

Willingness to pay for beef is similar between different consumer groups



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Outline

- Consumers would accept an eating quality guarantee
- Consumers are willing to pay more for better beef
- WTP increases the profitability of the industry

Which is Better?



Which is Better?

Consumers want a reliable eating quality guarantee

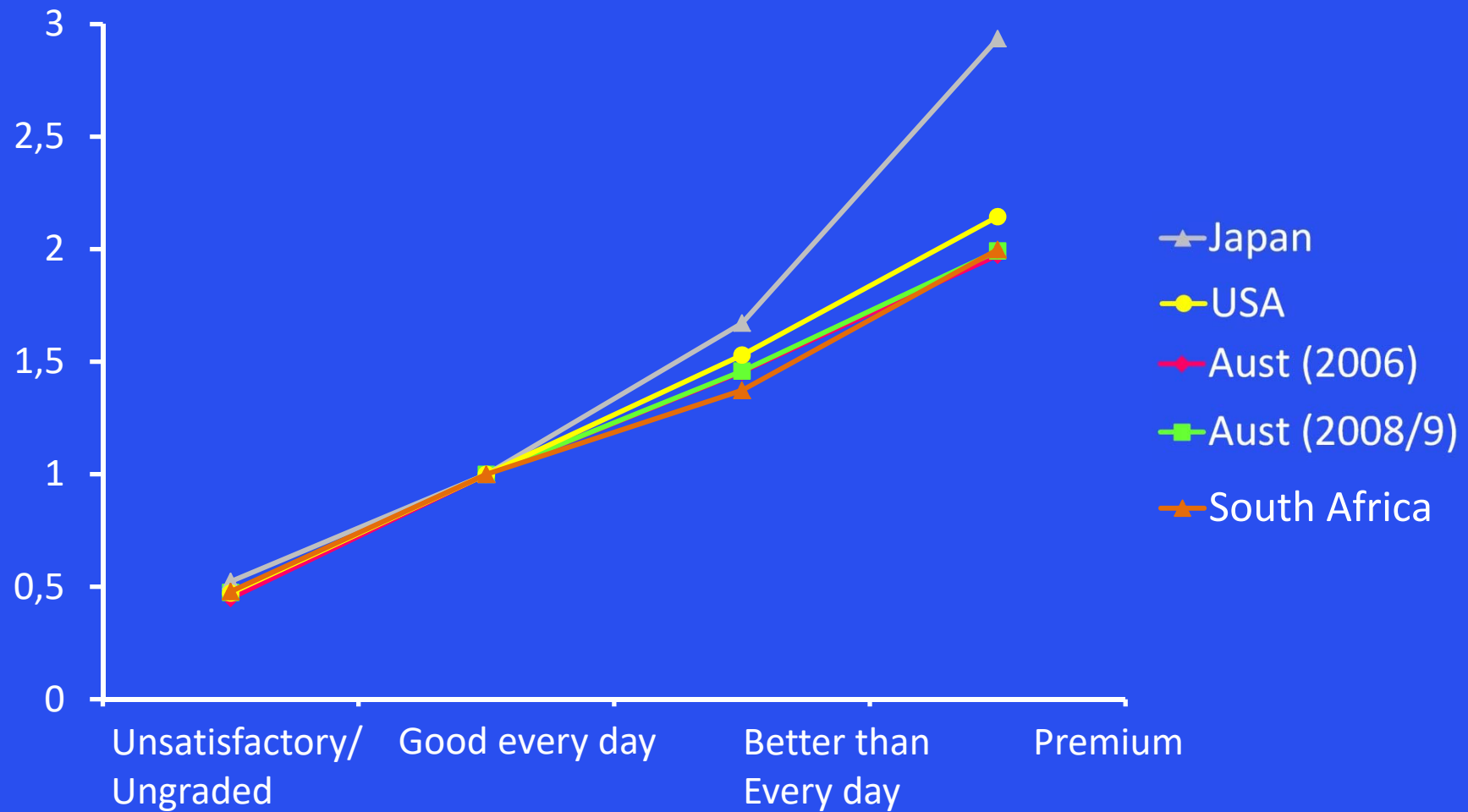
Which is Better?



Consumers want a reliable eating quality guarantee

But are they willing to pay?

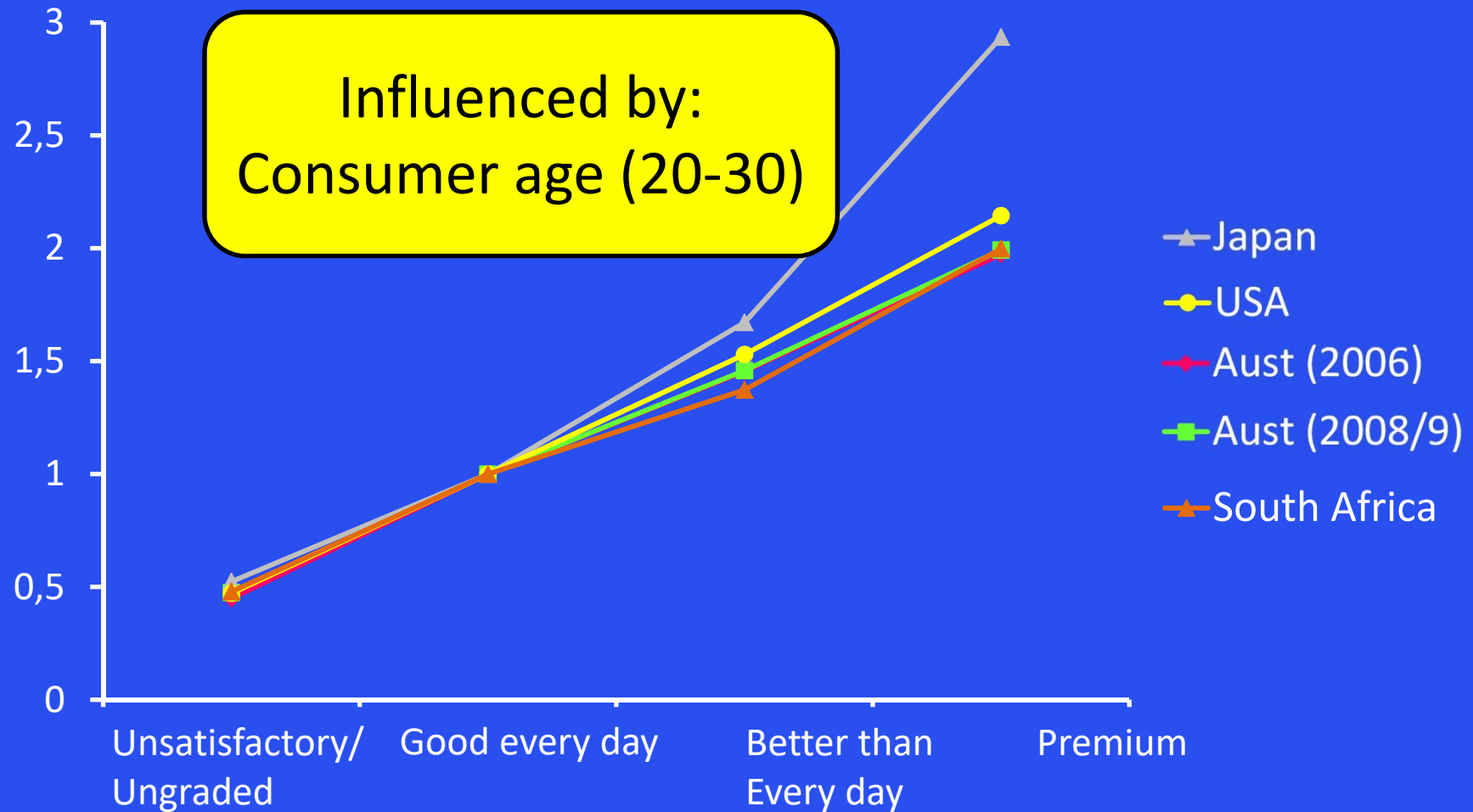
Proportional willingness to pay



Pethick *et al* (2015)



Proportional willingness to pay



Pethick *et al* (2015)



Hypotheses - For European Consumers

1. Willingness to pay for premium beef will be double for good every day
2. Demographics will only have small effects

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Collaborative partners

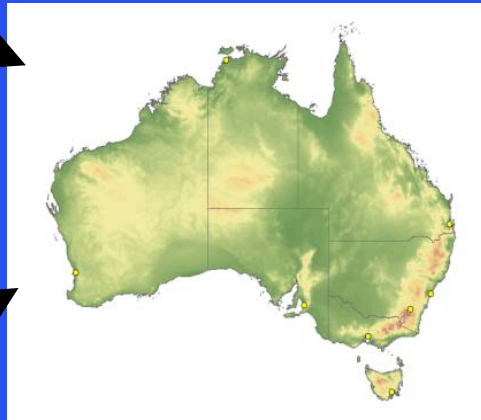
Poland



France



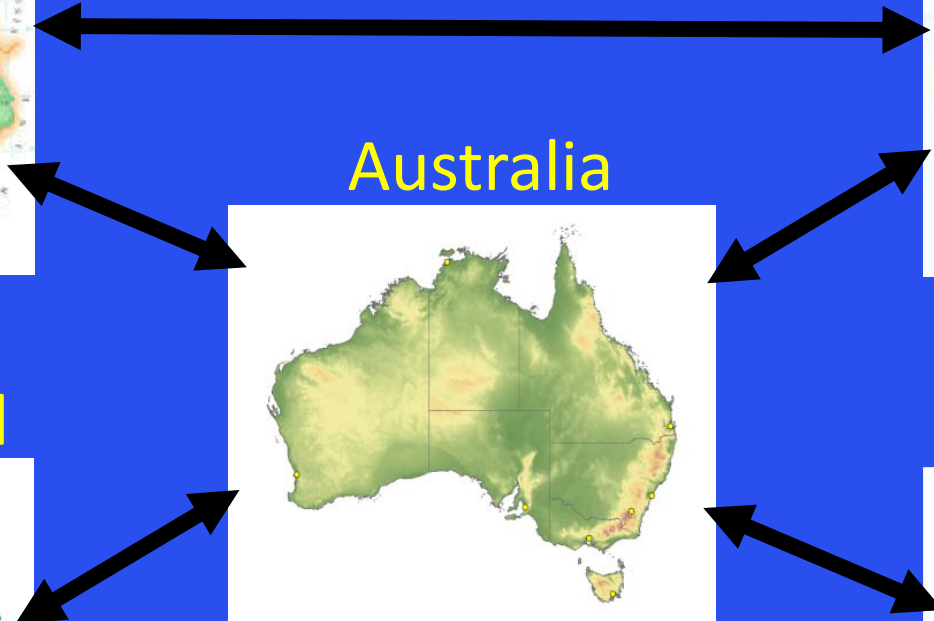
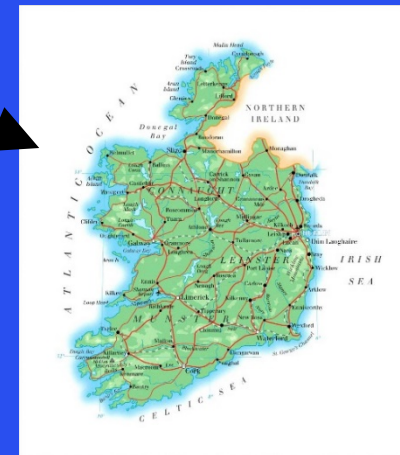
Australia



Nth Ireland



Ireland



Consumer testing



12 657 Consumers

Consumer testing

Untrained



12 657 Consumers

Consumer testing

Untrained



12 657 Consumers

Demographic questionnaire

- Age
- Gender
- Income
- Occupation
- Children/adults in the household
- Frequency of eating beef
- Importance of beef
- Preferred cooking doneness

Demographics

Age (years)	<20	20-30	31-45	46-50	>50		
	4487	5139	5148	2961	1683		
Gender	Male	Female					
	8748	10605					
No. of adults	0	1	2	3	4	5+	
	554	2586	7885	4062	2876	1421	
No. of children	0	1	2	3	4	5+	
	6572	7996	2105	1529	554	219	
Frequency	Daily	4-5/wk	2-3/wk	1/wk	0.5/wk	0.25/wk	Never
	629	2244	7280	4717	2294	2082	0
Importance	Important	Regular	Like	Not			
	5717	7034	4398	2083			
Doneness	Blue	Rare	Med/rare	Medium	Med-well	Well done	
	378	890	1747	5045	6158	5141	

Consumer testing

Untrained



X 7 samples

- Ranging in quality from poor to excellent

12 657 Consumers

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X 7 samples

- Ranging in quality from poor to excellent

12 657 Consumers

- Categorised as:
 - Unsatisfactory
 - Good every day
 - Better than every day
 - Premium

Consumer testing

Untrained



X 7 samples

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\$
£

- Willingness to pay indicated for :
 - Unsatisfactory
 - Good every day
 - Better than every day
 - Premium

¥
€

Willingness to pay in local currency

	Australia \$	France €	Ireland €	Northern Ireland £	Poland zł
Unsatisfactory	6.62±4.26	4.58±3.95	20.0±3.46	5.76±2.69	14.1±12.3
Good-every-day	14.3±5.60	11.2±4.66	22.7±4.94	10.3±2.70	26.9±11.7
Better-than-every-day	21.3±8.15	16.7±5.86	22.6±4.91	12.7±2.71	37.0±15.1
Premium	29.4±11.2	23.0±7.92	23.2±4.88	14.7±3.11	49.8±21.0

Willingness to pay in local currency

	Australia \$	France €	Ireland €	Northern Ireland £	Poland zł
Unsatisfactory					14.1±12.3
Good-every-day					26.9±11.7
Better-than-every-day	21.3±8.15	16.7±5.86	22.6±4.91	12.7±2.71	37.0±15.1
Premium	29.4±11.2	23.0±7.92	23.2±4.88	14.7±3.11	49.8±21.0

How can we compare currencies?

£

\$

zł

€

Proportional willingness to pay \propto

Premium £ \$ zł €

Better-than-every-day

Good-every-day

Unsatisfactory

Proportional willingness to pay \propto

Premium £ \$ zł €

Good-every-day

Better-than-every-day

Good-every-day

Good-every-day

Good-every-day

Unsatisfactory

Good-every-day

Proportional willingness to pay \propto

$$\frac{\text{Premium } \text{£ } \$ \text{ zł } \text{€}}{\text{Good-every-day}}$$

$$\frac{\text{Better-than-every-day}}{\text{Good-every-day}}$$

$$\frac{\text{Good-every-day}}{\text{Good-every-day}} = 1$$

$$\frac{\text{Unsatisfactory}}{\text{Good-every-day}}$$

Proportional willingness to pay \propto

$$\frac{\text{Premium } \pounds \$ \text{ zł } \text{€}}{\text{Good-every-day}} = ?$$

$$\frac{\text{Better-than-every-day}}{\text{Good-every-day}} = ?$$

$$\frac{\text{Good-every-day}}{\text{Good-every-day}} = 1$$

$$\frac{\text{Unsatisfactory}}{\text{Good-every-day}} = ?$$

Statistical Analysis

Linear mixed effects model

– Fixed Effects

- Demographics
- Country
- Cooking doneness
- Cooking method
- Quality grade

– Random Terms

- Consumer I.D.
- Country
- Session

– Dependant Variables

- Proportional willingness to pay \propto

Statistical Analysis

Linear mixed effects model

– Fixed Effects

- Demographics
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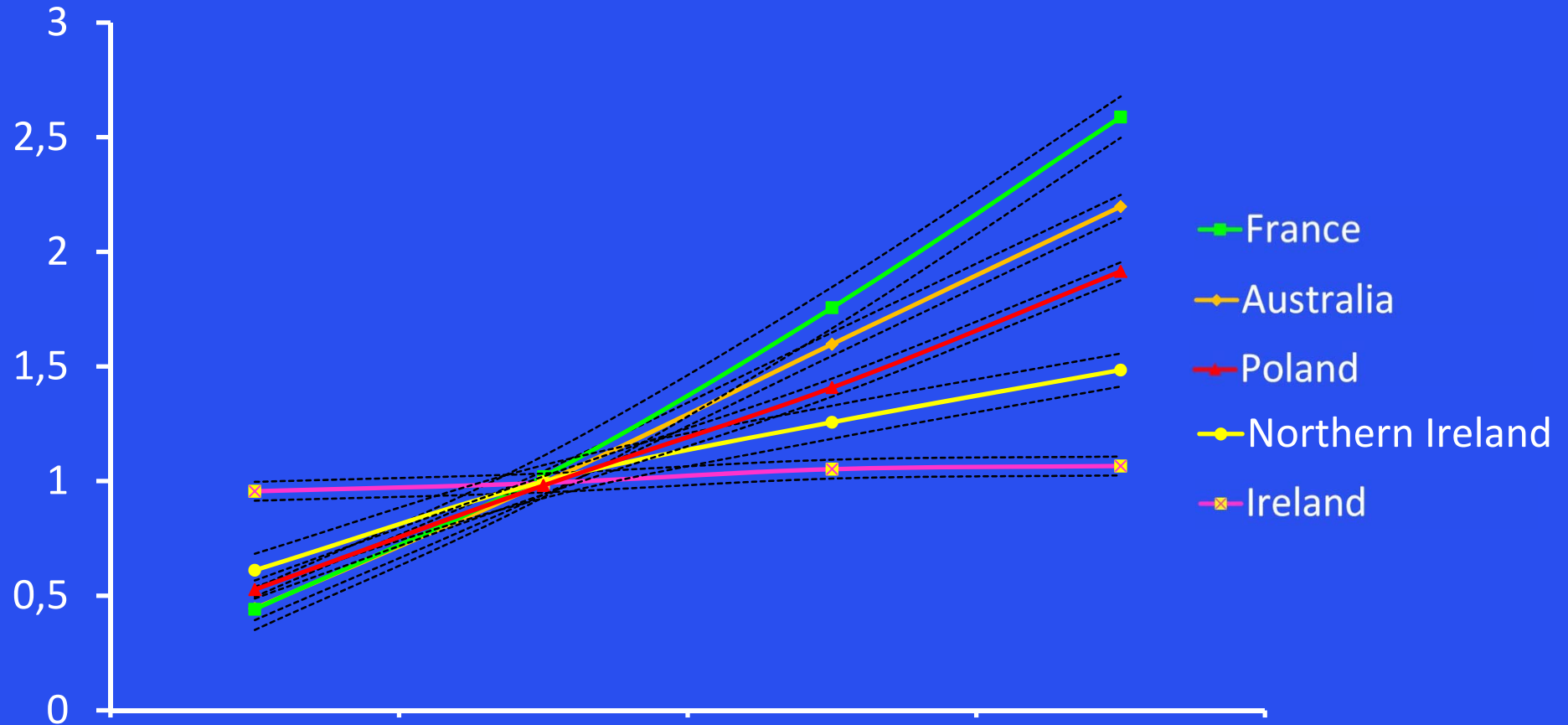
– Random Terms

- Consumer I.D.
- Country
- Session

– Dependant Variables

- Proportional willingness to pay \propto

∞ Proportional willingness to pay



Unsatisfactory/
Ungraded

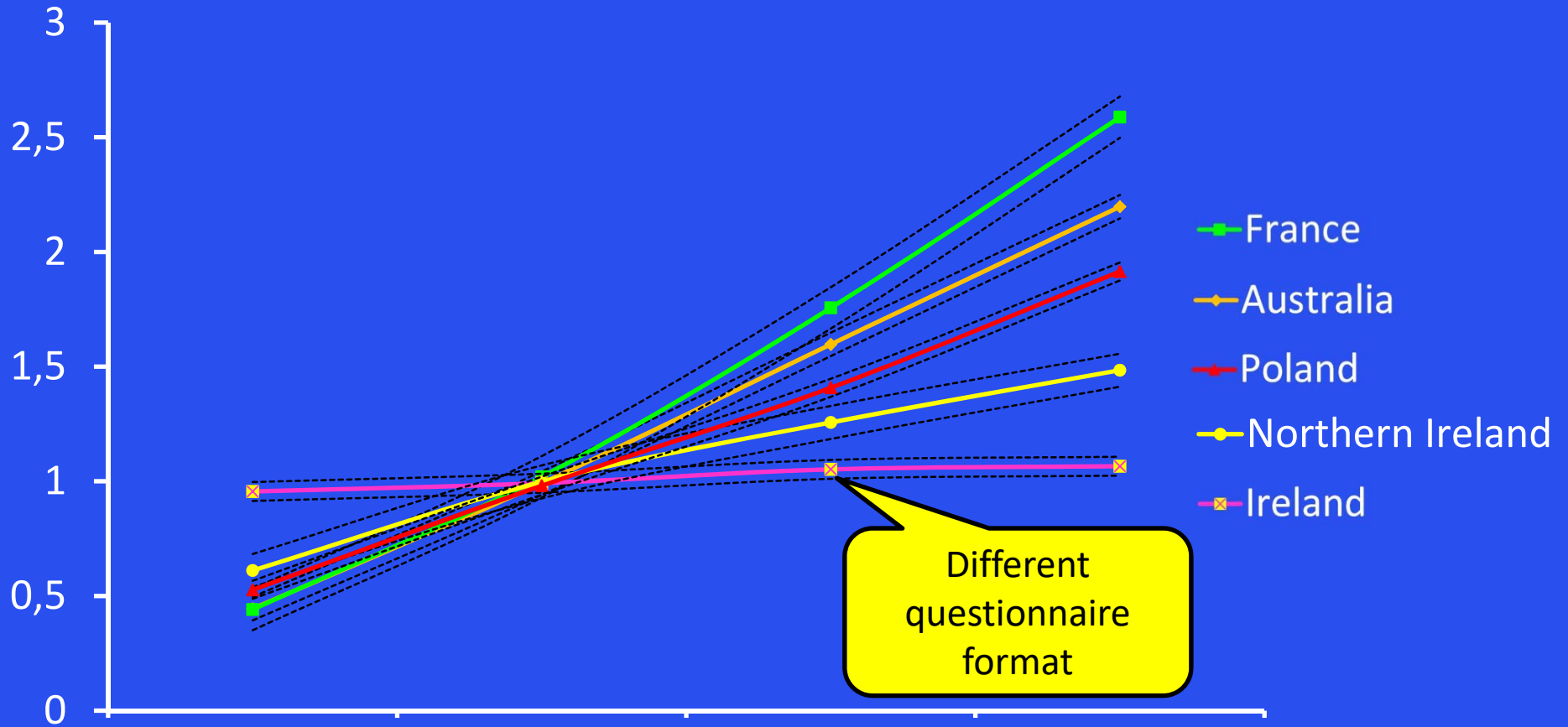
Good every day

Better than
Every day

Premium



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Unsatisfactory/
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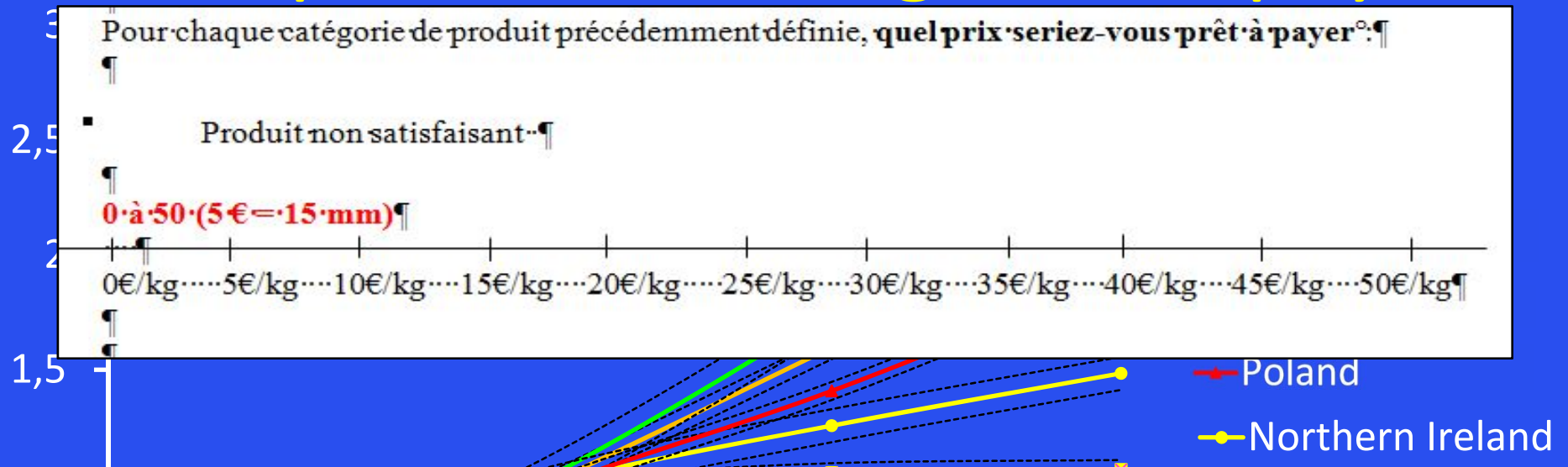
Good every day

Better than
Every day

Premium



∞ Proportional willingness to pay



Based on the beef you just consumed: Please circle the price per kilo you believe best reflects the value for each category.

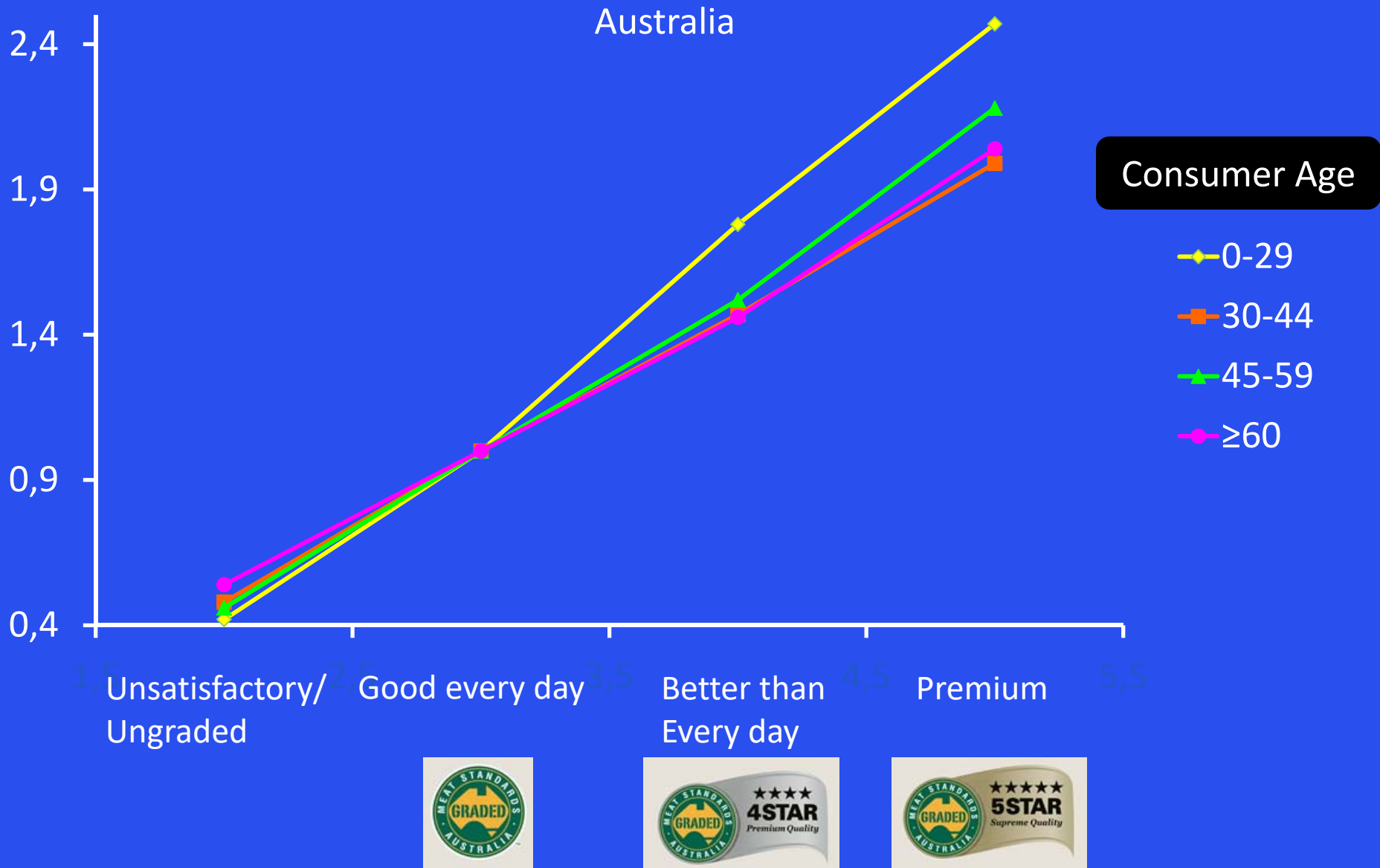
Unsatisfactory	€2	€4	€6	€8	€10	€12	€14	€16	€18	€20	€22	€24	€26	€28	€30	€32
Good everyday eating quality	€2	€4	€6	€8	€10	€12	€14	€16	€18	€20	€22	€24	€26	€28	€30	€32
Better than everyday eating quality	€2	€4	€6	€8	€10	€12	€14	€16	€18	€20	€22	€24	€26	€28	€30	€32
Premium quality	€2	€4	€6	€8	€10	€12	€14	€16	€18	€20	€22	€24	€26	€28	€30	€32

Ungraded

Every day



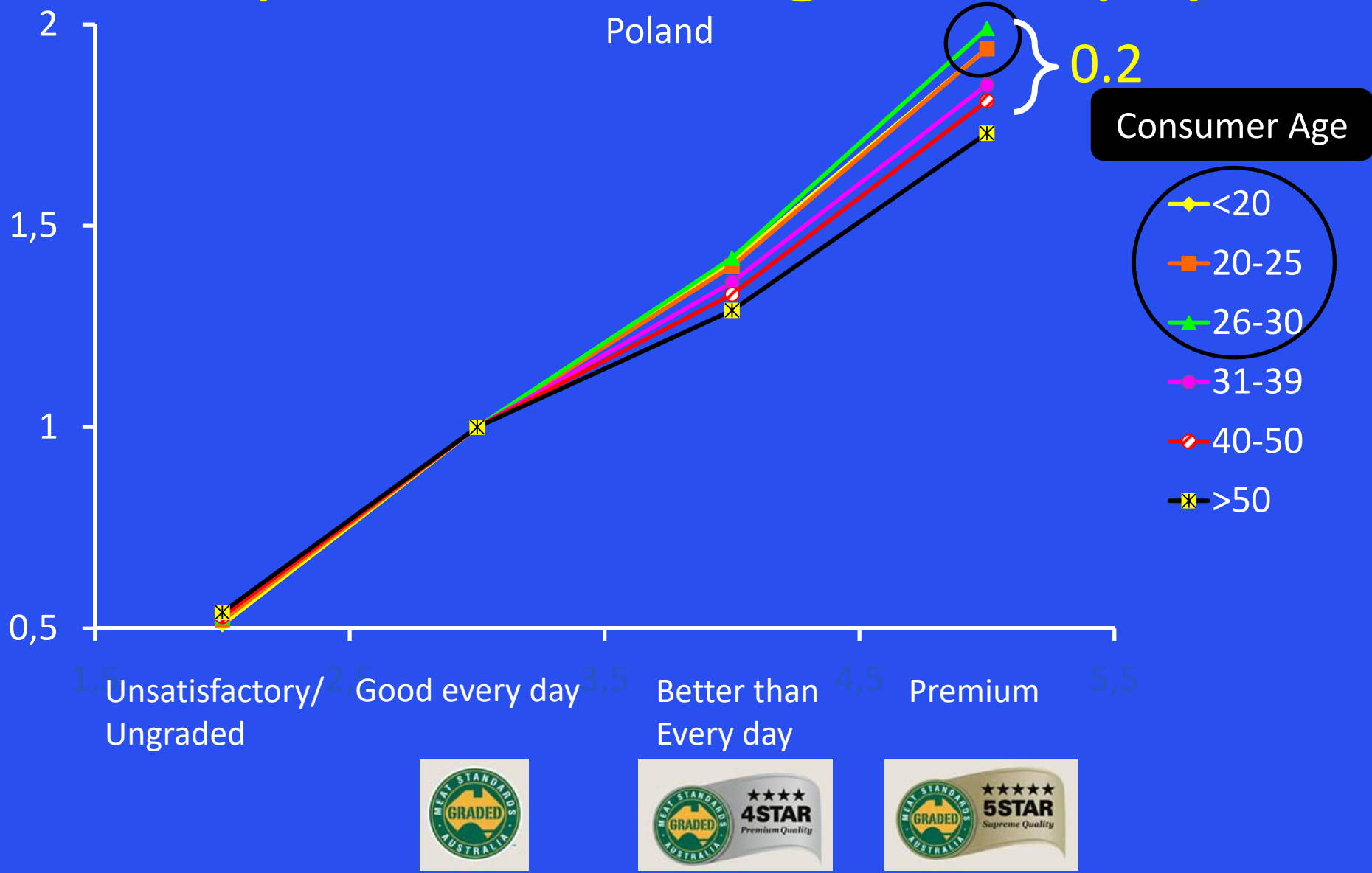
∞ Proportional willingness to pay



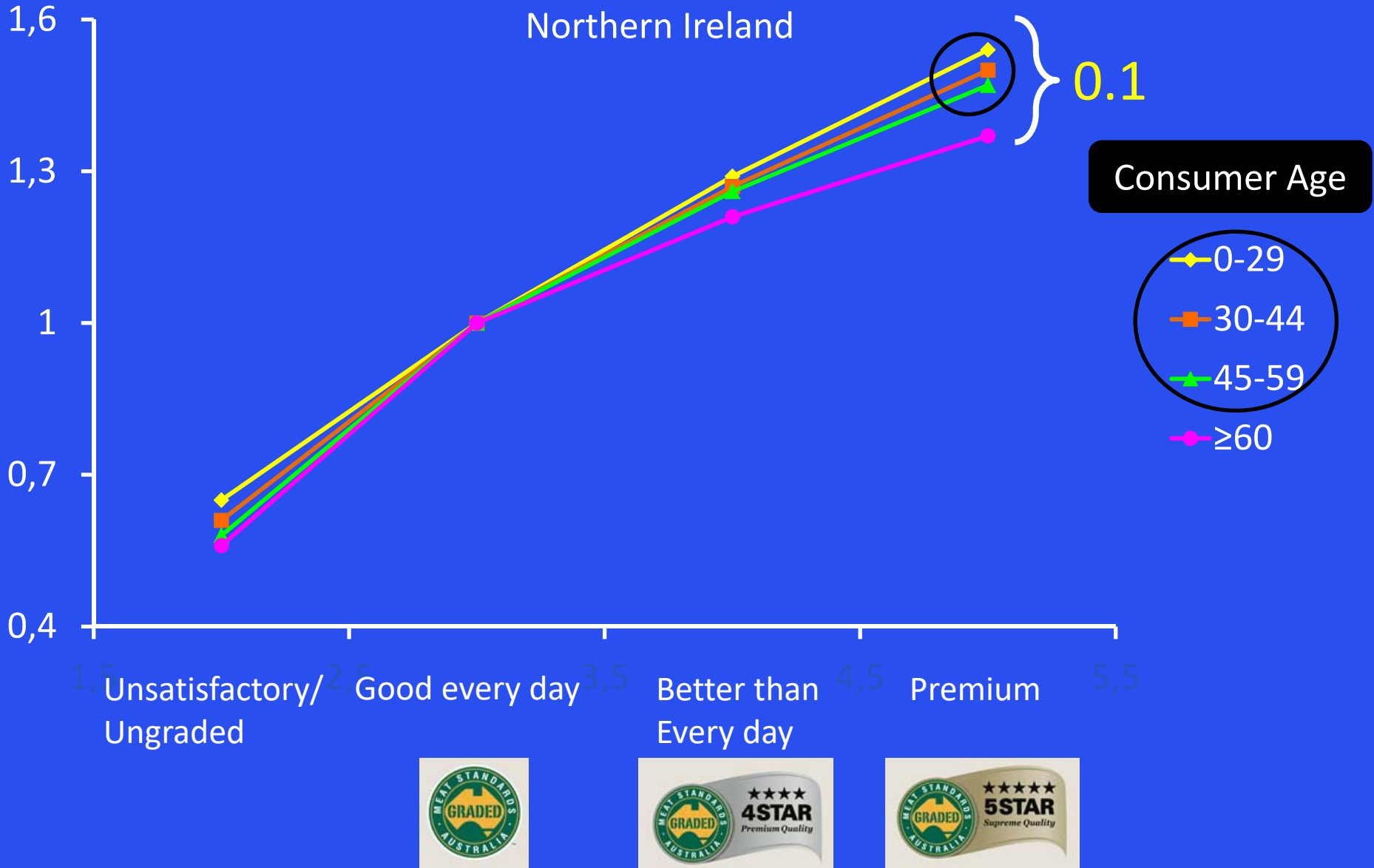
∞ Proportional willingness to pay



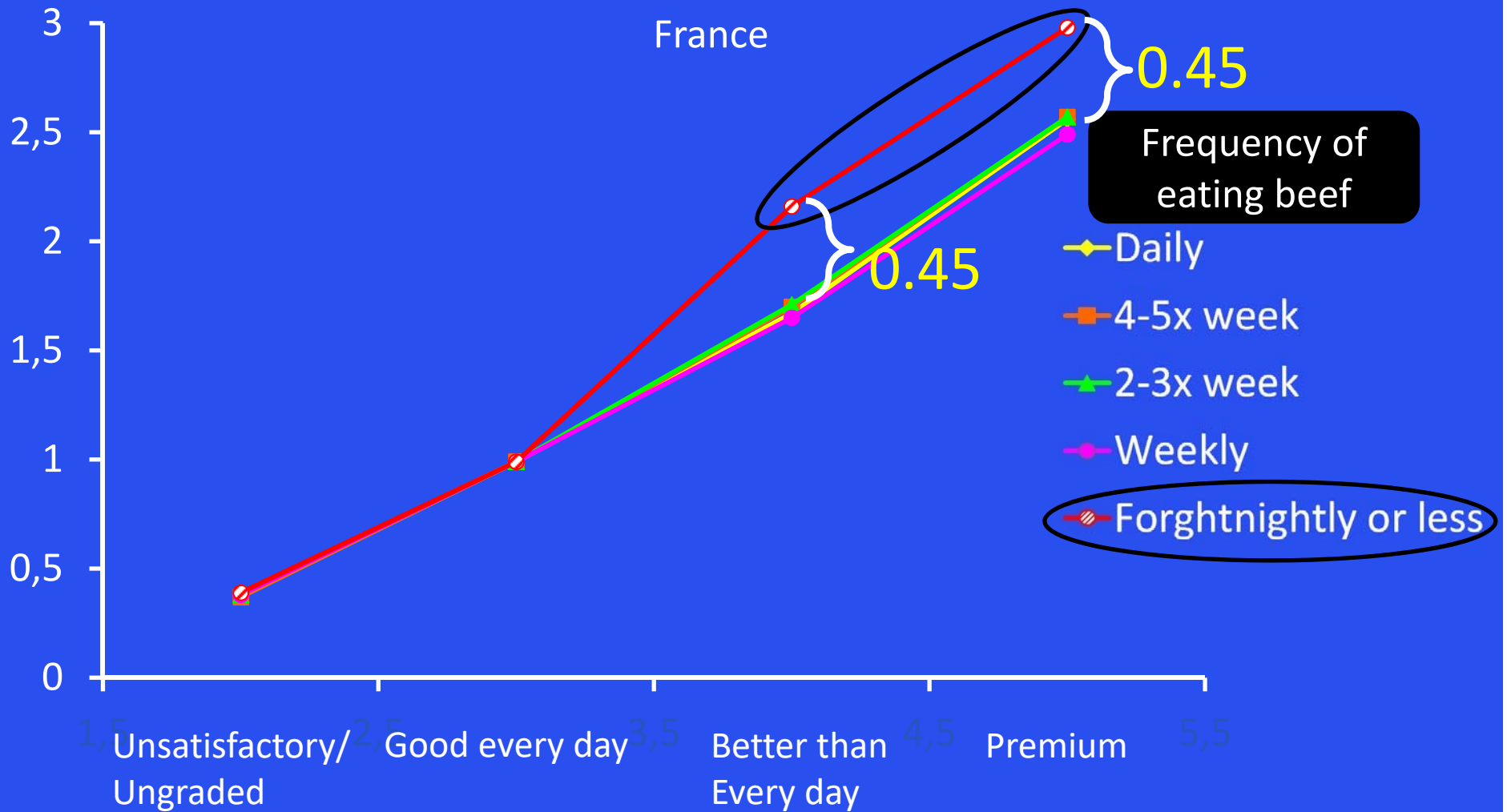
∞ Proportional willingness to pay



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Hypotheses - For European Consumers

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Hypotheses - For European Consumers

1. Willingness to pay for premium beef will be double for good every day



Questionnaire format
is important

2. Demographics will only have small effects

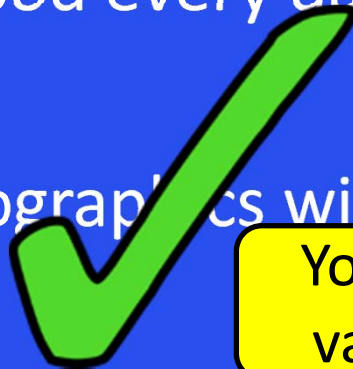
Hypotheses - For European Consumers

1. Willingness to pay for premium beef will be double for good every day



Questionnaire format
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Younger consumers
value quality more

Outline

- Consumers would accept an eating quality guarantee
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Retailer/Consumer



The mass market
Commercial Brands
Official marks

Producer



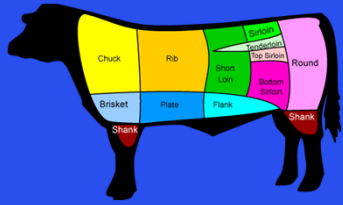
Retailer/Consumer



Processor



The mass market
Commercial Brands
Official marks



Quality based beef grading system



Information

Producer



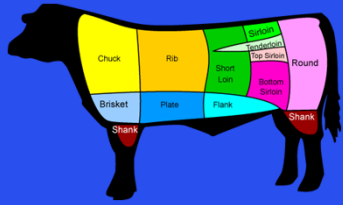
Retailer/Consumer



Processor



The mass market
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Official marks



Quality based beef grading system



Information

Producer



Retailer/Consumer



Australia

- 77 million in 2010/11
- 523 million since inception
- 40% to the producer.

Processor



The mass market
Commercial Brands
Official marks

Acknowledgements

- Meat and Livestock Australia
- Murdoch University
- The Beef CRC
- Alan Gee from Cosign, Australia
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- University of Blaise-Pascal
- ProSafeBeef
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- Direction Générale de l'Alimentation (DGAL)
- France AgriMer
- The Charolais Institute
- Charal
- The Syndicat de Défense et du promotion de la Viande de Boeuf de
- The National Institute of Agricultural Research (INRA)
- The gourmet restaurants 'Jean Denaud'
- ProOptiBeef
- The Irish Department of Agriculture, Food and the Marine
- Egide/Fast and Egide/Polonium funds from the French, Australian and Polish governments



Consumer Demographics

Gender	Male	Female	Unreported			
Australia	148	191	02			
France	672	826	2			
Ireland	921	755	64			
Northern Ireland	3 938	4 994	60			
Poland	3 217	4 030	13			
Income	a	b	c	d	e	Unreported
Australia	0	0	0	0	0	339
France	128	446	493	302	129	2
Ireland	184	727	773	0	0	56
Northern Ireland	2 760	4 814	1 224	0	0	194
Poland	817	1 033	2 184	2 234	940	52
Occupation	Trade	Professional	Admin ¹	Technical	Service	Labourer
Australia	43	95	52	31	38	10
France	39	232	542	130	0	100
Ireland	147	519	213	282	110	28
Northern Ireland	924	2 093	1 125	627	709	633
Poland	297	517	1526	479	815	834
	Unemployed	Student	Retired	Homemaker	Other	Unreported
Australia	4	56	6	4	0	0
France	82	82	257	26	8	2
Ireland	34	170	0	203	0	34
Northern Ireland	617	944	0	1 177	0	143
Poland	219	1190	0	103	1 257	23

Consumer Demographics

Adults in the home	0	1	2	3	4	5+	Unreported
Australia	0	29	207	64	29	10	0
France	4	311	877	189	83	33	3
Ireland	0	138	707	379	311	181	24
Northern Ireland	505	1 136	3 844	1 678	1 178	576	75
Poland	45	1 001	2 457	1 816	1 304	631	6
Children in the home	0	1	2	3	4	5+	Unreported
Australia	118	56	116	39	9	1	0
France	959	240	222	62	13	2	2
Ireland	531	517	247	212	85	46	102
Northern Ireland	2	5 890	1 099	1 130	421	163	287
Poland	5 080	1 349	537	125	35	8	126
Age (years)	<20	20-30	31-45	46-50	>50	Unreported	
Australia		35	37		267	0	
France	50	413	431	137	468	1	
Ireland	0	603	509	213	393	22	
Northern Ireland		3935	2404		2611	42	
Poland	502	4123		1804	822	9	

Consumer Demographics

Frequency	7	4-5	2-3	1	0.5	0.25	Never	Unreported
Australia	10	51	180	85	13	0	0	0
France	24	225	757	377	107	4	1	1
Ireland	46	214	648	314	64	50	5	9
Nth Ireland	470	1471	4026	1649	422	263	15	42
Poland	31	162	1416	2134	1663	1740	85	110
Appreciation	Important	Like	Indifferent	Unimportant	Unreported			
Australia	200	127	12	0	0			
France	411	871	211	2	0			
Ireland	534	551	243	34	18			
Nth Ireland	3027	3486	1544	233	102			
Poland	1393	1696	2260	1795	116			
Doneness	Blue	Rare	Med/rare	Medium	Med/well done	Well done	Unreported	
Australia	0	0	128	95	116	0	0	
France	5	330	-	919	166	28	0	
Ireland	0	149	139	352	334	392	14	
Nth Ireland	50	208	1138	1570	1952	3415	59	
Poland	269	169	324	2020	3495	950	33	