



The People's Republic of Data: How China Is Turning Data into Capital

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Key Findings

- » **In 2020, China designated data as a factor of production, formalizing its intent to make data into a key building block for economic progress.** This decision elevated data to a strategic resource and compelled ongoing efforts to manage the creation, valuation, exchange, and productive use of data.
- » **Beijing's ambitions extend beyond economic growth.** It is marshaling data to drive productivity, power its AI and technology goals, and improve its intelligence collection and military capabilities. Commercial gains are one facet of a wider contest with the United States over data as a source of national power.
- » **China's data strategy mirrors the top-down design of its industrial policy.** By incentivizing local governments to deploy, commercialize, and monetize data, Beijing is fostering experimentation with data applications.
- » **China's data commercialization drive enables strict state oversight of data.** Five years after a crackdown on big tech chilled entrepreneurship, China's current policies encourage aggressive data monetization in an environment controlled and monitored by the world's foremost surveillance state.
- » **China's initial successes include the adoption of official data exchange infrastructure and published use cases for data applications.** Despite challenges of low-quality data and hesitancy from private firms to participate in the state-led data economy, China has continued to adapt policy to encourage greater participation in the data economy.
- » **China's commercialization effort targets the data that remain scarce.** With the open web largely exhausted as a training resource, competitive advantage rests on enterprise, operational, and physical-world data that cannot be scraped, and China's exchanges, accounting rules, and industrial data programs are aimed at precisely these categories.

Introduction

China watchers in 2021 would not have predicted the country would lead the world in commercializing data and treating it as an asset. After regulators in 2020 abruptly canceled the mega-IPO of Ant Group, then one of China's largest and most prominent fintech firms, China's homegrown tech giants spent the next three years in the crosshairs of the Chinese Communist Party (CCP). Curbing the private sector's ability to collect and use data without state oversight was one focus of the tech crackdown, with the Cyberspace Administration of China (CAC) targeting technology firms and social media platforms. In those same years, China stepped up censorship of economic data, canceling official series and banning private estimates that painted an unflattering picture and limiting foreign access to Chinese data and its aggregators.

Yet as it was reining in big tech's data practices, China's government was figuring out how to extract value from data at a national scale. Although Chinese officials designated data as a factor of production in 2020, China's first significant action to reopen space for commercial innovation and data monetization policies came in 2022 with a sweeping development framework. Fast forward to 2026, and China's data economy is beginning to flourish through government-led data exchanges, new data accounting rules, and pilot programs that treat data as a resource. As more actors refine and package data, they unlock productivity gains for themselves or outside buyers, much like land or capital goods are created, used, and transferred.

Rather than leaving the development of a data economy up to market forces, China is building infrastructure where participants can exchange data—fostering third-party services like data valuation, analytics, and financing and encouraging wider participation in the data economy.

This familiar industrial policy-style approach is designed to unleash the same forces that have made China a leader in next-generation manufacturing, namely Party-led prioritization, hyperlocal competition, regulatory experimentation, and direct economic incentives. It also reflects Chinese policymakers' confidence that they can have their cake and eat it, too: the mandate to build a data market and leverage data as a productive resource coexists with a regulatory framework that ensures state access, limits foreign control, treats a wide and morphing range of data as sensitive to national security, and censors politically contentious data.

At the same time, commercialization is just one piece of a larger Chinese effort to dominate data as an asset. That effort encompasses protecting the data China already holds, acquiring as much foreign data as possible, and integrating and synthesizing all incoming data to extract value as well as military and intelligence benefits from them.* Commercialization advances that broader project even where its immediate aims are economic: the same push to aggregate, standardize, and circulate data also renders them more accessible and usable to the state.†

Data's strategic value has shifted. Frontier AI developers have largely exhausted the open web as a training resource, making public text a commodity input that confers little competitive advantage.¹ What remains scarce sits inside firms and institutions: industrial and operational records, proprietary and paywalled databases, and physical-world data generated by machines and sensors that never touch the internet. China's commercialization push is aimed at these categories, which is what distinguishes it from general data accumulation.

* The Commission's April 2026 hearing, "Taking a Bigger Byte: China's Expanding Strategy for Data Dominance," examined China's overseas data collection efforts targeting U.S. individuals, intellectual property, government communications, and other information whose value to national security may not yet be apparent.

† Some components of this wider strategy, including cyber-enabled foreign data collection and the storage of encrypted data for later decryption, fall outside this paper's scope but will be covered in the Commission's 2026 Annual Report to Congress.

China's Data Policy Balances Security Obsession with Commercialization Push

China's industrial policy-like push to commercialize data follows a decade of consolidating state control over private-sector data driven in part by General Secretary of the CCP Xi Jinping's ever-expanding definition of national security.[†] That control is the foundation of the commercialization push: Beijing opened space for data monetization only after establishing the legal and regulatory means to oversee it. Three landmark laws built that machinery: the 2016 Cybersecurity Law, the 2021 Data Security Law, and the 2021 Personal Information Protection Law, which together set firm restrictions on private collection, use, and transfer of data while reserving broad state control over all data-related activity.^{§ 2}

At the same time, Chinese officials recognized the productivity gains data analytics would deliver and began laying the regulatory foundation for data commercialization. In March 2016, the 13th Five-Year Plan outlined a national data strategy that defined data as a "basic strategic resource" and focused on sharing public data and utilizing data to upgrade traditional industry.³ In April 2020, the Central Committee and the State Council elevated data to a fifth factor of production.^{** 4} The 14th Five-Year Plan for National Informatization released in 2021 also identified the circulation and allocation of "data factors" as a priority.⁵ However, China's concerns over foreign access to data as well as vulnerabilities posed by persistent cyber breaches for individual internet users overshadowed initial movements toward wider commercialization of data.⁶

Table 1: China's Top-Down Data Commercialization Initiatives

Name	Description
Data Security Law (2021)	Calls for the regulation and cultivation of data exchanges and provides a framework for "collection, storage, use, processing, transmission, provision, disclosure, etc., of data." Introduces a system of classification and handling requirements for data based on their relevance to economic and social development as well as national security concerns.
Data Twenty Articles (2022)	Laid the groundwork for the implementation of China's data industrial policy across data property rights, exchange, revenue distribution, and governance and further delineated red lines around national security.

[†] For more on the CCP's national security concept, see U.S.-China Economic and Security Review Commission, "[China's New Measures for Control, Mobilization, and Resilience](#)," in *2024 Annual Report to Congress*, November 2024, 461–462.

[§] For more, see U.S.-China Economic and Security Review Commission, *China's Evolving Data Governance Regime*, July 26, 2022. <https://www.uscc.gov/research/chinas-evolving-data-governance-regime>.

^{**} China designates land, labor, capital, technology and data as the five main factors of production used to create goods and services. Data's designation as a factor of production came in stages across multiple policy documents. In 2019, China's Central Committee listed knowledge and management alongside these five factors at the Fourth Plenum, a major meeting of senior leadership to set future policy direction. The April 2026 guidelines focused on improving the market-based allocation of the five main factors. Chinese Communist Party's Central Committee, 中共十九届四中全会《决定》 [Decision of the Fourth Plenum of the 19th Central Committee of the Chinese Communist Party], November 5, 2019. CSIS Interpret: China Translation. <https://interpret.csis.org/translations/decision-of-the-fourth-plenum-of-the-19th-central-committee-of-the-chinese-communist-party/>.

Name	Description
National Data Administration (2023)	Established under the National Development and Reform Commission (NDRC), focusing on the commercial and development aspects of data governance, including national regulations and standards-setting. Calls for the construction of a unified national data market and promoting data as a factor of production.

Source: Various.⁷

China’s Framework for Data Commercialization

China’s data industry has entered an implementation phase as regulators continue to adjust the regulatory framework. Data commercialization in China has unfolded across several policy priorities.

China Builds Underlying Infrastructure to Facilitate the Market-Driven Exchange of Data

China is promoting a model of transparent, government-run data exchanges designed to concentrate high-value, high-quality data assets and generate network effects. By encouraging firms to list datasets in a centralized forum,^{*} China is structuring the market to give buyers better visibility into what is available and foster competition among sellers on price.⁸ Government agencies and state-owned enterprises (SOEs) were early adopters—these two groups accounted for the majority of data sold on the Guiyang Big Data Exchange as of 2023.^{† 9}

The exchanges initially struggled to gain traction because they lacked regulations and norms to facilitate the buying and selling of data.¹⁰ In May 2024, 24 data exchanges committed to align on standard naming conventions, transaction procedures, and security measures and to increase interoperability between various Chinese marketplaces.¹¹ They have also expanded their scope to connect data buyers and sellers to third-party services such as cleaning and packaging data, legal and compliance review, and valuation and storage.¹²

These moves began to consolidate a data economy ecosystem with exchanges both centralizing transactions for data and providing a platform for ancillary services. As a result, the percentage of data transactions taking place through or registered with official exchanges has increased from under 5 percent in 2021 to around 20 percent in 2024.¹³ Annual transaction value on each of the largest exchanges, including Guiyang, Shenzhen, Shanghai, and Beijing, exceeded renminbi (RMB) 1 billion (USD 150 million[‡]) for the most recent available data (see Table 2). National Data Administration (NDA) Director Liu Liehong announced at the end of 2025 that China had at least 4,000 interconnected data exchanges, infrastructure operators, and data merchants collectively offering more than 13,000 data products and services.¹⁴

^{*} Purchasing data from an exchange requires registration, which typically entails a corporate entity and a designated legal representative. These are modest requirements by the standards of China’s tightly regulated data environment, where cross-border transfers, “important data” handling, and platform operations are subject to far more onerous licensing and security review regimes.

[†] The Guiyang Big Data Exchange became China’s first data exchange in 2015 and remains one of the most active exchanges (see Table 2). “China’s First Big Data Exchange Registers 5.4b Yuan in Transactions,” *Xinhua*, August 29, 2024. <https://web.archive.org/web/20260321175652/https://www.chinadaily.com.cn/a/202408/29/WS66d02501a31060630b925a73.html>.

[‡] This paper uses the following exchange rate throughout: \$1 = RMB 6.75.

Table 2: China's Largest Big Data Exchanges

Name, Year Founded	Main Products	Trading Volume*
Guiyang Big Data Exchange, 2015	Data products and services, algorithmic tools, and resources	RMB 2 billion in 2023; RMB 5 billion cumulative through August 2024
Shenzhen Data Exchange, 2022	Data products, services, and tools	RMB 5 billion in 2023
Shanghai Data Exchange, 2021	Datasets, data services	RMB 1.1 billion in 2023; RMB 2.5 billion cumulative through June 2024
Beijing International Big Data Exchange, 2021	Data products—including datasets, application program interfaces (APIs), and reports—and data services	RMB 2 billion in 2023; RMB 4.5 billion cumulative through June 2024
Guangzhou Data Exchange, 2022	Data products and services, data resources, data assets	RMB 2.5 billion cumulative through 2023
Fujian Big Data Exchange, 2022	Data products and services	RMB 3 billion cumulative through 2024
Zhengzhou Data Exchange Center, 2022	Data products and services	RMB 4.2 billion cumulative through 2025
Western China Data Exchange, 2021	Data products	RMB 920 million cumulative through September 2024
Hunan Big Data Exchange, 2021	Data products	RMB 1.5 billion cumulative through July 2024
Zhejiang Big Data Exchange Center, 2016 and Hangzhou Big Data Exchange, 2023	Datasets, APIs, reports, AI models, data services	Combined RMB 6 billion cumulative through 2024
De Yang Data Exchange, 2022	Data products and services	RMB 106 million cumulative through July 2024
Beibu Gulf Big Data Trading Center, 2020	Datasets, APIs, solutions	RMB 325 million cumulative as of December 2023
Suzhou Big Data Exchange, 2022	Data products	RMB 300 million cumulative through April 2024
Hainan Supermarket for Data Products, 2021	Datasets, APIs, reports, models, data services	RMB 730 million cumulative through April 2024
Changchun Data Exchange Center, 2023	Data products and services	RMB 170 million cumulative through February 2024

Source: See below for additional sources.¹⁵ Original table adapted and updated from Alex He and Rebecca Arcesati, “Data Marketplaces and Governance: Lessons from China,” *CIGI*, November 12, 2024. <https://www.cigionline.org/articles/data-marketplaces-and-governance-lessons-from-china/>.

* Note: Total trading volumes are difficult to assess. China may be blocking international access to several data exchanges, as the author’s attempts to access the likely URLs of many data exchanges were unsuccessful. Even exchanges that are available do not publish granular data on total transaction volumes. Instead, these data are published by Chinese research institutes, trade publications, and media sources on an ad hoc basis. Moreover, some of the data are conflicting and sources are often ambiguous on annual versus cumulative figures and whether the total trading volumes include transactions merely registered with the exchange. The author has listed these figures as cumulative unless stated otherwise in the source.

China Works to Resolve Standardization, Structuring, and Regulatory Challenges

As firms respond to the national directive to expand access to datasets, an industry ecosystem for cleaning, labeling, and refining data is taking shape. Like elsewhere in the world, Chinese data have long sat in silos for a variety of reasons, including inconsistent formatting, collection, structuring, and automated processing.¹⁶ China’s data exchanges are helping by bringing together independent operators that aggregate and clean data for owners.¹⁷ In 2025, the NDRC and NDA issued data labeling guidelines calling for annotation standards across text, image, video, and audio as an attempt to standardize and centralize these efforts.¹⁸ The training needs from AI’s rapid advance have elevated the importance of data annotation, and Chinese AI companies like Baidu have set up dedicated hubs employing thousands of individuals to label data.¹⁹

The NDA has paired these efforts with a broader push to expand the supply of high-quality data, coordinating with 26 ministries to promote dataset construction across industries and elevating an “AI-Ready” industry standard that grades datasets on whether they are technically usable for model training, require minimal preprocessing, and measurably improve model performance.²⁰ Director Liu reported more than 500 petabytes of high-quality datasets built as of September 2025, framing the effort as *central* to fusing data with AI development.²¹

China’s dense web of data regulations remains an obstacle, but some service providers now offer compliance reporting functions to help companies navigate it. Since 2016, Chinese regulators have categorized data by their sensitivity and outlined “important” and “core” data for different industries limiting usage and requiring special handling.²² Data exchanges now help firms navigate the risks and compliance requirements of ambiguous guidelines. The Shanghai Data Exchange published guidelines in 2023 outlining requirements to conduct security assessments, delineate respective responsibilities, and obtain regulatory consent before transferring important data.²³

China is pairing its expansion of public data exchanges with compute and associated infrastructure. In December 2024, the NDA and two other agencies released the Guidelines for National Data Infrastructure Construction, a roadmap for data circulation and supply as well as the hardware needed to grow the digital economy.²⁴ These data infrastructure initiatives build on the existing Eastern Data Western Computing initiative, launched in 2022 to shift computing capacity toward western provinces—where electricity costs are lower and energy resources are abundant—while spreading development inland.*²⁵ The NDA is targeting 2028 to extend national data infrastructure across large and medium-sized cities and 2029 to complete the bulk of the buildout.^{† 26}

* For more on Eastern Data Western Computing, see “U.S.-China Competition in Emerging Technologies” in the Commission’s 2024 Annual Report to Congress at 191–192.

† China has since tightened oversight of data center development on concerns that uncoordinated local government buildout of data centers was resulting in underutilized and inefficient expansion. In June 2026, three Chinese agencies—including the NDA—reportedly restricted the development of small data centers and required new projects to locate in centralized hubs to better align buildout with AI compute requirements. For more, see “China Plans to Consolidate Data Center Construction” in the Commission’s China Bulletin published on July 23, 2026. <https://www.uscc.gov/trade-bulletins/china-bulletin-july-23-2026>.

China Encourages the Development of Data Valuation Services

Valuation is a critical step toward commercialization, and China has tried to facilitate it through updated accounting rules. In 2023, China's Ministry of Finance released the Interim Provisions on Accounting Treatment Related to Enterprise Data Resources, allowing firms and local government financing vehicles (LGFVs) to treat data either as an intangible asset or inventory on their balance sheets.^{* 27} The provisions took effect January 2024. Under both International Financial Reporting Standards and U.S. Generally Accepted Accounting Principles, costs associated with generating data internally are expensed as incurred, leaving their value absent from corporate balance sheets; China's rules instead give firms the option to capitalize them.²⁸ That recognition is the foundation for what follows, because an asset that has a dollar value can be recorded on a balance sheet, pledged as collateral, and securitized. Assigning value to data may make entities more inclined to protect them, on the theory that organizations safeguard what they formally account for.

The regulations also provide preliminary guidance on valuing data, directing firms to sum the costs of creating them.²⁹ China paired the rules with valuation methodology guidance from the China Appraisal Society in September 2023 and asset management guidance from the Ministry of Finance that December.³⁰ China has also presented its framework to the International Accounting Standards Board (IASB), which recently added intangible assets to its work plan.³¹ Though the IASB work plan does not appear to be focused on data, China has offered to share its experience as international standards-setters begin to focus on that work plan.

Companies are rapidly assigning monetary value to their data in response to the new rules, in part to shore up balance sheets and give the appearance of stronger finances. As of December 2025, 136 publicly listed A-share companies had listed RMB 3.8 billion in data assets.^{+ 32} Some of the largest data assets were listed on the balance sheets of China's major telecoms providers and iFlytek, a Chinese AI company.^{+ 33} An additional 417 non-public companies had listed data assets as of March 2026, according to research from the Shanghai Advanced Institute of Finance, an increase of 56 companies year-over-year.³⁴ Over 300 of these institutions were local SOEs, following a 2024 announcement from the NDA that it would formulate a plan with the State-owned Assets Supervision and Administration Commission (SASAC) to improve procedures to collect, share, and apply data within the SOEs under its supervision.^{§ 35} Government-linked entities often serve as guinea pigs for Chinese policy, and participating entities had clear incentive to improve their asset-to-liability ratios. In general, China's government is eager to reduce

* Companies that intend to use the data in-house to improve productivity or otherwise enhance firm efficiency or license them can classify them as an intangible asset. Companies that intend to sell the data can list them as inventory. Either way, the immediate effect is to improve financial accounting metrics by inflating assets and reducing operating costs. China's Ministry of Finance, *Introduction to Interim Provisions on Accounting Treatment of Enterprise Data Resources*, May 29, 2024, 7–8. <https://www.ifrs.org/content/dam/ifrs/meetings/2024/may/eeg/ap6-accounting-of-enterprise-data-resources.pdf>; Xingchao Gao, Junhao Liu, and Hai Lu, "Accounting for Data Assets," *SSRN Working Paper*, December 13, 2025, 4.

⁺ The majority of these data assets were listed as intangible assets as opposed to inventory or development costs, meaning that the companies were likely intending to use the data either in-house or through licensing to generate value rather than through selling the assets.

[†] The Department of Commerce added iFlytek to its Entity List in 2019 over allegations that its voice recognition technology enabled the CCP's human rights violations targeting Uyghurs and other ethnic minorities. It is possible, therefore, that iFlytek has put an RMB value on surveillance data collected as part of a campaign that numerous governments have labeled a genocide and the Office of the UN High Commissioner for Human Rights has stated may constitute a crime against humanity. Office of the UN High Commissioner for Human Rights, *OHCHR Assessment of Human Rights Concerns in the Xinjiang Uyghur Autonomous Region, People's Republic of China*, August 31, 2022, 44. <https://www.ohchr.org/sites/default/files/documents/countries/2022-08-31/22-08-31-final-assesment.pdf>; "Who Are the Uyghurs and Why Is China Being Accused of Genocide?" *BBC*, May 24, 2022. <https://www.bbc.com/news/world-asia-china-22278037>; U.S. Department of Commerce, Bureau of Industry and Security, "Addition of Certain Entities to the Entity List," 84 FR 54002 (October 9, 2019). <https://www.federalregister.gov/documents/2019/10/09/2019-22210/addition-of-certain-entities-to-the-entity-list>.

[§] Although the national SASAC does not directly control local and provincial SOEs, it has considerable influence over the local SASACs that manage them. Barry Naughton, "Top-Down Control: SASAC and the Persistence of State Ownership in China," working paper presented at the conference on "China and the World Economy" Leverhulme Centre for Research on Globalisation and Economic Policy, June 23, 2006, 17. <https://www.nottingham.ac.uk/gep/documents/conferences/2006/june2006conf/naughton-june2006.pdf>.

local government debt, including “hidden debt,”* which the International Monetary Fund (IMF) estimates reached 41 percent of China’s GDP in 2024.³⁶

Data Valuation Poses a Practical Challenge

Challenges assigning accurate, reliable valuations to intangible assets are slowing China’s data commercialization ambitions. Valuing intangible assets is notoriously difficult and often relies on forecasting uncertain future cash flows.³⁷ Music catalogs (another form of intangible asset), for example, are valued based on projections informed by years of royalty and other licensing income.³⁸ However, tested techniques such as estimating the value of future cash flows or looking at comparable market transactions are difficult to apply to data.³⁹ Datasets also often lack standard features that allow for broad cross-industry comparison and evaluation, and most regions lack holistic regulatory and legal frameworks for the ownership and transfer of data rights. China is especially susceptible to misvaluing data given the risk of national security-based limits on data and recurring and frequent state intervention for favored sectors. For now, China’s accounting regulations prescribe initially valuing data at their cost to produce, which could either understate or overstate the value of the asset depending on whether it ultimately generates any meaningful economic gain for the company.⁴⁰

From Valuation to Monetization

Although nascent, China is now building the institutional knowledge, regulatory environment, and in some cases government backing needed to monetize data assets. A small number of LGFVs and companies have received bank loans collateralized by the value of data assets listed on their balance sheets.⁴¹ China’s data asset-backed securities (ABS)—a separate form of financing that relies on pooled cash flow streams for repayment—had reached RMB 20 billion cumulatively through May 2026 compared with a total RMB 5 billion in 2025.⁴² Most of these data ABS were not traditional securitizations because repayment relied on other cash flows instead of income generated from data assets.⁴³ The first tranche of a securitization that relied solely on data assets was issued in May 2026 in the amount of RMB 532 million.⁴⁴ Notably, this first pure data ABS was guaranteed by a state-owned financial company, providing additional coverage for investors in case the value of the income streams from the data is insufficient to effect full repayment.⁴⁵ These initial forays into financing data are building valuable experience in structuring, documenting, and monitoring data-based financings while limiting the potential fallout from nonrepayment or collateral impairment.

China recently paused new data ABS issuances, however, reflecting the tension between financial experimentation and unresolved valuation questions. In June 2026, China halted approvals for new ABS backed by data assets due to questionable underwriting standards and the high percentage of LGFVs that were using them to skirt Beijing’s limits on local debt issuance.⁴⁶ According to industry participants, the data assets underlying the securitizations were unlikely to generate meaningful cash flow, with issuance and repayment relying heavily on external guarantees or other receivables.⁴⁷

* “Hidden” or “implicit” debt refers to borrowing by LGFVs and other entities acting on behalf of local governments to finance infrastructure, public services, or other government expenditures outside the formal budget. Although these liabilities are legally corporate rather than government obligations, investors have often treated them as implicitly backed by local governments, creating moral hazard.

China Pushes Government Entities to Lead the Charge While Opening Regulatory Space for Commercial Entities

China is encouraging local governments to lead by example in making public datasets available either freely* through state-managed data platforms or by monetizing and granting exclusive usage rights to firms for product development.⁴⁸ China now has more public datasets available than any other country, and provincial and local governments have touted the benefits, with the NDA releasing 100 use cases across agriculture, healthcare, and transportation and logistics.⁴⁹ Among these, a government platform consolidating geographic data from local, provincial, and national sources allowed various mapping and location services to build applications on top of it.⁵⁰ A list of illustrative projects from Hubei Province described aggregating government data on annual reports, licensing and business registrations, credit information, and other fines or penalties into a new business services database used to streamline applications for new businesses and increase food safety at catering businesses.⁵¹ In Wuhan, a system integrating public traffic data helped optimize drug delivery services and warehouse management.⁵² According to Fudan University's Digital and Mobile Governance Lab, as of 2025, local and provincial governments in China had published 478,205 open datasets across 257 platforms.^{† 53}

Recognizing the challenges for international companies with China's strict data localization laws, China has also experimented with allowing free trade zones to relax some of its rules on cross-border data transfer.⁵⁴ CAC has streamlined its review process by allowing these zones to introduce negative lists for datasets of important and personal information that require a pre-exit security assessment, provided blanket exemptions for categories like cross-border commerce, and simplified the security assessment process, which has reduced both the total number of reviews and the time needed for each one.⁵⁵

China's Data Economy Faces Hurdles but Has Made Progress

China—like any nation—faces obstacles in using industrial policy to turn data into a significant source of economic growth and dynamism. Challenges remain in implementing its vision of data as a shared resource. However, the impetus to treat data as an asset and subsequent experimentation is spurring further innovation in digital services and Chinese sources claim it is lowering costs for various industries.

Data exchanges have failed to resolve market trust issues, as the dataset quality remains poor and transaction volumes muted. Datasets listed on local exchanges are often duplicative and low quality, and 85 percent of data made available on open government platforms was incomplete as of 2023.⁵⁶ As local data exchanges develop new products and services, policy advisors and academics have called for a consolidated national data market to enhance network effects and alleviate quality issues.⁵⁷ Without more transactions, participants lose confidence that exchanges offer valuable, unique data. As a result, data in China are still primarily transferred via bilateral agreements. Estimates of the annual size of the data market in China exceed RMB 200 billion, well above the annual trading value of only a few billion RMB on the largest established exchanges (see Table 2).⁵⁸

In addition, despite policies and pilot programs to boost the role of data exchanges, companies still view internal data as proprietary and are hesitant to participate. China's private tech titans remain reticent to share what they

* Some of these platforms require users to register for a China-based account and enter their personal details to download data files.

† For comparison, data.gov, the U.S. government's dedicated open data website, has 363,521 datasets available as of August 2026. U.S. General Services Administration, *Data.gov*. <https://web.archive.org/web/20260804110732/https://data.gov/>.

deem a competitive advantage and wary of the reliability of services provided by China's state-led data exchanges, especially after the 2020 tech crackdown.⁵⁹ More generally, companies consider data accumulated through thousands or even millions of individual transactions or interactions to be a competitive advantage—one that creates a cycle between recurring business activity and more efficient decision making.⁶⁰ As a result, the largest growth opportunities for data commercialization lie outside of traditional digital industries, which have an incentive to keep proprietary datasets private.

China also has yet to resolve the tension between state control and data commercialization. Firms remain uncertain about public data transfer, data ownership, and compliance risks, increasing transaction costs and dampening participation.⁶¹ The push for commercial entities to develop services building on public data has proceeded cautiously, with central authorities trying to strike a balance between encouraging the positive use of public data assets for economic growth and preventing opportunistic rent-seeking behavior with a public asset.⁶² Chinese firms continue to raise concerns over risks associated with data security and privacy.⁶³ Foreign companies operating in China are particularly exposed to China's strict data compliance rules given their potential need to handle cross-border data transfers.⁶⁴

China's policy framework also sidesteps data ownership by focusing on how the data are used.* China has established rights to hold data resources, to process and use data, and to manage data products, but it has no clear ownership rights. This means that at least in the short run the benefits of data monetization will accrue to the entity carrying out the data collection or processing rather than the individuals or entities whose activities generated the data.[†] ⁶⁵ The lack of clear ownership rules also means, though, that data collectors/aggregators have no assurance that their monetization approaches will be durable over the long term.[‡] ⁶⁶

Despite these hurdles, the NDA and provincial governments have demonstrated how experimentation with new applications of data analytics has paid off for traditional industries. With local governments and state-owned entities looking for ways to monetize their troves of data, private companies across agriculture, healthcare, logistics, and services are coming up with new products that generate value. Even if the majority of these transactions continue to take place outside of organized exchanges, the creation of value-added ancillary services from financing to compliance eases the frictions associated with monetizing data assets.

China's embodied AI push shows how public and private actors are coming together to generate the data a generational leap in robotics requires. Humanoid robot startups are collecting and simulating physical movement data to train their robots.⁶⁷ State-funded centers for humans to train robots have opened in Beijing, Tianjin, Shanghai, Hubei,

* This methodology is comparable to how land is monetized in China without transferring property rights away from state control. The state owns all urban land and leases it to residential and commercial users on longer time horizons. China then had to codify a system on the transferability of those use rights, even as ownership stayed with the state. Ran Guo, "Assetizing, Trading, Franchising: China's Strategy for Building a National Data Economy," *Asia Society Policy Institute*, February 13, 2026. <https://asiasociety.org/policy-institute/assetizing-trading-franchising-chinas-strategy-building-national-data-economy>; Yuan Yanchao, ed., "China's Legal Framework on Urban Land," *China Justice Observer*, May 2, 2020. <https://www.chinajusticeobserver.com/a/chinas-legal-framework-on-urban-land>.

† Local governments are leading the charge on exploring how to protect data intellectual property through pilot registration systems. Jamie P. Horsley, "China's Data Dilemma: Maximizing Data Utilization While Ensuring Data Security," *SSRN Working Paper*, October 28, 2025, 40–41. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5674524.

‡ In July 2026, the NDA published trial guidelines for a data property rights registration system. The rules enable authorized reviewers to affirm an entity's right to hold, use, and manage data by examining how the data was collected or processed. China's National Data Administration, 国家数据局综合司关于印发《数据产权登记工作指引（试行）》的通知 [Notice from the General Office of the National Data Administration on Issuing the "Guidelines for Data Property Rights Registration (Trial)"], July 4, 2026. https://web.archive.org/web/20260719094344/https://www.nda.gov.cn/sjj/zwgk/zcfb/0704/20260703230745065425855_pc.html.

and other locations.⁶⁸ JD, one of China's largest e-commerce and tech firms, has launched a data exchange platform for embodied AI.⁶⁹

From a broader perspective, China's experimentation with data commercialization is positioning it to lead in setting international interoperability standards. To the extent Chinese standards for valuing data, registering ownership, tracking compliance, and evaluating quality become global norms, Chinese firms capture network effects that accelerate growth in the data economy. Rather than wait for its practices to be adopted organically, China is actively working to export them by launching a Beijing-based international organization to promote its preferred norms and standards. Established in early 2026, China's World Data Organization (WDO) has already drawn over 200 corporate, think tank, financial institution, and academic members from 40 countries around a mission to coordinate international data policy, regulations, standards, and best practices.⁷⁰ The WDO is not China's first effort to lead on global data standards, and its large initial membership reflects China's sustained prioritization of the issue.*

Considerations for Congress

State-run exchanges have not diverted activity from bilateral data transactions, but China has laid the foundations to experiment with novel data applications that can upgrade traditional industries, help deploy AI to more productive uses, and solve public service challenges. Any significant realization of China's strategy raises several considerations for the United States:

- China has designated data a factor of production alongside land, labor, capital, and technology, elevating them to strategic economic assets. The United States has made no comparable national decision. Congress should consider whether the United States needs a national data strategy that treats data as an economic asset.
- China's experimentation with data is accelerating the digitization of traditional industries and the development of deployment-driven physical AI applications. By providing a clear framework for capturing, annotating, valuing, financing, and monetizing industrial data, China could build on the structural advantage it already has from its manufacturing base. As factories and warehouses deploy more robotic systems, for example, they generate valuable real-world data that can be captured, packaged, shared, and sold to improve performance at other companies. China's vast manufacturing and installed robotics ecosystem provides a pool of data for physical applications, an advantage all the more salient given the importance of high-quality data to AI development in general and embodied AI in particular.[†]
- China's Ministry of Finance has issued accounting rules that let companies record data as an asset on their balance sheets, an early step toward treating data as an asset class. The United States has no comparable standard, leaving the value of corporate data invisible in financial reporting. Congress should consider whether U.S.

* China has also pursued a Global Data Security Initiative and a Global Cross-Border Data Flow Cooperation Initiative to promote Chinese approaches to data governance. As of early 2026, neither approach appeared to have gained much traction, and it is not clear if China is continuing to push them separately or if the WDO is intended to subsume them. Nigel Cory, "The World Data Organization: China's Influence on Global Data Governance," *National Bureau of Asian Research*, July 14, 2026. <https://www.nbr.org/publication/the-world-data-organization-chinas-expanding-influence-on-global-data/>.

[†] For more on China's strategy for AI diffusion, see U.S.-China Economic and Security Review Commission, *Two Loops: How China's Open AI Strategy Reinforces Its Industrial Dominance*, March 23, 2026. <https://www.uscc.gov/research/two-loops-how-chinas-open-ai-strategy-reinforces-its-industrial-dominance>.

accounting standards should recognize data as an asset and encourage the Securities and Exchange Commission and the Financial Accounting Standards Board to quickly examine the question.

- China is seeking to become a frontrunner in global standards for firm-to-firm and government-to-firm data transactions. That outcome would carry both security and commercial implications, favoring China's state-driven approach to data and giving its companies an advantage. Congress should consider how the United States, working with allies and partners, can lead on data interoperability and transaction standards rather than ceding that ground to China. Standards are difficult to revise once adopted, and as discussed above China is already presenting its data accounting framework to the International Accounting Standards Board as that body takes up intangible assets. Engaging now would be more effective than seeking to unwind an established standard later.
- U.S. firms seeking to participate in China's onshore data economy risk running afoul of China's strict data and cyber governance regimes. As the scope of information considered vital to China's national security has widened and penalties for violations have increased, U.S. firms are increasingly in the dark about where the boundaries lie between permissible commercial activity and information falling under the national security umbrella.
- Chinese local governments and SOEs have led in valuing and listing data assets under central government direction to improve the collection, sharing, and application of data. U.S. federal agencies hold extensive data assets, including agricultural, geological, and health research holdings, but they face no requirement to assess their value. Congress should consider requiring federal agencies to inventory and assess the value of their data holdings within six months, establishing a baseline for protection and productive use.

Disclaimer: This paper is the product of professional research performed by staff of the U.S.-China Economic and Security Review Commission, and was prepared at the request of the Commission to support its deliberations. Posting of the report to the Commission's website is intended to promote greater public understanding of the issues addressed by the Commission in its ongoing assessment of U.S.-China economic relations and their implications for U.S. security, as mandated by Public Law 106-398 and Public Law 113-291. However, the public release of this document does not necessarily imply an endorsement by the Commission, any individual Commissioner, or the Commission's other professional staff, of the views or conclusions expressed in this staff research report.

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