



**INSTITUTE FOR STATISTICAL STUDIES  
AND ECONOMICS OF KNOWLEDGE**

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# The Role of Wild Cards in Foresight


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# R THE WORLD IS ON THE BRINK ON MAJOR CHANGES

## NEW COMPLEX OF UNCERTAINTIES

 Intensifying polarization

 Expanding societal transformation driven by digitalization and AI

 Dangerous global climate changes

 Increase in speed and volume of information flows; risks of disinformation

 Unprecedented speed of technological change

## GROWING RISKS OF STAGNATION, WIDENING GAP BETWEEN COUNTRIES

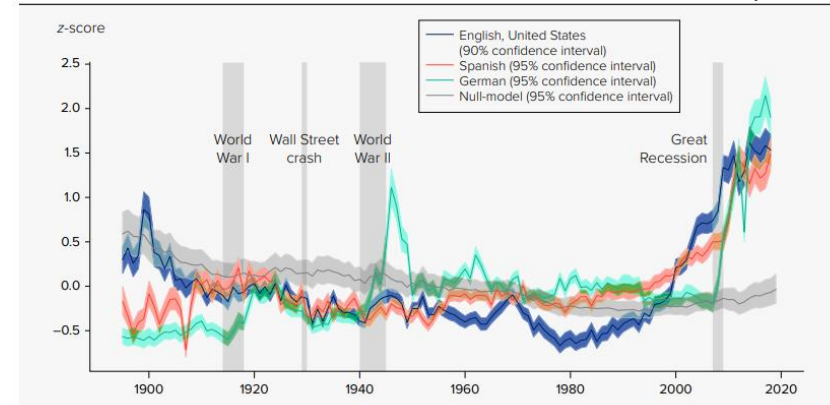
 Surge in inflation

 Global debt crisis

 Era of low growth and declining investment

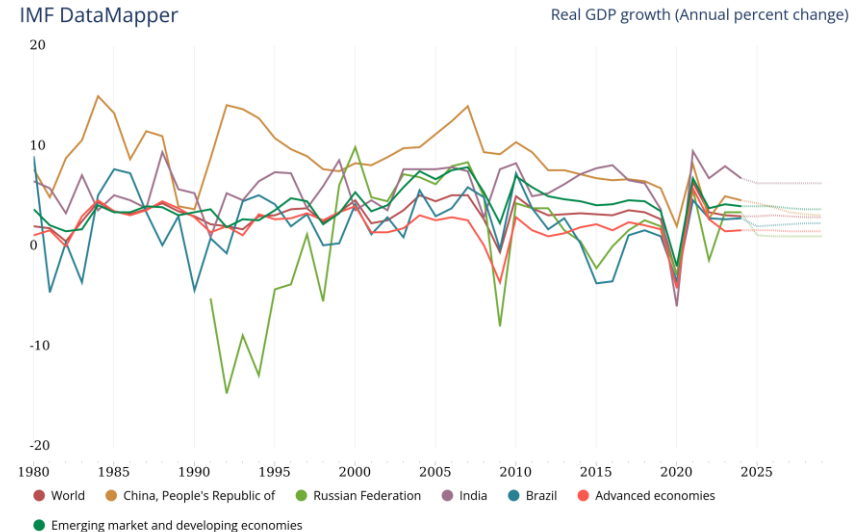
 Fragmentation of the global economy

**!** The interaction of these factors calls into question the effectiveness of sustainability strategies that have been applied historically



**Note:** Negative views are defined as textual analogues of cognitive distortions in one- to five-word sequences reflecting depression, anxiety and other distortions, published in 14 million books in English, Spanish and German over the past 125 years. The prevalence of these word sequences in publications are converted to z-scores for comparability. They are compared with a null-model that accounts for over-time changes in publication volumes and standards. **Source:** Bollen and others 2021.

## Rising anxiety all over the world



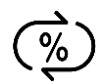
©IMF, 2024. Source: World Economic Outlook (October 2024)

## Slowdown of the world economies (developing and advanced ones)



# WHAT IS A WILD CARD?

**A wild card is a poorly predictable event that can have an exceptionally strong impact on the development of a trend**



Probability of  
Manifestation

Low probability of occurrence

*Rockfellow, 1994; Petersen, 1997;  
Steinmuller, 2003; Mendonça et al., 2004;  
Smith & Dubois, 2010*



Consequences

Significant impact, immediate  
strategic consequences for an  
organization or society

*Rockfellow, 1994; Petersen, 1997;  
Mendonça et al., 2004; Smith & Dubois,  
2010*



Possibility of  
Detection

It does not fit into the usual frame  
of reference and changes the  
idea of the usual order of things

*Steinmuller, 2003; Barber, 2006;  
Saritas & Smith, 2011*



Influence

Serious, destructive,  
catastrophic or abnormal event

*Steinmuller, 2003; Mendonça et al.,  
2004; Saritas & Smith, 2011*

### Effects

- Complex Risk Landscape
- Systemic and Cascading Effects
- Unprecedented Complexity
- Altering Trajectories and Priorities
- Integrated, Multi-Stakeholder Responses
- Creating Opportunities for Innovation

### Examples of intersections

#### New Pandemic + Antibiotic-Resistant Superbug

##### Pandemic Preparedness

- Gaps in global health systems
- Zoonotic diseases rise

##### Antibiotic-Resistant Pathogen

- By 2050, antimicrobial resistance may kill 10 million/year (WHO)






##### Compound Risks

- Healthcare System Collapse
- Economic Domino Effect
- Social Unrest



##### Preparedness Strategies

- Global Surveillance
- Alternatives to Antibiotics
- One Health Approach

-  Human-centered society
-  Digital revolution
-  Attention to risk and sustainability



Continuous and dynamic interaction of stakeholders during the foresight process

## Methods Appropriate for Conditions of High Uncertainty and Risk

Problem	High Uncertainty	Limitations of traditional statistical data		High complexity of processes and systems	Unpreparedness for shock situations	Interdisciplinary tasks	Polarity of opinions	Emerging short-term problems
Method	Scenarios	Expert research	Big data	<b>Modeling</b>	<b>Wild Cards</b>	STEEPV	Consensus forecast	Situational analysis
Result	Probable Futures	Uncodified Knowledge	Emerging trends, weak signals	Identification and evaluation of internal and external relationships	Wild cards data base	Complex problem evaluation	Agreed estimates	Operational management decisions

*“In the long run, our future will be shaped by wild cards” (Steinmüller, 2003)*



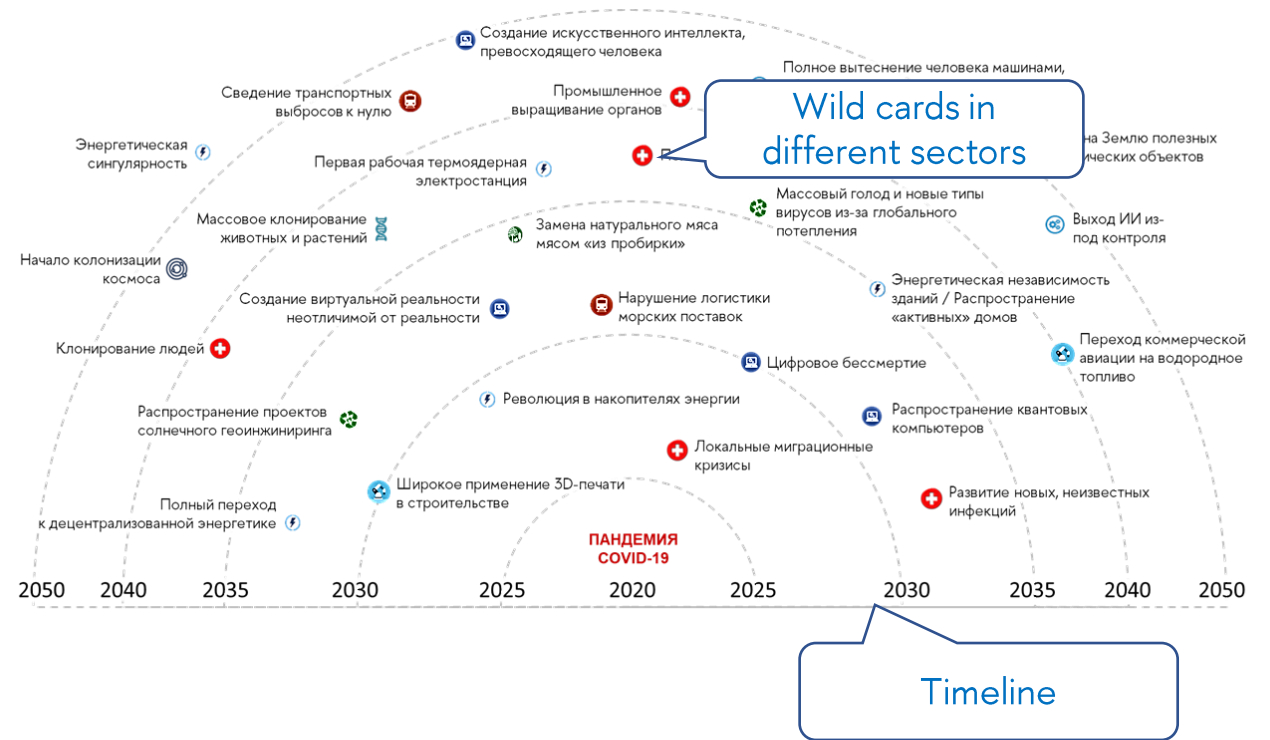
# "EARLY WARNING SYSTEM" FOR WILD CARD EVENTS IN ORDER TO MINIMIZE THEIR POTENTIAL NEGATIVE EFFECT

**AIM** is to develop methods for identifying and classifying wild card events, and to analyze the influence of wild cards on trends and strategic priorities

## Results

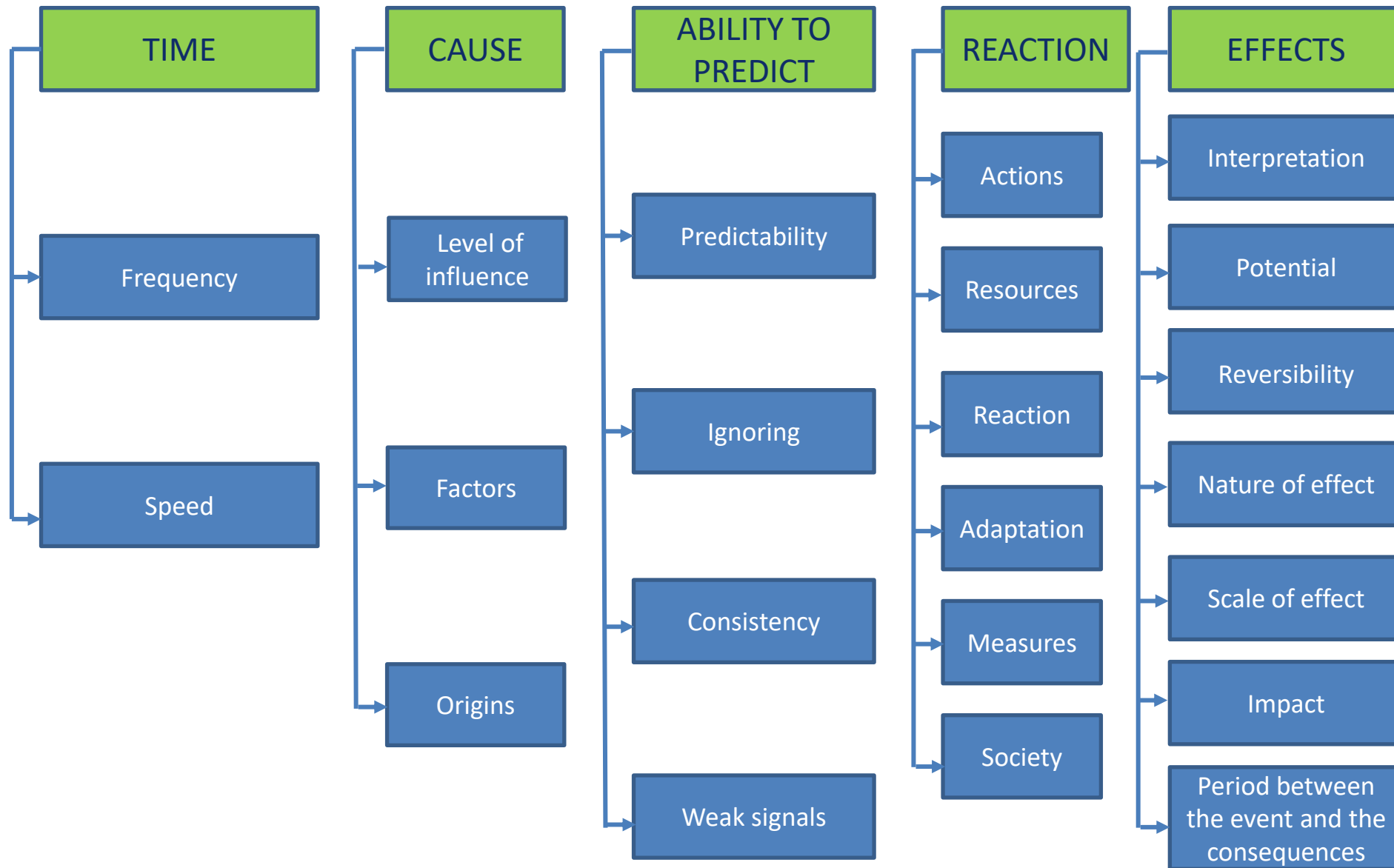
- Creation of an effective monitoring system and early detection of wild cards and risks
- Development of methods for detecting and evaluating weak signals and wild cards
- Formation of approaches to reducing the negative consequences of the implementation of wild card events
- Assessment of the time frame of the occurrence of an event and the onset of its consequences
- Taking into account poorly predictable events when making forecasts

## RADAR OF WILD CARD (example)





# SYSTEMIC VIEW ON DIFFERENT TYPES OF WILD CARDS



**2022**  
> **50**  
events

**2025**  
> **350**  
events

Wild cards are divided into STEEP categories (social, technological, economic, environmental, political) and classified

Described according to a template:

- Short description;
- estimates related to weak signals of the manifestation of wild cards and confirming the probability of its realization;
- classification of wild cards according to certain parameters.

The database is constantly updated

## Robots with emotional intelligence indistinguishable from that of humans

Description

Understanding complex social signals (from facial expressions to body language) is a challenging task for machines. However, there are already examples of their use for reading human emotions. Major banks, such as Bank of America and JPMorgan Chase, use technologies to monitor the emotional state of traders; robots serve as consultants (Matey, Fujitsu; Pepper, SoftBank) and cashiers in stores. Socially adaptive robots can be valuable assets in various industries. For example, they can be used as tutors for children, caregivers for the elderly or hospital patients, customer service assistants in retail, etc. The growing autonomy and improved ability of robots to read and interpret human emotional states raise ethical and legal questions about the hypothetically possible granting of rights and responsibilities to them, similar to those of humans.

**Frequency of occurrence:** singular case

**Speed of occurrence:** slow

**Expected time of occurrence:** in 10–20 years

**Level of event predictability:** low

**Presence of weak signals and degree of response to them:** yes

**Nature of effect:** technological / socio-economic

**Scale of effect:** local / global

Classification Parameters



# WILD CARDS AND GRAND CHALLENGES RESEARCH HAS BEEN SUCCESSFULLY INTEGRATED INTO PROJECTS



S&T Foresight Study for the Agricultural Sector 2030



Russian S&T Foresight 2030



Global Trends for Housing Sector

## Human Capital Multidisciplinary Research Centre

[https://ncmu.hse.ru/chelpoten\\_trends](https://ncmu.hse.ru/chelpoten_trends)



Future of Global Science (2024)



## Trendletters



## iFORA express



**Thank you!**



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