

ENTERPRISE RISK MANAGEMENT

ERM

Symposium

Where Cutting Edge Theory Meets State of the Art Practice



2011 ERM Symposium
March 14-16, 2011

Swissôtel Chicago
Chicago, IL

Emerging Risks

March 16, 2011 11:30 am -12:45 pm

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Emerging Risks

- What are emerging risks?
 - Completely new risks
 - Geomagnetic storm activity
 - Evolving risks
 - Climate change, geopolitical landscape
 - Recently unseen risks
 - Asteroid/black plague
- Donald Rumsfeld's Knowns and Unknowns

Avoiding the “Perfect Storm”

- Environmental scanning
- Mean reversion (Perfect Sunrise)
- Gaussian copout
 - Once per century events don’t happen 4 days in a row

Survey

- Emerging risks originally developed by World Economic Forum (23)
- Top 5 emerging risks (including #1)
- Leading indicators
- Combinations of risks in general
- Current topics

Emerging Risks

- Economic
 - Oil price shock
 - Fall in value of US \$
 - Chinese economic hard landing
 - Demographic shift
 - Blow up in asset prices
- Environmental
 - Climate change
 - Freshwater loss
 - Tropical storms
 - Earthquakes
 - Inland flooding

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Emerging Risks

- Geopolitical
 - International terrorism
 - Weapons of mass destruction
 - Interstate/civil wars
 - Failed states
 - Transnational crime
 - Globalization fallback
 - Regional instability
- Societal
 - Pandemics
 - Infectious diseases
 - Chronic diseases
 - Liability regimes
- Technological
 - Critical information infrastructure
 - Nanotechnology

Current Environment Matters

April 2008

- Oil price \$114
- S&P 500 1,386
- Currency 1.56 \$/Euro

November 2008

- Oil price \$68
- S&P 500 969
- Currency 1.27 \$/Euro

December 2009

- Oil price \$77
- S&P 500 1,106
- Currency 1.48 \$/Euro

November 2010

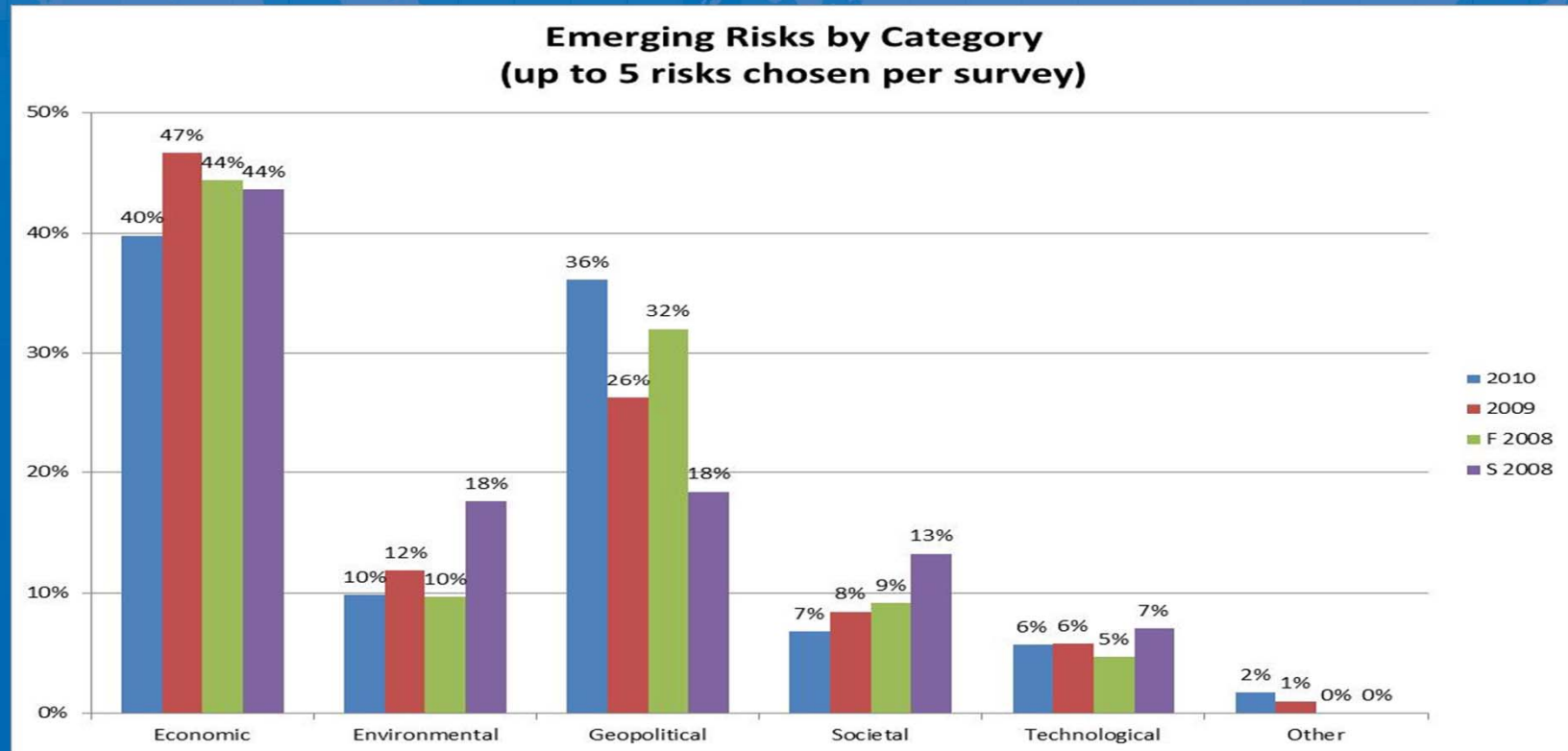
- Oil price \$84
- S&P 500 1,176
- Currency 1.40 \$/Euro

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Top Emerging Risks



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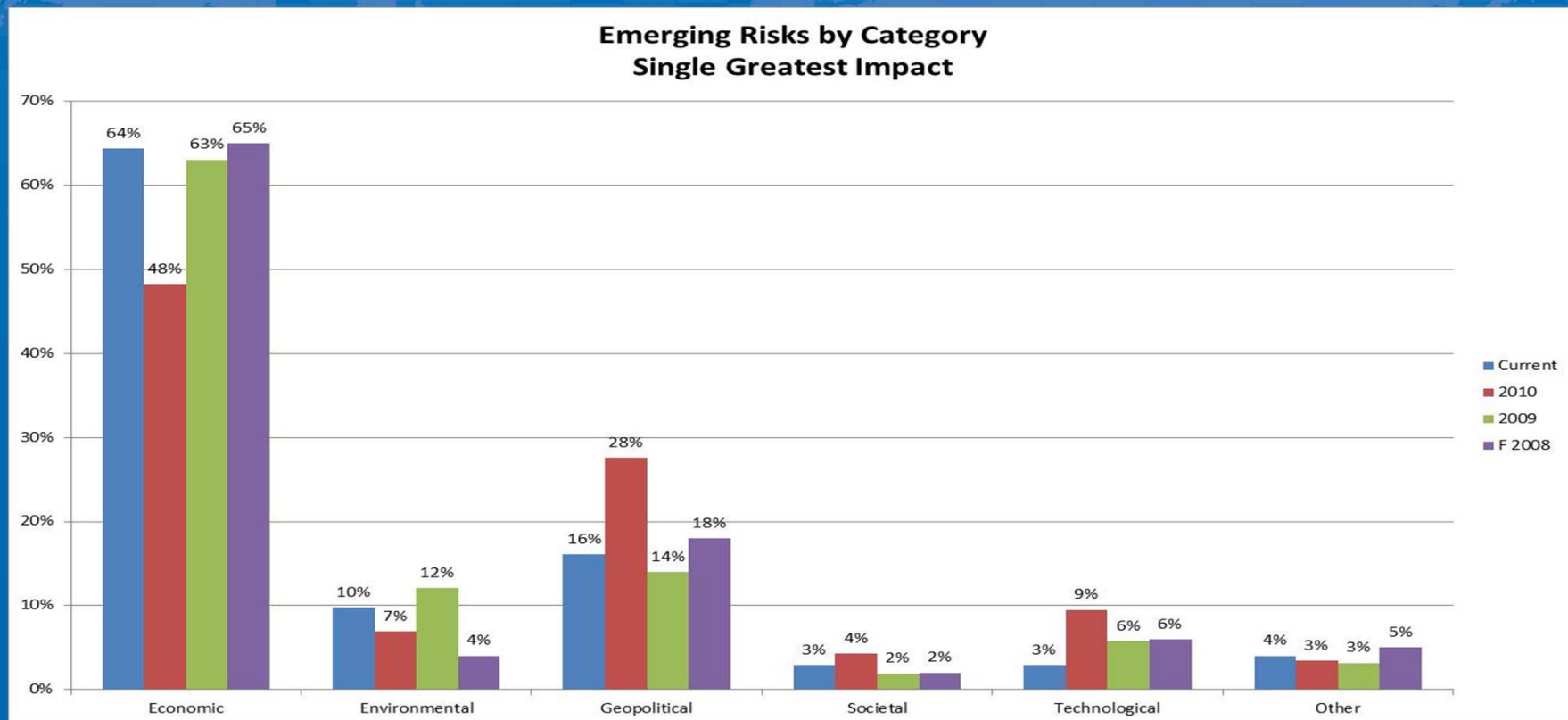
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Anchors Away?

- April 2008
 - 57% Oil price shock
 - 40% Climate change
 - 40% Blow up in asset prices
- December 2010
 - 49% Fall in value of US\$
 - 43% International terrorism
 - 41% Chinese economic hard landing
 - 40% Oil price shock

Top Category



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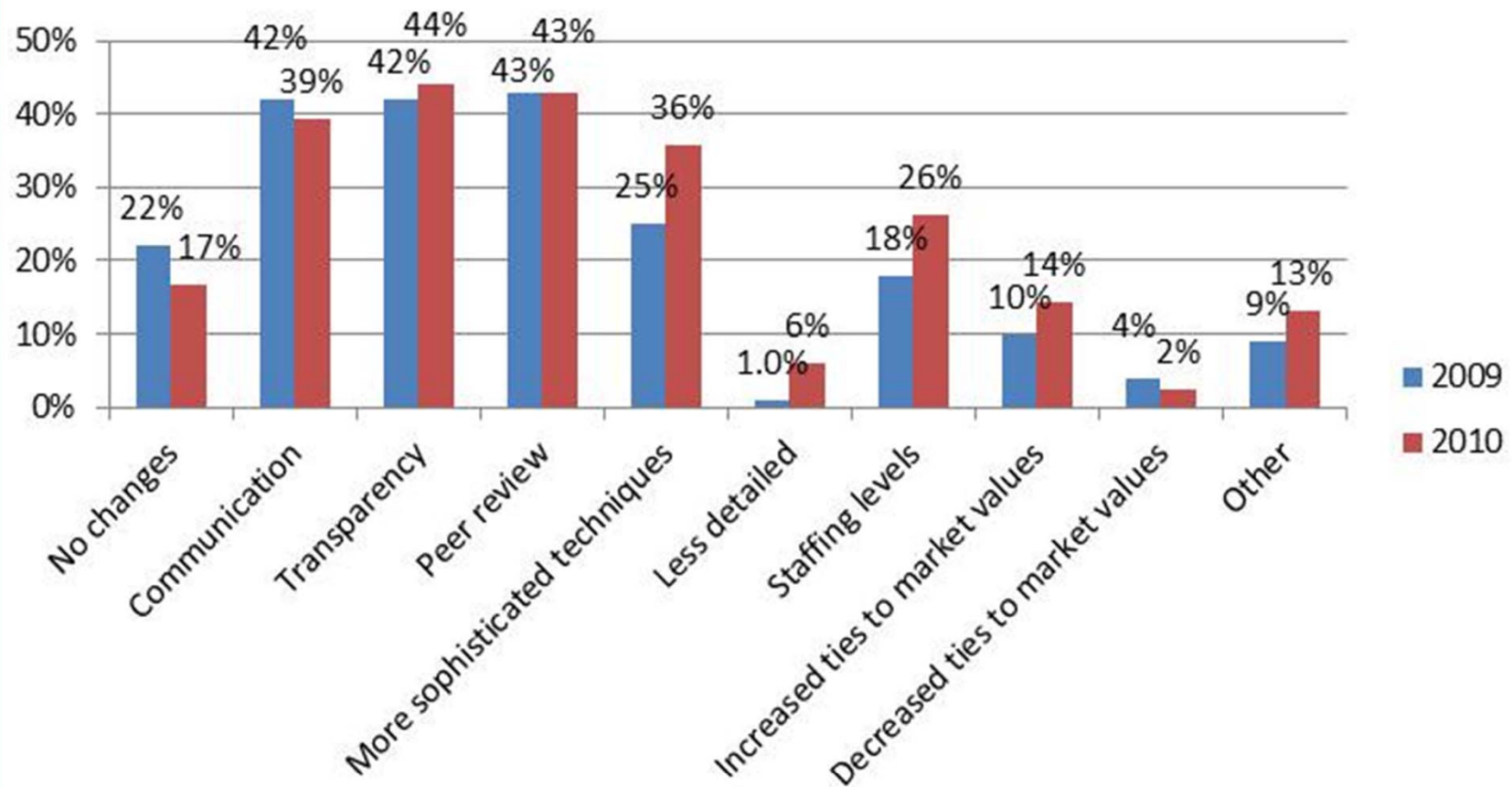
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Leading Indicators

- Over 50% identify leading indicators
 - sea surface temperatures
 - WHO pandemic alert level
 - CO₂
 - CPI, GDP, value of the dollar, gold price, oil price, US deficit, US debt, CDS rates, unemployment, interest rates
 - solar activity
 - water supplies
- **“mostly by the seat of our pants”**

Modeling practice improvements



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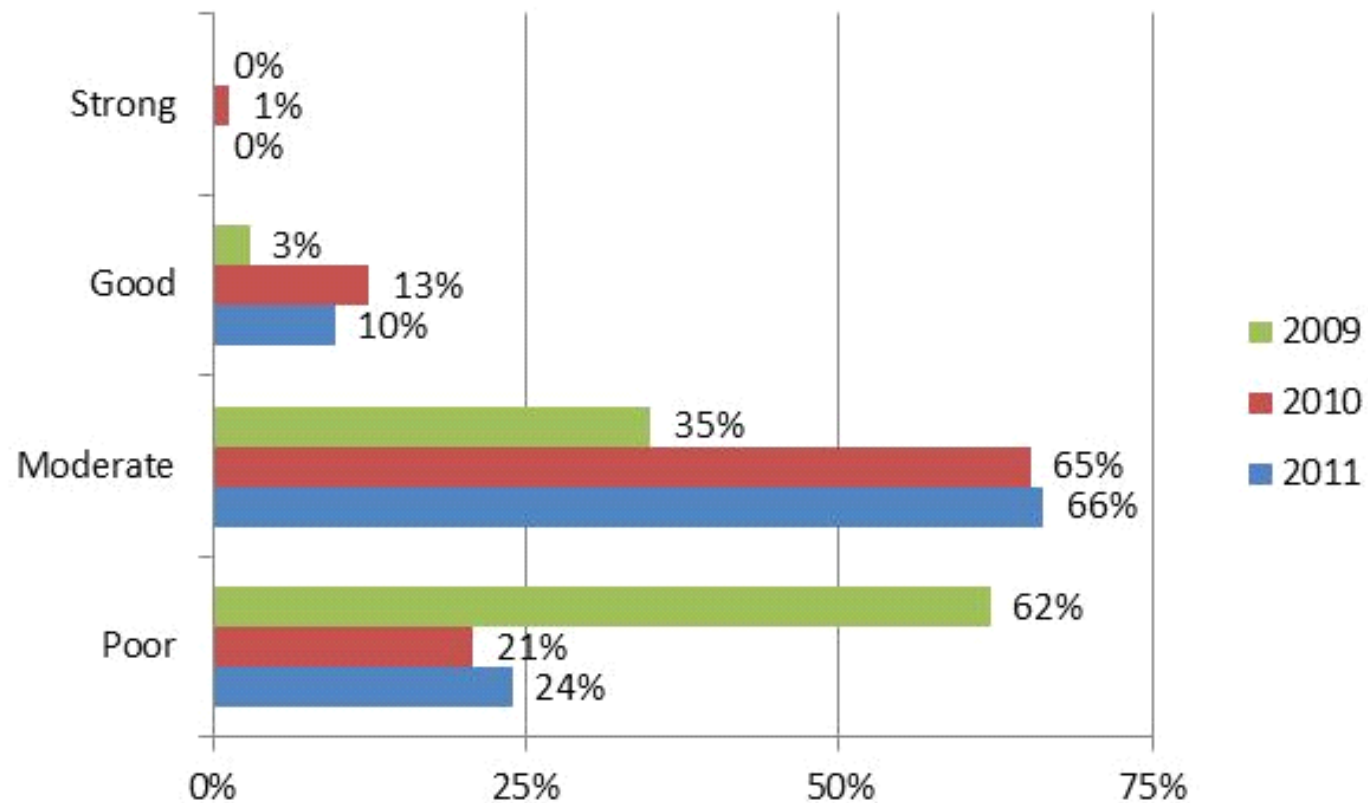
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Predicting the Future

- 77% say yes
- predicting potential outcomes
- Not predicting actual future events
 - oracle or soothsayer
- **“to be prepared to react is the goal”**

Global Economic Expectations

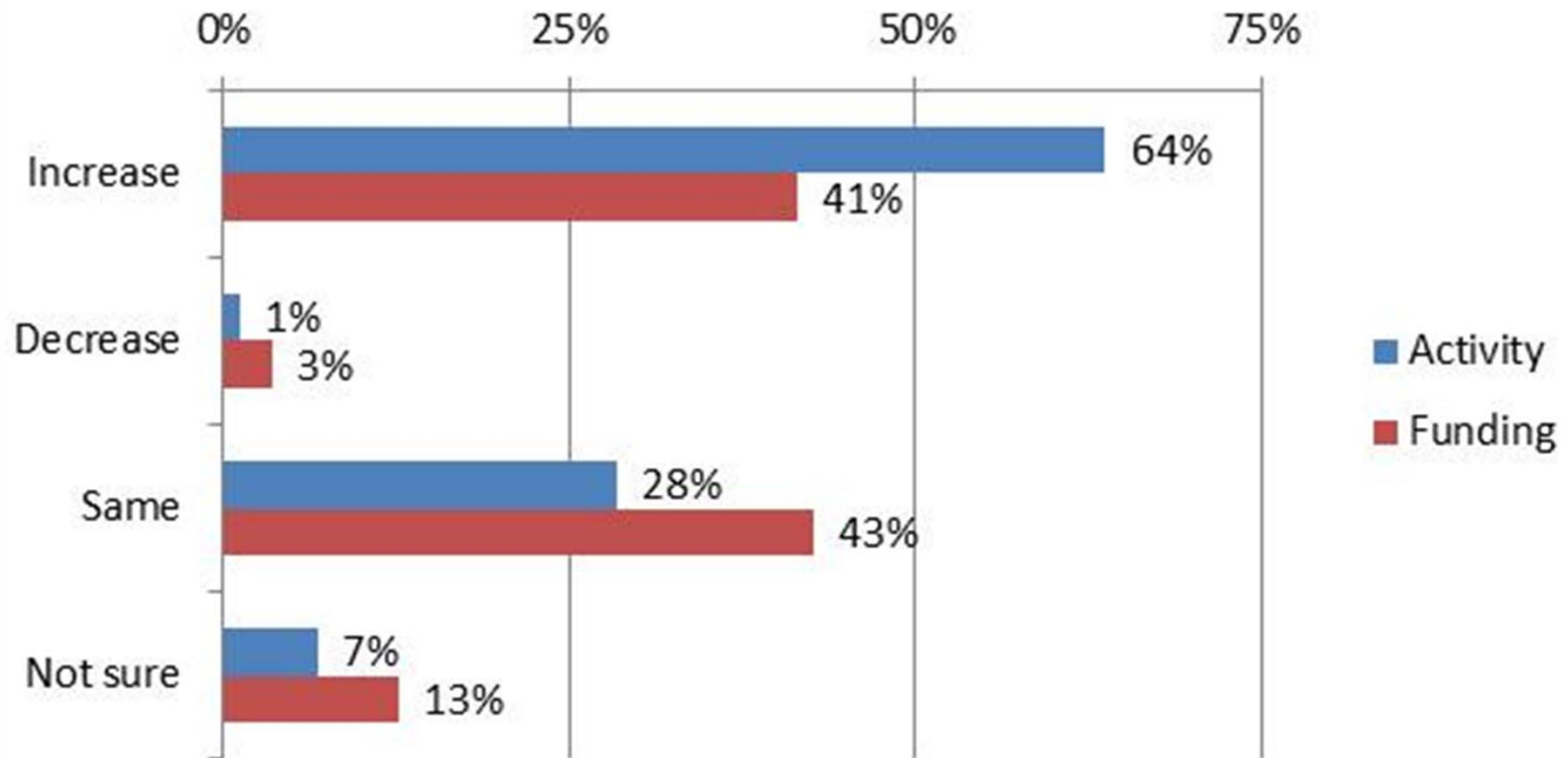


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2011 Anticipated ERM Levels



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Interesting Revelations

- Geopolitical risk resurgence
- Economic categories down but still 1st
- Worried about China
- Infrastructure becoming a concern
- Combinations have higher dispersion
- Movement toward leading indicators
- Higher staffing in 2010

To access prior surveys

- 2009 research
- <http://www.soa.org/research/research-projects/risk-management/research-2009-emerg-risks-survey.aspx>
- Article in August 2010 issue of The Actuary
 - Challenging the Herd
- <http://www.soa.org/library/newsletters/the-actuary-magazine/2010/august/act-2010-vol7-iss4.pdf>

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Thanks!

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