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# Danish Securities Statistics in An International Perspective

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## INTRODUCTION

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Danmarks Nationalbank has begun to publish new securities statistics on a monthly basis. The statistics are based on a new securities database. The database will also supply data to an international securities database currently being developed by the European Central Bank, ECB.

At the international level securities have been in greater focus in recent years due to such factors as the strongly expanded volume of cross-border portfolio investments. Different compilation principles, among other factors, have made it difficult to compare data across countries, which led to significant international interest in coordinating statistics among countries and setting up international databases to aid harmonisation of the compilation principles. An additional advantage is that the international databases can potentially provide data that will improve the national compilations of cross-border securities investments, while the data coverage of financial market developments is expanded.

This article first describes the Danish securities database, followed by a description of two international databases under development in the securities field. These are the European Central Bank's Centralised Securities Database (CSDB) and the IMF's Coordinated Portfolio Investment Survey (CPIS). Denmark participates in building up both international databases. The relationship between the Danish and the international databases is also considered.

## PRESENTATION OF THE DANISH SECURITIES DATABASE

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Danmarks Nationalbank's securities database contains data on the individual securities registered at VP Securities Services, VP, and on Danish securities issued abroad. For the VP-registered securities the data comprises details of the securities (master data), issuers and owners. The ownership data covers both stock and transactions (purchase and sale) in the individual securities. For Danish securities issued abroad the securi-

ties database comprises details of the paper and its issuers, but limited data on its owners.<sup>1</sup>

The securities database is the foundation for the new securities statistics that were published for the first time in April 2003.<sup>2</sup> The statistics provide data on issuers and owners across sectors of the economy and securities types, including:

- Net supply by securities type/issuer
- Coupon distribution of central-government securities and mortgage-credit bonds (outstanding amounts and net supply)
- Holdings by owner and securities type/issuer
- Benchmark bonds by owner

Ownership is stated by sector, with abroad as one sector. The VP data does not provide for full statistical coverage by sector or country regarding non-residents. In the longer term, the international work in the securities area may contribute further details regarding foreign ownership, cf. the section on securities statistics in an international perspective.

The VP data on non-residents' holdings is adjusted for repurchase agreements between the MFI sector (banks) and abroad, and for residents' holdings of VP-registered securities held in safe custody accounts abroad, cf. Box 1.

In mid-2003 the securities statistics will be expanded with details of net purchases (purchases less sales and redemptions/drawings) by owner and securities type/issuer.

### **Other applications of the securities database**

The data from the securities database can be used as input for several other statistics besides securities statistics. This ensures that the various statistics are consistent.

The securities database can thus provide data for the compilation of the balance of payments and of quarterly financial accounts, and furthermore contribute to enhancing the compilation of the international investment position. In addition, the database will provide data for the ECB's future securities database, CSDB, which again will supply supplementary data – with equivalent contributions from other participating countries – to the compilation of the balance of payments and the ex-

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<sup>1</sup> Danish securities are defined as securities issued by residents, while foreign securities are issued by non-residents.

<sup>2</sup> At the beginning of 2003, Danmarks Nationalbank took over the task of collecting securities statistics from Statistics Denmark.

## DANMARKS NATIONALBANK'S SECURITIES STATISTICS

Box 1

In April 2003, Danmarks Nationalbank published new monthly securities statistics for the first time. The statistics comprise bonds, shares and investment fund shares registered with VP Securities Services (VP), which is the main data source. Master data on securities (e.g. issuer, changes in outstanding amounts and currency denomination), as well as data on the individual owners' holdings and fluctuations therein, is registered electronically at VP. Most of the registered securities are quoted on the Copenhagen Stock Exchange, but unquoted securities are also included in the statistics. Issuers may be residents or non-residents.

The VP ownership data is adjusted for two factors:

- Securities registered with a safe custody account abroad, e.g. Euroclear, will in principle be registered as owned by a non-resident, even though they are owned by a resident. This results in overestimation of non-residents' ownership interest. Adjustment can be made for this factor via information from banks, etc. on residents' holdings of VP-registered securities in safe custody accounts abroad.
- Repurchase agreements (repos) likewise affect the owner distribution if the legal ownership of the securities is transferred temporarily to the counterparty and is moved from the selling party's VP account to the purchasing party's account, even though the transaction is a lending transaction. The VP data is therefore adjusted for repo transactions between the MFI sector (banks) and abroad, compiled on a net basis.

In addition, the statistics include data on residents' issues abroad (non-VP-registered securities). Since the summer of 2001 around 25 major Danish business enterprises, etc. have reported on their issues abroad.

The statistics cover the period from December 2001, but will later be expanded to include back data to October 1999.

A small extract from the statistics is shown here. The statistics can be viewed in their entirety on Danmarks Nationalbank's website ([www.nationalbanken.dk](http://www.nationalbanken.dk)) under Statistics, Download statistics. During 2003, more detailed securities data will be made available on the internet, and it will be possible to extract data on an individual basis.<sup>1</sup>

## SECURITIES BY TYPE AND OWNER (DOMESTIC/ABROAD)

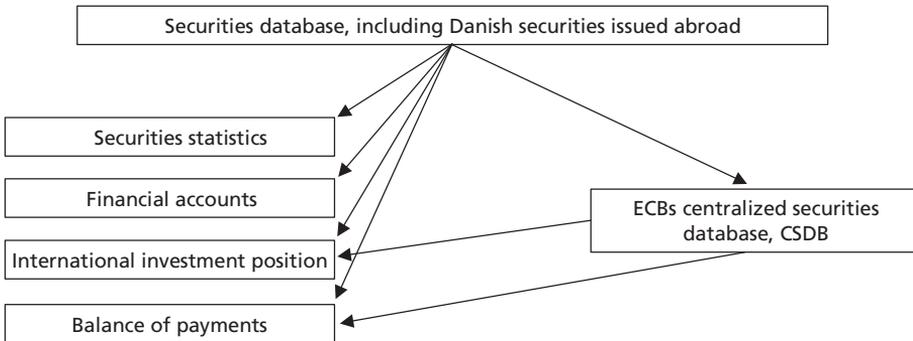
Table

End of period, kr. billion (market value)	Bonds, etc.		Shares		Investment fund shares	
	Denmark	Abroad	Denmark	Abroad	Denmark	Abroad
2001 .....	1,806	415	516	236	200	3
2002 .....	2,004	421	411	173	217	4
October 2002 .....	1,807	410	407	171	213	4
November 2002 ....	1,807	410	407	180	219	4
December 2002 ....	2,004	421	411	173	217	4
January 2003 .....	1,858	410	392	160	222	4
February 2003 .....	1,906	427	377	150	226	5
March 2003 .....	1,945	448	393	158	227	5

Note: The Table covers all VP-registered securities.

Source: Danmarks Nationalbank, *Securities Statistics, March 2003*.

<sup>1</sup> Cf. Danmarks Nationalbank, *Report and Accounts 2002*, p. 89. The extraction options will be determined with due consideration of the use of the securities database for statistical purposes. This e.g. means that it will not be possible to identify individual securities owners.



ternal debt. Chart 1 shows the relationship between the securities database, CSDB, and the aforementioned statistics.

The securities database contributes data on abroad's holdings of Danish bonds, etc. to the existing *compilation of the international investment position*. Denmark's gross stocks of portfolio assets and portfolio liabilities vis-à-vis abroad have trebled over the last ten years. This makes it even more important to have exact data for the securities area.

In the *balance of payments area* the securities database will be a cornerstone of a future data collection system.<sup>1</sup> The securities database contains all details necessary to meet these requirements if the paper is covered by the database. The database primarily covers Danish (VP-registered) securities, so that details of foreign securities must be collected from other sources, including the international securities database, CSDB, cf. the following section.

*Quarterly financial accounts* comprise a financial balance sheet and statistics for the financial transactions of various sectors in the economy. The data in the securities database will be used to e.g. compile financial accounts for shares and bonds, etc.

## SECURITIES STATISTICS IN AN INTERNATIONAL PERSPECTIVE

Apart from the national applications described above the structure of the Danish securities database is to a high degree inspired by the general international interest in the securities area. The plans for an ECB securities database were thus applied directly to the planning of the Danish database. Another source of inspiration was the IMF's work on mapping port-

<sup>1</sup> The background to the restructuring is described in further detail in Danmarks Nationalbank, *Report and Accounts, 2002*, p. 89.

folio assets and liabilities by country (the coordinated portfolio investment survey).

### **The ECB's securities database, CSDB**

In view of the central role of securities in the financial markets, including the euro market, developments in the securities area play a strong role in relation to monetary policy, financial stability and risk management. The ECB has therefore launched the project "Centralised Securities Database", CSDB. The purpose is to establish a securities database with details of, in principle, all securities issued or owned by residents of the EU.

In the first instance, master data on the individual securities is collected from various sources, e.g. the national central banks, BIS (which has a database with data on international issues) and commercial data suppliers. The best data is selected for storage in the database, which will thereby hold consistent data of high quality. At a later stage, the aim is to include all available information on the owners' countries and sectors.

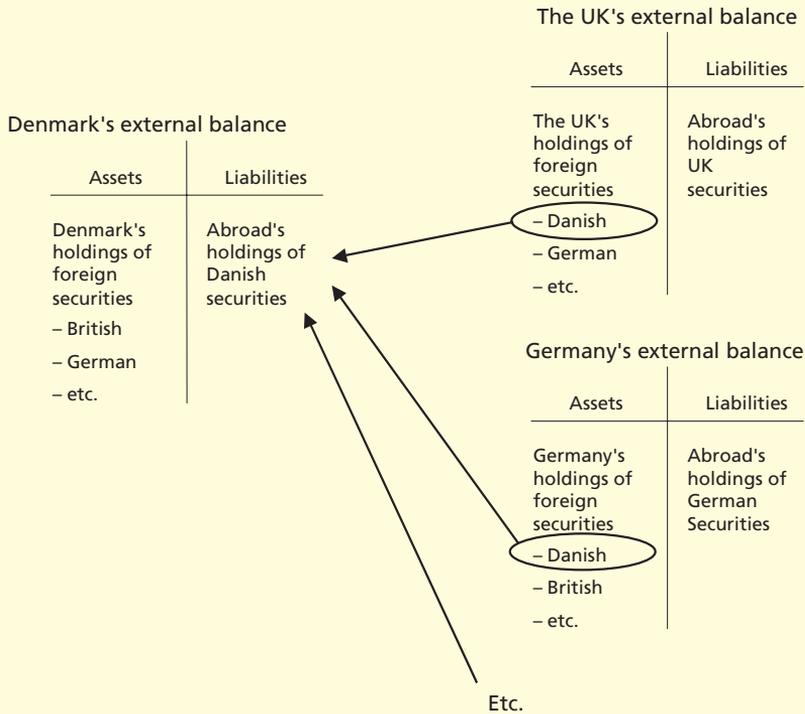
In the first phase of the project, where the database will contain master data, CSDB can be applied to the compilation of the balance of payments to calculate accrued income from portfolio investments as regards residents' holdings of foreign securities. At the same time, the Danish securities database will provide the necessary master data to CSDB with regard to Danish securities. As the plans concerning CSDB were considered in the planning of the Danish securities database, the nature of the data in the two databases will be almost identical.

As stated, a breakdown of ownership by sector will be included in CSDB in the longer term, but it has not yet been decided how this data will be collected. The ownership data can be collected from the asset or liability sides. If the liability side is used, each country must collect information on non-residents' ownership of the securities of that country, and send the data to CSDB. If the asset side is used, each member state must collect information from residents on their ownership of foreign securities. In so far as data can be collected from the asset side, CSDB will provide for country and sector breakdowns of investors from the other EU member states that own Danish securities. This concept is the background to the IMF's coordinated portfolio investment survey, cf. the following section and Box 2a.

### **The coordinated portfolio investment survey, CPIS**

The coordinated portfolio investment survey (CPIS) is another example of international cooperation in the securities field. CPIS is coordinated

Information on non-residents' holdings of Danish securities is traditionally collected from Danish sources such as VP. Since at the same time the Danish liabilities vis-à-vis abroad constitute an asset for the countries holding the Danish securities, information on Denmark's liabilities side can alternatively be collected by abroad reporting their holdings of assets that are Danish securities. Such data from all the countries holding Danish securities is collected in mirror statistics. Many countries can benefit from pooling the information in a joint database from which mirror statistics concerning abroad's holdings of a country's securities can be downloaded. The diagram below shows the structure of mirror statistics for Denmark's liabilities.



by the IMF and the survey was conducted for the first time with data for end-1997. The survey was repeated for end-2001, and will henceforth be conducted every year to establish a database with annual stock data. In 1997, 29 countries from all over the world participated, and in 2001, the number was 67 countries. Denmark participated in both surveys. All countries supply, if possible, a complete breakdown by country of their portfolio assets distributed on 236 geographical areas plus international organisations.

From the outset, CPIS was designed to improve the international portfolio investment statistics, since the volume of cross-border liabilities

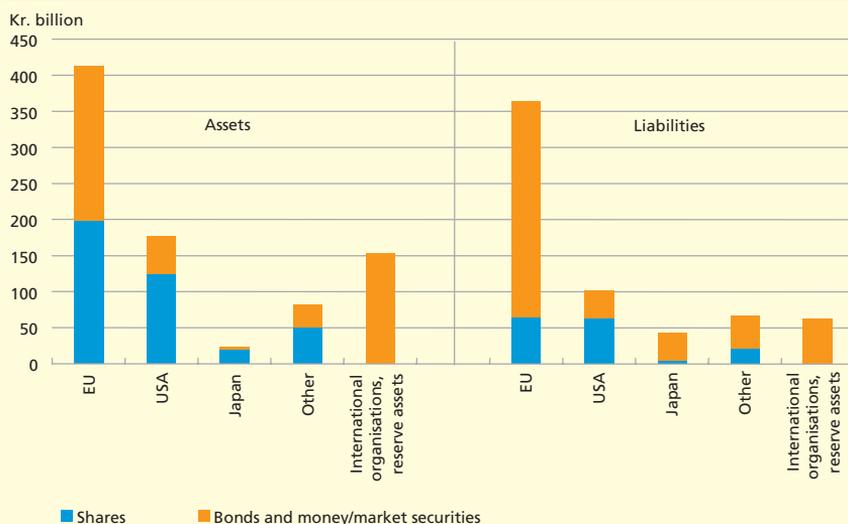
## MIRROR STATISTICS FOR DENMARK'S LIABILITIES SIDE

Box 2b

Denmark reports a distribution by country of Denmark's assets vis-à-vis abroad to CPIS. Mirror statistics downloaded from CPIS also make it possible to compile a country distribution of Denmark's liabilities side, cf. the Chart below. CPIS is published on the IMF's website [www.imf.org](http://www.imf.org).

## COUNTRY DISTRIBUTION OF DENMARK'S ASSETS AND LIABILITIES VIS-À-VIS ABROAD, END 2001

Chart



A large proportion of Denmark's liabilities – especially bonds, etc. – are owned by other EU residents. These securities can be distributed by country on the basis of data in the future CSDB, with a higher collection frequency and a greater level of detail than the data in CPIS. The remainder can then be broken down by country on the basis of CPIS.

Abroad's holdings of Danish securities are an element of Denmark's external debt. These statistics will be expanded to include a geographical distribution. In this connection, data on portfolio investments owned by non-residents can be distributed by country via the international databases, CPIS and CSDB.

considerably exceeds the volume of assets registered at global level, after summation of international portfolio stocks across countries. This also applies to Denmark, where only 67 per cent of the Danish liabilities registered as owned by non-residents have been reported to CPIS as assets in other countries. In view of the imbalance between assets and liabilities one of the aims of the IMF's coordinated portfolio investment survey is to motivate the countries to harmonise their compilation methods and improve the quality of the data collected.

In future, data reported by the participating countries to CPIS will be stored as a time series in a database that is available to the individual countries for analysis or as mirror statistics for the liabilities side, cf. Boxes 2a and b.

Mirror statistics are a useful source for a breakdown by country of data for abroad's stock of Danish securities. The reason is that it is difficult to obtain a correct breakdown by country of Danish liabilities vis-à-vis abroad using traditional data sources due to the "*first known counterpart*" problem. In the collection of liabilities, the country data for the securities is collected on the basis of the geographical location of the paper, which is not necessarily consistent with the nationality of the actual owner. Securities issuers do not normally keep track of who owns the securities, since they can be resold by the first buyer without informing the issuer, and intermediaries may buy up large volumes of securities with a view to resale. As regards VP-registered securities deposited or redeposited with a Danish custodian, the custodian can report the nationality of the customers directly. However, this does not guarantee the correct country breakdown of the securities, since securities owners may deposit their holdings with a custodian in a third country, which then deposits the securities with a Danish custodian. Danish securities issued abroad constitute a special problem, since only data on the issuing country is available. Statistical information of good quality from the countries holding Danish securities will contribute to solving the problem.

## CONCLUSION

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The development of the Danish securities database and the international securities databases, CSDB and CPIS, will considerably improve the opportunities to analyse the securities area, and will facilitate the observation of trends in the financial market, including developments in international capital flows.

In Denmark, the development of the Danish securities database, which is to provide data to e.g. CSDB, provides a basis for detailed securities compilations. Nevertheless, there is still scope for improvement.

The plan is eventually to expand the securities database to include additional data on securities issued by residents and/or owned by residents. In this connection, a significant contribution will be the data supplied by Danish custodian banks on residents' and non-residents' holdings of non-VP-registered Danish securities held in safe custody in Denmark, and on residents' holdings of foreign non-VP-registered securities held in

safe custody in Denmark. Another objective is to further improve the breakdown by owner by adjusting for repurchase agreements among domestic sectors.

During 2003, significantly more detailed securities data will be made available via the internet, and it will be possible to extract data on an individual basis. These options will be made available as the securities database is expanded.