

Econ 132 Fall 2008 FIRST MIDTERM EXAM (A): SOLUTIONS Cameron

Version A

1.(a) There was an unintentional mistake on this exam as I did not draw all the necessary regions. We move from (Q₁₀₀, P₁₀₀) to (Q₅₀, P₅₀).

(i) Change in health expenditure is $P_{100} \times (Q_{50} - Q_{100})$

This was not given in the diagram so everyone gets full credit for (a) (i).

(ii) Moral hazard loss is C.

(b) (i) True **(ii)** False

(c) Elasticity = $\frac{(3000 - 2000) / [(3000 + 2000)/2]}{-(0 - 20) / [(0+20)/2]} = \frac{1000/2500}{20/10} = \frac{0.4}{2} = 0.2$.

2.(a) True Around \$7,500 per capita.

(b) False Both increased in \$ and as % of GDP (from 14% to 16+%).

(c) True Combined 34% + 22% = 56%.

(d) True payments through insurance – private, Medicare, Medicaid.

(e) False Private-insurance was established in the 1930's

(f) False Only around 40% of uninsured are young adults.

3.(a) Expected value = $0.8 \times 2,000 + 0.2 \times 12,000 = \underline{\$4,000}$.

Individual variance = $0.8 \times (2,000 - 4,000)^2 + 0.2 \times (12,000 - 4,000)^2$
 $= 0.8 \times 4,000,000 + 0.2 \times 64,000,000 = 16,000,000$

(b) Variance of group average = $16,000,000/100 = \underline{160,000}$.

Standard deviation of average loss = $\sqrt{160,000} = \underline{\$400}$.

95% confidence interval = $4,000 \pm 2 \times 400 = 4,000 \pm 800 = (\$3,200, \$4,800)$

(c) Medicare is for over 65 years old while Medicaid is for poor of all ages.

Medicare is funded by social security taxes whereas Medicaid is from general revenue.

Medicare is entirely federal whereas Medicaid is state/federal and administered by states.

Medicare does not cover long-term care whereas Medicaid does (if poor).

4.(a)-(b) See over.

(c) The variance of the loss (the amount of risk)

The amount of risk-aversion (curvature of the utility function).

5.(a) $t = (0.80 - 0.72) / \sqrt{0.04^2 + 0.03^2} = 0.08 / 0.05 = 1.6$.

Do not reject H₀: means are equal, as $t < 1.96$.

Conclude that no statistically significant difference.

(b) PPO: Preferred provider organization

HMO: Health Maintenance Organization

Essential difference is HMO has gatekeeper. Or can say that PPO can get care outside network at higher copay

(c) Firms providing employer-provided insurance pushed for managed care to reduce health insurance premia (or at least the rate of growth in insurance premia).

Multiple choice

Question	1	2	3	4	5	6
Answer	c	a	b	c	d	d

Scores out of 36

Curve (Indication only: Course Grade is based on Total Score!)

75 th percentile	29.5 (82 %)	(Ave GPA 2.63 on this curve)	C+	26 and above	
Median	28 (78 %)	A	31 and above	C	25 and above
25 th percentile	25 (69 %)	A-	30 and above	C-	24 and above
		B+	29 and above	D+	23 and above
		B	28 and above	D	22 and above
		B-	27 and above	D-	21 and above

4. Georges utility function is given

(a) Expected utility $E[U(x)] = 0.5 \times U(100) + 0.5 \times U(200)$

(b) Utility of expected outcome $U(E[x]) = U(0.5 \times 100 + 0.5 \times 200) = U(150)$

