



## RIsk management: present, past and perspectives of development in Eurasia.



Mikhail Rogov Eurasian Federation OF Risk Managers, founder



## "The world has never been more full of risk"

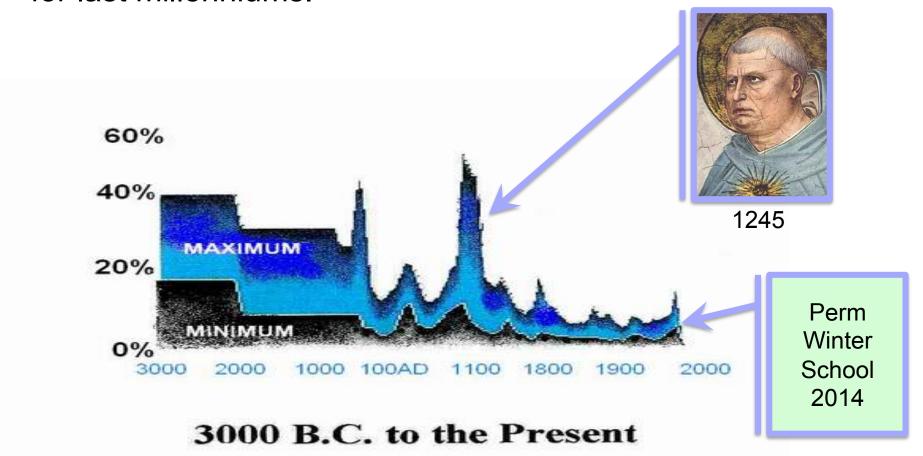
## "The world has never been more full of risk"

Thomas Aquinas, 1245.



## What about modern world?

Average maximal/minimal Interest rates (incl. risk premium) for last millenniums.



## Global Risks 2014: Lost generation ....??????

## Table 1.3: The Evolving Global Risks Landscape (2007-2014)

## Top 5 Global Risks in Terms of Likelihood

	2007	2008	2009	2010	2011	2012	2013	2014
1st	Breakdown of critical information infrastructure	Asset price collapse	Asset price collapse	Asset price collapse	Storms and cyclones	Severe income disparity	Severe income disparity	Income disparity
2nd	Chronic disease in developed countries	Middle East instability	Slowing Chinese economy (<6%)	Slowing Chinese economy (<6%)	Flooding	Chronic fiscal imbalances	Chronic fiscal imbalances	Extreme weather events
3rd	Oil price shock	Failed and failing states	Chronic disease	Chronic disease	Corruption	Rising greenhouse gas emissions	Rising greenhouse gas emissions	Unemployment and underemployment
4th	China economic hard landing	Oil and gas price spike	Global governance gaps	Fiscal crises	Biodiversity loss	Cyber attacks	Water supply crises	Climate change
5th	Asset price collapse	Chronic disease, developed world	Retrenchment from globalization (emerging)	Global governance gaps	Climate change	Water supply crises	Mismanagement of population ageing	Cyber attacks

## Top 5 Global Risks in Terms of Impact



Source: Global Risks reports 2007-2014, World Economic Forum.

Note: Global risks may not be strictly comparable across years, as definitions and the set of global risks have been revised with new issues having emerged on the 10-year horizon. For example, other attacks, income disparity and unemployment entered the set of global risks in 2012. Some global risks were reclassified: water supply crises and income disparity were reclassified as environmental and societal risks, respectively, in 2014.



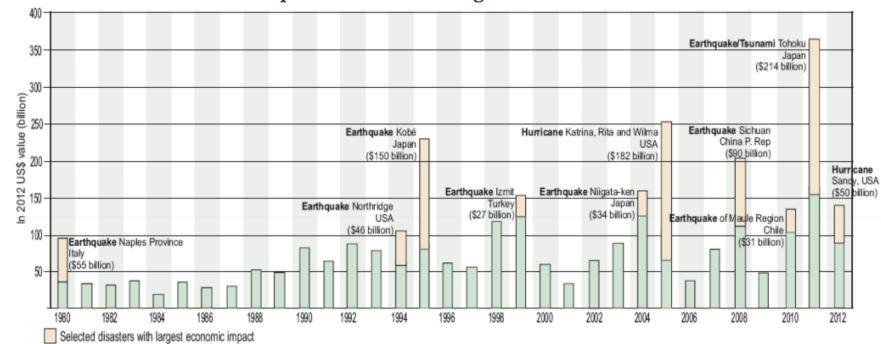
## Disasters?

Average year loss from disasters

World \$131-138 bln. < 2% GDP

Russia: 2012r \$1.8 bln. < 1% GDP

## Annual reported economic damages from disasters 1980-2012

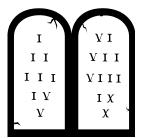


Centre for Research on the Epidemiology of Disasters (CRED)

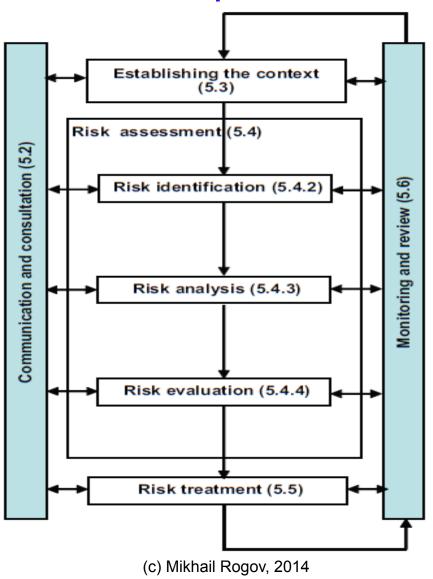
## Risk Management Standards

- ;
- <u>COSO</u>: ERM Integrated Framework 2004; Embracing Enterprise Risk Management: Practical Approaches for Getting Started, 2011; Developing Key Risk Indicators to Strengthen Enterprise Risk Management, 2010
- ISO: Guide 73: 2009 Risk management Vocabulary, 31000: 2009 Risk management, 31010: 2009 Risk management Risk assessment techniques, 31004 Risk management Principles and guidelines, (2013)

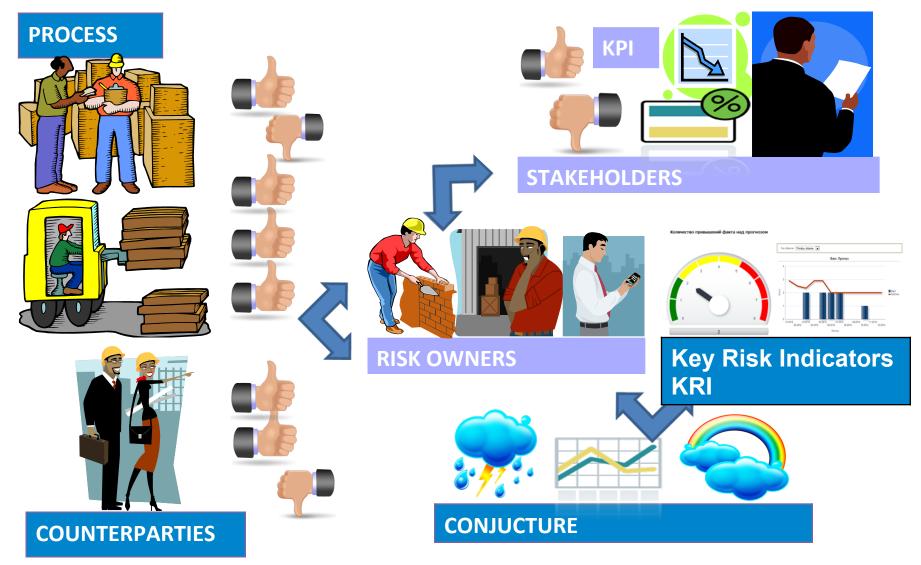
GRI, Basel-III, Solvency-II, Cobit, BS 25999 (Business Continuity Management, BCM)



## Value Chain - Impacts of the ISO31000

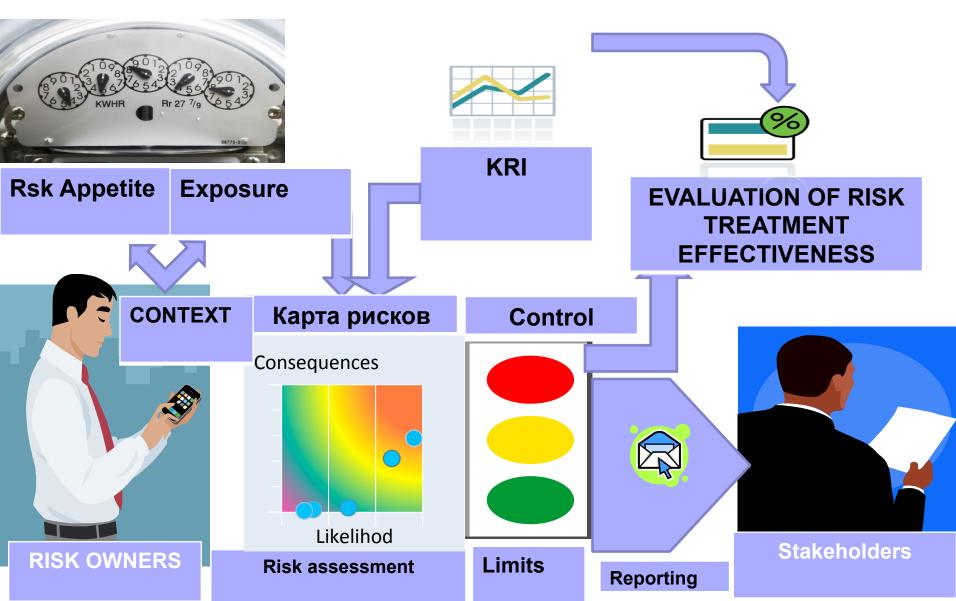


## KEY RISK INDICATORS, KRI

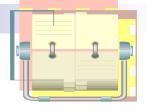


## RISK MANAGEMENT SYSTEM





## **CONTINUITY MANAGEMENT PLAN**







## **BUSINESS CONTINUITY PLANINNG**





**Scenarios** 



**Risk Treatment** 



Resources and details



Risk owners

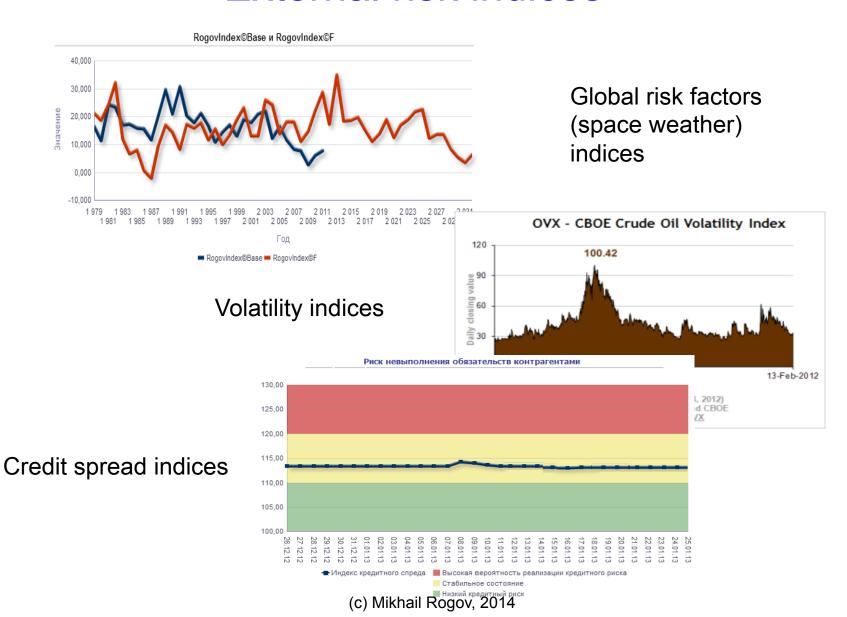


Coordination



(c) Mikhail Rogov, 2014

## External risk indices





## Three-Level Risk Criteria

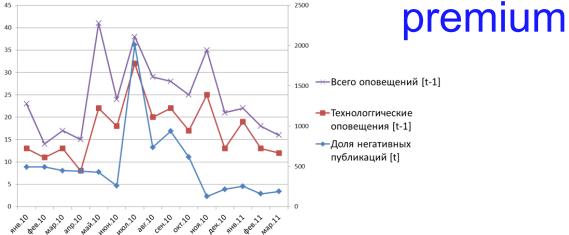
## Market/Process Conjuncture Regimes

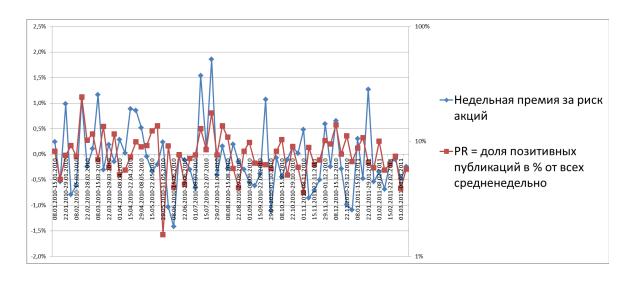
- Stable → Value-at-Risk (VaR)
- 2. Non-stable → Expected Shortfall
- 3. Stress → Stress scenarios' VaR



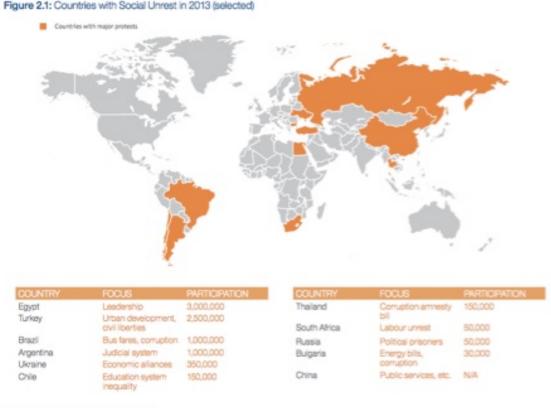
Switch: Backtesting of VaR model

## Reputational risks: linkage between incidents, media responses and market risk





## Global Risks 2014: Social Unrest in 2013

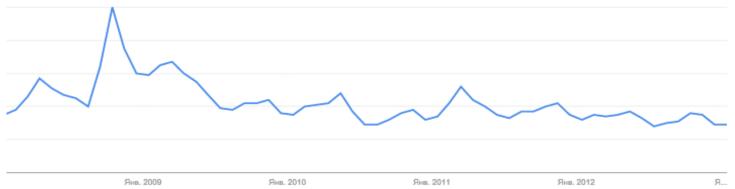


Source: Eurasia Group, Oliver Wyman, websites. Note: Excludes military conflicts in Syria, Mali, Democratic Republic of Congo, Central African Republic, etc.

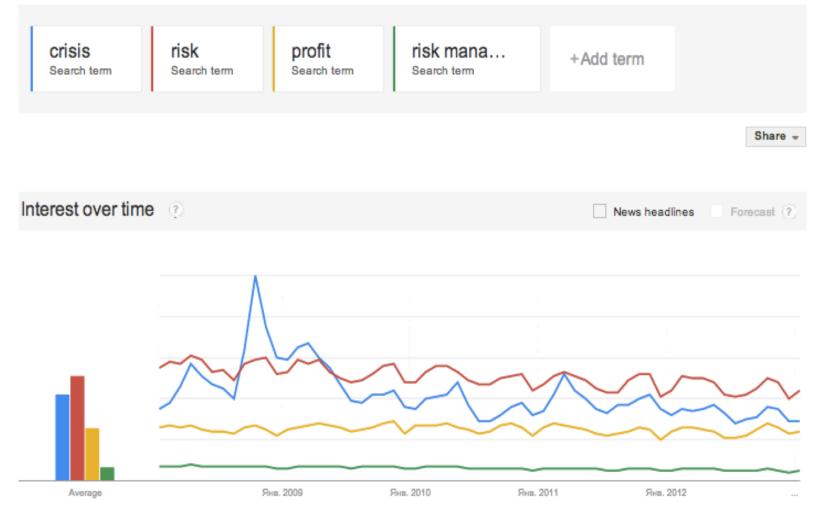
## Authoritarianism and xenophobia, clericalism and militarism, corruption – are real risks

## Volatility =?



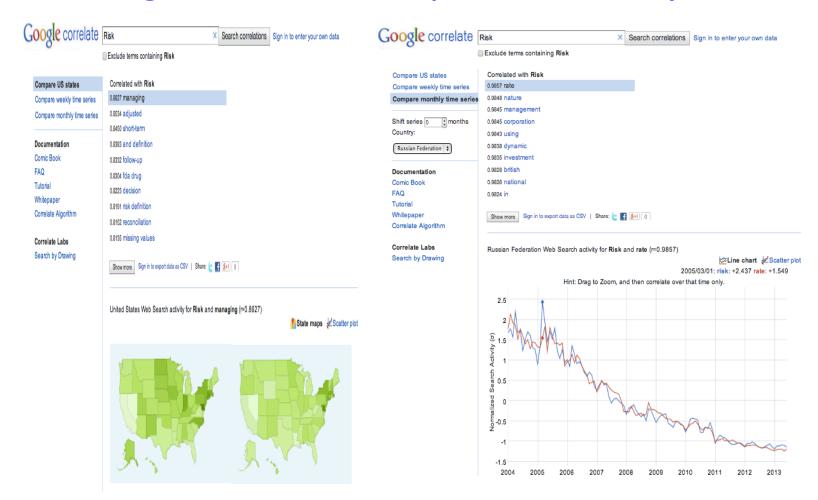


## Risk = CRISIS? RISK=PROFIT? Risk => Risk Management?



(с) М.А.Рогов,2014

## Google correlate: Risk (USA vs. Russia)



## What about modern world?



## Risk Management: Past

- Joseph (Bible)
- Indulgency (1095)
- •Thomas Aquinas 1245
- Petrarca De remediis utriusque fortunae 1354

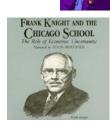






- •Tulipomania 1637
- RISQUE 1657
- Expected gain theory (Pascal, 1658)
- RISK (1661)
- •St. Petersburg paradox, Expected utility theory (Bernoulli, 1738)
- •РИСК (Fonvizin, 1769)
- Theory of speculation (Bachelier 1900)
- •Risk, uncertainty and profit (Knight, 1921)
- Portfolio theory (Markowitz, 1953, Nobel Prize 1990)
- Sociological theory (Luhmann, 1991)









## Risk Management:Past & Present

• CAPM (Sharp, Nobel prize 1990)



Option pricing models (Merton, Black, Snoies, Nobel prize 1997)



- Prospect theory (Kahneman & Tversky, Nobel prize 2002)
- Swiss cheese model (Reason, 1990)
- •Chief Risk Officer) GE Capital, 1993



- •RARORAC
- •ERM
- •ATR
- •Value-at-Risk, Expected Shortfall (Uryasyev, RiskMetrics, 1994)
- Chaos & Fractals on Financial Markets (Mandelbrot)
- Basel II, 2000-2002
- COSO-ERM Integrated Framework 2004
- Black Swan (Taleb, 2007), StressVaR
- ISO 31000 Risk management, Solvency-II 2009
- Subprime crisis (2008), Basel III, 2010
- DRiMaP Distributed risk management process
- •Global risk factor theory (Rogov, 2002-2013)













- Human factor & Operational risks transfer
- Cyber-terrorism & Industrial terrorism
- Prediction markets and new KRI concepts
- •Risk management for small & medium enterprises (SME)
- Crowdsourcing: USHAHIDI, Wiki etc.
- New generations of risk Indices
- •New technologies and assets:

Cryptocurrencies, HFT, Space weather ....?







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## EFORM - Eurasian Federation of Risk Managers

## The mission of the EFORM is

- the Institutionalization of the professional community of risk managers in the region and
- strengthening the status of the profession and
- development of risk management, risk culture, taking into account both individual and collective interests of the EFORM members.

## Among the main goals are

- support for research and innovation,
- development of information infrastructure of risk management ,
- communication of the professional community,
- training and certification in the field of risk management,
- interaction with other international and national professional organizations and regulators, participation in standardization.

Special priority - to make available technologies of risk management in various industries, for small and medium business.

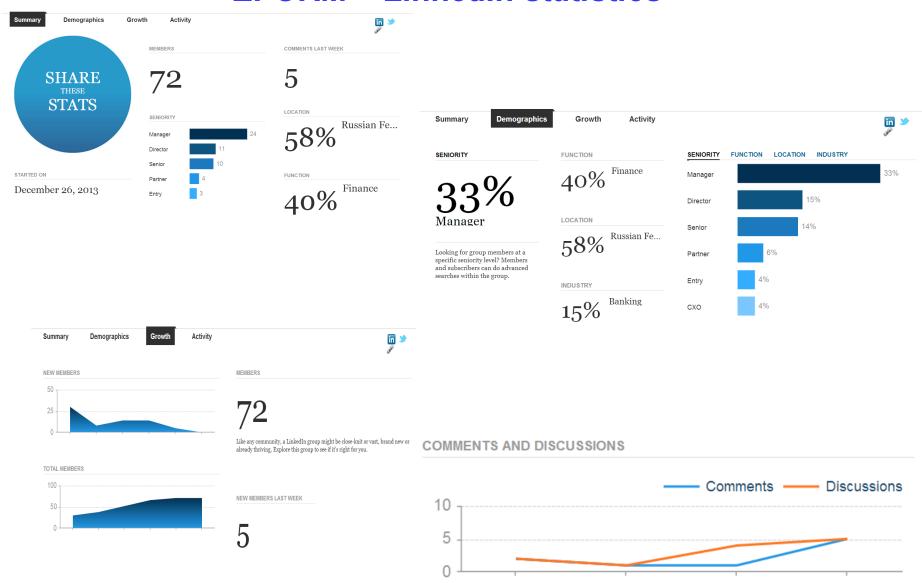
## EFORM – Eurasian Federation of Risk Managers

- ✓ EFORM has beeb founded by Mikhail Rogov in December 2013.
- ✓ EFORM unites Belarussian and Kazakhstan professional associations of risk managers BelarusRisk and KAZAKHRISK
- √ 111 indidviduals from 13 Eurasian states since 16<sup>th</sup> December, 2013



- ✓ LinkedIn & Facebook group only now, membership is free
- ✓ Risk management conference, WWEt, Kiev, 17<sup>th</sup> Aprill, 2014
- ✓ Eurasian Business Forum, Almaty, 18th April, 2014 (invited)
- ✓ Publication, Journal "Risk management at financial institutions", Moscow, 1 '14

## **EFORM – LinkedIn statistics**



# Premiere Pilot Animation Film Episode 1 RISK MANAGEMENT MODEL

http://www.rogovindex.com/Home/Index





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