Measuring Insurance Output

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ESA95 principles

- ESA95 § 3.63 J and annex 3 insurance
- Output of life insurance and non-life insurance is calculated as:

1. Actual premiums earned

plus 2. Premium supplements

less 3. claims due

less 4. changes in technical reserves

ESA95 principles

- *1. Premiums earned*: Actual premiums earned (not equal to actual premiums which include pre-paid premiums)
- *2. Premium supplements*: *(=property income attributable to insurance holders)*. Entire income earned by insurance corporations by investing the technical reserves (not own funds).
- *3. Claims due*: cover events that occur in the period (not equal to claims payable)

ESA95 principles

- *4. Technical reserves* include two elements:

1. Prepayments of insurance premiums and reserves for outstanding claims
2. Technical provisions against outstanding risks

ESA95 principles

All four elements in the calculation of output should be measured excluding holding gains and losses!

Danish calculation

- For non-life insurance we use the formula from ESA95
- For life insurance and pension funds we calculate output from the cost side .

Life insurance and pension funds

- Output calculated from the cost side:

Intermediate consumption
plus Wages and salaries
plus consumption of fixed capital
plus other taxes on production, net
plus return on own capital (1,5 pct.)

Why different methods?

- Because of the longer time horizon, life insurance and pensions funds will have a relatively larger share of shares than other insurance corporations and therefore holding gains play a bigger role.
- This results in rather volatile returns on the insurance technical reserves
- Therefore the fomula in ESA95 §3.63 would produce meaningless results

Exceptional losses = catastrophes

- In cases of un-normal events, the calculations for non-life insurance may result in negative output
- This happened in Denmark in 1999 and 2005 (big storms) and 2011 (a thunderstorm resulting in flooding of houses)
- In order to avoid negative output values, we recorded the major part of claims due as a capital transfer.
- Danish definition of a catastrophy: When claims due exceed 1/4 of total annual output in insurance

Sources

- Danish Financial Supervisory Authority (FSA) collects accounting data for **all** insurance companies.
- The data has all necessary information in order to calculate output and intermediate consumption in insurance corporations:
  - on accrual basis
  - excluding holding gains and losses

STATISTICS DENMARK

New methods in SNA2008/ESA2010

- To avoid major fluctuations in insurance output, SNA2008/ESA2010 acknowledge two alternative methods for calculating insurance output:

1. Using adjusted claims (model)
2. Calculations from the cost side

Changing the method will have a rather large impact on the results for other insurance (mio. Danish kroner):

Out present method:	21.179
Output adjusted claims:	21.753
Output sum of costs:	15.992