

5. (a) As a result of the increase in surveillance, the jewelry stores (or their insurance companies) receive benefits of \$1,000,000, taxpayers incur costs of \$500,000, and the jewelry robbers incur costs of \$600,000.

The answer to this question depends on whether the jewelry robbers are given standing. If the robbers are not given standing, which would appear to be the more appropriate approach, society enjoys a \$500,000 net benefit from the surveillance project:

$$\$1,000,000 - \$500,000 = \$500,000.$$

On the other hand, if the robbers are given standing, society suffers a \$100,000 net loss:

$$\$1,000,000 - \$500,000 - \$600,000 = -\$100,000.$$

- (b) We can summarize the provided information as follows:

	Million \$
Regulatory enforcement	40
Time cost to doctors	220
Convenience cost to patients	180
Total U.S. Costs	440
Avoided U.S. resistance costs	350
Better drug compliance	70
Total U.S. Benefits	420
U.S. Net Benefits	-20

Avoided non-U.S. resistance costs 280

Hence, we see that net benefits to the U.S. are $-\$20$ million. So the program does not generate positive net benefits from a national perspective. The fraction of benefits accruing in the rest of the world that would have to be counted for the program to have positive net benefits is calculated as follows:

$$\frac{20 \text{ million}}{280 \text{ million}} = 0.07142 \text{ or } 7.142\%$$