

**The Sampling- and the Estimation  
Procedure in the Swedish Labour  
Force Survey**

**by**

**Hassan Mirza and Jan Hörngren**

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# **The Sampling- and the Estimation Procedure in the Swedish Labour Force Survey**

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## **Abstract**

The Swedish Labour Force Surveys (LFS) have been performed by Statistics Sweden since 1961. During the years the sampling- and estimation procedures have changed several times. In this paper we will cover the procedures since 1993, when a new estimation procedure was introduced, which meant that register data on employment and unemployment were used as auxiliary information in the estimation stage. The estimates were based on two different poststratification systems; one for estimating the number of unemployed and its constituent subgroups and the other one for estimating the number of employed.

With respect to the estimates of unemployment and employment, the use of auxiliary information significantly improved the national estimates by reducing sampling errors and nonresponse bias.

However, it was not possible to produce the regional estimates from the system developed for national estimates. A third poststratification system was used for these estimates.

Thus, national and regional estimates were based on different auxiliary information and different poststratification systems. This led to inconsistencies between these estimates and the request for further regional classification could therefore not be met. In order to eliminate the inconsistencies between national and regional estimates, the estimation method was modified beginning with the October 1999 survey. General regression estimation (GREG), was used in this procedure.

A comparison of the new and old estimators on the first quarter 1999 indicated that the new regional estimator gave estimates with lower sampling error for all counties except one, where the new estimator produced a slightly larger sampling error.

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The 1999 annual sample contained approximately 25 600 individuals.

Regional divisions in sample stratification are based on the division of counties in 1996.

For a description of aux1, aux2 and aux3, see section 4.3.

LF-status 1 = students, working from home, pensioners and military conscripts.

LF-status 5 = incapacitated and individuals living outside Sweden.

See Hörngren (1992).

However, the new estimating procedure has caused breaks in the time series in the regional estimates. LFS has published reprocessed regional estimates, based on the new methodology, beginning with first quarter 1997.

Labour force status has the following variable values: 1 and 5= not in the labour force , 2 and 3=employed, 4=unemployed.

Mona Henriksson (2000) provides a detailed description of different definitions and concepts in AMV's statistics.

In practice, only the register RTB/SOK/SREG is created.

AK-status 1 = students, working from home, pensioners and military conscripts.

AK-status 5 = incapacitated and individuals living outside Sweden.

Not in the labour force = AK-status 1 + AK-status 5

For an orientation in estimation according to the function principle, see Rosén (2000).

For years with 53 weeks, which occur every seventh year, the monthly sample in the fourth quarter is distributed over five weeks for October and December and four weeks for November.

For a detailed description, see Mirza (1995).





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