Numerical Example (National Income)

Assume that GDP (Y) is 1,200. Consumption (C) is given by the equation \( C = 125 + 0.75(Y - T) \). Investment (I) is given by the equation \( I = 200 - 10r \), where \( r \) is the real interest rate. Taxes (T) are 100 and government spending (G) is 150.

(A) What are the equilibrium values of \( r \)?

(B) What are the equilibrium values of \( C \) and \( I \)?

(C) What are the values of private saving, public saving, and national saving?

(D) Now assume government purchases increase by 50 to 200. What are the new equilibrium values of \( C \), \( I \), and \( r \)?

(E) Now assume that we start again at \( G=150 \) and taxes are reduced by 20 to 80. What are the new equilibrium values of \( C \), \( I \), and \( r \)?

(F) Finally, suppose that a technological breakthrough increases investment demand such that investment rises by 100 at each interest rate. What are the new equilibrium values of \( C \), \( I \), and \( r \)? (assume that \( G=150 \) and \( T=100 \))
Answers

(A) $r = 10$
(B) $C = 950$ and $I = 100$
(C) Private saving = 150, public (government) saving = -50, and national saving = 100
(D) $C = 950$, $r = 15$, and $I = 50$
(E) $C = 965$, $r = 11.5$, and $I = 85$
(F) $C = 950$, $r = 20$, and $I = 100$