

Enhancing Policies to Foster a Healthy Real Estate Market in the Context of the Fourth Industrial Revolution

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Abstract

The Fourth Industrial Revolution (Industry 4.0) is rapidly unfolding, profoundly impacting all aspects of society, including the real estate sector. This field is experiencing numerous changes under the influence of technology and the internet. Consequently, countries, including Vietnam, need appropriate analysis and assessments to grasp, refine, and adapt to Industry 4.0, encompassing various sectors, including the real estate market. This article presents research on the practical development, the impacts, and the application of Industry 4.0 technologies in the real estate market in Vietnam. Through this examination, it evaluates, forecasts, and recommends solutions to foster a healthy real estate market and improve the mechanisms of real estate market development in the foreseeable future.

Key words: Fourth Industrial Revolution; real estate; real estate market

1. Problem Statement

The Fourth Industrial Revolution, commonly known as "Industry 4.0" or "Technology 4.0," focuses on digital technology with the aid of the Internet of Things (IoT), real-time data access, and the introduction of cyber-physical systems. Industry 4.0 offers a comprehensive and interconnected approach, enabling the integration of physical and digital realms, as well as fostering collaboration and efficient access among economic entities. It empowers businesses to gain control and comprehensive understanding of all aspects of operations, utilizing real-time data to increase productivity, streamline processes, and drive growth.

Real estate (RE) is one of the few sectors that has shown adaptability and development within Industry 4.0. The application of this technology has become a prominent trend in the real estate market. Technology 4.0 is optimally utilized in the field of real estate, including customer searches, property management, and business development. The influence and assistance of Technology 4.0 contribute to the healthy growth of the real estate market, including automated real estate operations, enhanced security for real estate projects, improved supply chain management, more effective real estate management, and easier access to customers [1].

2. Study on the Practical Development of the Real Estate Market in Vietnam

2.1. Current Situation of the Development of the Real Estate Market in Vietnam

a. Regarding the market scale

The real estate market currently plays a significant role in the economy and ranks among the top 20 primary economic sectors, ranking 9th in terms of value. It has direct connections with financial markets, currency markets, stock markets, capital markets, construction markets, material and equipment markets, and labor markets. Presently, the whole country is estimated to be carrying out over 5,000 projects (with a total investment capital of over 4.5 trillion VND), which is more than triple the number compared to 2009. There are over 15,000 real estate businesses with more than 1,000 real estate trading floors.

In the last five years, foreign direct investment (FDI) in the real estate sector exceeded 18 billion USD, ranking second among all FDI sources invested in Vietnam. As of March 2023, newly registered FDI, adjusted FDI, and capital contribution from foreign investors in the real estate business sector ranked second among all fields attracting FDI, with a total investment capital of nearly 2.7 billion USD, accounting for 30.3% of the total registered investment capital. Statistical data shows that the real estate market is seen as an attractive investment channel by investors, and it is predicted to attract a large number of new investors in the future. [6]

b. Regarding mechanisms and policies

Numerous new policies have been timely enacted, becoming effective tools for managing, operating, exploiting, and utilizing land, as well as promoting the development of the real estate market nationwide. Prominent policies, such as land use and land rent exemptions or reductions, have been improved and updated to maximize their effectiveness, reflecting the state's preference and encouragement for entities in need of land exploitation and investment. Legal procedures for conversion, transfer, and leasing of land use rights are increasingly perfected and transparent.

Tax policies have contributed to addressing initial land misuse issues, creating a basis for effective land use, contributing to the state budget, and allocating resources to better meet the housing needs of the people. The mechanism for auctioning land use rights has been frequently reviewed, timely

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issued, with public and transparent information, reasonable financial obligations for land-use rights projects drawing closer to reality, reducing negative issues. Land valuation, rent, land use fees, and other fees are reasonably regulated.

However, the legal framework for land and real estate market operations still has many limitations and potential risks that need to be adjusted, supplemented, and updated to create a business environment that is open, equitable, overcoming bottlenecks, adhering to market principles and rules, and attracting large investors to Vietnam. [7]

c. Regarding competitive capacity

Institutional systems, mechanisms, policies, and factors determining the productivity of the economy are crucial aspects of sustainable competitive capacity, forming the level of prosperity of a nation. The quantification of Vietnam's sustainable competitive capacity in the real estate sector is identified through the following aspects:

Natural capital and resource competitiveness in the natural environment, including existing resources in Vietnam, is still modest and not yet a superior factor compared to many countries. Resource exploitation and utilization still face many limitations and shortages that need restructuring.

Social capital, health, social security, security, freedom, equality, and people's satisfaction with their lives are given priority. In 2022, Vietnam's happiness index continued to improve, ranking 77th out of 150 countries, two ranks higher than in 2021. The effectiveness and strength of financial, land, real estate, and other resources have been fundamentally improved by increasing the proportion of scientific and technological applications in industrialization and modernization. However, it is still slow compared to expectations.

Intellectual capital, innovation, the ability to create assets, and job opportunities through innovative and value-added industries in Vietnam, in general, and the real estate market, in particular, are experiencing strong transformations but are only in the early stages. [2]

d. The current situation of real estate businesses' operations

According to the compiled data from the Ministry of Construction, the number of newly established real estate businesses (7,124, a 31.9% increase) and the number of businesses returning to operation (1,769, a 77.3% increase) in 2022 have grown significantly compared to the same period in 2021.

In 2022, with some changes in recovery in some segments, real estate businesses have gradually recovered compared to 2021. According to statistics from the General Statistics Office, in the third quarter, the real estate business sector achieved growth rates of 16.65% and 11.75% compared to the same period in 2021.

However, given the current market situation and macroeconomic policy adjustments by the government, real estate businesses still face many difficulties and challenges. Numerous market barriers and bottlenecks have not been resolved, preventing businesses from implementing investment projects, which directly affects the quantity and quality of supply in the market. [4]

2.2. Identifying the Limitations of Sustainable Development in the Real Estate Market

In addition to the positive aspects, the land management, planning, and real estate market development in Vietnam

have still faced unsustainable limitations, primarily identified around the following issues:

a. Regarding the economy

State land management and real estate market operation are still hesitant, lacking strictness, and policy supply-demand and market price control are not well-balanced. Widespread discrepancies exist between the land prices set by the government and the market prices. The appraisal of project prices in the same area and the adjustment of state-regulated prices based on market prices still face many shortcomings, creating loopholes for price manipulation by interest groups and affecting economic development.

Real estate market prices sometimes experience rapid and unrealistic surges, with each price spike multiple times higher. The disparity between real estate prices and the average income per capita in the same area exceeds reasonable levels, with some areas having much higher prices compared to major cities in developed countries. The situation of interest groups inflating prices and laundering money through buying, selling, and transferring real estate, along with asymmetric and non-transparent information, causes market turbulence.

Policies related to land allocation, land recovery, financial obligations, land use rights, compensation negotiations, and related management responsibilities are not sufficiently robust and comprehensive. They often overlap and have prolonged implementation periods, leading to many frozen projects, resulting in damages to investors, citizens, and the state's economic development plan.

Long-lasting suspended planning exists in many urban areas, causing imbalances among the three elements of planning. Economic and industrial zone planning requires the retrieval of large agricultural land areas, and overall project efficiency is low, with slow infrastructure completion and low project coverage. The management and use of agricultural land and land with origins from national agriculture and forestry estates, land used for religious, spiritual, and cemetery purposes, are overlapping and inconsistent.

The number of real estate brokers is relatively high, while the management is still loose. Many self-established brokers lack professionalism, have not undergone training, and hold various unaccredited professional certificates, leading to asymmetrical information that confuses the real estate market. Transaction price manipulation below actual prices and tax evasion cause a loss to the state budget. The overall transparency of information in the industry is still limited, and national-level management of taxes, land, and real estate is slow to meet requirements. [3]

b. Regarding social welfare

The increasing population and economic development create pressure on sustainable development. The trend of migration to urban areas increases urban population growth, leading to urban pressure with large residential areas and real estate-related complex social issues. The aging population requires the provision of real estate products suitable for different age groups, leading to an expansion of the real estate market.

Non-traditional security issues related to land and real estate undermine economic and social security, and prolonged disputes over suspended planning exist. People's awareness of land and real estate laws, order, and civility is still relatively low in compliance. [2]

2.3. Causes of the Limitations in Sustainable Development of the Real Estate Market

The limitations in the sustainable development of the real estate market in Vietnam originate from the following main causes:

Firstly, the framework of land management policies and legal procedures for sustainable real estate market development is still incomplete and overlaps, despite significant changes in awareness, approaches, and updates over different periods. The land management process still heavily relies on a "request-grant" mechanism.

Secondly, the general perception of land as a natural resource, a special type of non-human-created asset and commodity, is considered a valuable production material and a precious resource of the nation and land users. As a unique commodity, its management and operation processes, from planning, land use plans, organization, implementation, exploitation, utilization, to inspection and monitoring, all require a "special" mechanism to create a sustainable real estate market.

However, at present, a clear "special" mechanism and policy framework have not been established for this "special commodity" in the context of sustainable real estate development. This framework should ensure that land resources and real estate products generate substantial and harmonious benefits for the state, citizens, businesses, and society as a whole, reducing wealth disparity and minimizing risks during the development process.

2.4. General Assessment and Forecast of the Real Estate Market in Vietnam

a. General Assessment of the Real Estate Market in 2021-2022

The consequences of the real estate fever in 2020 and 2021 have left many repercussions, and the signals of the market in 2022 are as follows:

Policy regulations implementing the Program for Economic and Social Recovery and Development have positively impacted various segments and types of real estate targeted for policy beneficiaries.

Regulations have affected market participants and the development of the real estate market in a healthy, sustainable, and efficient direction. [2]

However, from the current market situation (specifically, regulations related to capital inflows into the real estate market), it is evident that the real estate market's issues have not been significantly improved.

Imbalance of supply and demand in the real estate market, especially evident in the shortage of affordable housing and social housing.

Real estate prices (specifically housing and land prices) remain high, even though transactions in the market have slowed down, and some areas experience stagnation without any transactions.

Credit sources in the real estate market are imbalanced, leading to limited credit availability and difficulty for secondary home buyers and investors to access capital.

Legal regulations and procedures related to land and real estate projects lack synchronization and consistency among relevant laws in the real estate market.

Support services for the real estate market (brokers, real estate trading floors, market information) lack standardization,

professionalism, and transparency.

b. Forecast of the Real Estate Market in Vietnam in the Coming Years

- Market volatility in the real estate sector as banks strictly control borrowing for real estate to limit speculation activities, promote market transparency, and mitigate real estate bubbles. This is essential to foster a healthy market, reduce risks for the economy, as most investors rely on financial leverage.

The first real estate forum with the topic "Forecasting the recovery time of the real estate market and investment recommendations" on September 28, 2023 commented: (i) The current real estate market is not in crisis but in general difficulties of the world. This is a period of purifying the market in a more open, transparent and effective direction; (ii) The real estate market has been recovering, compared to the golden time, only recovering about 20-30%. The real estate market will follow a better scenario, starting from the beginning of the first quarter of 2024, because interest rates have been decreasing; The policy penetration at this time will also be better. In addition, at that time, the economic and macroeconomic recovery situation of Vietnam and the world will also be clearer.

- When Vietnam effectively controls the pandemic and surpasses the disease, it will become a bright spot in terms of both epidemiological and economic safety, attracting foreigners to invest, live, and work. This will create significant demand for the real estate market in the near future.

3. Impact and Application of Industry 4.0 Technology on the Real Estate Market in Vietnam

3.1. Study on the Impact of Industry 4.0 Technology on the Real Estate Market

The summary of the impacts and assistance of Industry 4.0 on the real estate market can be described as follows:

a. Real Estate in the 4.0 era cannot overlook the presence of Facebook social network: In the 4.0 real estate era, by simply browsing on Facebook to search for information about a project, within a very short time, the phone (or computer) will be flooded with images and advertisements of that project. This is the trend for real estate agents to reach customers through the application of Industry 4.0 technology.

b. Technology facilitates the automation of real estate business: Industry 4.0 is a global trend in automation and data exchange through digital convergence with core elements such as AI, Internet of Things (IoT), Big Data, Blockchain, etc. From providing visual project information to connecting buyers and sellers, it helps enhance market transparency as all information from developers is made public for customers to easily verify and compare. This minimizes costs and labor.

According to experts, Vietnam has more than 70 million digital technology users, of which about 93-95% use smartphones, and the housing market of nearly 100 million people is valued at up to 24 billion. USD;

Research from Batdongsan.com.vn shows that more than 80% of home buyers choose online channels as the main information channel to learn about markets, projects, regions, and evaluate quality, environment, and legality when needed. Learn about a real estate product. About 49% of participants sought more support information from offline channels and 74% of them chose direct consultation before deciding to buy real estate;

According to reports, the IoT (Internet of Things) market scale on June 15, 2023 in Vietnam is estimated to reach nearly 4 billion USD by 2023 and could reach more than 15 billion USD by 2030, thereby creating Many opportunities for businesses pursuing this field.

In the real estate field, there are property management software like Landsoft that maximizes reporting tools and provides comprehensive project information to agents and developers, continuously supporting better management of real estate projects.

c. Industry 4.0 technology enhances cybersecurity for real estate projects: The 4.0 technology era has fast and exponentially increasing information transmission, minimizing communication gaps between different groups and individuals in geographical terms, reducing information leaks and security vulnerabilities caused by hackers.

When technology is applied to real estate management and business, the convenience of software ensures absolute information security, ensuring safety in brokerage and business transactions.

d. Building supply chain thinking: Combining supply chains and production has achieved many successes, giving rise to the terms "Industry 4.0" and "smart production." Technical innovations in real estate are increasing, leading to changes in supply chains in the near future.

e. More efficient real estate management: The advancement of Industry 4.0 is an outstanding solution that empowers the real estate sector, enhancing the legitimization of technology's role in real estate management and business. Additionally, for successful real estate business, developers must possess a certain understanding of the model, concept, and collaboration between relevant parties to ensure the project's implementation and feasibility.

The most crucial factor for developers is to carry out effective real estate project management. When executing a project, it requires efficient project management solutions to oversee the entire project, facilitate easy access to potential customers, and keep them updated on the project's status. This helps build trust among customers and establishes the developer's credibility, creating a strong appeal for the real estate project.

f. Easy access to customers: With the application of Industry 4.0 technology, real estate agents will not have to exert too much effort in finding target customers and spending money on advertising. Meanwhile, customers do not have to put much effort into finding a home that suits their needs. Therefore, advertising and marketing become more effective and cost less. For customers, they can easily find suitable products through a range of websites providing product information and advice.

3.2. The Application of Industry 4.0 Technology in Real Estate

The application of Industry 4.0 technology in the real estate industry is becoming increasingly powerful, making the work of those involved in the sector easier, more efficient, and cost-saving.

The use of Industry 4.0 technology in real estate facilitates easier and more convenient connections between buyers and sellers in the market. Instead of traditional phone calls and direct meetings, transactions can now be conducted through the internet and online applications, searching for real estate information via the internet, experiencing virtual tours with

360-degree views, virtual reality (VR), or augmented reality (AR).

Applying technology to the real estate market enables visual representation of project information and seamless connection with customers. This application optimizes management, information acquisition, and customer communication for investors, sellers, and real estate agencies.

Blockchain technology assists customers and businesses in handling large transactions without intermediaries, thanks to its high security and reliability. Smart contracts using blockchain technology record property transactions (buying or renting). Buyers directly send their encrypted information to the sellers.

Financial solutions like FinSo, Fintech Platforms connect project owners with investors through fractional real estate investment (Tokenization) with peer-to-peer (P2P) lending financial leverage. This technological product helps address the challenge for individuals who want to invest in large real estate projects but lack sufficient capital to participate.

Artificial Intelligence (AI) is extensively used in various aspects of the real estate sector, providing improved property searches for customers and helping agents find potential clients, thereby increasing real estate sales rates.

Management software such as Landsoft, Bee Rem, and others continuously support real estate agencies in effectively managing production processes, project management, and information retrieval.

Marketing channels like Facebook ads and Google ads support the search for potential customers without intruding on their privacy, thus increasing the chances of customer retention.

4. Recommended solutions to promote the healthy development of the real estate market in the near future

To address the difficulties in the real estate market and prevent it from becoming a factor causing high inflation, it is essential to effectively control the flow of investment capital into the real estate market to combat speculation and avoid market freezes that could negatively impact financial institutions and society. The following are some recommended solutions:

4.1. Short-term solutions to overcome difficulties in the real estate market

a. Group of solutions to adjust the supply for the real estate market

Review and handle ongoing and allocated urban development and housing projects to classify projects that will continue, projects that need temporary suspension, and projects that require adjustments in structure and housing types to align with market demand and social resources.

Urgently conclude the review of legal procedures for projects to be promptly implemented, especially large projects. Accelerate administrative procedures, resolve difficult legal issues for projects under the jurisdiction of local authorities to promote dissemination; focus on approving investment decisions, land leasing, and land use conversion.

Create a list of land fund review projects, complete legal procedures, select investors to implement social housing projects, housing for industrial zone workers, and redevelopment of old apartment buildings. Focus on effectively implementing the plan "Investing in at least 1

million social housing units for low-income individuals and industrial zone workers from 2021 to 2030".

Guide and support real estate businesses to proactively adjust their business activities, restructure to be appropriate through measures such as price reduction, adjusting the product structure to align with the market's ability to pay, applying flexible sales methods, and encouraging rental and rent-to-own models.

Continue to improve the legal framework for urban management, housing development, and real estate business, focusing on strengthening state management, effectively controlling urban planning, land use planning, housing development planning, and real estate prices to match each locality's socio-economic development plan and market demand.

b. Group of credit solutions for the real estate market

Continue to expand credit room for the real estate sector at a reasonable level, suitable for the financial capacity of credit institutions and the State Bank's monetary and credit policy, with a focus on lending to projects that are nearing completion and social housing projects with appropriate interest rates, excluding this debt ratio in the total real estate outstanding loans under control.

Issue lending criteria for different types of real estate, limiting excessive credit concentration on luxury real estate and focusing credit capital on social housing projects and commercial housing projects with high efficiency and good consumption, meeting the actual needs of the people.

Review and expedite the credit approval process for effective production and business real estate projects with high capital recovery potential. At the same time, proactively handle and submit to competent authorities for decision-making on granting credit exceeding the permitted limit for national key projects and projects serving socio-economic development requirements.

Expand credit while controlling credit quality, strengthen the appraisal and supervision of loan use to ensure compliance with the intended purposes, and limit the occurrence of new bad debts. Review and assess the debt repayment capacity of borrowers, including real estate businesses, to appropriately restructure the debt.

Strengthen the guidance and direction for companies to issue corporate bonds in the domestic market and offer corporate bonds to the international market. Create favorable conditions for companies in general, and real estate companies in particular, to continue issuing corporate bonds, fulfill debt repayment obligations, and minimize the "domino" effect risk. The government should create favorable conditions for developing alternative channels such as the stock market, bonds, public investment, attracting foreign direct investment, and mobilizing long-term capital for the real estate market.

4.2. Group of long-term solutions

a. Strengthen the management and control to ensure the balanced development of the real estate market supply and demand

Enhance inspections and control over the annual land use planning, aligning it with urban development plans and the actual real estate market situation. Strictly handle violations in land management and use.

Strengthen the management and control of the real estate market. Increase the responsibilities of central government

agencies when reviewing and approving real estate business investment projects, ensuring the healthy and balanced development of the market, especially in residential real estate.

Increase the responsibility of local authorities in implementing urban development work according to plans. This is a core tool to control the urban development process and restrict rampant development projects. Local authorities must develop and be responsible for implementing investment plans according to their own proposals.

Review and prohibit the implementation of projects that are not part of the planning, lack infrastructure connectivity, and urban services. Strictly enforce regulations on land subdivision, plot sales, and the sale of unfinished houses in housing development projects. Strictly control the progress commitments of investors and homebuyers in infrastructure construction and housing completion. Implement penalties for real estate developers who delay the launch of projects, waiting for price increases.

Study the use of appropriate tax tools (real estate transaction tax, income tax, property tax, etc.) to regulate and stabilize the real estate market and prevent speculation.

b. Enhance transparency and openness of the real estate market; improve the information system and forecast the real estate market

Accelerate the development of urban area planning, provide complete information about the formation process, and implement detailed planning projects and investment construction projects. Strengthen propaganda and provide information to residents in planned areas and investors with genuine investment needs.

Establish a unified real estate market information system from central to local levels, requiring localities and businesses to submit accurate, concentrated, complete, and timely reports, as a basis for policy planning and contributing to the transparency of the real estate market.

Improve the quality of real estate trading floors, raising requirements for personnel, expertise, and minimal facilities for their operation.

Establish a real estate data center, established by the government to control the supply and demand on the market, and formulate reasonable regulatory policies and control real estate transactions through trading floors. The center will be updated with information from developers and real estate trading floors during the transaction process.

Study and establish mandatory conditions for developers when bringing real estate products to the market, ensuring transparency (such as regulations on the number of real estate units offered for sale, pricing, etc.); [4]

Intensify non-cash payment in real estate transactions to control and assess transactions while also providing a basis for building future land price databases.

5. Enhance policy mechanisms to develop a robust real estate market

5.1. Improve policies for controlling and preventing real estate speculation

To limit real estate speculation, the experience of many countries shows the need to implement various synchronized measures, including using tax policy tools to regulate income from the use and transfer of real estate into the state budget and indirectly adjust real estate speculation behaviors. The

provisions related to limiting real estate speculation are often integrated into various tax regulations.

Considering Vietnam's current market conditions and difficulties, the consideration and implementation of tax policy tools will require a well-planned roadmap. Nevertheless, this approach is necessary to help restrain the resurgence of real estate speculation, which could lead to price bubbles and market stagnation, as experienced recently.

5.2. Completing policies to reduce input costs of the real estate market

Consider regulating price control from the foundation design and total investment level during the project planning phase for supported types of housing. Additionally, study investment management mechanisms suitable for different types of real estate in this project with the aim of minimizing costs.

Examine the conditions for allowing land use payments according to the proposed business progress, providing opportunities for businesses to invest in construction and reduce reliance on bank loans. Alongside this, provide guidelines for calculating installment payments (based on market fluctuations or actual floor area at the time of payment).

Continue to explore the establishment of non-bank credit institutions to develop financial tools for the real estate market and promote market instruments (such as real estate securitization). Establish a dedicated framework for real estate lending, leveraging sources such as government budgets, government bonds, contributions from other financial institutions, etc., to develop a sustainable and stable real estate market in the medium and long term.

Accelerate research on the application of modern construction technologies and suitable building materials to improve quality, reduce costs, and shorten construction time, tailored to the specific conditions of each locality.

5.3. Ensure consistency in the legal system; closely manage and ensure the safety and stability of the real estate market

a. Ensuring consistency in the legal system:

On June 19, 2023, the Minister of Construction presented to the National Assembly the "Draft Law on Real Estate Business (amended)". This draft law is in line with the provisions of the 2013 Constitution and compatible with relevant international treaties of the Socialist Republic of Vietnam.

In terms of ensuring consistency in the legal system, it is necessary to continue reviewing the draft law and cross-referencing it with other relevant draft laws. The amendments to these draft laws must guarantee the uniformity of the legal system, align with the overall policy direction, and not create barriers to economic and social development. They must fully address the nature and essence of business activities, focusing on seeking profits, in line with the concept of business under the Enterprise Law.

Further reviews, amendments, and additions to administrative procedures for real estate investment and business should be carried out in a transparent and straightforward manner, facilitating investors and reducing implementation time. Additionally, provisions that overlap or contradict each other in property registration should be clarified to ensure the consistency and coherence of the real estate business legal system.

Continued review and adjustment of the Land Law

(amended) and the draft Law on Housing (amended) are necessary to unify the definitions and principles regarding residential business, construction works, land use rights with technical infrastructure in real estate projects, and the transfer of real estate projects. Such regulations should be governed by the Law on Real Estate Business, while other relevant laws should refer to these provisions without restating them.

b. Tight management and ensuring a safe and stable real estate market

After nearly 8 years of implementation, the 2014 Law on Real Estate Business and its guiding documents have achieved certain results. However, they have also shown some limitations and deficiencies that need to be amended and supplemented.

Completing the legal framework for real estate business to develop the real estate market based on tight management, ensuring safety, health, stability, and smooth operation; restructuring the real estate market; using resources efficiently and economically; establishing a real estate market information system connected with land information; developing urban areas and real estate projects in line with rational land use planning and implementation timeline to balance supply and demand and create a suitable real estate price landscape, thus overcoming land speculation and ensuring the harmonization of the interests of the state, businesses, and people.

Continuing to promote decentralization, delegation of authority, administrative procedure reform coupled with control and supervision to ensure unified management from the central to local levels in the real estate market. Enhancing mechanisms and policies to develop a stable and healthy real estate market, ensuring the operation of real estate business relationships according to market mechanisms in the context of a socialist-oriented market economy.

5.4. Enhancing other relevant policies related to the real estate market

a. Prohibit collecting money for the sale or lease-purchase of future-formed real estate that does not comply with regulations

To complete the legal framework for entities participating in the real estate market, it is essential to establish clear business and transaction rules for these entities. This includes creating a legal foundation and framework for the operation of the real estate market. In a timely manner, the regulatory authorities should institutionalize policies, directions, and strategies for the real estate sector and its business activities, ensuring the stable, healthy, transparent, and accountable development of the real estate market.

The existing laws and regulations should be improved to be more in line with the current reality. Any shortcomings or limitations should be addressed, ensuring consistency and coherence between the provisions of the Real Estate Business Law and other relevant laws. Additionally, current regulations on different types of real estate brought into business should be clarified, along with business activities related to land use rights transfer and land leasing, in accordance with the relevant laws on real estate business. New content on "Real Estate Market Regulation" should be introduced to stabilize the real estate market in cases of overheating or stagnation.

Revisions and supplements should be made to regulations concerning existing residential and construction projects, as well as those forming in the future. This includes regulations

on residential and construction business, land use rights business, real estate project transfers, real estate business contracts, real estate service business, the establishment and management of information systems and data related to housing and the real estate market, and state management of real estate business.

b. Regulations on businesses dealing with future-formed construction projects

Establish a legal framework for this type of real estate to ensure transparency and protect the legitimate rights of investors, customers, and buyers while complying with the principle of non-retroactivity. Introduce new prohibited acts, including collecting money for the sale or lease-purchase of future-formed real estate that does not comply with regulations. Prohibit using illegal means to secure the future-formed real estate payment from the buyer or lessee, ensuring consistency and coherence with the Civil Code, Investment Law, and better alignment with practical conditions.

Clarify the necessity and grounds for proposing regulations, especially based on practical conditions and where necessary. Avoid duplicating content already stipulated in the Civil Code regarding the "deposit" in future-formed real estate transactions.

Improve the legal basis for the operation of professional and efficient real estate trading floors. Research provisions

to allow parties to choose whether to transact through the trading floor or not, to ensure their interests due to the lack of practical basis and uncertainty about the necessity. [5]

6. Conclusion

The Fourth Industrial Revolution, also known as Industry 4.0, is gradually permeating every aspect of life, and the real estate market is no exception to this trend. A stable and healthy real estate market will have a positive impact on the country's economic and social development. On the other hand, an unstable real estate market, irrational prices, or prolonged stagnation will have negative effects on economic development, creating difficulties in providing housing for the population and leading to various social issues.

Studying the current situation of the real estate market in Vietnam, many businesses and investors are concerned, and individuals with actual needs are also uncertain about whether this is the right time to invest in land or housing.

In the coming time, the Vietnamese real estate market will undergo filtration and adjustment, and investors' capital allocation will be carefully calculated and more rational. Along with the improvement of policies to develop a healthy real estate market, promising opportunities for high-profit investments will emerge for both customers and the real estate market as a whole./.

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However, the study has certain limitations, including the quality of the input dataset and the consideration of various scenario divisions for different transportation modes, which might affect the model's accuracy. Nevertheless, despite these limitations, the application of the forecasting model has shown promising results compared to not using any forecasting model. Therefore, future studies are proposed to involve surveying and collecting data with multiple years'

worth of data, running the model with various scenarios (such as with and without public transportation, and different planning stages) to further enhance the accuracy and robustness of the research.

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