$$P > 0, \; S > 0$$

$$\frac{dP}{dt} \quad P(0.5 - 0.5P - 0.01S)$$

If $P > 1$: $\frac{dP}{dt} > 0 \; \longrightarrow$

If $P < 1$: $\frac{dP}{dt} < 0 \; \longleftarrow$

$$-\frac{dS}{dt} = S(-0.3 + 0.01S)$$

$$\frac{dS}{dt} < 0 \; \downarrow$$