

Appendix 2. Data and values of parameters

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

Age cohorts										
	1	2	3	4	5	6	7	8	9	10
Non-breeding	42.8	85.6	124.	163.	184.	204.	227.	250	250	250
Cow	42.2	84.5	101.	119.	137.	155.	157.	159.	161.	163.
Age cohorts										
	1	2	3	4	5	6	7	8	9	10
Non-breeding										
Cow	165.	167.	170.	174	175.	177.	178.	180	181	182

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

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

Age cohorts										
	1	2	3	4	5	6	7	8	9	10
Non-breeding	60	50	55	60	65	71.0	76.0	88.9	95	100
Cow	60	50	80.5	85.5	90.5	95.5	100.	105.	110.	115.
Age cohorts										
	1	2	3	4	5	6	7	8	9	10
Non-breeding										
Cow	120.	125.	130.	135.	140.	145.	154	176.	185	190

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

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

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

Table A3: Values of other parameters

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

Fecundity rate $a_a(z) = 0.9$ for $a > 2$ and all z , and = 0 for $a = 1,2$ and all z ;

Transportation cost $t^k(z) = 0.2$ 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 $r = 0.035$.