of ~-1.5 δ% in V, provided all other parameters are held constant. This case and others justify the statement in the text that the elasticity of V with respect to r is ~1-2.

As a summary of how elasticities are estimated, Figure A1 starts with the standard case r = 0.5, K = 5.0, n = 10, k = 3, and indicates the percentage change in V resulting from (a) a 20% decrease in r, (b) a 20% increase in r, (c) a 20% decrease in K, (d) a 20% increase in K, (e) a 33.33% increase in k, and (f) a 33.33% decrease in k.

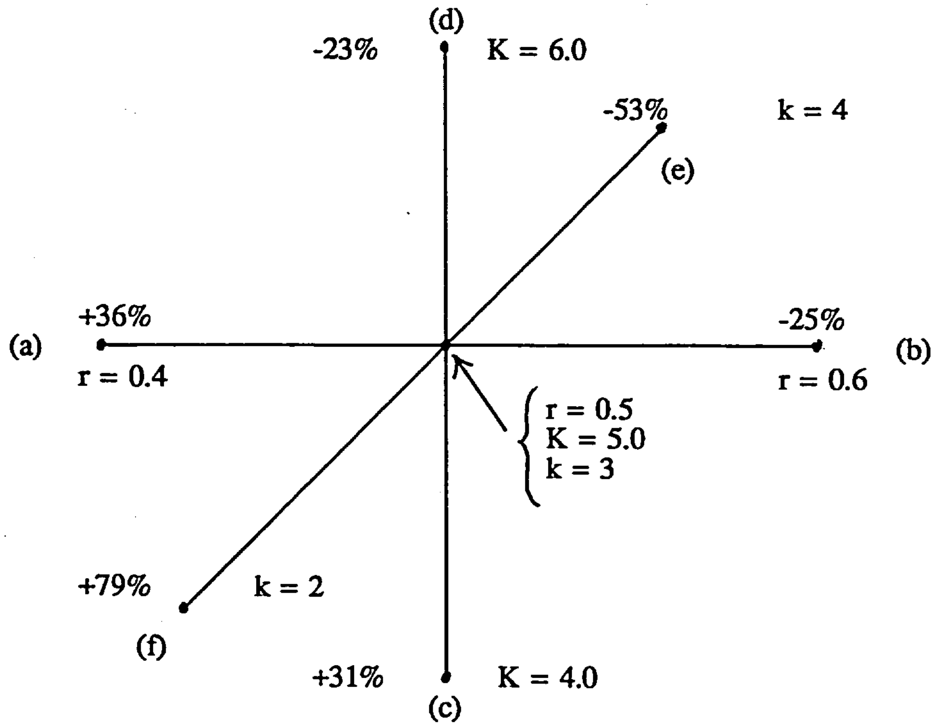

Figure A1: Effects on $V_{10,3}$ of changes in r, K and k, when r = 0.5 and K = 5.0

Based on the investigation of many cases, it was estimated that the elasticity of V with respect to K is ~1-2, and with respect to k ~ 1-3. It should also be noted that the elasticity of V with respect to either r or k tends to increase as r decreases; the elasticity of V with respect to k tends first to decrease, then to increase as k increases.

One potential problem with the model in (A1) is the requirement that the quantity rq be meaningful as a probability. This forces the restriction r < 1, which is equivalent to the assumption that R would never consider any violation level q which, if inspected, would be detected for certain. To explore more general models, consider first the detection probability function $d_r(q)$, defined by

$$d_r(q) = \min\{rq, 1\} \qquad 0 < q < 1$$

This relation is illustrated in Figure A2, for the case where r > 1.