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Efficiency and Productivity of Ukrainian Agroholdings

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Motivation

Starting points

- Agricultural production in Ukraine for a long time far behind expectations
 - institutional deficits (agric. policies, legal framework, corruption,...)
 - poor macroeconomic conditions (economic instability, inflation)
 - weak food chain
 - persistence of dualistic farm structure???
- Booming food prices since 2006 attract investments in agriculture
 - worldwide tendency (low interest rates, "land grabbing")
- Recent general trends in agriculture
 - increasing importance of vertical integration / cooperation
 - increasing capital and knowledge intensity of agriculture

Outline

Structure of presentation

- Motivation
- Background and empirical facts for Ukrainian Agroholdings
- Efficiency and productivity of agroholding versus non-agroholding farms
- Self-assessment of Ukrainian agroholding managers
- Stock market responses
- Conclusions and lessons to be learned

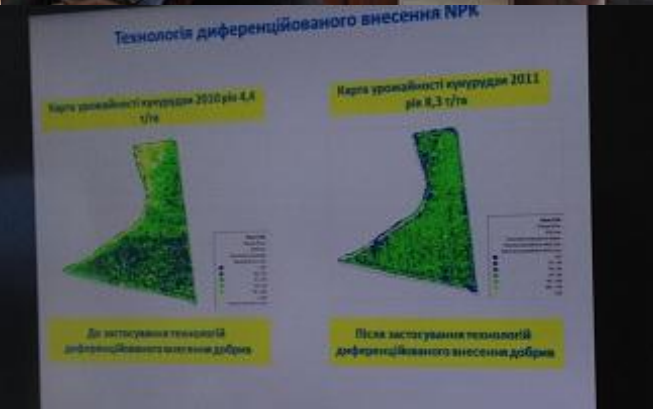
Empirical facts

Some examples (Ukraine)

Ukraine	area (1000 ha)	ownership	IPO	Specialization:				
				sugar	oil crops	grain + poultry	livestock	processing
Avangardco/UkrLandFarming	480	Ukr	2010	■	■	■	■	■
NCH Capital	450	US						
Mriya	298	Ukr	2008	■	■			
MHP	285	Ukr	2008		■	■	■	■
Ukr. Agr. Investm.	260	Rus		■	■			
Kernel Group	247	Ukr	2012		■			■
Astarta	240	Ukr	2006	■	■		■	
HarvEast	220	Ukr			■	■	■	■
Agrotron	151	Ukr	2009	■	■		■	■
Sintal	146	Ukr	2008		■			

Empirical facts

Agriculture as high tech business



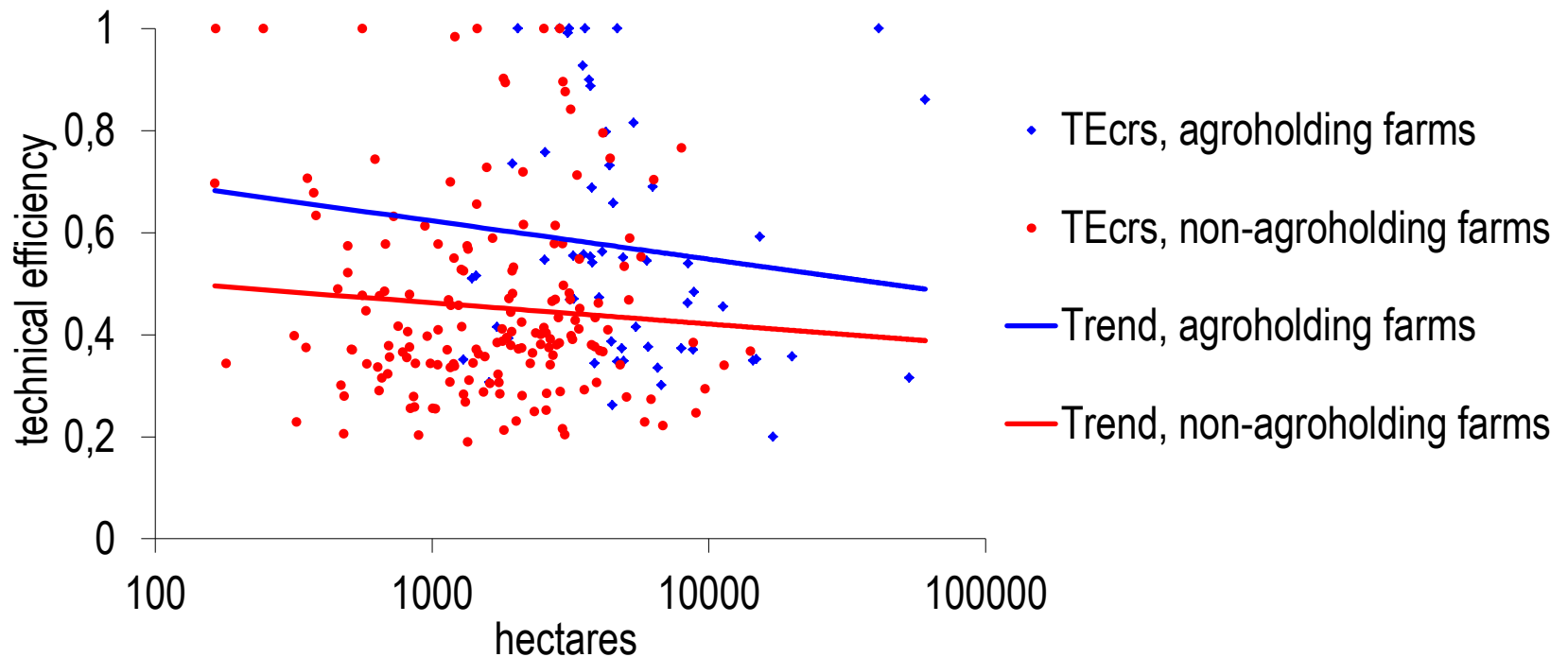
Are agroholdings performing better?

Data Envelopment Analysis

- **One output , four inputs**
 - Value of total production, tsd UAH
 - Material costs, tsd UAH (seeds, feedstuffs, fertilizer, etc)
 - Capital costs, tsd UAH (depreciation)
 - Number of full time employees
 - Total agricultural land, ha
- **Accountancy data covering the years 2008-2011 (UCAB)**
 - Only crop farms considered (more than 90% of value of output from crop)
 - Resulting data set consist of 924 farm-year observations (i.e. 231 farms/year)
 - 173 independent farms
 - 58 farms (25%) members of an agroholding

Are agroholdings performing better?

Efficiency plot for Ukrainian cash crop farms (2011)



- In general: huge inefficiencies
- Higher average efficiency of agroholding farms in recent years

Are agroholdings performing better?

Efficiency and productivity

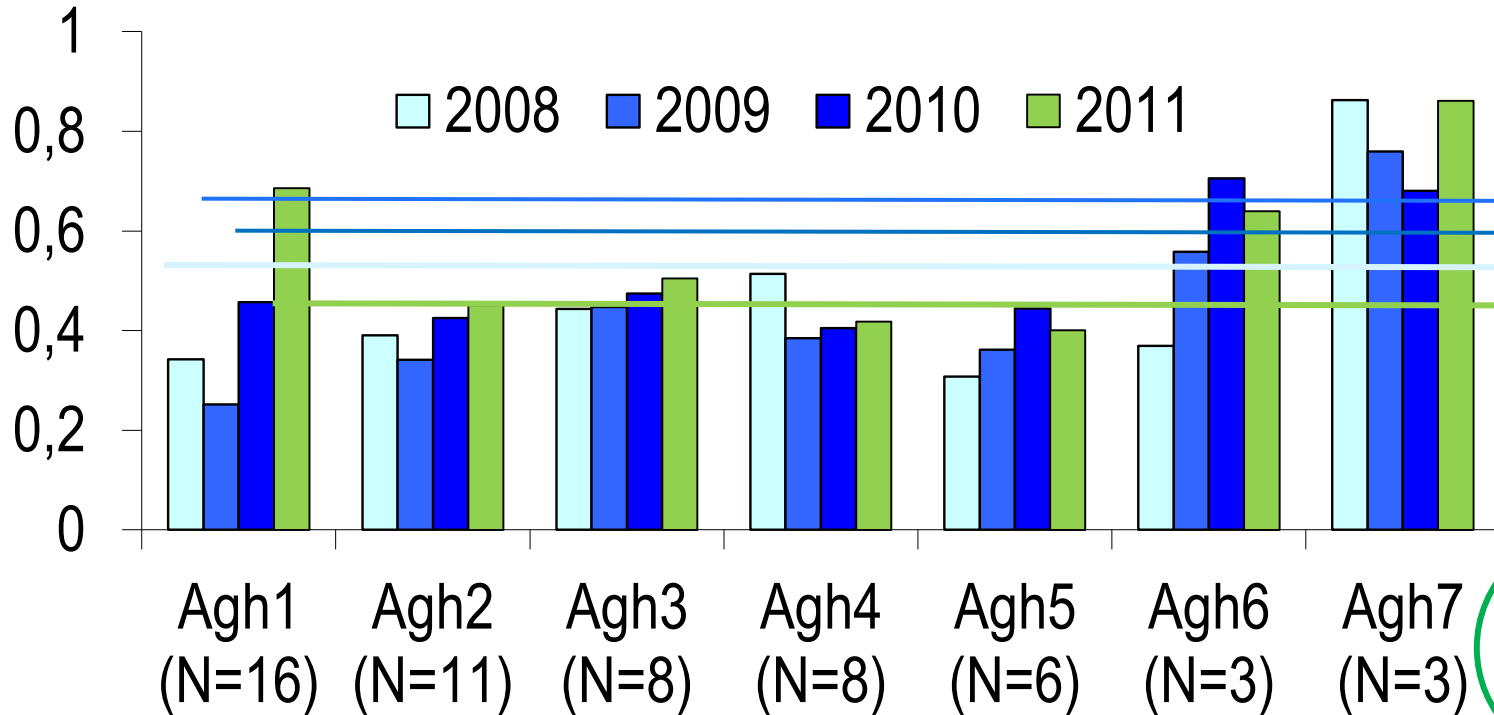
	Non-agroholding farms (N=692)		Agroholding farms (N=232)	
Variable	Mean	Std.Dev.	Mean	Std.Dev.
TE (technical efficiency) under crs 2008 - 2011				
CRSTE	0.397	0.160	0.450	0.203
TE (technical efficiency) under crs within years				
	N=173 per year		N=58 per year	
CRSTE 2008	0.522	0.193	0.548	0.227
CRSTE 2009	0.660	0.181	0.645	0.213
CRSTE 2010	0.596	0.187	0.652	0.178
CRSTE 2011	0.454	0.189	0.570	0.234

- Little differences between agroholding and non-agroholding farms before 2010
- Since 2010 agroholding farms more efficient on average

Are agroholdings performing better?

Efficiency and productivity

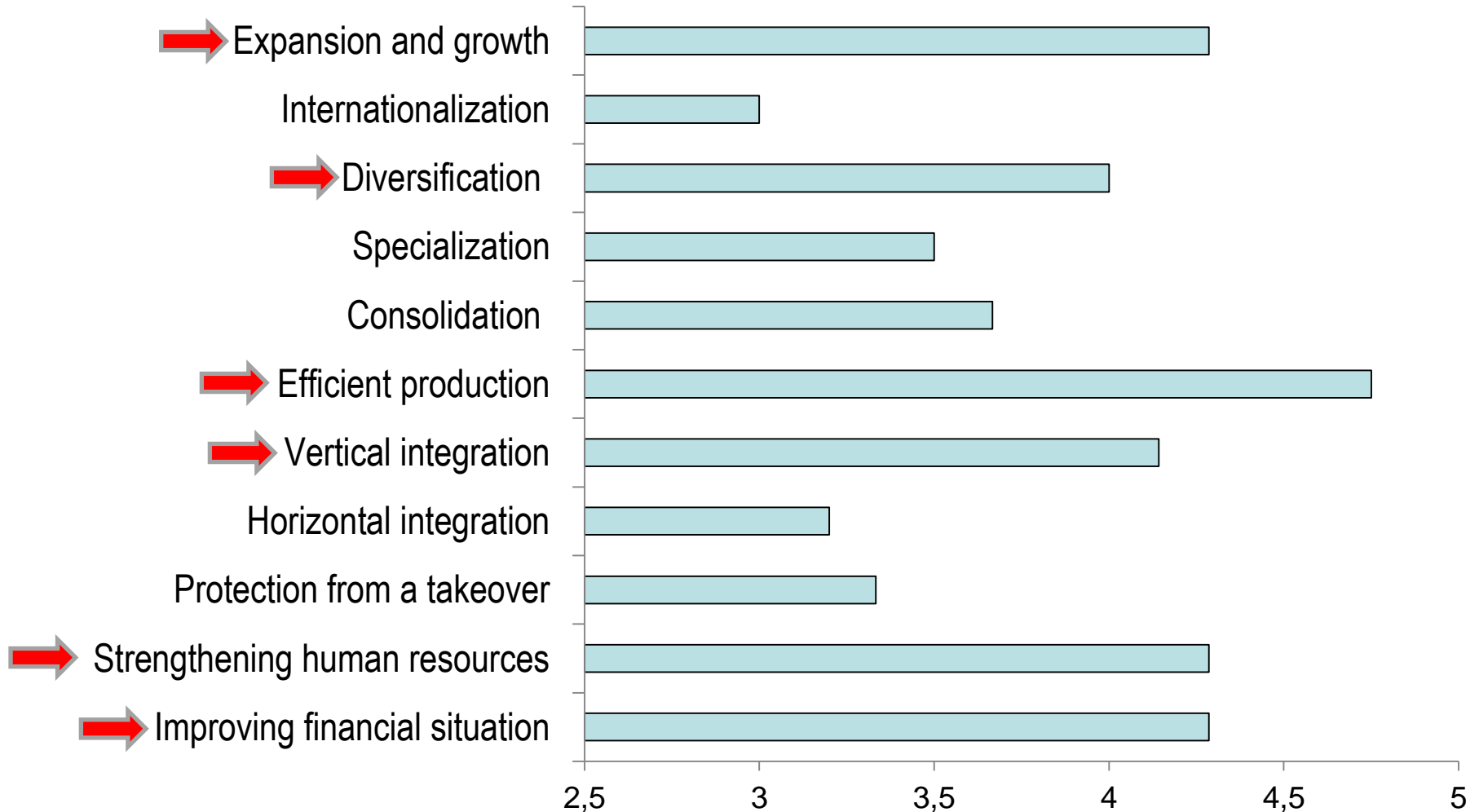
Technical efficiency (crs) by agroholding (with more than one operation in sample)



- Huge differences among agroholdings
- Initially poor performing agroholdings are catching up!

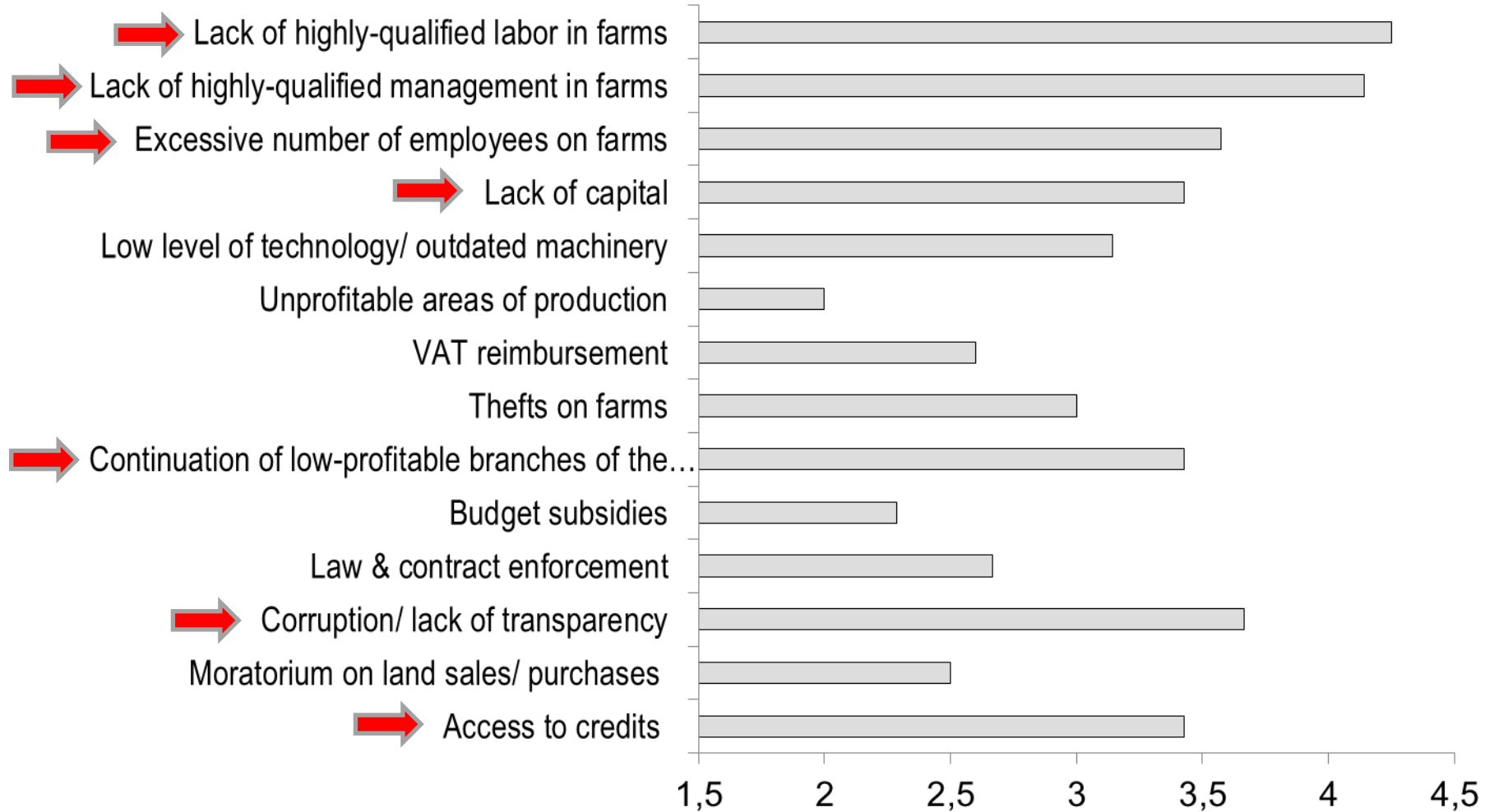
Views of agroholding managers (2012)

Importance of strategies



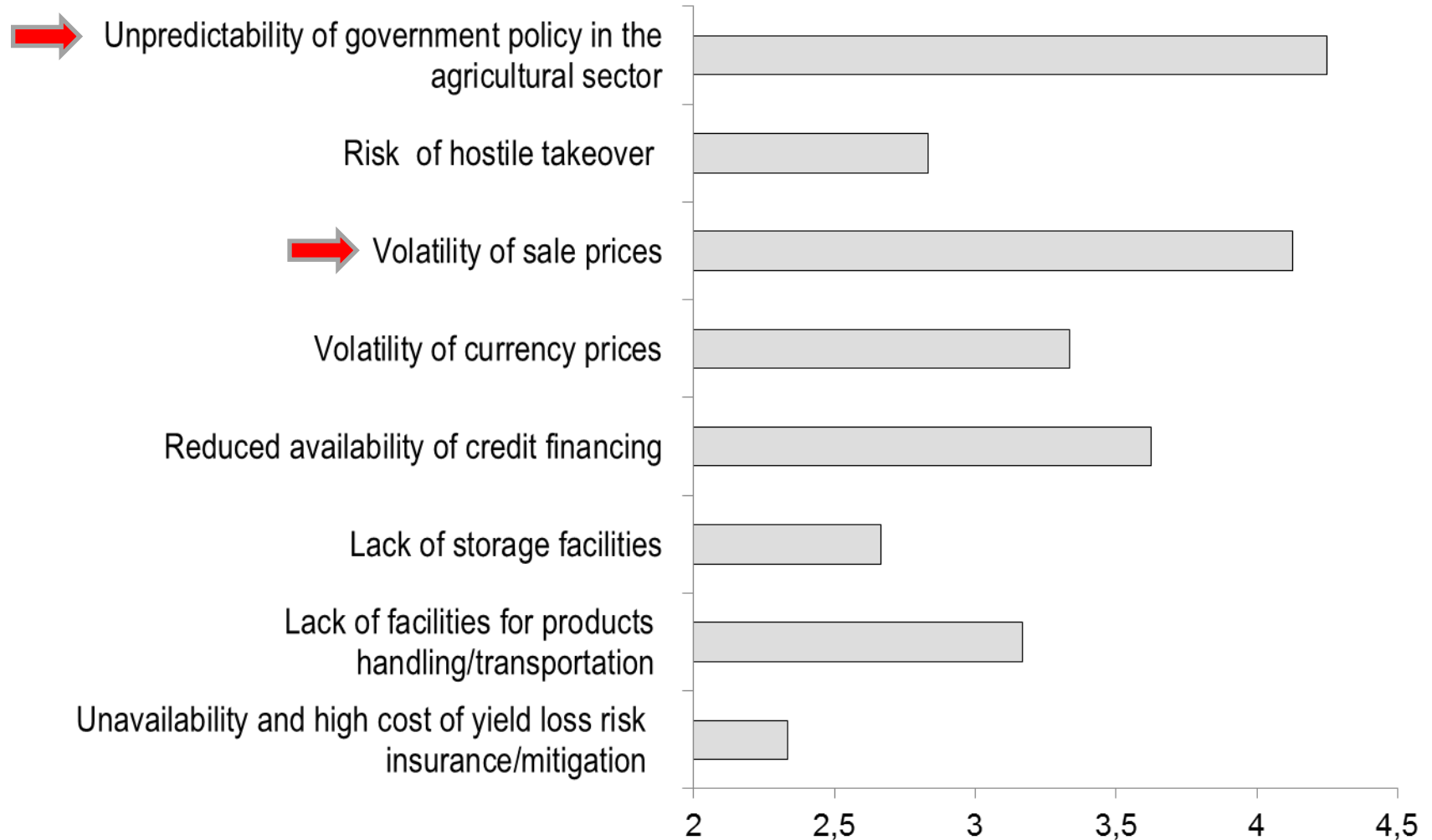
Views of agroholding managers (2012)

Perceived main constraints



Views of agroholding managers (2012)

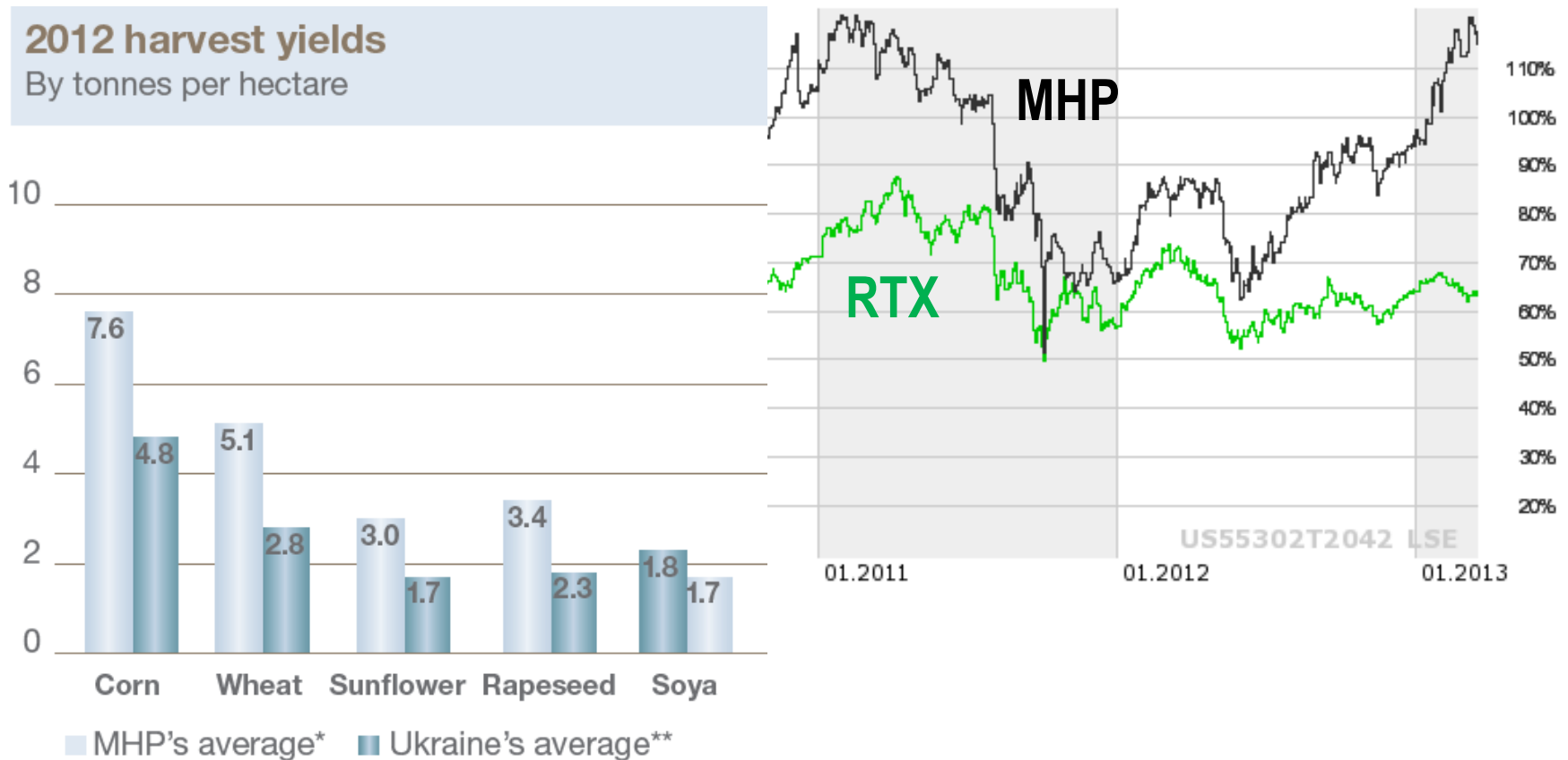
Perceived main risk factors



How do the stock markets respond?

MHP (285 000 ha, poultry: 50 % production share in Ukraine, IPO 2008)

Charts



* Tonnes per hectare

** Source: SSCU

How do the stock markets respond?

MHP (285 000 ha, poultry: 50 % production share in Ukraine, IPO 2008)

Agroton (151 000 ha, arable farming, IPO 2009)

Charts



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Summary

- **Huge productivity deficits remain**
 - for agroholding farms as well as for non-agroholding farms
 - agroholdings recently more successful in fighting main deficits
- **Perception of agroholding managers**
 - main challenge: increasing efficiency
 - main constraints: management skills, know-how & human capital
 - main risks: unpredictable policies, corruption and price volatilities
- **Stock markets' responses**
 - investments in Eastern European agriholdings are attractive
 - poor performance is sanctioned

Lessons to be learned

- **Emergence and success of agroholdings**
 - based on economic conditions "out of equilibrium"
 - institutional deficits: finance, human resources, legal system
 - network externalities within the food chain
 - fostered by booming agricultural markets and intl. investments
- **Economic success cannot just be bought**
 - success has to be worked out
 - agroholdings will either learn and develop or fail
- **Societal opportunities and risks**
 - going public requires transparency and good business practices
 - CSR necessary to address concentration of power in rural areas

An owner's view of a Russian agroholding (Ekoniva 2011)

Liski District



Elevator



Kindergarden



Church

Kamenka District

