

RISK MANAGEMENT APPROACHES IN ESTONIAN AGRICULTURAL ENTERPRISES

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Outline

- Background and objective
- Risk classification and management in agriculture
- Method and sample
- Risk perception and management in Estonian agricultural enterprises
- Conclusions and discussion

Background and Objective

Agriculture is exposed to a number of risks because of seasonality, climate changes, dependence of natural processes and biological assets, fluctuations in agricultural demand, supply and prices. Risk of insolvency can be a result of prolonged periods of low prices or the outbreak of an animal disease.

The aim is to study the Estonian agricultural enterprises' managers' risk perceptions and risk management strategies on the basis of a questionnaire survey conducted in 2015.

Risk Classification and Management in Agriculture

- Business and financial risks in agriculture include price, production, marketing, financial, institutional (legal), and personal (human) risks (Baquet *et al.* 1997, Hardaker *et al.* 2004)
- Risk management process consists of risk analysis, management and control. (Schaper *et al.* 2014, Boehlje, Lins, 1998)
- Risk can be managed by using risk acceptance, reduction, transfer, avoidance approaches.

Materials and Method

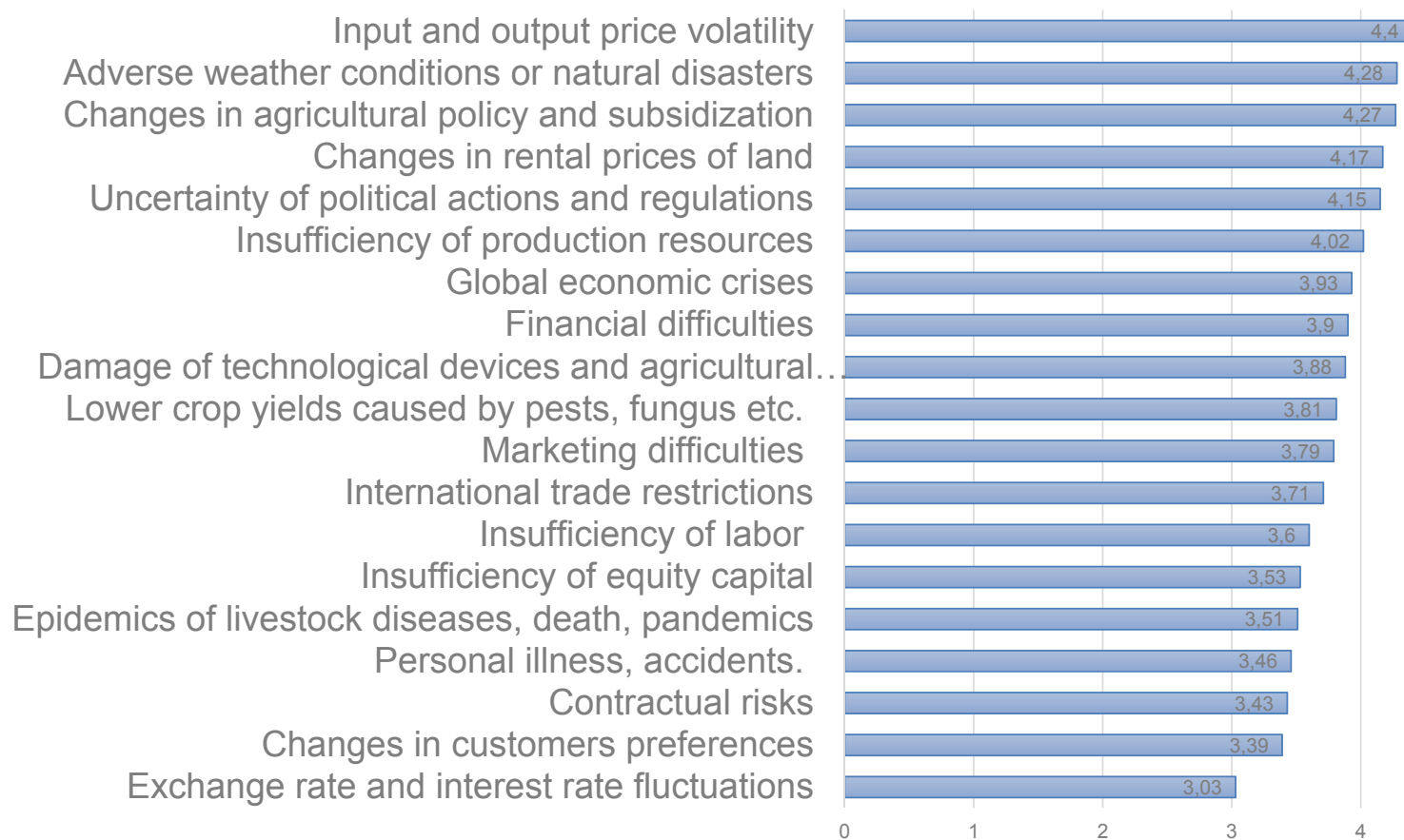
- An internet questionnaire survey was carried out among 648 Estonian agricultural enterprises in 2015.
- Questions about the socio-economic characteristics of farmers, and about their perceptions of the importance of various sources of risk and risk management approaches were asked.
- Perceptions were measured on Likert-type scales ranging from 1 to 5 (1 - not relevant; 5 - very relevant) (Meuwissen *et al.* 2001).

Sample

Parameters	Type	%
Type of the enterprise	Limited liability company	82
	Sole proprietor	13
	Joint-stock company	5
Type of production	Mixed	50
	Livestock	26
	Field crops	23
	Other	1
Age of the enterprise (years)	0-5	21
	6-10	13
	11-15	17
	16-...	49
Number of employees	1-9	72
	10-19	9
	20-49	15
	50-...	4

- Anonymous internet questionnaire survey measuring the importance of risk sources in agriculture and the importance of different risk management approaches.
- n = 136
- Response rate 21%

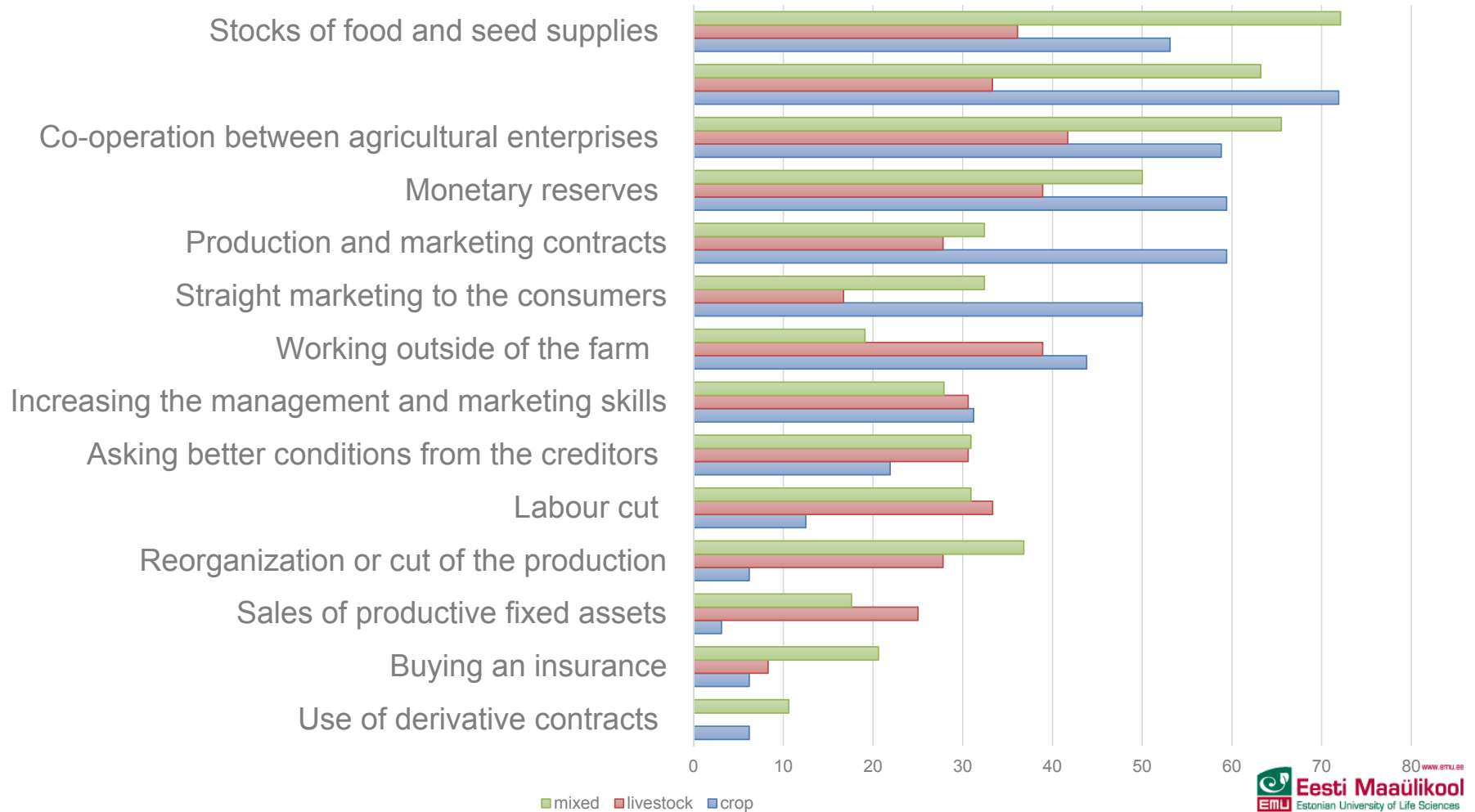
Importance of Risk Sources in Agriculture (average score)



Importance of Risk Sources

- Business risk such as input and output price volatility is considered one of the most important sources of risk.
 - Adverse weather conditions are highly important not only for field crop farmers, but also for livestock farmers.
 - Changes in agricultural policy and subsidization are also considered an important source of risk in agriculture.
- Financial risk is considered relatively less important.

Risk Management Approaches



Risk Management Approaches

- Decision makers in agricultural enterprises rely on a wide spectrum of risk reduction approaches that allow farmers to cope with higher market pressures and intensified competition. Main approaches:
 - keep stocks of food and seed supplies;
 - use of more weather-resistant and epidemiology-resistant cultivars and livestock species;
 - co-operation between agricultural enterprises.
- Risk transfer approaches are of minor importance.
- Diversification of farming activities is not under consideration (0 responses)

Conclusions

- It can be concluded that farmers perceive risk sources in changed risk environment, and are aware of risk management strategies.
- Business risks are considered one of the most important risk sources; financial risks are of minor consideration.
- Business risks are managed first of all by risk reduction approaches, then by risk acceptance and avoidance approaches. Risk transfer approaches are less important.

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