTERPART_AREA	W1							
4	OBS_STATUS	A							
5									
6	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	2001	2002	2003	2004
7									

Default observation attribute value

- The header section should be separated from the data section by a blank row

Figure 13: A single blank row separates the header and data sections

	A	B	C	D	E	F	G	H	I
1	DATA_DOMAIN	BOP6							
2	REF_AREA	JP							
3	COUNTERPART_AREA	W1							
4									
5	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	2001	2002	2003	2004
6									

Single blank row between header and data sections

- Reported values appear in the data section.

Figure 14: Demonstrating reported values for Dimensions, Attributes and Time Periods

	A	B	C	D	E	F	G	H	I
1	DATA_DOMAIN	BOP6							
2	REF_AREA	JP							
3	COUNTERPART_AREA	W1							
4	OBS_STATUS	A							
5									
6	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	2001	2002	2003	2004
7	BCA_BP6_XDC	A		0	P1Y	12.2	22.2	32.2	42.2
8	BXCA_BP6_XDC	A		0	P1Y	12.3		32.3	42.3

- Dimension values are mandatory. If a value is not reported (as shown in the highlighted cell below), this will result in an error.

Figure 15: Omitting Dimension value FREQ will result in error

	A	B	C	D	E	F	G	H	I
1	DATA_DOMAIN	BOP6							
2	REF_AREA	JP							
3	COUNTERPART_AREA	W1							
4	OBS_STATUS	A							
5									
6	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	2001	2002	2003	2004
7	BCA_BP6_XDC	A		0	P1Y	12.2	22.2	32.2	42.2
8	BXCA_BP6_XDC					12.3		32.3	42.3

- Extra rows and columns in the spreadsheet may be added to improve the readability for the user. Blank rows are permitted but with certain restrictions. Blank rows may appear before the header section and between the header section and data section. However, a blank row may not exist within the header section. If a blank row is encountered in the header section, then this is assumed to indicate the end of the header section, and this may cause your spreadsheet to be read incorrectly.
- Blank columns indicate that no further information should be read from that row. SDMX Central will read from the first column of information in a row until it reaches a blank cell (not including data rows). The image below shows a spreadsheet where column H is blank and row 9 is blank. This would mean that in the data section only data for 2001 and 2002 are read (columns F and G). Columns I and J will not be read. However, all the 3 series (rows 7,8 and 10) will be read.

Figure 16: Demonstrating the effect blank rows and columns have on the processing of data

	A	B	C	D	E	F	G	H	I	J
1	DATA_DOMAIN	BOP6								
2	REF_AREA	JP								
3	COUNTERPART_AREA	W1								
4	OBS_STATUS	A								
5										
6	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	2001	2002		2003	2004
7	BCA_BP6_XDC	A		0	P1Y	12.2	22.2		32.2	42.2
8	BXCA_BP6_XDC					12.3			32.3	42.3
9										
10	BEFD_BP6_XDC	A		0	P1Y	12.4	22.4		32.4	42.4

11. It is permissible to have columns in the data section that are not dimensions, attributes or data but may contain additional information for the reader of the spreadsheet. The image below shows a spreadsheet where column F is for additional notes for each data row. The presence of this column will not prevent the data (in columns G to J) from being read even though the data rows themselves do not have a value for the row.

Figure 17: Demonstrating a column (column F) that is not data, dimension or attribute but will not prevent data processing

	A	B	C	D	E	F	G	H	I	J
1	DATA_DOMAIN	BOP6								
2	REF_AREA	JP								
3	COUNTERPART_AREA	W1								
4	OBS_STATUS	A								
5										
6	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	Additional Notes	2001	2002	2003	2004
7	BCA_BP6_XDC	A		0	P1Y		12.2	22.2	32.2	42.2
8	BXCA_BP6_XDC						12.3		32.3	42.3
9	BEFD_BP6_XDC	A		0	P1Y		12.4	22.4	32.4	42.4

12. It is permissible to have entire rows in the data section that are there to indicate what the data represents. This has the restriction that the text in these rows must not be in a column that indicates a Dimension, Attribute or Value. The image below shows row 7 being used to explain what rows 8 and 9 represent. The text for row 7 is in column A, which is now used for additional information.

Figure 18: Demonstrating rows in the data area to aid readability

	A	B	C	D	E	F	G	H	I	J	K
1	DATA_DOMAIN	BOP6									
2	REF_AREA	JP									
3	COUNTERPART_AREA	W1									
4	OBS_STATUS	A									
5											
6	Comment	INDICATOR	FREQ	BASE_PER	UNIT_MULT	TIME_FORMAT	Additional Notes	2001	2002	2003	2004
7	Balance of Payments, Current Account, Total										
8	Net, National Currency	BCA_BP6_XDC	A		0	P1Y		12.2	22.2	32.2	42.2
9	Credit, National Currency	BXCA_BP6_XDC									
10	Balance of Payments, Exceptional financing										
11	Direct investment, National Currency	BEFD_BP6_XDC	A		0	P1Y		12.4	22.4	32.4	42.4
12											
13											

13. It is permissible to have rows that do not report any observations. In the image above, row 9 reports no values (cells H10, I10, J10 and K10 are all blank). Please note that a file with correct headers but no values in any cell will pass the validation, however it will not convert.

## 4 Dataset Authoring using Excel Plugin

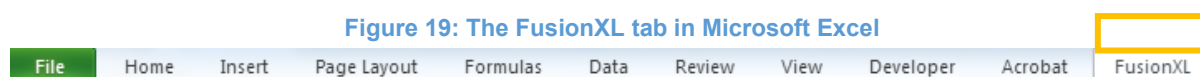
Fusion Metadata Registry (FMR) provides a link to download a plugin for Microsoft Excel to simplify the process of authoring a dataset. This plugin is called FusionXL, and can be downloaded using the following URL:

<https://www.sdmx.io/resources/download/fxl/>

Once downloaded, follow the set-up guide. Note: no installation is required; the setup simply involves placing the FusionXL file into a specific directory for Excel to pick up.

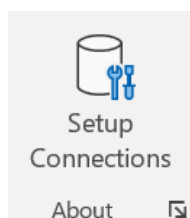
Once the plugin is enabled, there will be an additional tab in Excel with the label FusionXL.

Figure 19: The FusionXL tab in Microsoft Excel



By clicking the FusionXL tab a 'Setup Connections' button appears, this must be clicked to establish a connection to IMF SDMX Central.

Figure 20: The Setup Connection button on the Excel Ribbon (under the FusionXL Tab)

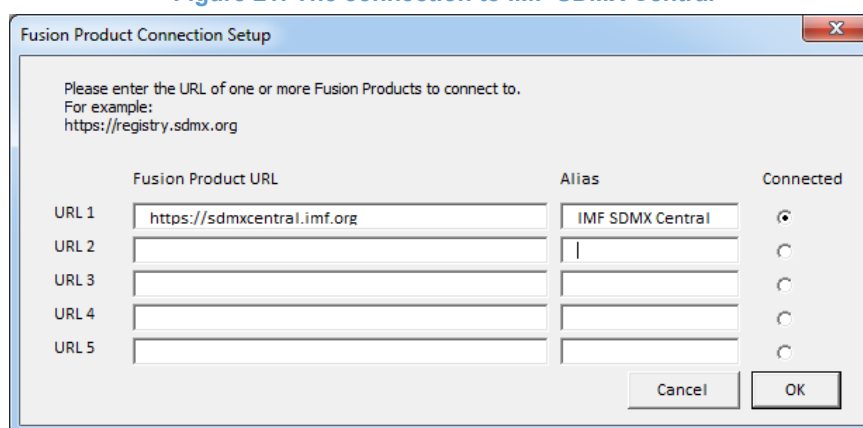


The URL to enter for SDMX Central is:

<https://sdmxcentral.imf.org>

Any alias can be used for this connection. Configuration is shown in the image below.

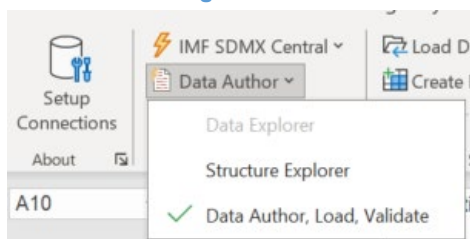
Figure 21: The connection to IMF SDMX Central



Once the configuration is done, click OK.

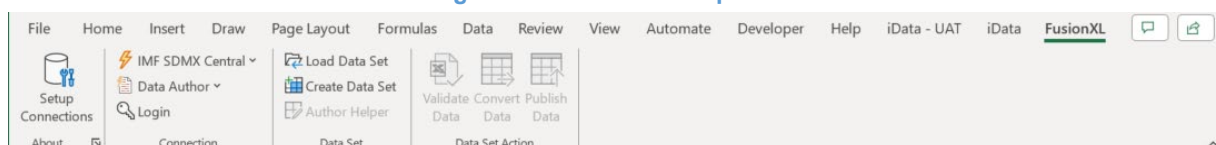
Once a connection has been established, select 'Data Author, Load, Validate' under the 'Data Author' drop-down menu in the Excel ribbon menu.

**Figure 22: Data Author being selected in the Connection Menu**



The Excel Ribbon is then updated to show the Data Author options. Note, before Data can be loaded or created, the user must first login by clicking on the Login button. The Login credentials are the same as those used to login to the web interface of IMF SDMX Central.

**Figure 23: Data Author Options**



FusionXL can be used to author new datasets, or to update existing datasets, by using the 'Load Data Set' option. SDMX, CSV, or XLSX files are all supported formats for data load.

## Create Data Set

On clicking the Create Data Set button, a form is presented to the user, providing a series of selector whose possible values are based on the Dataflows the user has been configured to provide data for.

**Figure 25: Create Data Set form.**

Create Data Set

Dataflow

Data Provider: MK1-Macedonia State Statistical Office

Dataflow: IMF:CPI(1.0) - Consumer Price Index

Frequency: A - Annual \* YYYY

Date From: \* Date To: \*

Components: ☐ Mandatory only ☒ All

Save Dataflow Settings Create Data Set Close ?

IMF:CPI(1.0) - Consumer Price Index

**Fixed dimension values**

DATA\_DOMAIN: (none)

REF\_AREA: (none)

INDICATOR: (none)

COUNTERPART\_AREA: (none)

**Fixed / Included series attributes**

BASE\_PER: ☒ (none)

UNIT\_MULT: (none)

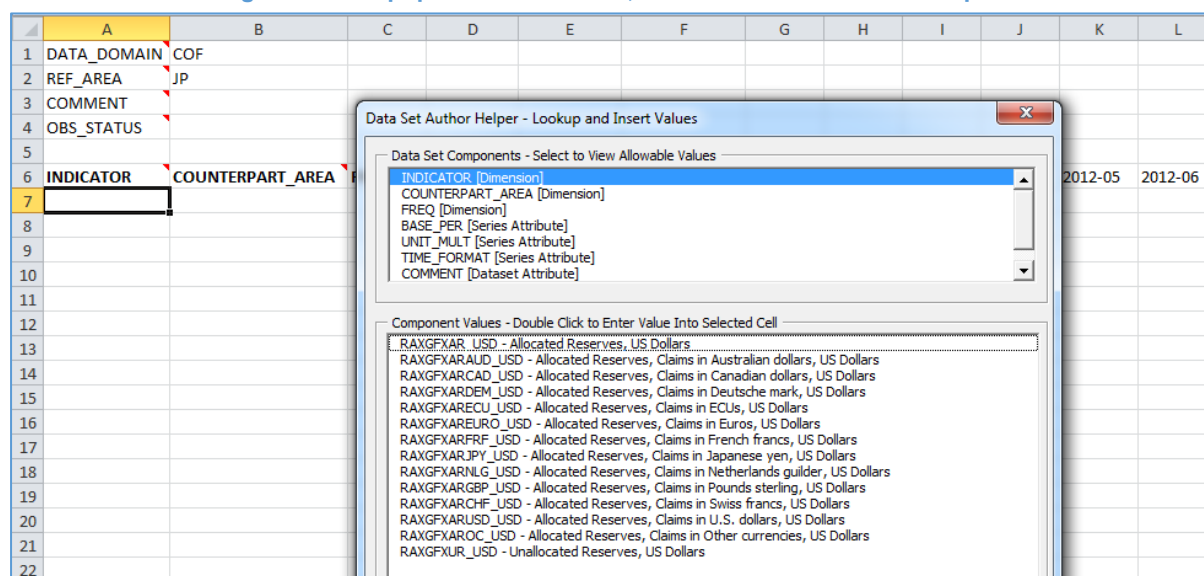
TIME\_FORMAT: ☒ (none)

**Default / Included observation attributes**

OBS\_STATUS: ☒ (none)

After clicking Create Data Set, the Excel worksheet is updated to contain the Header and Data sections relevant to the selected Dataflow and time range. It is possible to open the Data Set Author Helper, found in the “Data Set” section of the tools ribbon, right below the “Create Data Set button”.

**Figure 26: Pre-populated worksheet, with the Data Set Author Helper**



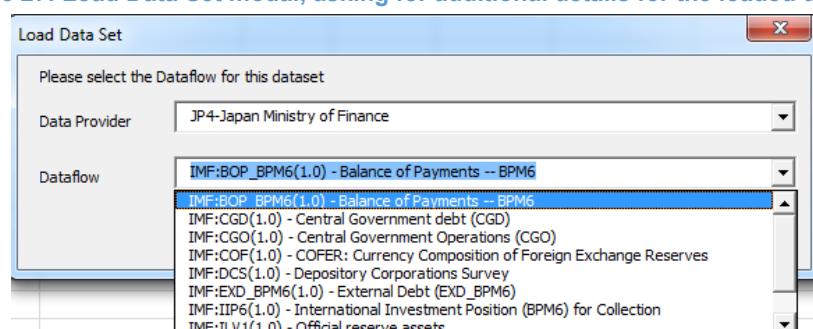
The Dataset Author Helper can be used to lookup values for each column, on double clicking a value, the selected cell in the worksheet will be populated with the relevant Id. When the Data Set Component is selected in the helper, the relevant cell in the worksheet is automatically put into focus.

Once the dataset has been authored, FusionXL provides the means to validate, transform, and publish the data.

## Load Data Set

A dataset can be loaded by clicking Load Dataset. IMF SDMX Central will try to determine which Dataflow the dataset is for, if it cannot be determined, then the Load Dataset modal will ask for additional details about the Data Provider and Dataflow

**Figure 27: Load Data Set modal, asking for additional details for the loaded dataset.**



Once the details have been provided, IMF SDMX Central will then reformat the data to populate the Excel worksheet. The Data Set Author Helper is automatically opened to assist in further modification of the dataset.

[illegible]

Validate Data   Transform Data   Publish Data

Data Set Action



## 6 Registering Data

To register data, navigate to the Data→Registered Data Sources menu item on the left-hand menu bar.

The Registrations table shows all registrations by Dataflow and Data Provider:

Figure 29: Registrations Table

Registrations			
Dataflow	Data Provider: IMF:IMF	URL	Last Updated
IMF:1SR(1.0)	IMF:IMF	http://dsbb.imf.org/xml/IMF/egddstest/1SRDCS...	2023-10-10T15:45:15.000Z
IMF:BOP6(1.0)	IMF:IMF	http://dsbb.imf.org/xml/IMF/sample/compact/IM...	2023-10-05T14:58:12.000Z
IMF:BOP_BPM6(1.0)	IMF:IMF	http://dsbb.imf.org/xml/CHLBOPBPM6.xml	2023-07-28T09:57:05.000Z
IMF:BOP_GBPM6(1.0)	IMF:IMF	http://dsbb.imf.org/xml/IMF/sample/compact/B...	2023-07-28T09:26:09.000Z
IMF:CGO(1.0)	IMF:IMF	http://www.dsbb.imf.org/xml/IMF/CZ/CZ_CGO....	2023-10-05T20:38:37.000Z
IMF:EMP(1.0)	IMF:IMF	http://share.scb.se/AA0102/data/ECOFIN_EM...	2023-10-06T13:11:47.000Z
IMF:EMP(1.0)	IMF:IMF	http://download.cbs.nl/sdmx/SDDS_NL_EMP.xml	2023-10-05T22:00:30.000Z
Showing 1 to 8 of 25 entries (filtered from 792 total entries)			
Search: <input type="text"/>			
<div> Registration Details References Export SDMX-ML 3.0 Register URL Re-Register Delete Registration </div>			
Registration ID	-		
Registered URL	-		
Dataflow	-		
Data Provider	-		
Registration Type	-		

It is possible to filter the table by Data Provider, using the dropdown selector in the header of the 'Data Provider' column. Reach out to the IMF to ensure the Data Provider has been configured.

If the Data Provider has been configured to register a URL for the selected Dataflow, it will be possible to 'Register URL'. On clicking New Registration, the Register Data Source modal is opened. This form expects one value to be provided, the URL of the dataset to be registered.

Figure 30: Register Data Source Modal

Create Registration

Dataflow

IMF:1SR(1.0)

Data Provider

IMF: IMF

URL Type

File

Data URL

Cancel

Register URL

On clicking 'Register URL', IMF SDMX Central will query the URL to validate the data file. On successful validation, the Data at the URL will be made available via IMF SDMX Central. The Registrations table will be updated to reflect the new Data Registration by showing a last-updated timestamp of when the data registration event took place ('Last Updated' column). In the event the registration fails, SDMX file structure or the URL will need to be reviewed.

It is also possible to 'Re-Register' a URL. Selecting an item from the table and pressing the 'Re-Register' button will generate a pop-up message asking to confirm the action. After confirmation, the information under the 'Last Updated' column will reflect the new registration of the same URL.

## 7 Subscribing As a Service

IMF SDMX Central provides three mechanisms for receiving notifications of structure and data updates, these are:

1. RSS Feed
2. Notification via Email
3. Notification via HTTP POST

### 7.1 RSS Feed

IMF SDMX Central RSS feed is linked to from the footer of the user interface. The URL of the RSS feed is:

<https://sdmxcentral.imf.org/rss.xml>

The RSS feed is updated each time a transaction is made with the service. A transaction includes structure additions, modifications, and deletions, as well as data registrations and deletions. Each transaction contains a URL link to the underlying SDMX document containing the information on the submission. The SDMX document is in version 2.1, and is a RegistryInterface document containing either a SubmitStructureRequest or a SubmitRegistration Request.

### 7.2 Notifications via Email or POST

Users may subscribe to structure or data changes in IMF SDMX Central. This is useful if a user, or indeed a computer system, wishes to be automatically informed of changes. To create a subscription, click on the **Subscribe to Changes** link, which is provided in the footer of IMF SDMX Central web interface.

Figure 31: IMF SDMX Central footer



Figure 32: Showing the Subscription Dialog

The image shows a 'Your Subscriptions' dialog box. It has a blue header bar with the title 'Your Subscriptions' and a close button (X). Below the header, there is a section 'Receive notification by email' with an input field for 'Email Address'. To the right of this field are links for 'Load your subscriptions' and 'Unsubscribe'. Below this is a section 'Select Event to Subscribe To' with a dropdown menu for 'Event Type'. The dropdown is currently set to 'All Data Events', and 'All Structure Events' is visible below it. To the right of this is a 'Subscribed Events' section with a table. The table has columns for 'Event Type' and 'Event Filter'. The table is currently empty, with the text 'No data available in table' displayed. At the bottom left of the dialog are two buttons: 'Refine Events' and 'Select Event Type'. At the bottom right are two buttons: 'Cancel' and 'Submit Subscription'.

A subscription is created by defining which events to subscribe to and adding them to a 'bucket' of subscribed events.

To receive Subscription notification events, users do not need to have an account with IMF SDMX Central. The user must provide a valid e-mail address and select the events that they wish to subscribe to.

On creating a subscription, it will either be actioned immediately (if the user is authenticated in IMF SDMX Central and their subscription email matches their user account) or a confirmation email will be sent which contains a link to complete the request.

When a structure is modified in IMF SDMX Central, or a new Data Registration event occurs, all the subscribers who are registered receive a notification.

Notifications via email will include an attached zip file containing the SDMX document with the modification that was made. The email will also contain a link which the user can click if they wish to unsubscribe from IMF SDMX Central.

Notifications via POST will be sent to the URL defined using the HTTP POST protocol. The POSTed document will be a SDMX version 2.1 RegistryInterface document, containing either a SubmitStructureRequest or a SubmitRegistrationRequest. The HTTP Content-Type header is set to 'application/text', and the document is contained in the body of the POST.