SAS/ETS® 15.1 User's Guide
The SASEOECD Interface Engine

This document is an individual chapter from *SAS/ETS® 15.1 User's Guide*.

The correct bibliographic citation for this manual is as follows: SAS Institute Inc. 2018. *SAS/ETS® 15.1 User's Guide*. Cary, NC: SAS Institute Inc.

SAS/ETS® 15.1 User's Guide

SAS Institute Inc., SAS Campus Drive, Cary, NC 27513-2414

November 2018

Chapter 51
The SASEOECD Interface Engine

Contents

Overview: SASEOECD Interface Engine

The SASEOECD interface engine enables SAS users to retrieve time series data from the Organisation for Economic Co-operation and Development (OECD) website. This website offers access to statistical data on topics such as agriculture and fisheries, economy, education, employment, energy, environment, finance, health, industry and entrepreneurship, innovation, insurance and pensions, international migration, internet economy, investment, rural and urban development, science and technology, social and welfare issues, tax, trade, and transport, as well as access to the OECD.Stat data warehouse. Time series are offered in yearly, semesterly, quarterly, and monthly frequencies.

The SASEOECD interface engine uses the LIBNAME statement to enable you to download OECD online data from the website at the following URL:

http://stats.oecd.org/

It also enables you to specify which time series you want to retrieve, by using the corresponding data set ID and keysets. You specify the time range of the retrieved data by using a start date and an end date. You can then use the SAS DATA step to perform further subsetting, retrieve the data, and store the resulting time series in a SAS data set. You can view a list of all OECD databases on the web page at the following URL:

http://www.oecd.org/statistics/listofoecddatabases.htm

The SASEOECD interface engine supports Linux X64 (LAX) and Windows. Although the SASEOECD engine uses the OECD's sdmx-json statistical online API, it is not endorsed or certified by the Organisation for Economic Co-operation and Development. By using the SASEOECD interface engine, you are agreeing to comply with the terms of use, which are described on the web page at the following URL:

http://www.oecd.org/termsandconditions/

To get started using the SASEOECD engine, follow the steps in the next section, which enable you to view the MEI_CLI (Composite Leading Indicators in the Main Economic Indicators) database to retrieve the time series CSCICP03, also known as "OECD Standardized CCI, Amplitude adjusted (Long term average=100, sa)." Understanding how each OECD data set is organized enables you to write the SAS code to access the data. The sample SAS code for accessing the OECD's MEI_CLI data set appears at the end of the section.

Getting Started: SASEOECD Interface Engine

You can query the OECD API by using the graphical user interface (GUI) at

http://stats.oecd.org

The OECD documentation on the web page at the following URL describes how to use the OECD GUI:

https://stats.oecd.org/Content/themes/OECD/static/help/WBOS%20User%20Guide%20(EN).PDF

Using the OECD Graphical User Interface

Step 1: Go to the web page at the following URL. This is where you start to build your query for retrieving OECD data.

http://stats.oecd.org

Step 2: On the left side, click **Popular Queries** and select **Composite Leading Indicators**. You can view the default selection of Main Economic Indicators (MEI) data for Composite Leading Indicators on the main screen.

Step 3: Choose **Customize ►Selection**. The selection keys (also called dimensions) are shown. They are **Subject**, **Country**, and **Time & Frequency**. Click **Subject** and then select the box labeled **OECD Standardized CCI, Amplitude adjusted (Long term average=100), sa**. When you hover the mouse pointer over **CCI**, the subject code is displayed as CSCICP03. In the sample code at the end of this section, the INSET0= data set defines Key0 as CSCICP03 in KeyList0.

Step 4: Click **Country** (in the same Customize selection window). Now select the countries that you want to retrieve the data for, which in this case are Australia, Germany, and Japan. When you hover the mouse pointer over each country name, you can see its corresponding country code. In the sample code at the end of this section, the INSET1= data set defines Key1 as AUS, DEU, and JPN in KeyList1.

Step 5: Click **Time & Frequency** (in the same Customize selection window). Select the monthly frequency. Click **Select date range**, and choose a start date of 2015M9 and an end date of 2017M8.

Step 6: Click **View data**. If you get an error, repeat steps 2 through 6. Then select **Export ►Developer API**, and click the **Generate API queries** button.

Step 7: The **Data query** box shows the URL for the selected data that you want to retrieve:

```
http://stats.oecd.org/SDMX-JSON/data/MEI_CLI/CSCICP03.AUS+DEU+JPN.M/all?
startTime=2015-09&endTime=2017-08&dimensionAtObservation=allDimensions
```

Step 8: From the generated API query, find the data set code, MEI_CLI, which follows 'SDMX-JSON/data/' in the generated API query (URL). In the sample code at the end of this section, the SETID= option is set to MEI_CLI.

Step 9: The dimensions are described in the API query (URL) after the OECD data set code and are separated by periods. In the sample code, Key0 (in KeyList0) gives the subject as 'CSCICP03'; Key1 (in KeyList1) gives the country as 'AUS', 'DEU', and 'JPN'; and Key2 (in KeyList2) gives the frequency as 'M'.

Step 10: In the sample code at the end of this section, the START= and ENDTIME= options are defined using the startTime= and endTime= parameters from the generated API query. The format of the START= and END= options is shown in Table 51.2.

The statements at the end of this section enable you to access the setID MEI_CLI (Composite Leading Indicators in the Main Economic Indicators database) to retrieve the time series CSCICP03, also known as "OECD Standardized CCI, Amplitude adjusted (Long term average=100, sa)."

In the sample code at the end of this section, and in the section "Examples: SASEOECD Interface Engine" on page 3696, use the SAS option SSLCALISTLOC=<specify the location of your CA certificates here>. The specification might look something like this:

```
SSLCALISTLOC= "/SASSecurityCertificateFramework/1.1/cacerts/trustedcerts.pem"
```

Specify the location that you choose for your trusted certificates inside the double quotation marks.

The SETID= option specifies the data set's ID code in order to retrieve data from the OECD library of data. You can view the data set from the OECD website by referring to the data set code at the following URL, which in this example is MEI_CLI:

```
http://stats.oecd.org/Index.aspx?DataSetCode=MEI_CLI
```

To specify the INSET*n*= option, name the SAS input data set for each of the three keysets that define your selection: INSET0=KEYLIST0, INSET1=KEYLIST1, and INSET2=KEYLIST2.

The OUT= option specifies both the name of the resulting JSON file(s) and the name of the SAS data set (MEI3C).

The range of the retrieved data is determined by the START= and END= options. Because this example retrieves monthly data, the start date (2015-09) and the end date (2017-08) are specified in "YYYY-MM" format.

The JSON data that the OECD website returns are placed in a file that is named by the OUT= option—in this case, *MEI3C.json*. **NOTE:** The SASEOECD engine appends a numeral to the JSON file name, and the file extension (.json) is excluded from the file name that appears in the OUT= option. When the SET statement is executed, the JSON data are read (and merged) into a SAS data set named MEI3C.sas7bdat, which resides in the location that is specified inside the string enclosed in double quotation marks in the SASEOECD LIBNAME statement.

The result, MEI3C, is named in the DATA step in the SET statement and is shown in Output 51.1. The preceding example uses three keysets. These keysets are used to request data for every possible combination of each key's values. Some combinations produce data, and some do not, but after each combination's requested data are downloaded, the results are merged into one data set. These data are shown in Output 51.1.

For another example that uses more SASEOECD LIBNAME statement options, see the section "Examples: SASEOECD Interface Engine" on page 3696.

```
options validvarname=any
   sslcalistloc="<physical path and file name to specify your security certificates>";

title 'Retrieve MEI_CLI Data for Australia, Japan, and Germany';

libname mylib "<physical path to the folder where you want the OECD data>";

/* specify selection keys; key0 is the time series */
data keylist0;              /* See Step 3 */
   length key0 $8;
   key0='CSCICP03'; output;
run;

/* select Australia, Japan, and Germany; key1 is country */
data keylist1;              /* See Step 4 */
   length key1 $3;
   key1='AUS'; output;
   key1='JPN'; output;
   key1='DEU'; output;
run;

/* select monthly data; key2 is frequency */
data keylist2;              /* See Step 5 */
   length key2 $2;
   key2='M'; output;
run;

title1 "Main Economic Indicators Database from the OECD";
title2 "Request MEI_CLI for These Countries: AUS, JPN, DEU";
libname oecd saseoecd "<physical path to the folder where you want the OECD data>"
   setid=MEI_CLI            /* Step 2 */
   inset0=keylist0          /* Step 3 */
   inset1=keylist1          /* Step 4 */
   inset2=keylist2          /* Step 5 */
   out=MEI3C
   start='2015-09'          /* Step 10*/
   end='2017-08'
   ;
```

```
data mylib.myMEI;
   set oecd.MEI3C;          /* MEI3C is specified in the OUT= option */
run;

title3 "The mylib.myMEI Data Set";
proc print data=mylib.myMEI; run;
```

Figure 51.1 Consumer Confidence Index for Australia, Japan, and Germany

Main Economic Indicators Database from the OECD
Request MEI_CLI for these Countries: AUS, JPN, DEU
The mylib.myMEI Data Set

Obs	date	CSCICP03.AUS.M	CSCICP03.JPN.M	CSCICP03.DEU.M
1	2015-09	99.4900	99.595	100.672
2	2015-10	99.6672	99.724	100.441
3	2015-11	99.8371	99.856	100.327
4	2015-12	99.8557	99.862	100.254
5	2016-01	99.7833	99.751	100.159
6	2016-02	99.7672	99.585	100.109
7	2016-03	99.7160	99.533	100.159
8	2016-04	99.7133	99.517	100.315
9	2016-05	99.8706	99.562	100.507
10	2016-06	99.9318	99.649	100.650
11	2016-07	99.9117	99.728	100.680
12	2016-08	99.9346	99.819	100.654
13	2016-09	99.9570	99.882	100.639
14	2016-10	99.9430	99.861	100.687
15	2016-11	99.8424	99.841	100.782
16	2016-12	99.7033	99.962	100.859
17	2017-01	99.6738	100.080	100.898
18	2017-02	99.7439	100.168	100.919
19	2017-03	99.7743	100.223	101.081
20	2017-04	99.7246	100.214	101.316
21	2017-05	99.6234	100.211	101.509
22	2017-06	99.5179	100.206	101.647
23	2017-07	99.4763	100.227	101.674
24	2017-08	99.4944	100.256	101.625

Syntax: SASEOECD Interface Engine

The SASEOECD interface engine uses standard engine syntax to read the observations or data values for one or more time series from an OECD data set. Table 51.1 summarizes the options that the SASEOECD engine uses.

Table 51.1 Summary of LIBNAME *libref* SASEOECD Options

Option	Description
DEBUG=	Specifies whether to include diagnostic message logging in the SAS log window
ENDTIME=	Specifies the end date for the retrieved data
INSET*n*=	Specifies the name of the input data set that contains values for a particular keyset, such as subject, measure, country, and frequency, where $n < 10$, and begins with $n = 0$
OUT=	Specifies the name of the SAS data set and the JSON file, which contains the data that the SASEOECD interface engine returns
SETID=	Specifies the required OECD data set code that enables you to access the data that the OECD website provides
START=	Specifies the start date for the retrieved data

The LIBNAME *libref* SASEOECD Statement

LIBNAME *libref* **SASEOECD** '*physical-name*' *options* **;**

The LIBNAME statement assigns a SAS library reference (libref) to the physical path of the directory of OECD data files in which the downloaded OECD JSON data are stored. The required *physical-name* argument specifies the location of the folder where your OECD JSON data reside. It should end with a backslash if you are in a Windows environment or a forward slash if you are in a UNIX environment.

You can specify the following *options*:

DEBUG=ON | OFF
specifies whether or not to include diagnostic message logging in the SAS log window. This information can be very useful for troubleshooting a problem.

ENDTIME=*oecd_endTime*
specifies the end date for requesting OECD data. Specify *oecd_endTime* in one of the formats shown in Table 51.2. The valid data range of available data varies with each OECD data set. You can check data availability by selecting the period that you want to download on the OECD data set's web page and using the Export window to select the **Developer API** tab. You can preview the generated URL link for downloading the selected data by clicking **Generate API queries**. The URL for the data query shows the time period in the request. The OECD URL parameter, *&EndTime=*, corresponds to the SASEOECD engine's ENDTIME= option.

INSET*n***=***oecd_keylist_name*
specifies the name of the input data set, INSET*n*, that contains the key values to select the data that you want to retrieve. There are $n + 1$ insets, depending on the dimensions of the OECD data set, where n cannot exceed 9. Key0 is defined in INSET0, Key1 is defined in INSET1, and so on, up to Key*n*, which is defined in INSET*n*, where $n < 10$.

OUT=*oecd_jsonfile*
specifies the name of both the JSON file (downloaded) and the SAS data set that is created when the JSON data are read into SAS. You can use the OUT= option to name your JSON data file. It is stored in the SAS Work library. The SAS data set that is created (when the JSON data are read into SAS) is

stored in the folder specified by *physical-name,* and you can refer to it by using the myLib libref in your SASEOECD LIBNAME statement.

SETID='*oecd_setid***'**
specifies the OECD data set ID or code that enables you to access the data set corresponding to that code. The data set ID or code is the same one that you use on the OECD web page at the following URL:

```
http://stats.oecd.org/Index.aspx?DataSetCode=<your_data_set_code>
```

For a list of some of the available OECD data sets and their key fields, see Table 51.5 in the section "Data Elements Reference: SASEOECD Interface Engine" on page 3682.

START=*oecd_start*
specifies the start date for requesting OECD data. Specify *oecd_start* in one of the formats shown in Table 51.2.

Table 51.2 Formats for START= Option and ENDTIME= Option

Interval or Frequency	Format
Year	YYYY
Year-semester	YYYY-S1 – YYYY-S2
Year-quarter	YYYY-Q1 – YYYY-Q4
Year-month	YYYY-M1 – YYYY-M12

The valid data range for available data varies with each OECD data set. You can check data availability by selecting the period that you want to download on the data set's web page and using the Export window to select the **Developer API** tab. You can preview the generated URL link for downloading the selected data by clicking **Generate API queries**. The URL for the data query shows the time period in the request. The OECD URL parameter, *&StartTime=*, corresponds to the SASEOECD engine's START= option.

Details: SASEOECD Interface Engine

The SASEOECD interface engine enables SAS users to access time series data that are stored in OECD data sets that the OECD website provides. Every OECD data set is identified by a unique set of keys (a keyset). A data set must have at least one key (excluding the date/time) and can have up to ten keys. The SASEOECD engine retrieves each time series and names each one by concatenating the *n* keysets that are stored in the following format:

key0.key1.key2.<. . . up to keyn>

The keys are listed on the OECD web page for each data set at the following URL:

```
http://www.oecd.org/statistics/listofoecddatabases.htm
```

Click the data set symbol to view the web page that gives the details for that data set.

Customizing Your Selection Keys

In the OECD GUI for your OECD data set, from the **Customize** menu click **Selection** to view the defining keysets for that data set. When you select a key, you see all the possible choices for selecting the values for that key. Check or clear the box next to each key value to select or deselect it. After you make a selection for each key listed on the **Selection** menu, you can proceed to exporting the selected OECD data.

Exporting Your Data

From the **Export** menu, click **Developer API** to view the query necessary to retrieve your selected data in JSON format. Complete the query builder form if you want to be notified about updates to the OECD's application interface (API). Click **Generate API queries** to see the URL query for your data selection. If you want, you can use this URL to specify the key values in each inset for your SAS code. The keys are separated by periods, and the order of the keys in the URL shows Key0 first, Key1 second (after the dot), and so on, up to Key*n*. Each '+' separates the values for that key.

Dimensions of the OECD Data

When you specify the SETID= option, you give the OECD data set code for the data set that you want to access. The SASEOECD engine checks the OECD website for the validity of the specified data set code by requesting its data-flow structure. If the request is successful, the SETID is validated, and the SASEOECD engine prints the data-flow information about the selection keys available for the requested OECD data. The dimensions (key values) for SETID=MEI_CLI are given in Table 51.3.

Table 51.3 Dimensions of the MEI_CLI Data Set

Obs	keyPosition	id	name	role
1	0	SUBJECT	Subject	
2	1	LOCATION	Country	REF_AREA
3	2	FREQUENCY	Frequency	FREQ
4	3	TIME_PERIOD	Time	TIME_PERIOD

Key position 0 corresponds to Key0 in the first inset (INSET=KEYLIST0). Key position 1 corresponds to Key1 in the second inset (INSET=KEYLIST1). Key position 2 corresponds to Key2 in the third inset (INSET=KEYLIST2).

The last key position, Time_Period, is determined by the options START= and ENDTIME=.

SAS INSET Data Sets

The query URL for the MEI_CLI data set that selects the three keys (SUBJECT=CSCICP03, COUNTRY=Australia, Germany and Japan, TIME/FREQUENCY=MONTHLY) looks like this:

```
http://stats.oecd.org/SDMX-JSON/data/MEI_CLI/CSCICP03.AUS+DEU+JPN.M/
all?startTime=2016-04&endTime=201803
```

The keys are shown in the part of the preceding URL that follows the data set code:

```
CSCICP03.AUS+DEU+JPN.M/all?startTime=2016-04&endTime=201803
```

The keys end at the slash preceding "all":

```
CSCICP03.AUS+DEU+JPN.M
```

The key types are separated by periods. The first key is "CSCICP03", which is named Key0.

As shown in the following code, the first inset, KeyList0, contains the Key0 value for subject, which is "CSCICP03". Because there is only one subject (time series) in the request, there is only one value listed for Key0.

```
/* specify selection keys; key0 is the time series */
data keylist0;
   length key0 $8;
   key0='CSCICP03'; output;
run;
```

In KeyList0, use a LENGTH statement so that the string "CSCICP03" is not truncated. It is a good idea to use a LENGTH statement to account for the maximum number of bytes that a key value can have. This ensures that SAS does not truncate the key values in any of the input data sets, so that the key values match the ones expected in the OECD data set.

The second key type is found in "AUS+DEU+JPN", so it is named Key1 and has three values separated by "+". As shown in the following code, the second inset, KeyList1, contains the key values for country. Each value of country must have its own output line, so there are three output lines, each with a different country value. There are three values listed for Key1:

```
/* select Australia, Japan, and Germany */
data keylist1;
   length key1 $3;
   key1='AUS'; output;
   key1='JPN'; output;
   key1='DEU'; output;
run;
```

The third key type, which follows the second, is "M" and is named Key2. The third inset defines the frequency as monthly. The SASEOECD engine can provide only one frequency per libref view. If you want, you can specify another SASEOECD LIBNAME statement, using a different inset for another frequency.

The following inset for frequency defines Key2, which is contained in KeyList2:

```
/* select monthly data */
data keylist2;
   length key2 $2;
   key2='M'; output;
run;
```

Building the URL Request for OECD Data

The SASEOECD interface engine takes the crossproduct of all the insets' key values. Before you request the MEI_CLI data set, the SASEOECD engine takes the crossproduct of KeyList0 with KeyList1 and KeyList2. Each row in Table 51.4 represents a request for time series data. If data are returned, then the SASEOECD engine names the time series by using that row's values (separated by '.'). The first time series is named "CSCICP03.AUS.M", the second is named "CSCICP03.JPN.M", and the third is named "CSCICP03.DEU.M".

Table 51.4 Cross-Key Data Set for MEI_CLI

Obs	Key0	Key1	Key2
1	CSCICP03	AUS	M
2	CSCICP03	JPN	M
3	CSCICP03	DEU	M

SAS Output Data Set

You can use a SAS DATA step to write the selected OECD data to a SAS data set. This enables you to use SAS software to easily analyze the data. If you specify the name of the output data set in the DATA statement, the SAS engine supervisor creates a SAS data set that has the specified name in the location specified by the SASEOECD libref's *physical-name*.

The contents of the SAS data set include the date of each observation and the name of each time series that is read from the OECD website.

You can use the PRINT and CONTENTS procedures to print your output data set and its contents. Alternatively, you can view your SAS output observations by opening the desired output data set in a SAS Explorer window. You can also use the SQL procedure with your SASEOECD libref to create a custom view of your data.

Because each SASEOECD libref results in retrieving the requested data from the OECD website, it is best to use a DATA step to store the data. You should avoid the inefficient use of the SASEOECD libref that follows:

```
proc print data=oecd.MEI3C; run;
```

This statement uses the member name, MEI3C, in the PROC PRINT statement that invokes the OECD libref to run the SASEOECD engine. It is more efficient to refer to the SAS data set myMEI repeatedly than to invoke the interface engine repeatedly. This use of the member name, MEI3C, corresponds to specifying the OUT=MEI3C option. Although using this statement might seem easier, it is not as efficient, because every time you use the SASEOECD libref, the SASEOECD engine reads the entire JSON file into SAS again.

Data Elements Reference: SASEOECD Interface Engine

Table 51.5 lists the OECD data set codes (setIDs) and respective selection keys for each data set. This table is not exhaustive, nor is it complete, because the OECD website is updated constantly. Consult the website for current OECD data set codes and customized selection keys. For most OECD data sets, the time is not

represented in a key or inset, but instead is defined by the start and end dates. Time or frequency is included in Table 51.5 for information purposes, but it is usually not used in the INSET*n*= option if the data are available only in one frequency. **NOTE:** The table is organized by topic rather than alphabetically so that it matches the order of the OECD catalog online.

Table 51.5 OECD Data Set Codes and Keys

Data Set Code	Key0 Key1 . . . Key*n*
	****** **Agriculture/Fisheries** ******
HIGH_AGLINK_2017	COUNTRY COMMODITY VARIABLE TIME (2016–2026)
HIGH_AGLINK_2016	COUNTRY COMMODITY VARIABLE TIME (2015–2025)
MON2017_REFERENCE_TABLE	Country PSECSE_indicator Unit Time (1986–2017)
MON2016_REFERENCE_TABLE	Country PSECSE_indicator Unit Time (1986–2015)
FISH_FSE	Country Variable Unit Year (2008–2015)
FISH_PAT_RD	Country Indicator Measure Time (2000–2015)
FISH_NLD	Species Measure Country Year (2000–2014)
FISH_NLF	Species Measure Country Year (2000–2014)
FISH_FLD	Species Measure Country Year (2000–2014)
FISH_AQUA	Species Measure Country Year (2000–2014)
FISH_TRADE	COUNTRY COMMODITY FLOW MEASURE YEAR (2003–2016)
FISH_EMPL	Country Economic_Sector Gender Occupation_Rate Year (2000–2014)
FISH_FLEET	Fleet Measure Country Year (2000–2014)
FISH_INLAND	Country Species Measure Year (2000–2014)
FISH_PAT_DEV	Inventor_Country Family_Size Technology_Domain Time (2005–2013)
FISH_PAT_COL_RATE	Country Variable Technology_Domain Time (2000–2013)
FISH_PAT_COL	Country Partner Technology_Domain Time (2000–2013)
FISH_PAT_DIFF	Patent_Office Technology_Domain Coverage Time (2000–2013)
	****** **Detailed Aid Statistics** ******
CRS1	—-needs subscription to the OECD library————————
RIOMARKERS	Donor Recipient Sector Marker Score Amount_Type Year (2002–2016)
GENDER	—-needs subscription————————————
DACDEFL	Donor Deflator_Base_Year Year (2000–2014)
DACGEO	Donor Recipient Series Year (2006–2015)
DACIND	Recipient Indicator Year (2014–2015)
DACSECTOR	Donor Recipient Sector Year (2007–2015)
TABLE1	Donor Part Aid_Type Fund_Flows Amount_Type Year (2007–2016)
TABLE2A	Donor Part Aid_Type Fund_Flows Amount_Type Year (2007–2016)
TABLE2B	Recipient Donor Part Aid_Type Amount_Type Year (2006–2015)
TABLE3A	Recipient Donor Part Aid_Type Amount_Type Year (2007–2016)
TABLE4	Recipient Donor Part Aid_Type Amount_Type Year (2007–2016)
TABLE5	Donor Sector Aid_Type Amount_Type Year (2007–2016)
TABLE7B	Donor Tying_Status Aid_Type Year (2014–20150
REF_TOTAL_ODF	Recipient Type Part_Type Year (2007–2016)
REF_TOTAL_OFFICIAL	Recipient Donor Aid_Type Part Year (2007–2016)
REF_TOTAL_RECPTS	Recipient Donor Part Year (2007–2016)
	****** **Economy** ******
CPA	Donor Recipient Amount_Type Year (2010–2019)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
FSS	Donor Recipient Amount_Type Disbursement_Year Survey_Year (2012–2016)
GIDDB2014	Region Country Income_Group Variables Time (2014)
GIDDB2012	Region Income_Group Country Variable Year (2012)
EO101_INTERNET	Country Variable Time_&_Frequency Annual (1960–2018), (1960Q1–2018Q4)
EO100_INTERNET	Country Variable Time_&_Frequency Annual (1960–2018), (1960Q1–2018Q4)
EO99_INTERNET	Country Variable Time_&_Frequency Annual (1960–2017), (1960Q1–2017Q4)
EO98_OUTLOOK98	Country Variable Time_&_Frequency Annual (1960–2016), (1960Q1–2016Q4)
EO97_OUTLOOK97	Country Variable Time_&_Frequency Annual (1960–2017), (1960Q1–2017Q4)
.	.
.	.
.	.
EO87_OUTLOOK87	Country Variable Time_&_Frequency Annual (1960–2011), (1960Q1–2017Q4)
CSPCUBE	Subject Country Year
FACTBOOK2015_PUB	Subject Country Year
FACTBOOK2014_PUB	Subject Country Year
CRISIS	Indicator Country Time_Period (Annual Semester Quarterly Monthly)
CSP2012	Subject Country Year
CSP2010	Subject Country Year
MEI_BOP6	Country Subject Measure Frequency
MEI_BTS_COS	Country Subject Measure Time_&_Frequency
MEI_CLI	Country Subject Measure Time_&_Frequency
MEI_FIN	Country Subject Measure Time_&_Frequency
MEI_TRD	Country Subject Measure Time_&_Frequency
KEI	Country Subject Measure Time_&_Frequency
EAR_MEI	Country Subject Measure Time_&_Frequency
STLABOUR	Country Subject Measure Time_&_Frequency
LAB_REG_VAC	Country Subject Time_&_Frequency
ULC_EEQ	Country Subject Measure Time_&_Frequency
MEI	Country Subject Measure Time_&_Frequency
MEI_PRICES	Country Subject Measure Time_&_Frequency
G20_PRICES	Country Subject Measure Time_&_Frequency
PRICES_COICOP	Country Subject Measure Time_&_Frequency
MEI_CPI_WEIGHTS	Country Weights Measure Time_&_Frequency
MEI_PRICES_PPI	Country Subject Measure Time_&_Frequency
MEI_CTRY_WEIGHTS	Country Country_Weights Subject Measure Time_&_Frequency
PPGDP	Indicator Country Time (Annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
CPL	Indicator Country Country_Currency Time (annual, semesters, quarters, months)
RPPI_TARGET	Country Subject Geographical_Coverage Measure Time_&_Frequency
RPPI	Country Subject Geographical_Coverage Measure Time_&_Frequency
HOUSE_PRICES	Country Indicator Time (Annual, semesters, quarters)
MEI_REAL	Subject Country Time & Frequency (Annual, Quarterly, Monthly)
MEI_ARCHIVE	Country Variable Edition Time_&_Frequency
SNA_TABLE1	Country Transaction Measure Year
SNA_TABLE2	Country Transaction Measure Year
SNA_TABLE3	Country Transaction Measure Year
SNA_TABLE4	Country Transaction Measure Year
SNA_TABLE9B	Country Transaction Sector Measure Year
SNA_TABLE8	Country Transaction Activity Measure Year
SNA_TABLE8A	Country Transaction Activity Measure Year
SNA_TABLE9	Country Transaction Activity Measure Year
SNA_TABLE9A	Country Transaction Activity Measure Year
SNA_TABLE5	Country Transaction Measure Year
SNA_TABLE7	Country Transaction Activity Measure Year
SNA_TABLE7A	Country Transaction Activity Measure Year
SNA_TABLE14A	Country Transaction Sector Measure Year (annual)
QASA_TABLE801	Country Transaction Sector Measure Adjusted Period_&_Frequency
SNA_TABLE13	Country Transaction Sector Measure Year (annual)
SNA_TABLE6	Country Transaction Activity Measure Year (annual)
SNA_TABLE6A	Country Transaction Activity Measure Year (annual)
QASA_7HH	Country Transaction Sector Measure Adjustment Period_&_Frequency (annual, semesters, quarters)
7HA_A_Q	Country Transaction Type Measure Time_&_Frequency (annual, quarters)
HH_DASH	Country Indicator Time_&_Frequency (annual, quarterly)
NAAG	Country Indicator Time (annual)
FIN_IND_FA	Country Indicator Time (annual)
SNA_TABLE610R	Country Transaction Sector Measure Time (annual)
QASA_TABLE610R	Country Transaction Sector Measure Adjusted Time (annual, semesters, quarters)
SNA_TABLE620R	Country Transaction Sector Measure Time (annual)
QASA_TABLE620R	Country Transaction Sector Measure Adjusted Time (annual, semesters, quarters)
FIN_IND_FBS	Country Indicator Time (annual)
SNA_TABLE710R	Country Transaction Sector Measure Time (annual)
QASA_TABLE710R	Country Transaction Sector Measure Adjusted Time (annual, semesters, quarters)
SNA_TABLE720R	Country Transaction Sector Measure Time (annual)
QASA_TABLE720R	Country Transaction Sector Measure Adjusted Time (annual, semesters, quarters)
SNA_TABLE11	Country Transaction Function Sector Measure Year (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
SNA_TABLE12	Country Transaction Function Sector Measure Year (annual)
SNA_TABLE10	Country Transaction Function Sector Measure Year (annual)
EXP_COFOG_SPECIAL	COFOG_Special Transaction Sector Country Year (annual)
REVENUE_OUT	Type_of_Revenues Sector Country Year (annual)
QNA	Country Subject Measure Period_&_Frequency (annual, quarterly)
SNA_TABLE50	Country Transaction Sector Measure Year (annual)
GOV_DEBT	Country Type Frequency
SNA_TABLE30	Country Transaction Product Measure Year (annual)
SNA_TABLE31	Country Transaction Activity Measure Year (annual)
SNA_TABLE40	Country Transaction Product Flow Measure Year (annual)
SNA_TABLE41	Country Transaction Activity Measure Year (annual)
SNA_TABLE42	Country Transaction Activity Measure Year (annual)
SNA_TABLE43	Country Transaction Product Flow Measure Year (annual)
SNA_TABLE44	Country Transaction Product Valuation Measure Year (annual)
SNA_TABLE1_SNA93	Country Transaction Measure Year (annual)
SNA_TABLE2_SNA93	Country Transaction Measure Year (annual)
SNA_TABLE3_SNA93	Country Transaction Measure Year (annual)
SNA_TABLE9B_SNA93	Country Transaction Sector Measure Year (annual)
SNA_TABLE8_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE8A_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE9_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE9A_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE5_SNA93	Country Transaction Measure Year (annual)
SNA_TABLE7_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE7A_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE14A_SNA93	Country Transaction Activity Measure Year (annual)
QASA_TABLE801	Country Transaction Sector Measure Adjusted Period_&_Frequency (annual, semesters, quarters)
SNA_TABLE13_SNA93	Country Transaction Sector Measure Year (annual)
SNA_TABLE6_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE6A_SNA93	Country Transaction Activity Measure Year (annual)
SNA_TABLE610	Country Transaction Sector Measure Year (annual)
QASA_TABLE610	Country Transaction Sector Measure Adjusted Period_&_Frequency (annual, semesters, quarters)
SNA_TABLE620	Country Transaction Sector Measure Year (annual)
QASA_TABLE620	Country Transaction Sector Measure Adjusted Period_&_Frequency (annual, semesters, quarters)
SNA_TABLE710	Country Transaction Sector Measure Year (annual)
QASA_TABLE710	Country Transaction Sector Measure Adjusted Period_&_Frequency (annual, semesters, quarters)
SNA_TABLE720	Country Transaction Sector Measure Year (annual)
QASA_TABLE720	Country Transaction Sector Measure Adjusted Period_&_Frequency (annual, semesters, quarters)
SNA_TABLE11_SNA93	Country Transaction Function Sector Measure Year (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
SNA_TABLE12_SNA93	Country Transaction Sector Measure Year (annual)
SNA_TABLE10_SNA93	Country Transaction Sector Measure Year (annual)
QASA_TABLE7PSD	Country Transaction Sector Measure Adjusted Time (annual, semesters, quarters)
PMR	Indicator Country Year
PROFSVC	Indicator Profession Country Year
ETCR	Indicator Country Year
RETAIL	Indicator Country Year
	****** **Education** ******
EAG_GRAD_ENTR_RATES	Country Gender Age International_Students_Exclusion Education_Level&Program_Orientation Indicator Year
EAG_GRAD_ENTR_FIELD	Country Sex Field Education_Level Indicator Year
EAG_GRAD_ENTR_SHARE	Country Gender Education_Level&Program_Orientation Indicator Year
EAG_PERS_RATIO	Country Education_Level Reference_Sector Indicator Year
EAG_PERS_SHARE_AGE	Country Education_Level Indicator Sex Age Year
EAG_ENRL_RATE_AGE	Country Age Intensity Sex Education_Level Category_of_Education Indicator Year
EAG_PERS_SHARE_INST	Country Reference_Sector Indicator Education_Level Year
EAG_PERS_SHARE_CATEGORY	Country Age Education_Level&Program_Orientation Indicator Sex Intensity Year
EAG_ENRL_MOBILES_FIELDS	Country Indicator Education_Level Field_of_Education Year
EAG_ENRL_MOBILES_ORIGIN	Country Indicator Country_of_Origin Education_Level Year
EAG_TRANS	Country ISCED-A Gender Age Education&Labour_Force_Status Indicator Measure Year
EAG_NEAC	Country ISCED-2011A_Education_Level Gender Age Field Measure Indicator Reference_Year
EAG_FIN_RATIO_CATEGORY	Country Education_Level&Program_Orientation Indicator Type_of_Expenditure Reference_Sector Counterpart_Sector Year
CHAPTER_A_EAG2014_NEW	GPS_Variables Country Time (annual)
CHAPTER_B_EAG2014	GPS_Variables Country Time (annual)
CHAPTER_C_EAG2014	GPS_Variables Country Time (annual)
CHAPTER_D_EAG2014	GPS_Variables Country Time (annual)
EDU_CLASS	Country Reference_Sector Education_Level Type_of_Personnel Year
EDU_FIN_NATURE	Country ISCED-2011_Education_Level ISCED-2011_Category Type_of_Expenditure Counterpart_Sector Year
EDU_FIN_SOURCE	Country Reference_Sector ISCED-2011_Education_Level ISCED-2011P_Category Type_of_Expenditure Counterpart_Sector Year
EDU_PERS_AGE	Country Sex Age Education_Level Category_of_Education Year
EDU_PERS_INST	Country Sex Reference_Sector Intensity Education_Level Category_of_Education Type_of_Personnel Unit_of_Measure Year
EDU_ENRL_AGE	Country Sex Age Intensity Education_Level Category_of_Education Year
EDU_ENRL_FIELD	Country Sex Field_of_Education Country_of_Origin Education_Level Category_of_Education Year

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
EDU_ENRL_INST	Country Sex Reference_Sector Intensity Education_Level Category_of_Education Unit_of_Measure Year
EDU_FIN_STUD	Country Reference_Sector Intensity Education_Level Category_of_Education Unit_of_Measure Year
EDU_ENRL_MOBILE	Country Sex Country_of_Origin Education_Level Category_of_Education Year
EDU_ENTR_AGE	Country Sex Age Country_of_Origin Education_Level Category_of_Education Year
EDU_ENTR_FIELD	Country Sex Field_of_Education Education_Level Category_of_Education Year
EDU_GRAD_AGE	Country Sex Age Country_of_Origin Education_Level Category_of_Education Year
EDU_GRAD_FIELD	Country Sex Field_of_Education Country_of_Origin Education_Level Category_of_Education Year
EDU_GRAD_MOBILE	Country Sex Country_of_Origin Education_Level Category_of_Education Year
EDU_PERS_MANA	Country Sex Intensity Education_Level Category_of_Education Variable Unit_of_Measure Year
EDU_DEM	Country Sex Age Year
RFIN1	Country Year Education_Level Program_Orientation Funding_Source Type_of_Transactions
RPERS	Country Year Education_Level Program_Orientation Type_of_Institution Intensity_of_Participation Age_Groups Gender Personnel_Category
RFIN2	Country Year Education_Level Program_Orientation Service_Provider Nature_of_Expenditure
RFOREIGN	Country Year Education_Level Program_Destination Foreign_International_Category Program_Orientation Gender Country_of_Origin
RGRADAGE	Country Year Education_Level Program_Destination Program_Duration Program_Orientation Type_of_Institution Type_of_Counts Age_Groups Gender
RGRADSTY	Country Year Education_Level Program_Destination Program_Duration Program_Orientation Field_of_Education Gender
RNENTAGE	Country Year Education_Level Program_Destination Age_Groups Gender
ROVERAGE	Country Year Education_Level Program_Orientation Type_of_Institution Intensity_of_Participation Adjusted_to_Finance_Personnel_Data
RENRLAGE	Country Year Education_Level Program_Destination Program_Orientation Intensity_of_Participation Age_Groups Gender
RENRL	Country Year Education_Level Program_Destination Program_Orientation Intensity_of_Participation Type_of_Institution Gender
RPOP	Country Year Age_Groups Gender Status_of_Population
TALIS_EDUGPS	Variables_EDUGPS Country Units Time
TALIS	Variables_EDUGPS Country Units Time

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
	****** **Employment (Jobs)** ******
ALFS_SUMTAB	Country Subject Time&Frequency (annual)
ALFS_POP_VITAL	Country Subject Time&Frequency (annual- 1995–2015 only)
ALFS_POP_LABOUR	Country Subject Sex Time&Frequency (annual- 2000–2016 only)
POP_PROJ	Country Sex Age Variant Time
ALFS_EMP	Country Subject Sex Time&Frequency (annual)
DEC_I	Country Time Sex Series (annual)
MIN2AVE	Country Time Series
MW_CURP	Country Time Pay_Period (annual, 5 pay periods=hourly, daily, weekly, monthly annual)
RMW	Country Time Series Pay_Period (annual, 2 pay periods=hourly, annual)
ANHRS	Country Time&Frequency Employment_Status (annual)
AVE_HRS	Country Time&Frequency Sex Age Employment_Status Job_Type (annual)
USLHRS_I	Country Time&Frequency Sex Age Employment_Status Hour_Bands (annual)
USLHRS_D	Country Time&Frequency Sex Age Employment_Status Hour_Bands (annual)
DW_D	Country Time&Frequency Sex Age Desire_to_Work&Available_to_Work (annual)
DW_I	Country Time&Frequency Sex Age Desire_to_Work&Available_to_Work Series (annual)
ECONSH_D	Country Time&Frequency Sex Age Employment_Status (annual)
ECONSH_I	Country Time&Frequency Sex Age Employment_Status Series (annual)
TENURE_AVE	Country Time&Frequency Sex Age Employment_Status Job_Tenure (annual)
TENURE_DIS	Country Time&Frequency Sex Age Employment_Status Job_Tenure (annual)
TEMP_D	Country Time&Frequency Sex Age Employment_Status Series (annual)
TEMP_I	Country Time&Frequency Sex Age Employment_Status Series (annual)
FTPTC_D	Country Time&Frequency Sex Age Employment_Status Series (annual)
FTPTC_I	Country Time&Frequency Sex Age Employment_Status Series (annual)
FTPTN_D	Country Time&Frequency Sex Age Employment_Status Series (annual)
FTPTN_I	Country Time&Frequency Sex Age Employment_Status Series (annual)
INVPT_D	Country Time&Frequency Sex Age Employment_Status
INVPT_I	Country Time&Frequency Sex Age Employment_Status Series (annual)
LFS_D	Country Time&Frequency Sex Age Series (annual)
LFS_SEXAGE_I_R	Country Time&Frequency Sex Age Series (annual)
LFS_SEXAGE_I_C	Country Time&Frequency Sex Age Series (annual)
DUR_D	Country Time&Frequency Sex Age Duration (annual)
AVD_DUR	Country Time&Frequency Sex Age (annual)
DUR_I	Country Time&Frequency Sex Age Duration (annual)
JOBQ	Country Overall_Measure Components Age Sex Education Time (annual)
JOBQ_I	Country Overall_Measure Components Age Sex Education Time (annual)
LMPEXP	Country Programs Measure Time&Frequency (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
EPL_CD	Country Time
EPL_OV	Country Time Series
EPL_R	Country Time Series (annual)
EPL_T	Country Time Series (annual)
UN_DEN	Country Time
U_D_D	Country Time&Frequency Source Series (annual)
AV_AN_WAGE	Country Time Series (annual)
	****** **Environment** ******
AIR_GHG	Country Pollutant Variable Year (annual)
AIR_EMISSIONS	Country Pollutant Variable Year (annual)
AEA	Country Pollutant Activity Measure Year (annual)
EXP_PM2_5	Country Macroregion Microregion Variable Year (annual)
EXP_PM2_5_FUA	Country Metropolitan_Area Variable Year (annual)
WATER_RESOURCES	Country Variable Period Year (annual)
WATER_ABSTRACT	Country Source Variable Year (annual)
WATER_TREAT	Variable Country Year (annual)
WATER_QUALITY	Country Variable Year (annual)
MUNW	Country Variable Year (annual)
WSECTOR	Country Variable Year (annual)
MATERIAL_RESOURCES	Country Variable Group Year (annual)
LAND_USE	Country Variable Year (annual)
FOREST	Country Variable Year (annual)
WILD_LIFE	IUCN_Category Species Country (no date)
PAT_DEV	Inventor_Country Family_Size Technology_Domain Year (annual)
PAT_COL_RATE	Country Variable Technology_Domain Year (annual)
PAT_COL	Country Partner Technology_Domain Year (annual)
PAT_DIFF	Patent_Office Technology_Domain Coverage Year (annual)
EAMFP	Country Variable Year (annual)
EPER	Country Tables Sector Industry Expenditure Measure Year (annual)
ENV_ENVPOLICY	Country Variable Domain Year (annual)
GREEN_GROWTH	Country Variable Year (annual)
	****** **Finance** ******
BPF1	Item Bank Country Year (annual)
7IA_A_Q	Country Transaction Sector Measure Time&Frequency (annual, quarterly)
QASA_7II_INDIC	Country Indicator Time
QASA_7II	Country Transaction Sector Measure Adjustment Time&Frequency
	****** **Health** ******
HEALTH_STAT	Variable Measure Country Year (annual)
HEALTH_LVNG	Variable Measure Country Year (annual)
HEALTH_REAC	Variable Measure Country Year (annual)
HEALTH_PROC	Variable Measure Country Year (annual)
HEALTH_HCQI	Country Periods Indicator Gender Age_Group Value (annual)
HEALTH_HPMC	Variable Measure Country Year (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
HEALTH_LTCR	Variable Measure Country Year (annual)
HEALTH_WFMI	Country Variable Country_of_Origin Year (annual)
SHA	Financing_Scheme Function Provider Measure Country Year (annual)
SHA_FS	Financing_Scheme Revenues_of_Financing_Schemes Measure Country Year (annual)
SHA_FP	Provider Factor_of_Provision Measure Country Year (annual)
SHA_HK	Provider Type_of_Asset Measure Country Year (annual)
HEALTH_PROT	Variable Measure Country Year (annual)
HEALTH_DEMR	Variable Measure Country Year (annual)
HEALTH_ECOR	Variable Measure Country Year (annual)
	****** **Industry and Entrepreneurship** ******
AMNE_IN	Economic_Variable Industry Partner_Country Declaring_Country Year (annual)
AMNE_IN_PARTNER	Economic_Variable Industry Partner_Country Declaring_Country Year (annual)
AMNE_OUT_PARTNER	Economic_Variable Industry Partner_Country Declaring_Country Year (annual)
AMNE_OUT	Economic_Variable Industry Partner_Country Declaring_Country Year (annual)
MTC	Importer_Country Exporter_Country Type_of_Goods Transport_Mode Transport_Cost_Measures Commodity Year (annual)
TES3	Indicator Reporter_Country Flow Partner_Country&Zone Sector_ISIC Year (annual)
TEC3_REV4	Indicator Reporter_Country Flow Partner_Country&Zone Sector_ISIC Year (annual)
TSEC1	Indicator Reporter_Country Flow Partner_Zone Size_Class ISIC_Sector Year (annual)
TEC1_REV4	Indicator Reporter_Country Flow Partner_Zone Size_Class ISIC_Sector_Rev4 Year (annual)
TSEC2	Indicator Reporter_Country Flow Partner_Zone Top_Enterprises ISIC_Sector Year (annual)
TEC2_REV4	Indicator Reporter_Country Flow Partner_Zone Top_Enterprises ISIC_Sector_Rev4 Year (annual)
TSEC4	Indicator Reporter_Country Flow Partner_Zone Partner_Countries_Class ISIC_Sector Year (annual)
TEC4_REV4	Indicator Reporter_Country Flow Partner_Zone Partner_Countries ISIC_Sector_Rev4 Year (annual)
TSEC5	Indicator Reporter_Country Flow Partner_Zone Commodity_Group ISIC_Sector Year (annual)
TEC5_REV4	Indicator Reporter_Country Flow Partner_Zone Commodity_Group ISIC_Sector_Rev4 Year (annual)
SDBS_BDI_ISIC4	Country Variable ISIC4 Size_Class Time (annual)
SDBS_BDI	ISIC3 Variable Size_Class Country Year (annual)
SSIS_BSC_ISIC4	Country Variable ISIC4 Source Size_Class Time (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
SSIS_BSC	ISIC3 Source Variable Size_Class Country Year (annual)
TIMELY_BDS_ISIC4	Country Variable Measure ISIC4 Time (annual, semesters, quarters)
STAN08BIS	Country Variable Industry Time (annual)
STANINDICATORS	Country Variable Industry Time (annual)
STANI4	Country Variable Industry Time (annual)
ANBERD_REV4	Country Variable Industry Time (annual)
ANBERD2011_REV3	Country Variable Industry Time (annual)
BTDIXE_I4	Reporting_Country Flow Partner_Country End_Use Industry_Activity Variable Time (annual)
BTDIXE_I3	Reporting_Country Flow Partner_Country End_Use_Category Industry_Activity Variable Time (annual)
IOTS	Variable Country Time Row_Sector_From Column_Sector_To (annual)
STAN_IO_LEONTIEF	Country Period Row_Sector Column_Sector (mid-1990s, early 2000s, mid-2000s)
STAN_IO_LEONTIEF_DOM	Country Period Row_Sector Column_Sector (mid-1990s, early 2000s, mid-2000s)
STAN_IO_M_X (mid-1990s, early 2000s, mid-2000s)	Country Import_Type Period Sector
	****** **Innovation** ******
PATS_COOP	Patent_Office Type_of_International_Cooperation_in_Patenting Country Partner_Country Reference_Date Time (annual)
PATS_IPC	Patents_Office&Patents_Families Reference_Country Country Technology_Domains&IPC Reference_Date Time (annual)
PATS_REGION	Patent_Office Reference_Region Regions Total_Patents&By_Technologies Time (annual)
PDB_LV	Country Subject Measure Time (annual)
PDB_GR	Country Subject Measure Time (annual)
PDB_I4	Country Subject Measure Activity Time (annual)
	****** **Insurance and Pensions** ******
BSI	Currency Variable Insurance_Type Insurer_Type Country Year (annual)
PT2	Country Year Currency Variable Ownership Premium_Type Insurance_Type DB_RA Contract_Type (annual)
PT9	Country Year Currency Variable Ownership Insurance_Type DB_RA (annual)
PT7	Country Currency Variable Ownership Insurance_Type DB_RA Year (annual)
PT8	Country Currency Variable Ownership Insurance_Type DB_RA Year (annual)
INSIND	Year Country Indicator (annual)
PT3	Country Year Currency Variable Ownership Premium_Type Risk_Type Insurance_Type DB_RA (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
PT4	Country Year Currency Variable Premium_Type BA_SUB Insurance_Type DB_RA Partner_Country (annual)
PT5	Country Year Currency Variable Premium_Type DB_RA Class (annual)
PT1	Country Year Variable Ownership Insurance_Type Employer_Type
PT6	Country Variable Ownership Investment_Type Insurance_Type Destination Insurer_Type Country Year
PNN_NEW	Pension_Plan_Type Definiton_Type Contract_Type Variable Measure Country Year
PNNI_NEW	Pension_Plan_Type Definiton_Type Contract_Type Variable Measure Country Year
PPRF	Country Type_of_Fund Valuation_Method Asset_Class Variable Year
PAG	Country Indicator Year
	****** **Migration** ******
MIG	Country_of_Birth/Nationality Variable Gender Country Year
	****** **Investment** ******
FDI_AGGR_SUMM	Reporting_Country Measure Measurement_Principle Type_of_FDI Time (annual,semesters,quarters)
FDI_FLOW_SUMM	Reporting_Country Measure Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry FDI_Components Time (annual,semesters,quarters)
FDI_FLOW_CTRY	Reporting_Country Currency Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry Level_of_Counterpart Partner_Country/Territory Year (annual)
FDI_FLOW_IND	Accounting_Entry Level_of_Counterpart Partner_Country/Territory Economic_Activity Year (annual)
FDI_INC_AGGR	Reporting_Country Measure Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry FDI_Components Time (annual,semesters,quarters)
FDI_INC_CTRY	Reporting_Country Currency Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry Level_of_Counterpart Partner_Country/Territory Year (annual)
FDI_INC_IND	Reporting_Country Currency Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry Level_of_Counterpart Partner_Country/Territory Year (annual)
FDI_INC_AGGR	Reporting_Country Measure Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry FDI_Components Time (annual)
FDI_POS_CTRY	Reporting_Country Currency Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry Level_of_Counterpart Partner_Country/Territory Year (annual)
FDI_POS_IND	Reporting_Country Currency Measurement_Principle Type_of_FDI Type_of_Entity Accounting_Entry Level_of_Counterpart Partner_Country/Territory Economic_Activity Year (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
FDI_BOP_IIP	Series Measure Country Year (annual, semesters, quarters)
FDI_FLOW_INDUSTRY	Type_of_FDI Industry Currency Reporting_Country Year (annual)
FDI_FLOW_PARTNER	Type_of_FDI Partner_Country Currency Reporting_Country Year (annual)
FDI_POSITION_INDUSTRY	Type_of_FDI Industry Currency Reporting_Country Year (annual)
FDI_POSITION_PARTNER	Type_of_FDI Partner_Country Currency Reporting_Country Year (annual)
FDIINDEX	Country Sector/Industry Type_of_Restriction Series Year (annual)
	****** **Regional, Rural, and Urban Development** ******
REGION_DEMOGR	Territory_Level_and_Typology Region Indicator Gender Position Year (annual)
REGION_ECONOM	Territory_Level_and_Typology Region SNA_Classification Indicator Measure Position Year (annual)
REGION_LABOUR	Territory_Level_and_Typology Region Indicator Gender Position Year (annual)
REGION_SOCIAL	Territory_Level_and_Typology Region Indicator Gender Position Year (annual)
REGION_INNOVATION	Territory_Level_and_Typology Region Indicator Position Year (annual)
CITES	Metropolitan_Areas Variables Year (annual)
RWB	Regions Indicator Measure Time (annual)
SNGF	Sector Transaction Measure Country Time (annual)
	****** **Science and Technology Filter** ******
MSTI_PUB	MSTI_Variables Country Year (annual)
BERD_INDUSTRY_ISIC4	Country Industry Measure Classification_Criteria Year (annual)
BERD_INDUSTRY	Industry Measure Classification_Criteria Country Year (annual)
BERD_FUNDS	Industry Source_of_Funds Measure Country Year (annual)
BERD_COST	Industry Type_of_Costs Measure Country Year (annual)
BERD_SIZE	Size_Class Source_of_Funds Measure Country Year (annual)
GERD_SCIENCE	Sector_of_Performance Field_of_Sciences Measure Country Year (annual)
GERD_OBJECTIVE_NABS2007	Sector_of_Performance Socio_Economic_Objective Measure Country Year (annual)
GERD_FUNDS	Sector_of_Performance Source_of_Funds Measure Country Year (annual)
GERD_COST	Sector_of_Performance Type_of_Costs Measure Country Year (annual)
ONRD_FUNDS	Sector_of_Performance Source_of_Funds Measure Field_of_Sciences Country Year (annual)
ONRD_COST	Sector_of_Performance Measure Type_of_Costs Field_of_Sciences Country Year (annual)
RD_ACTIVITY	Sector_of_Performance Type_of_Costs Type_of_RD Measure Country Year (annual)
GBAORD_NABS2007	GBAORD_Socio_Economic_Objective Measure Country Year (annual)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
PERS_INDUSTRY	Industry Measure Occupation_Criteria Gender Country Year
PERS_SCIENCE	Field_of_Sciences Sector_of_Employment Measure Gender Occupation_Criteria Country Year
PERS_QUAL	Sector_of_Employment Qualification Gender Measure Occupation_Criteria Country Year
PATS_COOP	Patent_Office Type_of_International_Cooperation_in_Patenting Country Partner_Country Reference_Date Time
PATS_REGION	Patent_Office Reference_Region Regions Total_Patents_and_by_Technologies Time
AMNE_IN	Economic_Variable Industry Partner_Country Declaring_Country Year
AMNE_IN_PARTNER	Economic_Variable Industry Partner_Country Declaring_Country Year
AMNE_OUT_PARTNER	Economic_Variable Industry Partner_Country Declaring_Country Year
AMNE_OUT	Economic_Variable Industry Partner_Country Declaring_Country Year
STAN08BIS	Country Variable Industry Time
	****** **Wealth** ******
WEALTH	Country Variable Age_Groups Time
BLI	Country Indicator Measure Inequality
GENDER_EDU	Country Indicator Sex Age_Group Time
GENDER_ENT1	Country Indicator Sex Age Time
CITIES	Metropolitan_Areas Variables Year
SOCX_REF	Variable Country Year
	****** **Tax** ******
TABLE_I4	Country Income_as_a_Percentage_of_the_Average_Wage Marginal_Tax_Rates_and_Wedges Year
REVAUT	Tax Government Year (Austria)
REVBEL	Tax Government Year (Belgium)
REVCAN	Tax Government Year (Canada)
REVCHL	Tax Government Year (Chile)
REV	Level_of_Government Tax_Revenue Indicator Country Year
REVCZE	Tax Government Year (Czech Republic)
REVDNK	Tax Government Year (Denmark)
REVEST	Tax Government Year (Estonia)
REVFIN	Tax Government Year (Finland)
REVFRA	Tax Government Year (France)
REVDEU	Tax Government Year (Germany)
REVGRC	Tax Government Year (Greece)
REVHUN	Tax Government Year (Hungary)
REVISL	Tax Government Year (Iceland)
REVIRL	Tax Government Year (Ireland)
REVISR	Tax Government Year (Israel)

Table 51.5 *continued*

Data Set Code	Key0 Key1 . . . Key*n*
REVITA	Tax Government Year (Italy)
REVJPN	Tax Government Year (Japan)
REVKOR	Tax Government Year (Korea)
REVLUX	Tax Government Year (Luxembourg)
REVMEX	Tax Government Year (Mexico)
REVNLD	Tax Government Year (Netherlands)
REVNZL	Tax Government Year (New Zealand)
REVNOR	Tax Government Year (Norway)
REVPOL	Tax Government Year (Poland)
REVPRT	Tax Government Year (Portugal)
REVSVK	Tax Government Year (Slovak Republic)
REVSVN	Tax Government Year (Slovenia)
REVESP	Tax Government Year (Spain)
REVSWE	Tax Government Year (Sweden)
REVCHE	Tax Government Year (Switzerland)
REVTUR	Tax Government Year (Turkey)
REVGBR	Tax Government Year (United Kingdom)
REVUSA	Tax Government Year (United States)

Examples: SASEOECD Interface Engine

Example 51.1: Retrieving OECD Gross Domestic Product Data for One Region

You can start building an OECD query for this example on the web page at the following URL:

http://stats.oecd.org/index.aspx?datasetcode=SNA_TABLE1_SNA93

Select **Customize ►Selection**, which shows the dimension values that are the key values for **Country**, **Transaction**, and **Measure**. Select **Euro area (17 countries)** from the **Country** list. Select **Gross domestic product (output approach)** from the **Transaction** box, and **Current prices** from the **Measure** list. Specify the Observation period to limit the time range to the span 1995 to 2013. On the **Export** tab, select **Developer API**. Then click **Generate API queries**.

The **Data query** box shows the URL for the key values that you selected for **Country**, **Transaction**, and **Measure**:

http://stats.oecd.org/sdmx-json/data/SNA_TABLE1_SNA93/EA17.B1_GA.C/all?startTime=1995&endTime=2013

In your SAS code, use SETID=SNA_TABLE1_SNA93 to indicate the OECD data set. Next, you can specify the INSET*n*= options by using *n*=0,1,2 for **Country**, **Transaction**, and **Measure**, respectively. The SAS code is shown after the next paragraph, followed by the output, which is shown in Output 51.1.1.

The SET statement reads observations from the input data set myLib.GSTART and stores them in a SAS data set named myGDP. When you specify the INSET*n*= option, you name the SAS input data set for each of the *n* keysets that define your selection of data. The SASEOECD engine takes the crossproduct of all the insets and creates a temporary data set named CrossKey. Each row in CrossKey defines a unique time series request. Not every row in CrossKey yields meaningful data. Only the rows that contain valid data are placed in a JSON file. When a request for data (using the values in each row) generates a valid JSON file, the file is named by concatenating the OUT= option name to the observation number (*n*) in the CrossKey data set that corresponds to the row whose values generated the request. When all the data are retrieved, they are placed in a SAS data set that is named by the OUT= option and that is located in the folder specified by the *physical-name* in the LIBNAME *libref* SASEOECD statement.

```
options validvarname=any
   sslcalistloc="<physical path and file name to specify your security certificates>";

data keylist0;
   length key0 $8;
   key0='EA17'; output; /* country is euro area; 17 countries */
run;

data keylist1;
   length key1 $8;
   key1='B1_GA'; output; /* transaction is GDP; output approach */
run;

data keylist2;
   length key2 $2;
   key2='C'; output;     /* measure is current prices */
run;

title 'Request GDP for EA_17 in Current Prices';
LIBNAME myLib saseoecd "physical path to your folder for storing the OECD data"
   setid=SNA_TABLE1_SNA93
   inset0=keylist0
   inset1=keylist1
   inset2=keylist2
   out=gstart
   ;

data myGDP;
   set myLib.gstart ;
run;

proc print data=myGDP; run;
```

Output 51.1.1 GDP for EA_17 in Current Prices

Request GDP for EA_17 in Current Prices

Obs	date	EA17.B1_GA.C
1	1995	5576144.4
2	1996	5807311.6
3	1997	5938589.4
4	1998	6168716.0
5	1999	6446962.4
6	2000	6783429.6
7	2001	7084189.5
8	2002	7330227.7
9	2003	7546644.2
10	2004	7859959.2
11	2005	8145054.4
12	2006	8564223.2
13	2007	9030671.4
14	2008	9243012.4
15	2009	8921464.1
16	2010	9167722.2
17	2011	9423758.6
18	2012	9483205.2
19	2013	9579227.7

Example 51.2: Retrieving the Short-Term Labor Market Statistics for Australia

This example shows how to retrieve OECD labor statistics data for one country, Australia, starting in the third quarter of 2014 and ending in the third quarter of 2017. The output is shown in Output 51.2.1, which contains two variables, Date and AUS.LREM64FE.STSA.Q. The SASEOECD engine automatically sets the VALIDVARNAME=ANY option to allow for the special character '.' in the SAS variable's series name.

The SETID= option names the OECD data set to retrieve the data from, whose OECD data set code is STLABOUR. The following URL describes the StLabour data set:

http://stats.oecd.org/Index.aspx?DataSetCode=STLABOUR

Key0 selects Australia as the country key (in INSET0=KEYLIST0), Key1 selects the LREM64E time series in the subject key (in INSET1=KEYLIST1), Key2 selects STSA as the measure key (in INSET2=KEYLIST2), and Key3 selects the quarterly frequency, Q (in INSET3=KEYLIST3). The START= and END= options define the date range of the retrieved data.

```
options validvarname=any
   sslcalistloc="<physical path and file name to specify your security certificates>";

data keylist0;
   length key0 $3;
   key0='AUS'; output; /* country is Australia */
run;
```

```
data keylist1;
   length key1 $8;
   key1='LREM64FE'; output; /* subject is employment rate */
run;

data keylist2;
   length key2 $8;
   key2='STSA'; output;     /* measure is level, rate, or quantity series, s.a. */
run;

data keylist3;              /* quarterly data */
   length key3 $1;
   key3='Q'; output;
run;

title 'Request LREM64FE for AUS in STSA, Quarterly Data';
libname _all_ clear;
LIBNAME myLib saseoecd "physical path to your folder for storing the OECD data"
   setid=STLABOUR
   inset0=keylist0
   inset1=keylist1
   inset2=keylist2
   inset3=keylist3
   start='2014-Q3'
   end='2017-Q3'
   ;

data mylab;
    set myLib.stlab;
run;


proc print data=mylab; run;
```

Output 51.2.1 Short-Term Labor Market Statistics for AUS in STSA

Request LREM64FE for AUS in STSA, Quarterly Data

Obs	date	AUS.LREM64FE.STSA.Q
1	2014-Q3	66.0799
2	2014-Q4	65.9477
3	2015-Q1	66.3210
4	2015-Q2	66.6583
5	2015-Q3	66.8309
6	2015-Q4	67.4171
7	2016-Q1	67.4288
8	2016-Q2	67.4313
9	2016-Q3	67.3130
10	2016-Q4	67.2861
11	2017-Q1	67.4236
12	2017-Q2	67.8598
13	2017-Q3	68.3549

Example 51.3: Retrieving Bank Profitability Statistics for USA, NMEC, and RUS

This example shows how to retrieve OECD bank profitability statistics data for three country codes, starting in 1999 and ending in 2009. (NMEC stands for nonmember economies, which include Russia, China, and the Baltic States.) The output is shown in Output 51.3.1. The SETID= option names the OECD data set to retrieve the data from, whose OECD data set code is BPF1. The following URL describes the BPF1 data set:

http://stats.oecd.org/Index.aspx?DataSetCode=BPF1

Key0 selects three time series, BALSH_TOT, BT25TE, and BT26TE; Key1 selects all banks; and Key2 selects three country codes, USA, NMEC, and RUS. The START= and END= options define the date range of data, 1999 to 2009.

```
options validvarname=any
   sslcalistloc="<physical path and file name to specify your security certificates>";

data keylist0;
   length key0 $16;
   key0='BALSH_TOT'; output;
   key0='BT25TE'; output;
   key0='BT26TE'; output;
run;

data keylist1;
   length key1 $8;
   key1='ALL'; output;
run;

data keylist2;
   length key2 $8;
   key2='USA'; output;
   key2='NMEC'; output;
   key2='RUS'; output;
run;

title 'Request BPF1 for USA,NMEC and RUS, Annual Data';
libname _all_ clear;
LIBNAME myLib saseoecd "physical path to your folder for storing the OECD data"
   setid=BPF1
   inset0=keylist0
   inset1=keylist1
   inset2=keylist2
   out=BALBK
   start='1999'
   end='2009'
   format=json;

data myBALBK;
    set myLib.BALBK;
run;


proc contents data=myBALBK; run;
proc print data=myBALBK; run;
```

Output 51.3.1 Bank Profitability Statistics for All Banks in USA, NMEC, and RUS

Request BPF1 for USA,NMEC and RUS, Annual Data

Obs	date	BT25TE.ALL.USA	BT25TE.ALL.RUS	BT26TE.ALL.USA	BT26TE.ALL.RUS
1	1999	7369962.21	.	7178077.12	.
2	2000	7961767.68	.	7665864.94	.
3	2001	8446191.68	.	8203979.68	.
4	2002	9045488.03	.	8745839.85	.
5	2003	9623188.18	.	9334338.10	.
6	2004	10666422.03	7100603.24	10144805.11	6211876.94
7	2005	11488389.41	9696238.07	11077405.72	8188661.85
8	2006	12608105.99	13963452.60	12048247.70	11398436.75
9	2007	13835998.40	20125125.35	13222052.20	16765276.56
10	2008	14737224.66	28022328.54	14286520.14	23047657.84
11	2009	14113123.71	29430025.19	14425174.18	28372699.99

Example 51.4: Retrieving Fisheries and Aquaculture Employment for the Czech Republic

This example shows how to retrieve OECD fisheries and aquaculture statistics data for the Czech Republic (CZE), starting in 2009 and ending in 2016. The output is shown in Output 51.4.1. The SETID= option names the OECD data set to retrieve the data from, whose OECD data set code is FISH_EMPL. The following URL describes the Fish_Empl data set:

http://stats.oecd.org/Index.aspx?DataSetCode=FISH_EMPL

Key0 selects one country code, CZE (Czech Republic). Key1 selects the economic sector, ETOT, the total by economic sector. Key2 selects two genders, MAL (male) and FEM (female). Key3 selects two occupation rates, PA (part time) and FU (full time). The START= and END= options define the date range of data, 2009 to 2016.

```
options validvarname=any
   sslcalistloc="<physical path and file name to specify your security certificates>";

data keylist0;
   length key0 $3;
   key0='CZE'; output;
run;

data keylist1;
   length key1 $8;
   key1='ETOT'; output;
run;

data keylist2;
   length key2 $3;
   key2='MAL'; output;
   key2='FEM'; output;
run;
```

```
data keylist3;
   length key3 $3;
   key3='PA'; output;
   key3='FU'; output;
run;

title 'Request FISH_EMPL Data, Annual Data';
libname _all_ clear;
LIBNAME myLib saseoecd "physical path to your folder for storing the OECD data"
   setid=FISH_EMPL
   inset0=keylist0
   inset1=keylist1
   inset2=keylist2
   inset3=keylist3
   out=FISHEMP
   start='2009'
   end='2016'
   ;

data myfish;
    set myLib.fishemp;
run;


proc print data=myfish; run;
```

Output 51.4.1 Fisheries and Aquaculture Employment Data for CZE

Request FISH_EMPL Data, Annual Data

Obs	date	CZE.ETOT.MAL.FU	CZE.ETOT.FEM.FU
1	2009	1248	287
2	2010	1277	286
3	2011	1277	286
4	2012	1277	286

Example 51.5: Retrieving the Trade by Enterprise Characteristics by Ownership Statistics for the United Kingdom

This example shows how to retrieve OECD trade by enterprise statistics data for one country, the United Kingdom, starting in 2011 and ending in 2015. The output is shown in Output 51.5.1, which contains three variables, Date, 2.GBR.1.TOTAL.D.TOTAL, and 2.GBR.2.TOTAL.D.TOTAL. The SASEOECD engine automatically sets the VALIDVARNAME=ANY option to allow for the special character '.' in the SAS variable's series name.

The SETID= option names the OECD data set to retrieve the data from, whose OECD data set code is TEC7_REV4. The following URL describes the TEC7_REV4 data set:

http://stats.oecd.org/Index.aspx?DataSetCode=TEC7_REV4

Key0, in INSET0=KEYLIST0, selects trade value as the indicator key. Key1, in INSET1=KEYLIST1, selects United Kingdom as the reporting country. Key2, in INSET2=KEYLIST2, selects the flow, 1 for imports

and 2 for exports. Key3, in INSET3=KEYLIST3, selects the zone or partner country as the total. Key4, in INSET4=KEYLIST4, selects the ownership as domestic or foreign. Key5, in INSET5=KEYLIST5, selects the ISIC sectors (rev 4) as domestically controlled enterprises. The START= and END= options define the date range of data, 2011 to 2015.

```
options validvarname=any
   sslcalistloc="<physical path and file name to specify your security certificates>";

data keylist0;
   length key0 $2;
   key0='2'; output; /* indicator is trade value */
run;

data keylist1;
   length key1 $3;
   key1='GBR'; output; /* reporting country is United Kingdom */
run;

data keylist2;
   length key2 $2;
   key2='1'; output; /* flow is imports */
   key2='2'; output; /* flow is exports */
run;

data keylist3;
   length key3 $8;
   key3='TOTAL'; output;  /* partner country or zone is Total */
run;

data keylist4;
   length key4 $3;
   key4='D'; output;  /* ownership is domestically controlled enterprises */
run;

data keylist5;
   length key5 $8;
   key5='TOTAL'; output;  /* ISIC Sectors is total economy */
run;

title 'Request TEC7_REV4 Data for United Kingdom';

LIBNAME myLib saseoecd "physical path to your folder for storing the OECD data"
   setid=TEC7_REV4
   inset0=keylist0
   inset1=keylist1
   inset2=keylist2
   inset3=keylist3
   inset4=keylist4
   inset5=keylist5
   out=TR7
   start='2011'
   end='2015'
   ;
```

```
data mytech;
    set myLib.TR7;
run;


proc print data=mytech; run;
```

Output 51.5.1 Trade by Enterprise Characteristics - TEC by Ownership (Domestic or Foreign)

Request TEC7_REV4 Data for United Kingdom

Obs	date	2.GBR.1.TOTAL.D.TOTAL	2.GBR.2.TOTAL.D.TOTAL
1	2011	231974	197155
2	2012	229010	182009
3	2014	217146	184752
4	2015	166213	139466

References

Organisation for Economic Co-operation and Development (2013). *OECD.Stat Web Browser User Guide*. OECD, Paris. https://stats.oecd.org/Content/themes/OECD/static/help/WBOS%20User%20Guide%20(EN).PDF.

Organisation for Economic Co-operation and Development (2018a). "API Documentation (SDMX-JSON)." Accessed October 3, 2018. https://data.oecd.org/api/sdmx-json-documentation/.

Organisation for Economic Co-operation and Development (2018b). "OECD Data." Accessed October 3, 2018. https://data.oecd.org/searchresults/?hf=20&b=0&r=f/type/datasets/api+access&l=en.

Organisation for Economic Co-operation and Development (2018c). "OECD.Stat." Accessed October 3, 2018. https://stats.oecd.org.

Statistical Data and Metadata eXchange (2016). *SDMX Glossary, Version 1.0*. SDMX. Accessed October 5, 2018. https://sdmx.org/wp-content/uploads/SDMX_Glossary_Version_1_0_February_2016.docx.

Statistical Data and Metadata eXchange (2018). "SDMX website." Accessed October 3, 2018. https://sdmx.org.

UK Data Service (2017). *UKDS.Stat API Guide (SDMX-JSON)*. Essex, UK: UKDS. Accessed October 5, 2018. https://stats.ukdataservice.ac.uk/guides/guides/api-guide.pdf.

Subject Index

Syntax Index