

## Chapter 4

# Application of Country Codes in Database of Trade Statistics

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The AIDXT (Ajiken Indicators of Developing Economies: Extended for Trade Statistics) is comprised of the United Nations (UN) Trade Statistics, the OECD Trade Statistics, and the Taiwanese Trade Statistics. In each of these original statistics, unique country codes are used. In this chapter, we will examine of the country code systems in these various sources of information and the background leading up to the establishment of the IDE country code system of the AIDXT. Next, we will throw light on the problems seen in the IDE country codes of the AIDXT at the present and study how to make them more consistent in the future.

The problems in the IDE country codes of the AIDXT may be summarized as follows:

- (1) There are several country codes for one country
- (2) There are several countries or regions for a single country code

In the past, (1) has been considered as the main problem. This is believed because the phenomenon represented a deviation from the policy of standardization of information sources in the AIDXT. However, (2) is more serious in coding. In the present AIDXT where the only country codes are the IDE country codes, it is often not possible for the system to

retrieve data by a single country in the most detail level.

How should the country code system in the AIDXT be improved in the future in view of these problems? Suggestions on this are given by Yukinori Shimamoto, "Notes on Time Series of Japanese Trade Statistics" (Statistical Paper Series No. 34, Institute of Developing Economies, 1968). This is a record of work connecting Japanese trade statistics over the past 15 years in time series. Here, Shimamoto describes the method of reflecting the actual changes in countries, such as union or split up of countries, in time series in the country codes. According to this, the standard country code is comprised of a group no. and a level no. In the case of unified or split countries, the countries are represented by the same group no., while are treated independently by imparting a level no. The code comprising the group no. and the level no. is made the standard code of partner country.

Let us try coding the union of countries by this system. For example, let us assume the following case: A country A expressed by a country code 1000 00 and a country B expressed by a country code 1001 00 join to form a new country A in 2000. Up until 1999, the AIDXT had been as follows:

Country A	1000 00	1962-1999
Country B	1001 00	1962-1999

When following the Shimamoto system, the AIDXT after 2000 becomes as follows:

Country A	1000 01	1962-1999
Country B	1000 02	1962-1999
Country A	1000 00	2000-

When using another method with reference to the Shimamoto system, the result becomes as follows. This is for convenience sake called the quasi-Shimamoto system:

Country A	1000 00	1962-1999
Country B	1001 00	1962-1999
Country A	1000 01	2000-

In this system, it is possible to assign new country codes without changing the past data up to 1999 as with the Shimamoto system. It is not however possible to connect the country A and country B of up to 1999 with the country A after 2000 on the same level.

Another model is the policy of assignment of country codes of the UN. The UN issues different country codes without worrying about the country codes becoming discontinuous for substantially the same country. When applying the UN policy to the above example, the following is a result:

Country A	100000	1962-1999
Country B	100100	1962-1999
Country A	100200	2000-

When adopting this system, in the same

way as the quasi-Shimamoto system, continuity of country is not reflected in the codes. It is necessary to connect the information of each country by another information such as keywords.

As seen up to now, realization of uniformity and continuity of countries by just the country codes is difficult. This being so, it is easier to maintain the principle over a long period by propagating country codes based on a simple mechanical principle. Avoiding the use of codes that have meaning in themselves makes for a policy that is easier to maintain.

Another method may be employed to realize uniformity of countries. This is, we can consider avoiding uniformity forced on countries by just the country code and realize uniformity instead by the retrieval system. Specifically, it would be effective way to create a system which displays several candidate country codes or country names on a screen and from which user could specify codes for retrieval by his/her own decision.

Next case shows how an actual search would look like using the example of a country AB formed by the merger of a country A and country B as an actual example of records of the database and retrieval instructions using the SQL.

First, the country code database is assumed to store the following definitions and content.

(Content 1 of Country Code DB)	
Country name	A
Country code	100000
Valid period from	1962
Valid period to	1999

Keyword 1	A
Keyword 2	B
Keyword 3	
Keyword 4	
Single classification	Single

country codes and country names related to the country B is retrieved from the country code database.

(Content 2 of Country Code DB)

Country name	B
Country code	100100
Valid period from	1962
Valid period to	1999
Keyword 1	B
Keyword 2	A
Keyword 3	
Keyword 4	
Single classification	Single

(Example - query statements)

```
select country_code and country_name from
country_code_DB
where (keyword 1 = "B" or
keyword 2 = "B" or
keyword 3 = "B" or
keyword 4 = "B")
```

(Example - Retrieval Results)

A	100000
B	100100
AB	100200

(Content 3 of Country Code DB)

Country name	AB
Country code	100200
Valid period from	2000
Valid period to	9999
Keyword 1	AB
Keyword 2	A
Keyword 3	B
Keyword 4	
Single classification	Combined

Next, an input screen, in which the retrieved country codes are displayed, must be prepared to select the favorite countries from it by the user himself/herself. The selected country codes are transferred as one of the search conditions to the processing including the query of the main database of AIDXT.

As one theme for the future, it may be mentioned that the revision of the country code system of the AIDXT should be predicated on utilization of an advanced database management system.

The following is an example of a query of country code. In this example, a list of the