

Poultry Market Research

Hatching the Mongolian Egg Industry



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I. Executive Summary

Since the 1990s, eggs have been rapidly adopted by Mongolians into their diet. Yet relatively little information exists on this small, but fast growing market. As such, MICC sought to identify the industry's size, growth potential, consumer behavior, and key challenges.

- **Urban and rural Mongolians** respectively consume on average **81.5 and 20.4 egg pieces annually**; this rate is half the **162 egg average** for Asian countries, suggesting **massive market growth potential**.
- The market size for **eggs** has grown more than **10-fold** in the past decade, from **MNT 4.3 billion** in 2005 to **MNT 54 billion** in 2016. MICC estimates the egg market will **exceed MNT 78 billion** by 2020.
- In 2016, Mongolian hens supplied **56%** of a total **195 million egg** pieces; major suppliers — both importers and domestic producers — include **NVTS, Okinsk, and Tumen Shuvuut**.
- **Urban Mongolians' egg consumption** is more **sensitive to changes in their income** than their rural counterparts; **future market growth will remain concentrated in cities**.
- **Sourcing chicken feed** is the primary challenge facing domestic egg producers, as it constitutes **70-80% of per egg costs**.
- MICC proposes **exempting chicken feed** from the **10% customs tax** or **investing in domestic feed-mixers** to make egg producers cost **competitive against Russian** eggs, reduce exposure to **foreign exchange fluctuations**, and allow suppliers to **take advantage of promising consumer trends**.

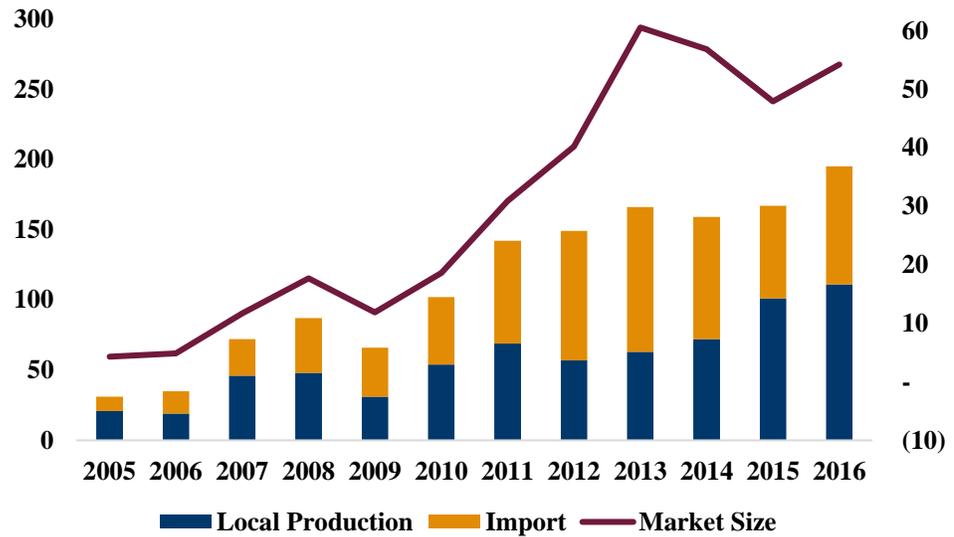
II. Poultry Products in Mongolia

The traditional Mongolian diet consists of high-protein foods like beef, mutton, and dairy. Mongolians boast one of the highest meat consumption rates in the world, at an estimated average annual 102 kilograms per capita. These rates vary depending on location, with rural residents averaging a staggering 127.2 kilograms per capita and urban dwellers averaging 83 kilograms per capita. Poultry products like eggs, which were produced in Mongolia during the Soviet era, remained relatively absent from the local diet until as recent as the 1990s. Now, however, Mongolians — specifically residents of Ulaanbaatar — are rapidly embracing these food staples.

a. Nascent Egg Market Underwent 10-Fold Increase in 10 years

As an affordable, high-protein staple, eggs have rapidly proliferated the Mongolian market. MICC estimates, from data found in the National Statistics Office and information obtained in industry interviews that the 2016 market size is approximately MNT 54 billion. Figure 1 depicts the historical market size since 2005. The egg market has grown more than 10-fold since 2005, from approximately MNT 4.3 billion, a 26% CAGR.

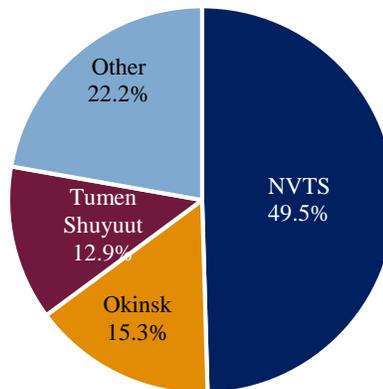
Figure 1: Estimated Egg Market Size and Production, 2005 - 2016 (mln MNT)



Source: National Statistics Office, MICC Analysis

Mongolian egg suppliers consist of both relatively small domestic operations and Russian import companies. As Figure 1 suggests, the share of Russian imports grew tremendously during the peak growth period. However, local companies have efficiently scaled their operations to reclaim market share, up to 56% in 2016. As of 2016, the major players for egg supply include NVTs LLC (import and local production), Okinsk LLC (import), and Tumen Shuvuut LLC (local production). Figure 2 presents the sector segmentation with MICC estimates for total market share.

Figure 2: Total Egg Market Share, 54 billion MNT, 2016

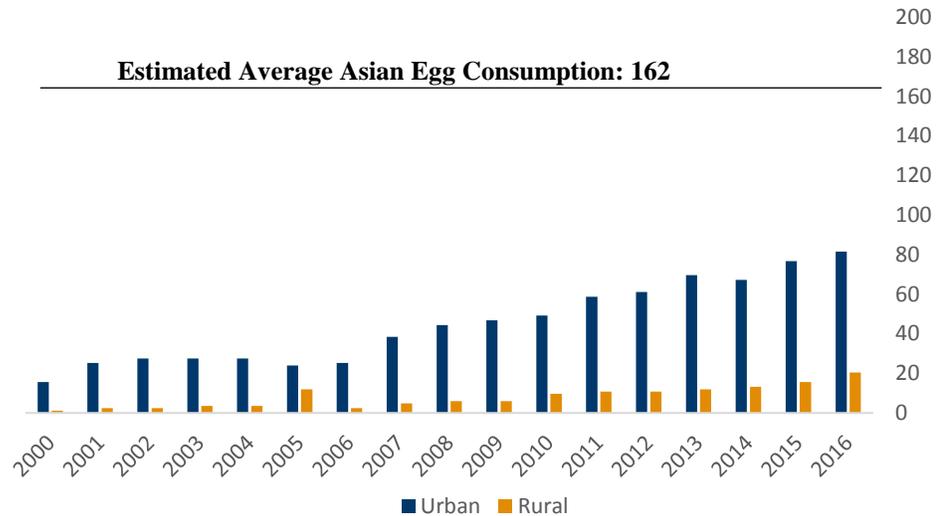


Source: MICC Analysis, Customs Office of Mongolia

Egg consumption has grown considerably since the 1990s — and is, just as with per capita meat consumption, dependent on geography. Figure 3 depicts the historical rates for per capita egg consumption for rural and urban Mongolians, compared against the estimated annual per capita egg consumption of all Asian countries. Urban Mongolians have most readily

adopted eggs into their diet. In 2015, the urban per capita rate was 81.5 pieces compared to the rural rate of 20.4 pieces. Yet the average Asian annual per capita consumption of eggs was more than 160 in 2011, suggesting that the Mongolian egg market has tremendous expansion potential. Growth rates since 2000 are already impressive: urban and rural consumption respectively boasted a 16% and 29% 16-year CAGR.

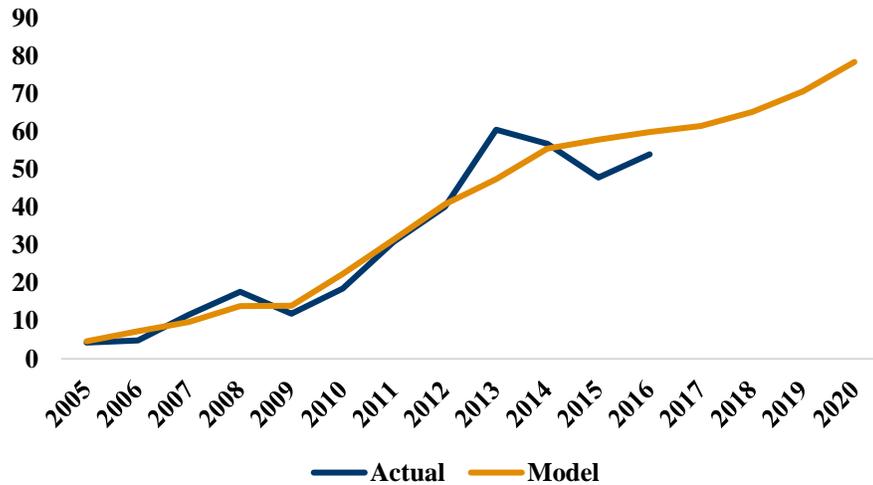
Figure 3: Per Capita Rural and Urban Egg Consumption, Pieces 2000 - 2016



Source: MICC Analysis, Customs Office of Mongolia, National Statistics Office

The lower-than-average rates of consumption for both rural and urban Mongolians suggests tremendous egg market potential. As depicted in Appendix A, poultry farms are concentrated around Ulaanbaatar and other urban areas — access to eggs in rural areas is severely limited. Per capita egg consumption levels will continue to rise for the foreseeable future, perhaps even to the levels of other Asian countries. MICC modeled the future Mongolian egg market size. Figure 4 forecasts the Mongolian egg market through 2020, which MICC predicts will grow from MNT 54 billion in 2016 to MNT 78 billion.

Figure 4: Mongolian Egg Market Size (BLN MNT), 2005 - 2020F



Source: MICC Analysis, National Statistics Office

MICC predicts two possible major drivers of future egg market growth. The first possibility is that urban consumption will grow intensively — as foreign cuisine is increasingly popularized and western diets adopted. Rural Mongolians may alternatively develop a much greater appetite for eggs in the future, as market penetration outside of urban centers is relatively shallow. While the outlook for the entire industry is positive, the future of rural and urban consumption patterns will determine the best way to capitalize on an increasingly lucrative market.

III. Consumer Behavior

In order to better understand the future of the Mongolian poultry product market, MICC performed a series of statistical tests to analyze Mongolian consumer purchasing decisions. Specifically, these tests analyzed the relationship between income, price, and per capita expenditure on poultry products — and the different behaviors of rural and urban Mongolians. MICC believes that this analysis illuminates not only the current market, but also future trends.

a. Egg Results

Given the recent introduction of eggs, MICC researched several key questions about consumer behavior. Are eggs a substitute for traditional meat products? How does an increase in income affect egg consumption? And are rural or urban Mongolians more sensitive to changes in prices and income?

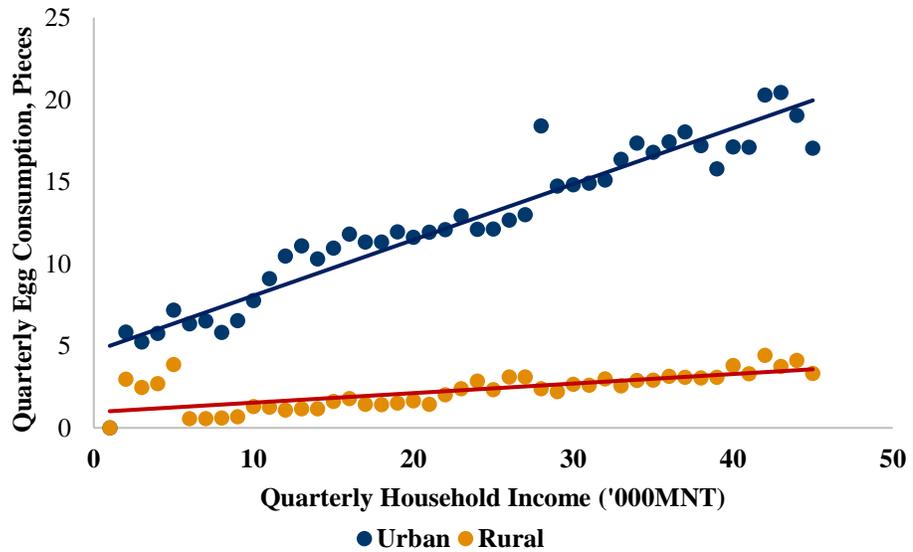
Using data gathered from the National Statistics Office, Mongolian Customs House, and previous estimations, MICC regressed urban and rural income, meat prices, and egg prices against quarterly expenditures on eggs

for rural and urban Mongolians. The two major results are summarized below:

- Increases in family household income were associated with increased egg consumption; the income effect for urban Mongolians was nearly double that of rural Mongolians — city dwellers are much more sensitive to changes in their income.
- Price changes for mutton, beef, and chicken had no statistically significant effect on egg consumption; these finding suggest that eggs may not be substitutes for meat consumption.

In total, this analysis suggests that as Mongolia continues to develop, egg consumption will grow faster in urban areas than in rural areas. The income effect for urban residents is stronger than for rural residents. The growth of the Mongolian egg market will continue to be driven by urban consumers, rather than rural customers. Increased household income will drive future consumption. Figure 5 is a scatter plot of income and egg consumption — suggesting not only that urban residents consume more eggs per given levels of income, but also that changes in income have a greater effect on consumption levels.

Figure 5: Scatterplot of Income and Egg Consumption



IV. Chicken Feed is Key to a Stronger Industry

So how can domestic producers capitalize on the expected demand growth in urban centers? Urban consumers are both the fastest growing market and most sensitive to changes in their income. This finding suggests that, more so than ever, domestic producers need to remain cost-competitive with foreign imported eggs.

Of all segments in the egg production supply chain, chicken feed is the most promising area for investments and policy support. Chicken feed constitutes 70-80% of the per egg cost, but is difficult to find in sufficient quantity or quality at the break-even per kilogram price. MICC estimates that the 2016 Mongolian demand for laying hen feed was 23,284-25,871 tons — of which the majority is supplied by Chinese producers. Among other obstacles then, feed sourcing is highly vulnerable to tugrik depreciation.

Exempting chicken feed from the 10% customs tax would be one policy option that would greatly improve the industry's ability to both provide more affordable eggs and compete with Russian imports. This policy would overnight improve the security of egg production operations in Mongolia — at the cost of approximately MNT 2.0 billion in government revenue annually.

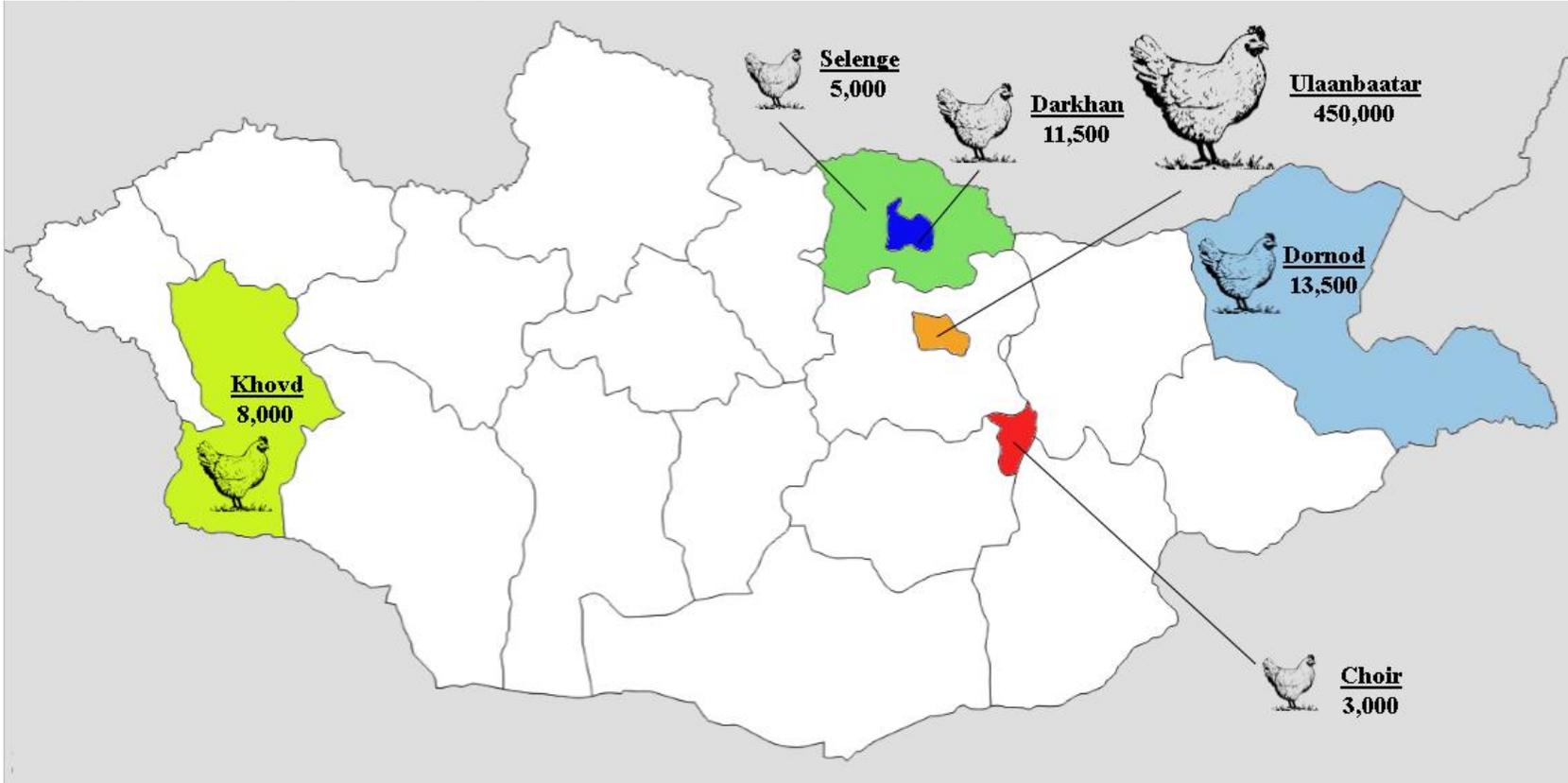
In-country chicken feed production is a promising investment for poultry farms to reduce their feed costs, potentially one that will stabilize the supply chain in the long run. Most Mongolian egg producers lack either the technology or the expertise to produce feed of sufficient quality and quantity for their flocks. Properly utilized feed-mixers can reliably produce chicken feed at a profitable rate. Not only would vertical integration make egg production more profitable on a per egg basis, but it would also reduce companies' exposure to foreign exchange fluctuations.

The up-front costs of chicken-feed mixers may prove too high for farms given their input usage, capital, and available loan interest rates. Domestic egg producers may need to consolidate to achieve greater economies of scale and returns on feed-mixer investments.

However, exempting chicken feed from customs tariffs would make domestic feed comparatively more expensive and undercut these investments. Making the chicken feed exception temporary, allowing domestic companies to become more profitable and attractive to foreign investment, emerges as a potential compromise. Feed-mixer investments are a long-term solution that possess useful synergies with other industries and should be prioritized above all else.

Growing urban consumer demand will be a major boon to egg producers. Mongolia has the potential to supply all of its eggs domestically. The expected MNT 20 billion growth offers a unique market opportunity to attract foreign investment and build a more resilient industry. Improvements to the egg supply chain emerge as the most promising avenue to do so.

V. Appendix A: Laying Hens in Mongolia, 2016



Source: National Statistics Office, MICC Analysis