What's the Future of the Egg Aisle?

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Key Takeaways

- Many consumers are willing to pay price premiums for an increasingly large number of egg attributes
- Some of these attributes may become new standards, increasing costs and driving consolidation
- Other less common attributes may open niches for smaller producers

In the labyrinth of modern supermarkets, the egg aisle has evolved from a straightforward choice between size and color to a complex array of options. Today, consumers face a much broader selection: cage-free, organic, omega-3 enriched, pasture-raised, free-range, vegetarian-fed — and the list goes on. This burgeoning variety reflects a shift in consumer perception. Eggs are no longer seen as a mere commodity, but as differentiated products distinguished by a plethora of attributes. And importantly, many consumers are willing to pay varying premiums for these distinctions. In this paper we examine what the future holds for this increasingly segmented market.

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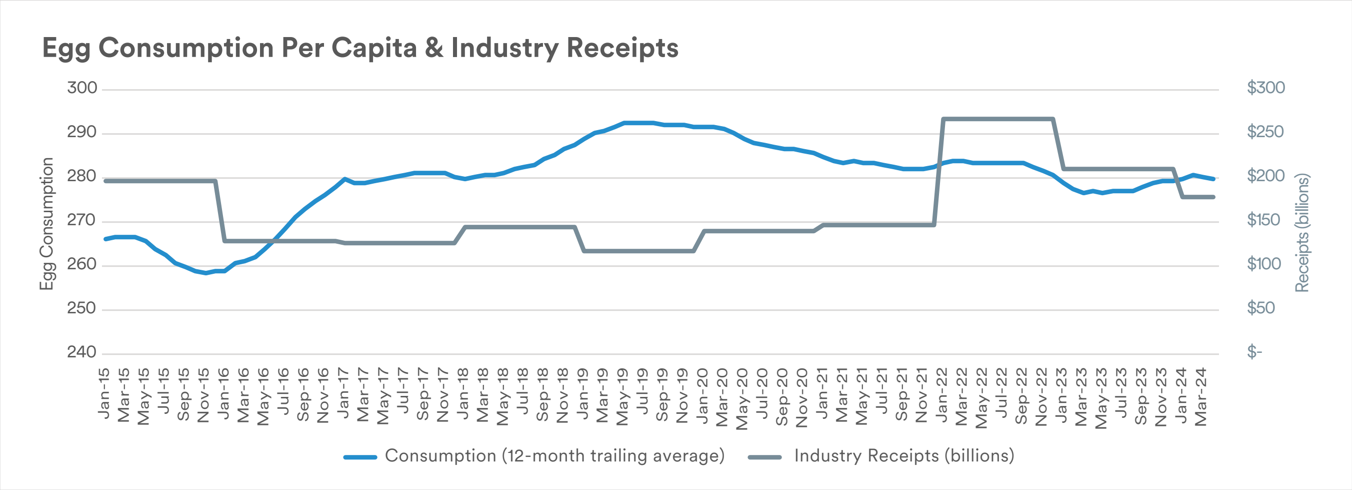
Consumer Preferences for Egg Attributes

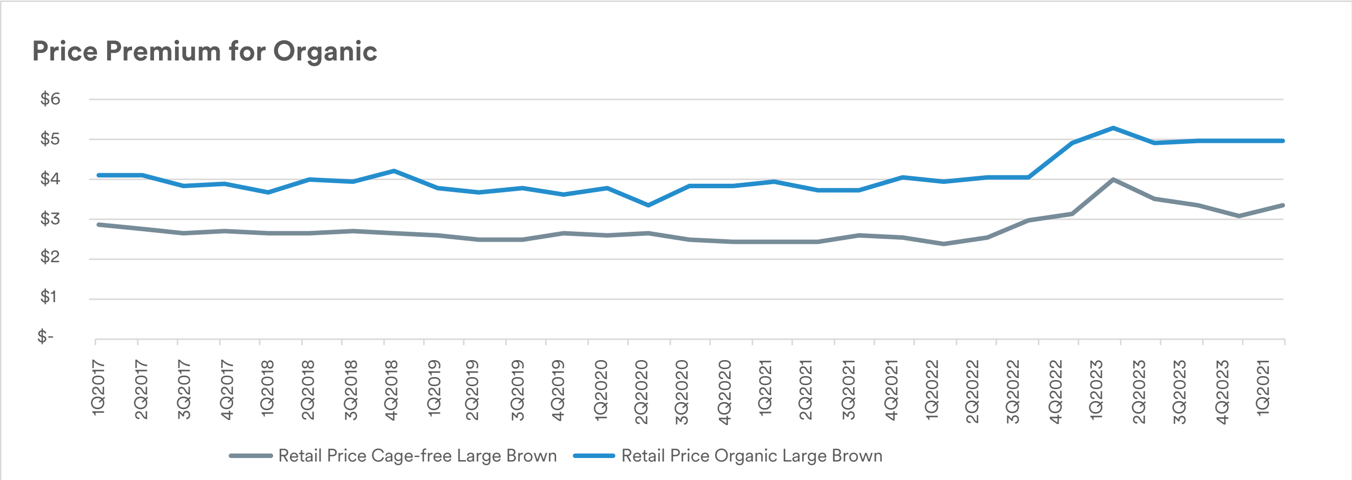
Demand elasticity varies across egg types, with conventional and omega-3 eggs showing inelastic demand, whereas cage-free and organic eggs exhibit more elasticity[1] (demand elasticity being how sensitive demand is to changes in price). Those differences in the demand elasticity can have severe implications when there is a decrease in supply, such as when a disease outbreak requires the culling of birds. Eggs varieties with an inelastic demand would see a significant increase in price as consumers compete for a smaller quantity of eggs, resulting in an increase in aggregate revenues. For egg varieties with elastic demand, however, consumers are more price sensitive, and the resulting increase in price would not be enough to offset the decrease in quantity, and aggregate revenues would fall.



Source: MIM, USDA AMS & Egg Industry Center, June 2024

Historically, larger eggs have commanded higher prices, driven by recipe requirements and the perception of better-fed chickens.[2] In markets like Australia and the UK, free-range eggs are perceived to taste better — a sentiment attributed to the belief that free-range hens are happier, and happier hens produce superior eggs.[3] Organic eggs are perceived as healthier, more nutritious and tastier, leading to a higher willingness to pay among some consumers.[4] However, not all attributes command a premium. For instance, omega-3 enriched eggs have not seen a significant willingness to pay a premium in some academic studies.[5]

Eggs produced by hens that are provided with higher animal welfare standards benefit from a higher consumer willingness to pay. When given the appropriate information, some consumers are willing to pay a premium for a wide variety of animal welfare improvements to be provided for the hens that lay their eggs, such as aviaries, perches, scratching pads, outdoor access, pasture-raised and cage-free systems.[6] These preferences vary across demographics, with younger consumers showing a greater inclination toward purchasing free-range and organic eggs over conventional ones.[7]



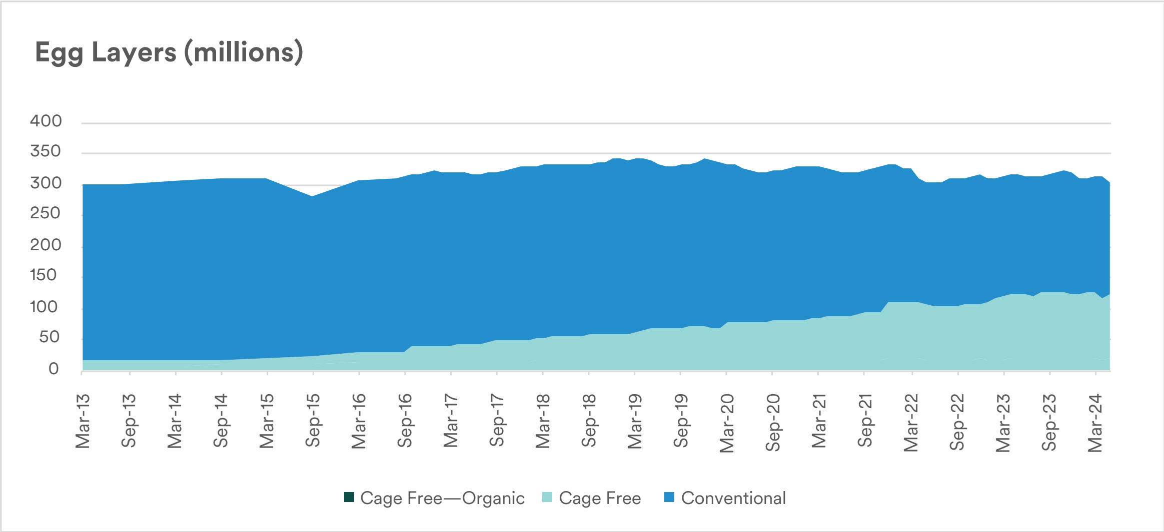
Source: MIM, USDA AMS & Egg Industry Center, June 2024

It's important to note that the key driver of a consumer's willingness to pay for any of these varied attributes has little to do with actual differences and everything to do with the consumers' perception of those differences. While academic researchers[8] and the USDA[9] find that cage-free and conventional eggs have no significant differences in their nutritional value, as long as a consumer believes that they do, they'll be willing to pay more for that perceived benefit. For another example, after the 2010 salmonella outbreak, consumers exhibited a preference for organic eggs due to unsubstantiated beliefs that they were safer.[10] This perception of what organic eggs are causes their retail price to be around $1.25 per dozen higher than non-organic eggs on average.

Cage-Free is Becoming Increasingly Popular, But Conventional is Here to Stay

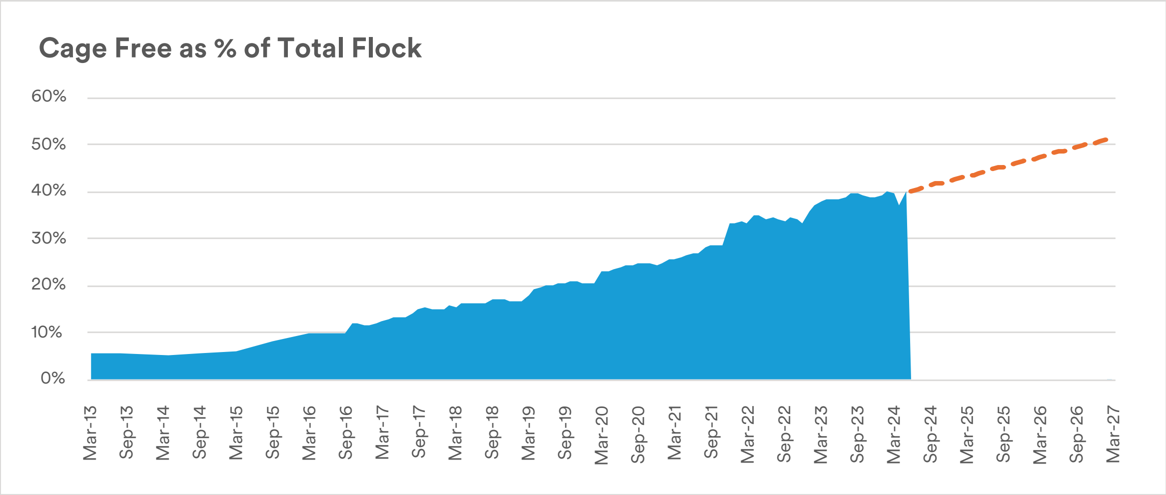
Legislative changes have also influenced demand. In 2008, California passed Proposition 2, requiring all eggs sold in the state to come from layers with at least 116 square inches of space by January 2015. After Proposition 2 was passed, and well before the new standards went into effect, there was a measurable increase in the preference for cage-free and organic eggs over conventional caged eggs.[11]

In 2012, California passed Proposition 12 which increased the requirements for all producers selling eggs in the state. Proposition 12 requires all liquid and shell eggs sold in California to come from cage-free operations. Cage-free operations must have at least 144 square inches for each laying hen (layer) and access to perches, nest boxes and dust bathing areas. The impact of Proposition 12, coupled with a growing consumer preference for cage-free eggs, has led to a notable increase in the production of cage-free eggs over time.



Source: MIM, USDA AMS & Egg Industry Center, June 2024

According to the U.S. Department of Agriculture, the percentage of hens laying cage-free eggs has been steadily rising, reflecting both the legislative push and changes in preferences for a broad swath of consumers.[12] This trend underscores the evolving dynamics of the egg industry, where regulatory frameworks and consumer preferences converge to redefine standards of production and animal welfare. If current trends continue, we expect that over half of the egg layers in the country will be housed in cage-free systems by 2027, but unless there is legislative change at the national level, conventional eggs will always have a place in the U.S. market, particularly with consumers in the Midwest and South.



Source: MIM, USDA AMS & Egg Industry Center, June 2024

Industry Implications and the Path Forward

As the egg aisle continues to diversify, the industry must navigate the delicate balance between catering to evolving consumer preferences and managing the economic realities of production. The future landscape of the egg industry will depend on whether these increasingly differentiated products are viewed as luxuries or as a new standard. The rise in popularity of attributes like cage-free could lead to industry consolidation due to higher fixed costs and the economies of scale enjoyed by larger producers.

However, there remains an opportunity for smaller producers to remain competitive through niche offerings and effective marketing, potentially carving out a space for locally grown boutique eggs. Academic research has shown that many consumers are willing to pay a premium for a variety of attributes because of their perceived associations with health, nutrition and ethical concerns[13]. Many of the eggs in the grocery aisle may already contain these attributes, but they simply aren't being advertised.

It may be possible for producers to benefit from a convergence of niche consumer preferences and food safety efforts for increased traceability across the food supply chain. While dairies have enjoyed advertising success from naming the individual happy cows that produced a gallon of milk, egg producers may be able to emulate that success.

The humble egg has become a symbol of the modern consumer's desire for choice, quality and ethical consideration in their food sources.

Endnotes

[1] Bakhtavoryan et al., 2021
[2] Ahmad Hanis et al., 2013; Baba et al., 2017
[3] Pettersson et al., 2016; Bray et al., 2017
[4] Guney, 2019
[5] Mesias, 2011; Lu et al., 2013
[6] Ochs et al., 2018; Ochs et al., 2019; Heng et al., 2013; Lu et al., 2013; Chang et al., 2010 Bray et al., 2017; Doyon et al., 2016 ahmani et al., 2019
[7] Rahmani et al., 2019
[8] Anderson, 2011
[9] USDA AMS, 2015
[10] Li et al., 2017
[11] Lusk, 2010
[12] USDA, 2021
[13] Rondoni, et al., 2020

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