Index - based versus cost -related model of differentiating premiums for accident insurance

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ERAF EIROPAS REĢIONĀLĀS ATTĪSTĪBAS FONDS IEGULDĪJUMS TAVĀ NĀKOTNĒ

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Social insurance system in Poland

Total spending - 40 billion Euro
(11% of Poland's GDP and 60% of public budget, including budget substidie of 9 billion Euro)

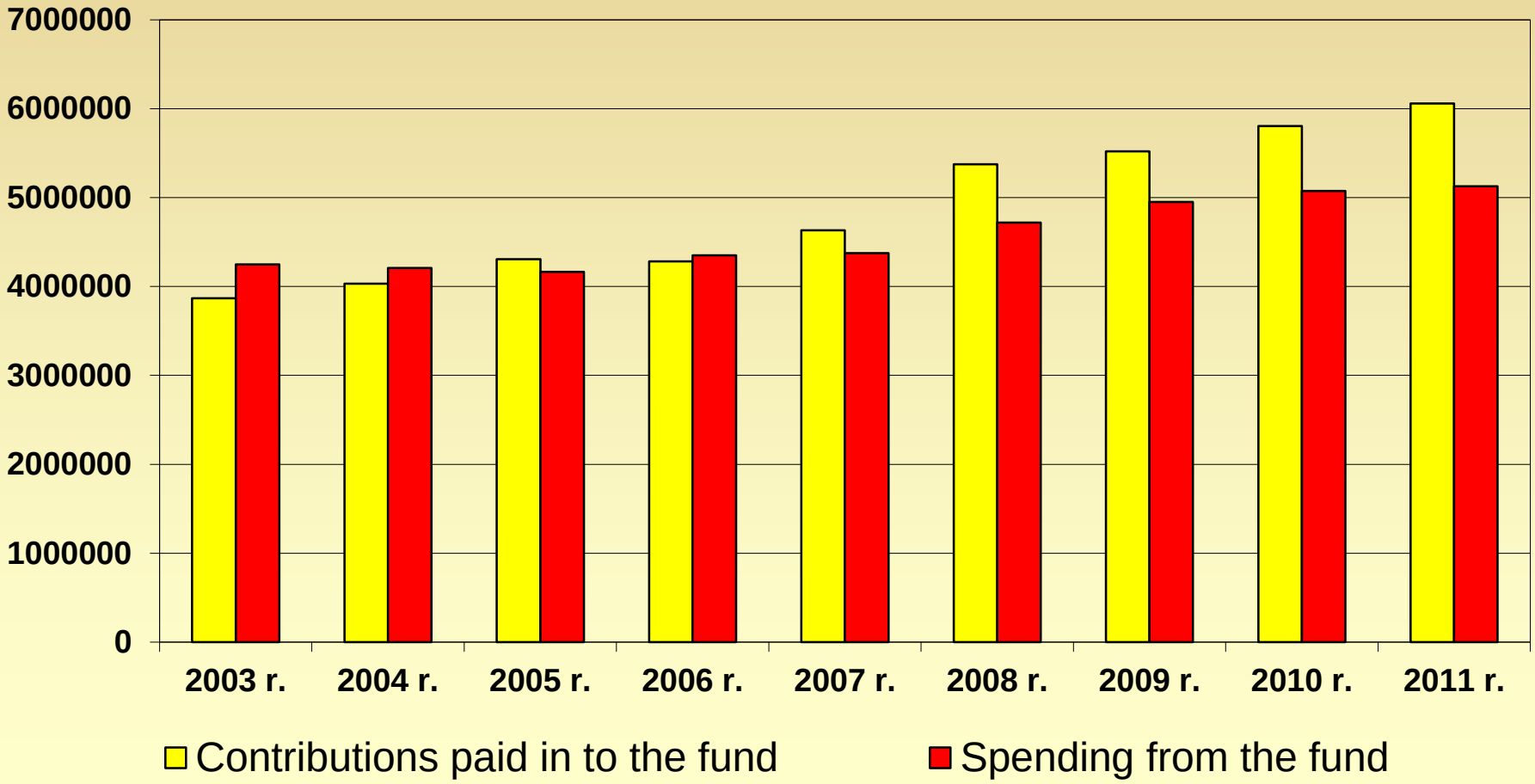
- Pension insurance
- Disability insurance
- Sickness insurance
- Accident insurance (workers compensation insurance)

Act on Accident Insurance

in force commencing 1 January 2003

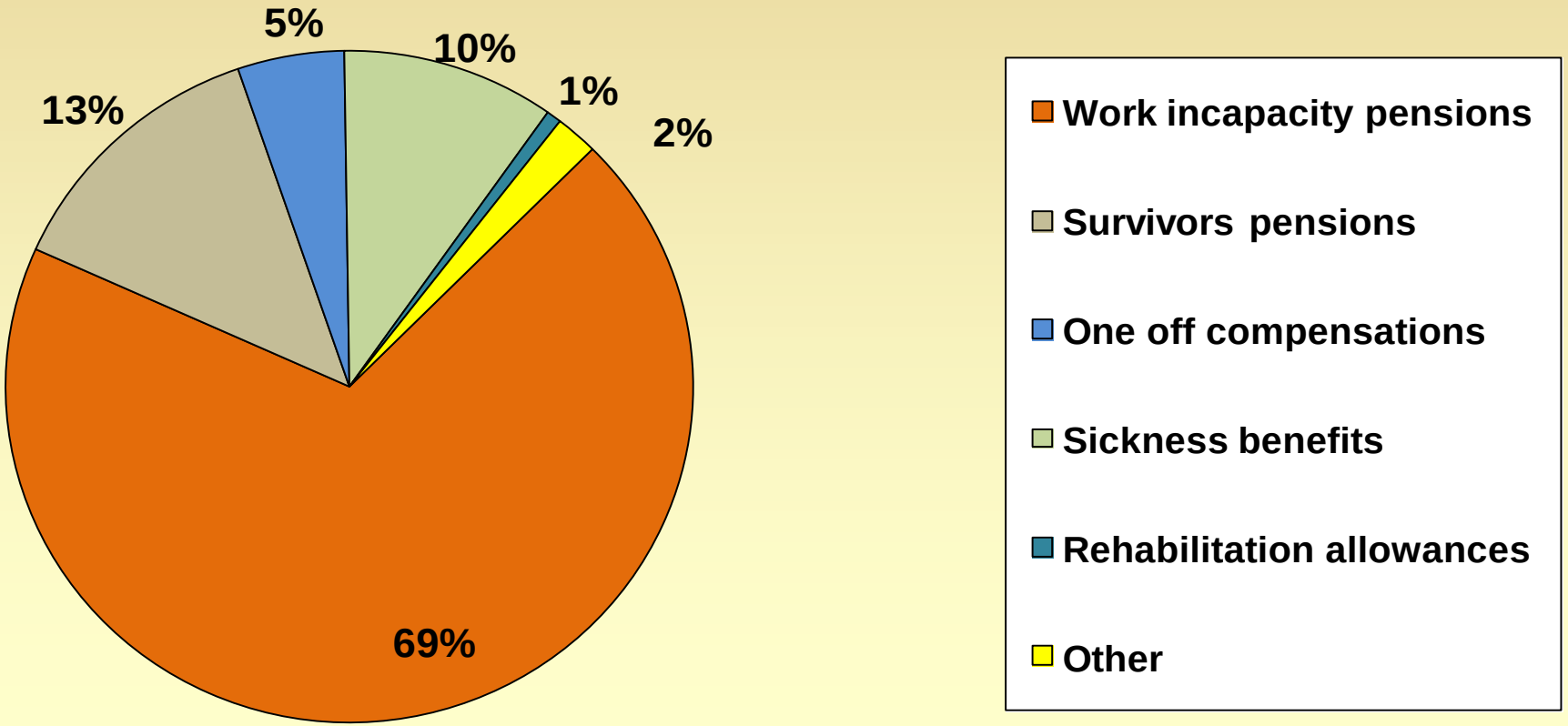
- The Act coverage of the consequences of work accidents and occupational diseases provides for insurance
- Commuting accidents are covered by a different type of social insurance.

Contributions paid in to the Accident Insurance Fund SII and spending from the fund in the years 2003 - 2011 (in PLN thou.)



Spending from Accident Insurance Fund by SII in Poland in 2011 by the type of benefits

Total expenditure – 5 126,3 mln PLN (about 1 220,0 mln €)



Rules to determine the percentage rate of the premium for accident insurance

Percentage rate of the premium:

- Amounts to 50% of the highest rate set for the premium year in question if a premium payer notifies up to 9 persons to be insured - the premium totals 1,93% of the contributory basis,
- Is differentiated according to the total indicating the accident frequency, that of fatal and serious accidents as well as the number of employees exposed to health impairing conditions at work environment if a premium payer notifies at least 10 persons to be covered by work accident insurance

Criteria for determining risk categories for a given branch in the index - based model

The % of the premium rate for each of 64 branches is set depending on the risk category determined for a given branch

The risk category for a given branch is determined basing on the risk defined by frequency indices (calculated per 1000 employees) according to the arithmetic means out of 4 risk indices set for :

- Total number of accidents
- Fatal and serious accidents
- Number of cases of occupational diseases
- Number of employees exposed to health impairing factors at work

Determining risk category for the company in the index - based model

Risk category for the company employing at least 10 workers

$$C_C = \frac{C_1 + C_2 + 2C_3}{4}$$

where:

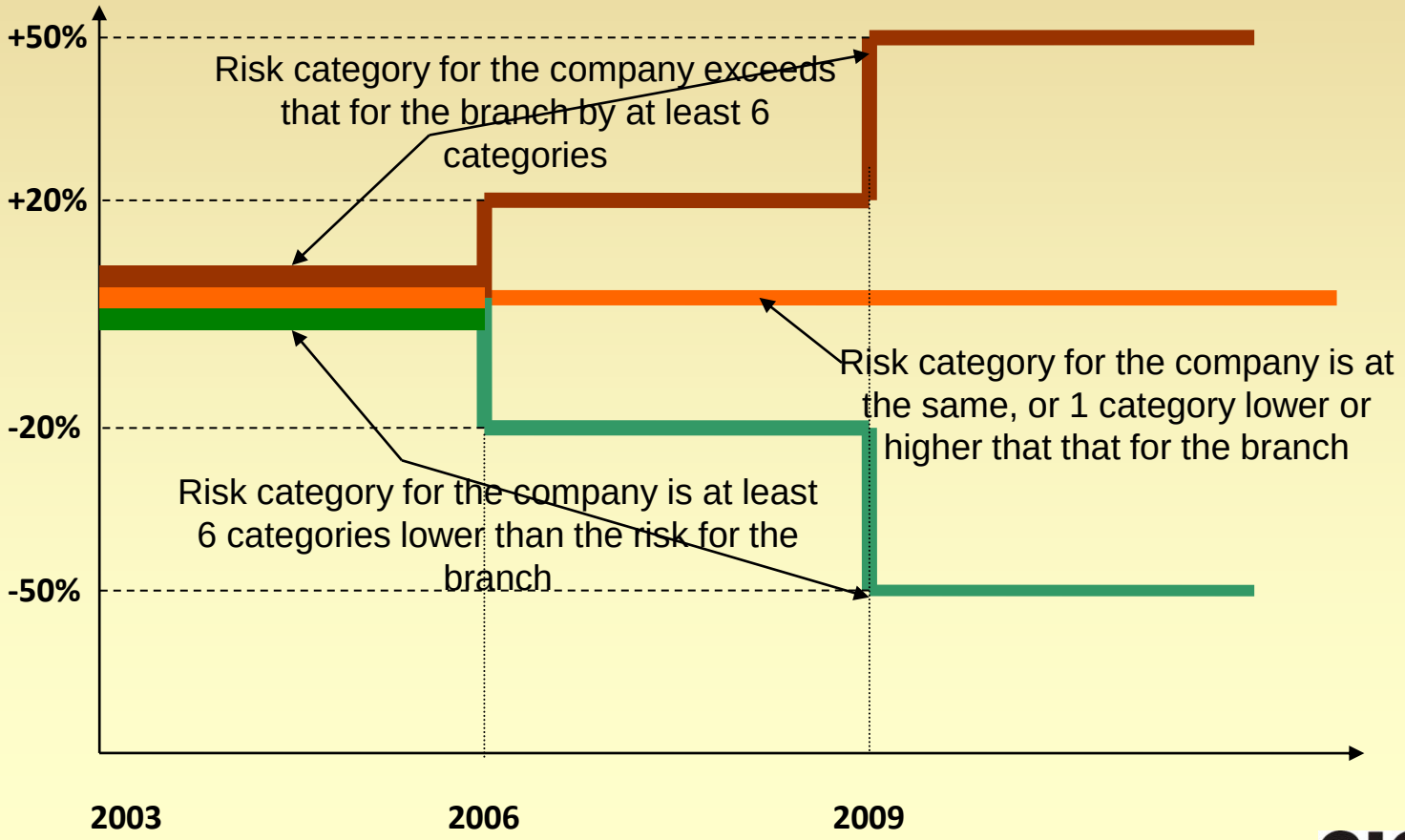
C_c - risk category for the company

C_1 - risk category corresponding to the total number of the persons injured in accidents

C_2 - risk category corresponding to the index of the persons injured in serious accidents, and fatalities

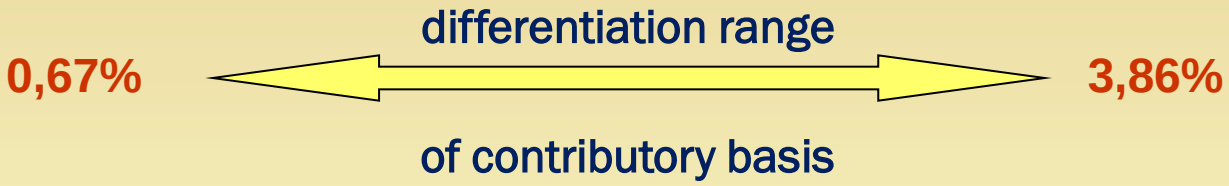
C_3 - risk category corresponding to the index of employees exposed to risk at work

Percentage changes of the contributory basis for companies depending on risk categories in subsequent years of the new accident insurance system implementation

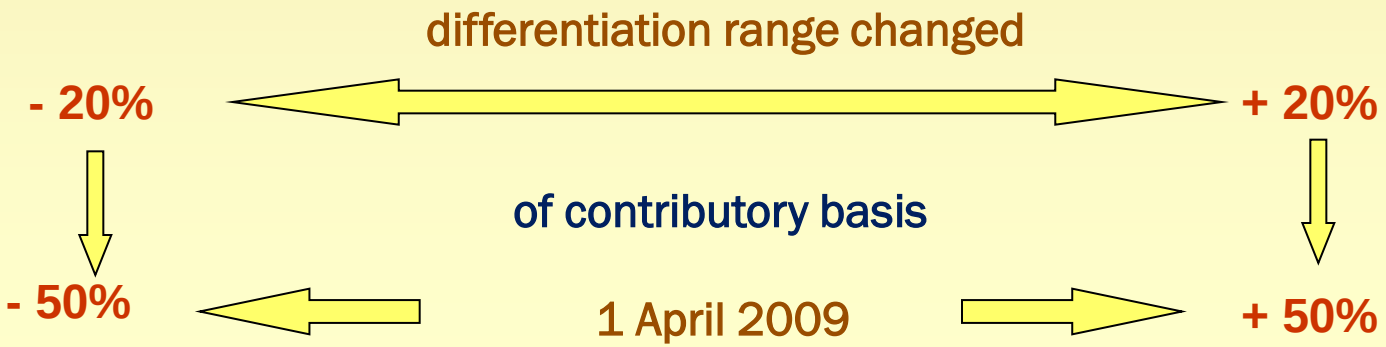


Range of premium differentiation in Poland

1 January 2003 - 31 March 2006: accident insurance premium was differentiated at branch level



1 April 2006 - ... accident insurance premium is differentiated at level of branches and companies:



Determining risk category in the cost –based model

Risk category for the branch and the company employing at least 10 workers

$$C_{BX/CX} = \frac{\text{Cost of benefits due to occupational accidents and diseases in the years 2009 - 2011}}{\text{Contributory basis for the years 2009 - 2011}}$$

where:

- C_{BX} - **risk category for the given branch** (64 in all)
- C_{CX} - risk category for the company

Setting the premium rate for the company in a cost-based model

- Premium increase and decrease depends on the difference between the risk category for a given company and the whole branch
- Maximum range of premium differentiation for the company is up to 50% of the premium for the given branch
- Companies with at least 50 workers have a system of premium increases and decreases (bonus-malus)
- Companies employing from 10 to 49 workers - a system of increases
- Premium for companies with up to 10 workers – differentiation only at a branch level

Effectiveness of the index-based versus the cost-based model

- Index-based model

  - needs an effective verification system to check the data submitted by the company,
  - works well mainly for companies in the mining and manufacturing sectors,
  - the premiums and risk in the construction and transport sector companies are underestimated.

Effectiveness of the index-based versus the cost-based model (continued)

- In the cost-based model
  - the risk and premium can be set according to the actual cost of paid benefits ;
  - greater differentiation is possible between the branches with the highest risk (coal mining) and the lowest risk (financial and insurance services);
  - many more companies have maximum decreases and increases of premiums than in the index-based model.

Thank You!

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