4. (1.5 points)

Given the following workers compensation information for an employer:

Ratio of Wage to the State Average Weekly Wage (SAWW)	Percentage of Workers
0.50	6%
0.85	18%
1.00	31%
1.45	26%
1.90	17%
2.20	2%

- Minimum benefit = 45% of State Average Weekly Wage (SAWW).
- Current Compensation Rate = 80% of Worker's Pre-Injury Wage.
- Proposed Compensation Rate = 85% of Worker's Pre-Injury Wage.
- Current Maximum Benefit = 130% of SAWW.
- Proposed Maximum Benefit = 115% of SAWW.

a. (1 point)

Assuming no changes to claim frequency, calculate the combined percent impact of both the compensation rate and maximum benefit changes to the average weekly expected claim benefit.

b. (0.5 point)

Briefly describe a potential indirect effect of the maximum benefit changes on:

i. Frequency
ii. Duration

CONTINUED ON NEXT PAGE

QUESTION 4

TOTAL POINT VALUE: 1.5 | **LEARNING OBJECTIVE: A4**

SAMPLE ANSWERS

Part a: 1 point

Accepted Answer 1

(1) Ratio of Wage to Average Weekly Wage	(2) Percentage of Workers	(3) Current Benefit Rate	(4) Proposed Benefit Rate
0.50	6%	0.45	0.45
0.85	18%	0.68	0.7225
1.00	31%	0.8	0.85
1.45	26%	1.16	1.15
1.90	17%	1.3	1.15
2.20	2%	1.3	1.15
(5) Total		0.946	0.93805
(6) Change			-0.8%

(3) = 0.80*(1), limited to minimum of 0.45 and maximum of 1.3
(4) = 0.85*(1), limited to minimum of 0.45 and maximum of 1.15
(5) = Sumproduct of (2), weighted average benefit rate
(6) = percentage change in benefits

Accepted Answer 2

Current:
Min wage = 45% ÷ 80% = 56.25%
Max wage = 130% ÷ 80% = 162.5%
Average weekly expected clam benefit = 45% × 6% + 80% × (85%×18% + 100%×31%+145%×26%)
+ 130% × (17%+2%)
= 94.6%

Proposed:
Min wage = 45% ÷ 85% = 52.94%
Max wage = 115% ÷ 85% = 135.3%
Average weekly expected clam benefit =
45% × 6% + 85% × (85%×18% + 100%×31%) +115% × (26%+17%+2%)
=93.805%

The change = (93.805% - 94.6%) ÷ 94.6% = -0.84%

Accepted Answer 3

Curr benefit = .06 × .45 + .18 × .85 × .80 + .31 × 1 × .80 +.26 × 1.45 × .80 + .19 × 1.3
=.946

New benefit = .06 × .45 + .18 × .85 × .85 + .31 × 1 × .85 + (.26 + .17 + .02) × 1.15
=.93805

Percent impact = .93805/.946 – 1 = .9916 – 1 = -0.84%

Accepted Answer 4

Current Comp Rate	Proposed
.45	.45
.68	.7225
.8	.85
1.16	1.15
1.3	1.15
1.3	1.15

Current average = .946
Proposed average = .93805
Sum product of Comp Rate & % of workers
.93805 / .946 – 1 = -0.84%

Part b: 0.5 point

Accepted Answer 1

Frequency: With a lower maximum benefit, workers may be less inclined to file claims which would decrease frequency.

Duration: Since more workers will now be subject to the maximum, and the maximum is lower, affected workers may be more likely to return to work sooner. This would decrease duration.

Accepted Answer 2

Frequency: Frequency will decrease as high-paid employees will have less motivation to file a claim.

Duration: Duration will decrease because the lower maximum will give high-paid workers a financial incentive to return to work more quickly than under the 130% maximum.

Accepted Answer 3

Frequency: Workers who would have reduced benefits (those making at least 1.45 of the SAWW) may be less likely to file a claim, so could reduce frequency.

Duration: Workers with reduced benefits from before the changes might return to work sooner.

EXAMINER'S REPORT

Overall, candidates scored well on both parts a & b. Candidates were expected to be able to calculate the direct impact of benefit changes, as well as briefly explain the indirect impact from claimant's behavioral changes.

Part a

Overall, candidates did well on part a.

Candidates are expected to demonstrate their understanding by illustrating how each subgroup of workers are impacted by the change in both the compensation rate and maximum benefit cap, as well as using the correct weights to compute the overall impact.

A common mistake is that in the calculation of expected benefit level for the middle range, some candidate simply multiplied 0.85 (or 0.8) by the total % of the middle range without utilizing the information by subgroups provided in the question.

Linear interpolation is not necessary, but was given credit to the extent that the calculations were correct.

Part b

Overall, candidates did well on part b.

Candidates are expected to provide a brief reason for the "increase"/"decrease" answer.

Candidates were expected to discuss in greater details (e.g., Only high wage earners are impacted by the benefit decrease) when assuming the compound effect of changes in both compensation rate and max benefit level.

The most common mistake was to explain the indirect effect of the increase in compensation rate. Part b specifically asks for indirect effect of change in maximum benefit level. Another common mistake is that candidates conclude there is no indirect effect on frequency.