Ammonia, NH_3, is an industrially-important chemical. It is produced on an industrial scale by the Haber process. The reaction for the Haber process is shown below.

$$N_2(g) + 3\,H_2(g) \rightleftharpoons 2\,NH_3(g) + 92\ kJ\ mol^{-1}$$

21. What is the immediate effect of increasing the temperature on the rates of the forward and reverse reactions in the Haber process?

(a) The rates of the forward and reverse reactions increase equally.
(b) The rates of both reactions increase while the rate of the reverse reaction increases more than the rate of the forward reaction.
(c) The rates of both reactions increase while the rate of the forward reaction increases more than the rate of the reverse reaction.
(d) The rate of the forward reaction remains unchanged while the rate of the reverse reaction increases.