SUMMARY

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Diagnose of the Regional Housing Market Anxiety and Market Stabilization Policy

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This study aims to explore regional housing market anxiety phenomena, analyze causes and influencing factors therein, and propose policy measures to resolve market anxiety. The detailed objectives for achieving the overall purposes are as follows. First, this study establishes the concept of regional market anxiety and examines the housing market structure and influencing factors. Second, this study explores market anxiety regions around the metropolitan area, categorizes them, and analyzes their characteristics. Third, this study proposes the criteria to diagnose the ripple effect of market anxiety by analyzing its causes quantitatively and qualitatively in consideration of macroscopic, policy-level, regional, and psychological influencing factors. Lastly, based on the analysis results, we propose long- and short-term policy plans to resolve regional market anxiety in the housing market.

First, regional market anxiety, found in confined regions, can be defined as

a state where the price volatility has surpassed the stable level in the housing market. Quantitatively, regional market anxiety is indicated when the rate of change in housing prices is outside a particular threshold band in a specific region. Regions are be classified into overheated or depressed regions if the housing price volatility exceeds the threshold's upper and lower limits. We analyzed market anxiety regions across the country (cities and provinces) and the metropolitan areas (cities, counties, and districts), using the actual housing price indices. The analysis result showed the upper and lower threshold limits were 6.9% and -3.4%, respectively, nationwide. We identified overheated regions in non-metropolitan areas and depressed regions in metropolitan areas between 2011 and 2013. However, the case was opposite in 2018-2019, locating depressed regions in non-metropolitan areas and overheated areas in metropolitan areas. Therefore, the market differentiation was visible between the metropolitan and non-metropolitan areas. The metropolitan area analysis showed the upper and lower threshold limits were 7.1% and -5.4%, respectively. The result also revealed the highest number of depressed areas (43 municipalities) in March 2013 and the highest number of overheated areas (25 municipalities) in November 2018 and July 2020. Based on the result, market anxiety migrated each time geographically. In particular, recently overheated areas have moved from Seoul (the second half of 2019) to Gyeonggi (the first half of 2020). We believe this phenomenon was a ripple effect of market instability as overheated regions have moved from regulated to non-regulated regions, adapting to the estate policy changes.

Market anxiety regions were categorized mainly into seven types (based on BIC criteria) and four types (based on BIC and type-distribution ratio (5%)) using the time-series pattern of the rate of change in apartment prices. The 7A

(4A) type, including Gangnam, Songpa, and Seocho in Seoul and Seongnam (Bundang) in Gyeonggi Province, showed a distinguished tendency to lead the price. In contrast, 7G (4D) type, including Anseong and Osan in Gyeonggi Province, showed the most significant trailing trend. In addition, the 7G (4D) type seemed to form a relatively independent housing market as the direction of price change in this category was divergent from that of other types.

We conducted a panel LSDV analysis using the panel data of each city, county, and district to determine the cause of regional market anxiety. According to the result, the rate of change of the apartment price in the metropolitan area was affected by nine factors, excluding the non-native and corporate transaction ratios. In particular, the analysis confirmed the rate of change in the apartment sale price hiked, and the influence on dependent variables was the greatest as the psychological index rose.

These results confirmed the need to monitor the psychological index when observing market changes as higher expectations are directly correlated to higher house prices. Also, the rate of change in the amount of money, a proxy variable of liquidity, was found to affect the overall housing market. The expanded circulation of commercial funds stimulated the demand for apartments, increasing the sale price rate. The correlation between the number of completed apartments and the number of registered households, a proxy variable for the apartment supply, showed a statistically significant negative value. Namely, as the supply increased, the volatility of the apartment price stabilized, validating the relevance of continued house supply. Furthermore, non-native transactions showed no significant effect when studied for the entire metropolitan area besides distinct regions, such as 4A and 4C types. After

analyzing the equity market return, only the 4A type was statistically meaningful, exposing the regional differentiation.

As a result of hot-spot and binary logistic analysis conducted to diagnose the ripple effect of regional market anxiety, living SOC characteristics, population and household characteristics, investment characteristics, and housing demand characteristics were identified as incentive variables. The average probability of ripple effect in Gyeonggi Province, calculated for the above four incentive variables, was 4%. Based on our findings, we present the criteria to diagnose the ripple effect of market unrest in the real estate market as follows:

1. Based on a 4% probability, if an area shows a higher-than-4% probability, a score of 1 is given.
2. An area considered to be exposed to the ripple effect if received 1 point for at least one of all factors.
3. The higher the sum of the factor-based scores, the more intense the signal is. Subjects may be categorized into risk or monitoring areas depending on the score level.
4. If the score is 0, the probability of a ripple effect is insignificant, and the need for monitoring may be negligible.

As the diagnosis results show, 27 regions were classified as contagious to possible ripple effects of the real-estate market anxiety. At the same time, Yangpyeong-gun, Gapyeong-gun, and Yeoncheon-gun were expected to show low possibilities of market instability. As of 2021, most cities, counties, and districts identified with significant possibilities of market-anxiety ripple effect have been designated as regulated regions, which presents the potential applicability of the

proposed diagnostic criteria of the market-anxiety ripple effect.

Based on our analysis results, we present the long- and short-term policy measures to resolve the regional market anxiety.

First, we propose to prepare a regional-based monitoring system and promote the policy. More specifically, we suggest introducing a monitoring system to search for market anxiety regions, reinforcing the utilization of consumer psychological indices in the real estate market, and reorganizing the regulated-region policies as urgent means to resolve regional market anxiety and stabilize the market in a relatively short period. A monitoring system to search for market anxiety regions requires an analysis based on housing price indices and consumer-oriented actual prices and sustainable monitoring of transaction volume fluctuations, a leading indicator of prices. Reinforcing the utilization of the real-estate consumer psychological index is expandable to developing and monitoring the psychological index by types of market anxiety regions and the housing price forecast index. The current regulated-region system is not readily perceptible because it is complicatedly linked to financial regulations and real estate tax policies. The system needs to be systematically reorganized to enhance its effectiveness through the designation and substantialization of overall regulated regions.

Second, we propose plans, such as liquidity management and housing supply, to stabilize the long-term housing market with executable and sustainable policy measures based on long-term perspectives by focusing on factors affecting the general housing market. The liquidity management includes complementary measures, such as re-directing DSR-centric financial regulations to improve the limitations of current LTV and DTI regulations, devising to restrain home

purchases using Jeonse (lump-sum deposit) leverage, and reinforcing property taxes to contain speculative demand. Lastly, as a stable housing supply plan, we propose establishing and solidifying a mid-to-long-term housing-site supply plan and introducing a plan for the housing reserve bank system.