Answers to Questions on Notice – RSPCA Australia

Question 1

Have you done any modelling on – and I am happy for you to take this on notice by the way – what you think the Government should do, which areas it should provide funding, how those funds should be constructed and so on?

Answer

Industry adjustment assistance is an option for government to consider in assisting the egg industry to transition away from conventional battery cages. Industry adjustment packages in agriculture are not uncommon. They can take many forms and require detailed economic modelling on a case by case basis to determine the most appropriate and effective areas for government assistance. In the case of phasing out battery cages, the infrastructure costs associated with removing battery cages and installing furnished cages or converting cage sheds to barn or aviary systems would be the most obvious area for government assistance.

Industry assistance packages are sometimes funded by retail levies on the sale of products produced by the industry. For instance, the Diary Structural Adjustment Program Scheme (DSAP Scheme) involved an 11 cent per litre retail levy to generate revenue for the program. Similarly, the Sugar Industry Reform Package (SIRP 2004) involved a 3 cent per kilogram domestic sales levy to help fund the package. In light of the massive quantity of eggs consumed in Australia each year, a minor levy per egg unit has the potential to generate a significant source of funding to assist with infrastructure transition costs with little impact to the consumer. For instance, at 6.2 billion eggs a year, a 1 cent levy per egg could generate $62 million in funding to be dispersed among eligible egg businesses requiring adjustment assistance.

RSPCA Australia sought economic advice from BG Economics in 2018 (**attached**) following the release of the draft Poultry Standards Regulation Impact Statement. The advice considered the potential for the cost impacts of phasing out battery cages to be passed on to consumers (something the draft Regulation Impact Statement failed to do), and concluded that passing on these costs would result in a price increase of approximately 1.4 cents per egg. The advice then went on to consider the potential for Government assistance, particularly for smaller producers. See extract from pages 12-13 below:

> *Such a premium is a small additional price for consumers. However, some firms either due to their size or other factors may be unfairly burdened by trying to recover any upfront outlay required to transition away from conventional cage egg production. In such instances, this cost burden could be either fully or partially met by an industry structural adjustment program (or similar). As identified previously, most of the extra cost burden is placed on NSW, Queensland and Victoria. For South Australia, Western Australia and Tasmania the extra cost burden is far less (in absolute terms, not relative terms).*

Government funded industry packages, particularly federally funded packages, are not uncommon in the agricultural industry which compensates producers for the cost of government decisions in regard to agriculture including:

- *Dairy Structural Adjustment Program Scheme 2000 (DSAP Scheme)*
- *Supplementary Dairy Assistance Program (SDA)*
- *Sugar Industry Reform Package Sugar Industry Reform Programme (SIRP 2004)*
- *Tobacco Grower Adjustment Assistance Package (TGAAP)*
- *Premium Fresh Tasmania Regional Food Producers Innovation and Productivity Program (RFPIPP)*

The Dairy Structural Adjustment Program (May 2000 to December 2008) had a total budget of $1.63 billion.

Types of adjustment package include:

- *Industry Restructuring – To make the industry overall more sustainable, can include exit assistance (frequent in agriculture)*
- *Enterprise assistance*
- *Labour market assistance*
- *Inward investment*

Question 2

Is there any international evidence about what has happened to prices in other jurisdictions that you could share with us on notice?

Answer

It is difficult to make an assessment of retail price impacts of phasing out conventional battery cages due to the need to prove a definitive causal link between any price change and the new regulation amid a myriad of other factors that may be impacting egg prices at a given point in time. There was ample media commentary on price impacts of the phase out of conventional battery cages in EU nations when the EU Directive banning battery cages came into effect in 2012 following a 14-year phase out period. Peer-reviewed analysis is however more limited.

Malone and Lusk (2016) offer one of the few peer-reviewed analyses of price impacts of phasing out battery cages. Their study focused on California following its prohibition on the production and sale of battery cage eggs in 2015. They found a price increase of between $0.48 and $1.08 per dozen eggs depending upon the methodology utilised. This equates to a price increase of between 4c to 9c per egg. Further analysis, by Mullally and Lusk (2017) found that price impacts fell over time from an initial impact of 33% increase per dozen when the regulation was first implemented to about 9% increase over the last six months of the study.

It is also important to note that due to expected increasing economies of scale for non-cage egg systems as a result of a phase out of battery cages, the price of non-cage eggs (which the majority of consumers buy at the retail level) may fall, thereby partially offsetting any increased price for current consumers of cage eggs. See extract from BG Economics advice below:

> ***Financial impact on consumers of phasing out conventional cage eggs***
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> *The RIS identifies the retail price of cage eggs (almost all conventional cages) as at June 2016 as being $3.24/dozen; barn laid $4.68; free range $5.40; and specialty eggs $9.24. This equates to $0.27 per egg for cage; $0.39 for barn laid; $0.45 for free range and $0.77 for a specialty egg (e.g. organic).*
>
> *It is important however to note that the free range egg price includes different stocking densities. Free range eggs from stocking densities of 1,500 birds/hectare are typically more expensive than free range eggs where there is a maximum stocking density of 10,000 birds/hectare. The average shelf price of a free range egg from a 10,000 bird/hectare farm is therefore likely to be closer to $0.40/egg or $4.80 per dozen than $0.45/egg ($5.40/doz.). Indeed, these '10,000 bird' free range eggs are sometimes sold by large supermarkets as low as $4.20 per dozen for a 700g carton and $3.80 per dozen for a 600g carton. Barn laid eggs too are from time to time on special as low as $3.60 per dozen (700g carton) as opposed to $4.68 per dozen.*

It is our view that the shelf price of barn laid eggs and densely stocked free range hens (10,000 birds/ha), although not likely to go as low as current cage egg prices, will be only marginally higher as economies of scale, competition and innovation are realised over the 10-year phase out period and regulatory certainty is introduced thereby stimulating new investment, new technologies and improved farming practices. Indeed, as IBISWorld notes:

> *Larger farms have the greatest total costs but tend to have the lowest per-unit costs. These establishments benefit from cost savings created through economies of scale in production.*

Non-cage farm sizes are typically 'small' (>5,000 – 100,000 chickens) or 'micro' (<=5,000 chickens) meaning economies of scale are likely to be realised in the event of conventional caged egg phase out as farms seek to consolidate with regulatory certainty to maximise profits, leading to likely lower production and shelf prices. It is acknowledged that there are sometimes constraints to doing this e.g. planning controls and availability of land.

The table below provides an estimate of the retail price effect per egg from realised economies of scale and other factors. Understanding the retail price effect per egg is the best way to calculate the financial impacts on individual consumers. While in 2017 per capita egg consumption was 231, this figure is achieved by simply dividing the total number of eggs consumed in a single year by the population of Australia. This is a very crude statistic as the very young and the very old are unlikely to be big egg consumers, some body builders may consume more than 500 eggs per year, while vegans are unlikely to consume any eggs at all.

The aim is to provide an indication of the decrease in retail (shelf) price that is likely to result from egg producers consolidating the number of barn laid and, especially, free range production farms. A reasonable assumption is that a 10 per cent decrease in shelf price for consumers is likely to be achievable due to future economies of scale, innovation and competition in the industry. Furnished cage and speciality/organic egg production is not considered.

Table 6: Likely retail price (rounded) of eggs due to future economies of scale, etc.

Production type	**5%**	**10%**	**15%**	**20%**
Barn laid ($0.39/egg, 2016)	$0.37	$0.35	$0.33	$0.31
Free range ($0.45/egg, 2016)	$0.43	$0.41	$0.38	$0.36

Source: BG Economics

Table 7: Estimated consumer surplus due to future economies of scale, etc. (10%)

Egg Consumers	Barn laid	Free range
Current cage egg consumers, $0.27/egg	(-) $0.08	(-) $0.14
Current barn laid egg consumers, $0.39/egg	(+) $0.04	(-) $0.02
Current free range egg consumers, $0.45/egg	(+) $0.10	(+) $0.04

Source: BG Economics

Current cage egg consumers

Under Option D with conventional cage-egg phase out, consumers would have the option of purchasing furnished cage eggs, barn laid, free range, or specialty eggs. Assuming a 10 per cent price decrease from economies of scale, innovation, competition and other market forces, this group of consumers would experience a negative consumer surplus (required to pay more for their eggs). For example, purchasing barn laid eggs (next best option) if conventional caged eggs were phased out is estimated to result in an ***additional cost*** *of:*

- *100 eggs/year purchased: $8.00 ($0.08/egg)*
- *200 eggs/year purchased: $16.00*
- *300 eggs/year purchased: $24.00*

Note – a premium (estimated at 2.4 cents per egg) may also apply due to the costs incurred by egg producers as detailed in the previous section.

Current barn laid egg consumers

Under Option D with conventional cage-egg phase out, consumers would have the option of purchasing furnished cage eggs, barn laid, free range, or specialty eggs. Assuming a 10 per cent price decrease from economies of scale, innovation, competition and other market forces, this group of consumers would experience a consumer surplus (pay less for their eggs). Continuing to purchase barn laid eggs if conventional caged eggs were phased out is estimated to result in a ***cost saving*** *of:*

- *100 eggs/year purchased: $4.00 ($0.04/egg)*
- *200 eggs/year purchased: $8.00*
- *300 eggs/year purchased: $12.00*

Note – a premium (estimated at 2.4 cents per egg) may also apply due to the costs incurred by egg producers as detailed in the previous section.

Current free range egg consumers

Under Option D with conventional cage-egg phase out, current free range egg consumers would have the option of purchasing furnished cage eggs, barn laid, free range, or specialty eggs. Assuming a 10 per cent price decrease from economies of

*scale, innovation, competition and other market forces, this group of consumers would experience a consumer surplus (pay less for their eggs). Continuing to purchase free range eggs if conventional caged eggs were phased out is estimated to result in a **cost saving** of:*

- *100 eggs/year purchased: $4.00 ($0.04/egg)*
- *200 eggs/year purchased: $8.00*
- *300 eggs/year purchased: $12.00*

Note – a premium (estimated at 2.4 cents per egg) may also apply due to the costs incurred by egg producers as detailed in the previous section.

References:

- BG Economics (2018) Phasing out conventional 'cage egg' production in Australia: A 10-year transition analysis

- Malone T and Lusk J (2016) Putting the chicken before the egg price: An ex post analysis of California's battery cage ban. Journal of Agricultural and Resource Economics 41(3):518-532

- Mullally C and Lusk J (2017) The impact of farm animal housing restrictions on egg prices, consumer welfare, and production in California. American Journal of Agricultural Economics 100(3): 649-669