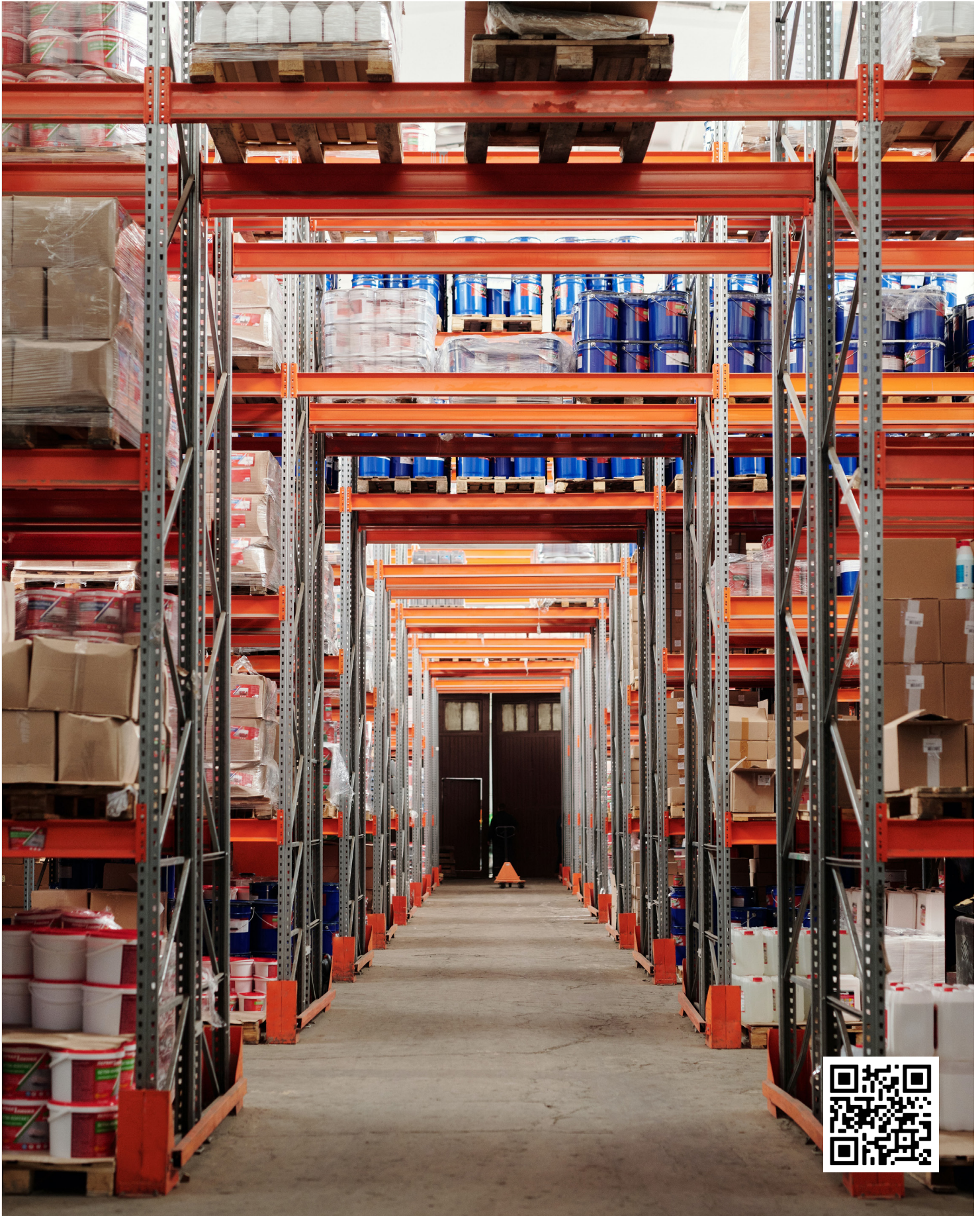
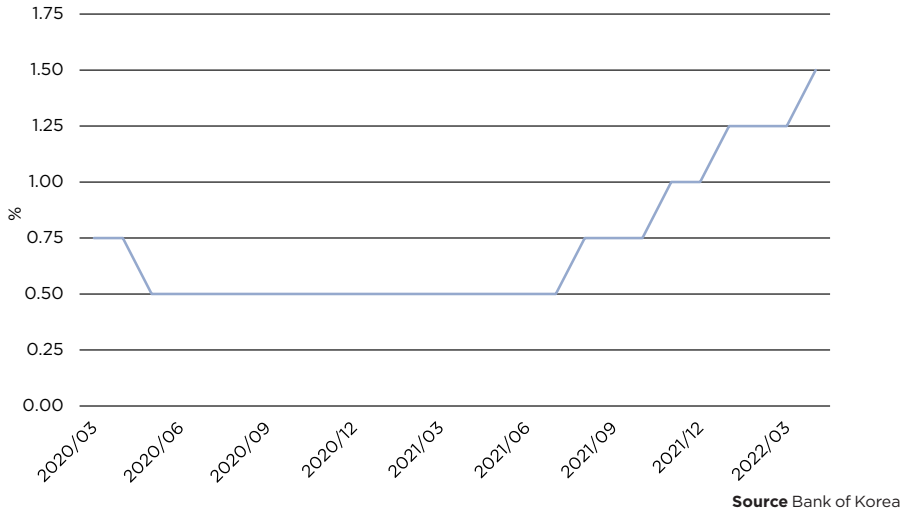


Korea Logistics

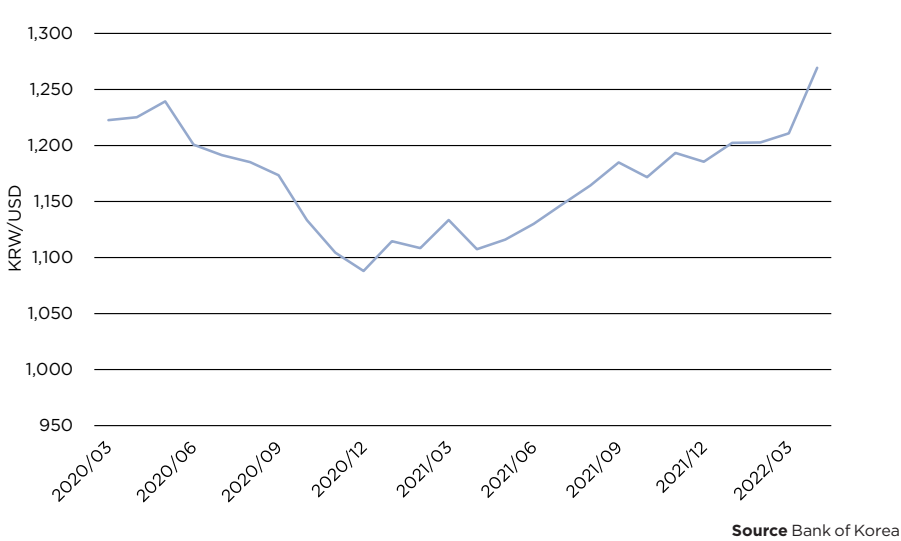


Soaring construction costs to delay 10% of ongoing logistics developments

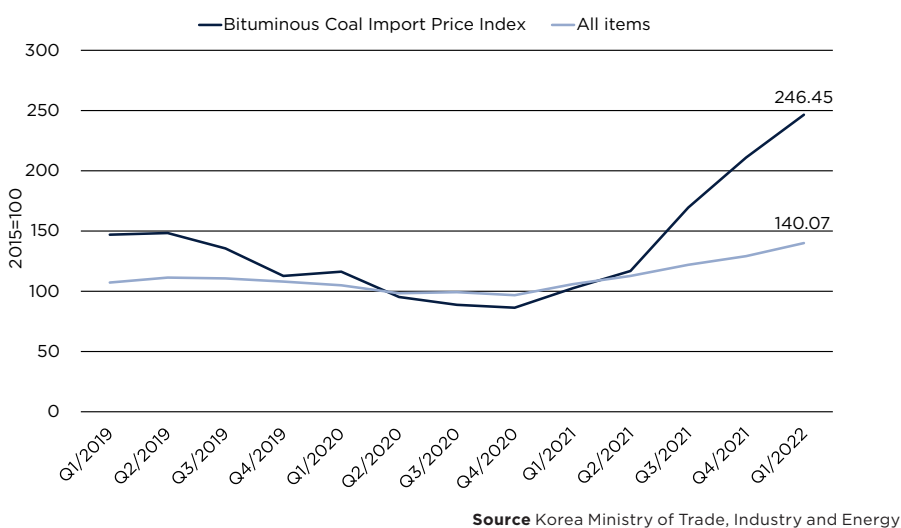
GRAPH 1: Base Rate, March 2020 to March 2022



GRAPH 2: KRW/USD Exchange Rate, March 2020 to March 2022



GRAPH 3: Bituminous Coal Import Price Index, Q1/2019 to Q1/2022



ECONOMIC OVERVIEW

During the global economic slowdown brought on by the spread of COVID-19, a majority of the world’s central banks have adopted accommodative monetary policies. Generally low interest rates have led to an overall increase in the price of goods and services, including the costs of construction. Recently, in order to stabilize the effects of inflation, central banks have initiated tapering and tightening policies. In May of 2022, the Federal Reserve announced a further rate hike of 50 bps to a range of 0.75% to 1.00%, and similar hikes are expected in the near future for other developed economies.

The Bank of Korea (BoK) hiked its key interest rate to 1.50%, up 25 basis points to respond to the sudden shift in inflation. With more Federal Bank rate hikes on the horizon, the exchange rate of the Korean Won and U.S. Dollar is projected to reach 1,300 KRW per USD, impacting imports of raw materials used in the construction sector. The weakening Korean won will likely accelerate the rise in import prices as well as the outflow of foreign capital.

After the Russian invasion of Ukraine, energy prices have continued to skyrocket owing to the status of Russia as a major exporter of key raw materials including oil and gas. These procurement-related challenges caused overall construction costs to surge.

In Korea, heightened demand from E-commerce and 3PL occupiers has driven the upward trend in online retail sales during the COVID-19 pandemic. Despite unfaltering leasing demand for warehouse space, however, the pace of new supply additions is likely to remain stagnant as new challenges emerge. The main challenges are heightened construction costs from rising raw materials costs, labor costs and exchange rates.

DIRECT CONSTRUCTION COSTS

1. Cost of raw materials

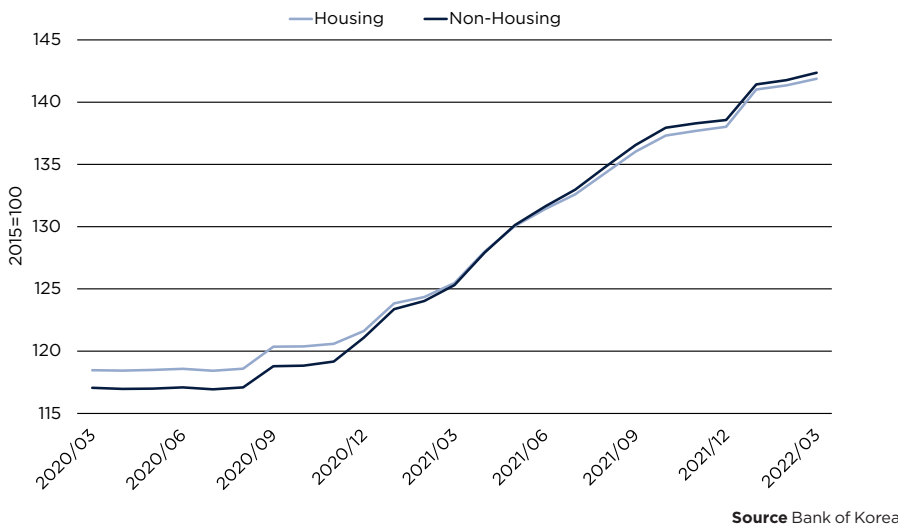
The depreciation of the KRW against the USD has been burdening business agents in the construction industry, as it has accelerated the rise in the price of raw materials used at most steps in the construction process. Such phenomena are derived from the combined effects of COVID-19 and Russia’s invasion of Ukraine.

The cost of capital continues to reach new peaks for most market participants on the combined effects of higher borrowing rates and damage from the Russia-Ukraine war. One of the most significant resource suppliers, Russia, has critically had a

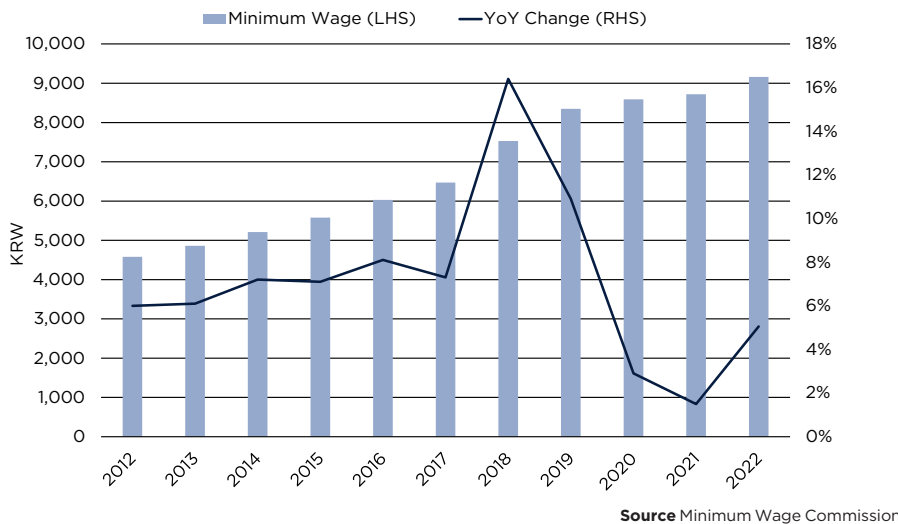
negative impact on the cost of raw materials, including Bituminous Coal. While it was reported three quarters of Bituminous Coal used in South Korea was imported from Russia, its price soared 144% as of Q1/2022, compared to the same period last year. The annual rate of change in the prices of other key raw materials averaged 34% YoY in Q1/2022. According to the construction cost indices published by the Korea Institute of Civil Engineering and Building Technology, the overall construction costs and non-housing construction costs rose by 16.9% and 17.1% respectively in March 2022, the highest figures on record.

A higher cost of capital, as well as rising raw materials prices and wages have aggregated into a significant increase in construction costs, a notable trend that will contribute to tighter supply in the mid-to-long-term.

GRAPH 4: Construction Cost Index, March 2020 to March 2022



GRAPH 5: Minimum Wage, 2012 to 2022



2. Cost of labour

For small-to-medium-sized enterprises or agents in the primary and secondary industries i.e. Construction and Manufacturing, the workforce is mostly comprised of low-skilled jobs. This means that such firms are highly influenced by the cost of labor and are forced to bear additional costs upon changes in the minimum wage. A notable year-on-year increase of 16.4% was implemented in 2018 and it has further climbed to KRW9,160 applicable for 2022.

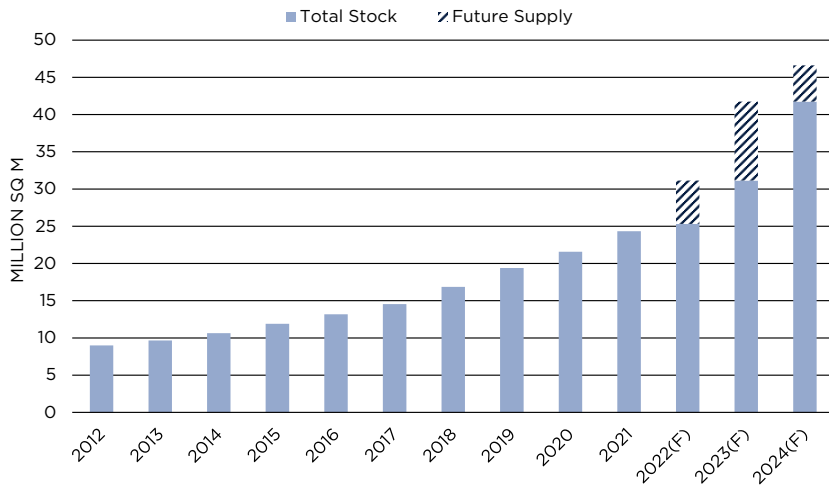
Factors such as higher minimum wage regulations, and lower attractiveness to local jobseekers have led to the heavy reliance of the construction industry on foreign workers, which declined 85.5% in Q2/2020, at the onset of COVID-19. For example, the issued number of Non-Professional and Work & Visit Visas, granted to workers seeking simple labor jobs, declined dramatically during the first half of 2020, and the numbers have yet to rebound to pre-pandemic levels. As supply shortages in the labor market persist, this will contribute to substantial growth in overall direct construction costs.

STOCK & NEW SUPPLY

The total stock of logistics centers exceeding GFA of 5,000 pyeong at the end of Q1/2022 was approximately 25.3 million sq m. Supply has increased significantly during the past five years, recording an average double-digit annual growth rate of 13%.

While the number of newly completed centers has remained within a similar range, the total area has increased significantly every year. In other words, each logistics center is increasing in size. Between 2013 and 2017, the average new center was only 39,000 sq m (11,800 pyeong) in GFA, while the figure comes to near 64,100 sq m (19,400

GRAPH 6: Total Stock & New Supply, 2012 to 2024F



Source Savills Korea Research & Consultancy

pyeong) for those delivered after 2018. The establishment of hyperscale complexes exceeding 330,000 sq m (100,000 pyeong) have factored into the enlargement trend. Recently built examples include Gunpo Logistics Complex, Hwaseong-Dongtan Logistics Complex and Seoul Songpa Logistics Complex.

OUTLOOK

On the supply side, the impact of rising development costs has been minimal. Preliminary figures show that the number of new permits obtained during Q1/2022 has actually increased when compared to the same period last year. Assuming a two-year construction period, new supply that

is expected to come online according to the total of new construction approvals reported by the Ministry of Land, Infrastructure, and Transport sums to around 21.3 million sq m, little of which has yet reported pre-commitment. Total stock is projected to expand to almost 184% of the figure in March 2022.

We expect the recent trend of rapidly rising construction costs to start to gradually materialize in the supply figures in the mid-to-long-term, with the delay attributable to the time necessary to obtain a new construction permit. With regard to the array of projects already under construction, our research today in May 2022 shows that there has been no setback to projects expected in 2022.

However, there may be a discrepancy among assets depending on the ratio of dry storage. Given the resilient leasing and investment demand for dry warehouse space, most dry-storage developments are likely to advance on schedule. Meanwhile, centers of high cold and frozen storage ratios are at present challenged with tough market conditions of oversupply and subdued investor interest. In addition, as they will be strained by a steeper escalation in construction costs, it is estimated that 10% of ongoing projects may confront a possible postponement ahead of completion.



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