



THE SPECIAL DATA DISSEMINATION STANDARD PLUS — National Summary Data Page

I N T E R N A T I O N A L M O N E T A R Y F U N D

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ABBREVIATIONS

SDDS	Special Data Dissemination Standard
SDDS Plus	Special Data Dissemination Standard Plus
GDDS	General Data Dissemination System
DSD	Data Structure Definition
NSDP	National Summary Data Page
NSDP Plus	National Summary Data Page for SDDS Plus
SDMX	Statistical Data and Metadata eXchange
SDMX-ML	Statistical Data and Metadata eXchange eXtended Mark-up Language

I. INTRODUCTION

1. The Special Data Dissemination Standard Plus (SDDS Plus) was established on February 22, 2012. It is a new tier under the IMF Data Standards Initiatives that aims to address the need to fill data gaps to help prevent and mitigate financial crises. This guide aids economies that wish to adhere to the SDDS Plus in meeting the dissemination requirements for the prescribed data categories and components using their respective National Summary Data Page (NSDP) for SDDS Plus. The guidelines for establishing the NSDP for SDDS Plus adherents differ from the guidelines for SDDS subscribers and include the dissemination of data in the formats of the Statistical Data and Metadata eXchange (SDMX) standards. Reliance on SDMX standards is expected to reduce observance costs by SDDS Plus adherents and monitoring costs for the IMF.
2. This guide outlines technical requirements for disseminating SDDS Plus prescribed data categories and components on the NSDP for SDDS Plus (NSDP Plus) and registering prescribed SDMX data files in SDMX Central. It provides an overview of the content of the NSDP Plus and the various options available to adhering economies for establishing their NSDP Plus.
3. Section II provides an overview of the NSDP Plus, describing its set-up and the process for disseminating the prescribed SDDS Plus components. Section III provides an overview of the encoding structure for SDDS Plus, the EcoFin Data Structure Definition (DSD), and explains which other DSDs are accepted for the dissemination of SDDS Plus prescribed components. Section IV explains the role of SDMX Central and how SDDS Plus adherents inform SDMX Central of an update of an SDDS Plus data category. It also guides users to accessing the DSD, code lists, and other SDMX artefacts using the SDMX Central. Section V includes an overview of Convert Excel Dataset to SDMX format. The converter service made available to adhering economies while they are completing the implementation of their SDMX systems. Section provides the list of IMF contacts for the implementation of the NSDP Plus.

II. OVERVIEW OF THE NSDP PLUS

Structure of the NSDP Plus

4. The NSDP Plus is a simplified version of the current NSDP for SDDS. In addition to a general presentation structure that aligns with the current format of the NSDP (see Appendix I), the NSDP Plus includes, at a minimum, one line per data category with two hyperlinks: (1) to a webpage maintained by the adherent that provides access to data in national presentation formats, and; (2) to a data file in SDMX-ML format available from a

public URL¹ for the prescribed components (at the minimum) of the data category. The SDDS Plus also requires that hyperlinks on NSDPs provide users with access to times series for all data categories, except for COFER data, for the last five years (or less than five years if the data series was created less than five years from the date of posting the hyperlink).²

5. Once an NSDP Plus is established, its maintenance cost should be minimal, as it does not require updating when disseminating an SDDS Plus data category. The only time an NSDP Plus would require updating is when modifying hyperlinks (i.e., URLs) to the data in national presentation or to the data in SDMX formats.

6. Each time an adherent updates an SDDS Plus prescribed data category, they would do the following: (i) update data in the national presentation available from the hyperlink on the NSDP Plus; (ii) update data in SDMX formats available from the hyperlink on the NSDP Plus; (iii) inform the IMF of the update of the data by either (a) logging in to the IMF NSDP Registration Service and clicking the “refresh” button to update the registration for the relevant data category or (b) sending a notification message in SDMX format to SDMX Central web service to inform of the update of the registration for the data category.³

Prescribed SDMX formats for data files

7. The SDDS Plus prescribes disseminating data in SDMX format via a hyperlink provided on the adherent’s NSDP Plus, using one of the DSDs provided by the IMF for that purpose.

8. The *SDDS Plus Guide for Adherents and Users*⁴ instructs adherents to publish their data using SDMX formats. SDMX-ML is the prescribed format for SDDS Plus. SDMX-ML messages use eXtended Mark-up Language (XML) format.

¹ A uniform resource locator (URL), also known as web address, is a specific character string that constitutes a reference to a resource. In most web browsers, the URL of a web page is displayed on the top inside an address bar.

² For two data categories, the Coordinated Portfolio Investment Survey (CPIS) and the Coordinated Direct Investment Survey (CDIS), adherents should re-disseminate these data on their NSDP Plus or provide a hyperlink on their NSDP Plus to the CPIS and/or CDIS websites maintained by the IMF. Adherents could also decide to disseminate the data on their NSDP Plus at the same time as the data are reported to the IMF.

³ Sample notification messages for SDMX Central web service are available from the “support” section of SDMX Central(<https://sdmxcentral.imf.org>).

⁴ The *SDDS Plus Guide for Adherents and Users* is available on the IMF Data Dissemination Bulletin Board website at: <http://www.imf.org/external/pubs/ft/sdds/guide/plus/2013/sddsplus13.pdf>.

9. The SDMX file must be formatted either Structure Specific or Compact. A Structure Specific or Compact format allows the representation of data structured according to a specific data structure definition
10. SDMX-ML files, one per data category, must be publicly available from a URL posted on the NSDP Plus (see Appendix I). The adherent also provides the URL to SDMX Central. The URL gives direct access to an SDMX-ML file or to a web service that provides the file in the prescribed SDMX-ML format.⁵

Available DSDs for SDDS Plus

11. Adherents have the option of choosing between one of the two following types of DSDs:
 - i) A dissemination DSD provided by the IMF. This DSD follows SDMX 2.1 Standards' Technical Note (Section 3.4.1.2)⁶ recommendations for DSDs intended for "public viewing of data". As such, the DSD includes a limited number of dimensions, facilitating web dissemination of the data while covering all prescribed and encouraged components of SDDS and SDDS Plus using a single DSD.
 - ii) A series of SDMX DSDs for global use, likely one per statistical domain. Two of these DSDs have been developed under the auspices of the SDMX Initiative. The Balance of Payments DSD (BOP-DSD) supports the detailed reporting of BOP, IIP, Reserves Template, CPIS, and external debt data. The National Accounts DSD (NA-DSD) covers national accounts, including sectoral accounts data. These DSDs are available on the SDMX website at www.SDMX.org.⁷
12. Adherents will be requested to inform the IMF, either directly or through SDMX Central, of the DSDs being used to encode the various SDDS Plus data categories.

⁵ The URL provided on the NSDP Plus (and provided to SDMX Central) may be a call to a web service. The web service does not have to be an SDMX conformant web service. However, upon "clicking" on the URL, the web service must return an SDMX-ML file that conforms to one of the DSDs available for SDDS Plus.

⁶ The document is available at: http://sdmx.org/wp-content/uploads/2013/07/SDMX_2_1_SECTION_6_TechnicalNotes-march-2013.doc

⁷ The BOP-DSD and supporting documentation are available at: http://sdmx.org/?page_id=1747, while the NA-DSD is available at: http://sdmx.org/?page_id=1498.

Options for posting the SDMX-ML files

13. The SDDS Plus coordinating agency will maintain and post an NSDP Plus that provides a centralized webpage with information on the location of the SDMX data files for each of the data category. It is the responsibility of the coordinating agency to ensure that the links available from the NSDP Plus are up-to-date and provide access to the latest SDDS Plus data in national presentation formats, as well as to the latest data in SDMX formats.
14. Hyperlinks to data in national presentations and to SDMX-ML files can be to servers of one or many national data producing agencies, as most convenient for the SDDS Plus adherent.
15. The SDDS Plus adherent will notify SDMX Central at each instance of the update of a data category of the SDDS Plus, either via SDMX Central user interface or by sending a SDMX notification message to the SDMX Central web service. These notifications are provided by the individual national data producing agencies responsible for the production of a data category or by the SDDS Plus coordinating agency, as most convenient for the SDDS Plus adherent.
16. Adherents are required to disseminate one SDMX-ML data file per data category.⁸
 - i) Prior to adhering, SDDS Plus adherents will provide the IMF information on the DSD(s) and associated “dataflow” adopted for the dissemination of each SDDS Plus data category (see Section III). This is communicated either directly to IMF staff or via SDMX Central. Following adherence, the adherents can decide to adopt another of the available DSDs for disseminating the SDMX-ML files for a data category. It is the responsibility of the adherent to tell the IMF of its intention of adopting a new DSD or dataflow before they disseminate data using the new DSD or dataflow, so that the IMF can set up all monitoring arrangements accordingly.
 - ii) The IMF will use the SDMX-ML data file, together with the notifications submitted by countries, to monitor the timely dissemination of prescribed components of the SDDS Plus.

⁸ There must be at least one SDMX-ML file per data category. In the instances when two data producing agencies are responsible for the dissemination of the prescribed components of the same data category, there could be more than one SDMX-ML file per data category.

III. ECOFIN DATA STRUCTURE DEFINITION

Overview

16. The IMF has defined the six-dimension EcoFin DSD for disseminating SDDS Plus data categories. This “dissemination” DSD aims to facilitate web-dissemination of data using SDMX, make searching through the SDMX files easier for end users, and help countries publish SDMX files by providing a simple DSD that facilitates mapping to native data systems.

17. The IMF will also support the dissemination of the SDDS Plus data categories using DSDs for global use defined under the auspices of the SDMX sponsoring organizations. These DSDs are available in the SDMX Global Registry (<https://Registry.SDMX.org>).

Dimensions and Attributes

18. Dimensions are used to uniquely identify a time series and, when joined together, provide “time series keys”, the unique identifier for a time series. When defining a time series key using SDMX, a valid code must be assigned to each dimension of the DSD. Appendix II provides an example of how the data codified according to the EcoFin DSD would look like. The six dimensions of the EcoFin DSD are:

Table 1. Dimensions of the EcoFin DSD

Position in Key	Concept Mnemonic	Description	Code List Mnemonic	Description	Maint. Org.
1	DATA_DOMAIN	Data Domain	CL_DATADOMAIN	DATA_DOMAIN code list	IMF
2	REF_AREA	Reference country or area	CL_REF_AREA	Area code list	IMF
3	INDICATOR	Economic Indicator	CL_INDICATOR	Economic Indicators Code List	IMF
4	COUNTERPART_AREA	Counterpart country or area	CL_REF_AREA	Area code list	IMF
5	FREQ	Frequency	CL_FREQ	FREQ code list	SDMX
6	TIME_PERIOD	Time			SDMX

19. Indicator is a “mixed dimension” that defines many aspects of the time series, including the economic concept, the statistical adjustment, and the unit of measure.

20. Attributes are used to further describe the data. They provide descriptive and technical metadata, referring either to a specific observation of the time series, the time series itself, or the complete dataset. Attributes are either mandatory (i.e. they apply mandatorily to the whole dataflow) or conditional (i.e. they apply only to a subset of the dataflow). Their level of attachment and status are defined in the DSD.

21. The attributes of the EcoFin DSD and their attachment levels are:

Table 2. Attributes of the EcoFin DSD

		Concept Mnemonic	Description	Code List Mnemonic	Description	Maint. Org.
Primary Measure						
		OBS_VALUE	Observation Value			SDMX
Dataset Attributes						
	C/M					
	Conditional	COMMENT	Detailed description of the data set	Uncoded	Free Text (up to 1050 characters)	IMF
Series Attributes						
	Conditional	BASE_PER	Base Period			IMF
	Mandatory	UNIT_MULT	Unit multiplier	CL_UNIT_MULT	Unit multiplier code list	IMF
	Conditional	TIME_FORMAT	Time Format	CL_TIME_FORMAT	Time Format code list	SDMX
Observation Attributes						
	Conditional	OBS_STATUS	Observation Status	CL_OBS_STATUS	Observation Status codelist	IMF

22. Unit Multiplier is a mandatory attribute; it must be included in all data files and attached at the series level. Unless populated, default values will be assumed for the following conditional attributes:

“COMMENT”- Blank

“BASE_PER” - Blank

“OBS_STATUS” – Free

“TIME_FORMAT” – Standard depiction of the time dimension

23. All dimensions and selected attributes of the EcoFin DSD are coded concepts. These dimensions and attributes are associated with a code list and a descriptor for the coded item. For some dimensions, the same code list is re-used when relevant. For example, the same code list is used for identifying items of the reference area and the counterpart area, as they both refer to the same list of countries, territories, and regional groupings. All coded concepts are listed in a non-hierarchical presentation (flat list).

24. The EcoFin DSD, like all other artefacts required for the SDDS Plus, is available on SDMX Central (<https://sdmxcentral.imf.org>). Section IV provides further details on SDMX Central and the Registration Service.

25. In addition, the EcoFin DSD is available in two Excel workbooks. One workbook (ECOFIN DSD) provides the structure—dimensions and attributes—of the DSD and code lists for all codes dimensions and attributes, except for the INDICATOR dimension. The other workbook (INDICATOR Code List – by DATAFLOW) provides valid indicator codes for each dataflow. A dataflow is used for identifying the subset of the indicator code list that applies to each SDDD Plus data category. As such, there is one dataflow per data category (two, when there are two acceptable methodologies for a single data category, such as *BPM5* and *BPM6* for the balance of payments).

26. The Excel version of the EcoFin DSD is available in the “support” section of SMX Central (<https://sdmxcentral.imf.org>).

IV. NSDP REGISTRATION AND IMF SDMX CENTRAL

27. NSDP Registration is a key component of the NSDP Plus. NSDP Registration, which is performed on IMF SDMX Central, informs the IMF each time an adherent register updated data for an SDDS Plus data category. The IMF uses the URL provided by the adherent as part of the registration to get the latest SDMX-ML data file and monitors that all prescribed components for a data category have been disseminated on a timely and comprehensive basis.

Registration of data updates: prescribed feature of the NSDP Plus

28. The IMF pulls the latest SDMX-ML data only after an adherent has notified the IMF, using the SDMX Central registration feature, of an update for a data category (see below for further details). For the NSDP Plus, the timely notification of an update of a data category is as important as the timely dissemination of the data; both are prescribed features of the NSDP Plus.

Registration using IMF SDMX Central

29. A detailed technical User Guide is available in the “support” section of SDMX Central (<https://sdmxcentral.imf.org>).

30. The SDMX Central registration feature (the “Registration Service”) allows organizations to register the location of their data files. Once an SDDS Plus adhering organization has provided a URL to the Registration Service, the application will retrieve the data file for validation, and, if valid, display a tabular view of the data, which the adherent can use for reviewing the data. After data validation, the data file can be registered; the URL of the data file is then associated with a data category and stored in SDMX Central. In the Registration Service, SDDS Plus data categories are defined using SDMX “dataflows”, which correspond to subsets of valid codes from the EcoFin DSD that are required for defining the components of individual data categories. As DSDs for global use, such as the BOP-DSD and the NA-DSD, are implemented by countries, additional dataflows will be defined in the Registration Service. These dataflows will link the DSDs for global use to

SDDS Plus data categories, making these DSDs valid for registering SDDS Plus data categories.

31. The Registration Service is built on top of an SDMX Central, and as such makes use of SDMX metadata for data validation and data registration, and SDMX web services for dissemination of information stored in SDMX Central or for recording information in SDMX Central.

32. After logging onto the application for the first time, the adherent will be presented with a Dashboard containing a Registrations table with no content (Registrations). As datasources (URLs) are registered in the Registration Service, this table will display each registered source (URL). It is important to note that only authorized users can access the Registration Service, and that each user is associated with a specific SDDS Plus data providing agency. Users only have access to data registrations (relevant SDDS Plus data categories) falling under their agency's responsibility. It is not possible to view registered datasources for other organizations participating in the Registration Service. An organization will only be able to view the data categories that it disseminates for the purpose of SDDS Plus.

33. Registration of a data source via the Registration Service is simple once the adherent has a properly formatted SDMX-ML data file posted in a URL. To register data, click on the Data Registration button on the home page. If logged in, then navigate to the home page, this will show the user's data dashboard. The Data Dashboard shows all the Provision Agreements the Data Provider has been configured to provide data for.

Figure 1.1 Select Provision Agreement

Welcome Demo User
Showing Data Dashboard for JP4: Japan Ministry of Finance

Provision Id	Provision Name	Series	Last Updated
JP_EXD	Japan External Debt	39	2016-10-24T16:38:47
JP_IIP	Japan International Investment Position	14	2016-10-24T16:25:29
JP_ILV2	Japan Template on International Reserves and Foreign Currency Liquidity	311	2016-10-24T16:08:45
JP_DCS_E	Japan Depository Corporations Survey (External)	1	2016-10-24T16:06:13
JP_MET	Japan Merchandise Trade	2	2016-10-24T16:03:34
JP_COF	Japan Currency Composition of Foreign Exchange Reserves	-	-
JP_ILV1	Japan Official Reserve Assets	-	-

No Filter No Filter Series Last Updated

Showing 3 to 10 of 10 entries 1 row selected

Actions
Register Data

Details
 Data Provider JP4 has been configured to supply data for this Dataflow as a URL referencing an external data source.
 [New Registration](#)

Provision Details
[View Details](#)

Provision URN	urn:sdmx.org.sdmx.infomodel.registry.ProvisionAgreement=IMF:JP_COF(1.0)
Dataflow URN	urn:sdmx.org.sdmx.infomodel.datastructure.Dataflow=IMF:COF(1.0)
Dataflow Name	COFER: Currency Composition of Foreign Exchange Reserves
Dataflow Description	COFER: Currency Composition of Foreign Exchange Reserves

If the Data Provider has been configured to register a URL for the selected Dataflow, then the available Action will be 'New Registration'. On clicking New Registration, the Register Data Source dialog box opens. Enter the URL of the dataset to be registered.

Figure 1.2 Registering an SDDS Plus Data Category

Register Data Source
X

Data Source Type

File URL

A file URL expects a URL to resolves to a web location of a SDMX dataset.

Note: If the URL results in an HTTP redirect (HTTP status codes 3xx) it will not be followed and the Registration will fail.

Close

Register Data Source

On clicking Register Data Source, IMF SDMX Central will validate the data file. On successful validation, the data at the URL will be made available via IMF SDMX Central. The Data Dashboard will be updated to reflect the new Data Registration by providing a Series count and showing a last-updated timestamp of when the data registration event took place.

Figure 1.3 Post Registration Actions

Provision Id	Provision Name	Series	Last Updated
JP_BOP	Japan Balance of Payments	21	2016-10-24T16:42:12
JP_CGD	Japan Central Government Debt	3	2016-10-24T16:41:47
JP_EXD	Japan External Debt	39	2016-10-24T16:38:47
JP_IIP	Japan International Investment Position	14	2016-10-24T16:25:29
JP_ILV2	Japan Template on International Reserves and Foreign Currency Liquidity	311	2016-10-24T16:08:45
JP_DCS_E	Japan Depository Corporations Survey (External)	1	2016-10-24T16:06:13
JP_MET	Japan Merchandise Trade	2	2016-10-24T16:03:34

No Filter No Filter Series Last Updated

Showing 1 to 9 of 10 entries 1 row selected

Actions	Details	
Register Data	Data Provider JP4 has been configured to supply data for this Dataflow as a URL referencing an external data source.	Change URL
Re-Register	If the data has changed at the URL location, a re-index will re-query the data to update the IMF SDMX Central indexes, update the Data Registration details, and notify subscribed parties of the data change	Re-Register
View Data	View the series provided by you for this Dataflow. To view the data in the full context of the Dataflow, please Browse the Data.	View Data
Automate Registration	Generate SDMX Auto Registration document. The exported file can be used in for future submissions directly to the IMF SDMX Central SDMX web service which will result in the Fusion Registry re-indexing the URL.	Automate Registration Documentation
De-Register URL	Deleting the Data Registration will remove the link from the IMF SDMX Central to your data URL, this will remove any indexes and your data will not be visible or retrievable from the IMF SDMX Central User Interface or web services. Note: This action will notify any subscribed users.	De-Register

Registration Details	
Registration Id	188d5f53ef1159947aefd63dfb16f3f0 Copy
Data URL	http://www.e-stat.go.jp/data/nsdp/sdmx/MET_00M.xml Copy
User Id	root
Data Start Date	Thu Sep 01 00:00:00 GMT 2011
Data End Date	Thu Sep 01 00:00:00 GMT 2011

34. The User Guide explains how to use the application to register a data file; to re-register a file (i.e., inform the IMF that updated data are provided in the SDMX-ML file for a data category). It also indicates how to set up a machine-to-machine notification system to register/re-register data files. In addition, information is provided on the “view structures” section of the application, which allow users to view selected SDMX artefacts used for SDDS Plus, such as the EcoFin DSD, its associated code lists, and the various dataflows that have been set up, which correspond to the SDDS Plus data categories.

IMF SDMX Central

35. IMF SDMX Central is available from a link <https://sdmxcentral.imf.org>. SDMX Central uses an SDMX Standard V2.1 registry. As such, it offers most of the functionality expected from a V2.1 SDMX, including a web service and a notification subscription service.

36. The availability of SDMX Central was key in setting up the complete set of SDMX artefacts in support of an SDMX dissemination infrastructure for SDDS Plus that is designed to minimize the reporting burden on SDDS Plus adherents.

Navigating through SDMX Central

37. A separate user guide is available from SDMX Central, under the “support” section of the navigation bar. Navigating the SDMX Central is not required for the regular data dissemination activity of an SDDS Plus adherent. However, this may prove useful during the set-up phase of the NSDP Plus, when users may wish to download various SDMX artefacts using SDMX Central web service, including the EcoFin DSD, code lists, and dataflows.

38. In addition to the User Guide available on SDMX Central, a technical note, “Main Artefacts in SDMX Central,” is available in Appendix III. The note includes links for downloading the EcoFin DSD, the code lists associated with the dimensions and attributes of the EcoFin DSD, and the various dataflows, which are used to represent the SDDS Plus data categories, and the constraints applied to the dataflows (only subsets of code lists are valid for each dataflow, corresponding to the components of individual SDDS Plus data categories).

39. Users could also navigate the “Web Services” tab of SDMX Central to download SDMX artefacts following these steps:

- 1) Select to query either the “Structure” or “Schema” query
- 2) Select Structure type
- 3) Select the associated Agency
- 4) If “Structure” specify the ID of the structure, if Schema select from the list of SDMX artefacts the one you would like to download.
- 5) Select format for download.
- 6) For “Structure” select level of detail, references and version.
- 7) Then select either, Open Url or Copy to complete.

Figure 2.1 Downloading an SDMX Artefact from the NSDP webservice GUI (Structure)

Data Query	Structure Query	Schema Query	SOAP Query
<div>Structure Type</div> <div>Agency Scheme</div>			
<div>Structure Format</div> <div>SDMX-ML</div>			
<div>Detail</div> <div>Full</div>			
<div>Agency</div> <div>All Agencies</div>			
<div>Sub-Format</div> <div>Version 2.1</div>			
<div>References</div> <div>None</div>			
<div>Structure Id</div> <div>all</div>			
<div>Version</div> <div>Latest All Specify</div>			
<div>Query Url:</div> <div>https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/agencyScheme/all/all/latest/?format=sdmx-2.1&detail=full&references=no</div>			
<div>Open Url</div> <div>Download</div>			

Figure 2.2 Downloading an SDMX Artefact from the NSDP webservice GUI (Schema)

Data Query	Structure Query	Schema Query	SOAP Query
<div>Structure Type</div> <div>Data Structure</div>			
<div>SDMX Version</div> <div>v2.1 v2.0 v1.0</div>			
<div>Agency</div> <div>ESTAT</div>			
<div>Data Structure</div> <div>[NA_MAIN] NA Main Aggreg:</div>			
<div>Query Url:</div> <div>https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/schema/datastructure/ESTAT/NA_MAIN/1.5/?format=sdmx-2.1</div>			
<div>Open Url</div> <div>Download</div>			

VI. CONVERT EXCEL DATASET TO SDMX FORMAT

40. Before disseminating NSDP Plus data categories, agencies need to structure the data according to either the EcoFin DSD or one of the SDMX initiative's DSDs for global use, and format the data into an SDMX-ML file. While agencies may develop, or acquire the tools to undertake these transformations, the IMF also provides countries free access to an online, cloud-based service to do the technical conversion to the required SDMX-ML format.
41. IMF SDMX Central can be used for any of the following tasks:
 - Convert data from the coding scheme used by the agency to the EcoFin data structure.
 - Convert data from the coding scheme used by the agency to a DSD for global use.
 - Convert a csv, Excel or GESMES file into an SDMX-ML file.
42. Agencies wishing to use the tool to convert from their internal coding scheme to one of the required DSDs for SDDS Plus must create code maps to define how to change the structure of each data series. Agencies can load these code maps into SDMX Centrals, which will use the maps to convert datasets the agency uploads. The IMF can help agencies create the structure and code maps needed to meet NSDP dissemination requirements.
43. Agencies wishing to use this service are to contact the IMF at STASDDSPlus@imf.org. The IMF will provide the agency with login credentials and supporting documentation to use the service.

VII. CONTACTS

45. For assistance in the preparation of the NSDP Plus, please contact STASDDSPlus@imf.org.

Appendix I

Guidelines for Establishing the National Summary Data Page for the SDDS Plus

This appendix contains guidelines for countries to follow when establishing a National Summary Data Page for monitoring its observance of the SDDS Plus requirements.

I. NATIONAL SUMMARY DATA PAGE (NSDP) FOR THE SDDS PLUS

The NSDP Plus is a web page hosted by a single agency for each SDDS Plus country. The page contains a header and a table with three mandatory columns and one optional column:

- The header provides the title of the page and introductory text.
- The first mandatory column identifies the SDDS Plus data category.
- The second mandatory column shows, for each category, a link to data in national presentation.
- The third mandatory column shows, for each category, a link to prescribed components in SDMX format.
- The optional (fourth) column shows, for each category, a link to information describing the data.

Each column is described in more detail below.

II. PAGE HEADER

The header provides the title of the page and introductory text, using the following wording and format.

Economic and financial data for [Name of Adherent]

FLAG of Adherent

The data shown in this page correspond to the data described on the International Monetary Fund's Dissemination Standards Bulletin Board (DSBB). For a fuller explanation of the DSBB and the statistical standards to which [Name of adherent] has committed, please click on DSBB Home Page.

III. COLUMN ONE: CATEGORY

Table 1. Order and Descriptors of Categories

SDDS Plus Data Category
<i>Real Sector</i>
National Accounts
Sectoral Balance Sheets
Production Index
Employment
Unemployment
Wages/Earnings
Consumer Price Index
Producer Price Index
<i>Fiscal Sector</i>
General Government (or Public Sector) Operations
General Government Total Gross Debt
Central Government Operations
Central Government Debt
<i>Financial Sector</i>
Depository Corporations Survey
Central Bank Survey
Other Financial Corporations Survey
Financial Soundness Indicators (FSIs)
Debt Securities
Interest Rates
Stock Market: Share Price Index
<i>External Sector</i>
Balance of Payments
Official Reserve Assets
Data Template on International Reserves and Foreign Currency Liquidity
Merchandise Trade (Foreign Trade)
International Investment Position
External Debt
Coordinated Portfolio Investment Survey
Coordinated Direct Investment Survey
Currency Composition of Official Foreign Exchange Reserves

Exchange Rates
<i>Population</i>
Population

The first mandatory column identifies the SDDS Plus data category. The IMF strongly encourages countries to list categories in the order, and using the exact descriptors, contained in the table below. This will allow users to easily navigate NSDP Plus across multiple countries.

Countries wishing to present categories using alternative descriptors or in a different order must provide advance notice to the IMF to ensure SDDS Plus monitoring accurately credits the country for its dissemination of each category. While the IMF will notify the country coordinators where category descriptors or the order of categories do not match the information held by the IMF, for the period until the IMF receives notification from the country of the change, the country will not be adhering to the SDDS Plus requirements.

The first column can, optionally, provide a hyperlink to Dissemination Standards Bulletin Board (DSBB) metadata. Alternatively, the country could include such hyperlinks in the optional fourth column.

IV. COLUMN TWO: LINK TO DATA IN NATIONAL PRESENTATION

The second mandatory column shows, for each category, a link to data in national presentation. The national presentation should provide a human-readable view of data contained in the SDMX data files disseminated by the country (see discussion on Column Three, below). Country authorities have complete flexibility about where they host the national presentations; they can place them on a single agency website, or on multiple websites hosted by multiple agencies.

A. Categories Requiring a Time Series Presentation

Countries should disseminate data for most SDDS Plus categories using a time series presentation.

Disseminating agencies may determine the precise nature and form of this presentation, which will depend on the tools available to each agency. Common formats used by authorities include online statistical databases, Excel files, PDF documents, and static web pages. The SDDS Plus does not require any particular format; countries should consider the range of user needs when presenting human-readable formats, as different users will need to view the data on screen, print views of the data, and download data for further analysis.

The table below lists the categories where countries should provide a time series presentation of the data in a human-readable format. In all cases, time series require five years of data (or less than five years if the data series was created less than five years from the date of posting

the time series). The table also provides a reference to data requirements for each category, which are contained either in the *SDDS Guide for Subscribers and Users (SDDS Guide)* or the *SDDS Plus Guide for Adherents and Users (SDDS Plus Guide)*, as noted.

Table 2. Categories Requiring a Time Series Presentation

Category	Sector	Guide	Reference
National Accounts	Real	SDDS	p. 22
Production Index	Real	SDDS	pp. 22-23
Employment	Real	SDDS	pp. 24-25
Unemployment	Real	SDDS	p. 25
Wages/Earnings	Real	SDDS	pp. 25-26
Consumer Price Index	Real	SDDS	p. 26
Producer Price Index	Real	SDDS	pp. 26-27
General Government Operations (Quarterly)	Fiscal	SDDS Plus	pp. 11-12 Table 3.1
General Government Operations (Annual)*	Fiscal	SDDS	pp. 28-36
General Government Total Gross Debt	Fiscal	SDDS Plus	pp. 12-14 Table 3.2
Central Government Operations	Fiscal	SDDS	pp. 36-38
Central Government Debt	Fiscal	SDDS	p. 38
Depository Corporations Survey	Financial	SDDS	pp. 39-40
Central Bank Survey	Financial	SDDS	pp. 40-42
Other Financial Corporations Survey	Financial	SDDS Plus	pp. 15-16 Table 4.1
Financial Soundness Indicators	Financial	SDDS Plus	p. 16-18
Debt Securities	Financial	SDDS Plus	pp. 18-19 Table 4.2
Interest Rates	Financial	SDDS	p. 42
Stock Market: Share Price Index	Financial	SDDS	p. 43
Balance of Payments	External	SDDS	p. 44 Table 2.1
Official Reserve Assets	External	SDDS	p. 44
Merchandise Trade	External	SDDS	p. 45
International Investment Position	External	SDDS	p. 51
External Debt ⁹	External	SDDS	p.51-55 Table 6.2
Exchange Rates	External	SDDS	p. 55
Population	Population	SDDS	p. 27

*Only required if General Government Operations (Quarterly) data are not disseminated within six months after the end of the reference period (see the *SDDS Plus Guide*, page 12, Box 3.1).

⁹ Links to the IMF FSI website or World Bank external debt database will not satisfy the SDDS Plus requirements.

B. Categories Requiring a Matrix Presentation

Four categories require a matrix presentation of the data, plus five or more years of time series data (or less than five years if the data series was created less than five years from the date of posting the time series).

While the *SDDS Guide* and the *SDDS Plus Guide* specify a mandatory matrix presentation for the most recent period disseminated, countries have flexibility about how they present the historical time series. Countries may provide a matrix presentation for each period in the time series, or may provide the five years or more of data in a time series format. Either approach satisfies the national presentation requirement, as long as users can access all the data from the page linked to the NSDP.

Further, for the Coordinated Portfolio Investment Survey and the Coordinated Direct Investment Survey, countries may link either to a national presentation of the data specified in the *SDDS Plus Guide*, or to the relevant websites maintained by the IMF: <http://cpis.imf.org> for CPIS; and, <http://cdis.imf.org> for CDIS. If the adherent decides to link to the websites maintained by the IMF, no further actions are required.

Table 3. *Categories Requiring a Matrix Presentation*

Category	Sector	Guide	Reference
Sectoral Balance Sheets	Real	SDDS Plus	pp. 9-10, Table 2.1
Data Template on International Reserves and Foreign Currency Liquidity (Reserves Template) ¹⁰	External	SDDS	p. 44 Table 6.1
Coordinated Portfolio Investment Survey	External	SDDS Plus	p. 20, Table 5.1
Coordinated Direct Investment Survey	External	SDDS Plus	p. 21, Table 5.2

C. Category Not Requiring Dissemination

Countries **do not need to disseminate** individual currency composition of official foreign exchange reserves (COFER) data. Countries should place the word “Participant” in column 2 of the NSDP table, and provide a hyperlink to the IMF COFER website (<http://www.imf.org/external/np/sta/cofer/eng/>).

¹⁰ Link to the IMF website on international reserves and foreign currency liquidity will not satisfy the SDDS Plus requirements.

V. COLUMN THREE: LINK TO SDMX FILES

The third mandatory column shows a link to prescribed components in SDMX format, for each category except: CPIS; CDIS; COFER; Interest Rates; Stock Market: Share Price Index; and, Exchange Rates. Countries may, at their option, provide links to SDMX files for the excepted categories.

NSDP links must have the same Uniform Resource Locator (URL) as the links to SDMX files registered on the IMF SDMX Central (<https://sdmxcentral.imf.org>). The IMF will use the registered files to monitor observance of the SDDS Plus specifications for coverage, timeliness, and periodicity (see page 7 of the SDDS Plus Guide).

The IMF will find countries non-observant if the NSDP Plus provides links different from links registered on the Registration Service.

VI. COLUMN FOUR (OPTIONAL): LINK TO FURTHER INFORMATION

The optional (fourth) column shows, for each category, a link to information describing the data. Countries including this column may link to the DSBB metadata for each data category or to agency website pages.

Appendix II. Sample EcoFin DSD SDMX-ML File

```
<CompactData xmlns:c="http://www.SDMX.org/resources/SDMXXML/schemas/v2_0/compact"
xmlns:sdds="urn:sdmx:org.sdmx.infomodel.datastructure.DataStructure:IMF:ECOFIN_DSD"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.SDMX.org/resources/SDMXXML/schemas/v2_0/message">
  <Header>
    <ID>SDDS</ID>
    <Test>false</Test>
    <Prepared>2013-10-19T08:04:51.037014-04:00</Prepared>
    <Sender id="IMF" />
  </Header>
  <sdds:DataSet>
    <sdds:Series DATA_DOMAIN="NAG" REF_AREA="1C" INDICATOR="NINV_R_SA_EUR"
COUNTERPART_AREA="_Z" FREQ="M" UNIT_MULT="6" TIME_FORMAT="P1M">
      <sdds:Obs TIME_PERIOD="2008-01" OBS_VALUE="854570" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-02" OBS_VALUE="29972" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-03" OBS_VALUE="516760" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-04" OBS_VALUE="407784" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-05" OBS_VALUE="150016" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-06" OBS_VALUE="163055" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-07" OBS_VALUE="823480" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-08" OBS_VALUE="533716" OBS_STATUS="A" />
    <sdds:Obs TIME_PERIOD="2008-09" OBS_VALUE="468373" OBS_STATUS="A" />
  </sdds:Series>
</sdds:DataSet>
</CompactData>
```

```

<sdds:Obs TIME_PERIOD="2008-10" OBS_VALUE="994301" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-11" OBS_VALUE="262810" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-12" OBS_VALUE="563594" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2009-01" OBS_VALUE="538660" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2009-02" OBS_VALUE="131385" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2009-03" OBS_VALUE="199968" OBS_STATUS="A" />
</sdds:Series>
<sdds:Series DATA_DOMAIN="NAG" REF_AREA="1C" INDICATOR="NX_R_SA_EUR"
COUNTERPART_AREA="_Z" FREQ="M" UNIT_MULT="6" TIME_FORMAT="P1M">
<sdds:Obs TIME_PERIOD="2008-01" OBS_VALUE="46723" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-02" OBS_VALUE="865091" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-03" OBS_VALUE="489672" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-04" OBS_VALUE="835838" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-05" OBS_VALUE="530761" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-06" OBS_VALUE="959792" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-07" OBS_VALUE="537761" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-08" OBS_VALUE="291543" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-09" OBS_VALUE="359357" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-10" OBS_VALUE="184843" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-11" OBS_VALUE="204517" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2008-12" OBS_VALUE="390748" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2009-01" OBS_VALUE="990695" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2009-02" OBS_VALUE="867938" OBS_STATUS="A" />
<sdds:Obs TIME_PERIOD="2009-03" OBS_VALUE="53963" OBS_STATUS="A" />
</sdds:Series>
</sdds:DataSet> </CompactData>

```


Appendix III. Main Artefacts in the IMF SDMX Central

Audience

This note is intended for IT specialists that have a good understanding of the SDMX Standards (ISO 17369).

IMF SDMX Central

This note includes a series of queries to the SDMX web service (RESTful) that are available for SDMX Central. The queries provide machine-readable files in SDMX-ML formats that could be used to establish and populate internal databases for the SDDS Plus. The SDMX artefacts covered by the queries include the concept scheme for the EcoFin DSD, the Eco-Fin DSD itself (with dimensions and code lists), and the list of dataflows which includes one dataflow per SDDS Plus data category.

All these artefacts are maintained in SDMX Central at <https://sdmxcentral.imf.org>. This link provides access to the IMF NSDP Registration Service.

SDMX Versions

All the queries below are set to provide files in SDMX 2.1 formats. To change the file to another format, you simply amend the RESTful query to another version of the SDMX standards (e.g., 2.0 or 1.0). Please note that you may encounter issues with extracting files in SDMX-EDI format; EDI standards only support a single maintenance agency for a “key family”. The EcoFin DSD, like any modern DSD, has more than one maintenance agency; IMF for domain-specific dimensions and SDMX for cross-domain concepts (e.g., *FREQ*).

RESTful Queries

These queries have been constructed using the web service interface of the NSDP Registration Service, which supports building structure query and schema query.

Concept scheme

ECOFIN_CONCEPTS: concept scheme for ECOFIN_DSD

https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/conceptscheme/IMF/ECOFIN_CONCEPTS/latest/?format=sdmx-2.1&detail=full&references=none

EcoFin DSD

ECOFIN_DSD: Structure (dimensions/attributes); without code lists

https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/datastructure/IMF/ECOFIN_DSD/latest/?format=sdmx-2.1&detail=full&references=none

Included in the resulting XML are individual REST queries for the code lists of coded dimensions and attributes.

ECOFIN_DSD: Complete DSD, including code lists – PLEASE NOTICE: very large file.

https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/datastructure/IMF/ECOFIN_DSD/latest/?format=sdmx-2.1&detail=full&references=all

ECOFIN_DSD: Schema File; PLEASE NOTICE: very large file.

https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/schema/datastructure/IMF/ECOFIN_DSD/1.0/?format=sdmx-2.1

SDDS Plus Dataflows

Dataflows associated to ECOFIN_DSD: For the NSDP Registration Service, dataflows correspond to SDDS Plus data categories; there is one dataflow per data category (two when two distinct methodologies exist, such as *BPM5* and *BPM6*). Note that the EcoFin DSD is also used by IMF for collection purpose. Therefore, there are a number of dataflows used for collection, in addition to those used for identifying the SDDS Plus data categories.

<https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/dataflow/IMF/all/latest/?format=sdmx-2.1&detail=full&references=all>

SDDS Plus Dataflows: Schema File; PLEASE NOTICE: these are relatively large files; they are subsets of the ECOFIN_DSD. When relevant, constraints are applied to code lists of specific dimensions to reduce their size and facilitate the validation of the schema file. For example, a constraint is always applied to the dimension “INDICATOR”, which would only include the codes that are relevant for the data category represented by the dataflow.

To get the schema file for a specific dataflow, please copy/paste the dataflow ID provided in the first column of table 1 on the XXX in the sample query message below:

<https://sdmxcentral.imf.org/ws/public/sdmxapi/rest/schema/dataflow/IMF/XXX/1.0/?format=sdmx-2.1>

Table 1. List of Dataflows for Reporting SDDS Plus Data Categories

<i>Real Sector</i>	
NAG_08	National Accounts - 2008 methodology
NAG_93	National Accounts - 1993 methodology
IND	Index of Industrial Production
SBS	Accumulation Accounts (Sectoral Balance Sheets)
EMP	Employment
UEM	Unemployment
WOE	Wages and Earnings
CPI	Consumer Price Indices
PPI	Producer Price Indices
<i>Fiscal Sector</i>	
GGO	General Government Operations
GGD	General Government Total Gross Debt
CGO	Central Government Operations
CGD	Central Government Debt
<i>Financial Sector</i>	
DCS	Depository Corporations Survey
CBS	Central Bank Survey
OFS	Other Financial Corporations (OFC) Survey
FSI	Financial Soundness Indicators
DSE	Debt Securities
INR	Interest Rates
SPI	Stock Market: Share Price Index
<i>External Sector</i>	
BOP_BPM5	Balance of Payments BPM5 Methodology
BOP_BPM6	Balance of Payments BPM6 Methodology
ILV1	Official Reserve Assets
ILV2	Data Template on International Reserves and Foreign Currency Liquidity
MET	Merchandise Trade
IIP_BPM5	International Investment Position BPM5 Methodology

IIP_BPM6	International Investment Position BPM6 Methodology
EXD	External Debt
EXR	Exchange Rates
<i>Population</i>	
POP	Population