

STEERING GROUP ON MEAT CHARGING

REVIEW OF MEAT CHARGING DISCOUNTS
OPTIONS APPRAISAL PAPER

JANUARY 2014



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SUMMARY OF OPTIONS

DO NOTHING (BASELINE)

This option represents the status quo (current system of discounts); this is the baseline against which the other options will be assessed.

OPTION 1

“A single discount rate for all operators above a certain size expressed as a percentage of full time-based costs. Exemption or high discount for small operators...”.*

- The smallest 20% of plants by livestock units (LSU) (Option 1A) or by inspector hours (Option 1B) are given a full exemption from paying for inspections.
- The remaining 80% of plants receive a flat rate discount.
- The flat rate is set to a level that fully utilizes the existing discount pot.

OPTION 2

“As for 1 but with a graduated system of discounts e.g. starting at 100% and reducing in steps according to level of activity, which could be measured either by throughput or by hours worked...”.*

- The smallest 20% of plants by LSU (Option 2A) or by inspector hours (Option 2B) are given full exemption. Each subsequent quintile receives a progressively lower discount rate, based on the principle of a progressive income tax system.
- Intervals between the discount rates are evenly spaced and set such that the existing pot of discounts is entirely exhausted.

OPTION 3

“A single flat rate based on throughput/hours or actual costs, whichever is the lower. (Bigger companies would probably end up paying actual costs.)...No exemptions for small operators unless and until introduced by the EU”.*

- Operators receive a single flat discount rate based on livestock units (Option 3A) or inspector hours (Option 3B).
- If this calculation gives a value lower than the minimum legal invoice, or higher than the FSA’s full inspection cost, then it is adjusted to whichever of the bounds it exceeds.

*The Steering Group on Meat Charging - Options for Reform of the Meat Charging Discount System” Wednesday 13 November 2013.

SUMMARY OF OPTIONS

Each option is appraised under two sub-options:

- A) Plants are ranked based on the number of livestock units (LSU) processed and divided into fifths, which are ordered from the lowest 20% in terms of LSU processed (1st quintile) to the top 20% (5th quintile).
- B) Plants are ranked based on the number of inspector hours used, and divided into fifths, which are ordered from the lowest 20% in terms of inspector hours used (1st quintile) to the top 20% (5th quintile).

SUB-OPTION A: QUINTILES DISTRIBUTED BY LIVESTOCK UNITS.



5th
Quintile



4th
Quintile



3rd
Quintile



2nd
Quintile



1st
Quintile

For example, there are roughly 900 cutting plants. This means that there are around 180 plants in each cutting plant quintile.

The number of plants by sector for each quintile by LSU and hours is set out respectively in tables 2.1 and 2.2 (page 10).

SUB-OPTION B: QUINTILES DISTRIBUTED BY HOURS.



5th
Quintile



4th
Quintile



3rd
Quintile



2nd
Quintile



1st
Quintile

HEADLINE ASSUMPTIONS

Unit of Analysis

- For purposes of the analysis, plants have been split by function. This means that a plant containing both cutting and poultry slaughter functions would be treated as two separate entities.

Measurement of Throughput: Livestock Units

- Livestock units have been used as a standardized measure of throughput to allow a greater level of comparability between different species.
- Livestock units are calculated by multiplying the raw head count of a species by a constant between zero and one which reflects the time and complexity of inspection relative to an adult bovine.

Cutting Plants – Ring-fenced Discount Pot

- For purposes of the analysis, current discounts have only been ring-fenced for and reallocated to cutting plants. This is due to fundamental differences between cutting plants and slaughterhouses; as neither throughput-based nor inspector hour-based quintiles are directly comparable with other plant types.

Plant Inspection Assistant Allowances

- Plant Inspection Assistant (PIA) allowances enter into the current discounting system in two ways:
 1. Any sum paid towards the employment of PIAs counts towards the EU minimum invoice that is required of the plant.
 2. A different formula is used to calculate the discount that PIA-employing plants receive.
- In this analysis part 1 of the discounting system is maintained for PIA plants: PIA payments have been counted towards the EU minimum charge calculation, but after this the discounting formulae do not take account of the plant's PIA status.

Discount Pot Reallocation

- The variable components of each option have been adjusted to utilize the entirety of the current discount pot. This allows for a direct comparison of the winners and losers under each option.

SUMMARY OF RESULTS

The Steering Group on Meat Charging put forward three options to consider for reform of the current discounting system for meat official controls*. Each option has been appraised under two sub-options: plants distributed by livestock units (sub-option A) and inspector hours (sub-option B).

Total current “discount pot” is approx. **£25m** (current prices) as at 2012/13, accounting for 44% of the total cost of inspections.

OPTION 1

- There are more than 1.2 times as many winners as losers in both sub-options (Chart 1.1).
- Both Options 1A and 1B redistribute discounts in such a way that relatively disadvantages smaller plants compared to larger ones (Charts 3.2 and 4.2).

OPTION 2

- The redistribution of discounts under Option 2 leads to the highest ratio of winners to losers: there are more than 2.5 times as many winners as losers in both sub-options (Chart 1.1).
- Option 2 redistributes the discount pot such that larger plants lose relatively more of their discount (Charts 5.2 and 6.2).

OPTION 3

- Under Option 3B, the number of losers exceeds the number of winners. The redistribution under Option 3A leads to a lower ratio of winners to losers compared to Options 1 and 2 (Chart 1.1) relative to the baseline.
- Option 3A redistributes such that larger plants lose relatively more of their discount; this pattern is entirely reversed under Option 3B (Charts 7.2 and 8.2).

Note: Cutting plants have been omitted from Charts 1.2-1.4 because cutting plant discounts have been ring-fenced with no change to the size of their “discount pot”.

**The Steering Group on Meat Charging - Options for Reform of the Meat Charging Discount System” Wednesday 13 November 2013.*

SUMMARY OF RESULTS

CHART 1.1: NUMBER OF WINNERS AND LOSERS (PLANTS) BY OPTION

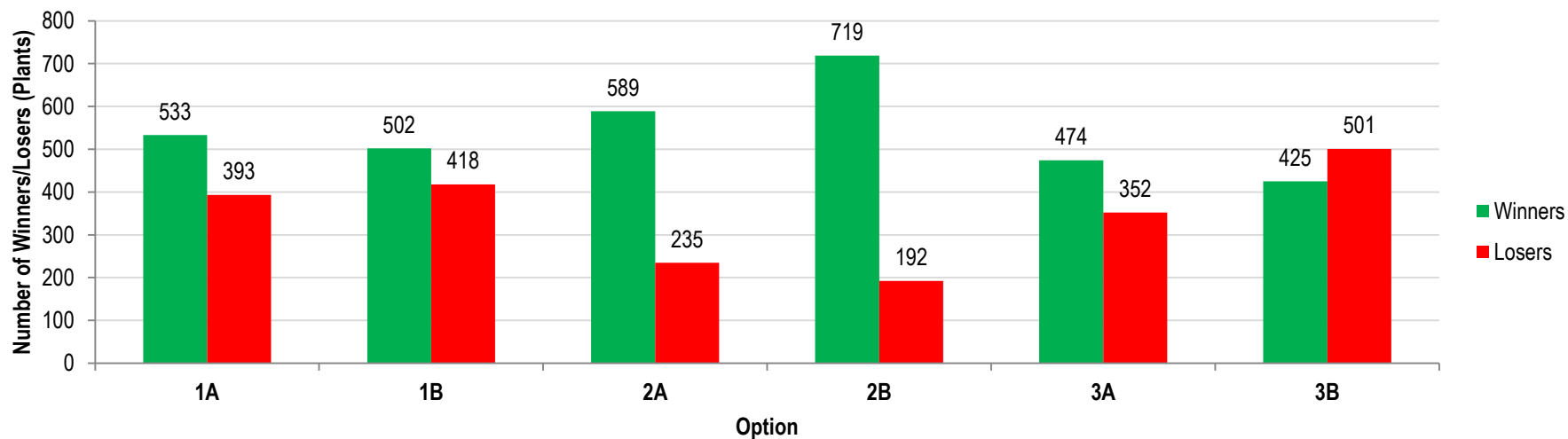
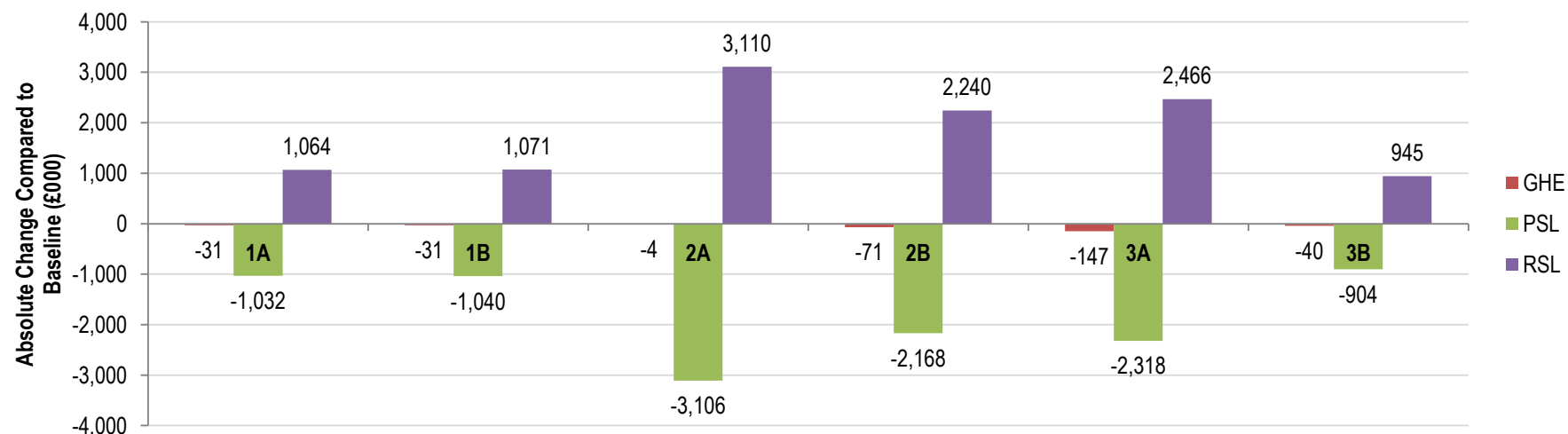


CHART 1.2: ABSOLUTE CHANGE IN DISCOUNT COMPARED TO BASELINE (DO NOTHING)



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SUMMARY OF RESULTS - CHARTS

CHART 1.3: PERCENTAGE POINT CHANGE IN SHARE OF DISCOUNT POT COMPARED TO BASELINE

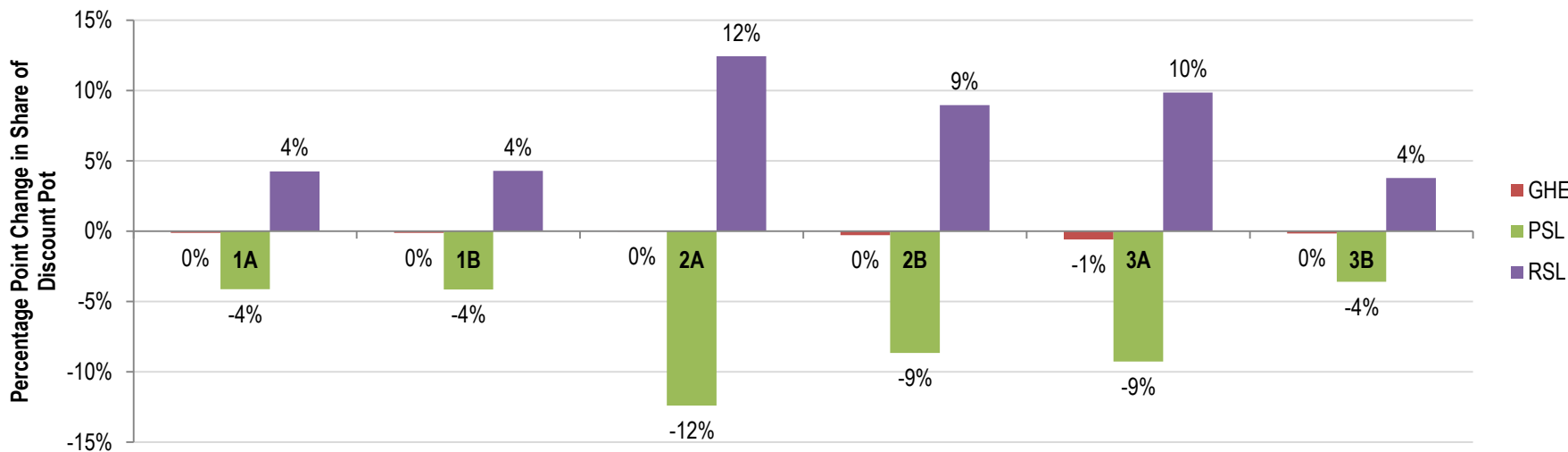
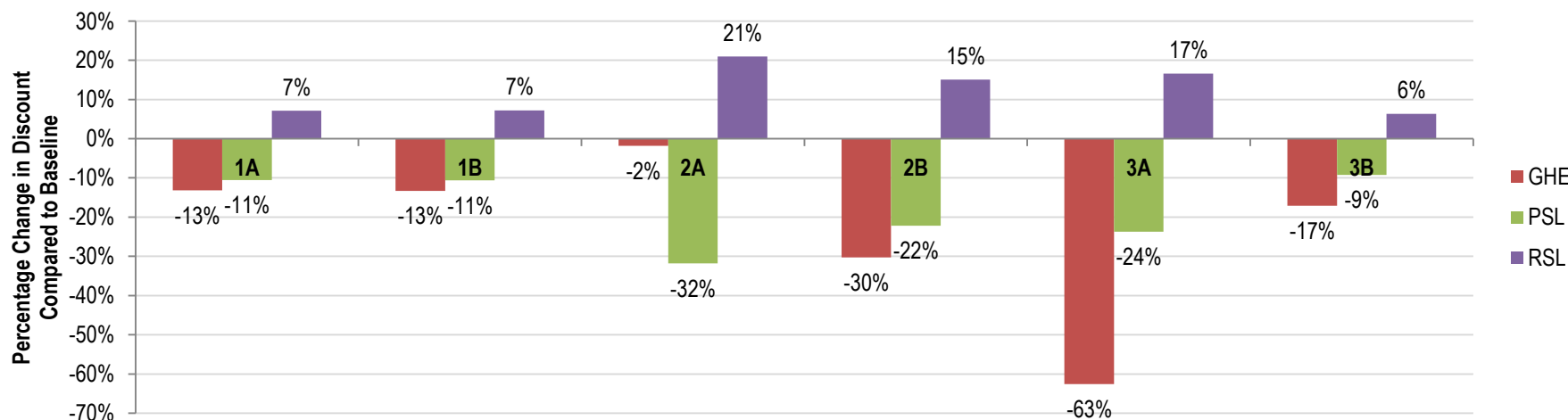


CHART 1.4: PERCENTAGE CHANGE IN DISCOUNT COMPARED TO BASELINE



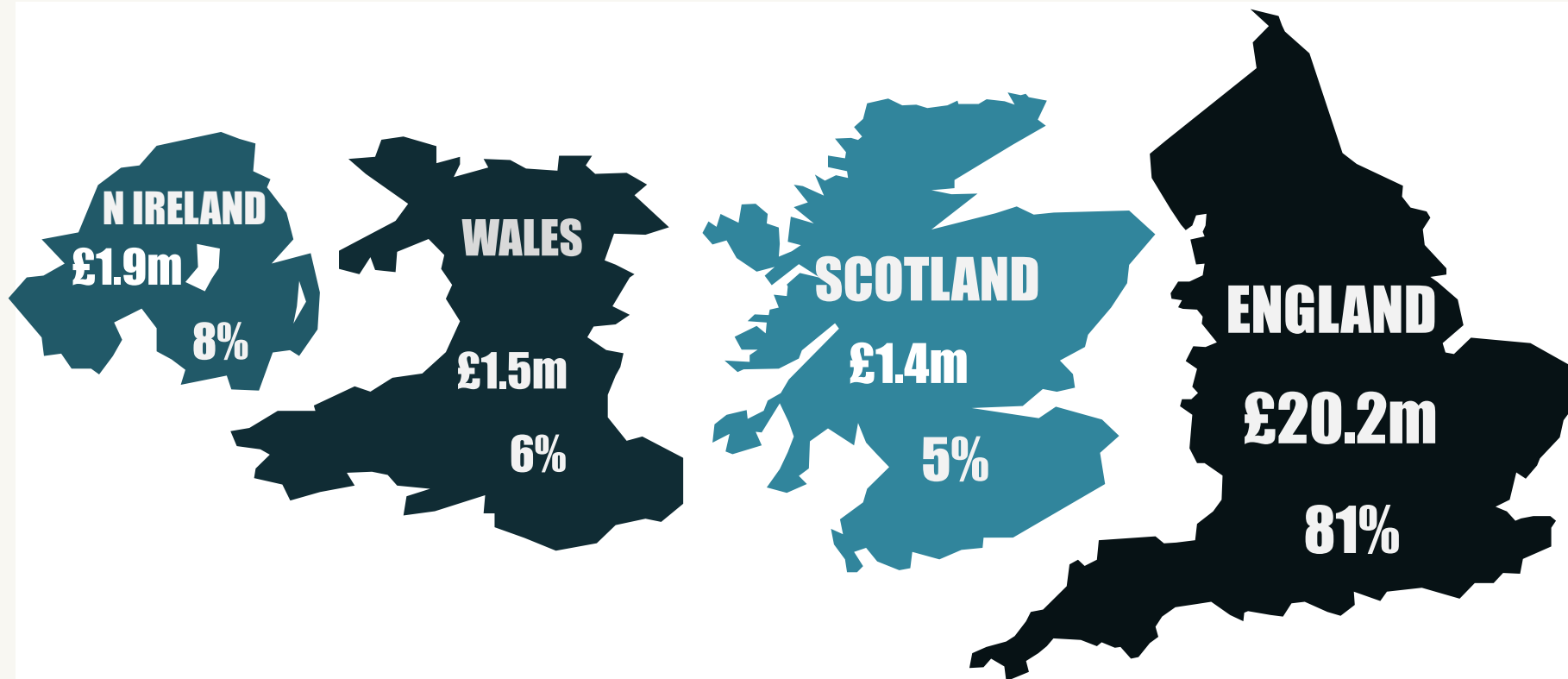
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DO NOTHING: THE CURRENT SYSTEM

BASELINE STATISTICS – DISCOUNT ALLOCATION BY UK COUNTRY

- Total current “discount pot” is approx. **£25m** (current prices) as at 2012/13, accounting for 44% of the total cost of inspections.
- By UK country, approved meat establishments (hereafter referred to as plants) located in **England** receive **81%** of the total “discount pot”; while plants based in **Northern Ireland** receive an **8%** share of the pot. **Wales** and **Scotland** receive respective shares of **6%** and **5%**.

CHART 2.1: DISCOUNTS BY UK COUNTRY 2012/13



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DO NOTHING: THE CURRENT SYSTEM

SECTORAL DISCOUNTS & PLANT COUNTS

- Chart 2.2 shows that 59% of the “discount pot” is allocated to red meat slaughterhouses (RSL), 39% to poultry slaughterhouses (PSL), and less than 1% as per cutting plants (CUT) and game handling establishments (GHE).
- Tables 2.1 and 2.2 show the number of plants that fall respectively into each livestock unit and hours quintile. Table 2.3 shows the number of plants per UK country by sector.

CHART 2.2: DISCOUNTS BY SECTOR 2012/13

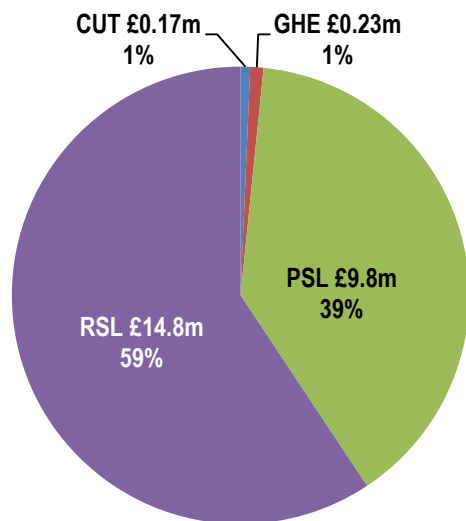


TABLE 2.1 PLANT COUNT BY LSU QUINTILE

	CUT	GHE	PSL	RSL	Total
1st	174	11	19	56	260
2nd	183	11	18	56	268
3rd	178	11	18	56	263
4th	178	11	18	56	263
5th	179	11	19	57	266
Total	892	55	92	281	1320

TABLE 2.2 PLANT COUNT BY HOURS QUINTILE

	CUT	GHE	PSL	RSL	Total
1st	180	11	19	56	266
2nd	171	11	18	56	256
3rd	181	11	18	56	266
4th	176	11	18	56	261
5th	184	11	19	57	271
Total	892	55	92	281	1320

TABLE 2.3 PLANT COUNT BY COUNTRY

	CUT	GHE	PSL	RSL	Total
England	681	36	78	212	1007
N Ireland	55	3	6	14	78
Scotland	96	16	4	32	148
Wales	60	0	4	23	87
Total	892	55	92	281	1320

DO NOTHING: THE CURRENT SYSTEM

- Chart 2.3 shows the average discount rate for quintiles distributed by livestock units (LSU) and inspector hours among poultry slaughterhouses (PSL), game handling establishments (GHE) and red meat slaughterhouses (RSL). Chart 2.4 displays results as per Chart 2.3, but for cutting plants (CUT) only.
- The average discount rate falls as we approach higher quintiles distributed by LSU and hours (Chart 2.3).
- For cutting plants, the discount rate for quintiles divided on an inspector hours basis remains relatively constant irrespective of plant size.

CHART 2.3: PSL/RSL/GHE – AVG. DISCOUNT

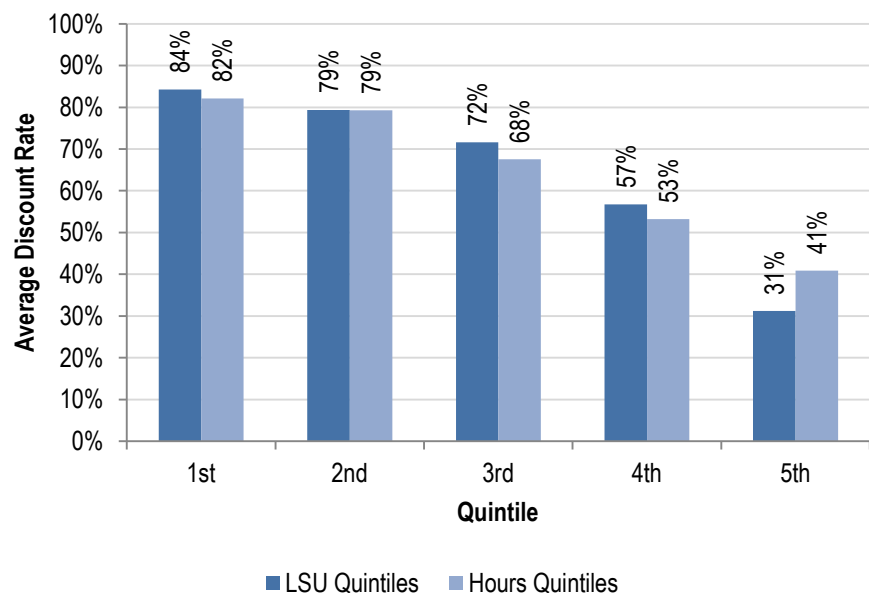
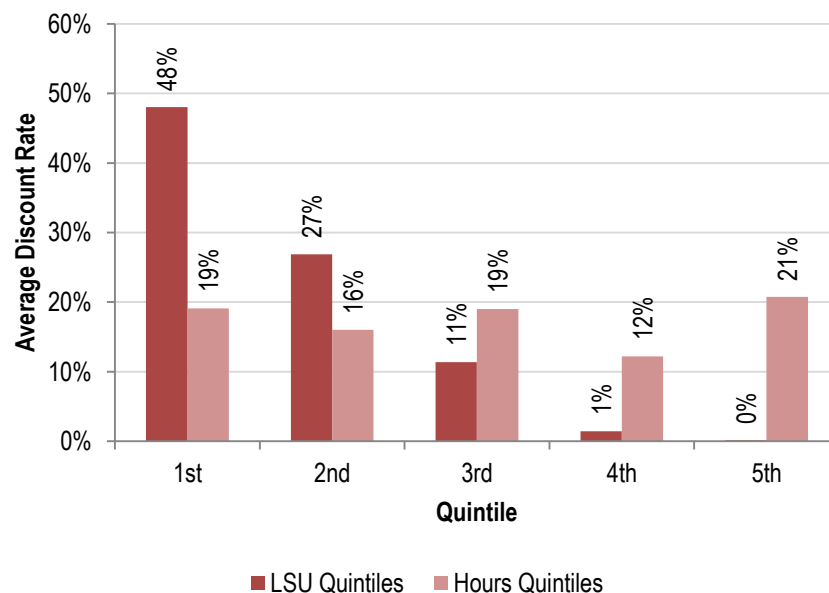


CHART 2.4: CUT – AVG. DISCOUNT



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OPTION 1A: FLAT RATE & EXEMPTION

- The smallest 20% of plants by LSU (1st LSU quintile) are given a full exemption from paying for inspections.
- The remaining 80% of plants receive a flat rate discount.
- The flat rate is set to a level that fully utilizes the existing pot of discounts.

RESULTS OF OPTION 1A – SUMMARY

- Winners (533) outnumber losers (393) (Table 3.2).
- Among 2nd through to 5th quintile plants, losses are heavier as plant size falls.
- RSL gains (and PSL loses) a 4 percentage point share of the discount pot (Table 3.1).

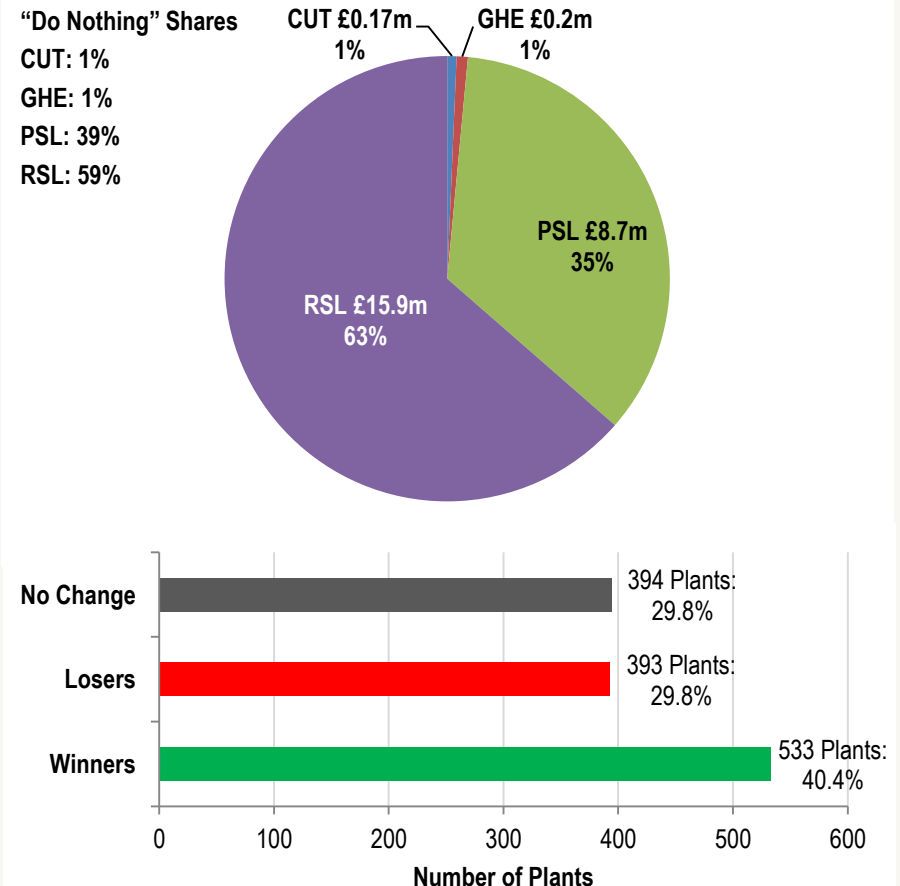
TABLE 3.1: CHANGE IN DISCOUNT ALLOCATION COMPARED TO BASELINE (DO NOTHING)

SECTOR	£ CHANGE (000)	% POINT	% CHANGE
CUT	£0	↔0%	↔0%
GHE	-£31	↔0%	↓13%
PSL	-£1,032	↓4%	↓11%
RSL	+£1,064	↑4%	↑7%

TABLE 3.2 – WINNERS/LOSERS

	NO. OF PLANTS
WINNERS	533
LOSERS	393

CHART 3.1 SHARE OF DISCOUNT POT



OPTION 1A: FLAT RATE & EXEMPTION

- Losses are minimal for 1st quintile plants; as they are exempt from paying for inspections as far as legally possible subject to EU minima requirements.
- 51% of GHEs are winners, 64% of PSLs are losers (calculated as per Table 3.3).
- GHE, PSL and RSL plants receive a flat rate discount of 57%.
- Discount for cutting plants (CUT) have been ring-fenced at current baseline level and receive a flat rate discount under Option 1A of 19%.
- Charts 3.2 and 3.3 show the average change in discount as a percentage of the full FSA cost by quintile, broken down by sector and country respectively (page 14).
- On average, the smaller the plant (the lower the quintile) the heavier the losses (with the exception of the 1st quintile, which is exempt from paying for inspections).

Note: subsets with less than ten plants have been marked on Chart 3.3 (page 14). The small sample size can affect the statistical significance of these results. Therefore caution must be exercised when interpreting these figures.

TABLE 3.3 WINNER/LOSER COUNT BY SECTOR

Winners	CUT	GHE	PSL	RSL	Total
1st	147	10	15	53	225
2nd	77	3	0	2	82
3rd	92	2	2	5	101
4th	32	6	4	27	69
5th	0	7	8	41	56
Total	348	28	29	128	533
Losers	CUT	GHE	PSL	RSL	Total
1st	24	1	1	2	28
2nd	95	8	18	53	174
3rd	44	9	16	50	119
4th	7	5	14	27	53
5th	1	4	10	4	19
Total	171	27	59	136	393
No Change	CUT	GHE	PSL	RSL	Total
1st	3	0	3	1	7
2nd	11	0	0	1	12
3rd	42	0	0	1	43
4th	139	0	0	2	141
5th	178	0	1	12	191
Total	373	0	4	17	394

OPTION 1A: FLAT RATE & EXEMPTION

TABLE 3.3 RELATIVE CHANGE BY SECTOR

	CUT	GHE	PSL	RSL
1st	33.24%	25.82%	8.02%	5.03%
2nd	-9.23%	-10.38%	-36.21%	-20.41%
3rd	2.47%	-7.36%	-27.98%	-12.35%
4th	2.04%	0.07%	-16.61%	0.06%
5th	-0.05%	4.51%	3.12%	8.62%

CHART 3.2 RELATIVE CHANGE BY SECTOR

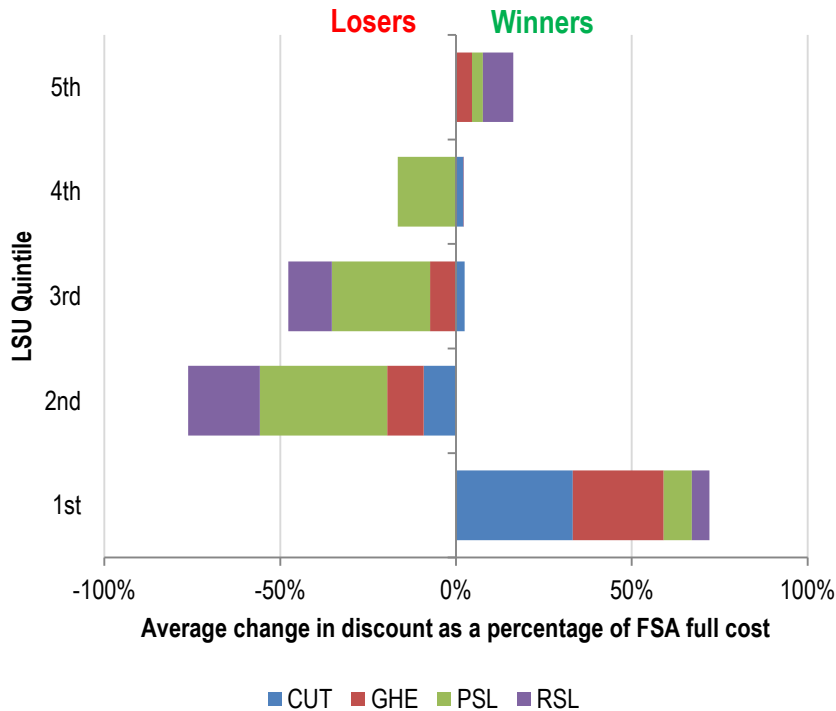
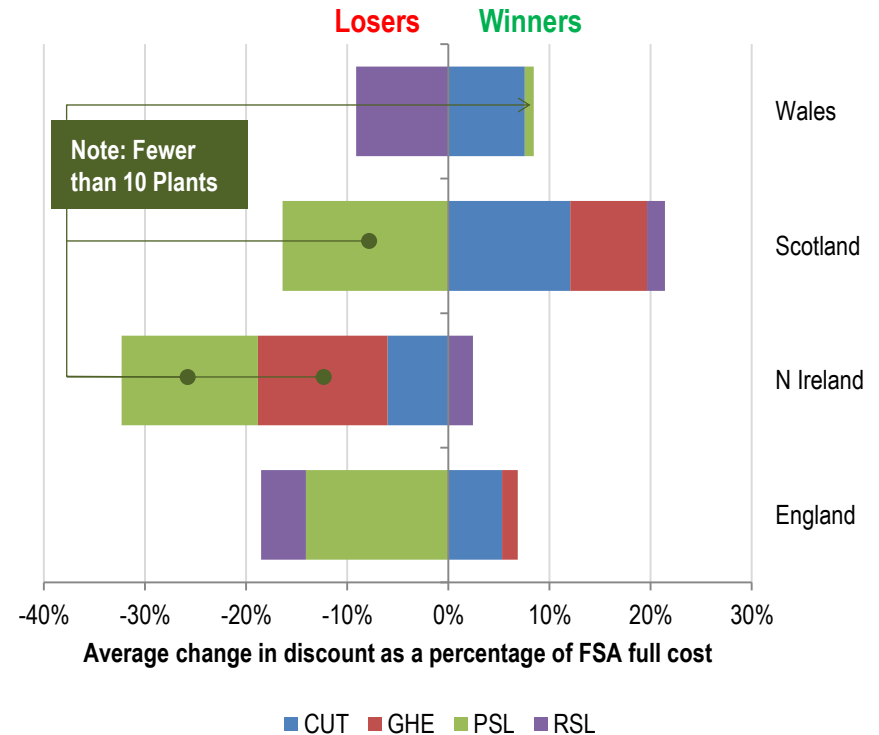


TABLE 3.4 RELATIVE CHANGE BY COUNTRY

	CUT	GHE	PSL	RSL
England	5.30%	1.56%	-14.10%	-4.43%
N Ireland	-6.02%	-12.82%	-13.48%	2.41%
Scotland	12.03%	7.60%	-16.40%	1.79%
Wales	7.55%	No Plants	0.88%	-9.14%

CHART 3.3 RELATIVE CHANGE BY COUNTRY



OPTION 1A: FLAT RATE & EXEMPTION

- Charts 3.4 and 3.5 show the average discount rate within each LSU quintile.
- Average discount rates for RSL , PSL and GHE plants deviate from the flat rate when eligibility for discounts is limited.
- For cutting plants (CUT) limited eligibility for discounts in the 4th and 5th quintiles leads to a lower average discount rate. (Charts 3.5).

CHART 3.4 GHE,PSL,RSL AVG. DISCOUNT RATE

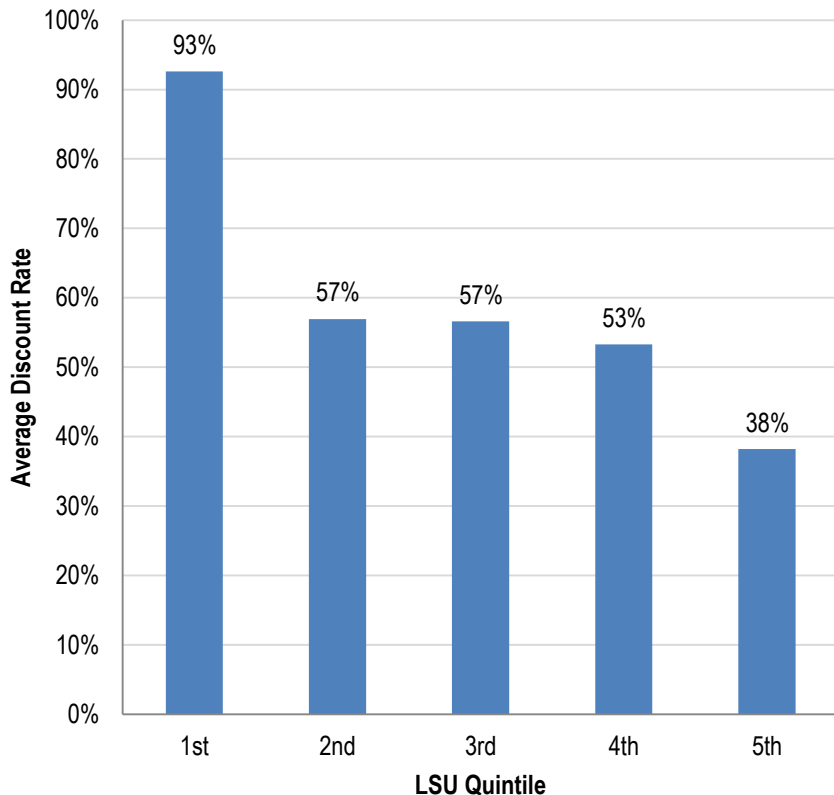
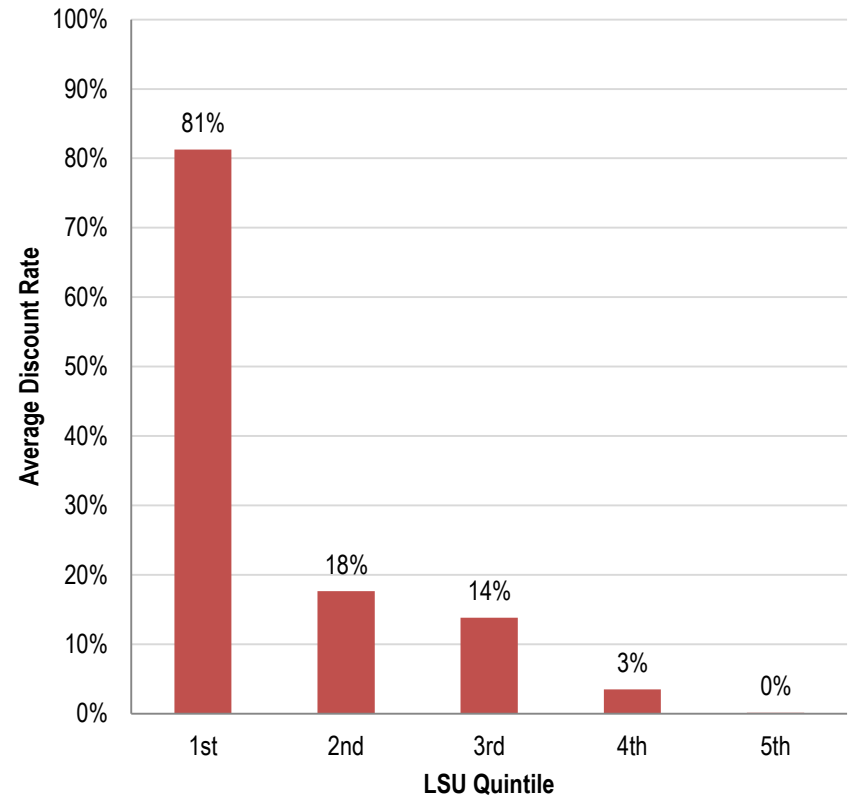


CHART 3.5 CUT AVG. DISCOUNT RATE



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OPTION 1B: FLAT RATE & EXEMPTION

- The smallest 20% of plants by inspector hours (1st hours quintile) are given a full exemption from paying for inspections.
- The remaining 80% of plants receive a flat rate discount.
- The flat rate is set to a level that fully utilizes the existing pot of discounts.

RESULTS OF OPTION 1B – SUMMARY

- Winners (502) outnumber losers (418) (Table 4.2).
- Among 2nd through to 5th quintile plants, losses are heavier as plant size falls.
- RSL gains (and PSL loses) a 4 percentage point share of the discount pot (Table 4.1).

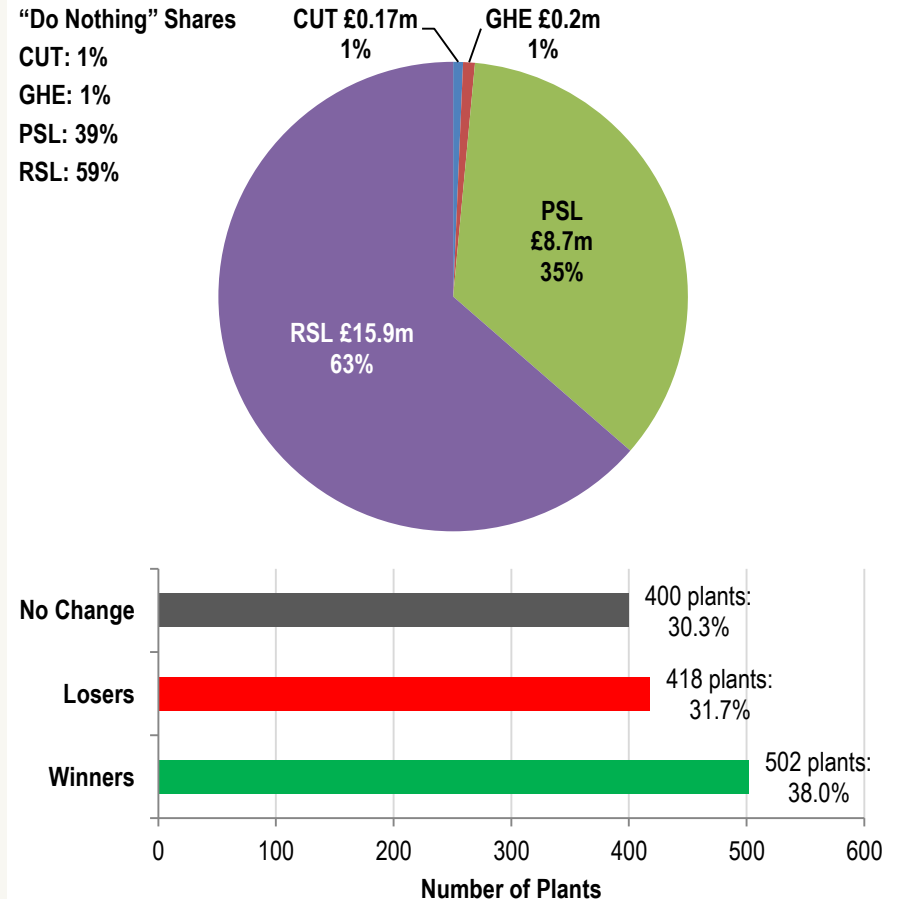
TABLE 4.1: CHANGE IN DISCOUNT ALLOCATION COMPARED TO BASELINE

SECTOR	£ CHANGE (000)	% POINT	% CHANGE
CUT	£0	↔0%	↔0%
GHE	-£31	↔0%	↓13%
PSL	-£1,040	↓4%	↓11%
RSL	£1,071	↑4%	↑7%

TABLE 4.2 – WINNERS/LOSERS

	NO. OF PLANTS
WINNERS	502
LOSERS	418

CHART 4.1 SHARE OF DISCOUNT POT



OPTION 1B: FLAT RATE & EXEMPTION

- Losses are minimal for 1st quintile plants; as they are exempt from paying for inspections as far as legally possible subject to EU minima requirements.
- 51% of GHEs are winners, 63% of PSLs are losers (calculated as per Table 4.3).
- GHE, PSL and RSL plants receive a flat rate discount of 57%.
- Discount for cutting plants (CUT) have been ring-fenced at current baseline level and receive a flat rate discount under Option 1B of 33%.
- Charts 4.2 and 4.3 show the average change in discount as a percentage of the full FSA cost by quintile, broken down by sector and country respectively (page 18).
- On average, the smaller the plant (the lower the quintile) the heavier the losses (with the exception of the 1st quintile, which is exempt from paying for inspections).

Note: subsets with less than ten plants have been marked on Chart 4.3 (page 18). The small sample size can affect the statistical significance of these results. Therefore caution must be exercised when interpreting these figures.

TABLE 4.3 WINNER/LOSER COUNT BY SECTOR

Winners	CUT	GHE	PSL	RSL	Total
1st	73	9	16	52	150
2nd	58	2	2	2	64
3rd	66	6	3	11	86
4th	67	7	4	21	99
5th	53	4	5	41	103
Total	317	28	30	127	502
Losers	CUT	GHE	PSL	RSL	Total
1st	28	2	0	2	32
2nd	39	9	16	54	118
3rd	47	5	15	44	111
4th	29	4	13	29	75
5th	53	7	14	8	82
Total	196	27	58	137	418
No Change	CUT	GHE	PSL	RSL	Total
1st	79	0	3	2	84
2nd	74	0	0	0	74
3rd	68	0	0	1	69
4th	80	0	1	6	87
5th	78	0	0	8	86
Total	379	0	4	17	400

OPTION 1B: FLAT RATE & EXEMPTION

TABLE 4.3 RELATIVE CHANGE BY SECTOR

	CUT	GHE	PSL	RSL
1st	14.04%	14.45%	10.77%	4.87%
2nd	1.54%	-9.18%	-32.25%	-21.10%
3rd	0.03%	5.93%	-28.11%	-10.87%
4th	4.12%	4.17%	-12.09%	-2.54%
5th	-3.16%	-5.70%	-7.07%	7.96%

CHART 4.2 RELATIVE CHANGE BY SECTOR

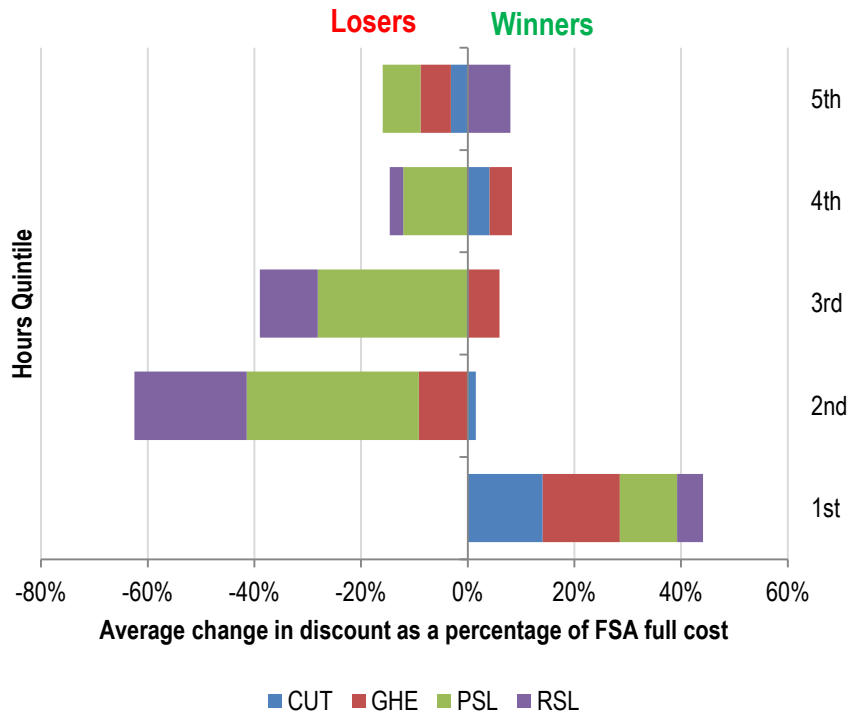
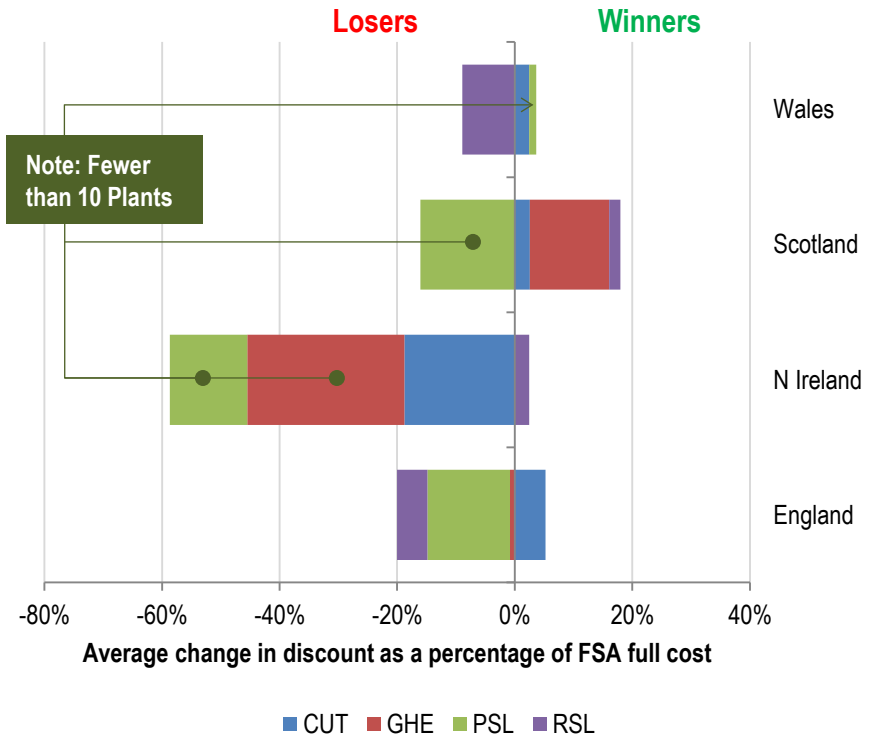


TABLE 4.4 RELATIVE CHANGE BY COUNTRY

	CUT	GHE	PSL	RSL
England	5.25%	-0.82%	-14.04%	-5.17%
N Ireland	-18.80%	-26.74%	-13.16%	2.45%
Scotland	2.59%	13.50%	-16.08%	1.88%
Wales	2.46%	No Plants	1.20%	-8.89%

CHART 4.3 RELATIVE CHANGE BY COUNTRY



OPTION 1B: FLAT RATE & EXEMPTION

- Charts 4.4 and 4.5 show the average discount rate within each hours quintile.
- Average discount rates deviate from the flat rate when eligibility for discounts is limited. Chart 4.4 displays a trend of lower eligibility (more deviation from the flat rate) in the higher quintiles.
- For cutting plants (CUT) eligibility for discounts is fairly consistent, but slightly lower numbers of plants qualifying for discounts in the 2nd and 4th quintiles leads to a lower *average* discount rate. (Chart 4.5).

CHART 4.4 GHE,PSL,RSL AVG. DISCOUNT RATE

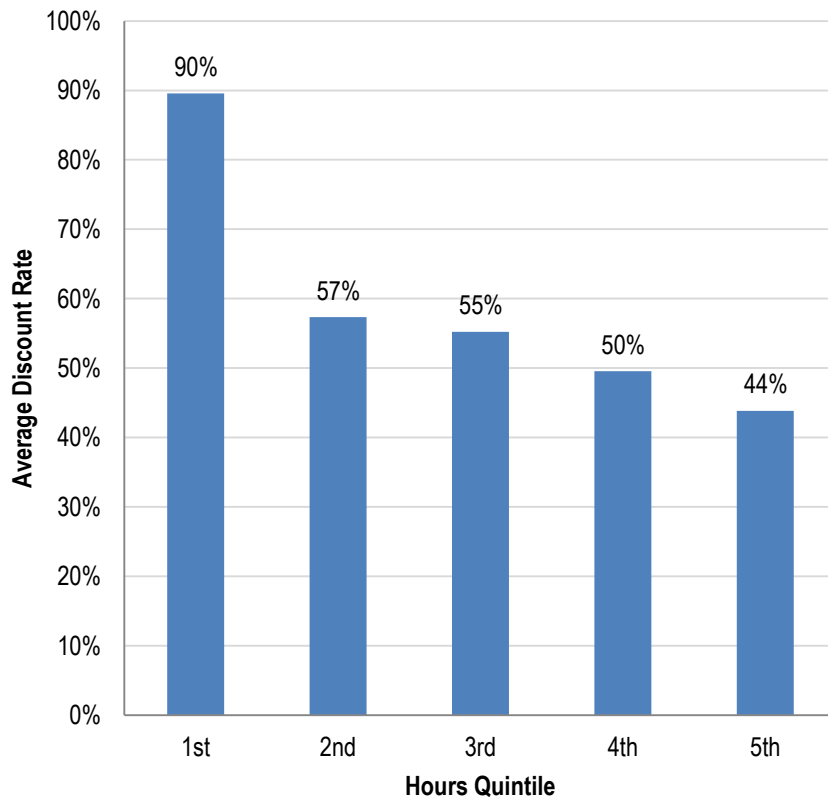
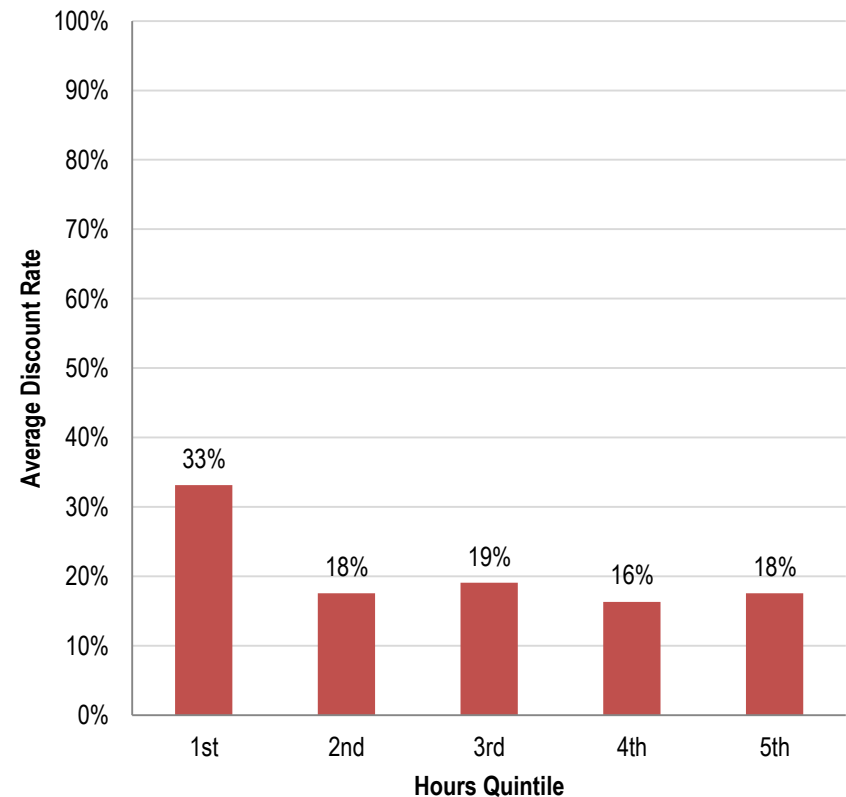


CHART 4.5 CUT AVG. DISCOUNT



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OPTION 2A: TAPERED DISCOUNTS

- The smallest 20% of plants by LSU (1st LSU quintile) are given a full exemption from paying for inspections. Each subsequent quintile receives a progressively lower discount rate, based on the principle of a progressive income tax system.
- The gaps between the discount rates for each quintile are evenly spaced and are set such that the existing pot of discounts is entirely exhausted.

RESULTS OF OPTION 2A – SUMMARY

- Winners (589) outnumber losers (235) (Table 5.2).
- Broadly, gains are greater for smaller plants compared with larger ones.
- RSL gains (and PSL loses) a 12 percentage point share of the discount pot (Table 5.1).

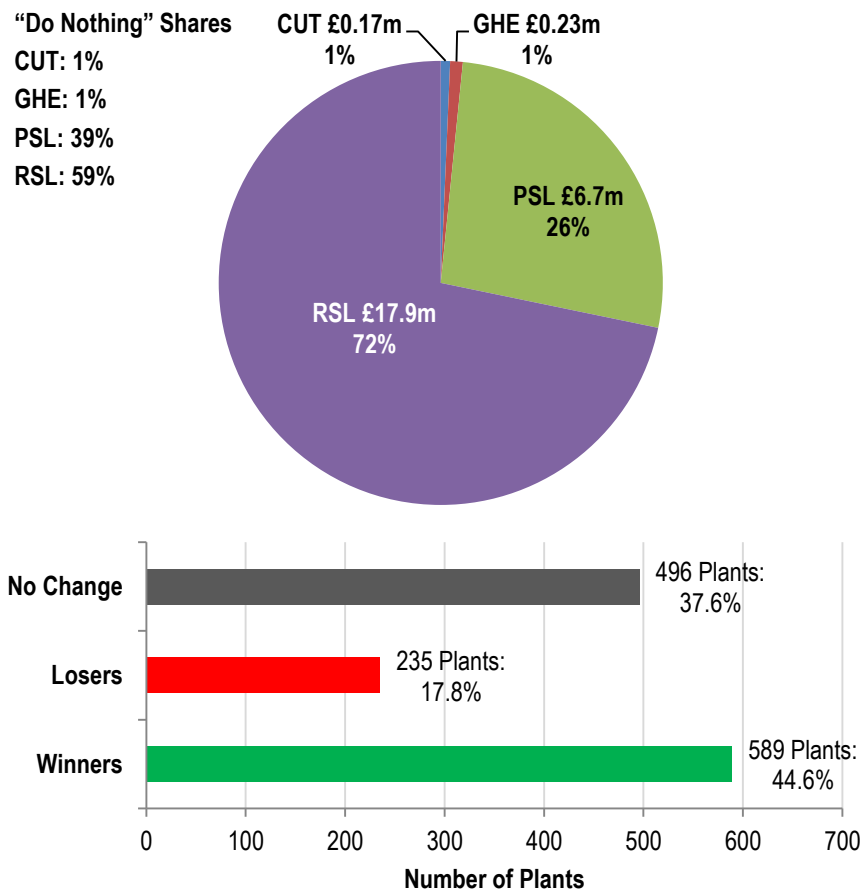
TABLE 5.1: CHANGE IN DISCOUNT ALLOCATION COMPARED TO BASELINE

SECTOR	£ CHANGE (000)	% POINT	% CHANGE
CUT	£0	↔0%	↔0%
GHE	-£4	↔0%	↓2%
PSL	-£3,106	↓12%	↓32%
RSL	£3,110	↑12%	↑21%

TABLE 5.2 – WINNERS/LOSERS

	NO. OF PLANTS
WINNERS	589
LOSERS	235

CHART 5.1 SHARE OF DISCOUNT POT



OPTION 2A: TAPERED DISCOUNTS

- Losses are minimal for 1st quintile plants; as they are exempt from paying for inspections as far as legally possible subject to EU minima requirements.
- 62% of GHEs and 85% of RSLs are winners, 66% of PSLs are losers (calculated as per Table 5.3).
- Charts 5.2 and 5.3 show the average change in discount as a percentage of the full FSA cost by quintile, broken down by sector and country respectively (page 22).
- Chart 5.2 shows that on average, the smaller the plant (the lower the quintile) the greater the gains.
- Chart 5.3 shows that by country and sector, poultry plants in all countries are the only significant losers on average.

Note: subsets with less than ten plants have been marked on Chart 5.3 (page 22). The small sample size can affect the statistical significance of these results. Therefore caution must be exercised when interpreting these figures.

TABLE 5.3 WINNER/LOSER COUNT BY SECTOR

Winners	CUT	GHE	PSL	RSL	Total
1st	147	10	15	53	225
2nd	129	7	5	52	193
3rd	12	7	2	46	67
4th	0	7	4	46	57
5th	0	3	1	43	47
Total	288	34	27	240	589
Losers	CUT	GHE	PSL	RSL	Total
1st	24	1	1	2	28
2nd	33	4	13	1	51
3rd	62	4	16	8	90
4th	12	4	14	8	38
5th	1	8	17	2	28
Total	132	21	61	21	235
No Change	CUT	GHE	PSL	RSL	Total
1st	3	0	3	1	7
2nd	21	0	0	3	24
3rd	104	0	0	2	106
4th	166	0	0	2	168
5th	178	0	1	12	191
Total	472	0	4	20	496

OPTION 2A: TAPERED DISCOUNTS

TABLE 5.3 RELATIVE CHANGE BY SECTOR

	CUT	GHE	PSL	RSL
1st	33.24%	25.82%	8.02%	5.03%
2nd	24.93%	19.12%	-4.02%	6.73%
3rd	-7.19%	11.03%	-12.37%	5.21%
4th	-1.42%	5.87%	-29.90%	6.04%
5th	-0.16%	-13.22%	-29.31%	8.83%

CHART 5.2 RELATIVE CHANGE BY SECTOR

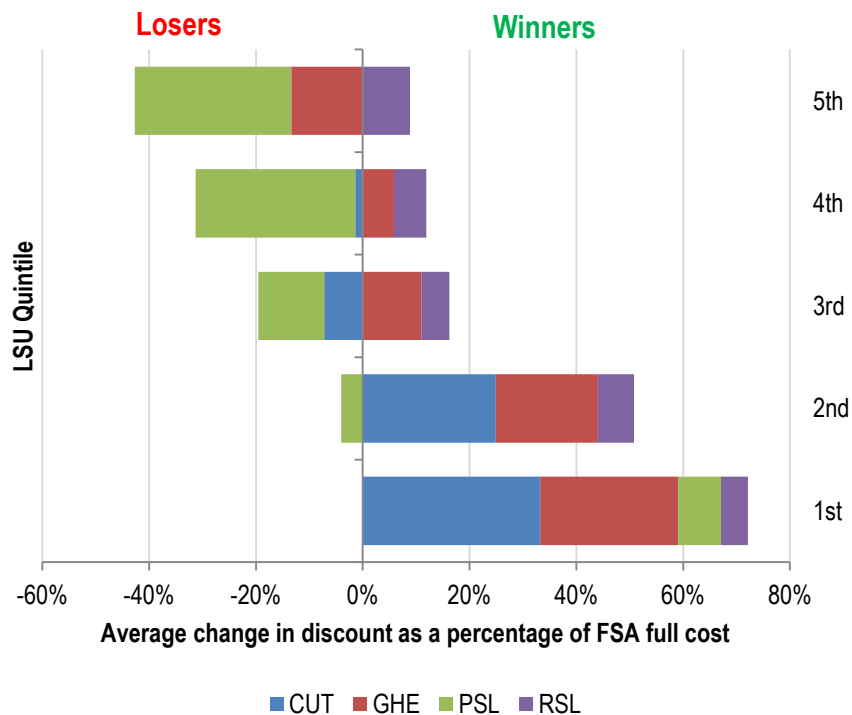
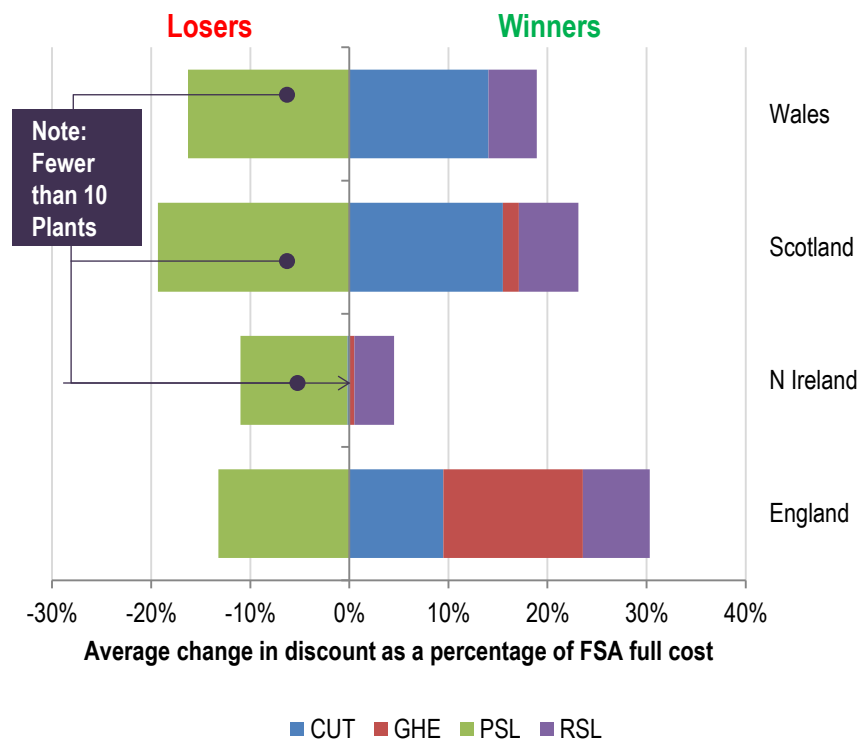


TABLE 5.4 RELATIVE CHANGE BY COUNTRY

	CUT	GHE	PSL	RSL
England	9.50%	14.08%	-13.21%	6.75%
N Ireland	-0.21%	0.52%	-10.78%	3.98%
Scotland	15.49%	1.63%	-19.31%	6.01%
Wales	14.05%	No Plants	-16.29%	4.87%

CHART 5.3 RELATIVE CHANGE BY COUNTRY



OPTION 2A: TAPERED DISCOUNTS

- Charts 5.4 and 5.5 show the average discount rate within each LSU quintile.
- Average discount rates in each quintile deviate from the tapered schedule of discounts when eligibility for discounts is limited.
- 4th and 5th quintile cutting plants were largely ineligible for discounts because plants' high levels of throughput led to the discounted sum exceeding the FSA's full cost.

CHART 5.4 GHE,PSL,RSL AVG. DISCOUNT RATE

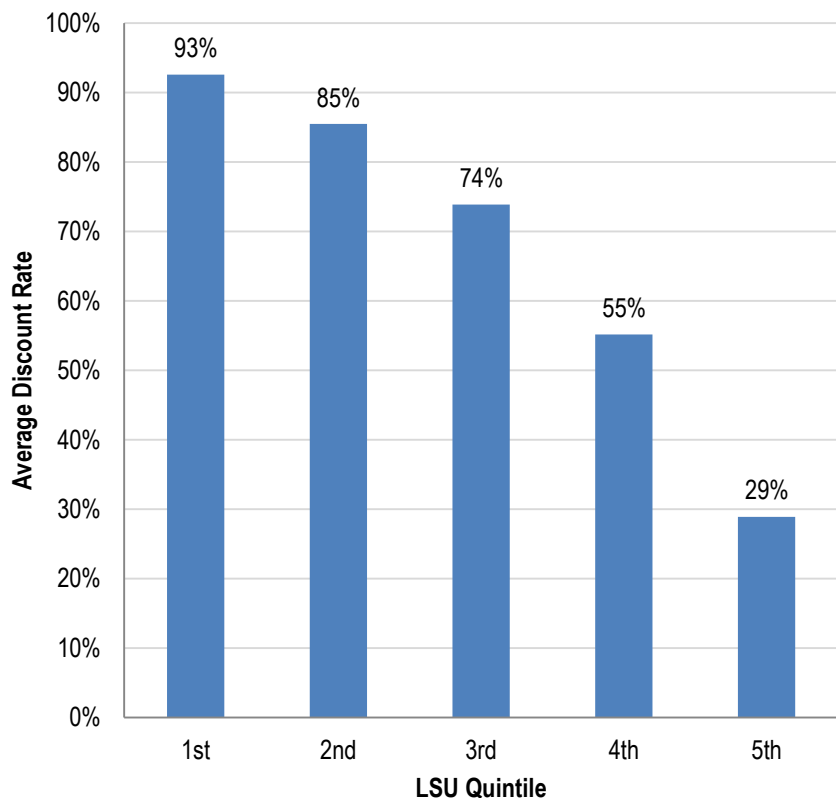
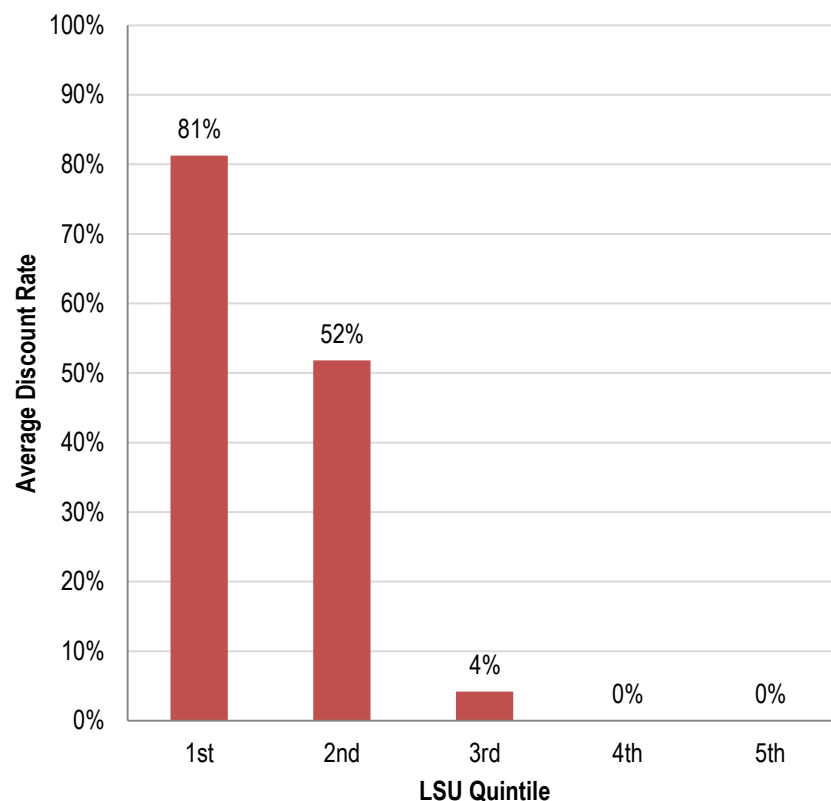


CHART 5.5 CUT AVG. DISCOUNT RATE



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OPTION 2B: TAPERED DISCOUNTS

- The smallest 20% of plants by inspector hours (1st hours quintile) are given a full exemption from paying for inspections. Each subsequent quintile receives a progressively lower discount rate, based on the principle of a progressive income tax system.
- The gaps between the discount rates for each quintile are evenly spaced and are set such that the existing pot of discounts is entirely exhausted

RESULTS OF OPTION 2B – SUMMARY

- Winners (719) outnumber losers (192) (Table 6.2).
- Broadly, gains are greater for smaller plants compared with larger ones.
- RSL gains (and PSL loses) a 9 percentage point share of the discount pot.

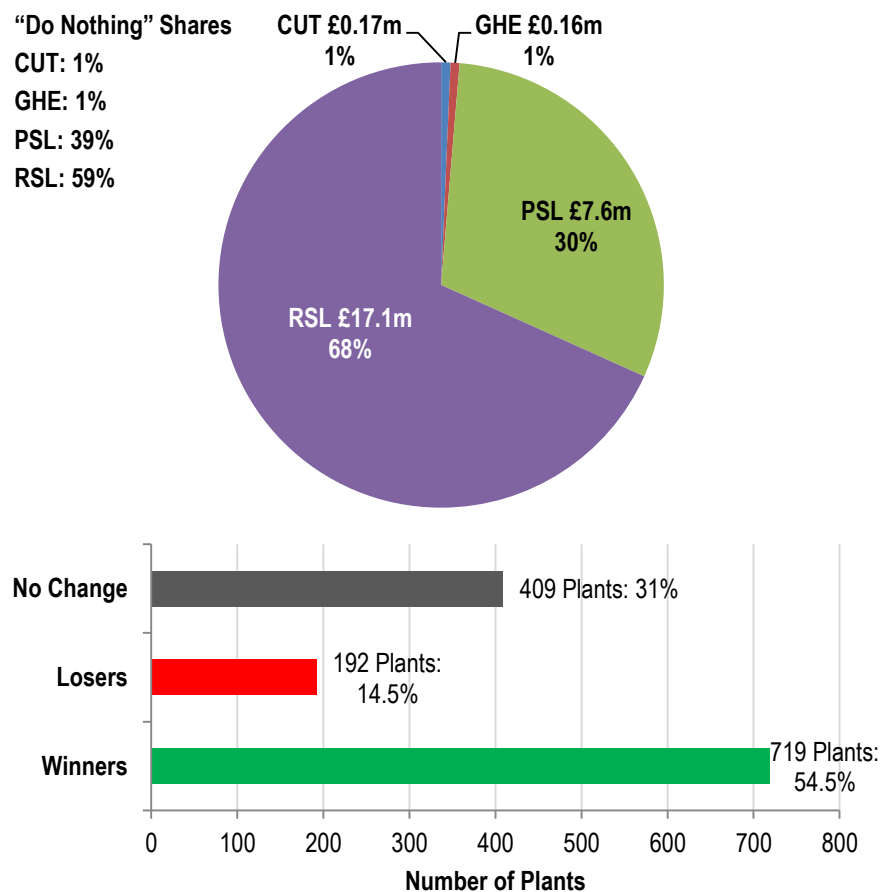
TABLE 6.1: CHANGE IN DISCOUNT ALLOCATION COMPARED TO BASELINE

SECTOR	£ CHANGE (000)	% POINT	% CHANGE
CUT	£0	↔0%	↔0%
GHE	-£71	↔0%	↓30%
PSL	-£2,168	↓9%	↓22%
RSL	£2,240	↑9%	↑15%

TABLE 6.2 – WINNERS/LOSERS

	NO. OF PLANTS
WINNERS	719
LOSERS	192

CHART 6.1 SHARE OF DISCOUNT POT



OPTION 2B: TAPERED DISCOUNTS

- Losses are minimal for 1st quintile plants; as they are exempt from paying for inspections as far as legally possible subject to EU minima requirements.
- 71% of GHEs and 80% of RSLs are winners, 59% of PSLs are losers (calculated as per Table 6.3).
- Charts 6.2 and 6.3 show the average change in discount as a percentage of the full FSA cost by quintile, broken down by sector and country respectively (page 26).
- Chart 6.2 shows that on average, 5th quintile plants (largest plants) are the biggest losers, in particular for game and poultry sectors.
- 1st and 2nd quintile plants are winners across all sectors; 3rd and 4th quintile plants face losses in the poultry sector.
- Chart 6.3 shows that by country and sector, poultry plants in England and cutting plants in Northern Ireland are the losers.

Note: subsets with less than ten plants have been marked on Chart 6.3 (page 26). The small sample size can affect the statistical significance of these results. Therefore caution must be exercised when interpreting these figures.

TABLE 6.3 WINNER/LOSER COUNT BY SECTOR

Winners	CUT	GHE	PSL	RSL	Total
1st	73	9	16	52	150
2nd	90	9	7	52	158
3rd	105	10	3	43	161
4th	94	8	6	37	145
5th	60	3	2	40	105
Total	422	39	34	224	719
Losers	CUT	GHE	PSL	RSL	Total
1st	28	2	0	2	32
2nd	7	2	11	2	22
3rd	7	1	15	11	34
4th	1	3	11	12	27
5th	43	8	17	9	77
Total	86	16	54	36	192
No Change	CUT	GHE	PSL	RSL	Total
1st	79	0	3	2	84
2nd	74	0	0	2	76
3rd	69	0	0	2	71
4th	81	0	1	7	89
5th	81	0	0	8	89
Total	384	0	4	21	409

OPTION 2B: TAPERED DISCOUNTS

TABLE 6.3 RELATIVE CHANGE BY SECTOR

	CUT	GHE	PSL	RSL
1st	14.04%	14.45%	10.77%	4.87%
2nd	21.20%	18.89%	0.72%	6.11%
3rd	20.26%	24.44%	-14.11%	5.07%
4th	20.96%	13.72%	-7.94%	2.88%
5th	0.68%	-18.60%	-16.31%	7.15%

CHART 6.2 RELATIVE CHANGE BY SECTOR

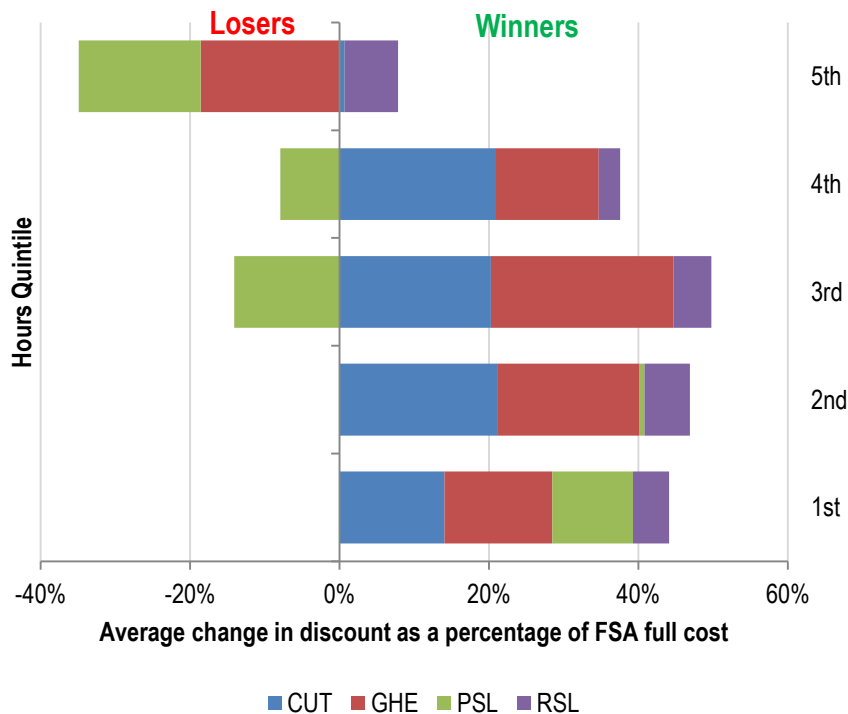
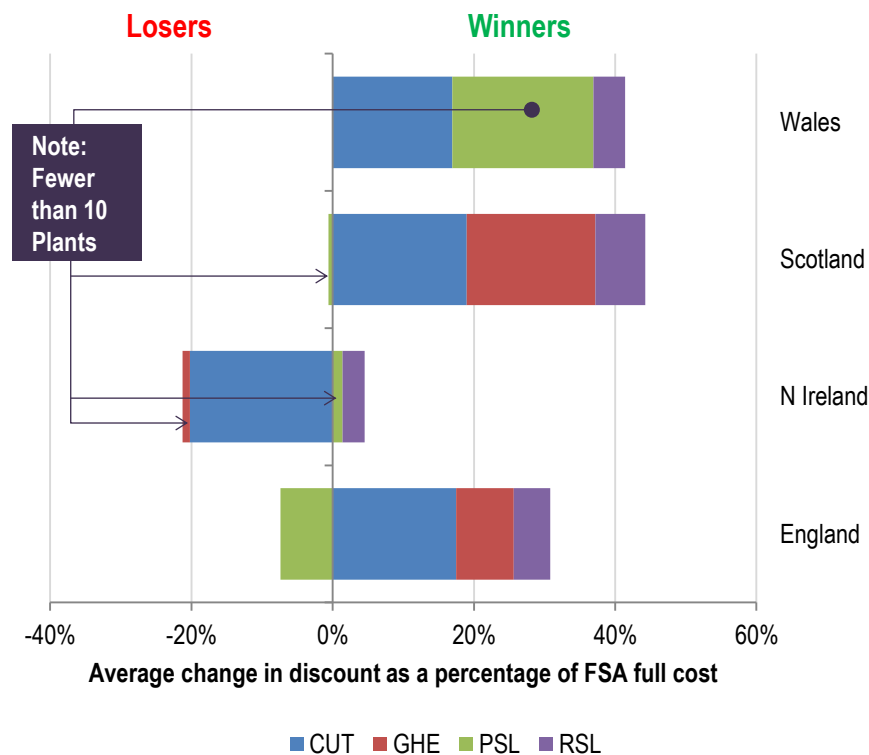


TABLE 6.4 RELATIVE CHANGE BY COUNTRY

	CUT	GHE	PSL	RSL
England	17.48%	8.15%	-7.37%	5.17%
N Ireland	-20.20%	-1.04%	1.40%	3.12%
Scotland	18.99%	18.22%	-0.58%	7.05%
Wales	16.95%	No Plants	19.96%	4.48%

CHART 6.3 RELATIVE CHANGE BY COUNTRY



OPTION 2B: TAPERED DISCOUNTS

- Average discount rates in each hours quintile deviate from the tapered schedule of discounts when eligibility for discounts is lower.
- The relatively small steps between the discount rates for cutting plants, combined with the swell in eligibility in the middle of the distribution leads to average discount rates being highest in the 3rd quintile, and tailing away to either side (Chart 6.5)

CHART 6.4 GHE,PSL,RSL AVG. DISCOUNT RATE

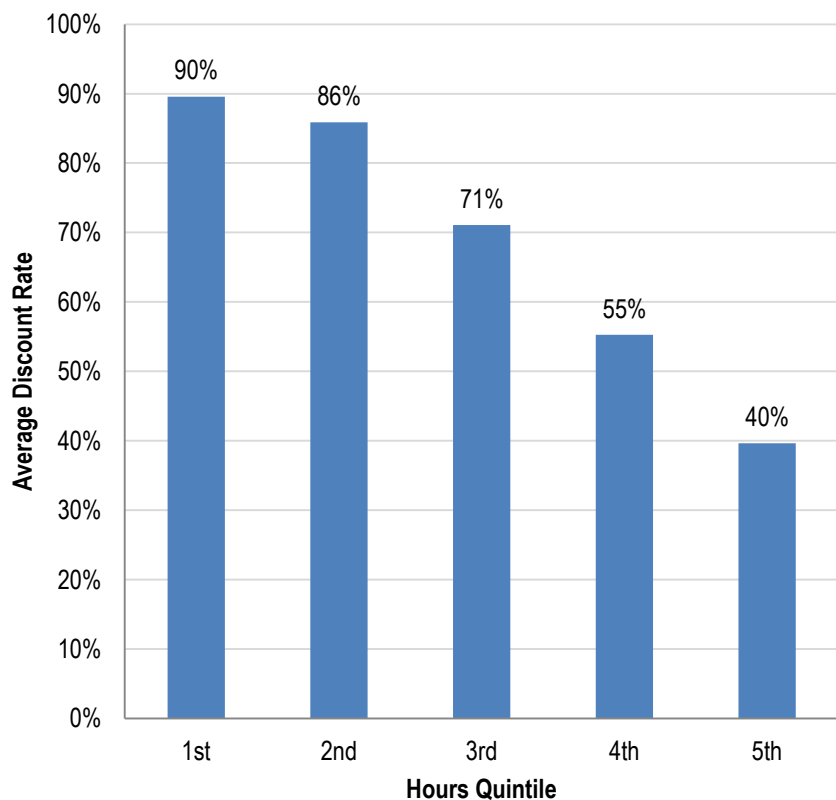
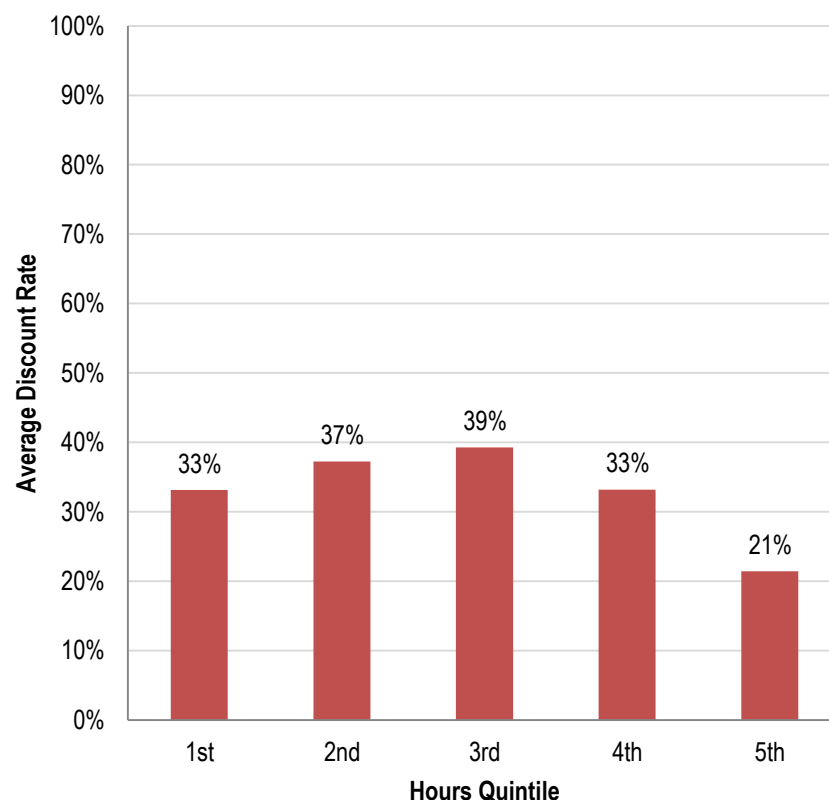


CHART 6.5 CUT AVG. DISCOUNT RATE



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OPTION 3A: LSU-BASED FLAT RATE

- Operators pay back the lower of livestock units multiplied by a single flat rate or the FSA's full cost of inspection.
- No exemptions for small operators unless and until introduced by the EU.

RESULTS OF OPTION 3A – SUMMARY

- Winners (474) outnumber losers (352) (Table 7.2).
- Losses rise as plant size increases.
- RSL gains a 10 percentage point share of the discount pot, PSL loses a 9 percentage point share and GHE loses a 1 percentage point share (Table 7.1).

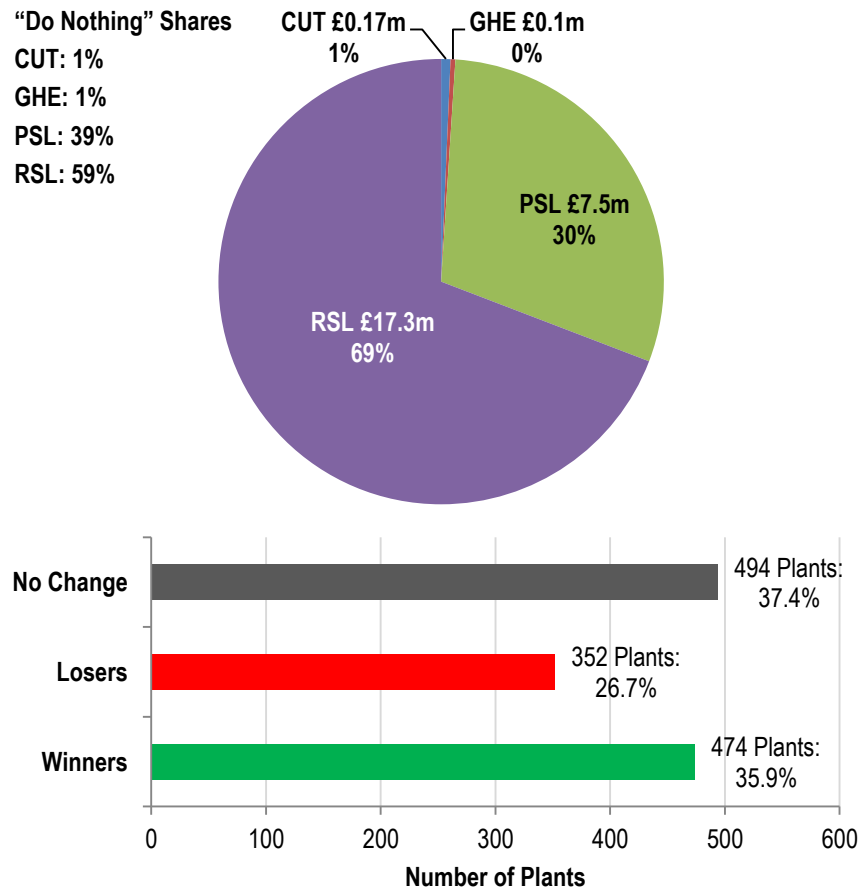
TABLE 7.1: CHANGE IN DISCOUNT ALLOCATION COMPARED TO BASELINE

SECTOR	£ CHANGE (000)	% POINT	% CHANGE
CUT	£0	↔0%	↔0%
GHE	-£147	↓1%	↓63%
PSL	-£2,318	↓9%	↓24%
RSL	£2,466	↑10%	↑17%

TABLE 7.2 – WINNERS/LOSERS

	NO. OF PLANTS
WINNERS	474
LOSERS	352

CHART 7.1 SHARE OF DISCOUNT POT



OPTION 3A: LSU-BASED FLAT RATE

- 84% of RSLs are winners, 76% of GHEs and 73% of PSLs are losers (calculated as per Table 7.3).
- Charts 7.2 and 7.3 show the average change in discount as a percentage of the full FSA cost by quintile, broken down by sector and country respectively (page 30).
- Chart 7.2 shows that on average, as plant size rises, so do losses. The greatest losses are among the game and poultry sectors.
- The first quintile is the only quintile that gains on average in each sector.
- Chart 7.3 shows that there are heavy losses in the game and poultry sectors across all countries. Scotland appears to be the worst off country under Option 3A.

Note: subsets with less than ten plants have been marked on Chart 7.3 (page 30). The small sample size can affect the statistical significance of these results. Therefore caution must be exercised when interpreting these figures.

TABLE 7.3 WINNER/LOSER COUNT BY SECTOR

Winners	CUT	GHE	PSL	RSL	Total
1st	101	6	12	52	171
2nd	82	3	6	51	142
3rd	20	1	3	47	71
4th	2	0	3	46	51
5th	0	0	0	39	39
Total	205	10	24	235	474
Losers	CUT	GHE	PSL	RSL	Total
1st	66	3	7	4	80
2nd	73	8	12	2	95
3rd	63	10	15	7	95
4th	12	11	15	9	47
5th	1	10	18	6	35
Total	215	42	67	28	352
No Change	CUT	GHE	PSL	RSL	Total
1st	7	2	0	0	9
2nd	28	0	0	3	31
3rd	95	0	0	2	97
4th	164	0	0	1	165
5th	178	1	1	12	192
Total	472	3	1	18	494

OPTION 3A: LSU-BASED FLAT RATE

TABLE 7.3 RELATIVE CHANGE BY SECTOR

	CUT	GHE	PSL	RSL
1st	16.00%	4.47%	5.04%	4.17%
2nd	2.96%	-21.21%	-2.11%	6.38%
3rd	-6.23%	-47.44%	-5.94%	5.35%
4th	-0.80%	-38.78%	-34.92%	5.36%
5th	-0.07%	-45.10%	-26.24%	6.55%

CHART 7.2 RELATIVE CHANGE BY SECTOR

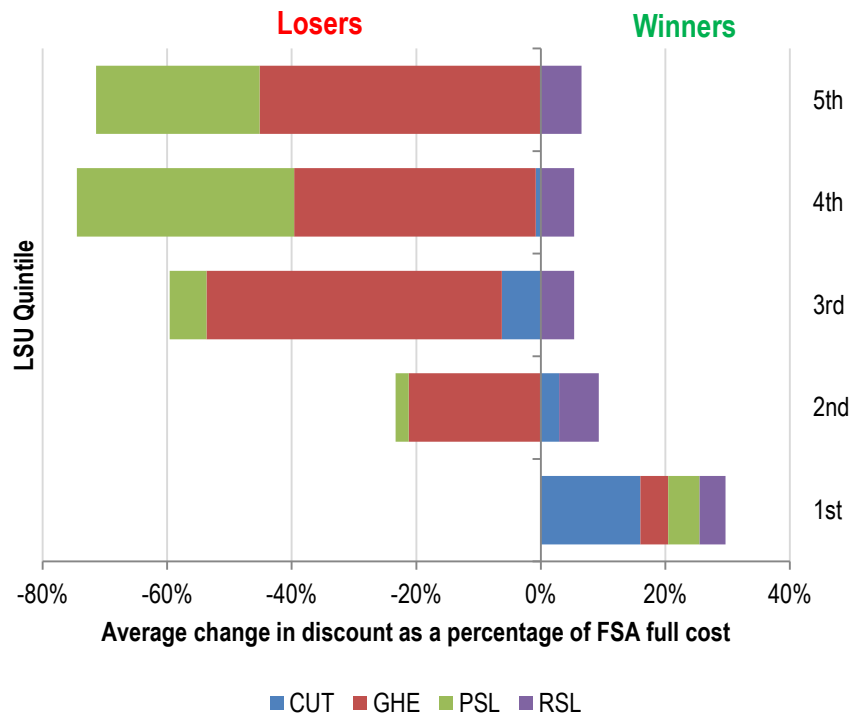
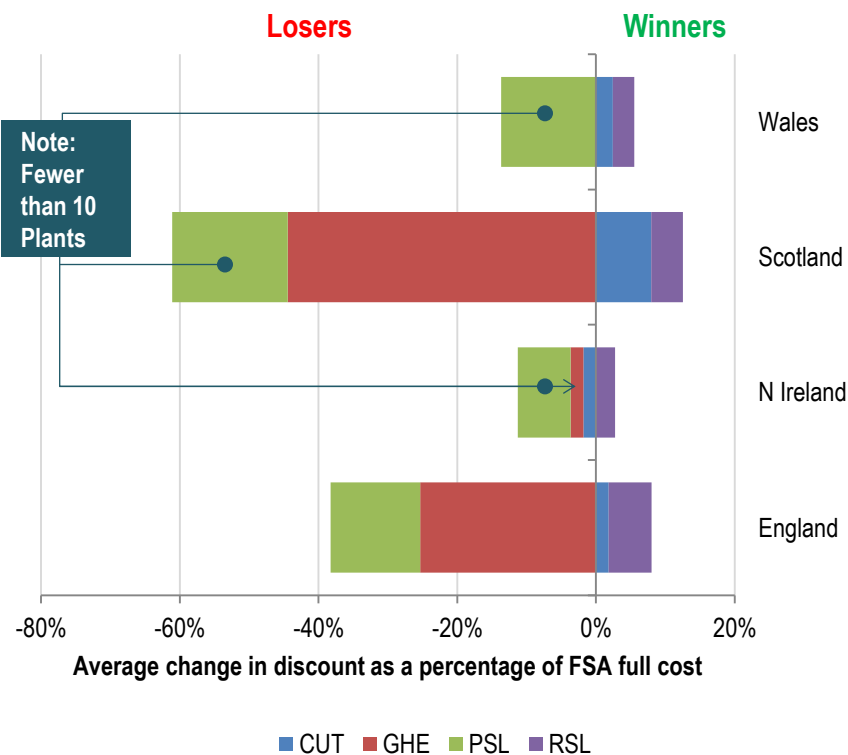


TABLE 7.4 RELATIVE CHANGE BY COUNTRY

	CUT	GHE	PSL	RSL
England	1.83%	-25.33%	-12.94%	6.17%
N Ireland	-1.79%	-1.84%	-7.62%	2.74%
Scotland	7.99%	-44.46%	-16.65%	4.55%
Wales	2.42%	0.00%	-13.67%	3.09%

CHART 7.3 RELATIVE CHANGE BY COUNTRY



OPTION 3A: LSU-BASED FLAT RATE

- Charts 7.4 and 7.5 show the average discount rate within each LSU quintile.
- Average discount rates in each quintile deviate from the flat rate when eligibility for discounts is lower.
- The gradual decline of eligibility for the flat-rate discount in the higher quintiles is reflected in the steadily falling average discount rate in Chart 7.4. The more rapid decline in eligibility among cutting plants is seen in the sharper tapering-off in Chart 7.5.

CHART 7.4 GHE,PSL,RSL AVG. DISCOUNT RATE

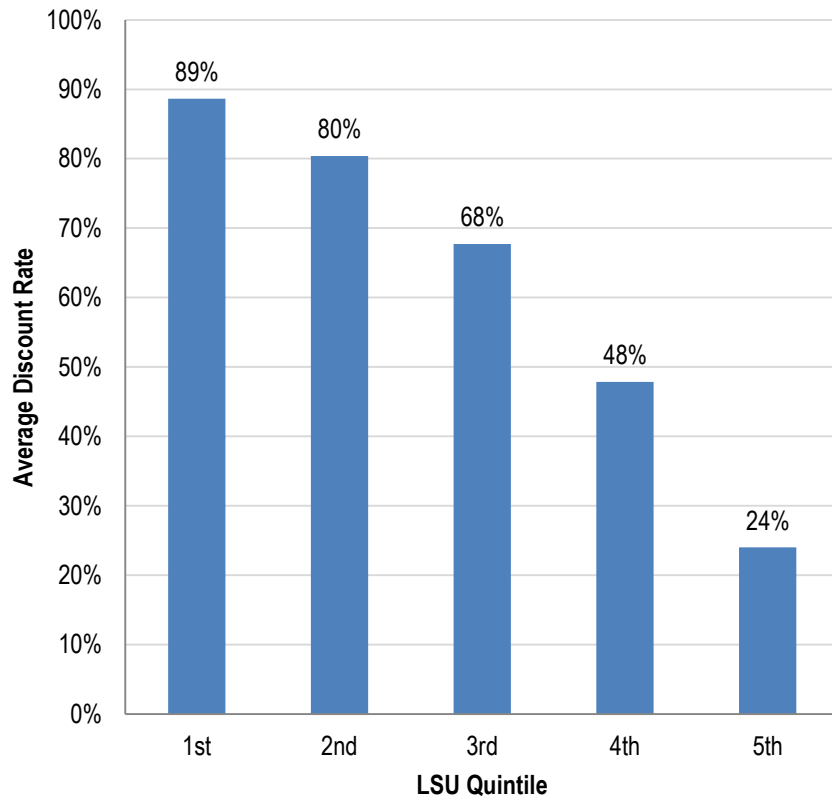
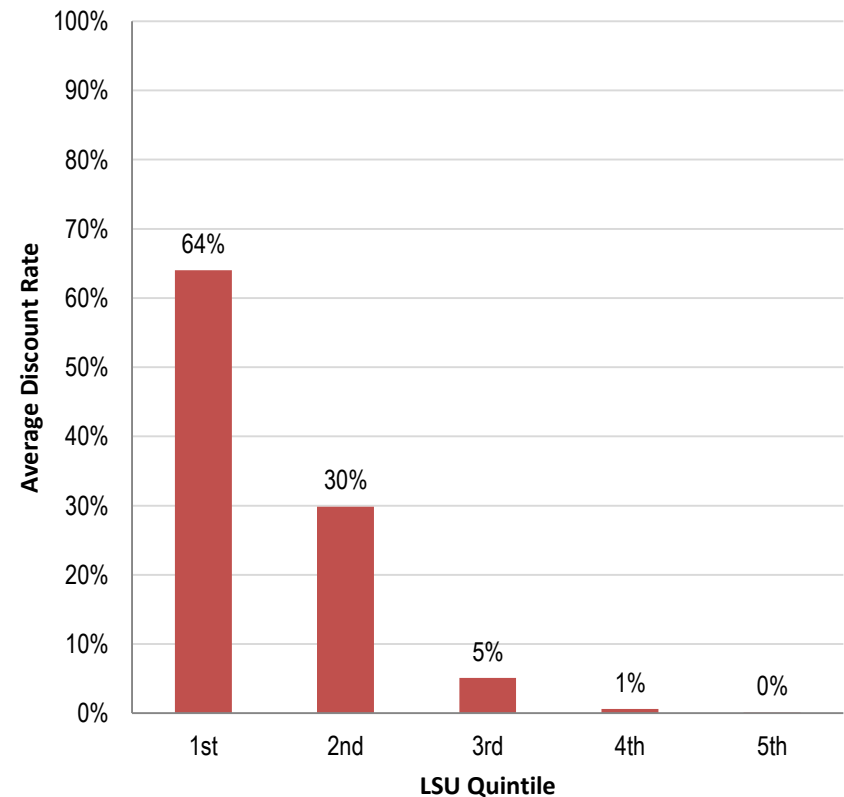


CHART 7.5 CUT AVG. DISCOUNT RATE



OPTION 3B: TIME-BASED FLAT RATE

- Operators pay back the lower of inspector hours multiplied by a single flat rate or the FSA's full cost of inspection.
- No exemptions for small operators unless and until introduced by the EU.

RESULTS OF OPTION 3A - SUMMARY

- Losers (501) outnumber winners (425) (Table 8.2).
- On average, the smaller a plant, the more discount it loses
- RSL gains (and PSL loses) a 4 percentage point share of the discount pot (Table 8.1).

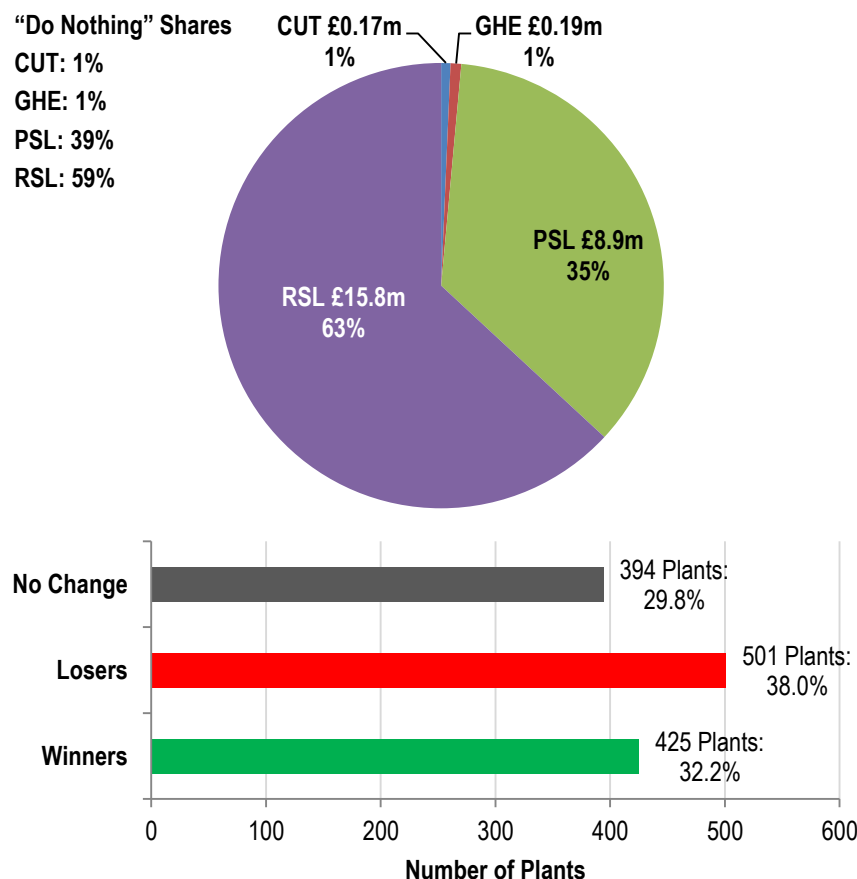
TABLE 8.1: CHANGE IN DISCOUNT ALLOCATION COMPARED TO BASELINE

SECTOR	£ CHANGE (000)	% POINT	% CHANGE
CUT	£0	↔0%	↔0%
GHE	-£40	↔0%	↓17%
PSL	-£904	↓4%	↓9%
RSL	£945	↑4%	↑6%

TABLE 8.2 – WINNERS/LOSERS

	NO. OF PLANTS
WINNERS	425
LOSERS	501

CHART 8.1 SHARE OF DISCOUNT POT



OPTION 3B: TIME-BASED FLAT RATE

- 38% of GHEs and 35% of cutting plants are winners, 79% of PSLs are losers (calculated as per Table 8.3).
- Charts 8.2 and 8.3 show the average change in discount as a percentage of the full FSA cost by quintile, broken down by sector and country respectively (page 34).
- Chart 8.2 shows that on average, as plant size falls, average loss of discount as a percentage of FSA cost rises. That is, smaller plants lose more under Option 3B.
- Significant losses are apparent across all sectors.
- Chart 8.3 shows that by country and sector, game handling establishments in Scotland and cutting plants in England are the only statistically significant winners.

Note: subsets with less than ten plants have been marked on Chart 8.3. The small sample size can affect the statistical significance of these results. Therefore caution must be exercised when interpreting these figures (page 34).

TABLE 8.3 WINNER/LOSER COUNT BY SECTOR

Winners	CUT	GHE	PSL	RSL	Total
1st	52	2	1	0	55
2nd	59	3	2	6	70
3rd	71	6	3	10	90
4th	70	6	6	20	102
5th	58	4	6	40	108
Total	310	21	18	76	425
Losers	CUT	GHE	PSL	RSL	Total
1st	50	9	18	55	132
2nd	38	8	16	50	112
3rd	42	5	15	45	107
4th	26	5	11	30	72
5th	49	7	13	9	78
Total	205	34	73	189	501
No Change	CUT	GHE	PSL	RSL	Total
1st	78	0	0	1	79
2nd	74	0	0	0	74
3rd	68	0	0	1	69
4th	80	0	1	6	87
5th	77	0	0	8	85
Total	377	0	1	16	394

OPTION 3B: TIME-BASED FLAT RATE

TABLE 8.3 RELATIVE CHANGE BY SECTOR

	CUT	GHE	PSL	RSL
1st	-0.84%	-15.74%	-25.43%	-22.83%
2nd	3.68%	-6.46%	-27.34%	-18.91%
3rd	2.38%	5.45%	-24.44%	-10.28%
4th	5.94%	4.01%	-9.38%	-2.93%
5th	-1.24%	-8.37%	-5.97%	7.68%

CHART 8.2 RELATIVE CHANGE BY SECTOR

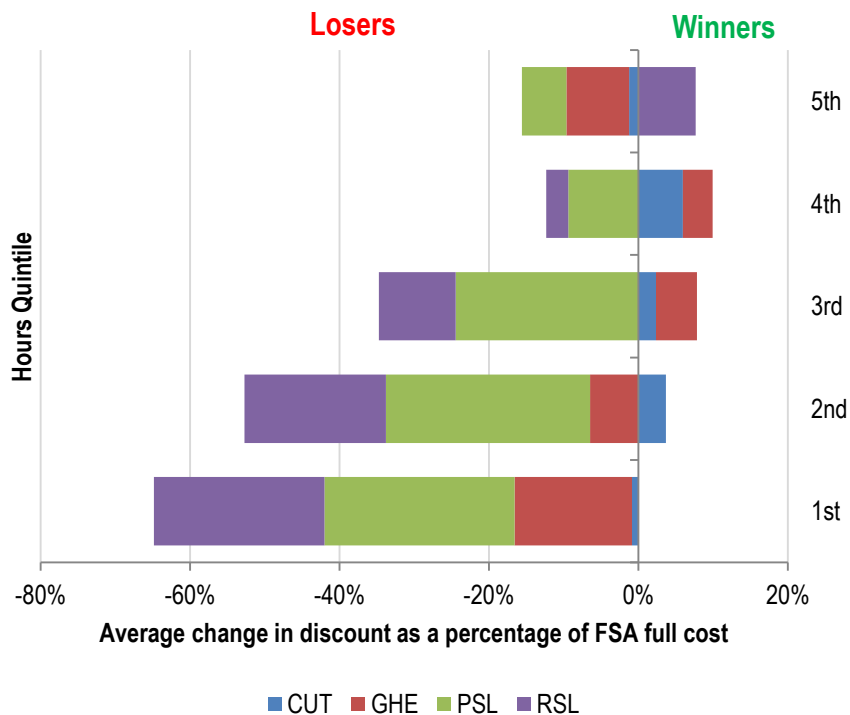
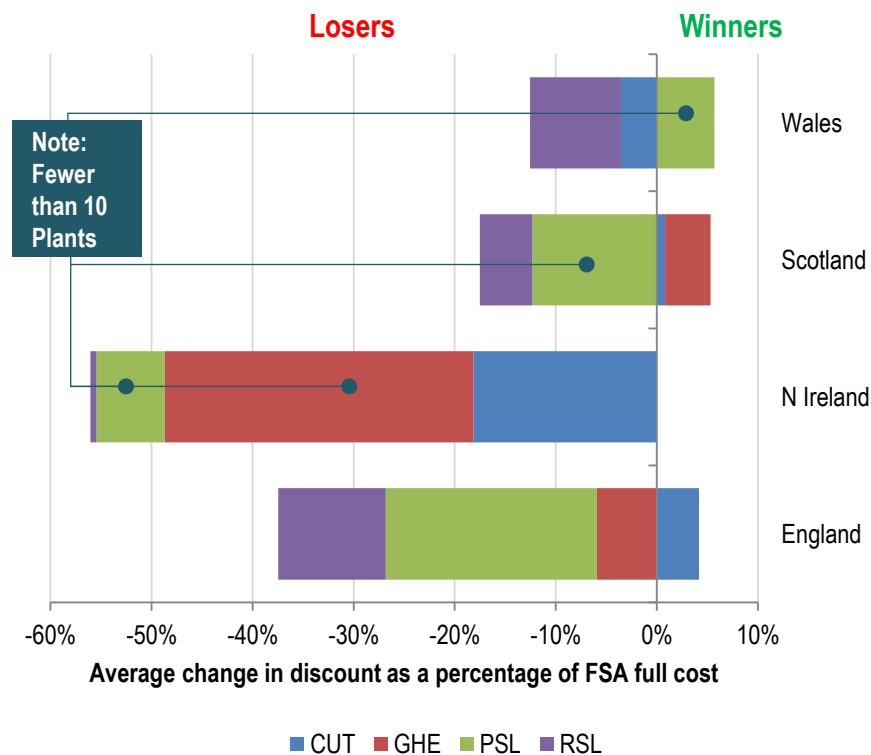


TABLE 8.4 RELATIVE CHANGE BY COUNTRY

	CUT	GHE	PSL	RSL
England	4.19%	-5.91%	-20.90%	-10.65%
N Ireland	-18.16%	-30.53%	-6.77%	-0.59%
Scotland	0.84%	4.50%	-12.32%	-5.20%
Wales	-3.54%	0.00%	5.69%	-9.01%

CHART 8.3 RELATIVE CHANGE BY COUNTRY



OPTION 3B: TIME-BASED FLAT RATE

- Charts 8.4 and 8.5 show the average discount rate within each hours quintile.
- Average discount rates in each quintile deviate from the flat rate when eligibility for discounts is lower.
- The gradual decline of eligibility for the flat-rate discount in the higher quintiles is reflected in the steadily falling average discount rate in Chart 8.4. The more consistent eligibility among cutting plants is seen in the flatter profile of the columns in Chart 8.5

CHART 8.4 GHE,PSL,RSL AVG. DISCOUNT RATE

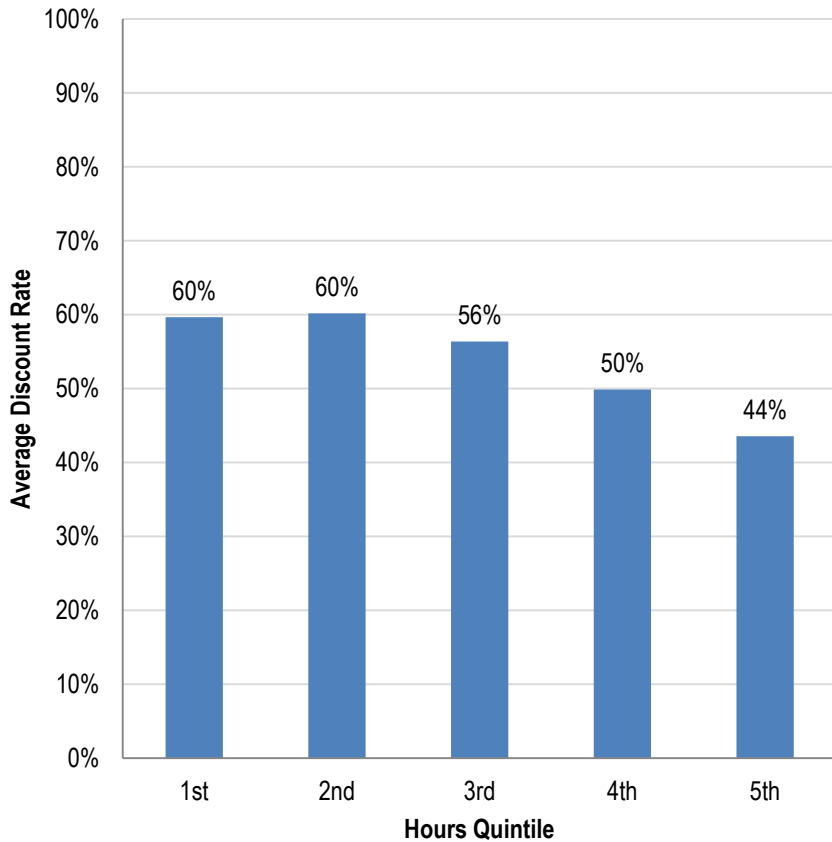
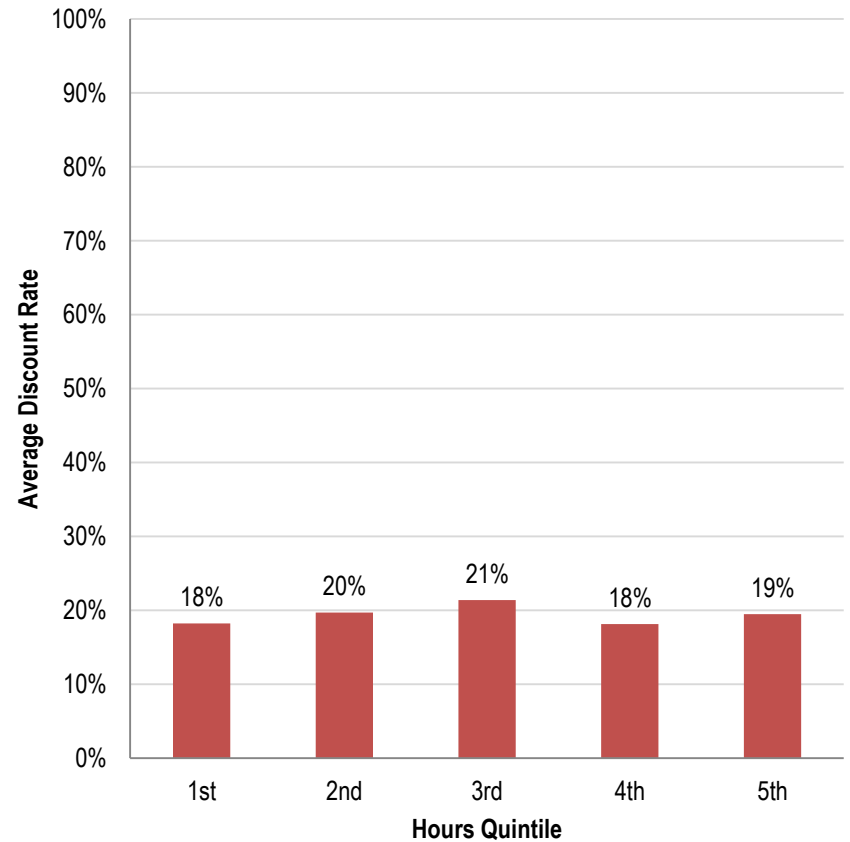


CHART 8.5 CUT AVG. DISCOUNT RATE



TECHNICAL ANNEX

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1. DISTRIBUTION OF DISCOUNT SYSTEM

1.1 CHARTS AND ANALYSIS

- Charts 9.1 to 9.16 (pages 38 – 41) show percentage discount rate changes within each quintile.
- The charts provide a more detailed picture of what drives deviations of the average discount rate from the flat rate.
- Wider bars within the quintiles indicate that more plants qualify for discounts.
- Taller bars within the quintiles represent higher discount rates, while the converse holds for shorter bars (lower discount rates).
- A wide bar that plateaus at a discount rate of 50% indicates that the quintile has broad eligibility for discounts, and that plants within the quintile uniformly receive a 50% discount.
- Low eligibility drives down the average discount rate for any quintile.

TECHNICAL ANNEX

- Charts 9.1 to 9.3 suggest that plants which process less throughput are discounted more heavily in the current system.
- Chart 9.4 (cutting plants) suggests that there are no significant differences in the proportion of plants eligible for discounts between inspector hours quintiles in the baseline case.

CHART 9.1 BASELINE: PSL/RSL/GHE, LSU

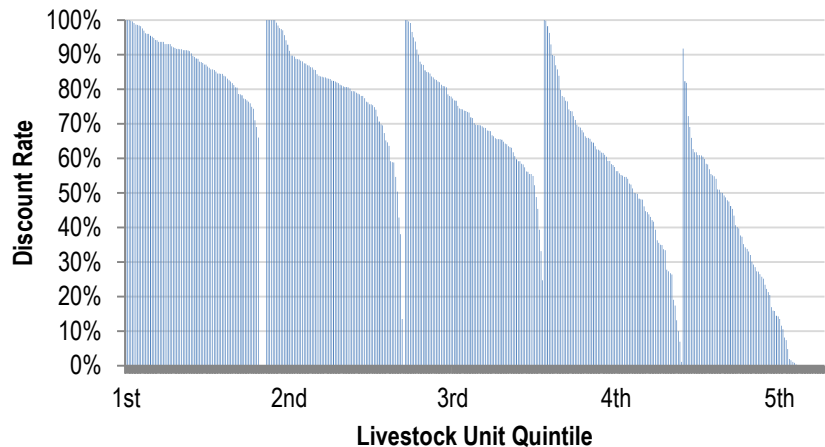


CHART 9.3 BASELINE: PSL/RSL/GHE, HOURS

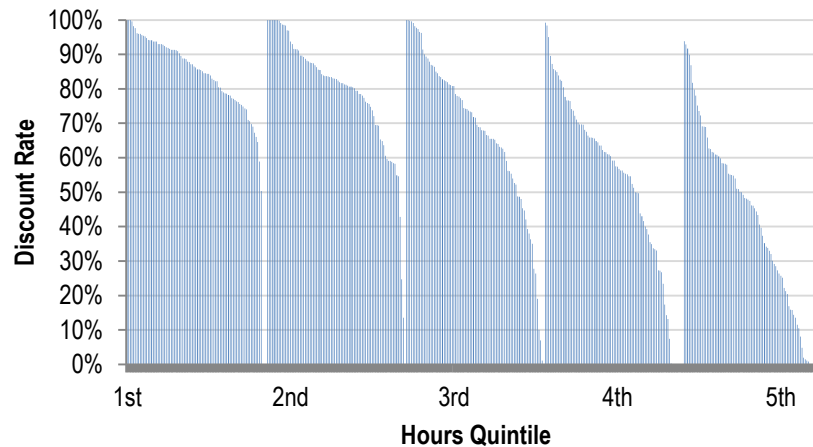


CHART 9.2 BASELINE: CUT ONLY, LSU

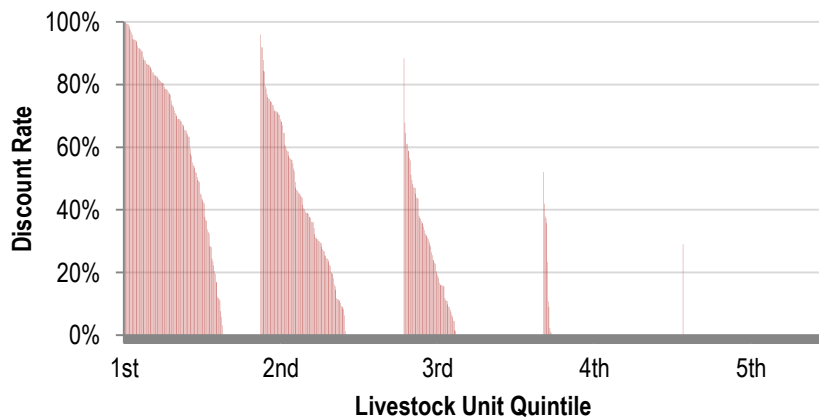
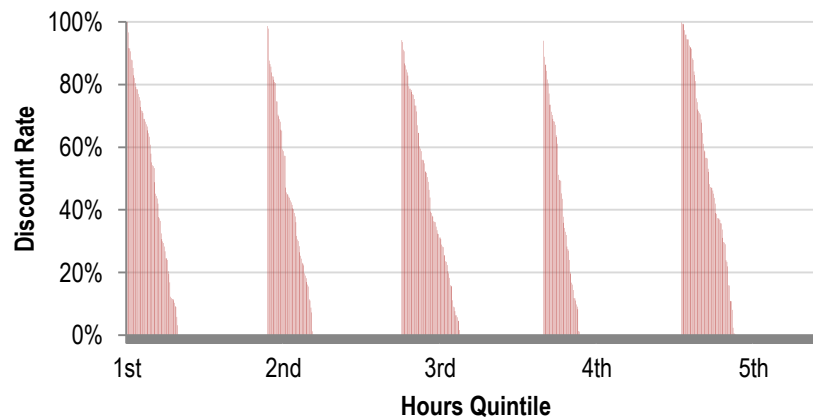


CHART 9.4 BASELINE: CUT ONLY, HOURS



TECHNICAL ANNEX

- Charts 9.5 - 9.8 (**Option 1**) show the existence of a flat rate for all but the first quintile.
- The proportion of plants qualifying for discounts falls in the higher quintiles in Charts 9.5 to 9.7. This is most pronounced in Chart 9.6 (Option 1A – cutting plants).

CHART 9.5 OPTION 1A: PSL/RSL/GHE, LSU

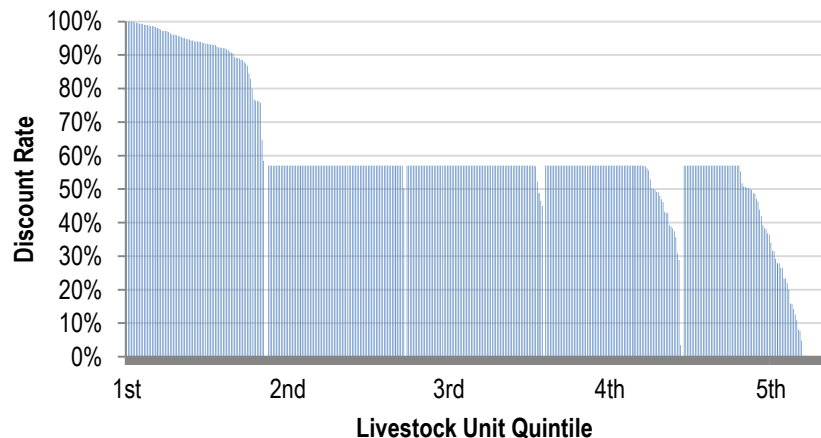


CHART 9.7 OPTION 1B : PSL/RSL/GHE, HOURS

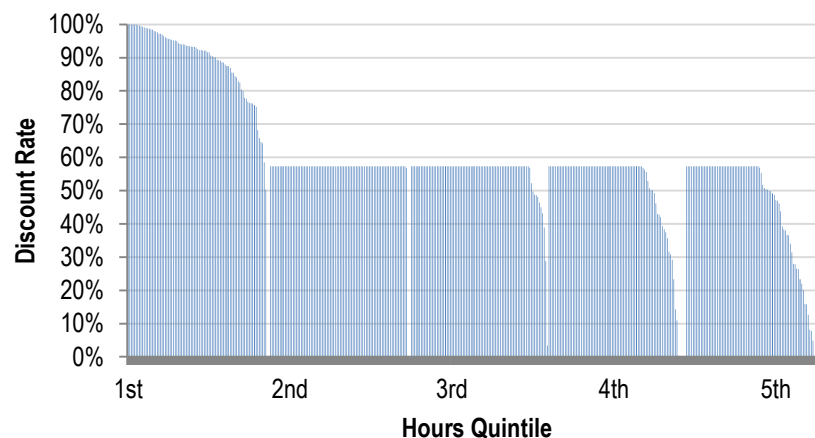


CHART 9.6 OPTION 1A : CUT ONLY, LSU

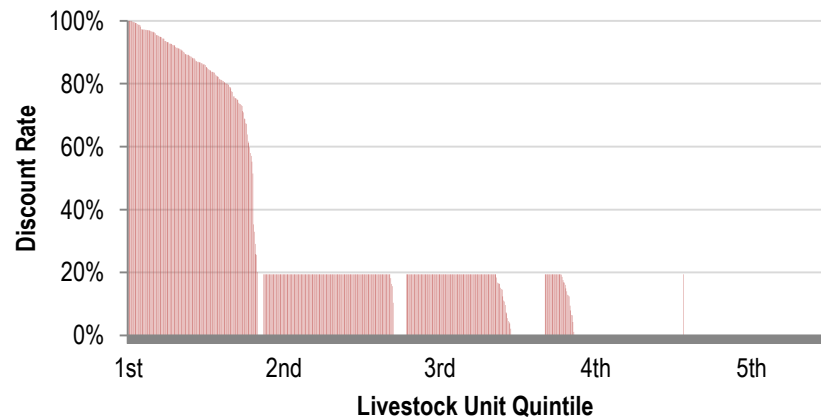
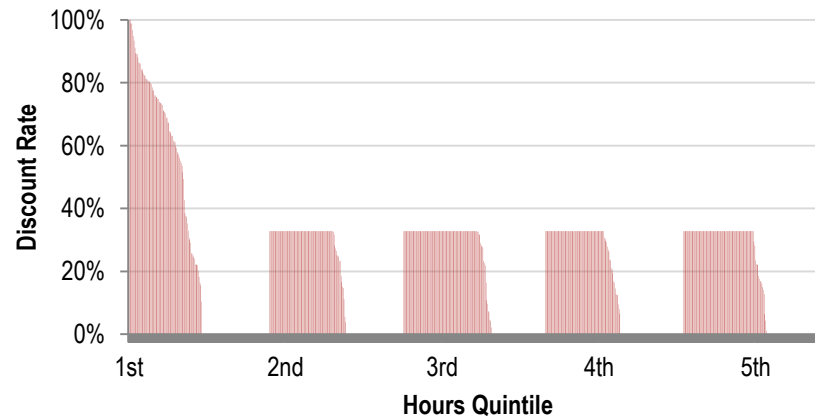


CHART 9.8 OPTION 1B: CUT ONLY, HOURS



TECHNICAL ANNEX

- Charts 9.9 to 9.12 (**Option 2**) show the tapering of discounts for higher quintiles.
- Eligibility is high among GHE, PSL and RSL plants and moderate among cutting plants in Option 2B (Charts 9.9, 9.11 and 9.12).
- 4th and 5th quintile cutting plants in Option 2A (chart 9.10) are broadly ineligible for discounts.

CHART 9.9 OPTION 2A: PSL/RSL/GHE, LSU

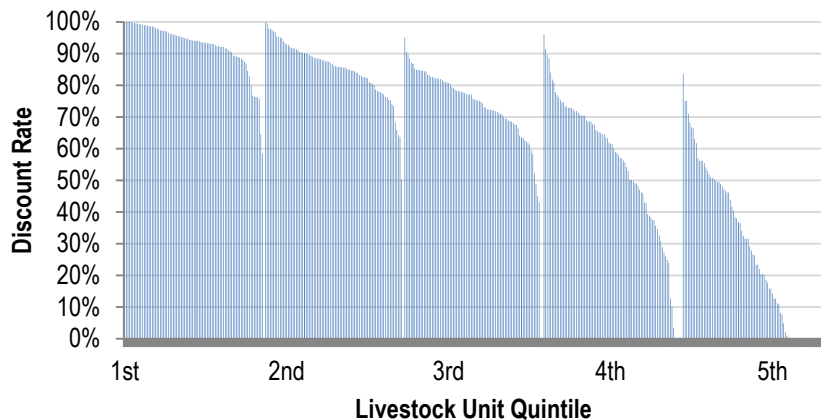


CHART 9.11 OPTION 2B : PSL/RSL/GHE, HOURS

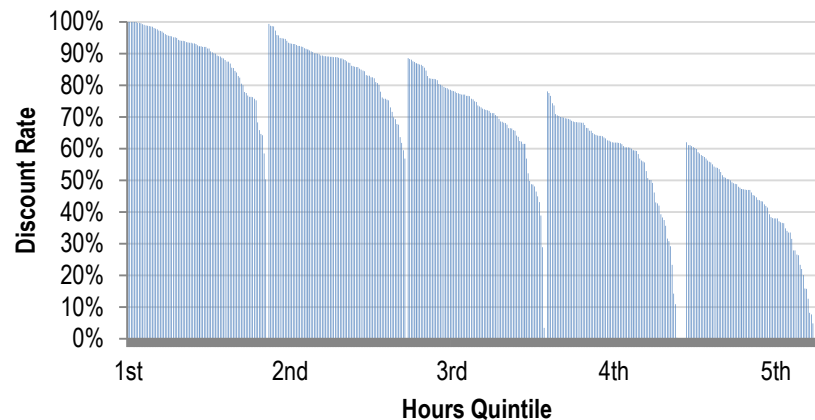


CHART 9.10 OPTION 2A : CUT ONLY, LSU

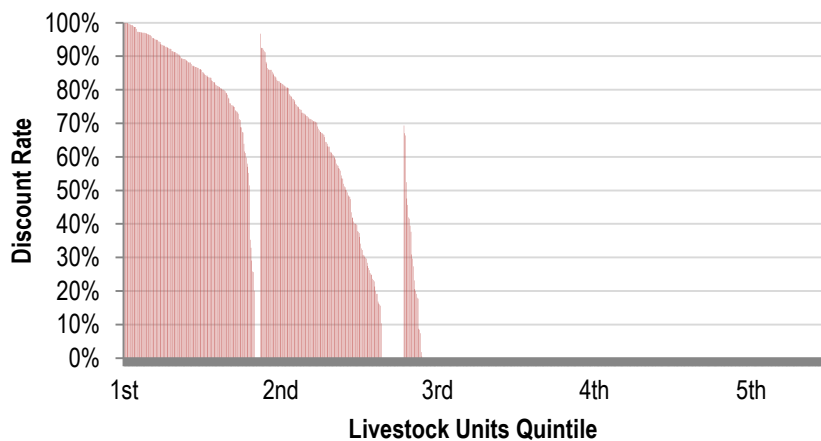
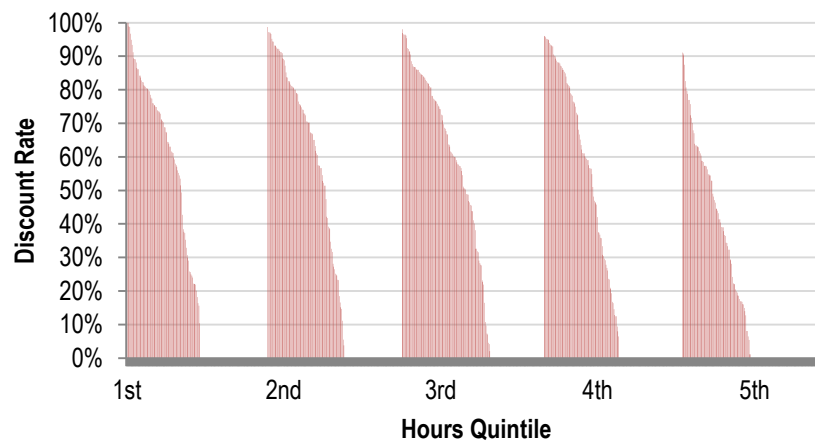


CHART 9.12 OPTION 2B: CUT ONLY, HOURS



TECHNICAL ANNEX

- Charts 9.13 to 9.16 (**Option 3**) show flat-rate discounts applied by livestock units (Option 3A) and inspector hours (Option 3B).
- There is high eligibility among GHE, PSL and RSL plants, moderate eligibility among cutting plants in Option 3B (Chart 9.16), and low eligibility among 4th and 5th quintile cutting plants in Option 3A (Chart 9.14) .

CHART 9.13 OPTION 3A: PSL/RSL/GHE, LSU

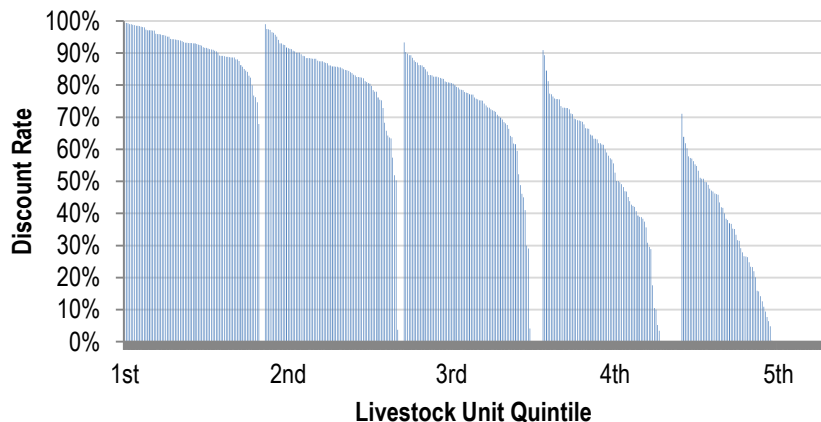


CHART 9.15 OPTION 3B : PSL/RSL/GHE, HOURS

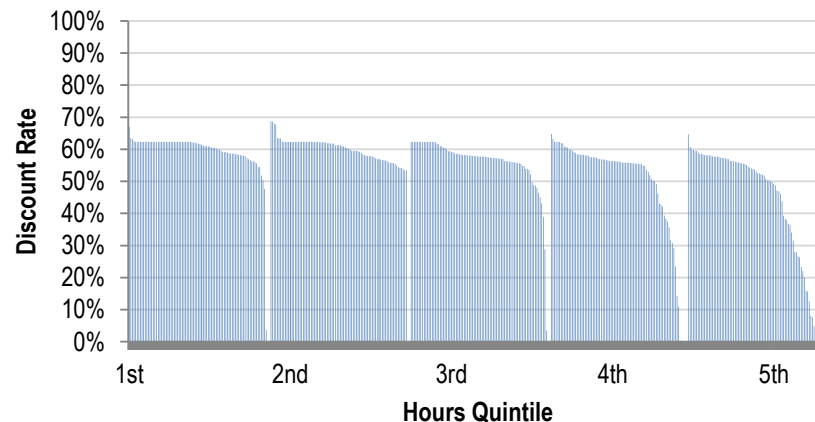


CHART 9.14 OPTION 3A : CUT ONLY, LSU

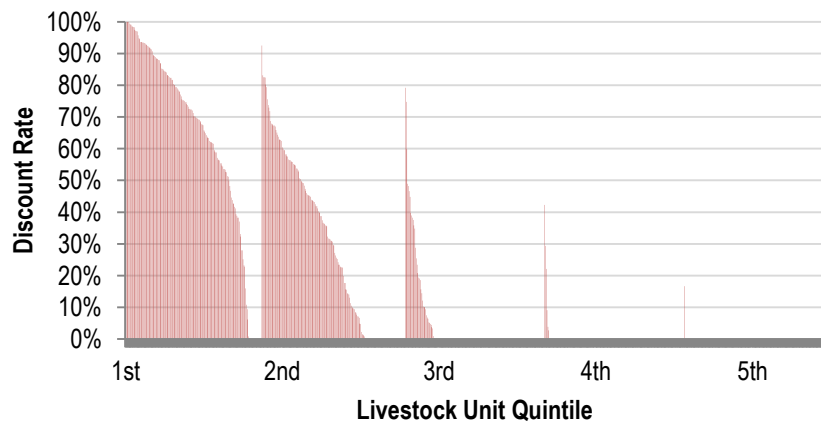
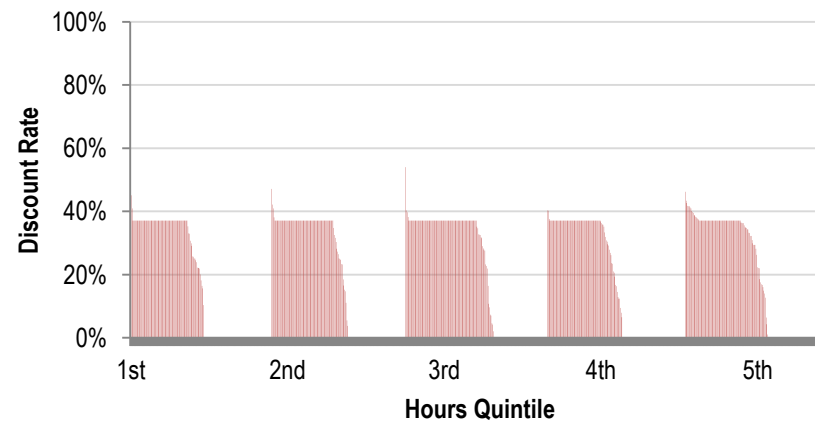


CHART 9.16 OPTION 3B: CUT ONLY, HOURS



TECHNICAL ANNEX

2. METHODOLOGY

2.1 METHODOLOGY - ASSUMPTIONS

GENERAL

- For purposes of the analysis, plants have been split by function i.e. a plant containing both cutting and poultry slaughter functions would be treated as two separate entities.
- 2012/13 data show six instances of a plant being deemed compliant when one function's over-compliance more than compensated for another function's under-compliance with its EU requirements. For example, if a plant's red meat slaughter function pays £100 less than its legal requirement, it may still be deemed compliant if another of its functions, for example cutting, pays in excess of £100 than its EU requirement.
- In these instances the plant's current discounts have been reallocated so that the under-compliant function is compliant with its EU requirement. This adjustment was made to present a more accurate picture of the change from the current system i.e. benchmarking the three proposed options against the current baseline position.

CUTTING PLANTS

- For purposes of the analysis, current discounts have only been ring-fenced for and reallocated to cutting plants. This is due to fundamental differences between cutting plants and slaughterhouses; as neither throughput-based nor inspector hour-based quintiles are directly comparable with other plant types.
- Cutting plants do not process live animals; only process meat that has been inspected at the time of slaughter. This means inspector hours required to oversee cutting operations is significantly lower than slaughter operations.
- Cutting plant throughput is measured in tonnage, which cannot be adequately scaled using Livestock Units (LSUs) in a way that is comparable with slaughterhouse throughput.

TECHNICAL ANNEX

QUINTILES

- Plants have been split into quintiles based on their size. Two measures of size have been used to determine these quintiles - throughput and FSA inspector hours.
- FSA inspector hours is a simple summation of the annual hours of all staff employed by the FSA in conducting meat hygiene inspections. This only includes the operations staff directly involved in inspections.
- Throughput has been measured in Livestock units - an internal measure that standardizes headage counts based on the size and complexity of inspecting a particular species. (see below)

LIVESTOCK UNITS

- Livestock units have been used as a standardized measure of throughput to allow a greater level of comparability between different species.
- Livestock units are calculated by multiplying the raw head count of a species by a constant between zero and one which reflects the time and complexity of inspection relative to an adult bovine, which is one livestock unit. For example, an ostrich is worth 0.33 livestock units.

PLANT INSPECTION ASSISTANTS IN THE POULTRY SLAUGHTER SECTOR

- Plant Inspection Assistant (PIA) allowances enter into the current discounting system in two ways:
 1. Any sum paid towards the employment of PIAs counts towards the EU minimum invoice that is required of the plant.
 2. A different formula is used to calculate the discount that PIA-employing plants receive.
- In this analysis only point 1 is maintained for PIA-employing plants: PIA payments have been counted towards the EU minimum payment, but after this the discounting formulae do not take account of the plant's PIA status.

TECHNICAL ANNEX

2.2 CALCULATION METHODOLOGY

OPTION 1

1. Minimum invoice. Calculated to reflect the minimum level that can be charged at which a plant deemed to be compliant with EU legislation.

2. PIA allowance. When a plant has a PIA allowance and their PIA cost exceeds the EU requirement, they are deemed to be compliant and so do not need to pay a portion of the FSA cost. If PIA costs are less than minima requirements then the minimum invoice was calculated as the amount in excess of the PIA that is needed to bring the sum of the minimum invoice and the PIA up to the EU requirement.

3. Discount to exempt plants. In this instance, first quintile operators (the smallest 20% of plants by livestock units or hours) were given exemptions from paying for inspections as far as is legally possible. The minimum level that these plants should pay was calculated as set out above (minimum invoice). Hence the discount is given by the difference between the FSA cost and this minimum invoice level.

4. Discounts to other quintiles. Other quintiles are required to pay back the full FSA inspection cost minus a flat discount rate of $x\%$. If this discounted amount falls below the minimum invoice calculated, then a lower percentage discount ($y < x$) is awarded to the plant to conform to the legal requirement.

If the minimum invoice is equal to the full FSA cost (because the FSA cost is lower than the minimum throughput amount), then it is not possible to allocate a discount, because anything lower than the full FSA cost will then not be legal.

5. The flat discount rate, x , was then calculated to ensure that the discount pot was fully reallocated. There is a different discount rate for cutting plants and other plant types; a different flat rate discount depends on whether hours or throughput quintiles are used.

TECHNICAL ANNEX

OPTION 2

- The calculation of Option 2 resembles that of a banded progressive income-tax system. There are five bands, each with a different discount rate. A plant falling half-way up the second quintile would receive the first quintile discount rate for everything that falls into the first quintile, and the second quintile discount rate for the remainder.
- Since it is a plant's FSA cost that needs to be discounted, hours and livestock unit quintile boundaries were mapped onto FSA cost quintile boundaries.
- Due to the low correlation between livestock units and FSA cost among cutting plants, such mapping was not possible for **Option 2A – Cutting Plants**, and instead livestock units were multiplied and scaled by a constant, so that the same schedule of discounts applied to GHE/PSL/RSL plants could be applied to cutting plants.

The following constraints were used to calculate the schedules of discounts for Option 2 :

1. *1st quintile plants are given a 100% discount, if this conforms to the minimum invoice requirement.*
 2. *The system of gradations has even spacing between the discount rates for each quintile. For example, if the second quintile discount rate was 80%, then the third quintile discount rate would be 60%.*
 3. *There cannot be a negative discount rate. If the 'even spacing' constraint (constraint 2) gives a negative discount rate then the discount is set to zero. For example, starting with 100% for 1st quintile, if the discount rate fell by 30% for each successive quintile then this would give a discount rate of -20% for 5th quintile plants. In such a case, the 5th quintile discount rate would be set to zero.*
 4. *The system of gradations must use 100% of the available discount pot for cutting plants or for GHE/PSL/RSL plants respectively.*
- This set of constraints allows the space between the discount rates to be varied until the all of the available funds in the discount pots are exhausted.
 - There are different sets of discount rates dependent on whether hours or LSU quintiles are used.

TECHNICAL ANNEX

OPTION 3

- As per the other options, the lower bound for invoices is the minimum legal invoice. The upper bound is the FSA full cost, since plants cannot be charged more than the cost of providing meat inspections.
- The precise location of a plant's invoice within these bounds was calculated by multiplying a flat rate (which differs for cutting plants and non-cutting plants) by the plant's livestock units (Option 3A) or inspector hours (Option 3B).
- Flat rates were chosen to fully utilize the discount pot.

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