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Foreword

Dear Reader,

We are pleased to present this new issue of our journal, which brings together four analytically rich and timely contributions addressing some of the most urgent challenges in global politics, technology, and democratic governance.

Our first article delves into the intricate nexus between artificial intelligence and fake news, focusing on the case of Russian information manipulation. It examines how generative AI technologies are weaponized to conduct Foreign Information Manipulation and Interference (FIMI), raising concerns for democratic integrity and digital sovereignty across Europe. As technological sophistication grows, so too does the need for resilient information ecosystems.

The second article tackles the heated debate over China's carbon emissions trajectory. While some experts herald 2023 as a potential peak year for China's emissions due to unprecedented clean energy growth, others caution against premature optimism. The analysis urges a more nuanced and historically informed approach, warning that misjudging China's environmental progress may hinder effective international climate cooperation.

Our third piece explores China's latest economic doctrine — the New Quality Productive Forces. This paradigmatic concept marks a shift away from GDP-centric growth and toward innovation-driven, high-quality development. By contextualizing the idea within China's political economy and strategic ambitions, the article highlights both the domestic transformations underway and the global implications for competitiveness and economic security.

Finally, we conclude this issue with a book review of Democracy Erodes from the Top by Larry M. Bartels. The review underscores Bartels's compelling argument that democratic backsliding in Europe is driven not by citizens, but by elites. This challenges widely held assumptions about populism, offering a structural and institution-focused account of democratic vulnerability in the 21st century.

Together, these contributions reflect our commitment to fostering critical inquiry into the forces shaping our world—from artificial intelligence and climate policy to economic transformation and political accountability. We hope this issue provides you with a stimulating and thought-provoking read.

Sincerely yours,

Beyond the Horizon ISSG

Fake News and Artificial Intelligence Nexus: Russia Case

by Georgia Vasileiou *

Abstract:

In the era of the digital world and the rapid spread of misinformation, newly implemented technologies have become a critical tool for digital sovereignty. The use of Generative AI and Fake News implications bring new challenges to information dissemination. This paper examines the relationship between Artificial Intelligence (AI) and Foreign Information Manipulation and Interference (FIMI) focusing on their combined impact on information disorder. Furthermore, the article explores a case study about Russian FIMI to illustrate the geopolitical impact of information manipulation, particularly through the use of generative AI, and its potential to reshape modern society.

Introduction:

In the digital era, technologies such as Artificial Intelligence — particularly Generative AI — are transforming how societies share and consume information. While these tools offer great potential, they also enable destructive practices like the large-scale spread of fake news and disinformation. Misinformation campaigns have evolved into coordinated efforts involving both state and non-state actors. Within this context, Foreign Information Manipulation and Interference (FIMI) has emerged, combining disinformation strategies with Artificial Technology (AI) to influence public opinion and undermine democracy.

This paper explores the intersection between Generative AI, Fake news, and FIMI, beginning with a conceptual definition of the terms. It then examines how AI technologies are used to create and disseminate disinformation. A case study on Russian FIMI during the war in Ukraine illustrates these dynamics in practice. The paper concludes by reflecting on AI's broader implications for democratic information ecosystems.

By addressing those aspects, the paper aims to highlight the challenges of AI-based disinformation.

1. Generative AI and Fake News

This chapter introduces key concepts related to AI-driven disinformation, including definitions of Generative AI, Fake News, and Foreign Information Manipulation and Interference (FIMI). It further explores the implications of generative technologies for information dissemination, laying the theoretical foundation for understanding how AI can both enhance and undermine the integrity of public information.

1.1 Generative AI

In today's fast-evolving technological environment, it is crucial to define *Generative Artificial Intelligence* (AI). Generative AI has emerged as one of the most transformative digital technologies of recent years, radically altering how information is created, circulated, and perceived. Its growing influence is not only felt in creative industries and everyday communication, but increasingly in the political and informational domains. In an era where public trust in information is fragile, understanding the mechanisms behind AI-generated content is crucial.

Unlike other forms of AI, which has primarily focused on classification or prediction, generative AI systems are designed to actively create content that resembles human-produced material (Ivanova & European Commission, 2021). These systems are often built on deep learning techniques, particularly transformer-based architectures, and are trained on large-scale datasets. As a result, generative AI can produce coherent text (e.g., through Large Language Models like ChatGPT), generate images from textual input (for example using diffusion models such as DALLE), and create synthetic audio, including voice and music. The ease with which believable yet entirely fabricated content can be produced undermines the distinction between real and synthetic, thereby facilitating the spread of disinformation, manipulated media and contributing to the erosion of public trust in digital information environments.

While generative AI provides new means of producing content, its societal impact is shaped by how these tools are employed in the construction and circulation of false or misleading narratives. In the next section, the concepts of Fake News and Foreign Information Manipulation and Interference (FIMI) are explored in order to understand how technological capabilities are transformed into instruments of influence and manipulation.

1.2 Fake News and Foreign Information Manipulation and Interference (FIMI)

Although spreading messages and fake news is not an innovation of the 21st century, the term became more popular during the 2016 US presidential election when a lot of websites published falsified or heavily biased stories (Soetekouw & Angelopoulos, 2022), leading people to question science, true news, and societal norms. Fake news can be defined in a variety of ways, but the simplest definition is the most accurate; it is any news story that contains false information on purpose. Fake news can take many forms and can have many different goals, some harmless, some less so (Young-Brown, 2019). Fake news as a genre is defined by three pillars: low facticity,

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intention to deceive, and presentation in a journalistic format. While the motivation for creating or spreading fake news vary — ranging from humorous, political, economic or ideological — the common denominator is the deliberate attempt to mislead audiences. The rise of fake news can be attributed to several factors, such as the increasing use of disinformation in political discourse, the challenges posed by the Internet and social media to modern democracies, and the rise in popularity of "clickbait" news. Also, digital advertising drives fake news by making it lucrative for publishers to pursue views or clicks in place of correct information. The proliferation of fake news and disinformation online has sown widespread doubt, leaving credible news outlets and legitimate journalism under siege. A recent VRT study found that 1 of 2 now harbors deep scepticism toward real news outlets — transforming healthy doubt into outright distrust (VRT International, 2023), showing how the persistent spread of fake news erodes public confidence in legitimate journalism and undermines the credibility of democratic information systems.

While fake news refers to specific pieces of deliberately fabricated or misleading content, it is only one element, and one tool, within a broader and more systemic phenomenon known as *information manipulation*. Information manipulation extends beyond isolated news stories to encompass coordinated strategies aimed at influencing public opinion, distorting facts, or undermining trust in democratic institutions. It often involves the strategic use of digital technologies, algorithms, and social media platforms not merely to misinform, but to manipulate the very structure of the information environment. According to the European Parliamentary Research Service (2024), information manipulation can be defined as *"using digital information technology by authoritarian regimes to surveil, repress, and manipulate domestic and foreign populations"* — a definition that highlights the methods and tools regimes employ.

Building on this, information manipulation functions as a key tool within Foreign Information Manipulation and Interference (FIMI). While the former refers to the tactical distortion of information, FIMI represents a broader strategic pattern whereby foreign actors coordinate such manipulative practices to undermine societal trust and disrupt democratic processes — often operating in legally ambiguous grey zones below the level of armed conflict. What distinguishes FIMI from more general forms of information manipulation is its foreign origin, strategic intent, and coordination. According to European External Actions Service (EEAS) (2024): *"Foreign Information Manipulation and Interference (FIMI) describes a mostly non-illegal pattern of behaviour that threatens or has the potential to negatively impact values, procedures, and political processes. Such activity is manipulative in character, conducted in an intentional and coordinated manner, by state or non-state actors, including their proxies inside and outside of their own territory".* FIMI is often in combination with cybersecurity and hybrid threats (Yuskiv & Karpchuk, 2024).

The growing sophistication of information manipulation has been accelerated by advances in generative AI. These technologies have transformed the production and spread of information, raising new challenges for trust, authenticity, and democratic resilience. Understanding how Generative AI specifically impact information dissemination is essential and is explored in the next section.

1.3 Implications of Generative AI for Information Dissemination

Generative AI presents significant challenges for information dissemination by enabling the rapid production and spread of fake news. These technologies undermine not only the accuracy of information but also public order. Generative AI as become a common tool in FIMI operations, with the aim to disseminate false or altered content across borders, aiming to manipulate public opinion and destabilize societies. This growing threat has prompted recent European legislative initiatives to safeguard truth in the digital era.

The emergence of large language models (LLMs), such as ChatGPT, has opened new avenues for disinformation by enabling the automated production of realistic and persuasive content (Barman et al., 2024). These capabilities make LLMs appealing tools for malicious actors seeking to manipulate public discourse through synthetic text. As Barman et al. (2024) note, this raises serious ethical concerns about the amplification of disinformation through AI. A particularly advanced application of generative AI is the creation of *deepfakes*—synthetic videos or audio recordings that are often indistinguishable from authentic material. These can be used to impersonate individuals, fabricate events, and disseminate deceptive narratives (Gil et al., 2023; Tahraoui et al., 2023). By compromising identity security and distorting reality, deepfakes pose significant risks to democratic processes and further blur the line between truth and deception.

State-sponsored actors increasingly use AI-driven disinformation campaigns on social media to influence public perceptions regarding elections, legislation, and armed conflicts (Barman et al., 2024). These campaigns can distort public understanding, erode trust in media, and even implant false memories of fabricated events.

The phenomenon of rapid and far-reaching spread of false information has been described as an "infodemic" — a term first used by Rothkopf (2003) during the SARS outbreak and later popularized during the Covid-19 pandemic. According to Yuan et al. (2023), the term refers to the harmful overabundance of false or misleading information, especially in digital environments. The integration of networked, mass, and AI-enhanced communication systems makes combating such falsehoods increasingly urgent.

In the information pandemic era where fake news or deepfakes becoming viral, the boundaries between truth and deception are blurred. This leads us to the next chapter which delves into how AI actively contributes to the creation and spread of information manipulation, exploring the tools and techniques that make these manipulations possible.

2. The Architecture of AI-Driven Information Manipulation

This chapter examines how artificial intelligence is used to create, shape, and disseminate information manipulation in digital environments. After understanding that, we are delving into the tools and techniques used for information manipulation.

2.1. Creation of Information Manipulation through AI

The creation of information manipulation through AI is a multidimensional phenomenon. Manipulation is a concern in many domains, such as social media, advertising, and chatbots (Carroll et al., 2023). In the case of AI systems, they have documented problems with truthfulness. However, manipulation can also be based on truth telling, such as making a true statement that has false implicatures (Carroll et al., 2023).

The information manipulation through AI is not limited only to the creation of Fake News. A typical example is the use of generative AI in the context of FIMI, which is an umbrella term for misinformation, disinformation, malinformation, and other distortions (Bjurling et al., 2024). Digital FIMI can consist of many different data types, either alone or in combination, and while at present generative AI models perform best concerning text output, the steady increase in performance that is observed for other data types makes it highly likely that generative AI will eventually dominate or completely replace conventional methods for FIMI distortions (Bjurling et al.,2024).

To better understand how AI functions in this space, Bergh (n.d.) introduces the concept of the "three C's": content, cognition, and competition. Content refers to the digitized information itself — often AI-generated — and forms the visible layer of manipulation. Cognition involves the way individuals process, interpret, and respond to this information, with AI systems designed to exploit cognitive biases and shape perception. Finally, competition reflects the strategic dimension of information manipulation, especially in the geopolitical context where information has become a tool of influence and contestation (Bergh, n.d.).

Together, these dimensions show how AI transforms information manipulation from isolated incidents to systemic interference. Understanding this evolution is crucial for analyzing the specific techniques and technologies used in AI-driven disinformation, as explored in the next section.

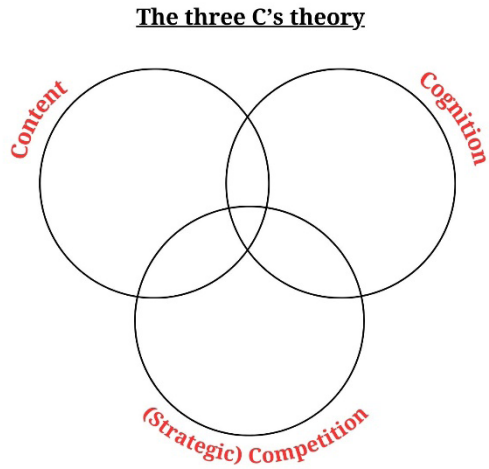

Figure 1: The three C'S theory (Bergh)

Understanding how AI shapes the creation of manipulated content lays the groundwork for a closer look at the concrete tools and techniques that operationalize these strategies in practice.

2.2. Tools and Techniques of Information Manipulation

As mentioned before, information creation through Artificial Intelligence is multidimensional, particularly regarding the tools and techniques used to manipulate it. In general, disinformation is often employed as a political weapon by governments or organizations to advance agendas or discredit adversaries (Kachelmann et al., 2023), especially in digital spaces. While generative AI holds potential for societal benefit, it can also be exploited for harmful purposes (Bjurling et al., 2024).

The digital world consists of hardware, software, networks, infrastructures, and most importantly data (Rodilos-

so, 2024), which means free access to personal information. That can lead to privacy issues, filter bubbles, and the spread of misinformation. Several social media platforms have been accused of using algorithms to manipulate what content users see in their feeds, to promote certain political or commercial interests (Ienca, 2023). Particular techniques can lead to biased opinions or misinformation to manipulate the public.

Filter bubbles emerge from algorithm-driven curation processes that tailor content to user-specific profiles, driven by Recommender Systems (RSs) and Machine Learning Algorithms (MLAs), which predict preferences based on behavioural data (Rodilosso, 2024; Ienca, 2023). Such algorithmic filtering fosters personalized echo chambers. Machine-generated content has long been tied to threats such as phishing and disinformation, largely due to the ability of Large Language Models (LLMs) to generate human-like, easily accessible, and personalized content (Yang et al., 2023).

AI-powered bots and fake accounts have significantly influenced Online Social Networks (OSNs), particularly during high-impact events like elections, healthcare crises, and market disruptions (Akhtar et al., 2024). These accounts coordinate manipulation efforts and disinformation campaigns. Trolls — often non-professionals — contribute by spreading provocative, emotionally charged content such as manipulated racist or sexist material, further fuelling division (Masood et al., 2021). Hyper-partisan media, including fake news sites and blogs, serve as major sources of disinformation (Masood et al., 2021). Generative AI enables these actors to rapidly produce false content aimed at increasing reach and engagement. Political parties, leveraging their online influence, also participate in spreading misinformation to large audiences (Masood et al., 2021).

Beyond individuals and organizations, foreign governments use these techniques to shape international opinion and undermine other nations. Countries such as China, Israel, Türkiye, Russia, the UK, Ukraine, India, and North Korea are believed to run state-sponsored accounts, websites, and apps that employ "digital footsoldiers" to smear opponents and disseminate false narratives (Masood et al., 2021). With digital monitoring and manipulation now widely available, private actors may also engage in cross-border information attacks (Masood et al., 2021).

The internet has become a "global village" where technological tools are deployed as political weapons in the struggle for digital sovereignty. This section has outlined the main mechanisms of information manipulation. The last third and last chapter explores a case study of Russian FIMI with a focus on its role in the war in Ukraine.

3. Case Study of Russian FIMI

3.1 Introduction:

Russia offers a particularly illustrative case of Foreign Information Manipulation and Interference (FIMI), where information operations are not peripheral but central to the state's geopolitical strategy. In the context of the war in Ukraine, FIMI has been institutionalized as a tool to justify aggression and destabilize opposition, increasingly enhanced by the use of generative AI.

Closely linked to cyber operations and hybrid threats, FIMI has become a central tactic in the geopolitical strategies of authoritarian regimes (Yuskiv & Karpchuk, 2024). The integration of AI technologies further augments these efforts by increasing the speed, reach, and precision of disinformation campaigns. Public statements by Russian authorities, including President Putin, suggest that one of the lessons Russia has been learning is that AI-enabled weapons systems and infrastructure provide clear battlefield advantages (Zysk, 2024).

This chapter examines how Russia combines FIMI and AI to pursue strategic objectives, with a focus on the war in Ukraine.

3.2 Definition of the Case Study

To define and contextualize the case, it is important to note that Russian armed aggression against Ukraine began in 2014 and was multidimensional from the outset (State Service of Special Communications and Information Protection of Ukraine, 2023). Russia has since employed hybrid tactics such as economic warfare and propaganda to advance its objectives. The full-scale invasion of Ukraine commenced on 24 February 2022.

Russia's interest in artificial intelligence dates back to the early 2010s. In 2018, President Vladimir Putin, acknowledged the importance of AI, claiming that "whoever becomes the leader in this field will rule the world" (Hunter, et al., 2023). AI has also been instrumental in Russia's information manipulation efforts. For decades, Ukraine's information sphere has been vulnerable to Russian propaganda (Yuskiv & Karpchuk, 2024). In the lead-up to the 2022 invasion, the Kremlin disseminated narratives portraying Ukraine and its allies in hostile terms, including false claims of genocide against Russian-speaking Ukrainians and accusations of Nazi ideology among Ukraine's leadership (Virtosu & Goian, 2023).

Information warfare has become increasingly sophisticated, merging traditional military strategy with digital influence operations (Savaryn, 2023; Tsotniashvili, 2024). Russia's approach aims to sow societal divisions, erode democratic institutions, and garner support for its imperial agenda (Virtosu & Goian, 2023).

The pillars of Russia's disinformation strategy include strategic distortion of facts for political purposes, emotional manipulation of public sentiment, distraction from domestic or geopolitical actions, and the deployment of media control, cyber-attacks, and coordinated bot and troll activity (Virtosu & Goian, 2023).

Since the escalation in 2022, Ukraine has implemented various countermeasures, such as establishing fact-check-

ing networks, expanding media literacy initiatives, and developing a national policy against disinformation (Savaryn, 2023).

3.3 Key Examples and Analysis

After the Russian full-scale invasion of Ukraine, more attention has been drawn to how FIMI has been used as a strategic and coordinated policy and tool in the preparation and execution of the military aggression against Ukraine (EEAS,2024). In disinformation campaigns, AI is already used to disseminate false content (Islas-Carmona et al., 2024), because AI provides possibilities on automated creating and distribution of manipulation campaigns with better personalization and targeting (Chyzhova, 2024).

Combining fake information and AI, especially through social media is a common strategy for Russia. Telegram played a vital role in the Russian-Ukrainian war. It is well-known that Telegram channels use AI to disinform users. There are also cases of using deepfakes in Russian manipulative campaigns since the start of the full-scale war, portraying for example President V. Zelenskyy or the Commander-in-Chief of the Armed Forces General V. Zaluzhnuy, calling the Ukrainians to give in (Chyzhova, 2024). Although there are no borders in the case of misinformation. For example, in 2023, the analysts of the Center for Countering Disinformation unrevealed a network of YouTube channels in Africa with completely AI-generated content, promoting Russian narratives by fake journalists (Chyzhova, 2024).

Another example of Russian FIMI is the campaign named "DoppelGänger", operated by the Russian Social Design Agency and Structura National Technologies. "DoppelGänger" promotes pro-Russian narratives and infiltrates Europe's media landscape by disseminating disinformation through a network of cloned websites, fake articles, and social media manipulation (U.S. Cyber Command, 2024). This campaign was denounced by the French government and employed generative AI to create disinformation content and purchased domain names similar to legitimate media to mimic news outlets, governments, and think tanks, luring unsuspecting readers into a maze of falsehoods (U.S. Cyber Command, 2024; Islas-Carmona et al., 2024). That campaign uses social media bots to spread its pro-Russian narratives with a multi-stage website obfuscation to mask links between the bots and inauthentic sources (U.S. Cyber Command, 2024). Those narratives include portrays of Ukraine as a failed, corrupt, and Nazi state. Also, it denies the Bucha massacre and spreads Kremlin-approved narratives on the Ukraine war (U.S. Cyber Command, 2024).

Those examples have highlighted that the harm of FIMI activities goes beyond the impact on democracy and society — it can also be used as an instrument of war. In that case, Russia is not using FIMI as a sporadic opportunity to interfere but as a strategic instrument of its foreign policy, with the help of AI. In general, the invasion is the culmination of Russia's years-long propaganda campaign and involvement aimed at undermining Ukraine's sovereignty and territorial integrity.

Conclusion:

This article aimed to emphasize how AI-driven FIMI has a significant impact on modern societies. The rise of identity-based disinformation within the broader context of information manipulation and interference by foreign actors who exploit deep societal fractures should be highlighted as a serious threat. Through the Case Study of Russian FIMI, it is clear that the disinformation campaigns have increased the scope and scale of manipulation, posing serious problems for information integrity and international stability. The disinformation campaigns have showcased the two-sided nature of AI, that is how AI might be a useful asset for humanity but equally has the potential to inflict great damage.

The findings of this research indicate that there are several challenges raised by AI-driven information manipulation and this calls for a comprehensive response. There is a need for international collaboration for creation of a strong fact-checking system promoting media literacy. The objective of the paper was to draw attention to the need to raise awareness of FIMI risks and threats while leveraging the potential of AI for the development of a more open and self-directed digital space.

This underlines the mutual responsibilities of governments, tech companies, and civil society to combat the misuse of Generative AI in the information environment.

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Public Predictions about China's Carbon Emissions Peak: Dynamics and Impacts

by Anja Senz*, Belinda Uebler **

Key Takeaways

- Optimistic claims that China's carbon emissions may have peaked in 2023 have triggered a public debate recently. Media outlets worldwide have echoed the prognosis since November 2023, although most experts anticipate a later peak for China's emissions.
- Critics argue that predictions based on recent drops in emissions are unrealistic, because they overlook potential fluctuations from economic cycles or extreme events in the near future.
- While setting specific annual emissions targets is common practice globally, it does not take economic cycles and unforeseen events into account. Thus, a proposed observation period of ten years for the emissions peak would provide a more accurate comparison of trends before and after the targeted peak year, accounting for fluctuations.
- The main argument behind optimistic predictions is the rapid increase in renewables capacity. However, not only could there be fluctuations such as rebounds, but the expansion of renewables capacity does not necessarily lead to the ideal reduction of fossil energy. This is due to factors such as not all capacity being connected to the grid, inefficient management, and complex situations involving interest groups that resist or complicate the reduction of fossil energy in China.
- Optimistic predictions about China's environmental development from Western analysts seem intended to encourage Western environmental policymakers to intensify their efforts. However, these forecasts also carry risks for policymaking, as they lead to misunderstandings between the EU and China about the true state of environmental progress and create unrealistic perspectives of China. This might hinder the development of solutions and measures that align with the actual environmental challenges.

Key Words: Carbon emissions peak; renewable energies; Paris Agreement; decarbonization

Introduction

Due to concerns about climate and the environment, the global community is increasingly monitoring decarbonization efforts, particularly in high carbon-emitting countries like China. Evaluations of China's environmental progress in the West vary significantly, with some analysts making optimistic predictions about China's achievements, even when specific milestones have not yet been met.

This discrepancy is evident in the current debate about whether China has reached its national carbon emissions peak. In recent years, China committed to peaking its carbon emissions before 2030 and achieving carbon neutrality by 2060. Historically, China sets its targets conservatively and often surpasses them ahead of schedule, fueling speculation among Western observers that China might achieve its carbon peaking goal earlier than planned. A 2023 expert poll conducted by the Centre of Research on Energy and Clean Air (CREA) revealed that a minority of experts believe the peak has already occurred or will occur before the end of 2025, while the majority thinks the carbon peak will happen sometime after. Despite this, speculation that China might have peaked emissions in 2023 has dominated public discourse in recent months.

In fact, speculations about an earlier CO2 emissions peak for China have been around for some time and have varied significantly. In 2018, a research paper argued that a CO2 peak before 2030 was not possible. A journal article from 2022 suggested that China could peak as early as 2023 under a baseline scenario, but not until 2028 under an industrial structure adjustment scenario. According to the Climate Action Tracker, China's emissions peak could occur in 2025. However, the economic crisis exacerbated by COVID-19 caused a rise in China's carbon emissions, making it unclear for a long time when a decreasing trend would resume.

Both Chinese and international experts have consistently pointed out ongoing issues, such as the insufficient integration and transmission of renewable energy, ineffective grid management, and delays in delays in decommissioning coal power plants due to complex political and economic factors. These challenges are significant barriers to quickly replacing coal with alternative energy sources. Despite these concerns, their perspectives are increasingly being drowned out by overly optimistic assumptions that seem to dominate the public discourse. Discussions based on unverified information could, however, have a negative impact on the EU's climate negoti-

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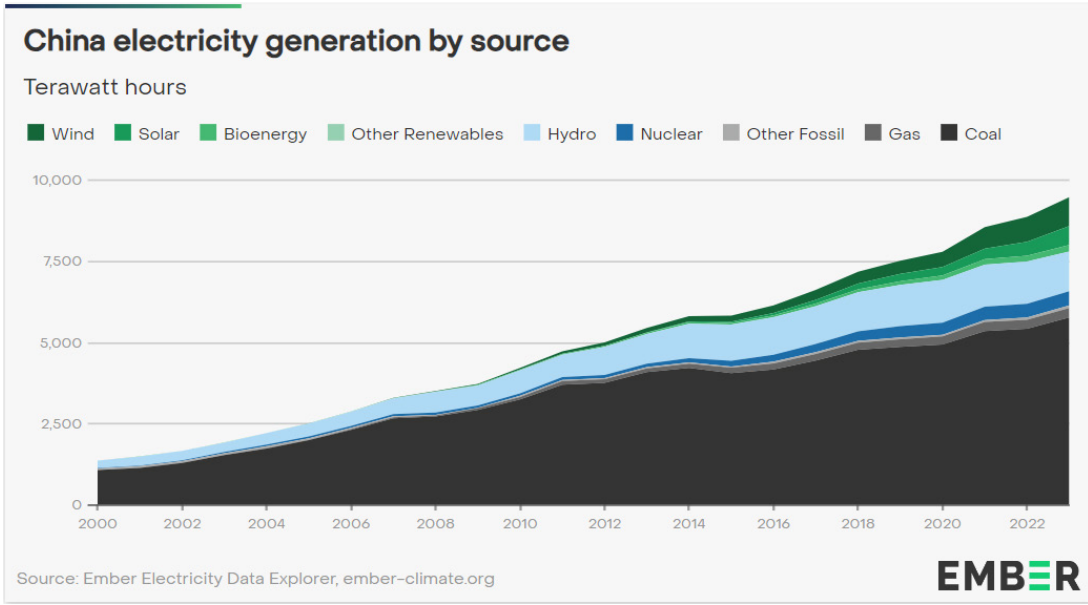
ations. This is particularly concerning if, due to an overly optimistic assumption about emissions trends in China, the necessary measures for future climate policy are not implemented, potentially jeopardizing the achievement of the Paris Agreement.

Prognoses in late 2023

Towards the end of 2023, the debate about China's possible early achievement of its emissions peak resurfaced. In early November, a European energy think tank published an analysis of China's carbon emissions developments predicting a fall in China's carbon dioxide (CO2) emissions in 2024 and raising the possibility of China's CO2 emissions facing structural decline due to the unprecedented growth in the installation of new low-carbon energy sources.

The argument behind predicting the structural decline in China's carbon emissions centered on the surge in solar, wind, and hydropower expected in 2024. Although emissions climbed in 2023, a historic expansion of low-carbon energy installations occurred as local governments sought alternative investment opportunities following a major debt crisis caused by years of massive infrastructure investment. The biggest growth was in solar power, with installations in 2023 reaching around 217 gigawatts (GW), which is almost equal to the total installed capacity of solar power in the EU and twice the total installed capacity of solar power in the US.



It was argued that if low-carbon energy installations are maintained at the projected 2023 level, the growth in low-carbon power generation would enable China to peak and then decline coal use in the power sector, making 2023 the peak year. At this point, so the argument, the growth of low-carbon electricity would outweigh the overall growth in electricity demand, leading to a decline in the amount of electricity generated using fossil fuels and the associated emissions.

Yet, the prediction also depended on further assumptions such as electricity demand remaining low and hydropower output increasing after experiencing record lows. Thus, the analysis projected that if electricity demand follows its historical trend of rising 5% per year and hydropower utilization returns to historical averages, fossil fuel-based power generation should experience a significant drop during the spring and summer of 2024, with no growth expected thereafter. Power sector emissions which constitute a major component in overall emissions are also anticipated to decline.

However, an expert survey, including mainly Chinese and some international experts, revealed that the prediction of China reaching its carbon emissions peak between 2023 and 2024 is supported by only a small minority of experts. Although the overall sentiment regarding emission peaks and decarbonization has become more optimistic in 2023 compared to 2022, 79% of experts still believe that China's carbon emissions peak will not occur before 2026. Only 2% think the peak has already happened, and 19% believe it will occur before the end of 2025.

Nevertheless, when various Western and Chinese online media reported about the carbon emission peak none of the media mentioned the fact that the prediction is not supported by the majority of experts interviewed in the survey. Some Chinese media also argued that the findings prove China to be a renewable energy powerhouse poised to lead both Asia and the world in green energy, metals and minerals mining, and clean technology. They credited years of investment and favorable government policies for China's success, suggesting that the country

is now reaping the rewards of becoming a global market leader and transforming the energy industry to meet future demands in a more environmentally friendly way. Additionally, they asserted that China's carbon emissions are likely to peak in 2023 and then trend downwards from the following year.

Other media outlets included additional forecasts from various think tanks in their coverage of the analysis. One such prediction came from a UK energy think tank, which projected that China's emissions would peak a few years before 2030, possibly as early as 2026. The cited analyst also questioned why China was not publicly sharing the prospect of an earlier emissions peak. He believed that the Chinese government did not realize how important public statements are for winning the overall global debate on climate change, suggesting that it would be a major step forward for the world if they did. Represented by Xie Zhenhua, China had publicly asserted at recent climate summits that there was no need to adjust its national targets to reflect progress, as the goal remains "before 2030," and that the exact year is still being calculated.

Chinese expert suggests a 10-year observation period

Following the ongoing public debate, in February 2024, a renowned Chinese expert published an article on the question of when emissions decline in China can be counted as emissions peak. He proposed a 10-year observation period to determine China's carbon emissions peak, covering five years before (2016-2030) and five years after the targeted peak (2031-2035).

As he explained, a lengthy observation period is essential due to fluctuations caused by extreme events and cyclical economic factors, noting that past economic cycles in China have typically lasted 10 to 12 years.[1] He also cites Germany's achievement of its 2020 emissions reduction target, which was largely influenced by the Covid-19 pandemic rather than structural changes. As expected, emissions rose again in the following year with economic recovery. Thus, since setting specific annual emissions targets is a common practice worldwide, but often overlooks cyclical economic factors and unforeseen events, longer observation periods are crucial.

Additionally, recent predictions about China's emissions peak involve the uncertainty of whether future patterns will align with or deviate from historical trends. While an increase in renewable energy capacity surpassing the rise in overall energy demand could stabilize fossil fuel use and emissions growth in a given year, real-world changes often defy such predictable patterns. Additionally, any determination on how to judge the carbon peak must be made in advance, rather than being interpreted retroactively based on evolving emissions trends.

Furthermore, it was stressed that China may need to accelerate its efforts to reduce emissions, especially concerning coal power[2] and power grid reforms[3]. Currently, significant policy changes are not anticipated until 2030 or later, which could result in sudden adjustments. Therefore, the Chinese expert also proposed establishing interim targets for 2025-2035, including specific goals for the energy mix, renewable energy share, and overall energy consumption, to prevent delays and facilitate timely sectoral reforms.

Analysts using current declining carbon levels to validate predicted carbon emissions peak

Despite the critiques, the public debate persists, with energy analysts reinforcing their predictions. An analysis published end of May 2024 argued that the recent fall in China's carbon dioxide (CO2) emissions by 3%, which ended a 14-month surge, hints to a carbon emissions peak in 2023. Again, the overall emissions decline and the claim regarding the achieved emissions peak were attributed to the expanding solar and wind generation, which met 90% of the growth in electricity demand, as well as to declining construction activity. Additionally, the analysis expressed confidence in China's ambition to shift its economy from traditional heavy industries to more technologically advanced and cleaner sectors, aligning with its focus on cultivating "New Quality Productive Forces".

While acknowledging the divergent views across the industry and government regarding the outlook for clean energy growth, it was asserted that a 2023 peak in China's CO2 emissions is possible if the expansion of clean energy sources continues at the record levels seen last year. It was also predicted that future excess demand could be entirely met by renewables, with hydropower regaining momentum, thereby reducing reliance on fossil fuels. However, as the Chinese expert noted, current trends are insufficient to confirm a carbon emissions peak because predictions can only be confidently made for about one year, with long-term trends potentially experiencing significant fluctuations or reversals.

Nevertheless, the prediction—or rather the confirmation of the prediction—was accepted in the public debate, with media reports and other analysts incorporating it into their coverage and forecasts regarding the global emissions peak. For instance, some institutions have inferred from existing claims about China's emissions peak that a global trend shift in CO2 emissions is imminent. Thus, optimistic predictions and forecasts regarding China's emissions peak are also influencing subsequent global emissions forecasts, but this poses several risks. On one hand, if institutions or policymakers uncritically rely on these unverified and uncertain claims, it could lead to misunderstandings between China and the EU, especially since China has not officially declared that it has reached its emissions peak. On the other hand, there is also the risk of misjudging not only the situation in China but also the overall global scenario, which could result in misguided political decisions and actions with potentially negative outcomes.

The problem with newly constructed renewables capacity

Another point which has been raised by experts but seems to be overlooked in current optimistic predictions, is the uncertainty about whether expanded renewable capacities will actually replace fossil energy production in China. Apart from the fact that fossil energies are deeply entrenched, with many Chinese regions and interest groups depending on them, there are a few more reasons why an immediate replacement of coal with renewables is not a given:

Firstly, China does not currently use an economic dispatch system that prioritizes the cheapest generation facilities. This means that when new, more cost-effective renewable energy facilities are introduced, they do not automatically replace more expensive existing facilities. As a result, some coal-fired power plants continue to operate even though they are more expensive than newly constructed renewable options.

Secondly, there is a discrepancy between the installed capacity of renewable energy sources and their actual operating capacity. For example, in the domain of wind power, several experts have criticized that China's planning approach is based on capacity building rather than capacity utilization or generation goals. This means that while there is a focus on increasing installed capacity, there are no guarantees if, when, or to what extent this capacity will be utilized. This discrepancy is also the reason why, although the installed wind capacity in China has long been twice that of the United States, it produced less wind power than the US. A similar situation exists with solar energy installations, where the utilization rate of newly expanded solar capacity has remained low, particularly in East China, where distributed solar systems are widely deployed. Unlike utility-scale solar, distributed solar consists of small-scale systems typically installed on or near the site of electricity use, such as residential rooftops or commercial buildings. Following the launch of China's "Whole County PV Programme" (整县光伏推进方案) in 2021, distributed solar installations surged. However, regional grids and power distribution networks have struggled to keep up with this rapid growth. Since late 2023, curtailment and temporary suspension of distributed solar applications have increased significantly in several eastern provinces, potentially hindering future installations unless the grid's capacity to absorb solar power is quickly enhanced. Thus, China's installed renewable capacity figures should be viewed critically, as they do not always reflect actual energy generation, and not all installed capacity is actively used.

Thirdly, under the current energy policy landscape the expansion of renewable capacities has also led to a net increase in coal power. The provisions for renewable energy development in the 14th Five-Year Plan require that renewables account for no less than 50% of the "hydro, wind, solar, and coal" mix. Since some transmission lines dedicated to hydropower provide 100% renewable electricity, even a coal power contribution of 70% through other lines can meet the average requirement. Hence, the policy which sought to support investment in renewables has also triggered a net expansion in coal power.

Fourthly, renewables cannot yet replace all the functions of coal, as coal is still crucial for ensuring reliable energy, operational flexibility, and heat, as noted by three Chinese experts recently. A significant portion of coal-fired power plants in northern China are combined heat and power plants. Therefore, to fully replace coal in its heating role, innovations in technology for providing heat from clean energy sources are necessary. Additionally, renewable energies like hydropower, wind, and solar are highly dependent on natural conditions such as climate and weather. For example, droughts in regions reliant on hydropower have led to energy shortages in recent years. To address the reliability and flexibility gaps of renewable energy compared to coal, advancements in management and storage technologies are required.

Despite these significant challenges, the international community including Western energy analysts continues to focus too much on the numbers related to the expansion of renewables. Recent analyses and their media reports celebrate the rapid increase of the global and mostly China's installed renewables capacity without taking the above-mentioned challenges in the actual usage of renewables and replacement of fossil energy enough into account.

Past inaccuracies in predicting national or global emissions peaks seem to have little dampening effect on current forecasts, despite the possibility of a strong increase in emissions from primary energy consumption and the construction industry, or continued low energy generation from hydropower. Various Chinese and international experts have repeatedly highlighted ongoing challenges, including inadequate integration and transmission of renewable energy, inefficient grid management, and delays in shutting down coal power plants due to political and economic entanglements, which hinder the immediate replacement of coal with alternative energy sources. Despite these concerns, overly enthusiastic assumptions seem to remain dominant in the public discourse.

Conclusion

The current public debate on the alleged peak of Chinese carbon emissions clearly illustrates how Western think tanks and analysts spread optimistic predictions about Chinese environmental progress that neither China nor the majority of experts confirmed or share. The underlying motivation appears to be to encourage and drive especially Western policymakers and stakeholders to increase their engagement and action on environmental policy. This dynamic persists despite a long history of inaccurate environmental forecasts, both globally and specifically for China. For instance, in 2020 climate scientists and energy experts predicted that global fossil fuel emissions, which had dropped dramatically due to the global pandemic, might never again reach the levels of 2019. How-

ever, this prediction proved wrong as emissions rebounded stronger than ever in 2022. The relevant climate scientists later admitted their predictions were "overexcited" due to the significant emission drop during COVID. Thus, past cases have highlighted the unreliability of such predictions, which often assume a linear structural development and do not account for unforeseen events.

In times of geopolitical rivalry and global competition for environmental leadership, prematurely predicting a country's carbon emission peak can have serious consequences. It can lead to decisions based on one-sided, unverified or unrealistic claims through which China is often portrayed more favorably than the reality might warrant. This can contribute to misunderstandings between the EU and China and hinder the development of effective measures tailored to the actual environmental situation.

Given the shared goal of achieving the 1.5°C target of the Paris Agreement and the related climate negotiations, the EU should be cautious in its approach to forecasts and claims about China's environmental progress, especially concerning decarbonization and the emissions peak. Whether China has reached or will soon reach its CO2 emissions peak cannot yet be determined with certainty and the long-term trajectory of China's carbon emissions largely depends on further developments in the renewables sector and energy management. The complex interplay between reducing incentives for coal, curbing coal expansion, increasing the integration of installed renewable capacity, and improving power grid management will remain central to the decarbonization challenge.

Endnotes

1 His proposal is inspired by the recent agreement on the observation period for global warming. In the UN Intergovernmental Panel on Climate Change's Sixth Assessment Report, a twenty-year period is used, with the midpoint of those two decades designated as the year when 1.5°C is breached.

2 As of 2023, China still heavily relies on coal, which makes up around 60% of its energy mix. China is also both the world's biggest producer and consumer of coal.

3 Despite having the largest combined installed capacity of hydro, solar, and wind power globally, China's power grid faces challenges such as inefficiencies in integrating renewable energy, over-reliance on coal, regional fragmentation, and outdated infrastructure, which hinder its ability to fully transition to cleaner energy. Reforms are needed to modernize the grid, improve flexibility, better integrate renewables, and support the country's carbon reduction goals.

What's New About China's New Quality Productive Forces

by Shaun Breslin*, Ren Xinyuan **

Key Takeaways

- The promotion of New Quality Productive Forces (NQPF) seems set to become the bedrock of the Fifteenth Five Year Plan which, if it follows previous timescales, will run from 2026 to 2030.
- As is often the case in China, Xi has announced a big picture grand vision which is short on details. More specific plans and policies will emerge to support the vision over time.
- At the most basic level, it can be viewed as a combination of previous initiatives designed to promote High Quality Development (rather than just high rates of growth) with ever increasing concerns about economic insecurities and vulnerabilities.
- However, the intention is to show that this is not just a change in priorities, but a paradigmatic shift in the essential nature of the Chinese economy.
- In the long run, the aim is for technological progress in innovation to become the source of growth (rather than increased capital or labour inputs).
- Even if the Chinese Communist Party (CCP) can manage the process of change successfully in the long run, there are likely to be significant dislocations and significant pain for some in the short run.
- As the aspiration evolves into policy, it is likely to impact on European companies both in terms of their ability to produce in/sell to China, and in terms of competition from Chinese high-tech producers in other markets.

Keywords: High quality development; new quality productive forces; dual circulation; economic security

Introduction

The Xi Jinping era has not been short of new concepts and buzzwords. If we just focus on economics alone, in addition to Xi's grand visions for new international interactions and orders, we have seen at various times a focus on 'Supply-side structural reform 供给侧改革', 'High quality development 高质量发展', 'Made in China 2025' (MIC2025) and 'Dual Circulation 国内国际双循环'. Xi has also (in theory at least) shifted the entire focus of the CCP's economic objectives and endeavours by placing a greater emphasis on the quality, utility, and sustainability of growth and away from 'GDPism',[1] or growth for growth's sake.

Given all that has already been said - and not least by Xi himself - does the recent emphasis on New Quality Productive Forces (NQPF) add anything new? As we will explain, in some respects, it is an updating or expansion or intensification of what we have already heard overlaid with (or integrated with) an increasing concern with economic insecurity. The need to de-risk China's economic future and in Xi's words 'better safeguard China›s new pattern of development' points to the need to decrease China's reliance on imported goods and components, and particularly of high quality and hi-tech ones; an objective that is also at the heart of both MIC2025 and Dual circulation.

That said, for Marxists, the language of 'new productive forces' (NPF) is hugely significant. It points to not just a change of emphasis or policy within an existing economic structure, but a fundamental change in the nature of that economic structure itself. NQPF, then, captures the essence of previous concepts and (alongside the shift in the principal contradiction) establishes the idea of a paradigm shift. So it needs to be taken seriously as an expression of the Chinese leadership's preferred and desired direction of travel. If successful, it would also have massive implications for the structure of global production networks, and the distribution of knowledge and political power within those networks too.

Desiring something, though, does not (on its own) guarantee its delivery. Making such a paradigmatic change is not problem free, and resolving old problems and is likely to generate new ones along the way. Moreover, if implemented in a certain way, the NQPF agenda might even exacerbate some of the problems that it in part designed to resolve. Making a successful paradigmatic change, then, is likely to require a skilful management of the

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ways that the CCP justifies its rule, and the capability and willingness to deal with new challenges ahead.

Paradigmatic Change: Marxism and NPF

It can often take time for a preferred and official English language translation of a new Chinese concept to emerge.[2] When it rose to prominence as the leitmotif of the annual Two Sessions meetings (of the National People's Congress and the Chinese People's Political Consultative Conference) in 2024, what in Chinese is called 新质生产力 (*xin zhi shengchan li*) was translated in English language outlets both as NPF and NQPF. Both translations were also then subsequently used by foreign English language reporting and analysis too. The two versions remain in use in English today, but the latter seems to have become the more common official translation.[3] This means that the crucial difference in the two that is obvious in the original Chinese – the inclusion of the character 质 (*zhi*) for quality – is not always evident in some English language discussions.

Nevertheless, despite this difference, the original Marxist understanding of NPF is clearly significant and helps us understand the full extent of what NQPF is meant to convey. NPF was used by Marx and Engels to refer to a fundamental epochal paradigm shift in the basis of economic activity; for example, the transition from feudalism to capitalism. The key here then is the identification of the nature of the economic transition taking place. This is not just about tinkering at the margins or a shift in emphasis *within* an existing paradigm, but rather a change from one mode of production to an entirely new one.

Here, perhaps the thinking of later and post-Marxists is more salient for the contemporary Chinese case than the original Marxist thinking. For example, Fred Block and Larry Hirschhorn refer to the key shift that took place in production in the USA in the 1920s and the move towards a post-industrial era. Growth was no longer simply and only the result of an increase in labour or capital (or both) as it had been in the past, but of a qualitative and fundamental shift in the basis of production; 'a quantum change in the extent to which conscious intervention shapes and reshapes production'. This change was the result of the:

> importance of such 'background' factors as information, new modes of management, technological advances, and the expansion of services, such as education, welfare, and medical care.

When Chinese economists talk about NQPF as 'advanced productivity freed from traditional economic growth models', this is what they mean. As the influential Chinese economist Yao Yang explains, in the past, to different degrees and at different times, Chinese growth had been driven by both the increase in labour engaged in non-agricultural activity, and/or the expansion of capital. In the future, with the emphasis on NQPF, this will no longer be the case. Such paradigmatic change does not happen overnight, and there is a period when the new and old co-exist; a period that Marx thought was inherently political and socially destabilizing. So as Yao Yang explains, old sources of growth will not immediately disappear. Eventually, though, if the promotion of NQPF is successful, China will have an economy 'where per capita income growth relies entirely on technological progress.' A focus on the amount of growth has been replaced by a focus on the quality of that growth and the promotion of another of Xi Jinping's favoured concepts; 'high quality development' (HQD).

After the annual National People's Congress meeting in March 2024, this HQD was defined as 'innovative, coordinated, green, open and shared development' no longer driven by 'labor, capital and land' but instead on innovation and 'information technology, big data and artificial intelligence' where 'obsolete production capacity and technology will gradually be phased out' and replaced by 'a new pattern of innovation-driven, green development'.

The idea of an epochal change is reinforced by explicitly linking HQD and NQPF to the previous change in the Principal Contradiction. As explored in some detail in an earlier EuroHub4Sino paper on ideological change in China, this refers to identifying the single biggest challenge to the continuation of party rule at any given time; a challenge that is existential in nature if it is not correctly dealt with. This principal contradiction had previously been defined as 'the ever-growing material needs of the people and backward social production' resulting in a focus on doing whatever was needed to increase production; a focus on growth above all else or GDPism. In 2017, this was changed to 'the gap between unbalanced and inadequate development and people's ever-growing need for a better life' indicating a transition in focus from the quantity to the quality of growth. This was based in part on an understanding that the old growth model was not environmentally, economically or societally sustainable. But it wasn't just about the future. It was also in part inspired by an assessment that it had already created or exacerbated instabilities and inequities that could undermine economic, environmental, societal and political stability that now urgently needed to be dealt with.

Xi was far not the first person to decide that the old model had reached its shelf-life. Almost from the onset of Hu Jintao's leadership in 2002, he emphasised the need to replace the old GDP-oriented growth model with a 'scientific concept of development' and a call to 'put people first' (rather than putting raising GDP first as had previously been the case). Had it not been for the need to act quickly to boost the economy as exports collapsed during the global financial crisis, perhaps more would have been done sooner. That said, when Xi replaced Hu in 2012, the argument that strong vested interests had stymied Hu's ambitions, and Xi would now have to face them down to make any progress, had a number of adherents; a view that is now officially endorsed by the party itself. And what he has done since then to consolidate power – the party's power over the economy and society and his power over the party – gives that argument some credence.

Situating NQPF in Xi's Wisdom

As with many things in Xi's China, the contribution of other post-Mao (and certainly post-Deng) leaders tend to be downplayed, and Xi's thinking and innovations are emphasised. NQPF is no exception. Despite building on the thinking (and also some practice) of previous leaders, it is a concept that is very much identified as originating with Xi. It was first mentioned by Xi during his inspection tour of Heilongjiang (one of China's earliest centres of heavy industrial development) in September 2023 with a call to:

> Integrate technological innovation resources to lead the development of strategic emerging industries and future industries, accelerating the formation of NQPF.

It became clear that this concept had been given particular significance when it was the subject of the 11th collective study session of the Politburo on January 31, 2024. Xi further elaborated on NQPF and established it as the new guiding theory for achieving HQD:

> NQPF prioritize innovation, *breaking away from traditional economic growth patterns and production development paths*. They are characterized by high technology, efficiency, and quality, embodying the advanced productive forces consistent with the new development philosophy. NQPF are brought forth by revolutionary technological breakthroughs, innovative allocation of production factors, and profound transformation and upgrading of industries [emphasis added].

Innovation and Continuity

Despite the emphasis placed on NQPF to transcend the existing economic development and make a transition to a 'new' model and era, its main objective is not particularly innovative. In many respects, it is an updating of the aspirations and goals that the MIC2025 initiative was meant to achieve when it was launched in 2015. This was a document and announcement that was widely seen from outside China as the starting gun for a new race to change the nature of the global economic order by making 'China dominant in global high-tech manufacturing'. In the short term, though, and from Chinese perspectives, it was more about rectifying weaknesses and catching up than it was about dominating. The original document blueprint pointed to considerable weaknesses in an economy where the 'manufacturing industry is large but not strong' and 'there is still a big gap compared with advanced countries'. Innovation capability was described as 'weak' with a high dependence on imported components in 'core technologies and high-end equipment', and overall product quality was 'not high'. Global brands were still lacking, resource and energy utilization were low and industrial pollution high, the level of informatization was low, the degree of industrial internationalization not high, and 'the ability of enterprises to operate globally is insufficient'. Hence the (rather urgent) need to overcome these deficiencies and start producing more higher quality and hi-tech goods at home utilising Chinese knowledge, skills and innovation.

If the promotion of NQPF is in part an updating of the MIC agenda, it is also in part an upgrading and updating of the 'dual circulation' strategy. This too is identified as Xi Jinping's brainchild. First proposed during the seventh meeting of the Central Financial and Economic Affairs Commission in April 2020, it was given the status of China's fundamental economic development strategy during the 14th Five-Year Plan period and beyond. It was defined as:

> Accelerating the establishment of a new development paradigm with domestic circulation as the main focus, and with domestic and international circulations mutually reinforcing each other.

One emphasis, then, was on promoting domestic consumption, another crucial objective of the 'dual circulation' is to ensure a higher level of self-sufficiency through innovation. This would naturally aid China's ascent up the industrial value chain, enabling the manufacturing of high value-added products. In this regard, as Alicia García-Herrero notes, MIC2025 is a key part of the 'dual circulation' strategy by seeking to replace imported 'high-end goods' with domestically produced ones. And as she also notes, if successful 'China will no longer need to import high-end inputs' which will have 'obvious negative consequences for major exporters of technology, such as Germany, Japan, South Korea, and the US'.

Building upon this foundation, NQPF further expand and elaborate upon the connotation of innovation by emphasizing the necessity to strengthen the original and revolutionary technological innovation. The prioritization of advanced technological innovation is also based on national economic security considerations:

> Utilizing technological innovation to propel productivity transition is a focal point of great power competition. ... Driving productivity through innovation is an essential pathway to achieve self-reliance, shape national competitive advantages, and safeguard national economic security.

And when national economic security is being discussed in China, broader understandings of national (and regime) security are never far away.

Securitizing China's (Economic) Future

Security looms large in all of the various initiatives and slogans designed to upgrade the economic base. The Asian Financial Crisis of 1997 spurred a new interest in economic security in China, as the potentially negative consequences of being integrated into the global political economy became clear for pretty much for the first

time since the start of the reform era. Encouraging foreign investment to produce exports for foreign markets was all well and good when the regional and/or global economy was thriving. However, growth and employment in China (and therefore regime legitimacy) were threatened when events outside China's control resulted in either a reduction in investment or demand (or both).

Moreover, it is not just purely economic fluctuations that create insecurity. There has long been a concern in China that hostile states might try and prevent China's rise by intervening in the global economy to cut off or limit supplies of key resources and/or manufacturing inputs, or to restrict access to lucrative overseas markets.

Indeed, trying to depoliticise international economic interactions was one of the reasons that China's leaders sought to join the WTO back in the 1990s. When it did join in 2001, there was an expectation (and not just in China) that it would be awarded market economy status after 15 years of membership. This would have resulted in a big shift in the sort of evidence required by others when bringing cases of unfair Chinese practices to the WTO and made it somewhat easier for Chinese defendants to defend themselves. The lack of such recognition in 2016 by the United States and the European Union generated annoyance in China that the goal-posts seemed to be being moved by the major powers, and that political considerations and geostrategic competition might continue to influence China's ability to act in the global economy in the future.

That is exactly what seems to have happened. Zimmerman argues that the introduction of the Foreign Investment Risk Review Modernization Act in 2018 to update the jurisdiction and scope of investment screening was a direct result of 'increased fear regarding China's growing strategic and economic clout and the potential loss of American technology supremacy'. President Trump's America First strategy did not target China alone, but it's fair to say that Chinese imports and the US trade deficit with China held a particular importance. Biden's introduction of first restrictions on certain high-tech exports to China (most notably semiconductors) in 2022 and then investments in China in 'sensitive' areas the following year pointed to a bipartisan consensus on China. That the export controls included not just things made in the US, but also anything made anywhere in the world using Chinese tools, 'vastly expanding' the US government's 'reach in its attempt to slow Beijing's technological and military advances.

And it is not just the US that is seen as the problem. In the EU, we can add the postponement (at least) of the introduction of the EU-China Investment Agreement and the EU's plans to increase 'scrutiny of foreign investments and [introduce] more coordinated controls on exports and outflows of technologies to rivals such as China'. At the national level, the introduction of national investment screening laws in countries like Sweden and the UK both reflect and also reinforce a more general increase in negative views of China and the need to de-risk relations with China. All of these have individually and collectively been taken in China as pointing to a future where political rather than economic logics will likely prevent Chinese actors from getting what they want in and from the global economy. And in the process, prevent China from developing in the way that its leaders want it to develop.

Ambitions with contradictions

In some ways it is a bit surprising that Xi has chosen the language of developing new productive forces (with or without quality) to describe what's next for China. Here we need to turn to the political consequences of epochal change and not their content and form. For Marx and Engels, such a paradigmatic transition was the key determinant of social dislocations and political transformations; and thus ultimately of revolution and the collapse of the existing order. As Marx argued in 'The Poverty of Philosophy' in 1847:

> In acquiring new productive forces men change their mode of production; and in changing their mode of production, in changing the way of earning their living, they change all their social relations.

In essence, NPF disrupt the existing patterns of social interaction and hierarchy and are incompatible with the status-quo ante system of privilege, hierarchy and order.[4] And while the original Marxist concern is with those NPF that replaced feudalism under the bourgeoisie), the transition to the sort of NPFs that are associated with HQD have also long since been identified by those in the Marxist tradition as generating a new version of 'the classic Marxian formulation of a conflict between new productive forces and old social relations of production'. As technology comes to the fore, this results in unemployment and underemployment and deskilling and a general 'decay in old social patterns'.

The official position is that NQPF will not result in turmoil but on the contrary will benefit all and lead to common prosperity. This is no surprise at all. The CCP has had to cope with a major ideological and practical dilemma ever since it took power in 1949. To put it over-simply, Marx thought that the revolution that would lead to communism would occur as a consequence of industrialisation; an industrialisation that had yet to occur when the CCP seized the reins of power. This meant that the CCP was faced with trying to build a 'modern' industrialized economy whilst not allowing this to lead to the alienation, class conflict and ultimately revolution that Marx had predicted. Indeed, they wanted the process of economic change to bolster and reinforce support for the political system, rather than generate opposition to it. And this is still the desire today. The goal is to somehow control the social and political consequences of economic change to minimize negative consequences and ensure regime survival.

Even if it does manage to do this in the long run – and that has to be a very big *IF* – then there are inevitably

going to be short term dislocations as 'obsolete' industries are let go. As Chi Lo argues, 'this process is inherently deflationary because the rate of destruction is faster than the rate of creation'. It will be a process that will bring pain to many of those in the old obsolete sectors and a key question is whether the leadership has the will and confidence in itself and its own position to live with this pain during the transitional process (at the very least). Notably, there is no even geographic spread of different types of economic activity across the country. Some areas are much more dependent on old and obsolescent industries than others, and so any pain is likely to be unevenly distributed too.

An Achievable Aspiration?

And yet it is far from clear how that pain can be (quickly) ameliorated, let alone cured. Nor is it clear how NQPF can deal with the structural deficiencies of China's economic development that 'dual circulation' was originally designed to overcome. As the crisis in China's real estate sector (which contributes approximately 20% of GDP) has been unfolding, finding immediate and effective solutions to stabilizing and revitalizing it remain elusive.

Unless the CCP leadership is happy to cope with the consequences of a much lower growth rate (at the very least during an interim transition period), ensuring a stable and decent GDP growth requires the creative exploration of alternative compensatory measures within the three pillars underpinning China's economic development; domestic consumption, investment, and net exports. Given that one of the fundamental objectives of 'dual circulation' is to elevate domestic consumption as the primary driver of economic growth, resorting to exports to fill a 'growth gap' (as China has done in the past) is not an optimal choice. On the other hand, the sluggishness of China's domestic consumption is a longstanding issue. China embarked on efforts to rebalance its economic growth model by attempting to boost domestic consumption as early as two decades ago, but with limited success. In 2004, consumption accounted for 55.2% of GDP, compared to a decline to 53% in 2022. As *The Economist* points out, 'even among emerging economies, China stands out: it consumed 7% less per person than Brazil in 2022, though it produced about 40% more.'

Despite concerns about existing levels of debt in China – and particularly of local government debt – this places a heavy emphasis on investment to keep the economy afloat. Indeed, substantial investments have already been made in both infrastructure and technological innovations aiming to offset the stagnation in the real estate market and subdued domestic consumption.

Investment driven by the NQPF agenda primarily constitutes supply-side adjustments. More than that, this is not a just an economic or technological driven evolution; it is an example of the sort of governance via a politically mobilized campaign that has become quite familiar under Xi (with echoes of other forms of mobilization to attain other ends in previous eras too). A big vision is announced; or more accurately, after originally being introduced in some forum or another, a big vision is subsequently promoted to the Chinese people with considerable fanfare. It is then discussed and repeated by other CCP leaders, think tanks and academics, and disseminated through the media and across Chinese cyberspace. The population is expected to embrace and endorse it, and those who can are expected to do all that they can to support and promote it.

It is reasonable to expect that there will be a positive response to this campaign; particularly (but not only) if resources are provided to support the ambition and if it also becomes a core aim of the next Five Year Plan (due to commence in 2026). This suggests that new (and quality) capacity will be built across the country in response. Indeed, it is possible that there will be overcapacity as local governments seek to respond to the campaign and boost their own local NQPF.

Xi himself has acknowledged the potential consequences of local governments responding too positively to the campaign. One danger is 'neglecting or abandoning traditional industries' which Han Wenxiu (one of China's key economic policy planners) notes remain 'the main sources of employment, income, and livelihood security'.

Another danger is that they compete with each other to develop the same NQPF. Hence, the need for each locality to develop their own bespoke and locally specific NQPF that are based on what Han calls 'actual conditions, avoiding blind conformity and bubbles" that are built on 'local resource endowments, industrial foundations, scientific research conditions, and ecological environment'.

China's leaders, then, are very much aware of potential pitfalls. Even so, questioning how these new capacities can be absorbed whilst also meeting the new principal contradiction's objectives seems a valid question to ask. To put it simply, where will the demand come from, and how will it meet the 'people's ever-growing need for a better life'?

Although NQPF emphasizes the transformation of technological innovation into real economic development, it remains debatable if and how emerging technologies can be effectively used to promote development in real economy. While technological development ultimately contributes to the development of humankind, its impact on actual individual human being remains uncertain. As argued by Andrew Cainey and Christiane Prange:

> Deploying technology can help, but breakthrough innovations … will do little to increase living standards for most of China's population. If successful, Xi's prioritization of advanced technologies may reduce China's dependence on overseas suppliers, but it will have limited benefits for growth across the whole economy.

If the technological innovation emphasized in NQPF cannot significantly elevate living standards and consequently stimulate consumption and the absorption of increased supply, the extra capacity of supply inevitably must seek channels somewhere else beyond China for utilization or deployment. Given the desire to reduce the significance of net exports as a driver of Chinese economic growth, this would present something of a paradox for Chinese policy makers.

Just as China's economic growth model must transition from quantity to quality, so too must the demand for human capital. In addition to the significant constraints faced by technological development itself, a crucial refraining factor is the shortage of human capital to support technological innovation. According to Scott Rozelle and Natalie Hell, China faces substantial difficulties in meeting the requirements for high-tech innovation talent aligned with NQPF. 'Currently about 70 percent of the Chinese labor force is 'unskilled' – with no more than a junior high school education.' In the same vein, as demonstrated in a report by CSIS and Brookings, according to Guidelines for the Development of Talent in the Manufacturing Industry, 'China will face a talent demand gap of nearly 30 million workers by 2025 in 10 key areas of China's manufacturing industry, or a 48 percent shortage of skilled workers to meet demand.' However, addressing this human capital gap proves challenging due to various structural constraints in China. As observed in the report, these constraints include the hukou system[5] that impedes social mobility, urban-rural inequality, the quality of education, and so on. As a result, the path from NPF to N 'Quality' PF evolution is riddled with challenges.

Conclusions

Of course, things can change. None of this necessarily precludes the possibility of China achieving structural changes in its economic growth model through technological innovation – though extremely difficult and challenging – as theorized in Joseph Schumpeter's theory of innovation, thereby generating new demands that are currently beyond our comprehension.

Moreover and more important, all of these potential challenges and adverse consequences are very evident to Chinese analysts and policy makers too. Indeed, much of what we have said above is based on what has been said within China. We are still very much in the early days of the development of NQPF as an actual strategy rather than just a mobilizing and aspirational slogan. Further refinement and explanation will take place during the focus on economic reform at the central committee plenum in the Summer of 2024, leading towards the new Five Year Plan which is due to be unveiled in 2025. So we can expect more practical and specific projects and policies to be developed to put more practical flesh on the bones of what developing NQPF actually entails as that Plan itself is developed. For the Chinese leadership, a key question is how national (economic security) logics can be reconciled with the aim of improving people's lives, particularly during a time of transition. Unless, of course, they can persuade the people that ensuring this security is part and parcel of what they need for a better life.

In the rush to think how Europe and other parts of the West might de-risk economic relations with China, perhaps the Chinese desire to de-risk China's economic future has at times been a bit overlooked. To be sure, this is not the only aim of the NQPF agenda, but it is certainly part of it. In the long run, it might also create new challenges for those who currently dominate high-tech production, as they find new Chinese competitors not just in China, but also in other markets too (including at home). However the NQPF agenda evolves, it is going to have significance – and not just economic significance – way beyond China's own borders.

Endnotes

1 Defined as 'the government's intense focus on a single measure of development, the pursuit of strong numbers on that measure, and the overlooking of the negative consequences of that limited vision'.

2 As He shows, the same is true when it comes to translating foreign political concepts and ideas into Chinese.

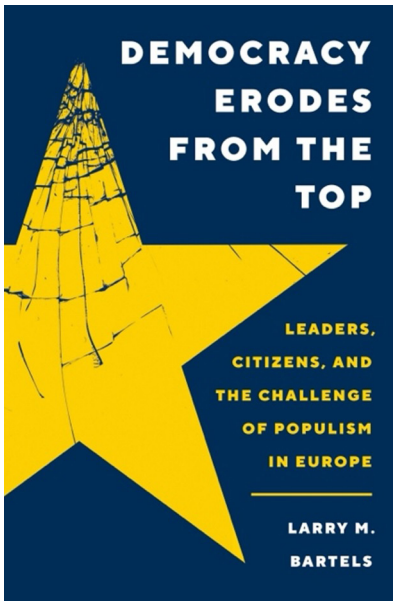
3 Though in Cowhig's extremely useful translations of Chinese debates, he favours '*New Quality Productivity*'.

4 These arguments are fleshed out by Marx in Critique of Political Economy (1859), and by Engels in On Ludwig Feuerbach and the End of Classical German Philosophy (1866), Anti-Dühring (1877), and Socialism: Utopian and Scientific (1880).

5 Where Chinese citizens have to register as a resident of a specific jurisdiction – normally where they were born – which then places restrictions on where they can live and work. There have been numerous promises to reform the hukou system over the years, and some provinces are currently piloting new more flexible policies.

Book Review : Democracy Erodes from the Top

by Ji-han Lim *



Conventional narratives about the crisis of democracy in Europe often center on the anxieties and attitudes of voters—casting them as increasingly polarized, intolerant, and hostile to democratic institutions. In Democracy Erodes from the Top, political scientist Larry M. Bartels forcefully reverses this perspective. Drawing on nearly two decades of European Social Survey data and incisive political analysis, Bartels argues that it is not voters who are fueling democratic decline, but political elites themselves. The result is a rigorously documented and sharply argued intervention that invites a fundamental rethinking of the populism-democracy nexus.

Bartels's central claim is that popular narratives of a widespread democratic crisis are empirically overstated and analytically misguided. Across multiple chapters, he challenges the assumption—widely held in both media and scholarship—that the rise of populist radical right parties reflects a groundswell of authoritarian or anti-democratic sentiment among European publics. Instead, Bartels demonstrates that public attitudes toward immigration, European integration, economic redistribution, and political institutions have remained largely stable—and in some cases, have become more favorable—throughout the 2000s and 2010s.

Far from suggesting that democracy is untroubled, Bartels reorients the locus of concern. Democratic erosion, he argues, "comes from the top"—through elite-led manipulation of institutions, erosion of norms, and opportunistic exploitation of public dissatisfaction. Hungary and Poland serve as the book's cautionary tales: both countries experienced democratic backsliding not as a product of voter radicalization but as a consequence of relatively mainstream parties gradually dismantling institutional safeguards after securing power. In these cases, Bartels finds little evidence of rising populist demand; rather, he points to elite agency and institutional drift as the drivers of democratic decay.

The book's empirical backbone is its detailed analysis of public opinion across 23 European countries from 2002 to 2019, using over 350,000 survey responses. Bartels divides this period into pre-crisis, crisis (2008–2013), and post-crisis phases, examining how attitudes shifted in response to events such as the eurozone crisis, the refugee influx, and the so-called populist wave. The findings are consistently counterintuitive: support for European integration rebounded after the eurozone crisis; satisfaction with welfare services increased even amid austerity; and in most countries, anti-immigrant sentiment either held steady or softened slightly over time.

This stability presents a paradox: if mass attitudes remained largely unchanged, what explains the electoral rise of right-wing populist parties? Bartels's answer lies in political supply, not demand. He attributes the success of parties like Lega, Vox, and UKIP to elite entrepreneurship, media amplification, and the failings of mainstream parties, rather than any deep-seated shifts in public ideology. In this sense, Democracy Erodes from the Top implicitly critiques much of the recent literature on populism that overemphasizes voter psychology at the expense of institutional dynamics and elite behavior.

For readers in international relations and security studies, Bartels's conclusions carry important implications. The book subtly but powerfully challenges the liberal notion that democratic resilience resides chiefly in civic culture. Instead, it suggests that institutional integrity and elite self-restraint are far more consequential for safeguarding liberal democracy. This argument echoes concerns raised in works such as How Democracies Die (Levitsky and Ziblatt), but Bartels is more empirically granular and, arguably, more politically agnostic. His diagnosis is less moralistic than structural: elites matter more than publics, and political systems are only as durable as the people entrusted to manage them.

The book also offers a critical corrective to alarmist accounts linking economic grievances to populist surges. Bartels finds only weak and inconsistent connections between economic discontent and anti-system sentiment, and even weaker links between those sentiments and populist vote shares. Where economic dissatisfaction does appear, it often reflects short-term shocks and quickly rebounds as conditions improve—further undermining narratives of a long-term populist realignment driven by globalization, automation, or austerity.

What makes Democracy Erodes from the Top especially notable is its commitment to evidence over orthodoxy. Bartels resists the temptation to construct a grand theory of democratic failure. Instead, he offers a clarifying lens on what the democratic crisis is not: it is not rooted in a mass rejection of democratic norms, nor in a tidal wave

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of populist backlash. Rather, it is a more mundane and incremental process—one that unfolds not in the streets but in parliaments, cabinets, and constitutional courts, often under the guise of legality and stability.

This refusal to moralize or overgeneralize may disappoint readers looking for a clear prescriptive agenda. Bartels is measured in his recommendations, preferring conceptual clarity to policy advocacy. If there is a lesson to be drawn, it is that democratization and democratic stability cannot rely solely on an engaged citizenry; they require institutional constraints and accountable leadership. In that sense, Democracy Erodes from the Top is a sober rejoinder to both democratic idealism and populist fearmongering.

In sum, Bartels has produced a book of lasting relevance—empirically rich, methodologically careful, and politically incisive. It will serve as a touchstone for future scholarship on democratic resilience and populist politics in Europe and beyond. Whether one reads it as a political scientist, an IR scholar, or a policy analyst, the core message is both provocative and persuasive: the real threat to democracy is not the people—it is the people in power.

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