



Anti-monopoly Law Enforcement in Digital Economy

Anti-monopoly Bureau of the State Administration for
Market Regulation

Monopoly Agreement Investigation Office

Yu Jiamu

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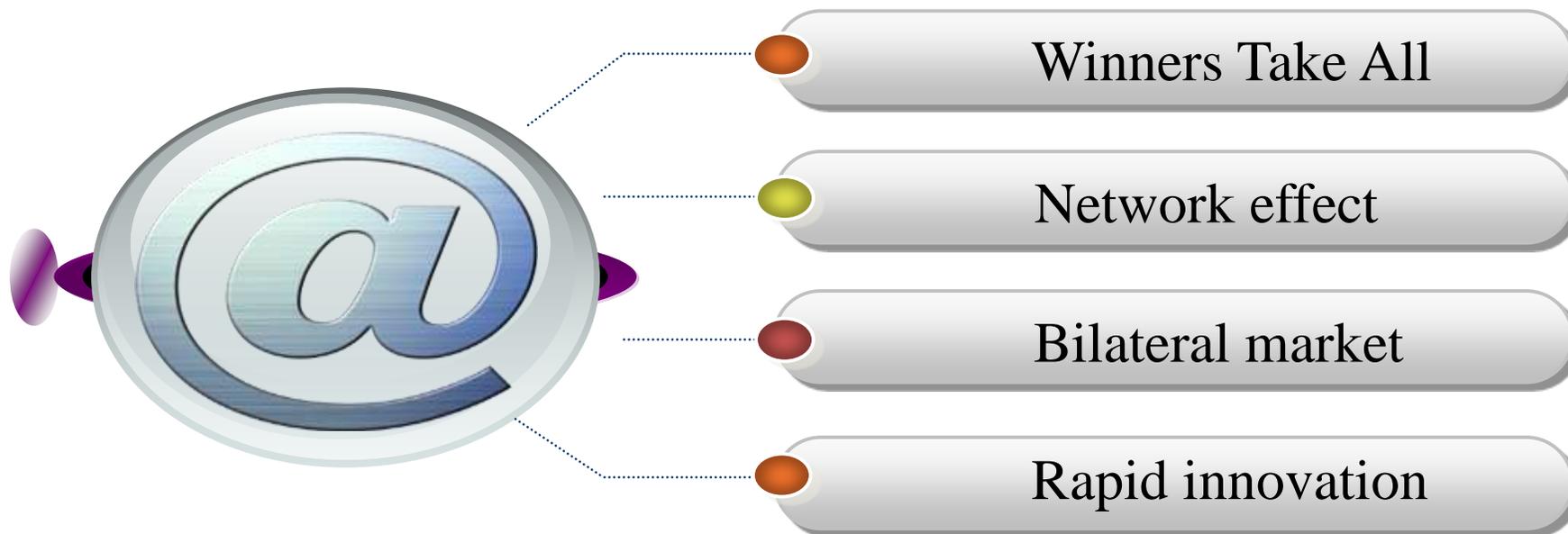


Overview of Digital Economy Development

- ▶ Digital Economy refers to a series of economic activities that use digital knowledge and information as key production factors, modern information networks as important carriers, and effective use of information and communication technologies as important driving forces for efficiency improvement and economic structure optimization.
- ▶ As far as China is concerned, digital economy is the advanced stage of information development. It serves as an important component of digital China, and a new economic form following agricultural economy and industrial economy.



Characteristics of Competition in Digital Economy





Main Concerns of Competition in Digital Economy

Platform

The platform-based characteristics of enterprises have increased the difficulty in defining the relevant markets and have also brought greater challenges to the evaluation of market forces of platform-based enterprises and the evaluation of the competitive influence of platform behaviors.

Data

The data refers to the possible risk of blocking data raw materials in digital-driven mergers and acquisitions, and it also contains the issue whether data holders with market dominant position constitute the abuse of market dominant position if they refuse to make data public under specific circumstances.

Privacy

The privacy refers to the competition of degree of privacy protection, especially whether a specific merger or acquisition transaction leads to the ability and motivation of enterprises to reduce the level of privacy protection after the transaction.

Algorithm

Algorithms refer to algorithm collusion and algorithm discrimination.



The Basic Concept of Algorithms

- ▶ With the development of digital economy in the world, more and more enterprises use computer algorithms to improve their pricing models and customer service and predict market development trends.
- ▶ An algorithm is a continuous sequence of rules executed in a certain order to complete a specific task.
- ▶ Algorithms can be expressed in many ways, such as languages, charts, codes, and even programs that machines can read and execute. With the development of computer science, algorithms have been developed to automatically handle repetitive tasks including complex operations and data processing. The latest development of artificial intelligence and machine learning has brought algorithms to a new level, enabling computers to solve complex problems more effectively than human beings and make predictions and decisions.



Application of algorithms

- ▶ Algorithms are widely used in modern society and affect people's behaviors in daily life.

Algorithms can be used for predictive analysis

Algorithms can be used to evaluate demands and risks and predict price changes and customer behavior and preference. They also can be used to forecast endogenous and exogenous shocks that may influence the market environment, among which are new market access, exchange rate changes and even natural disasters.

Algorithms can be used for optimizing business process

Algorithms can make the business more competitive by reducing the costs of the products and transactions and differentiating groups of consumers, or by setting the optimal price that can effectively respond to the market environment.

Algorithms have special significance on industry development

On the basis of machine learning that includes deep learning, algorithms can bring data-driven innovation and market evolution.

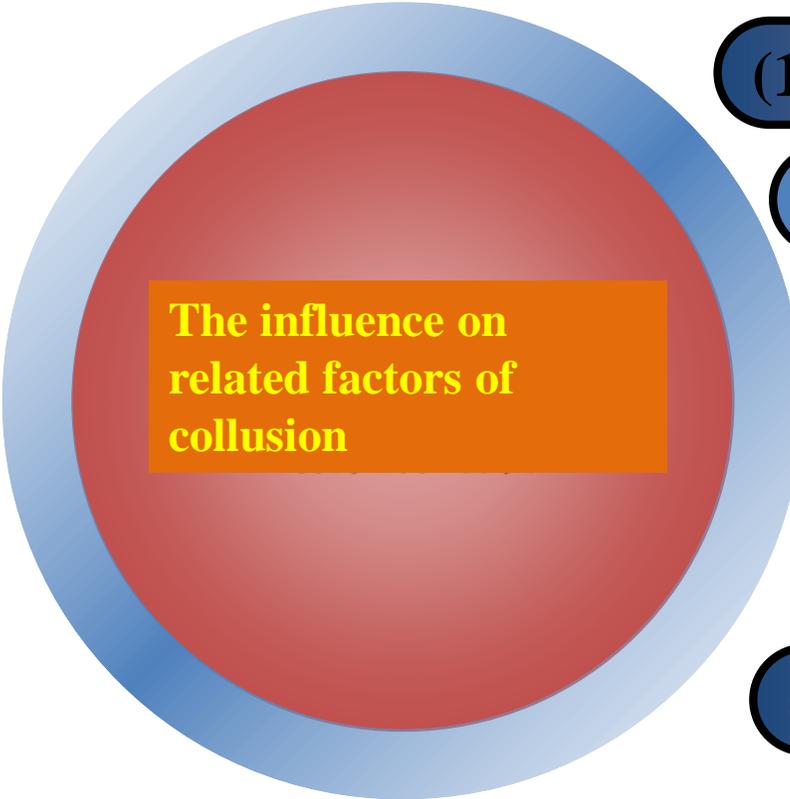


Anti-competitive Risk Caused by Algorithm-Algorithm Collusion

- ▶ Collusion is a strategic behavior of common profit maximization implemented by competitors that may harm the interests of consumers.
- ▶ The algorithm is taken as the promotion factor of collusion, which leads to new collusion that has not appeared before or is impossible to appear before. This kind of collusion is called "algorithm collusion".
- ▶ Collusion can be divided into "explicit collusion" and "implicit collusion".
 - Explicit collusion refers to the anti-competitive behavior of maintaining collusion through definite agreements in written or oral.
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 - Implied collusion refers to the situation where competitors maintain collusion by recognizing their mutual dependence without any definite agreements, thus realizing anti-competitive cooperation.



The Influence of Algorithms on Related Factors of Collusion

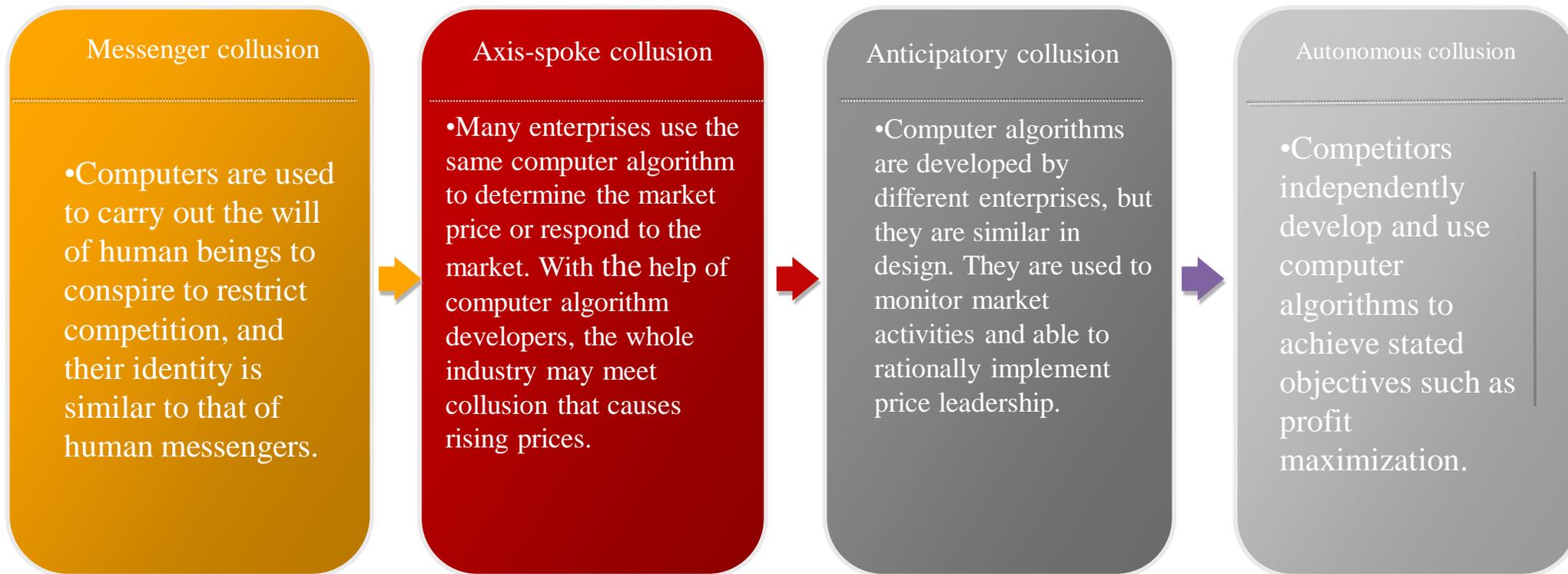


- (1) Number of enterprises ✗
- (2) Barriers to market entry ✗
- (3) Market transparency ✓
- (4) The frequency of enterprise interaction ✓
- (5) Demand factors ✗
- (6) Supply factors ✓

The effect of the algorithm on structural factors such as the number of enterprises and barriers to market entry is not clear, but it may improve market transparency and the frequency of enterprise interaction. The algorithm changes structural market conditions and supply factors at the same time, which may have positive, negative or uncertain effects on the sustainability of collusion.

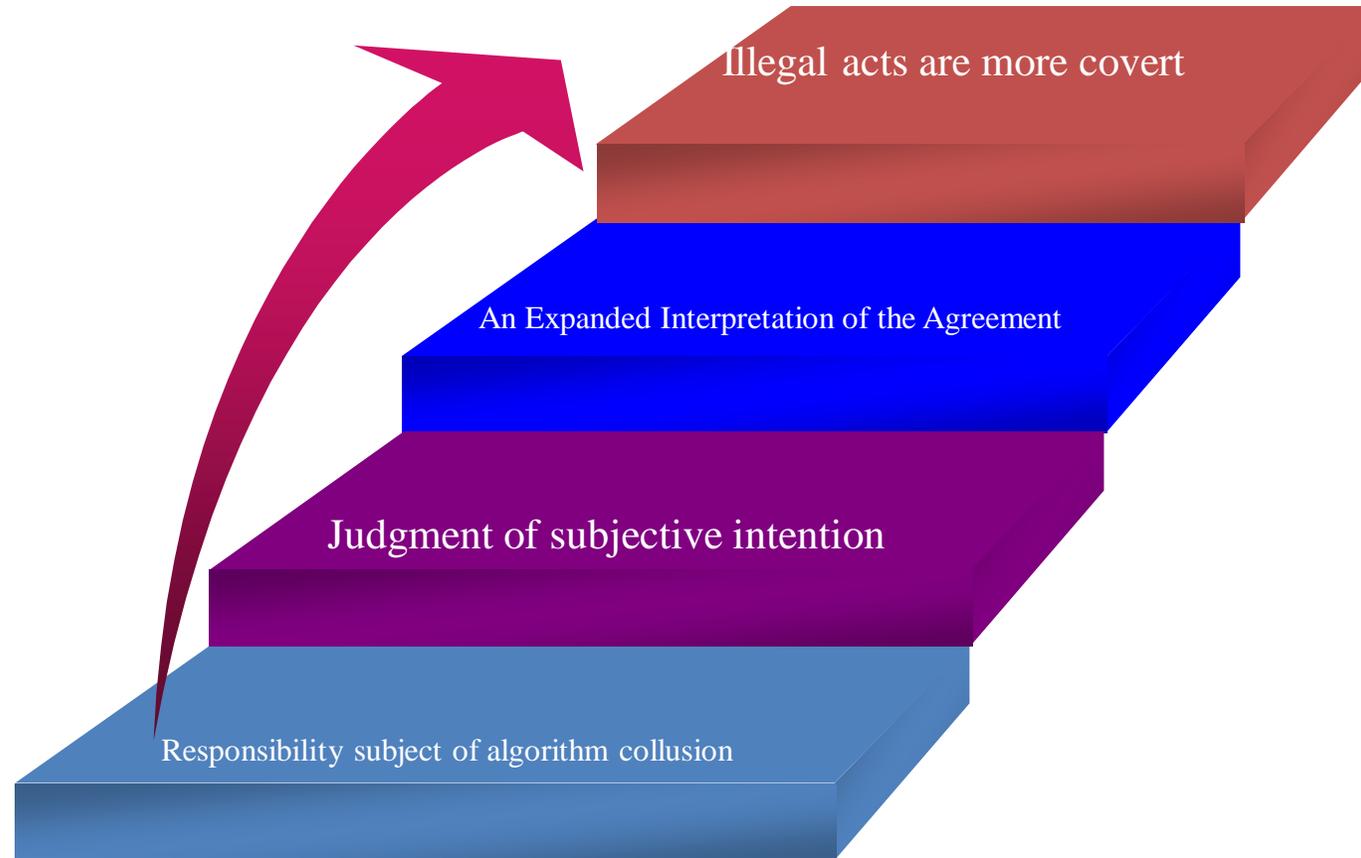


Classification of Algorithm Collusion





Difficulties in Anti-monopoly Law Enforcement





Countermeasures of Anti-monopoly Law Enforcement

Short-term

Market researches or industry researches are actively carried out to find "evidence of collusion".

Operator concentration review is used to focus on the use of algorithms to facilitate collusion in industries with low concentration.

Implicit collusion is prevented or broken through promises or relief measures.

Long-term

The redefinition of the concept of "agreement" in law should be made.



Thanks for listening

Yu Jiamu

Tel: 010-88650486

Email: yujiamu@samr.gov.cn

Mobile: 13699201029