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# Economic Analysis Methodologies Applied in Merger Investigations in the EU and China: Comparative Case Studies

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# INTRODUCTION

## 1.1 Background

A.

- Nowadays, **economic analysis** has become part of the **investigation of competition cases** in all leading jurisdictions (UNCTAD, 2009).
- For most case investigations, economic analysis is **indispensable** (Lin, 2020).

B.

- While the influence of economics on antitrust law enforcement has been acknowledged for many years, its **most dramatic impact** has been on **the analysis of concentrations of undertakings** (Silvia, 2018).
- Economic analysis **plays a core role** in effective merger reviews (OECD, 2020).

C.

- **The EU** has been building its merger control regime since **1989**. Few Commission officials had a background in economics, economics was only rarely applied in antitrust cases (Gore et al., p. XV).
- **In 2004**, the European Commission adopted the Horizontal Mergers Guidelines, and appointed its first chief economist. **Merger control** is, by far, **the most common area of economic analysis** by the European Commission (Lianos & Genakos, 2012).

D.

- **China** has had a merger control regime since the enactment of the Anti-Monopoly Law in **2008**.
- The Ministry of Commerce of the People's Republic of China ("**MOFCOM**") (August 2008-March 2018), then the State Administration for Market Regulation ("**SAMR**").
- After years of AML enforcement, Chinese competition authorities have become increasingly confident in applying high-profile, complex economic analysis in antitrust investigations, **especially for merger control enforcement** (Fung, Yu, & Ridyard, 2015).

## 1.2 Meaning & Objective

### Meaning

- Understanding **the similarities and differences** in how economic analysis is applied in merger reviews across various jurisdictions can help **legal and economic teams** work with **merging parties** to better **anticipate concerns** and **outcomes** (Tsai & Jiang, 2017).
- Most international companies' mergers are registered in both the EU and China. Understanding how the same concentration is investigated in **the EU and China** is significant for both **enterprises' development** and for the **investigation process for each antitrust authority**.

### Objective

- ❖ The **aim of this study** is to explore how **Chinese antitrust authorities** apply economic analysis methods when undertaking **merger control enforcement** and how the **EU's counterpart responds** when dealing with **the same concentrations**.



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# LITERATURE REVIEW

## 2.1 Literature Review on Economic Analysis in Chinese Merger Control Enforcement



❖ **Literature gap:** to the best of our knowledge, there is **little literature** on the economic analysis methods applied in Chinese merger review cases and there is **no literature** gives an **overview** on **how economic analysis methods** were applied in the **historical process of Chinese merger control investigations**.

## 2.2 Literature Review on Economic Analysis in the EU and Chinese Merger Investigations

### EU & China Merger Investigation

Antitrust  
authorities  
cooperate  
closely

- On 15 October 2015, the DG COMP and the MOFCOM signed the Practical Guidance for Cooperation on Reviewing Merger Cases.
- On 9 April 2019, DG COMP and SAMR signed the Terms of Reference of the EU-China Competition Policy Dialogue, in which “they established a permanent forum for consultation and transparency to increase the understanding and awareness of policy approaches as well as to promote exchange and cooperation in the area of competition policy and legislation, including the Practical Guidance for Cooperation on Reviewing Merger Cases” (para 1).

EU-China  
Competition  
Week

- The European Commissioner Ms. Sophie Moonen presented the “evidence and investigative tools in merger investigations” at the ninth EU-China Competition Week in October 2014.
- On 15 October 2018, the SAMR representative Ms. Hongxia Dong, presented the “application of economic analysis in merger reviews” at the 17th EU-China Competition Week.
- The European Commissioner Mr. Hans Zenger presented “the use of economic tools in merger analysis” at the 17th EU-China Competition Week.

Literature  
gap

- Only a few masters and doctoral dissertations have been focused on EU-China merger reviews, but some research on merger policy comparisons of the EU and China (Ye, 2010; Jiang, 2012; Li, 2014).
- Only two studies have some relationship with economic analysis in EU-China merger reviews:
  - Ma (2014) conduct two comparative merger investigation case studies in the US, EU and China;
  - Lu (2018) study the antitrust enforcement experiences of the EU and China in terms of conditionally approved merger cases and found that the MOFCOM used behavioral remedies more frequently.





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# RESEARCH QUESTIONS & METHODOLOGY & DATA COLLECTION

## 3.1 Research Questions

RQ1

What are the **economic analysis methods** employed by the **Chinese antitrust authorities** when **investigating merger cases** in the past 13 years, and **how** are they used?

RQ2

What **similarities and differences** exist between antitrust authorities **in the EU and China** in applying economic analysis methods **during merger case investigations**? It consists of **two sub-questions**:

*RQ2a*

What are the similarities and differences between the two contexts **based on a high-level comparison of 33 same merger cases**?

*RQ2b*

What are the similarities and differences between the two contexts **based on the three in-depth case studies**, and what are **the reasons** for these similarities and differences?

## 3.2 Methodology



### CASE STUDY

#### ❖ Unit of analysis

Concentrations of undertakings investigated by China and the EU

#### ❖ Type of case study

Multiple case study method was employed

Comparative case study is a distinctive form (Thomas, 2015)

#### ➤ Exploring answers to RQ1

A total of 53 merger cases that were cleared subject to commitments or were forbidden

#### ➤ Exploring answers to RQ2a

33 merger cases that were subject to review by both the EU and China

#### ➤ Exploring answers to RQ2b

Three merger cases out of the 33 selected concentrations were chosen for an in-depth comparative study

### 3.3 Data Collection

RQ	Data type	Data source
RQ1	53 investigation reports regarding Chinese merger reviews that were found to be forbidden or subject to commitments	The official website of the MOFCOM (38 cases); The official website of the SAMR (13 cases); The media website (China Quality News Network, two cases reviewed by the SAMR).
RQ2a	33 merger review investigation reports from the EU and China	The official website of the DG COMP, merger case search (33 cases). The official website of the MOFCOM (24 cases), the SAMR (seven cases), The media website ( China Quality News Network, two cases reviewed by the SAMR).
RQ2b	<ul style="list-style-type: none"> <li>Review decisions regarding three merger cases from the EU and China;</li> <li>Merger control policy documents from the EU and China;</li> <li>Public literature regarding the application of economic analysis methods</li> </ul>	<p><b>Merger review decisions:</b> The official website of the DG COMP, merger case search (three cases); The official website of the MOFCOM (two cases) &amp; the official website of the SAMR (one case).</p> <p><b>Policy documents:</b></p> <ul style="list-style-type: none"> <li>EC Notice on the Definition of Relevant Markets (1997); EC Guidelines on the Assessment of Horizontal Mergers (2004); EC Guidelines on the Assessment of Non-horizontal Mergers (2008); EC Notice on the Simplified Procedure of Certain Concentrations (2013).</li> <li>China's Guidelines on the Definition of Relevant Markets (2009); China's Interim Provisions on Assessing the Impact of Concentrations of Operators on Competition (2011); China's Interim Provisions on the Review of Concentrations of Business Operators (2020).</li> </ul> <p><b>Relevant literature:</b> Lin and Zhao (2012); Shan et al. (2012); Albæk (2013); Gore et al. (2013); Guo (2013); Fung et al. (2015); Lin and Qiao (2015); Dong (2016); Wang (2018); Ju and Lin (2020).</p>



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# CASE ANALYSIS & RESULTS

## 4.1 Techniques for Case Study Analysis

There are **five analytical techniques** for case study analysis: **pattern matching, explanation building, logic models, time-series analysis, and cross-case synthesis** which apply specifically to the analysis of multiple cases (Yin, 2009).

01

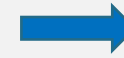
The answers to RQ1



Time-series analysis

02

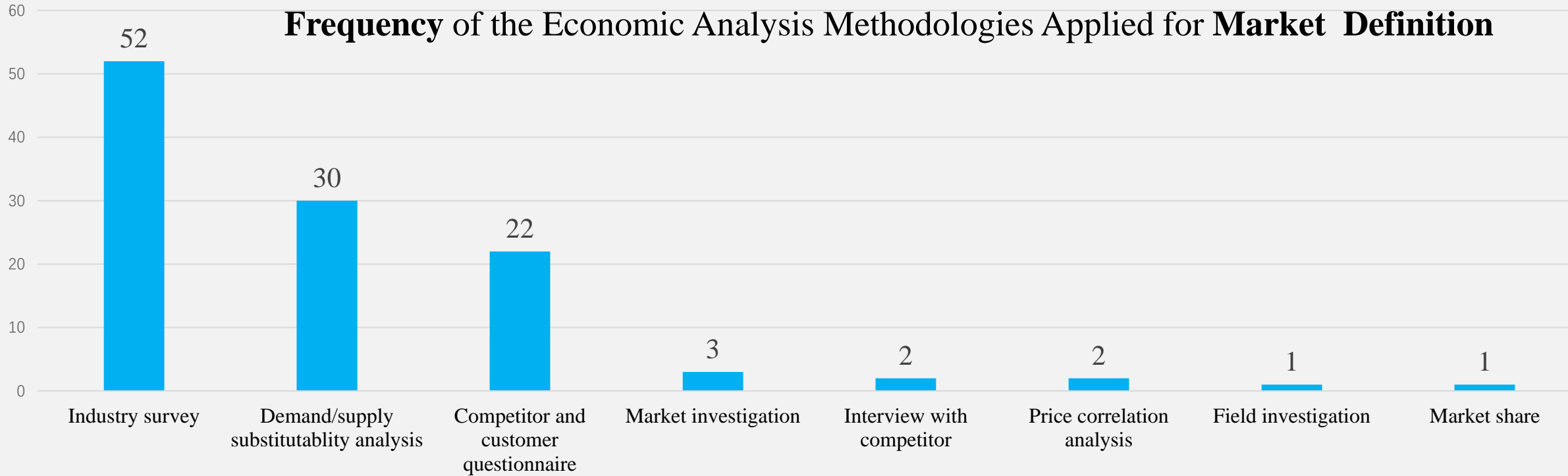
The answers to RQ2



Cross-case synthesis

**Declaration:** the analysis mainly **builds upon the public decision reports** by both Sides, and it is possible that DG COMP and MOFCOM (or “SAMR” afterward) have conducted **additional economic analysis** for merger reviews behind the scenes, but such actions **lie outside our range of analysis**.

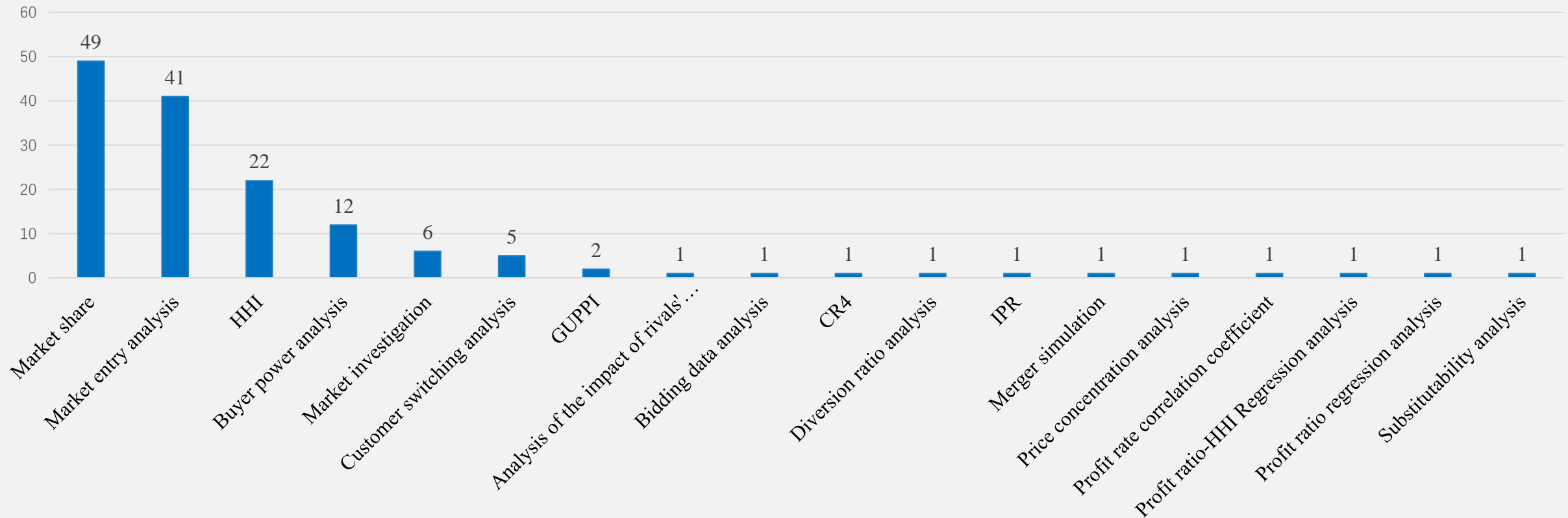
## 4.2 Results for RQ1



**Figure 1:** *Frequency of economic analysis methodologies employed by Chinese antitrust authorities for market definition in the 53 concentrations of undertakings forbidden from merging or determined to be subject to commitments.*

## 4.2 Results for RQ1

**Frequency of the Economic Analysis Methodologies Employed for Competitive Assessment**



**Figure 2:** *Frequency* of use of each of the economic analysis methodologies employed by *Chinese antitrust authorities* for *competitive assessment* in 53 mergers of undertakings that were forbidden or approved subject to commitments.



## 4.2 Results for RQ1

### General summary

- 1 Chinese antitrust authorities are **becoming more professional** and **gradually more reliant on concrete economic analysis methods** to reach their final merger review decisions.
- 2 However, for complicated cases, they **still hire independent third-party economic consulting companies to conduct economic analysis**.
- 3 In addition, **public review decisions lack transparency**. The review texts are descriptive rather than analytical reports. Only a review of the market share methodology and HHI reveals some concrete data.

## 4.3 Results for RQ2a

- For each concentration, the DG COMP and the MOFCOM as well as SAMR (afterward) employed **different economic analysis methodologies** during their investigations.
- Generally, **DG COMP** employs **more diversified** economic analysis methods than its counterpart in China.

### 1) Market definition

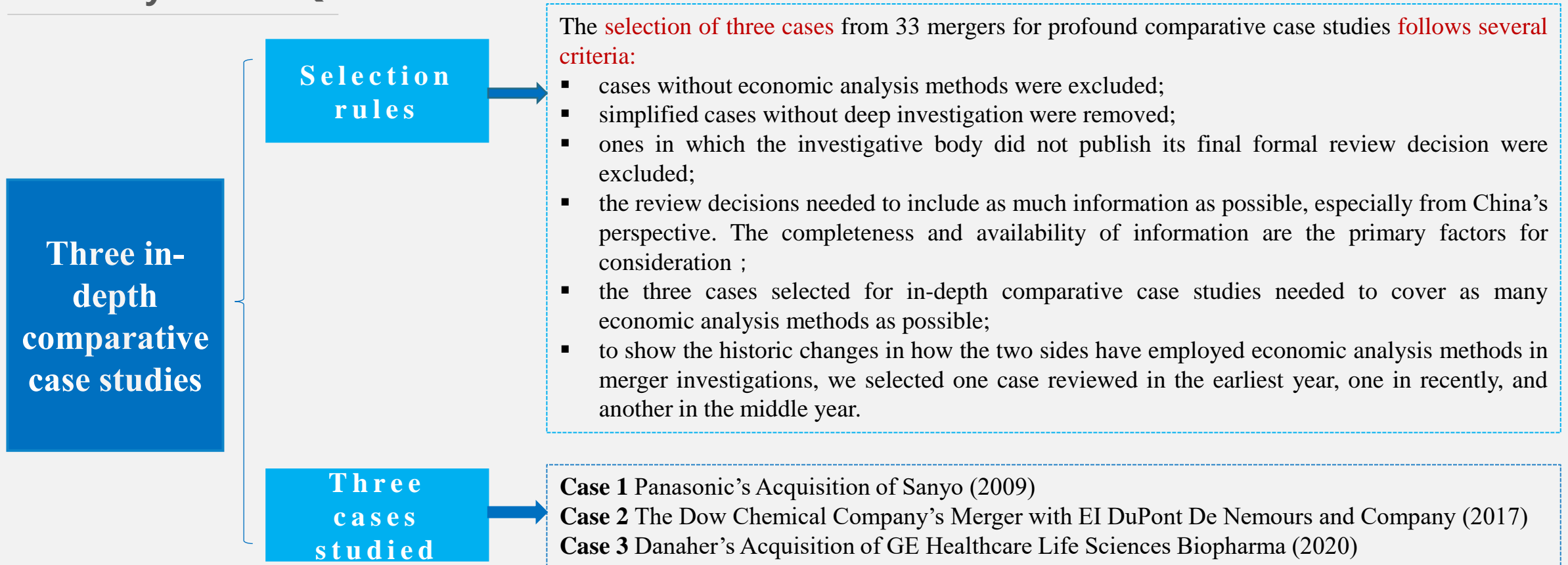
- ❖ Besides the **common methods** that both sides used, such as market investigation, industry surveys, interviews and questionnaires conducted with/given to customers and competitors, and demand and supply substitutability analysis, **the European Commission** also employs **other economic analysis methods**, such as the SSNIP test, price correlation analysis, price stationarity analysis, analysis of price levels, and critical loss analysis.
- ❖ The European Commission **not only employs qualitative** economic analysis methods, **but also quantitative economic analysis methods**, and the most popular one was the **SSNIP test**.

### 2) Competitive assessment

- ❖ In each merger review, the two sides **seldom applied the same economic methods**, However, they **generally applied relatively similar economic analysis methods**, such as ones involving the market share, HHI, market entry analysis, customer switching analysis, analysis of the impact of rivals' presence, buyer power analysis, bidding data analysis, and diversion analysis.
- ❖ For some merger cases, **both sides used additional distinct quantitative economic methods** for analysis.

*RQ2a: What are the Similarities and Differences Between the Antitrust Authorities in the EU and China in Applying Economic Analysis Methods During Merger Case Investigations **Based on a High-Level Comparison of 33 Concentration Cases?***

## 4.4 Analysis for RQ2b



**RQ2b:** What are the Similarities and Differences Between the Two Sides **Based on Three In-Depth Case Studies**, and What are the Reasons for These Similarities and Differences?

## 4.4 Results for RQ2b

Comparative case studies	Phase	EU	China
Panasonic/Sanyo (2009)	Market definition	<p><b>Same method:</b> Competitor and customer questionnaire</p> <p><b>Different method:</b> Demand and supply substitutability analysis; SSNIP test; Price correlation analysis; Price stationarity analysis</p>	<p><b>Same method:</b> Competitor and customer questionnaire</p> <p><b>Different method:</b> Industry survey; Interview with competitor; Field investigation</p>
	Competitive assessment	<p><b>Same method:</b> Market share; Market entry analysis</p> <p><b>Different method:</b> Customer switching analysis</p>	<p><b>Same method:</b> Market share; Market entry analysis</p> <p><b>Different method:</b> Buyer power analysis</p>
Dow/DuPont (2017)	Market definition	<p><b>Same method:</b> Competitor and customer questionnaire; Supply and demand substitutability analysis;</p> <p><b>Different method:</b> Market investigation; SSNIP test</p>	<p><b>Same method:</b> Customer questionnaire; Demand and supply substitutability analysis</p> <p><b>Different method:</b> Industry survey</p>
	Competitive assessment	<p><b>Same method:</b> Market share; Market entry analysis; HHI</p> <p><b>Different method:</b> Market investigation; Price index; Lerner index; Patent analysis; Buyer power analysis; Customer switching analysis</p>	<p><b>Same method:</b> Market share; Market entry analysis; HHI</p> <p><b>Different method:</b></p>
Danaher/GE Biopharma (2020)	Market definition	<p><b>Same method:</b> Customer and competitor questionnaire; Demand and supply substitutability analysis</p> <p><b>Different method:</b></p>	<p><b>Same method:</b> Competitor and customer questionnaire; Demand and supply substitutability analysis</p> <p><b>Different method:</b> Industry survey</p>
	Competitive assessment	<p><b>Same method:</b> Market share; Market entry analysis; Bidding data analysis</p> <p><b>Different method:</b> Customer switching analysis; Buyer power analysis; Analysis of the impact of rivals' presence</p>	<p><b>Same method:</b> Market share; Market entry analysis; Bidding data analysis</p> <p><b>Different method:</b> HHI; GUPPI</p>

## 4.4 Results for RQ2b

Methods	EU	China
<b>Competitor and customer questionnaire method</b> ( <i>three cases</i> )	Described <b>in great detail</b> : <i>Critical opinions of competitors and/or customers are frequently quoted in the texts of the decisions, and annotations of the specific questions are included in the footnotes</i>	Summarized <b>in a single sentence</b> : <i>“the Ministry of Commerce sent questionnaires to downstream customers to seek opinions during the investigation ” “the SAMR solicited opinions from competitors and customers ”</i>
<b>Supply and demand substitutability analysis</b> ( <i>the case of Dow and DuPont 2017 and Danaher/GE Biopharma 2020</i> )	Considered it as <b>the most crucial method for market definition</b> . It is <b>explained in detail</b> during the illustration of market definitions.	<b>Primarily</b> used this method <b>for market definition</b> . However, it is <b>difficult to identify how the method was applied</b> during market definition.
<b>Market share method</b> ( <i>three cases</i> )	Presented <b>for nearly all the relevant product markets</b> . The market shares for each of the Parties and the combined market shares are considered at both <b>the global and EEA-wide levels</b> .	<b>Mainly focused on the relevant product markets that could raise competition concerns</b> . The market shares of each Party and their combined market shares <b>in the global and Chinese markets</b> were considered.
<b>Market entry analysis</b> ( <i>three cases</i> )	This method <b>used is similar</b> , but it is used <b>in different product markets</b> .	
<b>Herfindahl-Hirschman Index (HHI)</b> ( <i>the case of Dow and DuPont 2017</i> )	Included <b>the data of all the relevant markets</b> used for patent share concentration analysis.	Only <b>include the data for product markets</b> that had <b>raised</b> or could have raised <b>competitive concerns</b> .

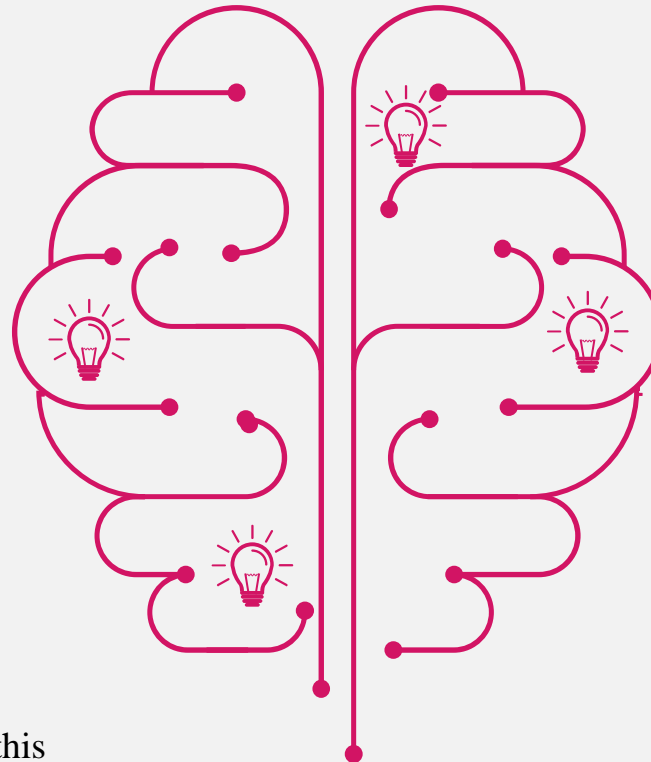
## 4.4 Results for RQ2b

### 01 Possible reasons for distinct economic analysis methods employed by the EU and China

- Different product markets for analysis
- Differing nature of geographic markets

### 02 Possible reasons for economic analysis methods used similarly in both contexts

- ◆ e.g. Market entry analysis
- ❖ Relevant merger control policies regarding this method are much similar



### 03 Possible reasons for common methods used differently in the EU and China

- e.g. the competitor and customer questionnaire methods
- e.g. the supply and demand substitutability analysis method
- Differing resources of the antitrust authorities in the EU and China
- The economic background of the enforcers is a relatively minor factor, and they still hire outside economists to conduct economic analyses in some merger cases

### 03 Possible reasons for common methods used differently in the EU and China

- e.g. market share methodology
- e.g. Herfindahl-Hirschman Index (HHI)
- Different transparency of the merger review reports



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CONCLUSION

## 5.1 Summary

01

China (53 cases)

- Have undergone **gradual acceptance**;
- **Indispensable** part of Chinese merger control reviews;
- **Increasingly diversified**, not only **qualitative** but also **quantitative** economic analysis methods;
- For **market definition**, the **most frequently used** are industry surveys, demand and supply substitutability analysis, and competitor and customer questionnaires;
- For **competitive assessment**, the **most frequently used** are market share methodology, market entry analysis, and the Herfindahl-Hirschman Index (HHI) method.

02

EU & China  
(33 cases)

- The European Commission **did not always employ the same** economic analysis methodologies as its counterparts in China;
- Generally, **DG COMP** takes a **more diversified** economic analysis approach;
- For **market definition**, the **European Commission** not only employs **qualitative** economic analysis methods but also **quantitative** economic analysis methods, **the most popular** quantitative method was **the SSNIP test**;
- For **competitive assessment**, both sides seldom applied the same economic methods in each case. However, they **generally applied relatively similar** economic analysis methods.

03

Three in-depth  
case studies

- ◆ Some of the methods were **the same**, but some were **distinct**, this distinction is possibly due to the **differing relevant products and geographic markets** in the EU and China;
- ◆ As for the **five common methods** applied in the three cases, in relation to **the competitor and customer questionnaire methods** and **supply and demand substitutability analysis** used for market definition, as well as **the market share methodology, market entry analysis, and HHI** used for competitive assessment, the application of each of the five methods was also **subject to similarities and differences**.





## 5.2 Suggestions

01

**SAMR should increase its staff's capacity, especially in terms of their knowledge of economics.**

02

**Chinese merger review decisions should demonstrate increased transparency.**



## 5.3 Limitations



1

The possibility remains that **this may not be an exhaustive list** of the economic analysis methods used in merger control reviews.

2

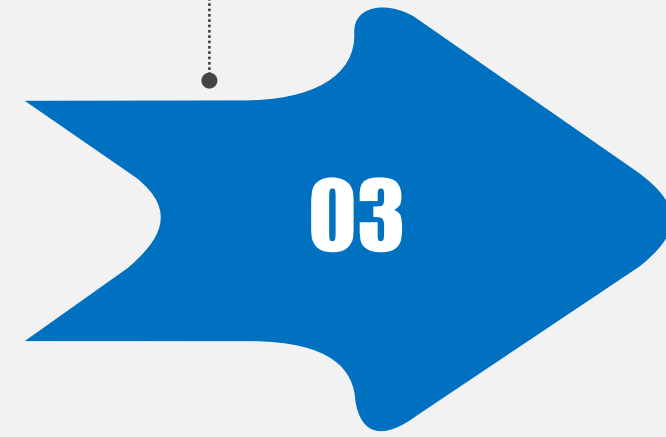
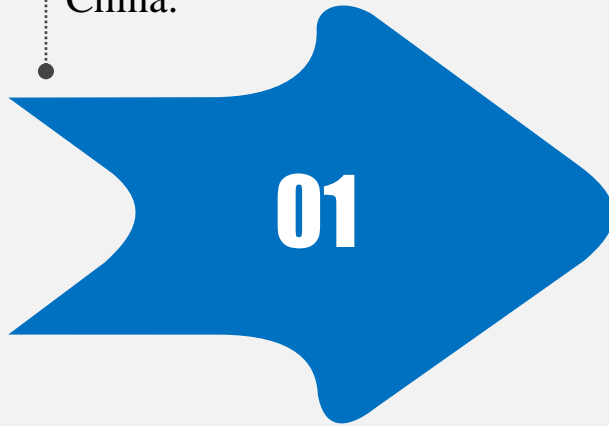
The conclusions were mainly the result of analyzing the merger review decisions from the antitrust authorities in the EU and China. The authorities may have performed **additional economic analyses** that **were not disclosed** in the texts of the review decisions.

3

The **reasons for the existence of similarities and differences** in the application of economic analysis methods by the antitrust authorities in the EU and China **may not have been discussed comprehensively**.

## 5.4 Further Research

To identify other factors influencing the similarities and differences in the application of economic analysis methods by the antitrust authorities in the EU and China.



A comparative analysis of the economic analysis methods applied in the US, the EU, and China.

A comparative analysis of other merger cases, in which different methodologies were utilized.



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**Thank you very much for your attention!**

Discussion & Questions?



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