Appendix 2. Data and values of parameters

Table A1: Cattle weights $w_a^i$ (saleable kilograms of beef per head) by age and type

<table>
<thead>
<tr>
<th>Age cohorts</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-breeding</td>
<td>42.8</td>
<td>85.6</td>
<td>124.</td>
<td>163.</td>
<td>184.</td>
<td>204.</td>
<td>227.</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Cow</td>
<td>42.2</td>
<td>84.5</td>
<td>101.</td>
<td>119.</td>
<td>137.</td>
<td>155.</td>
<td>157.</td>
<td>159.</td>
<td>161</td>
<td>163.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age cohorts</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-breeding</td>
<td>165.</td>
<td>167.</td>
<td>170.</td>
<td>174</td>
<td>175.</td>
<td>177.</td>
<td>178.</td>
<td>180</td>
<td>181</td>
<td>182</td>
</tr>
<tr>
<td>Cow</td>
<td>165.</td>
<td>167.</td>
<td>170.</td>
<td>174</td>
<td>175.</td>
<td>177.</td>
<td>178.</td>
<td>180</td>
<td>181</td>
<td>182</td>
</tr>
</tbody>
</table>

Table A2: Estimated feeding costs and slaughtering costs in Australian dollars

(i) feeding costs $cfe_a^i$ including all variable costs to the farm gate, per head and time step

<table>
<thead>
<tr>
<th>Age cohorts</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-breeding</td>
<td>60</td>
<td>50</td>
<td>55</td>
<td>60</td>
<td>65</td>
<td>71.0</td>
<td>76.0</td>
<td>88.9</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>Cow</td>
<td>60</td>
<td>50</td>
<td>80.5</td>
<td>85.5</td>
<td>90.5</td>
<td>95.5</td>
<td>100.</td>
<td>105.</td>
<td>110.</td>
<td>115.</td>
</tr>
</tbody>
</table>

(ii) slaughtering costs $csl_a^i(z)$ including all variable costs from farm gate to beef ex abattoir, per head and time step

$csl_a^i(z) = 90$ for nonbreeding cattle (ie $s = m$) at age $a$ and zone $z$;

$csl_a^i(z) = 70$ for cow (ie $s = c$) at age $a$ and zone $z$.

Table A3: Values of other parameters

Half yearly natural mortality $\mu_a^s = 0.005$ for all $a$ and $s$;

Fecundity rate $\alpha_a^s(z) = 0.9$ for $a > 2$ and all $z$, and $= 0$ for $a = 1,2$ and all $z$;

Transportation cost $\tau_k(z) = 0.2$ for domestic markets $k$ beyond the zone $z$, $= 0$ for the domestic market within the zone $z$, and $= 0.3$ for export markets $k$;

Elasticity $= -1$ for all markets and all types of beef;

Half yearly discount rate $r = 0.035$. 