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**FOOD STATISTICS INCLUDING FOREIGN TRADE**

Invited paper submitted by the Ministry of Agriculture  
and Forestry, Finland<sup>1</sup>

Summary

For almost half a century Finland has produced an annual food balance sheet that has enabled us to assess long-term changes in consumption of various food commodities. The balance sheet, which comprises 11 food product groups and beverages, monitors the movement of food, from production to consumption, with special reference to the role of domestic production and foreign trade. As well as total consumption, it gives figures for average per capita consumption of food items and the nutritional content of food. The reliability and coverage of the data, which are compiled by collating information from various sources, depend on how well they correspond to the current situation. Foreign trade figures account for a large proportion of the data, particularly for products whose imports are substantial in relation to domestic production.

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### The food balance sheet as an indication of consumption

1. Every year, a total assessment is made in the form of a balance sheet to illustrate the production, domestic use and consumption of food commodities in Finland. The balance sheet, which covers the whole spectrum from production to consumption, is compiled in accordance with the FAO classification. Initially, from 1949/50 to 1968/69, the assessment was made by harvest year. Since 1970, however, we have used the calendar year. The balance sheet shows trends in the production of different foodstuffs, changes in stocks, exports, imports and domestic use. Domestic use is subdivided into seed (cereals) and animal feed, the non-food and food industries, and consumption (gross consumption of food). The balance sheet seeks, on the one hand, to trace the movement of food, from production to consumption, and, on the other, to assess consumption if it is not recorded in consumption statistics.

#### Balance Sheet structure

2. The consumption volumes of food commodities are calculated from production statistics in which exports are deducted from domestic production. The imports are added and the changes in stocks are taken into account in those commodities for which such information is available (Fig. 1).

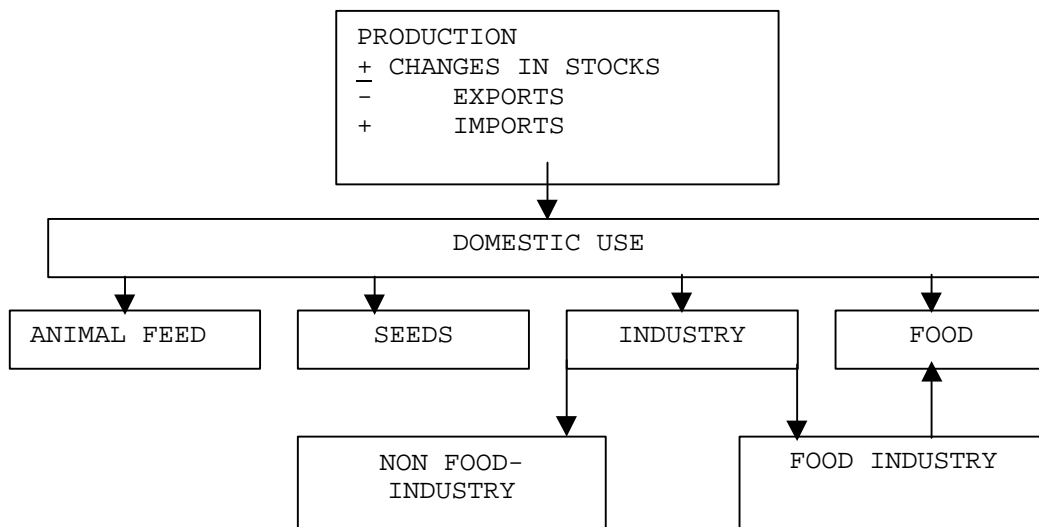


Fig. 1 Breakdown of domestic use.

3. For some products, production is estimated starting with consumption, in which case domestic use, too, is calculated with consumption as the starting point, i.e. food (gross) + non food industry + food industry + seeds + animal feed.

4. Consumption calculated on the basis of the balance sheet is given only as quantities, not as values. The balance sheet is used for a variety of purposes, including FAO, OECD and EU statistics, joint Nordic projects, and various Finnish consumption and production statistics, projections, research, emergency supply calculations.

The Balance Sheet consists of 11 food product groups and of beverages:

- |                      |                    |
|----------------------|--------------------|
| 1. Cereals           | 7. Meat            |
| 2. Potatoes          | 8. Eggs            |
| 3. Sugar             | 9. Fish            |
| 4. Legumes           | 10. Dairy products |
| 5. Vegetables        | 11. Fats           |
| 6. Fruit and berries | 12. Beverages      |

5. The above groups are subdivided into individual products. In 1997, there were 78 such products. Since the number of items taken from import and export statistics was about 1500 in that year, each of the 78 products has several sub-items.

6. The structure of the balance sheet has changed very little over the years. Only the number of products has been increased as necessary. New products added since 1989, for instance, include sausage, ice cream, sweetened fruit juices and other soft drinks. Also since 1989, we have reported calorie supplies both with and without alcohol.

7. There has been a slight change in the manner in which some products, e.g. oils, fats, are calculated. Also, fish consumption used to be calculated from the catch weight but now we use the filleted , or edible fish, weight.

8. The balance sheet is divided into a macro level and a micro level. The macro level presents figures for the whole country, and the micro level for annual and daily average consumption per capita. The micro level also gives the caloric value, and protein, fat and carbohydrate contents of foods.

9. We compile the balance sheet by collating data from a variety of sources, mainly the statistics of the Information Centre of the Ministry of Agriculture and Forestry, the Finnish Food and Drink Industries' Federation, the National Board of Customs and the Finnish Game and Fisheries Institute. The coverage of the balance sheet depends on the data currently available. Produce from kitchen gardens and the use of wild berries and mushrooms can to a certain extent only be estimated.

10. Due to the way balance sheets are prepared, the calculations do not give exact figures for the quantities of food consumed. Wastage and cultivation for own use, for instance, have to be based on estimates. Still, the balance sheets help us to monitor trends in consumption of various

commodities over fairly long periods because the calculations are made and the data collected in more or less the same way from one year to the next.

### **Foreign trade**

11. As the consumption figures are based on both domestically produced and imported commodities, it is essential that information on foreign trade should be both readily available and reliable, particularly for products imported in large volumes.

12. The bulk of the foreign trade data used in the balance sheets is taken from the statistics of the National Board of Customs. Until 1994, that is, until Finland joined the EU, their figures for exports and imports were very accurate, because all export and import volumes had to be declared to the customs.

13. Accession to the EU in 1995, however, brought big changes to the manner in which foreign trade statistics were kept. From then on goods had to be classified using the EU Combined Nomenclature (CN) instead of the former Harmonized Commodity Description and Coding System (HS). As a result, the number of items increased many times over, and in 1995 there were almost 1500 food items instead of the 500 or so used in 1994.

14. The procedure for gathering data on foreign trade also changed radically. Until the end of 1994, foreign trade statistics were based on declarations filed by firms with the National Board of Customs in the form of export returns and import-tax returns on all goods exported and imported. These returns provided very comprehensive statistics covering practically all aspects of foreign trade. With EU membership, however, we switched to INTRASTAT, the system used by all member nations for internal trade. Now only firms whose annual imports and exports exceed a certain value are required to submit declarations to the customs.

15. This new practice narrowed the coverage of the statistics for EU internal trade somewhat, as firms engaging in only minor foreign trade are not included. This may affect product groups, such as vegetables and fruit, that are imported in small quantities by a large number of firms. There were many such firms, particularly in 1995, the transitional year, which is why some of the data for that year are not fully comparable with those for earlier years. The tabulation of statistics has improved slightly since that first year and their coverage has increased.

The contribution of foreign trade to consumption figures

16. Some of the food commodities consumed in Finland are imported only. These include rice, soya beans, cocoa, citrus fruit and indeed most other fruit, too. Imports account for about a quarter of the total consumption of

vegetables. Other foods, such as eggs, meat, potatoes, milk and dairy products, are, however, produced domestically. The amount of bread grain imported varies from year to year, depending on the yield and quality of the harvest in Finland.

17. The consumption figures for certain foodstuffs may also be influenced by the season in which they are imported or exported. For example, products imported at the very end of the year are included in the consumption figures for that year, even though the food does not reach the consumer until the following year.

18. For small quantities this does not present much of a problem, but things are very different when we consider products imported in large volumes in, say, December. Sugar and rice are good examples. Finland's decision to join the EU affected the trade in certain groups of goods, e.g. rice, in that the expected rise in price led to an increase in imports at the end of 1994. The consumption figures for that year were therefore somewhat too high and those for the following year too low. The figures for one year may thus be very different from those for the preceding year.

19. Studies utilising the results of balance sheets sometimes apply three-year moving averages as time series. Deviations caused by the above factors can then be smoothed and errors reduced. FAO publications dealing with balance sheets use time series in the same way.

#### Trend in foreign trade

20. Even though the vast majority of foodstuffs consumed in Finland are still produced in this country, the contribution of imports has grown since EU membership, in some product groups by many orders of magnitude. The value of imports overall has increased by over 50% compared with pre-EU days.

21. From 1994 to 1997, yoghurt imports, for example, increased 35-fold (from 0.3 million kg to 12.1 million kg). Before 1994, however, very little food was imported, so the increasing contribution of imports to food sales does not mean that import volumes have grown all that much.

22. Another product imported in far greater volumes than before EU accession is cheese. In 1994, imports accounted for around 5% of consumption, but in 1997 the figure had risen to 25%.

23. Meat imports, too, have increased with EU membership. Very little was imported in 1994, that is, one year before membership. Less than 3% of beef and only 1% of pork and poultry meat were imported. In 1997, though, the figure for imported beef had risen to 8%, for pork to 7% and for poultry meat to 5%.

**Concluding remarks**

24. The balance sheet provides a comprehensive picture of the average consumption of food commodities. At the macro level it gives consumption figures for the whole country, and at the micro level figures for the average annual and daily quantity of food consumed per capita and for its caloric value, fat, protein and carbohydrate content. A time series covering almost half a century enables us to follow consumption trends throughout this period, as there has been little change to the manner in which the balance sheet is prepared. Clearly, average figures calculated at country level are only indicative when it comes to dimensioning the consumption or energy needs of individuals. Moreover, with the decline in hard physical labour, energy needs have changed markedly.

25. The balance sheet provides information that can be utilised in efforts to encourage healthier eating habits. The change seen in the balance sheet shows that these efforts have not been in vain. From a diet rich in animal fats, people have switched to lighter foods containing more vegetables. Regional campaigns, e.g. in North Karelia, have been successful in this respect.

26. Foreign trade statistics play a key role in the preparation of the balance sheet, as some of the commodities are imported in large volumes. EU membership in 1995 caused major changes to the manner in which Finland's foreign trade statistics are kept. These changes, in turn, complicated the preparation of the balance sheet to some extent.

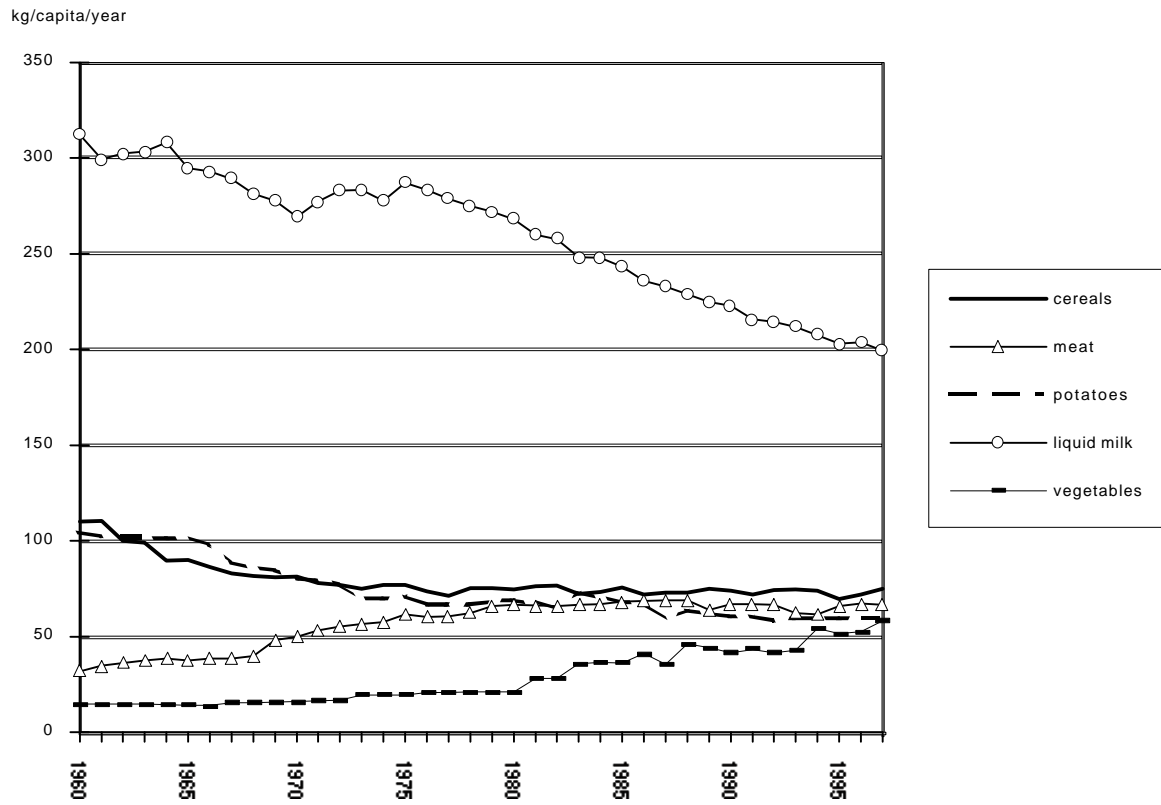


Fig. 2 Consumption of cereals, potatoes, meat, milk and vegetables in Finland, 1960-1997.

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