



## PRICES, JOBS AND HOUSEHOLD IMPACTS OF A CONTAINER DEPOSIT SCHEME

There have been various reports on the impact of a container deposit scheme (CDS) on prices and the consequent impact on sales, jobs and the typical household. The primary advice to the Australian Food and Grocery Council (AFGC) has been studies by ACIL Tasman.<sup>1</sup> It is relevant to understand their key material assumptions:

1. The assumed deposit, handling fees and GST per container have been assumed to be passed straight through to consumers without any change in absolute margins by producers or retailers.
2. Product consumers have been assumed to not collect the deposit at or near the time or point of sale and therefore do not account for the potential refund in their purchasing decision.
3. There is a pervasive substitution effect between beverages and other non-beverage products in response to the apparent price rise, causing a loss of sales to the beverage sector.

These assumptions are disputed:

1. Discounting is common and industry adjusts its marketing. The price of a beverage of the same size varies radically depending on its point of sale. A 375ml can of coke can be sold for as little as \$0.75 in a catalogue promotion being sold by the carton to as much as \$3.50 in an expensive café. Also as noted by ACIL, "...one lesson from history is that producers alter their products or processes to minimise the impact of taxation or regulatory changes on their retail prices while maintaining their volumes/profits."<sup>2</sup>
2. Redemption of the deposit does occur with 80% of all containers sold, a common rate with a 10cent deposit (eg, SA). Clearly people are not stupid or uninformed about what they are doing. Consumers of the remaining 20% don't make the effort to redeem simply because they are happy to voluntarily forfeit some deposits. This voluntary behaviour has little or no impact on their spending habits. Also ACIL note (and the AFGC ignores), "Given the design of a CDS, a percentage of consumers may choose to defray some or all of the cost by choosing to redeem the deposits on their (and other people's) containers."<sup>3</sup>
3. There is no evidence of loss of sales in other jurisdictions whether by substitution or other means, as follows:

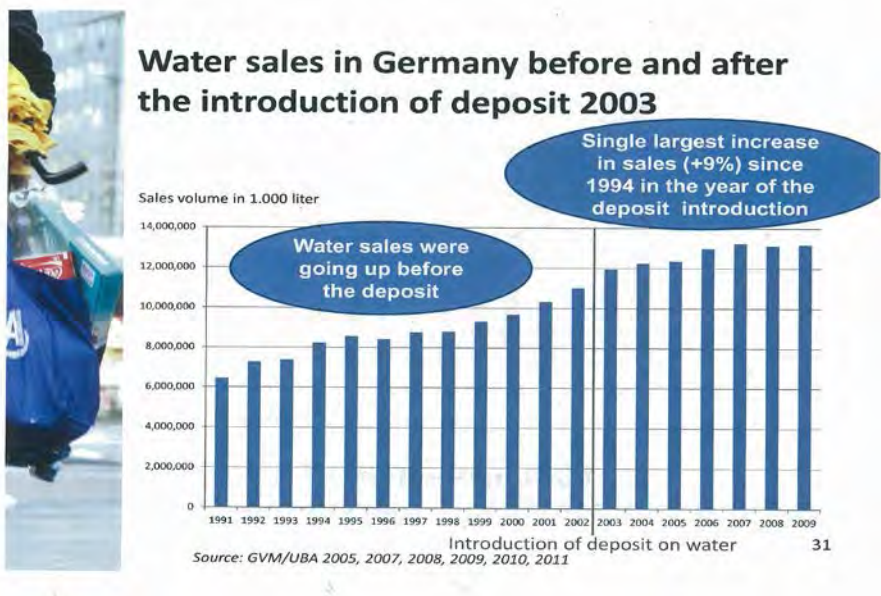
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<sup>1</sup> ACIL Tasman a) 'National Container Deposit Scheme Impacts – projected changes in Australian retail volumes and associated employment impacts by beverage category' (September 2011) b) 'Broader Impacts of a National CDS – estimated upstream impacts associated with Option 4A considered under the Packaging Impacts Consultation Regulation Impact Statement' (28 March 2012) c) 'Impacts of a Beverage Container Deposit Scheme – implications for the average New South Wales household shopping basket' (July 2012)

<sup>2</sup> ACIL Tasman a) p2

<sup>3</sup> ACIL Tasman b) p20

- Studies on CDS and beverage pricing in Alberta and California confirm no change in beverage sales from CDS.<sup>4</sup>
- The Massachusetts Department of Environment Protection study in 2011 provided hard evidence that there was no impact on sales or prices in Massachusetts compared to bordering states which did not have CD systems in place. Where a consumer redeemed their beverages the actual price of a beverage in Massachusetts was actually an average 5¢ less than those in neighbouring states.<sup>5</sup>
- The experience in Germany with its significant deposit rate:<sup>6</sup>



<sup>4</sup> CM Consulting 2012 <http://www.cmconsultinginc.com/wp-content/uploads/2012/09/WPW2012-final-report.pdf>.

<sup>5</sup> Department of Environment Protection (2011), 'Comparison of Beverage Pricing, Consumer Choice and Redemption System Performance in Massachusetts and Neighboring States'

<sup>6</sup> Jurgen Resch, Deutsche Umwelthilfe, (2011)

## System Costs

Prices may also be influenced by the proposition that the deposit rate needs to increase regularly to retain the incentive to return the container (and that handling fees will rise with inflation). If correct these factors would be key components of modelled system costs.

There is no evidence that the deposit needs to increase regularly with inflation. For example the South Australian deposit has only increased once from an initial 5 cents in 1977 to 10 cents in 2008 (31 years), after returns dipped to 70% in 2006/7. This coincided with introduction of a stream of new beverage and container types (flavoured milk in liquid paperboard, juice in poppers etc.) which initially performed at half the recycling rate of traditional beer and soft drinks in bottles and cans. Thus if a scheme began in NSW in 2017, a rise in the deposit would not be anticipated until 2038, also taking account of changes in the range of containers.<sup>7</sup>

Will handling fees rise with inflation? Handling fees in the South Australian and Northern Territory CDS are 5-6cents gross per container. The actual cost placed on the retail price should be net of the sale of collected material and deployment of unredeemed deposits held by each bottler - any other cost is attributed as part of a beverage company's pricing strategy.

SA and NT handling fees experience significant labour and transport inputs as they are largely manual systems and material has to be transported in an uncompacted state from depots to super collectors and then to recyclers (usually in other states). Both jurisdictions also have little reprocessing infrastructure and have a large proportion of redemption activity in remote centres (unlike NSW).

The system proposed for NSW involves significant automation and compaction via Reverse Vending Machines and reduced transport costs. The handling fee will be at least 25% less.<sup>8</sup> And recent feedback from RVM providers like Revive Recycling (Australian distributor for Tomra) is that on current prices the cost of capital equipment is now about 40% less than those in SA.<sup>9</sup>

Additionally the capital cost per collected container (about 30-40% of total cost) is falling due to a number of factors:<sup>10</sup>

- i. Reduced production costs and purchase costs of RVMs
- ii. Higher throughput capacity / speed of individual machines
- iii. Development of improved "backrooms" for higher volume installations

The percent reductions depend on the type of installation and volumes. For example the impacts of i. above have resulted in prices of single simple RVMs (with internal bins) - of the same or next

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<sup>7</sup> Assuming 30 years from 2008.

<sup>8</sup> Narelle Anderson, Envirobank, pers comm 22/9/14. Boomerang Alliance estimates about gross 4.5cents pc average.

<sup>9</sup> Markus Fraval CEO Revive Recycling, pers comm, 25/9/14 to confirm current costs impact on handling fees modelled in the Boomerang Solution Option 4A

<sup>10</sup> Markus Fravel, Revive Recycling, per comm 22/9/14

generation model with similar performance - dropping by between 3% and 24% in real terms over the last 5 years.

The impacts of i, ii, and iii together have resulted in modelling of costs of RVM systems for an Australian CDS (including the kind of front end RVMs and “backroom” systems”) for medium and large installations dropping by at least one third. This is mainly due to there being technology better suited to the task of multiple material types and higher volumes, and handling higher volumes with less machines. Envirobank’s automated bulk sorter in Darwin which is processing some 500,000 containers a day also reports significant savings compared to the manual system.

While the large fall in costs of such RVM systems is unlikely to continue at such a rate, there is no obvious reason that the general trend of costs falling in real terms will change over the next 10 to 20 years.

A further factor influencing net handling fee levels is the increase in the value of scrap. While it is true that such prices don’t increase in an inflationary way, they do increase with demand. Long term forecasts are very strong for clean aluminium and plastic packaging and their associated energy cost savings.

Finally it is understood that financial modelling for the DRIS found that a national scheme would cover all costs from material sales and unredeemed deposits, with no additional price impost beyond the deposit (not taking account of bottler pricing strategies).

## **Jobs**

Given the evidence above in regard to prices and sales trends; and the increased efficiency of a modern RVM-based CDS - it is difficult to mount an argument that jobs in the beverage sector will be adversely impacted by a CDS.

In fact new jobs will be created as acknowledged by ACIL Tasman, “However, new jobs will arise in the collection and recycling sectors as well as some jobs associated with administration of the [CDS] scheme.”<sup>11</sup> This is borne out by Remondis, Tomra, Rhenus Logistics, Envirobank in their 2012 ‘Common Position Paper’ which predicts some 3,000 additional jobs from a national CDS. The Boomerang Alliance has calculated some 1029 direct jobs and 687 indirect jobs for NSW. <sup>12</sup>

## **Price Comparisons**

A final part of a price analysis involves examining actual prices in Adelaide (with a manual/depot CDS) and Sydney (no CDS) – see Table 1 below.

The selection from the Coles and Woolworths catalogues and on line prices shows either the same price for single items and specials in almost all cases; or the deposit or less for on line in many cases. This would suggest that competitive pressures are at work and material sales/unredeemed deposits are being used to offset handling fees.

The NT CDS was not assessed because it has severe inefficiencies (brand separation) and for some beverage products there is also a transport premium to ship to Darwin and remotely. It is noted that

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<sup>11</sup> ACIL Tasman, a) p17

<sup>12</sup> Figures are based on Tomra, Remondis, Rhenus, Envipco, Revive Recycling, (2012) ‘Common Position Paper’. Indirect jobs are based on Access Economics 2009 ‘Employment in Waste Management and Recycling’ for the Commonwealth Government. Ratio of indirect jobs per job in recycling = 0.64

while some bottlers previously spread the impact of the SA scheme over all national sales, this was halted some years ago.

**Table 1 – Price Comparisons from catalogues/on line<sup>13</sup>**

<b>PRODUCT at Coles</b>	<b>ADELAIDE \$</b>	<b>SYDNEY Parramatta \$</b>
Coke 2l	3/3	3/3
Nesta Peach Mango Tea, 500ml	/3.07	/2.96
Gatorade 400m	2/2	2/2
Pepsi, Schweppes 1.25l	1.50/2.41	1.50/2.30
Pump chilled water 750ml	/3.07	/3.07
Carlton Dry/VB 24pk	43/	41/
<b>PRODUCT AT WOOLIES</b>		
Bundy Ginger Beer Bottle 750ml	3/3.06	3/3.06
Coke 1.25l	3/3.06	3/3
Coke 24pk, 375ml	18/20	18/18
Pepsi 1.25l	2.25/2.25	2.25/2.25
Wool Select Pineapple 1.25l	0.97/1.00	0.97/0.97
Coopers Birell Premium, 6pk*	/7.19	/8.05
Schweppes Lemon Mineral Water 1,25l	/2.35	/2.25

\* Coopers is based in SA

## **Household Impact**

What is the impact on a typical household? ACIL Tasman (2012) predicted an annual range of \$137 to \$473 per household; per year or \$307 based on a 10 cent deposit and 10cent handling fee.<sup>14</sup> However as discussed above – this is based on the unviable assumption that consumers do not factor in the ability to redeem the deposit and an exorbitant handling fee.

Their 2012 study estimates the annual value of beverages (alcoholic and non-alcoholic) consumed in NSW per household is \$50pw for 27 containers. A ten cent deposit on these containers is equivalent

<sup>13</sup> Catalogues for 17/9/14, 24/9/14. <http://www.coles.com.au/catalogues-and-specials/this-week-catalogue>. <http://www2.woolworthsonline.com.au/#url=/Shop/Browse/drinks>. Catalogues have specials, on line limited.

<sup>14</sup> ACIL Tasman, c) p1

to \$2.70; and a 'conservative' net charge to the bottler of half a cent adds a further 13.5 cents (\$2.83 total).<sup>15</sup>

Assuming under the convenient model that uses RVMs based at shopping centres (thus avoiding the need for an extra trip to a depot as in SA) about 90% of deposits are redeemed or gifted to a charity or another person, by an 'average' consumer<sup>16</sup>, (note: this is not the total redemption rate for all containers) - the theoretical impact is:

$$\begin{aligned} & \$2.70 \text{ per week minus } \$2.40 \text{ redeemed} = 30 \text{ cents} + 13.5 \text{ cents bottler fee} \\ & = 43 \text{ cents per week or } \$22.36 \text{ a year} \end{aligned}$$

This is equivalent to 1.6 cents per container consumed each week if the household does not redeem or gift all its containers. As noted above non-redemption is a voluntary choice and thus should not be regarded as an impost. From this perspective the only cost is 13.5cents per week.

This assumed impact would be further reduced by savings in council rates from reduced collection costs for waste and recycling; and if beverage consumption is less than that estimated by ACIL Tasman.

Of course this cost can be completely avoided if:

- deposit redemptions are higher;
- sales at away from home sites (eg, café or restaurant) do not charge the 10 cent deposit, and the container is retained by the outlet (as will be often the case); and
- the net handling fee is less depending on the capital costs, efficiency of the CDS and cost recovery including from unredeemed deposits.

Thus the impact of a CDS on a household depends entirely on their deposit redemption behaviour and the implementation of a cost effective system that minimises the net handling fee.

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<sup>15</sup> Likely to be lower. Boomerang Alliance have estimated the total handling fee per container at 4.5 cents average, minus 2.5cents material sales and 2.5 cents unredeemed. BDA (2010) estimated a net cost per container as 0.4 of a cent (p94).

<sup>16</sup> Harrison Research, (2012) for Zero Waste SA, "CDL Awareness and Support". 68% return own containers, 13% given to charity, 6% given to another person to keep or share. p23. Gifting or involving another person is not a cost, but rather a voluntary contribution.