Stanford – Vienna
Transatlantic Technology Law Forum

A joint initiative of
Stanford Law School and the University of Vienna School of Law

TTLF Working Papers

No. 143

Regulating Abuse of Dominance and Monopolization in the Metaverse: A Comparative Study of EU and US Approaches to Digital Market Power

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2025

TTLF Working Papers

Editors: Siegfried Fina, Mark Lemley, and Roland Vogl

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Suggested Citation

This TTLF Working Paper should be cited as:
Jaka Žibret, Regulating Abuse of Dominance and Monopolization in the Metaverse: A Comparative Study of EU and US Approaches to Digital Market Power, Stanford-Vienna TTLF Working Paper No. 143, http://ttlf.stanford.edu.

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Abstract

The Metaverse represents one of the most transformative technological shifts of the 21st century. More than a virtual playground, it is emerging as a vast ecosystem with the potential to reshape commerce, social interaction, and global markets. As tech giants stake their claims, concerns over market concentration, monopolistic behavior, and gatekeeping have become urgent. Addressing these challenges requires competition law to evolve beyond its traditional scope. This thesis examines how European Union (EU) and United States (US) competition law frameworks address abuse of dominance and monopolization in digital markets and, by extension, the Metaverse. The analysis begins with the foundations of competition law, moves to the regulation of digital platforms, and concludes with the unique challenges of regulating the Metaverse.

The first section outlines the Metaverse's technological foundations and identifies the small group of dominant companies shaping its development. It highlights the economic stakes and legal risks posed by a concentrated market, framing the need for strong competition regulations. The second section compares traditional EU and US competition law, focusing on market definition, market share measurement, and the identification of dominance or monopoly power. These insights form the basis for addressing more complex digital market issues. The third section focuses on digital platforms, examining practices such as self-preferencing, gatekeeping, and data-driven power. It contrasts the EU's proactive approach, especially through the Digital Markets Act (DMA), with the US's case-by-case antitrust model, identifying the strengths and weaknesses of each. This sets the stage for how both systems can adapt to effectively regulate competition in the Metaverse.

By linking past, present, and future, this study contributes to the global debate on digital market regulation, arguing that without timely and coordinated action, the Metaverse risks falling under the control of a few powerful actors, with profound consequences for innovation, consumer choice, and economic diversity.

Keywords

Metaverse, competition law, antitrust, EU law, US law, comparative analysis, abuse of dominance, monopolization, digital platforms, Digital Markets Act (DMA), Article 102 TFEU, Section 2 Sherman Act, digital market regulation, gatekeepers, regulatory frameworks, future of technology.

Acknowledgements

I dedicate this Master's Thesis first and foremost to my parents, whose unwavering love and belief in me have been my greatest source of strength. Thank you for your relentless support and for having faith in me even during moments when I doubted myself. This achievement would not have been possible without your encouragement, sacrifice, and persistence.

To my brothers, thank you for standing by me through my most challenging times and for constantly inspiring me to strive toward becoming the best version of myself. Your support and guidance have been invaluable.

Finally, I would like to express my deepest gratitude to everyone in the European and International Business Law Programme. My heartfelt thanks go to my supervisor, Dr. Anne-Kathrin Lalendran, for her patient guidance and insightful advice throughout this journey. I am also sincerely grateful to Prof. Maria Sturm and Prof. Sigfried Fina for broadening my intellectual horizons and for the extraordinary opportunities to grow, both at the University of Vienna and at Stanford Law School.

Table of Abbreviations

2D – Two Dimensional

3D – Three Dimensional

Amex – American Express

AI – Artificial Intelligence

AICOA – American Innovation and Choice Online Act

AR – Augmented Reality

AT&T – American Telephone and Telegraph

CEO – Chief Executive Officer

CJEU – Court of Justice of the European Union

DMA – Digital Markets Act

DOJ – Department of Justice

EC – European Commission

ECSC – European Coal and Steel Community

EEA – European Economic Area

EFD – Essential Facility Doctrine

EP – European Parliament

EU – European Union

FTC – Federal Trade Commission

GDPR – General Data Protection Regulation

IoT – Internet of Things

MR – Mixed Reality

NCA – National Competition Authority

OECD – Organisation for Economic Co-operation and Development

SSNIP – Small but Significant Non-transitory Increase in Price

SSNDQ – Small but Significant Non-transitory Decrease in Quality

TFEU – Treaty on the Functioning of the European Union

UK – United Kingdom

US – United States

VR – Virtual Reality

WTO – World Trade Organisation

"People use Google to the extent that 'Googling' something is now a verb. You can't say that for any other search engine. No one has ever said, 'I'm going to Bing it'."

John Oliver

Introduction

In the mid-20th century, the development of computers and the Internet brought about a significant transformation across all sectors of human society. According to Statista, approximately 67.9% of the world's population has access to the Internet, playing a fundamental role in the development of the new digital technologies and the whole economy.[1] The internet has given rise to digital platforms and markets, including giants like Facebook, Google and Amazon, serving as platforms for businesses and consumers to connect and interact. However, the newly emerging Metaverse is bringing drastic developments and expansions to the digital ecosystem. In March 2024, Embryo, an independent digital marketing agency, reported that the Metaverse had over 600 million active users worldwide, a figure that will undoubtedly rise.[2] Before delving into the topic, it is crucial to distinguish between the two different references used in the thesis, metaverse (lower case m) and Metaverse (upper case M). The thesis uses *metaverse* as a reference to a single digital environment, such as a specific platform with its own user base, which functions as just one component within the broader, interconnected digital universe known as the *Metaverse*.

[1] Ani Petrosyan, 'Number of internet and social media users worldwide as of July 2024' (*Statista*, 19 August 2024) <https://www.statista.com/statistics/617136/digital-population-worldwide/> accessed 7 October 2024.

[2] Chloe Hryziuk, 'Exploring the future: 20 Metaverse stats for 2024' (*Embryo*, 14 March 2024) <https://embryo.com/blog/metaverse-stats-2024/> accessed 26 November 2024.

The Metaverse has been gaining a lot of attention and is increasingly important to the digital landscape. Lawmakers and academics struggle to establish a universally accepted definition of this concept, partially because the term is *"used to refer to an as-yet-undeveloped future of the internet."*[3] While some metaverse platforms are already in existence, particularly in the gaming industry, most of the platforms are still under development, and it is not entirely clear what they will look like. The term often refers to a digital space where virtual and physical worlds come together to create an immersive environment, breaking down physical distance barriers through the use of augmented reality (AR), virtual reality (VR), artificial intelligence (AI) and blockchain technologies. Rather than seeing the Metaverse as a replacement for the internet, it is more accurate to view it as a massive extension of the digital environment, creating new opportunities for consumers and businesses alike. While certain aspects of digital platforms such as network effects, data procurement, and gatekeeping practices will likely transition into the newly emerging Metaverse, it will however, bring about differences, such as transition from a 2D to a 3D, real time immersive experience, as well as the introduction of new technologies, such as blockchain, which will lead to further changes in aspects of ownership and property rights (including intellectual property), and will introduce new digital goods. Statistical data indicates that digital markets are continuously expanding, and the widespread adoption of the Metaverse will likely accelerate this growth, expanding the scope and the reach of digital platforms, making it an excellent opportunity to explore it from a legal perspective.

As the Metaverse emerges as an extension of the digital economy, the law must adapt continuously to ensure clarity, fairness, and justice in addressing the new phenomena and the

[3] Clifford Chance, 'The Metaverse: What are the legal implications?' (*Clifford Chance*, 13 February 2022) <https://www.cliffordchance.com/insights/resources/blogs/talking-tech/en/articles/2022/02/the-metaverse--what-are-the-legal-implications-.html> accessed 26 November 2024.

challenges arising with it. There are differences between various legal systems in how they understand and address the issues in the digital economy, as well as in the aspects they prioritise, may it be consumer welfare or economic output. In some cases, these priorities are more closely related to private users of digital services, such as the protection of personal data or the prevention of cyber abuse. In other cases, they prioritise economic aspects, such as the protection of intellectual property rights, and the prevention of anticompetitive practices in the market. Regulation of dominant or monopolistic positions in digital markets is a relatively novel practice and is undergoing vast challenges across the world. The European Union has introduced the Digital Markets Act (DMA) with promising signs of effectiveness, however, some argue that its *"elusive objectives make it hard to know whether the law will be a success."*[4] Given that the DMA has already been put to use, this may not be the case. In the United States, however, experts argue that the insufficient antitrust regulation of digital platforms stems down to outdated legislation, limited resources for enforcement agencies, and a lack of strong deterrents within those agencies.[5] The reasons for the absence of comprehensive legislation can partly be found in the fact that digital technologies, which enable various online experiences for users, are evolving at a pace that lawmakers have not yet been able to fully keep up with.

There are countries (among them the United States, China, Singapore, Japan, Great Britain and Canada), which play a key role in the global digital market in terms of their development of

[4] Zach Meyers, 'WHAT TO EXPECT FROM THE DIGITAL MARKETS ACT' (*Centre for European Reform*, 5 March 2024) <https://www.cer.eu/insights/what-expect-digital-markets-act> accessed 26 November 2024.

[5] Bill Baer and others, 'Restoring competition in the United States' (*Washington Center for Equitable Growth*, 19 November 2020) <https://equitablegrowth.org/research-paper/restoring-competition-in-the-united-states/?longform=true> accessed 26 November 2024.

digital technologies.[6] The EU generally, is seen as less innovative in the development of digital technologies. Nobel Prize winner Jean Tirole warned that *"the EU is losing the race for innovation"*, which can be attributed to low research and development expenditure in growth sectors, including the digital economy.[7] Another factor involved is that the EU is *"more concerned with regulating and restraining [new technologies], motivated by a bureaucratic focus on consumer protection and perceived fairness."*[8] This concern is highly relevant to the debate on the appropriate level of competition regulation, as excessive regulation may stifle innovation and hinder technological progress, while insufficient regulation risks enabling market dominance and the rise of monopolies.

The European Union, while not recognised as a key developer of digital technologies, receives more recognition for its leading efforts in regulating the digital market, including its adoption of the DMA and the General Data Protection Regulation (GDPR), with the latter being considered a massive success for data protection. Although the DMA's effectiveness is often questioned, it highlights the EU's proactive approach to regulating competition in digital markets. Furthermore, in July 2023, the European Commission issued a Communication detailing its efforts to encourage the responsible growth and management of virtual worlds and the Metaverse ecosystem.[9] In doing so, it has illustrated efforts to tackle the potential legal issues that will inevitably arise with the development of virtual worlds and the Metaverse.

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[6] Bhaskar Chakravorti and Ravi Shankar Chaturvedi, 'Ranking 42 Countries by Ease of Doing Digital Business' (*Harvard Business Review*, 5 September 2019) <https://hbr.org/2019/09/ranking-42-countries-by-ease-of-doing-digital-business> accessed 7 October 2024.

[7] European Commission, 'Why Europe is losing the race for innovation' (*European Commission Newsroom*, 10 April 2024) <https://ec.europa.eu/newsroom/eismea/items/826237/en> accessed 24 January 2025.

[8] Henrique Schneider, 'Europe's innovation problem: Trying to regulate the future' (*GIS Reports*, 2 December 2024) <https://www.gisreportsonline.com/r/innovation-regulation/> accessed 24 January 2025.

[9] Commission, 'An EU initiative on Web 4.0 and virtual worlds: a head start in the next technological transition' (Communication) COM (2023) 442 final.

Nevertheless, it is crucial to note that, as of now, neither the EU nor the US have enacted laws specifically governing competition in the Metaverse. Currently, in both legal systems, the most relevant tools for regulating competition in the Metaverse are laws designed for regulating competition in digital markets. While the Metaverse is merely an extension of these markets, existing laws and enforcement mechanisms, while applicable, could be insufficient to address the unique competition challenges that the Metaverse presents.

Thesis objectives and outline

The thesis compares EU and US competition laws and their role in regulating abuse of dominance and monopolisation within the Metaverse. Using a 'from the ground up' approach, the analysis of competition law begins with the traditional legal approaches, progresses to the regulation of competition in digital markets, before finally examining the legal systems' capacity to regulate and enforce competition laws in the Metaverse, along with potential steps that could be taken to establish more effective regulatory frameworks.

The objective of the first section is to provide an overview of the Metaverse, its technological foundation, and the role of tech giants in the development of the Metaverse. It highlights the potential economic and legal implications of a concentrated market structure in the Metaverse, while analysing how competition regulation frameworks in the EU and US can address these concerns.

The second section conducts a comparative analysis of traditional competition law frameworks in the EU and US to determine which system is more effective at tackling abuse of dominance and monopolisation in traditional markets. Through qualitative research, it evaluates key criteria such as market definition, market share quantification, and the identification of

dominance or monopoly power, elements that create the foundations for addressing competition issues even in the digital economy.

The third section begins by analysing the nature of digital and metaverse platforms, focusing on their shared features while also highlighting the Metaverse's unique characteristics. This analysis illustrates how the regulation of competition in digital platforms influences competition in the Metaverse. The section then examines competition issues regarding digital platforms, followed by the examination of regulatory approaches to digital platforms, analysing EU and US frameworks, using consistent evaluation criteria. It examines the role of traditional competition law in digital markets, analyses existing and emerging enforcement principles, and reviews relevant legislation in both legal systems. This section presents key findings on the EU and US regulatory frameworks relevant to digital platforms, highlighting their strengths and limitations in addressing abuse of dominance and monopolisation cases in digital markets, and their implications for competition in the Metaverse.

1. Metaverse

"There is no universally accepted definition for the term 'metaverse'" is a sentiment that appears often in literature concerning this virtual world.[10] Given that the concept is still in its development stage, it appears difficult to properly conceptualise the Metaverse. It is universally acknowledged however, that the concept is most commonly associated with a digital realm where virtual and physical worlds converge, creating an immersive environment that eliminates physical distance barriers through the use of technologies such as virtual reality (VR) and

[10] Hryziuk (n 2).

augmented reality (AR), connected over a wide network.[11] These technologies will enable users to seamlessly interact anytime and anywhere. The most distinctive features of the Metaverse are that it is limitless, immersive, interactive and never turns off, creating a digital world that is actively running in parallel to our physical world.[12]

1.1 Background on the Metaverse

The term Metaverse was first coined in 1992 when Neal Stephenson described an online, three-dimensional digital world which acted as an extension of people's physical lives, though much of what we think as a Metaverse was presented in the fantasy style virtual world of Vernor Vinge's True Name, first published in 1981.[13] In the context of this thesis, the Metaverse is a digital realm that replicates the physical world's geography and characteristics, offering an interconnected virtual environment where users navigate through personalised avatars.[14] An increasing number of users are considering virtual worlds as a useful means for enriching and expanding real life, and enabling technologies that facilitate social, educational and business interactions.[15] Metaverse users can engage in a wide array of interactions to exchange messages, objects and currency while communicating through a headset and microphone.[16]

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[11] ibid.

[12] Metamandrill, 'Amazon Metaverse; Amazon's Vision Entering the Metaverse' (*Metamandrill*) <https://metamandrill.com/amazon-metaverse/> accessed 7 October 2024.

[13] David Burden and Maggi Savin-Baden, *The Metaverse: A Critical Introduction*, (Chapman & Hall 2024).

[14] Ralph Schroeder, Avon Huxor and Andy Smith, "Activeworlds: geography and social interaction in virtual reality' [2001] 33(7) Futures <https://www.sciencedirect.com/science/article/pii/S0016328701000027> accessed 7 October 2024.

[15] Giulio Prisco, 'Transhumanism in the Metaverse' TransVision 2006, Helsinki <http://www.transhumanismi.org/tv06/presentations/Giulio%20Prisco%20-%20Transhumanism%20in%20the%20Metaverse.pdf> accessed 7 October 2024.

[16] Paul R. Messinger and others, 'Virtual worlds – past, present, and future: New directions in social computing' [2009] 47(3) Decision Support Systems <https://www.sciencedirect.com/science/article/pii/S016792360900061X> accessed 7 October 2024.

They can explore the virtual world by walking, running, driving vehicles or teleporting, and due to the vast possibilities, individuals and organisations across various industries are increasingly engaging in the internet for communicating, collaborating, and organising economic interactions.[17] The Metaverse is three dimensional, involving a digital world, which may contain real world or imagined environments in which users interact with each other through their avatars.[18] Here it is crucial to re-emphasise the difference between metaverse (lower case m) and Metaverse (upper case M). The former refers to *"a persistent digital synthetic environment populated by a large number of avatars who have agency and can interact, for collaboration, work, recreation, learning, relationships and/or play; and which may be accessible through a range of technologies including mixed reality VR, MR and possibly AR."*[19] The latter refers to *"an ultimate manifestation of the Metaverse concept, covering all metaversal features in a globally used and accessible system, which may be a singular metaverse, or a network of interconnected individual metaverses, i.e. a multiverse."*[20] Hereinafter, lower case metaverse refers to individual platforms that collectively make up the broader digital world, upper case Metaverse.

To facilitate the creation of the virtual world and, by extension, user interaction, the Metaverse leverages a combination of well-established technologies which are central to Metaverse infrastructure, including the aforementioned VR and AR. These technologies collectively enable users to connect to the virtual world freely, creating global, borderless user experience, transcending geographical and temporal limitations. This connectivity hinges on technologies

[17] ibid 204.

[18] Herbert B. Dixon Jr., 'The Metaverse' [2023] 62(1) The Judges' Journal 37 <https://www.americanbar.org/content/dam/aba/publications/judges_journal/vol62no1-jj2023-tech.pdf> accessed 7 October 2024.

[19] (n 13) 4.

[20] ibid 4.

such as AI, blockchain, and the internet of things (IoT) which contribute to seamless communications between users. Developing and subsequently wielding these technologies, however, requires plenty of resources. The importance of these technologies became widely recognised when major technology companies began investing in Metaverse development.

The Metaverse gained massive traction in October of 2021 when Mark Zuckerberg, the CEO of Meta (formerly known as Facebook), announced the company's rebranding to 'Meta' and its initiative to develop a metaverse platform aimed at connecting billions of people worldwide through an immersive digital experience. It is crucial to note that Meta was not the first company to conceptualise or begin developing a metaverse platform. Furthermore, it must be distinguished that 'Meta' does not mean Metaverse but refers specifically to the company formerly known as Facebook and was going to be just one of the many platforms within the digital space, which comprises multiple interoperable platforms collectively forming the broader Metaverse. Despite the company Meta later announcing that it will halt its development of its metaverse platform to instead focus on developing its AI model, many other companies such as Alphabet (Google), Amazon and Apple, among others, are actively pursuing the conception of various metaverse platforms.[21] This digital playground will encompass social interactions, economic transactions, entertainment, and a myriad of other activities. To diversify their services, *"businesses like Gucci, Coca-Cola and Clinique are exploring the possibilities of the metaverse, selling digital tokens and accessories to engage with consumers in innovative new ways."*[22]

[21]Amber Jackson, 'Top 10: Metaverse Companies" (*Technology Magazine*, October 2023) <https://technologymagazine.com/top10/top-10-metaverse-companies> accessed 20 February 2025.

[22] James Hunt, 'Decentralization in the metaverse: Who is in control?' (*The Block*, 19 October 2023) <https://www.theblock.co/learn/251476/decentralization-in-the-metaverse-who-is-in-control> accessed 24 November 2024.

According to Reuters, the market size of the metaverse platforms is projected to reach an estimated 700 million users worldwide by 2030.[23] Furthermore, a statistical analysis published on Statista by Thomas Alsop, estimated that in 2023, the global Metaverse market already stood at around $94.1 billion and is expected to rise to over $1 trillion by 2030.[24] Gartner, a technological research and consulting firm predicted that *"by 2027, 40% of large organisations worldwide will be using a combination of Web3, spatial computing and digital twins in metaverse-based projects aimed at increasing revenue."*[25] In simple terms, the Metaverse will become a key tool for businesses, providing a new platform to improve customer interaction, showcase products, and drive innovation in their services. Undoubtedly, such potential for commercial activities will attract countless companies that will compete with one another by selling goods and services to consumers in the virtual world.

Despite the numerous economic benefits that the Metaverse will create for consumers and businesses, its rapid development raises various issues that require serious attention, including competition, data privacy and criminal law, as well as broader concerns like jurisdiction.

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[23] Rakiya Moore, 'IP Rights in the Metaverse' (*Reuters: Practical Law*, August 2023) <https://www.reuters.com/practical-law-the-journal/transactional/ip-rights-metaverse-2023-08-01/> accessed 7 October 2024.

[24] Thomas Alsop, 'Metaverse market revenue worldwide from 2022 to 2032' (*Statista*, 21 May 2024) <https://www.statista.com/statistics/1295784/metaverse-market-size/#statisticContainer> accessed 7 October 2024.

[25] Gartner, 'Gartner Predicts 25% of People Will Spend At Least One Hour Per Day in the Metaverse by 2026' (*Gartner*, 7 February 2022) <https://www.gartner.com/en/newsroom/press-releases/2022-02-07-gartner-predicts-25-percent-of-people-will-spend-at-least-one-hour-per-day-in-the-metaverse-by-2026> accessed 7 October 2024.

1.2 Jurisdictional Challenges and Competition Law in the Metaverse

In functioning markets, regulated competition is essential. However, the current reality of the Metaverse is one of fragmented oversight and absence of direct regulation. Fortunately, much like the legal frameworks, the Metaverse is still in its developmental stages, so while the issues are not immediate, they still require attention. Legislative branches and competition law enforcement agencies need to ensure that their existing digital platform regulations, as well as any future legislation, effectively support the functioning of the virtual world.

The first challenge lies in determining which entity (or entities) will regulate conduct within the Metaverse. Questions surrounding applicable jurisdictions have opened the door to various possibilities. Options include creating a single international (trans-governmental) body to oversee all Metaverse activities, adopting platform self-governance, implementing decentralised governance, or leaving regulation to individual nations and their legal systems.

Creating an international entity through treaties, similar to the World Trade Organisation (WTO) or the Organisation for Economic Co-operation and Development (OECD), could provide a uniform framework for multiple countries. Such organisations have their merits as they standardise practices globally but often face bureaucratic inefficiencies and conflicting national interests. It is entirely possible, that international entities will emerge in order to standardise certain practices across the Metaverse, and bridge gaps between regulatory variations across different jurisdictions.

Platform self-governance could be a useful method of regulating conduct on platforms and could ensure better conditions for both consumers and businesses. The benefit is that *"rulemaking, monitoring, enforcement and remediation process can also be faster using self-*

regulation rather than government regulation."[26] Regulatory efficiency is crucial for enhancing welfare but is far from, sufficient. Sole reliance on platform self-governance is limited, as *"independent (and arguably opportunistic) choices by large and powerful companies cannot replace the safeguards of legal frameworks"* even when companies argue that their motives are ethical.[27] Some argue that self-regulation is as good as *"putting the fox in charge of the hen house."*[28] Therefore, while self-regulation can enhance welfare, it still requires regulatory oversight by authorities and should not serve as the sole mechanism for regulating conduct in the Metaverse.

Another option is a decentralised version of the Metaverse, where the environment is shaped by its users rather than controlled by a single entity. Such governance involves cryptocurrencies and blockchain technologies. Given that *"cryptocurrencies are the lifeblood of the metaverse economies"*, and that transactions are protected using blockchain technology, the Metaverse could evolve into a decentralised economy.[29] While decentralised governance may provide users with greater decision-making freedom, the complexity of these technologies remains a barrier to entry for many users.[30] Therefore, this concept is unlikely to gain traction until these technologies are widely understood by most users.

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[26] Daniel Castro, 'Benefits and Limitations of Industry Self-Regulation for Online Behavioral Advertising' (*The Information Technology & Innovation Foundation*, 13 December 2011) <https://www2.itif.org/2011-self-regulation-online-behavioral-advertising.pdf> accessed 24 November 2024.

[27] Susan Etlinger, 'The Next Wave of Platform Governance' (*Centre for International Governance Innovation*, 14 May 2021) <https://www.cigionline.org/articles/next-wave-platform-governance/> accessed 24 November 2024.

[28] Castro (n 26).

[29] Hunt (n 22).

[30] ibid.

Currently, no laws specifically regulate the Metaverse. However, existing regulations governing digital platforms remain the applicable legal frameworks, with enforcement carried out by authorities such as the European Commission in the EU and the Federal Trade Commission (FTC) in the US. Most probably, as the Metaverse becomes larger and more widely used, governance will continue to be one of geographic division, where regulation is handled by individual countries and their legal systems. In the early days of the internet, it was envisioned as a borderless space connecting users worldwide, much like how the Metaverse is expected to break barriers and unify users. However, as the internet evolved, countries adopted diverse approaches to governance. Having already noted that the Metaverse will act as merely an extension of the internet and digital platforms, this work rests on the prediction that over extended periods, the Metaverse will continue to face varied regulatory frameworks depending on the jurisdiction in which users operate physically. There is no doubt that regulatory oversight is a necessary step toward establishing a fair and competitive digital environment.

It is yet to be seen how the competition law will be governed in the Metaverse, however emphasising competition is essential for creating a virtual environment that maximises consumer welfare, optimises resource allocation, and fosters innovation. Competitive markets will drive progress, and developing an effective regulatory framework for competition will prevent anticompetitive practices resulting from significant market power, that could otherwise hinder the potential value of the Metaverse for all stakeholders involved in the digital economy.

The European Union and the United States are both very active and influential in regulating competition in digital platform markets as they both have significant global influence, with extensive precedents and robust frameworks. This is not to say that other legal systems lack experience and sophistication, however, understanding how the Metaverse would be governed

by EU and US law could prove incredibly useful. Crucially, however, EU and US competition enforcers, while employing similar tools, diverge in their underlying assumptions and legal standards, resulting in different enforcement outcomes. Consequently, this thesis analyses the EU and US competition law frameworks to assess which system is better equipped to regulate competition in digital markets effectively and equitably and further exploring the foundation they provide for competition regulation in the Metaverse. As noted, the Metaverse will extend the digital market economy, however, its advanced technologies introduce added complexities, potentially requiring a more sophisticated regulatory approach than that applied to current digital markets. By examining these two influential legal frameworks, we can identify best practices and potential pitfalls, thereby informing the development of a comprehensive legal structure for the Metaverse. This section, when necessary, analyses and references specific Metaverse related events that have already been addressed in practice by either legal system, thereby supporting the research findings.

1.3 Regulatory Challenges to Dominance of Tech Giants

Realising the Metaverse's full potential necessitates seamless integration and compatibility across diverse devices and platforms. This complex undertaking demands substantial resources, primarily accessible to tech (internet) giants like Meta, Alphabet (Google), and Microsoft. Several tech companies have committed investments to the development of their own metaverse platforms. Meta has pledged €8.8 billion annually towards developing its metaverse platform, while Microsoft acquired Activision Blizzard, a leading online gaming company, for €61.6 billion, with the rationale that gaming will be a key driver in Metaverse's evolution.[31] Furthermore, Qualcomm established a €88 million Metaverse fund for further

[31] Tambiama Madiega, Polona Car and Maria Niestadt, 'Metaverse: Opportunities, risks and policy implications' (*Think Tank: European Parliament*, 24 June 2022)

development of VR and AR technologies.[32] While resource allocation is essential for the development of the Metaverse, these investments are predominantly made by companies that have already established significant influence in the physical world. Many of these companies have been scrutinised by competition authorities globally, and their substantial investments in their own metaverse platforms create a dangerous setting for competition within this emerging digital space, as they raise entry barriers for other competitors, especially smaller companies.

These companies are actively developing their own metaverse platforms and expanding their influence and market power through numerous mergers and acquisitions, and other anticompetitive practices. While mergers and acquisitions are not inherently anticompetitive, the economies of scale and immense resources of these companies ultimately hinder new entrants from accessing these markets. This concentrated development raises significant competition law concerns, as it positions these tech giants to further dominate the Metaverse landscape. Both in the EU and the US, alarm bells are ringing. In its Metaverse report, the US Congress warned that a few companies could exploit network effects to consolidate control over key Metaverse platforms.[33] The virtual world presents big tech companies with opportunities to expand their market power and extend their dominance beyond their 2D platforms.[34] Similarly, the European Parliament (EP) has expressed concerns, going further to identify three specific competition issues arising from the concentrated development of metaverse platforms by tech giants. In its briefing on the Metaverse, its opportunities, risks and

<https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf> accessed 7 October 2024.

[32] ibid 3.

[33] Ling Zhu, 'The Metaverse: Concepts and Issues for Congress' (*Congressional Research Service*, 26 August 2022) <https://crsreports.congress.gov/product/pdf/R/R47224> accessed 7 October 2024.

[34] Cecilia D'Anastasio, 'The Metaverse Is Simply Big Tech, but Bigger' (*Wired*, 4 November 2021) <https://www.wired.com/story/big-tech-metaverse-internet-consolidation-business/> accessed 7 October 2024.

policy implications, the Parliament highlighted these challenges, emphasising the need for further regulatory oversight.

Firstly, the Parliament emphasises the issues of standardisation and interoperability, in which it argued that tech giants will likely force how technical standards and protocols are going to be defined. In doing so, these companies could shape the Metaverse standards to benefit their own business practices and ultimately limit consumer choice and the creation of competing innovations.[35] In doing so, they would arguably raise the barriers of entry for smaller companies and accumulate dominant positions in the market. The same issues were identified in the US Congress' report, The Metaverse: Concepts and Issues for Congress.[36]

Secondly, the Parliament identified the potential for killer acquisitions and merger control. Killer acquisitions would mean that large companies would acquire smaller competitors, solely to prevent their innovation and eliminate future competition. This is particularly troubling in light of the criticism directed at the European Commission for its inadequate use of merger and acquisition tools to address abuses of dominance in the high-tech industry, especially regarding the Commission's approval of Google's acquisition of Fitbit.[37]

The third issue that the Parliament warned about is that the Metaverse environment could provide certain companies with unprecedented opportunities to abuse their dominant position in digital markets. It reiterated concerns about the dominance of tech giants, cautioning that the companies currently controlling digital markets might also dominate the Metaverse. These

[35] Madiega and others (n 31) 4.

[36] Zhu (n 33).

[37] Madiega and others (n 31) 4.

firms may have incentives to continue engaging in anticompetitive practices, such as self-preferencing to favour their own products, and using dark patterns to manipulate user behaviour and decision-making through website and application interfaces.[38] Additionally, since the Metaverse will require competitors to communicate, collaborate, and ensure platform interoperability, this could present further competition challenges, such as the risk of sharing sensitive information like pricing or forming agreements between competitors, thereby increasing the threat of cartel formation.[39]

Lastly, it is important to acknowledge the significant influence that tech giants wield in shaping policy through lobbying. The tech sector spends approximately €113 million annually on lobbying efforts in Brussels, with Meta, Apple, Google, and Microsoft collectively accounting for €25.5 million of that total.[40] In the United States, lobbying expenditures by the tech industry are even more substantial, reaching over $342 million in 2023, a 40% increase from 2020.[41]

Such lobbying can lead to an imbalance of power where corporate interests overshadow the needs of the general public. This influence can result in legislation that benefits a few powerful companies while disregarding the broader public interest, leading to weaker competition

[38] Mason Marks, 'Biosupremacy; Big Data, Antitrust, and Monopolistic Power Over Human Behaviour' [2020] 55 U.C. Davis Law Review 513 <https://lawreview.law.ucdavis.edu/sites/g/files/dgvnsk15026/files/media/documents/55-1_Marks.pdf> accessed 7 October 2024.

[39] Madiega and others (n 31) 4.

[40] Corporate Europe Observatory, 'Lobbying power of Amazon, Google and Co. continues to grow' (*Corporate Europe Observatory*, 8 September 2023) <https://corporateeurope.org/en/2023/09/lobbying-power-amazon-google-and-co-continues-grow> accessed 7 October 2024.

[41] Kaela Roeder and Sameer Rao, 'Tech companies spent over $342M on lobbying while laying down stakes in DC' (*Technical.ly*, 23 May 2024) <https://technical.ly/civic-news/jll-report-lobbying-real-estate-dc-tech/> accessed 7 October 2024.

policies, fewer consumer protections, and less regulatory oversight. Ultimately, lobbying for dominant tech companies risks entrenching their market power, hindering innovation, reducing market competition, and creating barriers for new entrants. Experts argue that these firms wield excessive power, which must be curtailed and subjected to proper oversight and enforcement, as both the economy and democracy are at risk.[42]

1.4 Competition Law and Its Significance in the Metaverse

Competition law, otherwise known as antitrust law in the US, is a branch of commercial law that aims to preserve competition within markets, thereby encouraging companies to innovate and optimise their resource allocation in order to attain a competitive edge over other companies. Competition drives companies to lower costs, improve product quality, innovate, educate consumers, and engage in various other activities that enhance consumer welfare, and *"it is the process by which more efficient firms win out and the society's limited resources are allocated as efficiently as possible."*[43] This generally benefits the society, as increased and more efficient output leads to greater economic growth, but it also benefits consumers with a greater selection of goods and services, as well as lower prices, which are otherwise not guaranteed by monopolies. With very few exceptions, monopolies are detrimental to the economy and consumer welfare. Broadly put, they typically offer little incentive for innovation, limit the selection of goods and services, charge excessive prices to consumers and

[42] United States 117 Congress House Committee on the Judiciary Subcommittee on Antitrust Commercial, and Administrative Law, 'INVESTIGATION OF COMPETITION IN DIGITAL MARKETS' *House Committee on the Judiciary* 2022 2 <https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf> accessed 8 October 2024.

[43] U.S. Department of Justice, 'Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act: Chapter 1' (*Justice.gov*) <https://www.justice.gov/archives/atr/competition-and-monopoly-single-firm-conduct-under-section-2-sherman-act-chapter-1#N_27_> accessed 7 October 2024.

businesses, and amass great power that can be used to leverage policy making and legislation. Monopolies can emerge in nearly all industries, but over the past decade, monopolies have been predominantly associated with tech giants. While competition authorities worldwide have established systems to limit monopoly power and have taken robust action against anti-competitive practices, they often struggle to effectively regulate platform businesses, particularly the tech giants.

The United States and European Union are key players in regulating digital platform markets, leveraging their extensive legal frameworks and precedents. Their approaches differ in legal standards and assumptions, leading to different enforcement outcomes. Consequently, Chapters 2 and 3 examine traditional competition law frameworks and digital platform regulations in both the EU and the US to assess which regulatory system is better equipped to effectively and equitably govern competition in the Metaverse.

2. Comparative Analysis of EU Competition Law and US Antitrust Law

While the terms ‘competition law’ and ‘antitrust law’ both relate to the same area of law, ‘competition law’ is typically used in the EU, while ‘antitrust law’ is more often used in the US. This section explores the specific offence within competition law concerning companies that gain excessive market power and use that market power for anticompetitive purposes. In the EU, this is known as ‘abuse of dominant position’, while in the US, it is referred to as ‘monopolisation’. Therefore, when these terms are used throughout the thesis, they represent similar concepts but remain distinct offences, as they are derived from different laws and apply to different jurisdictions.

This section of the thesis compares the enforcement of the abuse of dominance offence in the EU and the monopolisation offences in the United States. To thoroughly understand how each legal system approaches the regulation of platforms that comprise the digital market, it is crucial to first examine the fundamental elements of competition law in both systems. Analysing the foundational aspects of competition law in the two jurisdictions allows us to understand how each one addresses competition concerns in digital markets. This understanding is important for determining which legal system has a stronger or more adaptable framework to further regulate competition in the Metaverse. As the Metaverse extends digital markets, adopting many of their features, a thorough analysis of competition law in digital markets is crucial. Additionally, comparing the two legal systems will reveal the underlying philosophies and enforcement standards, highlighting differences in how each system handles anticompetitive behaviour stemming from companies accumulating greater market power. The analysis presented in the following sections, demonstrates why one system may be more effective than the other in regulating competition in digital platforms, ultimately providing valuable insight into how competition within the Metaverse might be governed.

Despite the apparent differences between the two competition law systems, the economic rationale behind competition enforcement, particularly in merger control cases, is quite similar.[44] Nonetheless, this is a comparative study of two legal systems that adhere to different legal traditions. The EU legal system is deeply rooted in the civil (continental) law tradition, which emphasises codified statutes and written legislation as the primary sources of law. This system is designed to create clear and detailed legal codes that provide specific guidance,

[44] Mario Monti, 'Antitrust in the US and Europe: a History of convergence' (*European Commission*, 14 November 2001)
<https://ec.europa.eu/commission/presscorner/api/files/document/print/en/speech_01_540/SPEECH_01_540_EN.pdf> accessed 7 October 2024.

leaving less room for judicial interpretation and misinterpretation. EU law, as a supranational legal framework, is developed through treaties, regulations, directives, and decisions made by EU institutions, resulting in a structured and predictable legal environment. In contrast, US law is founded on the common law tradition, which is primarily used in the United States, the United Kingdom, and former British colonies. The common law system places a greater emphasis on judicial decisions and legal precedents, where laws are developed through case law, and judicial interpretation. Although the US legal system also includes extensive statutory law at both the federal and state levels, judges play a more active role in shaping legal principles, and past court rulings, particularly those from higher courts such as the Circuit Courts of Appeal and the Supreme Court, are influential for future cases. This distinction highlights the EU's focus on legislative clarity and uniformity, while the US system allows for greater flexibility and adaptability through judicial decisions. Some scholars of competition law argue that the EU should incorporate more flexibility, while others suggest that US law should adopt more comprehensive statutory frameworks. This thesis does not seek to compare the two legal traditions directly or argue the superiority of one over the other. Instead, it explores criticisms of both systems to offer a deeper understanding of the limitations within the EU and US legal frameworks.

This chapter's comparative analysis begins by providing an overview of each legal system's approach to competition law enforcement, underlying the key philosophies and legislative frameworks used to address anticompetitive conduct resulting from companies amassing greater market power. It highlights and breaks down the primary laws governing competition within each system. Furthermore, this section examines major aspects of competition law, including the perception of market power, the definition of relevant markets, and the issuance of penalties and remedies to prevent future misconduct. Analysing these factors serves as

criteria for evaluating the effectiveness of competition law enforcement of digital markets in both legal systems.

While the language and terminology used in each jurisdiction differ significantly, both legal systems aim to achieve the same overarching goal, restricting anticompetitive conduct by firms to maintain a competitive environment that enhances welfare and ensures a more efficient allocation of resources.

Despite these shared objectives, Article 102 of the Treaty on the Functioning of the European Union (TFEU) and Section 2 of the Sherman Act in the United States are composed of different elements and are applied using different standards. Nevertheless, the offences of abuse of dominant position under Article 102 and monopolisation under Section 2 target similar anticompetitive practices. These include predatory pricing, refusal to deal, exclusive distribution and licensing arrangements, tying and bundling, and self-preferencing. All of these practices can have adverse effects on competition, and it is therefore crucial to understand them before delving deeper into the comparative section of the thesis.

Predatory pricing is a practice of substantially lowering prices (below manufacturing costs) with the intent of eliminating competitors that cannot afford to sell products or services at competing prices. When competitors are eliminated, the 'predator' typically raises prices, sometimes above the original price, and enjoys greater profits.[45] This is most harmful for smaller competitors and usually results in greater market concentration for the predatory

[45] Will Kenton, 'Predatory Pricing: Definition, Example, and Why It's Used' (*Investopedia*, 16 May 2024) <https://www.investopedia.com/terms/p/predatory-pricing.asp#:~:text=Predatory%20pricing%20is%20the%20lowering,to%20recoup%20losses%20and%20survive.> accessed 6 November 2024.

company. An example of predatory pricing was Amazon selling printed and electronic books at lower prices than competing bookstores. Amazon's final book prices matched those of the bookstores it had driven out of the market.[46] A predatory pricing scenario in the Metaverse could involve a dominant firm offering virtual services, such as avatar customisation, at prices significantly lower than competitors, making it difficult for smaller platforms to attract or retain customers.

Refusal to deal is not inherently illegal or anticompetitive, as companies typically have the freedom to select their business partners. However, in exceptional cases, Article 102 TFEU and Section 2 of the Sherman Act impose a duty on dominant companies to engage with competitors and customers.[47] When a dominant company refuses to supply goods to competitors, intellectual property rights, or essential facilities, it may force other companies out of the market, further concentrating the dominant company's share. However, unlike other practices that are deemed anticompetitive, there are many justifications for refusing to deal, depending on the context. A potential example of refusal to deal in the Metaverse could involve a dominant firm controlling an essential facility that competitors require to access the market. However, that seems unlikely as this would only happen if the Metaverse were owned entirely by a single entity.[48] In such a case, the essential facility doctrine (EFD) could be applied to

[46] Pricer24,'Predatory Pricing in 2024: How It Works & Examples' (*Pricer24*, 25 March 2024) <https://pricer24.com/blog/predatory-pricing/#:~:text=t%20remain%20competitive.-,How%20Does%20Predatory%20Pricing%20Work%3F,and%20exceeding%20all%20initial%20expenses.> accessed 7 November 2024.

[47] Luis Jose Diez Canseco Núñez, Robert Venero Peralta, José Carlos Gonzales Cucho, 'REFUSAL TO DEAL' (*Concurrences*) <https://www.concurrences.com/en/dictionary/refusal-to-deal#:~:text=Author%20Definition-,Definition,case%2Dby%2Dcase%20basis.> accessed 8 November 2024.

[48] Violette Grac-Aubert, 'Metaverse series #3: Looking at metaverse(s) with antitrust (3D) glasses' (*Linklaters*, 21 July 2022) <https://techinsights.linklaters.com/post/102htcb/metaverse-series-3-looking-at-metaverses-with-antitrust-3d-glasses> accessed 8 November 2024.

prevent the dominant firm from denying competitors access to the necessary technology, likely emphasising the need to ensure interoperability.[49]

Exclusive distribution or licensing agreements occur when a company partners with selected firms, restricting others from competing. For example, a dominant firm could make agreements with certain brands to sell only their goods or grant licenses exclusively to a select few companies. While businesses have the freedom to choose their partners, such exclusive agreements by dominant firms can reduce consumer choice and increase market concentration, further strengthening the dominance of a firm.

The practices of tying and bundling include selling two (or more) separate products together and denying customers the choice of purchasing those products separately.[50] In doing so, it limits consumer choice by restricting the ability to purchase products separately, disadvantages competitors that cannot offer competitive bundled deals, thus potentially leading to higher prices for consumers and reduced incentives for innovation. A Metaverse example could include a company conditioning access to its metaverse platform by offering access only though its own VR devices.[51]

Self-preferencing takes place when dominant platform prioritises its own products or services over those of offered by third-party sellers operating on the platform. For instance, Amazon has been accused of self-preferencing by allegedly using its algorithms to promote its own

[49] ibid.

[50] International Competition Network, 'Unilateral Conduct Workbook Chapter 6: Tying and Bundling' (*International Competition Network*, April 2015) <https://www.internationalcompetitionnetwork.org/wp-content/uploads/2018/07/UCWG_UCW-Ch6.pdf> accessed 8 November 2024.

[51] Grac-Aubert (n 48).

products ahead of those offered by third-party sellers.[52] A similar scenario could arise within metaverse platforms, potentially limiting consumer choice and competition in the virtual marketplace.

All of the listed practices could be applied in the Metaverse by dominant firms to limit competition. Both Article 102 TFEU and Section 2 of the Sherman Act seek to prevent and punish anticompetitive practices. While the two provisions provide the foundation for competition law enforcement in digital markets, they are not expansive enough to fully regulate digital markets alone. Thus, both the EU and the US have made efforts to introduce legislation that would complement Article 102 TFEU and Section 2 in regulating digital markets, and by extension, the Metaverse. The following section compares these two legal provisions in greater detail and highlights their unique characteristics, and how they shape competition regulation in their respective jurisdictions.

2.1 European Union Competition Law

The origins of European Union competition law can be traced back to the 1951 Treaty on the European Coal and Steel Community (ECSC). Since then, Europe has undergone significant changes, expanding to encompass 27 Member States that now share a common competition policy rooted in the more contemporary Treaty on the Functioning of the European Union (TFEU), which was signed during the Treaty of Lisbon in 2007. Articles 101 to 109 of the TFEU form the foundation of the EU's competition policy. Articles that form EU competition law are enforced primarily by the Directorate General for Competition of the European Commission (EC), which has the authority to investigate cases of companies' abuse of

[52] Chiara Farronato, 'Self-Preferencing at Amazon: Evidence from Search Rankings' [2023] 113 AEA Papers and Proceedings 2 <https://www.hbs.edu/faculty/Pages/item.aspx?num=64221> accessed 21 January 2025.

dominance and imposes penalties for violations of the Article. Additionally, national competition authorities (NCAs) of the EU Member States also take part in the enforcement of EU competition laws. However, NCAs are limited to investigating competition issues within their respective jurisdictions and operate under the supervision of the Commission.

This thesis primarily discusses the EC's approach to preventing and punishing violations of Article 102, which prohibits abusive conduct by companies holding a dominant position in a particular market.[53] Article 102 generally states, *"any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States."*[54] Therefore, this Article acts as the foundation of abuse of dominance cases in the European Union, and is directly applicable to the cases and presumptions of abuse of dominance by tech giants which occupy a vast space within the world of online platforms. It is important to note however, that Article 102 of the TFEU does not explicitly prohibit a company from holding a dominant position, it merely prohibits the abuse of a dominant position.

2.1.1 Article 102 TFEU Analysis

There are five fundamental elements for establishing the abuse of a dominant position under Article 102, and they provide that; 1) there must be an 'undertaking' single or collective, 2) a dominant position, 3) held in internal or common market, 4) abuse and 5) effect on interstate

[53] European Commission, 'Procedures in Article 102 Investigations' (*European Commission*) <https://competition-policy.ec.europa.eu/antitrust-and-cartels/procedures/article-102-investigations_en> accessed 7 October 2024.

[54] Consolidated Version of the Treaty on the Functioning of the European Union [2012] OJ C326/47, Art. 102.

trade.[55] Each one of those elements is necessary for courts to establish a company's abuse of dominance, however, this section only require breaking down the first two elements to create a better background for the discussion regarding market power and market definition.

1) Undertaking

The first element of the abuse of dominance offence is that there must be an undertaking. The EU has not explicitly defined an undertaking, however the term derives from the Court of Justice of the European Union (CJEU) case law, which states that *"the concept of an undertaking encompasses every entity engaged in an economic activity regardless of the legal status of the entity and the way in which it is financed."*[56] It is important to note that a legal entity may be acting as an undertaking when it carries on one activity, but not when it carries out another one.[57] This element is crucial because if an entity is not an undertaking, Article 102 is inapplicable.[58]

2) A Dominant Position

Based on the EU Guidelines, establishing that a company holds a dominant position, including the degree of its market power, is the first step in the application of Article 102.[59] Dominance has never been explicitly defined by EU law either, the definition instead originates from CJEU case law.[60] The term was first defined in the case of *United Brands* [61] and subsequently affirmed

[55] Vijay Kumar Singh, 'Abuse of Dominant position in US and EU' (*INFLIBNET Centre*) <https://ebooks.inflibnet.ac.in/lawp05/chapter/abuse-of-dominant-position-in-us-and-eu/ > accessed 8 October 2024.

[56] Case C-41/90 *Höfner and Elser v Macrotron GmbH* [1991] ECR I-1979.

[57] Singh (n 55).

[58] ibid.

[59] ibid.

[60] ibid.

[61] Case 27/26 *United Brands v Commission* [1978] ECR 207.

by *Hoffmann-La Roche*.[62] In the case of *United Brands*, the Court found that dominance is a situation in which an undertaking can act, to an appreciable extent, independently of its competitors, customers, and eventually its consumers. In *Hoffmann-La Roche*, the CJEU further held that a dominant position is the ability of a company to act independently of its competitors, customers, and consumers to the extent that it hinders effective competition. The degree of market power at which a company is viewed as holding a dominant position is contentious and widely debated. This issue is argued in greater detail in the later section.

The elements of Article 102 enforcement are only the starting point of competition law enforcement in abuse of dominance cases. The European Commission and the Courts also rely heavily on defining the relevant market in which the presumed abuse of dominance takes place. Determining the relevant market then acts as guidance for establishing market power, which ultimately serves to determine whether a company abuses its dominant position. However, this methodology to determining anticompetitive conduct is not exclusive to the European Union and is applied similarly in the context of Section 2 of the Sherman Act in the United States. Nevertheless, different standards are considered and applied.

2.2 United States Antitrust Law

United States antitrust law finds it origins in the Sherman Act 1890, which was the first measure by the U.S Congress to prohibit trusts, monopolies and cartels in an attempt to protect competition in different markets. The context for adopting the Sherman Act was the growing resentment for large corporations like Standard Oil, whose monumental share of about 90%[63]

[62] Case 85/76 *Hoffmann-La-Roche & Co. AG v Commission* [1979] ECR 461.

[63] The Editors of Encyclopaedia Britannica, 'Standard Oil' (*Britannica*, updated 21 February 2025) <https://www.britannica.com/money/Standard-Oil> accessed 22 February 2025.

in the country's oil market was attributed to the company's aggressive and anticompetitive business practices.[64] The Sherman Act later paved the way for the adoption of further legislation addressing antitrust law, such as the Clayton Act of 1914 which acts as the extension to the shortcomings of the Sherman Act, and the Federal Trade Commission Act of 1914, empowering the FTC to tackle unfair methods of competition, and unfair or deceptive acts or practices affecting commerce.[65] The FTC and the U.S Department of Justice (DOJ) Antitrust Division are authorised to enforce federal laws, and while their authorities sometimes overlap, they generally work to complement each other's efforts.[66] To address concerns of monopolisation, the DOJ can bring Section 2 claims on behalf of the United States Government and is authorised to seek injunctions to stop monopolistic practices and treble damages for the harm to the United States.[67] The FTC operates under the Federal Commission Act, which allows it to bring administrative proceedings to challenge unfair and deceptive practices. Furthermore, all Sherman Act violations are also violations of the FTC Act, meaning that the FTC is authorised with enforcing civil provisions of the Sherman Act.[68]

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[64] Will Kenton, 'Sherman Antitrust Act: Definition, History, and What It Does' (*Investopedia*, updated 21 April 2024) <https://www.investopedia.com/terms/s/sherman-antiturst-act.asp#:~:text=The%20Sherman%20Antitrust%20Act%20refers,prices%20in%20a%20particular%20market.> accessed 9 October 2024.

[65] Federal Trade Commission, 'What the FTC Does' (*Federal Trade Commission*) <https://www.ftc.gov/news-events/media-resources/what-ftc-does> accessed 9 October 2024.

[66] Federal Trade Commission, 'The Enforcers' (*Federal Trade Commission*) <https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/enforcers> accessed 9 October 2024.

[67] American Economic Liberties Project, 'What You Need to Know About Section 2 of the Sherman Act' (*American Economic Liberties Project*, 8 October 2020) <https://www.economicliberties.us/our-work/section2-explainer/#> accessed 9 October 2024.

[68] Federal Trade Commission, 'The Antitrust Laws' (Federal Trade Commission) <https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/antitrust-laws> accessed 9 October 2024.

For the purposes of this thesis, Section 2 of the Sherman Act is most relevant, as it directly addresses the issue of monopolisation and attempts to monopolise and has acted as the foundation for approaching cases involving dominant firms acting to supress competition in the United States. It is important to distinguish that while the term 'monopolisation' is used in the United States, the European Union refers to the same concept as 'abuse of a dominant position'. Broadly put, Section 2 of the Sherman Act lists three offences, making it unlawful for any person to monopolise, attempt to monopolise or conspire to monopolise any part of interstate trade or commerce.[69] Similarly to the Article 102 in the EU, Section 2 does not explicitly prohibit monopolies or the mere accumulation of monopoly power, it is only unlawful when accompanied by an element of anticompetitive conduct.[70] This is important to the US competition philosophy and has been suggested by various cases and academics. It is necessary to highlight that the evolution of US antitrust jurisprudence has shifted over time from Harvard School to Chicago School, transitioning from a more interventionalist approach that prioritises small and medium enterprises, to a less interventionalist, economics driven approach focusing on market openness and economic efficiency.[71] The shift to the Chicago School of thought occurred during the 1960s and 1970s, promoting the belief that markets are capable of self-correction, and advocating for a laissez-faire approach to the economy, rejecting government intervention, which was seen as a source of market inefficiency.[72] Unlike the Harvard School, Chicago does not view dominant firms as inherently harmful, arguing that

[69] 15 U.S.C. §2 (2000).

[70] *Verizon Communications, Inc. v Law Offices of Curtis V. Trinko, LLP* 540 US 398, (2003).

[71] Singh (n 55).

[72] Jay L. Levine and Porter Wright, '1990s to the present: The Chicago School and antitrust enforcement' (*Antitrust Law Source*, 1 June 2021) <https://www.antitrustlawsource.com/2021/06/1990s-to-the-present-the-chicago-school-and-antitrust-enforcement/#:~:text=In%20the%201990s%2C%20antitrust%20policy,and%20realism%20into%20the%20approach.> accessed January 25.

such firms might achieve dominance due to greater efficiency, and as long as some degree of competition exits, consumers would benefit from both efficient markets and competitive products.[73]

2.2.1 Section 2 Sherman Act Analysis

Despite Section 2 listing three offences, this discussion will only be focusing on what the offences of monopolisation and attempted monopolisation entail. The case of *United States v. Grinell Corp. (1966)*, held that the long-standing requirement for monopolisation is *"1) the possession of monopoly power in the relevant market, and 2) the wilful acquisition or maintenance of that power as distinguished from growth or development as a consequence of superior product, business acumen, or historic accident."*[74] This case still holds precedent which is important, because no part of the court's observation suggests that monopoly in itself is unlawful, it means only that attaining monopoly power through anticompetitive means is unlawful. Furthermore, in *Standard Oil*, the Supreme Court held that Section 2 does not include *"any direct prohibition against monopoly in the concrete"*, stating further that mere *"size, aggregated capital, power and volume of business are not monopolising in a legal sense."*[75] The DOJ has also clarified that Section 2 does not eliminate monopolise themselves or prohibit firms from exercising monopoly power gained through legitimate success.[76] In *Verizon*, the Supreme Court held that the prospect of monopoly profits incentivises business acumen,

[73] ibid.

[74] *United States v Grinell Corp* 384 US 563, (1966).

[75] *Standard Oil Co of New Jersey v United States,* 221 U.S. 1 (1911).

[76] U.S. Department of Justice, 'Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act: Chapter 1' (*Justice.gov*) <https://www.justice.gov/archives/atr/competition-and-monopoly-single-firm-conduct-under-section-2-sherman-act-chapter-1#N_27_> accessed 7 October 2024.

encourages risk taking, and drives innovation and economic growth.[77] All of this case law ties directly to the US competition philosophy, in which encouraging companies to grow is integral, as it ultimately leads to greater economic output.

The second offence that is relevant to this discussion is one of attempted monopolisation, which requires meeting three criteria for its enforcement. To prove attempted monopolisation, it must be shown that the defendant engaged in 1) predatory or anticompetitive conduct with 2) specific intent to monopolise and 3) a dangerous probability of achieving monopoly power.[78] The element of intent, requiring clear evidence, either direct or inferred from circumstances, of an intention to eliminate competition or establish a monopoly.[79] Courts are more likely to uphold this offence when a company also enjoys a relatively high market share.[80]

Both of the monopolisation and the attempted monopolisation offences place emphasis on market power and monopoly power. While market power is not in itself unlawful, monopoly power is deemed as anticompetitive. The degree at which market power entails monopoly power is one that relies on judicial interpretation.[81] However, distinguishing competitive and anticompetitive conduct is often difficult. *"Aggressive, competitive conduct by any firm, even one with market power, is beneficial to consumers. Courts should prize and encourage it. Aggressive, exclusionary conduct is deleterious to consumers, and courts should condemn it. The big problem lies in this: competitive and exclusionary conduct look alike."*[82] Determining

[77] *Verizon Communications, Inc. v Law Offices of Curtis V. Trinko, LLP,* 540 U.S. 398 (2003).

[78] Singh (n 55).

[79] ibid.

[80] ibid.

[81] ibid.

[82] Frank H. Easterbrook, 'When Is It Worthwhile to Use Courts to Search for Exclusionary Conduct?' [2003] Columbia Business Law Review 345

market power necessitates first defining the relevant market and then calculating the company's share in that market.[83] Both the US and the EU apply distinct methodologies for determining the relevant market. This is central to the following discussion.

2.3 Market Definition

In both the EU and the US, market definition is a key tool for assessing whether a company holds excessive market power and uses that power to engage in anticompetitive practices. *"You can't measure market share without having a market in which to have that share."*[84] Furthermore, it is widely accepted that *"the first step in virtually any antitrust case is the definition of the market in which the competitive harm is alleged."*[85] Typically, both legal systems consider market definition as the initial step in understanding a company's share in a market, ultimately enabling the enforcing competition laws. There are many similarities between the EU and the US in how they approach market definition, as both emphasise the analysis of the relevant product and geographic markets. In analysing the relevant product market, both legal systems commonly employ the small but significant non-transitory increase in price (SSNIP) test to determine product interchangeability by determining the product's cross elasticity of demand. This concept is explored in greater detail later in the chapter. While the approaches to market definition appear similar in the two legal systems, their methodologies differ. Both the EU and the US draw inspiration for market definition from an

<https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2159&context=journal_articles> accessed 9 October 2024.

[83] Mark A. Lemley and Mark P. McKenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' [2012] Stanford Law and Economics Olin Working Paper No. 424 2077 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2038039#paper-citations-widget> accessed 9 October 2024.

[84] ibid.

[85] ibid.

abundance of case law in their respective jurisdictions, however, the European Commission has taken greater steps in formulating a comprehensive methodology for addressing the issue. However, despite the European Commission providing guidelines for defining relevant markets, both the Commission and the Courts still face many challenges due to the dynamic nature of certain markets. This is similarly problematic in the United States, however, unlike the European Commission, the US Congress has offered comparatively fewer guidelines in regard to defining the relevant market. This disparity can arguably be attributed to the differing legal traditions of the two systems, with the EU adhering more to the civil law tradition while the US adheres to the common law tradition. Nevertheless, the comparison of market definition approaches in both legal systems serves as important background for how the two legal systems ultimately address abuses of dominance and monopolisation offences in online platforms.

2.3.1 Market Definition in the European Union

The EU's approach to market definition is very methodical, thus the current analysis of market definition in the EU relies heavily on the 2024 Market Definition Notice which is the latest Communication addressing the market definition procedure in EU competition law. The Notice is a non-binding legal act issued by the European Commission and, although it is considered soft law in the form of a Communication, it has been cited by the CJEU and is effectively binding on the Commission's practices due to the principles of legitimate expectations and good administration.[86] Given that the contents of the Notice are used in standard practice, its analysis provides crucial insight for this section.

[86] Niccolò Galli and Pier Luigi Parcu, 'Market Definition and Multi-Sided Markets: A Premier on the 2024 EU Market Definition Notice' [2024] Robert Schuman Centre for Advanced Studies Research Paper No. 2024/31 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4906401#> accessed 9 October 2024.

The Commission employs market definition to evaluate relative competitive strength of companies and assess the degree of market power that an undertaking holds as part of a broader competitive analysis. Market definition is used to define the boundaries of competition between companies and is necessary when assessing mergers and most antitrust cases.[87] Nevertheless, market definition is not mandatory in every EU competition law assessment.[88] In its evaluations, the Commission considers all relevant constraints affecting the companies in the relevant product and geographic markets, such as barriers to entry or expansion, economies of scale, network effects, access to specific assets and inputs, and product interchangeability. Defining the relevant product and geographic market assists with identifying the actual and potential competitors that influence companies' decisions and supply conditions.[89] *"It is from this perspective that market definition makes it possible, among other things, to calculate market shares that may convey meaningful information for the purposes of assessing market power."*[90] Recognising the importance of having up-to-date market definition, the Commission regularly updates its guidelines and practices to reflect evolving market dynamics and legal developments.

The latest Notice identifies three reasons for using market definition in Union competition enforcement. It guides and enforces of 1) antitrust rules under Articles 101 and 102 of the TFEU, 2) merger control, and 3) the enforcement of equivalent provisions set out in the

[87] European Commission, 'Commission adopts revised Market Definition Notice for competition cases' (*European Commission*, 8 February 2024) <https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6001> accessed 9 October 2024.

[88] Commission Notice on the definition of the relevant market for the purposes of Union competition law [2024] OJ C/1645 4.

[89] European Commission (n 87).

[90] ibid.

European Economic Area (EEA) Agreement.[91] *"By publishing the methodology that it follows, and by identifying the main criteria and evidence on which it relies when defining relevant markets, the Commission aims to increase the transparency and decision making when applying Union competition law"*, and in doing so, further aims to make competition assessments more efficient.[92] Institutional efficiency is crucial for ensuring that competition law is applied as widely as possible, ensuring that the Commission's main objectives of encouraging innovation and maximising consumer welfare, are realised.

As mentioned earlier, the relevant market requires both a relevant product market and a relevant geographic market.[93] The Commission's competition analysis generally includes both product and geographic factors, in line CJEU and the General Court's case law.[94] Both the product and geographic considerations follow a methodology found in the Commission's Notice.

Determining the Relevant Product Market in the EU

To define the relevant product market, the Commission evaluates both demand-side and supply-side substitutability of products. Using this analysis allows for identifying products and undertakings that are present within a market.[95]

Demand Side Substitution

Demand-side substitution focuses on how easily consumers can switch from one product to another. High demand substitution (high cross-elasticity of demand) indicates that consumers

[91] Notice (n 88) 3.

[92] ibid.

[93] Singh (n 55).

[94] Notice (n88) 6.

[95] ibid.

can readily find alternatives. Factors considered in this assessment include customer preferences for product characteristics, prices, functionalities, intended use, and switching barriers. The key question is to what extent customers would switch to a different product if the current product's price increased or if the quality deteriorated relative to alternatives. This often involves analysing consumer reactions to price increases and the perceived quality of the product.

The small but significant non-transitory increase in price (SSNIP) test is a primary tool for assessing consumer reactions to price changes. The SSNIP test typically evaluates whether a price increase of 5-10% would lead consumers to switch to alternative products.[96] If the reaction is substantial, defining the relevant product market is relatively straightforward. However, when products compete on factors other than price, applying the SSNIP test is challenging, especially for zero-price products offered by online platforms. While the Commission may rely on the SSNIP test, it is not required to apply it in all cases.[97]

Supply side substitution

Supply-side substitution plays a key role in defining the relevant product market when suppliers use the same assets and processes to produce related products that, while not interchangeable for consumers, can be quickly and easily shifted between.[98] This applies when suppliers can switch production between related products with minimal costs or risks, allowing them to offer different products in the short term. A high degree of supply-side substitution

[96] ibid 12.

[97] ibid 13.

[98] ibid 13.

indicates that products are closely linked and should be considered part of the same product market.

Determining the Geographic Market in the EU

The Notice outlines that typically the first step in defining the relevant geographic market is determining where the conduct or concentration in question is likely to have an impact.[99] This involves pinpointing the locations of the involved undertakings and their customers. The Commission then evaluates whether the competitive conditions in the identified market are homogeneous enough to generate the effects of the conduct or concentration.[100] It then determines if the market can be distinguished from others based on noticeably different competitive conditions.[101]

The assessment considers evidence such as the presence of the same or different suppliers across regions, fluctuations in market shares and prices, variations in consumer preferences and purchasing behaviour, barriers and costs of serving consumers in other areas, distance related factors, supply availability and reliability, and trade flows and shipping patterns.[102]

In conclusion, market definition in the EU, as outlined in the latest Communication, is a critical component of antitrust enforcement that encompasses both product and geographic dimensions. The European Commission employs a detailed and methodical approach to delineate relevant markets, focusing on factors such as demand-side and supply-side substitutability, and geographic competitive conditions. This approach aids in assessing market

[99] ibid 15.

[100] ibid 6.

[101] ibid 6.

[102] ibid 15.

power and ensuring that competition rules are applied effectively to promote consumer welfare and innovation. The Commission's emphasis on up-to-date guidelines and transparent methodologies enhances institutional efficiency and decision-making. However, as market dynamics evolve, especially with the rise of digital platforms, the continued refinement of these practices will be crucial to address emerging challenges and maintain effective competition oversight. Nevertheless, that does not seem to be a great concern given the frequent updates to the Commission's Notices.

2.3.2 Market Definition in the United States

Just like in the European Union, the first step in antitrust cases is the defining the market in which anticompetitive conduct took place.[103] This is the general pattern in mergers and monopolisation cases, which normally require a degree of market share as grounds for identifying anticompetitive conduct. Determining a company's market share first requires determining the relevant market in which the company is operating as *"anticompetitive conduct does not occur in a vacuum, there must be a market involved."*[104] The process of market definition brings discipline and structure to the monopoly power inquiry, helping minimise the risk and costs of error.[105]

Thus, market definition plays a significant role in Section 2 cases in the United States, a view that has been regularly confirmed by case law from the Supreme Court and Circuit Courts of Appeal. *"Without a definition of that market there is no way to measure [a defendant's] ability*

[103] Lemley, McKenna (n 83) 2077.

[104] ibid.

[105] 'Competition And Monopoly: Single-Firm Conduct Under Section 2 Of The Sherman Act: Chapter 2' (*Justice.gov*) <https://www.justice.gov/archives/atr/competition-and-monopoly-single-firm-conduct-under-section-2-sherman-act-chapter-2> accessed 9 October 2024.

to lessen or destroy competition."[106] Just like the EU, US antitrust law approaches market definition by determining the relevant product and geographic markets. This was confirmed by the Supreme Court in the case of Spectrum Sport (1993) where it noted the importance of market definition in Section 2 arguing that *"demonstrating the dangerous probability of monopolization in an attempt case also requires inquiry into the relevant product and geographic market and the defendant's economic power in the market."*[107]

Determining the Relevant Product Market in the US

In the du-Pont case (1956) the Supreme Court stated that the relevant product market in a Section 2 case *"is composed of products that have reasonable interchangeability for the purposes for which they are produced, price, use and qualities considered."*[108] The FTC and the DOJ (Agencies) typically determine the relevant product market with regard to demand-side substitution (often referring to the SSNIP test), supply-side substitution, and barriers to entry. When considering demand substitutability, goods with high cross-elasticity of demand are perceived as competing with each other in the same market.[109] A key consideration in applying the SSNIP test is that *"the essence of the pricing difference between competition and monopoly is that the monopolist is able to maintain a higher price (and earn higher profits/rent) than can the competitive industry."*[110] Market definition also considers supply-side substitution which assesses the ease of shifting production to related goods and entering a

[106] *Walker Process Eqpt., Inc. v Food Machinery Corp*., 382 U.S. 172 (1965).

[107] Spectrum Sports, Inc. v. McQuillan, 506 U.S 447 (1993).

[108] *United States v E.I. du Pont de Nemours & Co*., 351 U.S. 377 (1956).

[109] Lemley, McKenna (n 83) 2078.

[110] Lawrence J. White, 'Market Definition in Monopolization Cases: A Paradigm is Missing' [2005] No. 05-27 NYU, Law and Economics Research Paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=852844> accessed 10 October 2024.

new market in response to price increases.[111] High supply elasticity indicates that the company raising prices lacks significant market power, reducing the risk of harming competition. Barriers to entry play a crucial role in determining the possibility of supply substitution.[112] If entry into the market is easy when prices rise, the company's products cannot be monopolised, nor can they be considered part of a separate market. [113]

Merger cases involve defining markets using the hypothetical monopolist paradigm from the FTC's and DOJ's Merger Guidelines published in 2023.[114] According to these guidelines, a market is defined as a product or group of products and a geographical area where a hypothetical, unregulated monopolist could likely impose a small but significant non-transitory price (SSNIP) increase without losing customers to alternative products. [115] While some have suggested applying the hypothetical monopolist test in monopolisation cases, the DOJ has argued that practical challenges in determining consumer preferences make an accurate assessment difficult. Despite the lack of a structured methodology for defining markets in monopolisation cases, the DOJ argued that there is no clear and widely accepted alternative to the hypothetical-monopolist methodology for defining relevant markets in Section 2 cases.[116] Despite its limitations, some contend that *"the Guidelines' hypothetical monopolist paradigm*

[111] Lemley, McKenna (n 83) 2078.

[112] ibid 2079.

[113] ibid.

[114] Department of Justice (n 43).

[115] US Department of Justice and Federal Trade Commission, Merger Guidelines (18 December 2023) <https://www.ftc.gov/system/files/ftc_gov/pdf/2023_merger_guidelines_final_12.18.2023.pdf> accessed 10 October 2024.

[116] Department of Justice (n 105).

[can] play a very useful, albeit conceptual, role ... providing the critical insight necessary to decide the case without any need to get into the details of their application."[117]

Critics like White argue that the absence of a generally accepted market definition paradigm could lead to an erratic outcome.[118] This contrasts with merger cases, where the market definition paradigm from the Horizontal Merger Guidelines has been accepted as standard practice by plaintiffs, defendants, and the courts in the US.[119] Given the paradigm's value in merger cases, some have attempted to apply it to cases of monopolisation, however, that is only appropriate in special cases, and the misuse of the paradigm can lead to the false conclusion that a defendant has no market power, even when they do.[120]

Despite the lack of a reliable methodology for defining the relevant product market, the DOJ argued that *"courts often are able to draw sound conclusions about the relevant market based on the facts and circumstances of the industry."*[121] Nonetheless, *"the absence of a guiding paradigm for market definition in monopolisation cases means that outcomes are likely to be erratic."*[122] Without a standardised approach, courts and Agencies still struggle to consistently assess whether a firm holds a dominant position, and companies remain uncertain about what behaviour might trigger antitrust scrutiny.

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[117] Gregory J. Werden, 'Market Delineation under the Merger Guidelines: Monopoly Cases and Alternative Approaches' [2000] 16(2) Review of Industrial Organisation <https://econpapers.repec.org/article/kaprevind/v_3a16_3ay_3a2000_3ai_3a2_3ap_3a211-218.htm> accessed 10 October 2024.

[118] White (n 110) 2.

[119] ibid.

[120] ibid.

[121] Department of Justice (n 105).

[122] White (n 110) 2.

Determining the Geographic Market in the US

In *Brown Shoe, Inc. v United States,* the Supreme Court held that the geographic market must *"both correspond to the commercial realities of the industry and be economically significant."*[123] Essentially, the geographic market is the area in which the seller competes with others. In *Brown*, the Court recognised that determinations of the geographic market will vary from case to case and that *"although the geographic market in some instances may encompass the entire nation, under other circumstances it may be as small as a single metropolitan area."*[124] As with defining the relevant product market, a comprehensive set of guidelines exists only for merger cases. However, the courts and Agencies can still determine the area of 'effective competition' by applying the SSNIP test, which identifies the geographic range where alternative products are available, such as how far a consumer is willing to travel to find substitutes.

Market definition is clearly essential in Section 2 cases, as identifying the relevant product and geographic market is critical for assessing a company's market power. Courts and Agencies frequently apply the SSNIP test, but the absence of a standardised methodology for market definition in monopolisation cases, unlike in mergers, where the Horizontal Merger Guidelines offer clarity, poses a significant challenge. This inconsistency can lead to less predictable outcomes and complicates the market definition process. While it has been argued that courts often make sound decisions based on the facts, there is a strong need and desire for a clearer and widely accepted framework for defining markets in monopolisation cases.

[123] *Brown Shoe Co., Inc. v United States,* 370 U.S. 294 (1962).

[124] ibid.

2.4 Interpreting the Market Share into Market Power in the EU and US

The determination of when market power constitutes a dominant position or monopoly power is a critical and contentious issue in both the EU and the US. This distinction has far-reaching implications for establishing whether a company violates Article 102 in the EU or Section 2 in the US. Understanding the degree of market power a company holds is essential to determining if its actions cross the threshold into anticompetitive behaviour. While monopoly power is not inherently illegal, it can have harmful effects on both society and the economy. As noted, *"monopoly power can harm society by making output lower, prices higher, and innovation less than would be the case in a competitive market."*[125] Thus, although monopoly power alone does not necessarily constitute an antitrust violation, its consequences can still be detrimental, necessitating close scrutiny in both jurisdictions.

In both the EU and US, market power is linked to a company's ability to control pricing. Anything that distinguishes a product from another, if only as a result of consumer taste, seller reputation or producer location, gives the seller some degree of market power.[126] In the US, the Supreme Court defined these concepts in separate rulings. It held that market power is *"the ability to raise prices above those that would be charged in a competitive market"*[127], while monopoly power is *"the power to control prices or exclude competition."*[128] This distinction suggests that market power, in isolation, is not necessarily anticompetitive, but implies that monopoly power can be. However, there remains considerable debate over how much market power must be exerted before it evolves into monopoly power. Despite these discussions, it is widely accepted that monopoly power requires a significantly high degree of market power.

[125] Department of Justice (n 105).

[126] ibid.

[127] NCAA v. Board of Regents of University of Oklahoma, 468 U.S. 85 (1994).

[128] United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377 (1956).

Notably, different Circuit Courts in the US have set varying thresholds for determining when market power constitutes monopoly power.

Case law suggests that monopoly power is established when 1) the firm has (or in the case of attempted monopolisation, has a dangerous probability of attaining) a high market share of a relevant product and 2) there are entry barriers, perhaps ones created by the firm's conduct itself, that permit the firm to exercise substantial market power for an appreciable period.[129] This element is particularly pertinent to the following chapter, which examines the state of digital platform regulation and how large tech companies have accumulated significant market power through potentially anticompetitive means. While monopoly power is often inferred through a firm's market share, the case law surrounding Section 2 of the Sherman Act provides no consistent guidelines for determining the specific level of market share that conveys monopoly power. The courts, although not establishing a precise threshold, typically require a firm to hold a dominant share in the market.[130] The thresholds for determining monopoly power vary across different Circuit Courts, highlighting the inconsistency in interpreting market dominance.

In *Dentsply*, the 3rd Circuit stated that *"a share significantly larger than 55% has been required to establish prima facie market power."*[131] Furthermore, it ruled that a market share between 75% and 80% of sales is *"more than adequate to establish a prima facie case of power."*[132] In the *Exxon* case, the 5th Circuit established *that "monopolization is rarely found when the*

[129] Department of Justice (n 105).

[130] Department of Justice (n 105).

[131] United States of America, Appellant, v. Dentsply International, Inc, 399 F.3d 181 (3d Cir. 2005) <https://law.justia.com/cases/federal/appellate-courts/F3/399/181/545974/> accessed 10 October 2024.

[132] ibid.

defendant's share of the relevant market is below 70%."[133] Furthermore, the 10th Circuit observed that to prove *"monopoly power, lower courts generally require a minimum market share of between 70% and 80%."*[134]

Conversely, several courts have indicated thresholds that they deem too low to infer monopoly power. The 7th Circuit observed that *"50% is below any accepted benchmark for inferring monopoly power from market share"*[135], while the 9th Circuit remarked that *"numerous cases hold that a market share of less than 50 percent is presumptively insufficient to establish market power."*[136] The 11th Circuit similarly concluded that *"50% is below any accepted benchmark for inferring monopoly power from market share."*[137] These rulings demonstrate a marked difference from the European perspective.

In the EU, a market share of 40% is perceived as treading closely to a dominant position. Furthermore, a 50% market share is typically presumed to indicate dominance, and a 70-80% share constitutes *prima facie* evidence of a dominant position.[138] As noted earlier, dominant position has been defined in the case of *Hoffman La-Roche* and later affirmed in *United Brands*. While the two cases firmly set the definition in the legal framework, economists argue that the legal definition is incompatible with the economic concept of dominance. In economics, dominance refers to when a company with a substantial degree of market power can influence an increase of price above the competitive level or reduce output or quality below competitive

[133] Exxon v. Berwick Bay Real Estate Partners, 767 F.2d 917 (5th Cir. 1985).

[134] Department of Justice (n 105).

[135] Blue Cross and Blue Shield United of Wisconsin and Compcarehealth Services Insurance Corporation, Plaintiffs-appellants, v. Marshfield Clinic, et al., Defendants-appellees, 152 F.3d 588 (7th Cir. 1998).

[136] Rebel Oil Co., Inc. v. Atlantic Richfield Co., 957 Supp. 1184 (D. Nev. 1997).

[137] Bailey v. Allgas, Inc., 284 F.3d 1237 (11th Cir. 2002).

[138] Singh (n 55).

levels over a significant period.[139] This is complicated because, while market power is a matter of degree, the legal definition of dominance is binary, an undertaking is either dominant or not.[140] Although a 40% market share is widely accepted as close to a dominant position there is still a lack of an absolute reference point.[141]

Evidently, defining when market power equates to monopoly power presents significant challenges for antitrust enforcement in both the EU and the US, albeit to varying degrees. While market power is inherently linked to a company's ability to influence pricing, the criteria for determining monopoly power differ markedly between the two jurisdictions. In the US, the variability in thresholds for monopoly power underscores a broader issue, the absence of a unified approach to market definition can result in inconsistent assessments of when market power equates to monopoly power. This inconsistency becomes increasingly critical as the economic landscape evolves, particularly with the rise of digital platforms and large tech companies. Traditional benchmarks may no longer adequately address contemporary market dynamics, revealing the need for more harmonised standards to effectively regulate and prevent anticompetitive behaviours. On the other hand, one could argue that the lack of a comprehensive methodology for defining the relevant market and assessing a company's market share allows for judicial flexibility that could be more adaptable to the rapidly evolving digital industry.

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[139] Communication from the Commission - Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009/C 45/02), C 45/7, para. 11.

[140] Daniel Mandrescu, 'Applying (EU) competition law to online platforms: Reflections on the definition of the relevant market(s)' [2018] 41(3) World Competition: Law and Economics Review <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3271624> accessed October 8 2024.

[141] ibid 4.

Nevertheless, the EU's approach, which considers a 40% market share indicative of a dominant position, may be viewed as excessively conservative. This lower threshold could impose stringent regulations on firms that are competitively strong but not monopolistic, potentially stifling legitimate expansion and innovation. However, given the shared assumption in both the EU and the US that a large market share alone does not equate to a dominant position, the EU's emphasis on conduct rather than solely on market share could counter this criticism by directly targeting specific anticompetitive practices.

3. Competition Law and Digital Platforms

The preceding section provides essential background for understanding the regulatory challenges associated with competition in digital platforms and markets. These challenges have direct implications of how competition will evolve within the Metaverse, given that metaverse platforms share many similarities with digital platforms.

This chapter examines the complexities of regulating digital platforms, first distinguishing them from traditional industries and then analysing why their governance presents greater challenges. It introduces key concepts such as network effects and analyses competitive concerns surrounding digital platforms. It further discusses the role of major technology companies such as Google (Alphabet), Meta, and Amazon in the digital market competition and how their dominance may influence the competitive landscape of the Metaverse. Given that the Metaverse will rely on interconnected digital ecosystems, understanding digital platform competition is essential for anticipating the regulatory landscape surrounding the virtual world.

The chapter then provides a comparative analysis of digital platform regulation in the EU and the US, focusing on both the role of market definition principles and the relevant legislative frameworks. By understanding the regulatory precedents set in these jurisdictions, we can better assess how emerging virtual economies may be shaped by the existing competition policies.

3.1 Regulating Digital Platform Markets: Challenges Beyond Traditional Pipelines

Regulating platform markets, especially digital ones, is significantly more complex than regulating traditional pipeline industries. A key reason for this complexity lies in their fundamental structural differences. A pipeline market operates within a linear business model where a company generates value through a step-by-step process, typically involving a supply chain, to deliver the final product or service directly to consumers. This structure is common in traditional manufacturing and retail sectors, where interactions between different user groups are limited. Since pipeline markets are typically single-sided, it is generally easier to define relevant markets and establish anticompetitive behaviour.

In contrast, platforms function in a more intricate, two-sided or multi-sided environment. They facilitate interactions between multiple user groups operating within a single ecosystem, thereby complicating the assessment of the relevant market, market shares, and remedies.[142] Actions impacting one group can create indirect effects on others, making regulatory oversight far more challenging. This challenge will also be found in the Metaverse platforms, which aim to connect diverse users within a unified digital space.

[142] Louis Cabral and others 'The EU Digital Markets Act: A Report from a Panel of Economists' (*Publication Office of the European Union*, February 2021), <https://publications.jrc.ec.europa.eu/repository/handle/JRC122910> accessed 8 October 2024.

The platform business model is not entirely new, as historically, newspapers have acted as intermediaries between advertisers and readers.[143] However, what is new is the extensive economic analysis surrounding platform competition, particularly in the digital realm.[144] Moreover, it is important to note that companies can operate as both pipeline and platform businesses simultaneously. A prime example is Apple, which follows a pipeline model by manufacturing and selling physical products such as phones and laptops, while simultaneously operating as a platform through the App Store, facilitating interactions between app developers and users.

The inherent complexity of digital platforms arises from their ability to serve multiple user groups simultaneously, categorising them as two-sided or multi-sided markets. This multifaceted nature complicates the task of determining the specific markets in which platforms compete. Even when two platforms provide overlapping services, their distinct and evolving business models make it difficult to classify them within the same market, further blurring market boundaries. The fluidity of these models challenges regulators in identifying instances of anticompetitive conduct. As discussed earlier, market definition in traditional competition law is already an imperfect process, but it becomes even more intricate when addressing the complexities of digital platforms.

Platforms operate within dynamic ecosystems where competition and market power are shaped by network effects, data control, and rapid technological advancements. As intermediaries, they facilitate interactions and transactions between different user groups. For instance, Uber

[143] Michael Katz and Jonathan Sallet, 'Multisided Platforms and Antitrust Enforcement' 127(7) The Yale Law Journal <https://www.yalelawjournal.org/feature/multisided-platforms-and-antitrust-enforcement> accessed October 8 2024.

[144] ibid 2143.

connects drivers with passengers but, unlike traditional passenger services, it neither owns cars nor directly employs drivers. Instead, Uber enables passengers to access driving services through its digital platform. Unlike pipeline markets, which follow a linear production model, digital platforms create value through network effects by facilitating these interactions. As their user base grows, so does their value, generating a positive feedback loop that can lead to increased market power.

3.2 Network Effects and Market Power

As mentioned, the value of platforms such as Uber is largely driven by network effects. As more passengers use the app, more drivers are attracted to provide their services, and vice versa, creating a reinforcing cycle that enhances the platform's value. Forces like network effects are crucial to the success of tech giants.[145] Network effects are not unique to Uber, they are relied upon by many other platforms, including social media platforms like Facebook and digital marketplaces like Amazon. Furthermore, platforms rely heavily on user data collection to expand and improve their services. By leveraging advanced technologies like algorithms and AI models, platforms seek to deliver more personalised and tailored experiences to retain their users and attract new ones. Unlike traditional monopolies, which rely on economies of scale to achieve greater market power, digital platforms benefit from the *"dynamic, self-reinforcing element in network effects."*[146] This creates a positive feedback loop where the growing number of users becomes more attractive to additional users, driving further growth. This self-reinforcing cycle enables platforms to expand their market power in ways that differ from traditional monopolies. This kind of expansion works best for larger platforms, as they already

[145] Cabral and others (n 142) 12.

[146] ibid.

have an established user-base, giving them credibility and greater technological capacity that makes it easier to attract new users.

The 'dynamic and self-reinforcing' element of network effects not only facilitates growth but also strengthens platforms' market position, making it increasingly difficult for competitors, especially smaller ones, to challenge their dominance. Combined with the vast amounts of user data, network effects create an immense competitive advantage. Together, they enable platforms to expand rapidly and deliver increasingly personalised services, allowing them to outgrow competitors that lack these crucial elements. These advantages also enable platforms to expand into new markets with significant competitive edges over smaller rivals. For instance, in July 2023, Meta launched Threads, a social networking platform widely regarded as a direct competitor to X (formerly Twitter). Within the first week of its launch, Threads amassed over 100 million users, with Forbes claiming it was the fastest growing online platform in history. [147] In contrast, similar and older platforms like Mastodon and Bluesky had significantly smaller user bases at the time, with Mastodon reaching only about 7.7 million users. [148] Although Threads benefited from launching during a period of turmoil for X, its rapid user accumulation can largely be attributed to Meta's exploitation of data accumulation and network effects. Meta's extensive network provided instant credibility for Threads, driven by its existing user base of over 4 billion across Instagram, Facebook, Messenger and

[147] Siladitya Ray, 'Threads Now Fastest-Growing App in History – Wish 100 Million Users In Just Five Days' (*Forbes*, 1 Jul 2023) <https://www.forbes.com/sites/siladityaray/2023/07/10/with-100-million-users-in-five-days-threads-is-the-fastest-growing-app-in-history/> accessed 3 February 2025.

[148] Katie Paul and Akash Sriram, 'Meta's Twitter rival Threads surges to 100 million users faster than ChatGPT' (*Reuters*, 11 July 2023) < https://www.reuters.com/technology/metas-twitter-rival-threads-hits-100-mln-users-record-five-days-2023-07-10/> accessed 3 February 2025.

WhatsApp.[149] Additionally, Threads leveraged interoperability with Instagram, enabling its users to transfer their accounts and retain their networks. This effectively *"solved the cold start problem"*, allowing users to transition and engage with the new platform without losing the connections they already made on other platforms.[150] In contrast, competitors like Mastodon and Bluesky lacked the scale, infrastructure, and user base necessary to replicate such successes.

Meta's leveraging of network effects and vast data sets gave it a substantial advantage in building and consolidating its position in the market. This case illustrates how network effects and extensive data collection can empower dominant platforms to swiftly expand into new markets. It further highlights the barriers of entering these markets, ultimately giving larger platforms an enormous competitive advantage over smaller competitors.

Metaverse platforms will adopt a model similar to existing digital platforms like Instagram and Facebook, leveraging network effects, demand-side economies of scale, and extensive user data collection to optimise interactions and drive growth. However, since the Metaverse economy will integrate elements of both traditional and digital industries, competition regulation must be refined to address the unique anticompetitive challenges posed by Metaverse platforms while complementing existing frameworks governing traditional markets.

[149] John Koetsier, '100 Million Sign-ups In 5 Days. 8 Reasons Why Threads Is Blowing Up' (*Forbes*, 7 July 2023) <https://www.forbes.com/sites/johnkoetsier/2023/07/07/70-million-sign-ups-8-reasons-why-threads-is-blowing-up/> accessed 3 February 2025.

[150] ibid.

3.3 Digital Platforms and the Metaverse

The Metaverse will share many characteristics with existing digital platforms, including in how they operate, grow and compete, and will function as a multi-sided platform facilitating interactions between different user groups. Just as Uber connects drivers and passengers or Amazon connects buyers and sellers, metaverse platforms will do the same, only perhaps at a much greater and more dynamic scale, and in a 3D virtual setting. The main characteristics of digital platforms will transfer to the functioning of the Metaverse, but at greater intensity.

The Metaverse will rely heavily on extensive user data collection to enhance its services and user engagement. The Chief Privacy Officer at Mastercard stated that, *"the metaverse will be data collection on steroids"*, indicating vast advancements in data accumulation and processing.[151] The Metaverse will enable the collection of sensitive user biometric data.[152] Using technologies such as AR glasses, it is expected that metaverse platforms will gather a more intimate profile of individuals, including physiological information, tracking eye movements and observing brain wave responses to various experiences.[153] Just like in the case of Threads, companies that already leverage the technology to process user data at a mass scale have an advantage in attaining a strong user base faster than newer competitors, while also gathering and processing more complex data. This ties not only to data privacy concerns, but also the competitive barriers that would transfer from the already existing digital platforms to the metaverse platforms.

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[151] Caroline Louveaux and Derek Ho, 'When your data controller is Snoop Dogg' (*Master Card Newsroom*, 3 May 2022) <https://www.mastercard.com/news/perspectives/2022/metaverse-privacy-data-collection-nft/> accessed 3 February 2025.

[152] Michael Fisher, 'The metaverse and consumer data: here's what you need to know' (*The Drum*, 21 July 2022) <https://www.thedrum.com/opinion/2022/07/21/the-metaverse-and-consumer-data-here-s-what-you-need-know> accessed 3 February 2025.

[153] Louveaux and Ho (n 151).

Similarly, network effects will play a central role in how the metaverse platforms will expand their services and user base. The predicted interoperability of the metaverse platforms will likely strengthen network effects due to the accessibility and expanded user participation. This will also be an advantage for platforms that have already established a wide user base.

The issues concerning competition in digital platforms will be mirrored and potentially intensified in the Metaverse. Regulation of digital platforms will serve as a blueprint for how competition will be managed in the Metaverse, therefore, it is crucial to understand the current regulatory frameworks, and the competitive challenges presented by digital platforms.

3.4 Competitive Concerns Regarding Digital Platforms

Historically, competition enforcement has focused on single-sided pipeline markets, as two-or multi-sided digital platform markets are a relatively new concept compared to traditional single-sided industries. The current era of competition law mirrors the early 20th century when the US government acted against the Standard Oil Company. Just as the Supreme Court's decision to dismantle Standard Oil marked a pivotal moment in US antitrust law, the rising opposition to tech giants that have solidified their dominant positions, along with recent efforts to challenge them, represents a significant new chapter in competition law history.

The first major concern is the development of the Metaverse, which is being predominantly led by tech giants with substantial existing user bases across their non-metaverse platforms. This raises the risk that these companies will use interoperability mechanisms to extend their dominance into the Metaverse, reinforcing their market power across digital markets. Some of these companies, including Microsoft, Alphabet, and Epic Games are spearheading the

development of metaverse platforms, leveraging the extensive user data they have already accumulated through their existing services, giving them a significant competitive dominance.

While tech giants can develop technologies that demand extensive resources and data, resources that smaller companies often lack, network effects make it increasingly challenging for new entrants to compete.[154] Even the US Congress reported that a few companies could exploit network effects to consolidate control over key Metaverse platforms.[155] This is the result of high set-up costs, low marginal running costs, large scale data collection and exclusive control over that data, which strengthens the entrenched monopolistic position of tech giants.[156]

This entrenched dominance already poses anticompetitive threats, exacerbated by the complexity of defining the market in digital platforms, making it difficult to challenge anticompetitive conduct. As noted, the primary challenge in addressing abuse of dominance and monopolisation cases is defining the market. While the process seems straightforward in traditional abuse of dominance and monopolisation cases where there is a single relevant market, platforms are more complex as they are often intermediaries between several markets.[157] For example, Meta's Facebook functions as a social media platform while also hosting a marketplace, while Amazon operates an e-commerce platform alongside its video streaming services. The overlapping service structure makes it difficult to establish clear market boundaries and accurately identify anticompetitive behaviour.

[154] Cabral and others (n 142) 20.

[155] Zhu (n 33) 21- 22.

[156] Cabral and others (n 142) 7.

[157] ibid 6.

The challenge of determining the relevant market is further complicated by the fact that digital platforms do not primarily charge users a direct monetary price for their services. Instead, they operate on a data-driven model, where user data functions as 'payment' for using the services. This issue challenges the application of certain traditional competition tools, such as the SSNIP test, which assesses the consumers response price changes and helps whether a company holds a dominant position. Offering services in exchange for user data allows platforms to accumulate vast data sets which further create higher barriers to entry for potential competitors. This data-centric model further muddies the waters for regulators trying to enforce competition laws.

Further issues with exclusionary conduct arise in regard to self-preferencing, specifically because *"platforms are rarely pure intermediates that leave all production of good and services to external parties."*[158] This means that platforms commonly offer their own products and services on their online marketplaces. While it is widely accepted that companies sell their own products alongside those of competitors, online market places, particularly digital platforms like Google and Amazon, face greater scrutiny.[159] Although digital platforms are not the only ones involved in self-preferencing, it is the algorithmic self-preferencing that makes these practices difficult to challenge.[160] In traditional retail settings, self-preferencing is more apparent, for example, when a store promotes its own branded products over those of competing brands. However, with digital marketplaces, there is a lack of transparency regarding the algorithms used by platforms which are typically protected as trade secrets or intellectual property rights such as patents and copyrights. As a result, companies are not

[158] ibid 13.

[159] Chiara Farronato, 'Self-Preferencing at Amazon: Evidence from Search Rankings' [2023] 113 AEA Papers and Proceedings <https://www.hbs.edu/faculty/Pages/item.aspx?num=64221> accessed 21 January 2025.

[160] Cabral and others (n 142) 12.

typically required to disclose these algorithms, making it difficult to evaluate whether they contain self-preferential features. This makes it significantly harder to detect and challenge anticompetitive conduct and illustrates that traditional competition tools are insufficient.

Undoubtedly, the growing market power of tech giants, and their abuse of dominance, has resulted in the urgent need for regulation.[161] Such regulation must address the competitive issues concerning the already existing digital platforms to establish a sufficient foundation for limiting anticompetitive conduct in the Metaverse. In exploring the challenges related to the regulation of digital platforms and subsequently, the Metaverse, it is evident that traditional regulatory frameworks are insufficient in challenging cases of abuse of dominance and monopolisation of digital platforms. While traditional frameworks provide a foundational basis, they require expansion to address the unique and rapidly evolving characteristics of these virtual environments. The dynamic nature of digital platforms and the Metaverse demands a more flexible and forward-looking approach to regulation, one that can effectively respond to the swift technological advancements and complex market dynamics inherent to these new digital realms. Both the EU and the US have taken action to address these insufficiencies, however, to very different extents.

3.5 Legislation Concerning Digital Platform Regulation

In response to the rapid growth of digital platforms and markets, regulators both in the EU and the US have initiated efforts to develop legal frameworks that extend the already existing competition policy to better address the unique anticompetitive practices within the digital platform sector. The key difference, however, is that the EU has already enacted its Digital

[161] ibid 12.

Markets Act (DMA), which came into effect in May 2023, while the US has yet to pass comparable legislation. As of February 2025, there are no US laws specifically targeting competition in digital markets. However, a pending bill, the American Innovation and Choice Online Act (AICOA) seeks to address issues such as self-preferencing by major digital platforms. This bill, if passed, could represent a significant shift in US digital antitrust regulation, marking a critical step toward addressing competition in this sector. The DMA and the proposed AICOA are not only critical for regulating the current digital market landscape but will also play a pivotal role in shaping how conduct in the Metaverse will potentially be regulated. Experts have identified that the traditional competition and regulatory tools are not suited to effectively challenge digital platforms as they are outdated and too slow relative to the dynamic pace of the digital economy.[162]

As the Metaverse evolves, it is essential for jurisdictions incorporate flexible and effective frameworks for the regulation of digital platforms which will also extend to the regulation of the Metaverse. This adaptability will ensure that, once the technology becomes fully integrated into users' lives, the core objectives of competition law, such as fostering innovation, ensuring fair competition and consumer protection, are upheld in the digital realm.

The next section compares digital platform regulation in the EU and the US. It examines the role of the traditional competition policy pertaining to digital platforms, alongside the EU's DMA and the US' proposed AICOA. It is important to note that this comparison is limited by the fact that AICOA has yet to be passed by Congress, if passed at all. As such, the analysis of the US legislation is purely hypothetical, based on the bill's current contents and without the benefit of judicial interpretation and practical application.

[162] ibid 6.

3.6 Digital Platform Regulation in the European Union

The European Union adopts a multifaceted approach to address abuse of dominance cases involving digital platforms, leveraging both traditional competition policy and newly established regulatory frameworks. As previously discussed, defining the relevant market is typically the first step in applying Article 102 procedures. However, unlike pipeline industries, which are generally single-sided, digital platforms operate within two-sided or multi-sided markets. As discussed earlier, this creates complexity in understanding market dynamics and conducting competition analyses. The introduction of the Digital Markets Act was intended to extend the scope of the traditional Article 102 application in the context of anticompetitive practices carried out by digital platforms. It is designed to regulate the conduct of large online platforms known as 'gatekeepers'. The European Commission defines gatekeepers as *"large digital platforms providing any of pre-defined set of digital services ('core platform services'), such as online search engines, app stores, and messenger services."*[163] The Regulation eliminates the need for processes such as defining the relevant market and determining the market share to establish dominance by gatekeepers.[164] While the traditional processes are unnecessary in regard to gatekeepers, they still apply to all other undertakings. Hence, a clear methodology for market definition in two or multi-sided markets is still important.

[163] European Commission, 'The Digital Markets Act: ensuring fair and open digital markets' (*European Commission*) <https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_en> accessed 12 February 2025.

[164] Ana Pošćić, 'THE DIGITAL MARKETS ACT: ENSURING MORE CONTESTABILITY AND OPENNESS IN THE EUROPEAN DIGITAL MARKET' [2024] 11(1) IELE <https://www.researchgate.net/publication/382011799_THE_DIGITAL_MARKETS_ACT_ENSURING_MORE_CONTESTABILITY_AND_OPENNESS_IN_THE_EUROPEAN_DIGITAL_MARKET> accessed October 8.

3.6.1 Market Definition in Digital Platform Cases in the European Union

Similarly to single-sided markets, the European Commission, National Competition Authorities and the courts rely on the Market Definition Notices to establish the relevant market for two-sided or multi-sided platforms. The process of defining the geographic market remains just as straightforward as in single-sided markets, however the process of defining the relevant product market changes. According to the 2024 Notice, the Commission may define the relevant product market either as a unified market encompassing all user groups on the platform, or as separate markets for each side of the platform.[165] The one-market approach captures the broader competitive dynamics and indirect network effects across the platform. This means that it treats all user groups as part of one market in which different user groups influence each other, observing competition across the whole platform and not in separate segments. While this approach encompasses the competitive dynamics of the entire platform, it can obscure specific competitive issues on individual sides. On the contrary, the multi-market approach provides a more detailed view of side-specific competition, defining distinct markets for different user groups, such as one market for merchants and another market for consumers. This approach allows for a more detailed examination of competition on all sides of the platform but may miss the positive externalities and synergies that arise from interactions between the different sides.[166] When determining the market boundaries, the Commission assesses the indirect network effects between user groups on different sides.[167]

[165] Notice (n 88) 30.

[166] Niccolò Galli and Pier Luigi Parcu, 'Market Definition and Multi-Sided Markets: A Premier on the 2024 EU Market Definition Notice' [2024] Robert Schuman Centre for Advanced Studies Research Paper No. 2024/31 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4906401#> accessed 9 October 2024.

[167] Notice (n 88) 30.

The Notice further clarifies when it is preferable to define the product market as a whole versus defining separate markets. It may be more appropriate to define separate markets when substitution possibilities across different sides of the platforms vary.[168] In making this determination, the Commission considers whether the undertakings that provide substitutable products differ for each user group, the degree of product differentiation on each side, user behaviour (such as homing decisions), and whether the platform is transactional or matching in nature.[169] In essence, if multiple sides of a platform experience similar competitive pressures, the products offered on those sides are likely part of a single relevant market, regardless of whether the platform is transactional or matching in nature. Conversely, if each side encounters distinct competitive pressures, then the products offered on each side are more likely to belong to separate relevant markets.[170]

Given that many digital platforms offer services at no monetary cost, instead collecting user data as a form of payment, assessing cross-elasticity of demand and supply using the traditional SSNIP test is challenging. In such cases, the Commission instead evaluates consumer switching behaviour in response to a small but significant non-transitory decrease in quality (SSNDQ).[171] This approach underscores that the absence of a monetary price does not negate the existence of a relevant market for that product. During the definition process, Commission examines product functionalities, their intended use, evidence of past or potential substitution, switching costs or barriers to entry, data portability, and licensing characteristics.[172]

[168] ibid 30.

[169] ibid 30.

[170] Galli and Parcu (n 86) 25.

[171] Notice (n 88) 31.

[172] ibid.

Overall, the EU's approach to market definition in two or multi-sided markets reflects the complexity of addressing anticompetitive conduct in digital markets. Although the provisions in the Notice aim to provide a more accurate assessment of competitive dynamics, the framework remains ambiguous in certain areas. This lack of clarity can complicate the process of establishing an undertaking's market share and, ultimately, determining whether an abuse of dominance under Article 102 has occurred. On one hand, the recent implementation of the DMA could play a role in future market definition practices for multi-sided platforms.[173] Conversely, it offers an alternative method for identifying companies with significant market power by focusing on their annual turnover both within the EU and globally, rather than relying solely on market share. It is clear however, that the 2024 Market Definition Notice will likely require refinement and updates as the digital landscape evolves.

3.6.2 Digital Markets Act

To enhance the effectiveness of EU competition law enforcement for digital platforms, the newly implemented Digital Markets Act aims to address the gaps left by the traditional competition procedures surrounding Article 102. The DMA aims to tackle the anticompetitive effects arising from platforms' accumulation and heavy reliance on vast amounts of data which gives them considerable competitive advantage in the digital ecosystem. The new Regulation equips the European Commission and National Competition Authorities with the necessary legal framework to effectively address anticompetitive conduct, such as self-preferencing and tying and bundling, areas where previous enforcement of Union law had faced challenges. In the digital platform economy, data analysis plays a pivotal role in the success of digital platforms. Companies such as Meta (Facebook), Alphabet (Google), and Amazon have

[173] Galli and Parcu (n 86) 26.

established themselves as dominant platforms, leveraging enormous datasets processed and utilised through sophisticated algorithms. The DMA only targets a select group of large, dominant companies, most of which have been under scrutiny for abuses of dominance in Europe and beyond.[174] The new legislation bridges traditional competition approaches with ex post regulatory measures in areas including oversight of acquisitions, market investigations, and access to a company's internal information.[175]

In the Digital Markets Act, the European Parliament has outlined a detailed set of reasons explaining the necessity of the DMA within European competition policy. It argues that market mechanisms alone are often insufficient to guarantee fair economic outcomes in platform services.[176] While Articles 101 and 102 of the TFEU do apply to the behaviour of gatekeepers, these provisions and the law surrounding it, are not always equipped to address complexities of market dominance and other anticompetitive practices in digital platform markets.[177] Moreover, the enforcement of these Articles is ex post, meaning it occurs after the fact and typically requires lengthy and intricate investigations, which are handled on a case-by-case basis.[178] The Parliament also emphasised that the DMA is intended to complement existing competition law enforcement and does not conflict with Article 101 and 102.[179] Rather than replacing these articles, the DMA expands the enforcement framework, addressing gaps where the TFEU falls short, especially in regulating digital platforms effectively.

[174] Cabral and others (n 142) 7.

[175] ibid 7.

[176] ibid 6.

[177] ibid.

[178] ibid.

[179] ibid 5.

The rise of big data analytics has exacerbated information asymmetry between regulators and platforms, leading to delayed regulatory responses in addressing anticompetitive behaviour by these platforms. [180] The DMA aims to tackle these challenges by granting business users of gatekeepers, specific rights to access both market and data.[181] In certain situations, the DMA aims to replace the traditional competition policy procedure of identifying the relevant market, quantifying market power and ultimately designing appropriate remedies. Experts have argued that the criteria proposed in the DMA provide a solid foundation for challenging anticompetitive practices by gatekeepers.[182] Article 3.1 of the DMA defines a gatekeeper as an undertaking that (a) it has significant impact on the internal market, (b) it provides a core platform service which is an important gateway for business users to reach end users, and (c) it enjoys an entrenched and durable position, in its operations, or it is foreseeable that it will enjoy such a position in the near future.[183] The additional quantitative criteria for identifying gatekeepers, outlined in Article 3.2, target large digital platforms, excluding smaller competitors. Quantifying the thresholds that define a gatekeeper is crucial, as it simplifies the process of identifying companies that have entrenched monopolistic market positions, thereby posing a threat to competition within the EU. The methodology for quantifying the thresholds also provides structure, which both regulators and companies can rely on. In line with the DMA provisions, in September 2023, the European Commission officially designated six gatekeepers, Alphabet, Amazon, Apple, ByteDance, Meta, and Microsoft, and further

[180] ibid 6.

[181] ibid 7.

[182] ibid 9.

[183] Art 3(1) Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act) [2022] OJ L 265/1.

designated Booking as the seventh gatekeeper in May 2024.[184] As of 23rd of April 2025, these gatekeepers collectively managed 23 designated core platform services.[185] As mentioned earlier, some of these tech giants play a crucial role in the development of metaverse platforms. Therefore, the DMA must effectively enforce competition policy within the current digital ecosystem to prevent these companies from entrenching themselves as monopolists in the Metaverse. After designating the gatekeepers, the Commission provided these companies with a six-month window to ensure full compliance with the DMA obligations for each of their designated services.[186]

On March 25th 2024, the European Commission opened non-compliance investigations under the DMA, following suspicions that the measures put in place by Alphabet, Apple and Meta have fallen short of effective compliance of their obligations under the Regulation.[187] On the 23rd of April 2025, the Commission concluded its proceedings and found that Apple and Meta were both in breach of the DMA, fining them €500 million and €200 million respectively.

Apple was found to be in breach of its anti-steering obligation by imposing a monetisation system that prevents app developers from seamlessly communicating promotions and offers for alternative products and services outside the App Store. This practice effectively

[184] European Commission, 'Gatekeepers' (*European Commission*) < https://digital-markets-act.ec.europa.eu/gatekeepers_en> accessed 22 September 2025.

[185] Including, among others, Facebook, WhatsApp, Instagram, Google Search, Google Maps and YouTube.

[186] European Commission, 'Digital Markets Act: Commission designates six gatekeepers' (*European Commission*, 6 September 2023) <https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4328> accessed 8 October 2024.

[187] European Commission, 'Commission opens non-compliance investigations against Alphabet, Apple and Meta under Digital Markets Act' (*European Commission*, 25 March 2024) < https://digital-markets-act.ec.europa.eu/commission-opens-non-compliance-investigations-against-alphabet-apple-and-meta-under-digital-markets-2024-03-25_en> accessed 3 February 2025.

discouraged users from making purchases outside Apple's ecosystem, undermining competition and consumer choice.[188]

Meta, however, was found to be in breach of the DMA with its "consent or pay" service. The DMA requires that gatekeepers must have users' consent for combining their personal data across different services. When no consent is given, the users must have *"access to a less personalised but equivalent alternative"*.[189] Meta failed to provide that option, instead conditioning access to its platforms on users having to consent to greater data processing. Although Meta has since introduced a new version of its advertising model, this measure is under the assessment of the Commission and does not exempt Meta from having to pay the fine for the time period during which the company was non-compliant with the Regulation.[190] Action against Alphabet, however, remains ongoing. Thus far, the Commission issued its preliminary findings to the company, underlining two areas of non-compliance, the Google Search engine and the Google Play app store. In its preliminary findings, the Commission first observed that *"certain features and functionalities of Google Search treat Alphabet's own services more favourably compared to rival ones"* and determined that the company's self-preferencing practices violate the DMA.[191] Secondly, the Commission's preliminary findings discovered further breaches of the DMA regarding Alphabet's steering rules for Google Play,

[188] European Commission, 'Commission finds Apple and Meta in breach of the Digital Markets Act' (*European Commission*, 23 March 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1085> accessed 26 April 2025.

[189] ibid.

[190] ibid.

[191] European Commission, 'Commission sends preliminary findings to Alphabet under the Digital Markets Act' (*European Commission*, 19 March 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_811> accessed 26 April 2025.

in which Alphabet was found to restrict certain aspects of steering, and charging app developers fees *"beyond what is justified"*.[192]

Alphabet now has the right to examine the Commission's investigation and submit its defence. Should the Commission confirm its preliminary findings, it may adopt its non-compliance decision and impose fines on the company. These fines may include up to 10% of the company's worldwide turnover, or 20% in cases of repeated misconduct.[193]

In parallel with its DMA enforcement, the Commission continues to rely on traditional competition law to address past abuses of dominance. On September 5th 2025, the Commission imposed a €2.95 billion fine on Google, a subsidiary of Alphabet, under Article 102 TFEU for favouring its own advertising technology services and *"distorting competition in the advertising technology industry ('adtech')."*[194] This decision highlights how traditional competition law still remains crucial for tackling past misconduct that the DMA does not address directly. This allows the Commission to apply a dual-track enforcement strategy in which the DMA prevents future anti-competitive practices, while competition law enforces past abuses and addresses regulatory gaps. Together, this integrated approach enhances the Commission's capacity to regulate abuses of dominance of tech giants including Alphabet, Apple, and Meta.

[192] ibid.

[193] European Commission (n 187).

[194] European Commission, 'Commission fines Google €2.95 billion over abusive practices in online advertising technology' (European Commission, 5 September 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1992> accessed 7 September 2025.

3.6.3 Summary of European Union Approach

The European Union's approach to regulating digital platforms through a combination of traditional competition policy and the newly implemented DMA reflects its commitment to actively addressing the challenges presented by the digital platform enforcement. While the 2024 Market Definition Notice offers updated methodologies to better define and analyse multi-sided markets, challenges persist in ensuring clarity and consistency in market definitions and competitive assessments. The DMA, with its focus on large, dominant companies, complements the traditional frameworks under Article 102, providing a more flexible mechanism to tackle anticompetitive conduct. The introduction of the DMA represents a significant evolution in EU competition policy, marking a proactive shift toward regulating digital platforms. It is highly probable that, just like Apple controls access to the App Store and Google dominates search and online advertising, metaverse platforms will acts as gatekeepers, controlling interactions in the virtual spaces. The DMA sets a strong foundation for expanding the enforcement of EU competition law to the Metaverse. While some enforcement efforts are still underway, the DMA has been shown to be an effective tool for combatting gatekeeper misconduct specifically in the cases against Apple and Meta. With continued adaptation to new forms of digital markets, it will be very valuable for dealing with gatekeepers in the Metaverse.

3.7 Digital Platform Regulation in the United States

The United States' approach to addressing exclusionary conduct by digital platforms is frequently criticised as being inadequate and outdated. Public sentiment suggests that certain tech giants have entrenched themselves as monopolists with insufficient regulatory pushback. In 2020, the House Judiciary Subcommittee on Antitrust released a report (hereinafter referred to as 2020 Report or Report) detailing anticompetitive conduct by Alphabet, Apple, Amazon, and Meta. The Report found that each of these platforms serves as a gatekeeper over a crucial

channel of distribution, wielding significant power over the market.[195] It argued that these companies not only possess immense power but also abuse it through practices such as charging excessive fees, imposing onerous contract terms, and extracting valuable data from the consumers and businesses that depend on them.[196] The 2020 Report further highlighted that these platforms use their gatekeeper position to maintain and expand their market power by acquiring, copying, or undermining competitive threats.[197] This is highly relevant to the discussion, as the Report emphasised that these companies have entrenched their dominance and expanded it through tactics such as self-preferencing, predatory pricing, and exclusionary conduct, exploiting their power to become even more dominant.[198] Since the historic breakup of Standard Oil, only two significant interventions stand out, the 1982 consent decree that broke up the AT&T monopoly and the 1998 Microsoft case, which enabled the entry of new internet services, including Google.[199] Ironically, in October 2020, the DOJ sued Google, alleging it had illegally monopolised the online search and advertising markets.[200] On August 5th 2024, a US District Court Judge in Washington ruled that Google holds a monopoly and has unlawfully maintained it in breach of Section 2 of the Sherman Act.[201] The DOJ proposed breaking up Google to tackle its monopolistic practices, however, the exact remedy remains uncertain as

[195] House Committee on the Judiciary (n 42) 1.

[196] ibid.

[197] ibid.

[198] ibid.

[199] Stephen C. Salop, 'Dominant Digital Platforms: Is Antitrust Up to the Task? [2021] 130 The Yale Law Journal <https://www.yalelawjournal.org/forum/dominant-digital-platforms#:~:text=Digital%20networks%20are%20a%20particular,more%20certain%E2%80%94path%20to%20reform.> accessed 12 February 2025.

[200] Jody Godoy, 'What comes next in Google's antitrust case over search?' (*Reuters*, 8 October 2024) <https://www.reuters.com/technology/what-comes-next-googles-antitrust-case-over-search-2024-10-08/> accessed 12 February 2025.

[201] Verge Staff, 'US v. Google: all the news from the search antitrust showdown' (*The Verge*, 3 February 2025) <https://www.theverge.com/23869483/us-v-google-search-antitrust-case-updates> accessed 12 February 2025.

the case is set to undergo trial in April 2025. Furthermore, Google appealing the judgement, will drag the case out for longer. Nevertheless, the potential breakup of Google would be a landmark moment in US digital platform antitrust law.

Currently, there is no specific legislation targeting exclusionary conduct by digital platforms, leaving Section 2 of the Sherman Act and the associated legal doctrines as the primary tools for addressing anticompetitive behaviour in the digital economy. While the standard processes of determining the relevant product market and assessing monopoly power are applied in these cases, the complexity of multi-sided markets makes these assessments significantly more challenging. Furthermore, the approach to market definition in multi-sided has been clouded by the controversial Supreme Court judgement in the case of *Ohio v. American Express Co.* (2018).

Although the Department of Justice (DOJ) and the Federal Trade Commission (FTC) have taken active steps to enforce Section 2 in the digital space, targeting tech giants like Alphabet, Apple, Amazon and Meta, there is a lack of clear and widely accepted precedent to guide effective antitrust enforcement. The core principle of market definition is based on reasonable substitutability from the perspective of consumers, particularly in response to changes in price. While this approach presents challenges even within conventional linear production and distribution models, its application in digital markets exposes its limitations as a tool for defining competition and assessing market power.[202]

[202] Daniel A. Crane, 'Defining Relevant Markets in Digital Ecosystems' [2024] 7(1) Journal of Law & Innovation <https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?params=/context/jli/article/1032/&path_info=Crane_Defining_Relevant_Markets_in_Digital_Ecosystems_Publication_Draft_FINAL.pdf> accessed 9 October 2024.

3.7.1 Market Definition in Digital Platform Cases in the United States

Digital platforms pose significant challenges for traditional antitrust instruments, as the standard tests for market power and dominance are often ineffective. Establishing a well-defined market in digital environments can be problematic due to unclear boundaries, especially when many products are offered at no monetary cost, complicating the application of the SSNIP test to determine the relevant product market.[203] The challenge becomes even greater in multi-sided markets, where the relevant market should account for all sides of the platform. Consequently, product quality, rather than price, becomes a critical competitive factor. However, an objective measure of quality in digital markets is notably lacking.[204]

Section 2 of the Sherman Act only applies to firms with monopoly power or those with a dangerous probability of achieving it.[205] While certain digital platforms may indeed have a significant market presence, demonstrating monopoly power requires concrete evidence. Many platforms argue that competition is *"just a click away."*[206] This raises the question of whether product substitutability is sufficient to constrain anticompetitive conduct.[207] Given the platforms' substantial market shares and the high entry barriers new entrants face, it seems unlikely that sufficient substitution exists to curb anticompetitive behaviour.[208]

[203] Geoffrey Parker, Georgios Petropoulos, Marshall W. Van Alstyne, 'Digital Platforms and Antitrust' [2020] Winner of Antitrust Writing Award <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3608397> accessed 8 October 2024.

[204] ibid 4.

[205] Salop (n 199) 567.

[206] ibid.

[207] ibid.

[208] ibid.

Nevertheless, market definition remains a complex issue in the context of multi-sided markets due to the lack of clear methodology and precedent. A key example is the Supreme Court's controversial decision in *Ohio v. American Express Co.* (2018). While not directly related to exclusionary conduct by digital platforms, the case focused on market definition in multi-sided markets, highlighting the challenges and controversies in this area. In a closely split 5-4 decision, the Court ruled that the plaintiffs had not proven that Amex possessed market power in the relevant two-sided transaction platform market.[209] The Court introduced a new standard, requiring plaintiffs to demonstrate the impact on all sides of the platform to prove net harm in the overall market.[210] This ruling emphasised market definition over competitive effects and did infer Amex's market power from direct evidence of anticompetitive price effects.[211] Instead, it placed a disproportionate emphasis on defining the market rather than evaluating the competitive dynamics at play. [212]

This decision has been highly contentious. Many experts align themselves with Justice Breyer, who, in his dissent, argued that *"proof of actual adverse effects on competition is, a fortiori, proof of market power. Without such power, the restraints could not have brought about the anticompetitive effects that the plaintiff proved."*[213] Despite this criticism, the ruling firmly established market definition as a central issue in digital platform litigation.[214] Yet, the Court offered no detailed guidance on how to approach market definition for two-sided transaction

[209] ibid 574.

[210] Sarah Oxenham Allen and others, 'Market Definition in the Digital Economy: Considerations for How to Properly Identify Relevant Markets' [2020] American Antitrust Institute <https://www.antitrustinstitute.org/wp-content/uploads/2020/06/Allen.pdf> accessed 9 October 2024.

[211] Ohio v. Am. Express Co. 138 S. Ct. 2274 (2018).

[212] Allen and others (n 210) 3.

[213] Ohio v Am. Express Co. (n 212) 2297.

[214] Allen and others (n 210) 3.

markets, leaving agencies and lower courts with little direction on identifying these markets.[215] Thus, despite the ongoing efforts to avoid the formal market definition process, defining the relevant product and geographic markets remains an essential step in proving market power.[216] Agencies recognise that digital platforms often involve competitive effects that are not fully captured using traditional market definition and market power tools.[217]

Regarding whether platform markets should be defined using a single-market or multi-market approach to assess the anticompetitive effects of a platform's conduct, the *Amex* ruling endorsed a single-market approach. However, many experts argue that a multi-market approach is more suitable, as competitive conditions may vary across different sides of the platform.[218] Relying on a single-market definition can create unnecessary confusion and undermine effective antitrust enforcement.[219]

Some have also advocated against rigidly categorising companies as platforms or non-platforms. Instead, they suggest focusing on a company's conduct and competitive environment. There is no clear consensus on where to draw the line between platforms and non-platforms and basing antitrust enforcement on such distinctions would be counterproductive. Adopting an approach that changes significantly based on a firm's classification as a platform would be impractical and unnecessary for capturing the true economic characteristics of these markets.[220] In its recommendation, the 2020 Report by the House Judiciary Subcommittee on Antitrust argued for the overriding of *Ohio v. Amex* by

[215] ibid.

[216] Crane (n 202) 11.

[217] ibid 14.

[218] Katz and Sallet (n 143) 2155.

[219] ibid 2175.

[220] ibid 2170.

clarifying that cases involving platforms do not require plaintiffs to establish harm to consumers.[221] The Report further suggested that in the presence of direct evidence of market power, market definition is not required for proving anticompetitive conduct.[222]

This analysis highlights significant shortcomings in the current US approach to regulating digital platforms and markets. The *Amex* precedent has undoubtedly complicated antitrust enforcement against tech giants, making it more challenging to address their market power effectively. The 2020 Report explicitly argues for the urgent need for legislative action and reform.[223] In 2021, a proposal was introduced to adopt the American Innovation and Choice Online Act (AICOA), aimed at addressing some of these concerns. However, as the subsequent analysis reveals, adopting this legislation alone will be insufficient to foster a truly competitive environment for digital platforms.

3.7.2 American Innovation and Choice Online Act

The American Innovation and Choice Online Act (AICOA) is a significant legislative proposal aimed at addressing anticompetitive behaviour by dominant digital platforms.[224] The bill was initially introduced in the 117th Congress. Despite its introduction, AICOA has yet to pass due to limited support among lawmakers and concerns over its broad and ambiguous language.

If enacted, the legislation would apply to 'covered platforms', which are defined as online platforms that meet specific thresholds regarding user base size, net annual sales, or market

[221] House Committee on the Judiciary (n 42) 337.

[222] ibid.

[223] ibid 2.

[224] Ryan Nabil, 'Growing Challenges for U.S. Competition Policy in 2024' (*National Taxpayers Union Foundation*, 17 January 2024) <https://www.ntu.org/found> accessed 8 October 2024.

capitalisation. The bill is designed to curb certain practices by tech giants that are perceived to stifle competition and innovation. [225]

Section 2(h)(8) defines an 'online platform' as digital service that enables user interactions, facilitates transactions, or provides search functionality.[226] Platforms that meet the following criteria would be subject to the act (1) at least 50 million monthly active users or 100,000 business users, (2) annual US net sales or market capitalisation exceeding $550 billion, and (3) those serving as a *"critical trading partner"* for their business users.[227] This definition would primarily cover major players like Apple, Alphabet (Google), Amazon, and Meta, although it remains unclear whether Microsoft would qualify.[228] This approach aligns with the European Union's Digital Markets Act (DMA) in its objective of regulating dominant platforms and the platforms that the legislation would cover.

The AICOA sets out eight key prohibitions that prevent covered platforms from leveraging their dominance to unfairly favour their own products through practices like self-preferencing. The bill aims to deter actions that undermine competition and discourage investment in markets dominated by these platforms.[229] However, for conduct to be considered unlawful, it must not only provide a competitive advantage to the platform but also *"materially harm*

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[225] Tom Romanoff, 'The American Innovation and Choice Online Act: What it Does and What it Means' (*Bipartisan Policy Center*, 20 January 2022) <https://bipartisanpolicy.org/explainer/s2992/> accessed 8 October 2024.

[226] 117th Congress, 'S.2992 – American Innovation and Choice Online Act', (*Congress.gov*, 2021) <https://www.congress.gov/bill/117th-congress/senate-bill/2992/text> accessed 8 October 2024.

[227] Romanoff (n 225).

[228] ibid.

[229] Jeffery J. Amato, Dana Cook-Milligan, 'American Innovation and Choice Online Act' (*Winston & Strawn LLP*, 20 September 2022) <https://www.winston.com/print/v2/content/1052819/american-innovation-and-choice-online-act.pdf> accessed 8 October 2024.

competition".[230] This nuance means that the bill would not impose an outright ban on self-preferencing but targets practices that lead to substantial harm to market competition.

The bill's primary goal is to create a more level playing field, offering smaller platforms opportunities to compete against major entities that wield significant influence over digital markets.[231] It does not seek to regulate all online platforms, focusing instead on large-scale platforms with a significant market impact.[232]

Under AICOA, the Federal Trade Commission (FTC), the Department of Justice (DOJ), and state attorneys general would be responsible for enforcing the legislation. One of the bill's most controversial elements is the broad discretion it grants these agencies. They would have the authority to pursue civil penalties and injunctions against covered platforms in federal court [233], decide which platforms fall under the bill's jurisdiction, set the limits of the bill's reach, and impose penalties for violations.[234] The delegation of such power to the agencies has sparked considerable debate. Proponents argue that agencies like the FTC and DOJ have extensive experience in enforcing antitrust laws and have effectively adapted these laws to

[230] ibid 1.

[231] ibid 2.

[232] ibid 1.

[233] ibid 2.

[234] Neil Bradley, 'Six Ways the American Innovation and Choice Online Act Would Empower FTC Chair Lina Khan', (*U.S. Chamber of Commerce*, 6 June 2022) < https://www.uschamber.com/antitrust/six-ways-the-american-innovation-and-choice-online-act> accessed 8 October 2024.

modern economic complexities.[235] However, critics contend that the broad delegation of authority could lead to inconsistent enforcement and arbitrary decision-making.[236]

The ambiguity of AICOA's language, coupled with the significant discretion granted to regulatory agencies, has raised concerns about the bill's potential for inconsistent application. Without clear guidelines, agencies could take an aggressive approach to penalise companies for anticompetitive practices, leading to uneven application and potential injustices.[237] Critics argue that while the bill's intent to foster competition is commendable, its current form is too vague and susceptible to misuse, making it unlikely to achieve its stated goals of promoting competition and protecting consumers.

Although the AICOA shares similarities with the DMA in the European Union, it has not gained the same level of support in the United States. Senator Lee argued that the broad scope and vague language would lead to a number of unforeseen consequences and would inadvertently harm the consumers it is trying to protect.[238] For it to become effective, the bill may need to reduce the discretionary power given to the FTC and DOJ, ensuring a more transparent and consistent application of the law.

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[235] Isabella R. Pompeo, 'The FTC and DOJ's Delegated Powers by the AICOA: A Potential for Perpetuation' (Seton Hall University, 2024) <https://scholarship.shu.edu/cgi/viewcontent.cgi?article=2599&context=student_scholarship> accessed February 2 2025.

[236] ibid 12.

[237] ibid 3.

[238] Romanoff (n 225).

3.7.3 Summary of the United States Approach

The United States' efforts to regulate exclusionary conduct by digital platforms reveal significant gaps in its existing antitrust framework, which has struggled to adapt to the unique challenges posed by multi-sided digital markets. While legal actions against Google is underway and could be a groundbreaking change in US's approach to monopolisation cases in digital platforms, it is still relevant to consider the adoption of new legislation that would target digital platform monopolists. Traditional antitrust tools like the Sherman Act's Section 2, while effective in some contexts, are often inadequate in addressing the complexities of market definition and power assessment in the digital age. Landmark cases such as *Ohio v. American Express Co.* (2018) highlight the ongoing difficulties courts and regulators face when analysing competitive harm within digital platforms, particularly when considering the interdependencies between different market sides.

The proposed American Innovation and Choice Online Act (AICOA) attempts to fill some of these regulatory gaps by specifically targeting the dominant behaviour of major digital platforms. However, the bill's broad language, combined with the significant enforcement discretion it grants to agencies like the FTC and DOJ, raises concerns about inconsistent application and potential overreach. While the AICOA aims to foster a more competitive environment, it must be refined to ensure clarity and balance in its application.

Overall, for the United States to effectively regulate digital platforms, it may benefit from clearer guidelines that integrate traditional antitrust principles with modern digital market dynamics. A hybrid approach that combines case-by-case analysis with structured methodologies for defining markets and assessing competitive effects would provide a more

comprehensive and predictable framework for antitrust enforcement in the digital economy and would further build a strong foundation for the regulation of competition in the Metaverse.

Conclusion

The Metaverse presents both groundbreaking opportunities and complex challenges for the digital world. Beyond competition concerns, the Metaverse presents a broad range of regulatory challenges, including data protection, intellectual property and consumer rights. Ensuring a fair competitive landscape in virtual spaces is only one aspect of a larger discussion that must also consider wider legal issues. Regulators will need to balance competition enforcement with policies that allow for a safe use of the immersive digital ecosystems. It is also important to note that the EU and the US are not the only jurisdictions taking steps to regulate the virtual world. Authorities in countries such as South Korea and Japan have also announced efforts to address the legal challenges posed by the Metaverse.[239] It is also beneficial to observe the actions taken in other jurisdictions such as China and the UK. Nevertheless, the comparison of steps taken in the EU and the US provides valuable insight into the potential regulatory landscape of the Metaverse. Regulation of competition within metaverse platforms, which, like digital platforms, will rely on network effects and user data accumulation to expand and stay competitive. Given the fundamental similarities, effective regulation of digital platforms serves as the blueprint for the ultimate regulation of competition in the Metaverse. Effective competition will also require seamless integration and interoperability across diverse devices, platforms, and digital environments, truly emphasising the importance of regulating

[239] Paul Bond, 'EU, South Korea, Japan Announce Metaverse Regulation Plans' (*Holland & Knight*, 26 September 2022) <https://www.hklaw.com/en/insights/publications/2022/09/eu-south-korea-japan-announce-metaverse-regulation-plans> accessed 12 February 2025.

gatekeeping practices. Fortunately, both the EU and the US are active in addressing anticompetitive practices by digital platforms, evident in the EC's measures against Apple, Meta's gatekeeping, combined with Google's abuse of dominance, and similarly the DOJ challenging Google's monopolisation of the search engine and advertising. These respective efforts of regulating anticompetitive conduct of tech giants are a necessary step in creating a foundation for a more competitive Metaverse.

The comparative analysis of the approaches of the United States and European Union to regulating competition in digital platforms highlights significant differences in their regulatory frameworks, particularly in relation to market definition and legislative measures. The United States' reliance on traditional antitrust tools like the Sherman Act's Section 2 has been viewed as less effective in addressing the complexities of multi-sided digital markets. This inadequacy is evident in cases like *Ohio v. American Express Co.* (2018), where the courts struggled to capture the full scope of competitive harm across interdependent platform sides. In the latest trial, the DOJ has been successful at challenging Google for its monopolistic practices, with the Federal Judge ruling that Google is a monopolist. This could be a significant breakthrough in US digital antitrust law. On the other hand, the outdated legal framework has led to widespread support for modern legislation targeting tech giants' anticompetitive conduct. The proposed AICOA represents a step toward more targeted regulation but faces criticism for its broad language and potential for inconsistent enforcement. Additionally, there is no guarantee that the proposed bill will be passed. These issues are significant for how effectively US law will be able to challenge anticompetitive conduct in the Metaverse.

Conversely, the European Union is more proactive at enhancing its legal framework concerning digital platforms, as seen in its efforts to refine market definition methodology and legislation.

The 2024 Market Definition Notice allows for a nuanced approach in defining relevant markets within multi-sided platforms, acknowledging the unique dynamics of multi-sided markets and allowing flexibility in defining markets based on competitive pressures experienced by different user groups. Such flexibility is essential for addressing anticompetitive conduct in digital platforms and is critical for Metaverse regulation, as it enables a more accurate assessment of competitive dynamics within metaverse platforms, such as interactions between different virtual environments or services, and addressing the unique aspects of virtual transactions and user experiences. This shows initiative in adapting traditional competition tools to the complex cases concerning digital platforms.

Furthermore, the EU demonstrated its proactive approach by implementing the Digital Markets Act, which complements traditional competition policy under Article 102 of the TFEU by providing a flexible mechanism to regulate large gatekeepers without the need for extensive market definition procedures. This allows for a more effective observation and regulation of anticompetitive conduct. The DMA provides a robust mechanism to oversee gatekeepers, large platforms that act as critical intermediaries for digital interactions. The DMA's focus on gatekeeper-specific obligations provides an alternative model for tackling anticompetitive conduct, one that is enables more rapid and effective enforcement compared to traditional competition proceedings. So far it has proven successful in targeting Apple and Meta's gatekeeping practices and pressuring the companies to adjust their practices.

Given that major technology companies like Meta, Apple, and Microsoft are designated gatekeepers, with some of them simultaneously being invested in the development of Metaverse platforms, the DMA's specific rules against self-preferencing, tying, and bundling create a strong foundation to curb exclusionary conduct in the Metaverse. This dual framework,

integrating traditional competition assessment guided by Notices with targeted regulation under the DMA, demonstrates a strong level of preparedness for the future.

Nevertheless, given that the metaverse platforms are still in the phase of development, the true effectiveness of the DMA in addressing anticompetitive conduct in the Metaverse will arguably depend on the European Commission's ability to continuously adapt the legislation in response to technological advancements and evolving market structures. So far, it provides a solid groundwork for future Metaverse cases. In July 2023, Margrethe Vestager, the EU's former antitrust chief, stated that the evolution of the Metaverse and its platforms does not currently necessitate new legislation. She argued that the EU's existing regulatory framework is robust enough to manage potential challenges, cautioning against hasty regulatory responses.[240] Additionally, Vestager emphasised the need for thoughtful consideration in regulation, arguing that immediate solutions may not be appropriate. Her initiative proposed establishing standards for open and interoperable virtual worlds to mitigate the risk of dominance by a few large firms, as well as introducing regulatory sandboxes.[241] The European Union's strict regulatory approach across various sectors has been criticised for impeding innovation. While the EU may benefit from halting further regulatory expansion, it should ensure that its existing tools, including the DMA, remain flexible enough to adapt swiftly to new challenges.

While the regulatory framework is seen as sufficient and does not require immediate change, the EU is pursuing other related initiatives. In July 2023, the European Commission issued a Communication detailing its efforts to encourage the responsible growth and management of

[240] Foo Yun Chee, 'Metaverse has set off no alarms or need for controls yet, EU antitrust chief says' (*Reuters*, 6 July 2023) <https://www.reuters.com/technology/vestager-says-no-concerns-about-metaverse-sees-no-regulation-yet-2023-07-06/> accessed 8 October 2024.

[241] ibid.

virtual worlds and the Metaverse ecosystem.[242] For better functioning of the digital ecosystems, the European Union is proposing programmes that would increase digital literacy among the population. Greater public understanding could foster better discourse and navigation of challenges posed by the Metaverse. Furthermore, the European Commission aims to enhance public understanding of virtual worlds and cultivate a European Web 4.0 industrial ecosystem, which includes initiatives like a 'Citizen Toolbox' designed to improve digital literacy.[243] To foster a skilled workforce, the Commission will collaborate with Member States to fund digital skills development through programmes like Digital Europe and Creative Europe. Additionally, the proposal includes a Partnership on Virtual Worlds under Horizon Europe to advance research and create a strategic industrial roadmap. Projects like 'CitiVerse' and the European Virtual Human Twin will enhance public services.[244] The EU aspires to set global standards for open and interoperable virtual worlds, ensuring these digital spaces align with EU values and do not become monopolised by a few dominant players. Combining broader public digital literacy initiatives with existing regulatory frameworks marks a critical step in managing competition law within the Metaverse.

In contrast, the United States may face more challenges in adapting its existing antitrust frameworks to the Metaverse. Traditional antitrust tools like Section 2 of the Sherman Act and Clayton Act are argued to be insufficient to handle the complexities of multi-sided digital ecosystems and may struggle with issues like market definition and cross-platform effects. Regulating exclusionary conduct in the Metaverse may require the US to rely on case-by-case

[242] Commission, 'An EU initiative on Web 4.0 and virtual worlds: a head start in the next technological transition' (Communication) COM (2023) 442/final.

[243] European Commission, 'Towards the next technological transition: Commission presents EU strategy to lead on Web 4.0 and virtual worlds' (*European Commission*, 11 July 2023) <https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3718> accessed 9 October 2024.

[244] ibid.

enforcement, potentially leading to slower and less predictable outcomes than the EU's systematic approach. However, the Federal Trade Commission and the Department of Justice will likely expand their focus to include data privacy, interoperability, and access to essential infrastructure in the Metaverse, potentially shaping future legislative initiatives.

Given the Metaverse's novelty and complexity, the EU's dual approach, combining established market definition techniques with gatekeeper-specific obligations under the DMA, provides a more effective foundation for addressing anticompetitive conduct. The ability to bypass extensive market definition procedures for gatekeepers could expedite enforcement actions and prevent these platforms from leveraging their dominance in new and innovative ways. However, EU regulators should ensure that the DMA remains flexible and adaptable to the evolving Metaverse technologies and avoid overly rigid regulation that could deter innovation. Meanwhile, US lawmakers will need to consider updating their antitrust frameworks or developing new regulatory instruments that can adequately address the multi-faceted nature of the Metaverse. Decades of laissez-faire digital platform regulation may make it harder for US regulators to keep pace with the Metaverse's rapid development and the growing market power of entrenched digital giants. At this stage, the EU's hybrid approach, blending updated market definition strategies with comprehensive legislative tools, seems better equipped than the US to challenge abuse of dominance cases in digital, giving it a stronger foundation for deterring anticompetitive conduct in the Metaverse. Nevertheless, at the epitome of globalisation, both jurisdictions would benefit from collaborating to establish common regulatory standards for emerging digital ecosystems. While such transatlantic cooperation is necessary, it should serve as a foundation for a broader international collaboration, recognising that the Metaverse will transcend geographical borders and demand a global regulatory effort. However, given that the EU is often seen as overly rigid, while the US is perceived as favouring a laissez-faire approach,

such cooperation would require significant compromise on both sides. Striking a balance between innovation and oversight will be crucial to ensuring that regulation fosters growth and innovation, while addressing key legal and economic concerns, such as market competition, consumer protection, and data privacy.

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