

Improving the Price Formation Mechanism for Data Assets Through Practical Exploration (Postprint)

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Abstract

Analyzing and Predicting Social Risks: A Policy Simulation Engine Based on Multi-Agent Modeling to Assess the Impact of Minimum Wage Adjustments on Industrial Chains

Full Text

Preamble

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Analyzing and Predicting Social Risks: A Policy Simulation Engine Based on Multi-Agent Modeling to Assess the Impact of Minimum Wage Adjustments on Industrial Chains

It should be recognized that the influence of new quality productive forces on data application methods in social sciences is still in its early stages, with more profound and extensive transformations on the horizon.

Exploring from Practice: Improving the Price Formation Mechanism for Data Assets

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In the digital economy era, data has become a key factor of production. Establishing a sound pricing mechanism for data assets can provide strong support for promoting data factor circulation, revitalizing dormant data assets, and unleashing data value. Currently, the phenomenon of “a thousand people, a thousand prices” for data assets is widespread. It is necessary to support market practices, strengthen policy guidance, promote the construction of a data factor market system, and improve the market-based price formation mechanism for data assets.

1. The Price Formation Mechanism for Data Assets Is Still in the Exploration Stage

The data factor represents a major theoretical innovation first proposed by China. Data asset pricing stands as one of the global challenges, with no mature international experience to draw upon, necessitating continuous exploration.

1.1 Data Asset Pricing Provides Support for Activating Data Factor Potential

Currently, all sectors of society have accumulated vast amounts of dormant data assets. As practices such as data resource capitalization on balance sheets advance, the work of evaluating, pricing, and recognizing enterprise-owned data resources as assets has been put on the agenda. New quality productive forces center on the deep application of data factors, optimizing production processes and innovating business models through digital technologies. Market-based pricing of data assets is the key prerequisite for unleashing this potential. Exploring market pricing for data assets can, on the one hand, enable data suppliers to develop a deeper understanding of data asset value, fully mobilize their enthusiasm and initiative, and strengthen data asset protection. This will revitalize dormant data assets, help achieve the goal of maintaining and increasing their value, and improve the quality of data supply. On the other hand, scientific and rational market pricing of data assets will also promote compliant circulation in the data factor market, enhance the professional operational capabilities of data providers and third-party professional service institutions, help build standardized and efficient data trading venues, and optimize data resource allocation.

1.2 Basic Principles for Data Asset Market Pricing Are Gradually Being Established

Since the Fourth Plenary Session of the 19th CPC Central Committee officially listed data as a factor of production, subsequent policies including the “Opinions on Constructing a More Perfect Market-oriented Allocation System and Mechanism for Factors,” the “14th Five-Year Plan for Digital Economy Development,” and the “Opinions on Constructing a Data Basic System to Better Leverage the Role of Data Factors” have been promulgated, gradually clarifying the basic principles of data asset pricing. First, implement classified pricing according to the source and characteristics of data factors: public data used for industrial development shall be priced with government guidance for paid use, while enterprise and personal data shall be reasonably and independently priced by the market in accordance with laws. Second, effectively combine market pricing with government regulation, improve the mechanism where market forces primarily determine factor prices, with government formulating pricing rules and strengthening regulation of abnormal price fluctuations. Third, encourage pilot explorations: encourage business entities to explore diversified data asset pricing mechanisms, promote the formation of data asset catalogs, and gradually improve the data pricing system. Encourage data trading platforms to explore quotation, inquiry, bidding, and pricing mechanisms.

2. Difficulties and Challenges Facing the Data Asset Price Formation Mechanism

The exploration of market-based price formation mechanisms for data assets has just begun. Factors such as the “a thousand people, a thousand prices” phenomenon, the potential risk of blind “capitalization” of data assets, and the current imperfection of the data factor system deserve our high attention.

2.1 Characteristics Distinguishing Data Factors from Traditional Factors Make Pricing Difficult

Unlike traditional factors, data is characterized by non-consumption, non-exclusivity, high fixed costs with low marginal costs, and variable structures, making it difficult to apply traditional pricing methods in the data factor domain. Meanwhile, the usability and potential value of data usually cannot be determined before transaction and use, and information asymmetry between transaction parties is severe, making it difficult to form a fair price recognized by all participants. This results in the widespread adoption of case-by-case negotiated pricing and the “a thousand people, a thousand prices” phenomenon. The confusion in data price signals further exacerbates insufficient market transparency and information asymmetry between transaction parties. Moreover, the value release of data is highly scenario-dependent; only enterprises with years of industry experience understand the actual application scenarios and potential value of data in their industries. Therefore, the “a thousand

people, a thousand prices” phenomenon fully reflects the complexity of data application scenarios and the professional capabilities required of data providers and third-party professional service institutions.

2.2 The Potential Risks of Data “Capitalization” Cannot Be Ignored

Following the promulgation of the “Opinions on Constructing a Data Basic System to Better Leverage the Role of Data Factors,” the market response has been enthusiastic. However, while some market participants actively explore data asset capitalization practices, they also show a tendency to ignore the development stage of the data factor market and pursue blind “capitalization,” posing potential risks of asset bubble formation. If unregulated data pricing is allowed to continue, data assets may become a “manipulation space” for corporate assets, similar to goodwill, creating possibilities for asset bubbles. If data assets are further transformed into financial derivatives, the data market may experience false prosperity due to overvaluation and irrational investment, bringing systemic risks to China’s financial system. More notably, under current conditions of an imperfect data market system, if local governments blindly promote “data finance” and rely on data assets to obtain large amounts of financing, they may exacerbate local government debt risks.

2.3 An Imperfect Data Factor Market System Constrains Data Asset Price Formation

The data factor market remains in its early cultivation stage. Data supply entities lack motivation, awareness of continuous data operation and asset value maintenance is relatively weak, and there is insufficient enthusiasm for revitalizing data assets and participating in data circulation and transactions. Third-party service institutions in the data factor market are in their initial development stage; services such as data quality assessment and value evaluation are not yet standardized, and business models remain under exploration. A comprehensive data trading market rule system has not been established. Data transactions are primarily conducted over-the-counter, trading volumes on data exchanges are small, and their functions in price guidance or regulation have not been clearly defined, leaving the pricing role of on-exchange transactions underdeveloped.

3. Practical Pathways for Improving the Market-based Price Formation Mechanism for Data Assets

Currently, the data factor market is in the ascendant, market transaction entities remain to be cultivated, and unified pricing models have not yet formed for on- and off-exchange transactions. We should actively monitor market practices, summarize patterns in a timely manner, improve policies appropriately, and perfect the market-based price formation mechanism for data assets.

3.1 Supporting Market Practices

Encouraging the capitalization of data resources on balance sheets represents an exploratory step toward data asset capitalization, further enhancing enterprises' internal motivation to unleash the value of data factors. We should track practical application scenarios and innovative methods for data asset evaluation, and encourage data trading institutions and third-party service organizations to explore the application of cutting-edge technologies such as blockchain and artificial intelligence in data pricing. These technologies are not only important carriers of new quality productive forces but can also promote the formation of more accurate and dynamic pricing models by enhancing the transparency and automation of data transactions. For example, automated pricing mechanisms based on smart contracts can reduce human intervention, lower transaction costs, provide technical support for the efficient circulation of data factors, and thereby empower the continuous upgrading of new quality productive forces. We should also monitor the latest practices of domestic and foreign exchanges in data asset pricing, encourage trading institutions to formulate data factor value assessment frameworks and guidelines, and support pilot programs in regions with mature conditions. The market should be supported in exploring diversified pricing models and price formation mechanisms to develop replicable and scalable experiences and practices.

3.2 Strengthening Policy Guidance

We should promptly promulgate the “Opinions on Accelerating the Development and Utilization of Public Data Resources” to accelerate the establishment of a price formation mechanism that aligns with the characteristics of public data factors. We should explore conducting surveys and information disclosure on enterprise data prices and strengthen the regulation of abnormal market price fluctuations. In policy formulation, emphasis should be placed on cultivating new quality productive forces, supporting the open sharing and innovative application of public data resources, encouraging cooperation between enterprises and research institutions to develop data-driven solutions, and promoting the deep integration of data factors with the real economy. Simultaneously, we should increase investment in data factor market infrastructure, such as building secure and trusted data trading platforms and computing power networks, to provide foundational guarantees for the efficient circulation and value release of data assets, thereby consolidating the technological foundation for new quality productive force development. We should advance the construction of the data factor market system in a coordinated manner, develop the data factor service industry, and vigorously cultivate data service providers to create a favorable development ecosystem for improving the market-based price formation mechanism for data assets.

Finally, the government should fully leverage its role in orderly guidance and standardized development, firmly maintain the security bottom line, and clearly define regulatory red lines.

Zhang Xiaoxi. The Role of Data Factors in Economic Growth in the Stage of New Quality Productive Forces[J]. Journal of Literature and Data, 2025, 7(1): 015-017.

The Role of Data Factors in Economic Growth in the Stage of New Quality Productive Forces

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In the stage of new quality productive forces, the economic growth model requires a transformation from traditional resource-driven to innovation-driven, emphasizing the deep integration of knowledge, technology, and data. As a core component of new quality productive forces, data factors have become...

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Note: Figure translations are in progress. See original paper for figures.

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