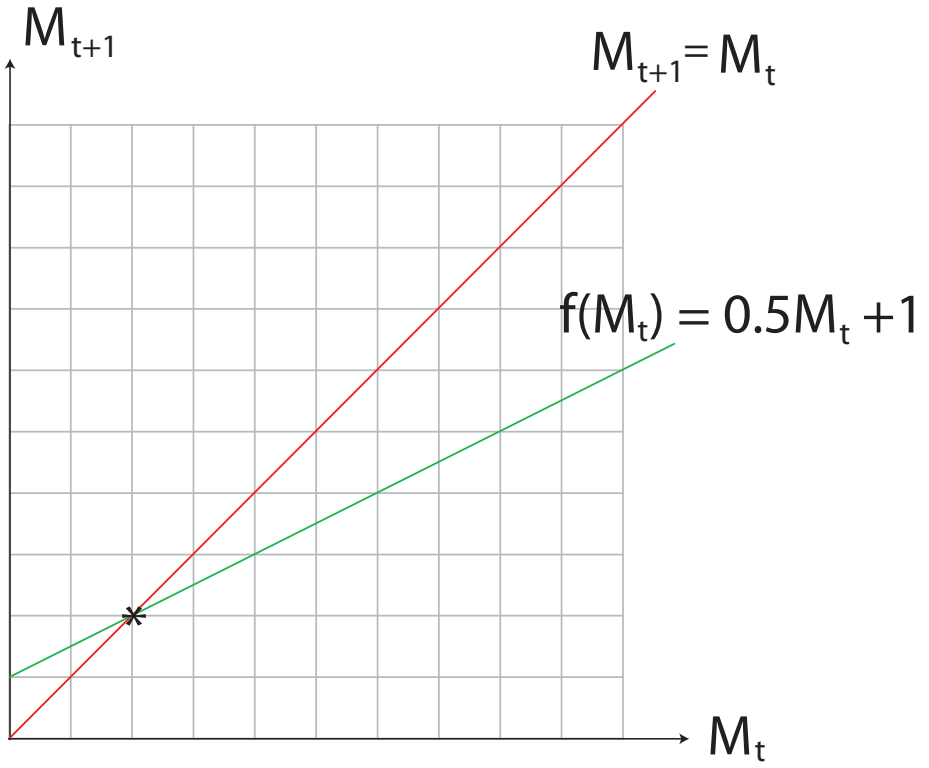
Graphical Criterion for Stability of Equilibria for a DTDS with an Increasing Updating Function

- An equilibrium is **stable** if the graph of the (increasing) updating function crosses the diagonal from **above to below**.

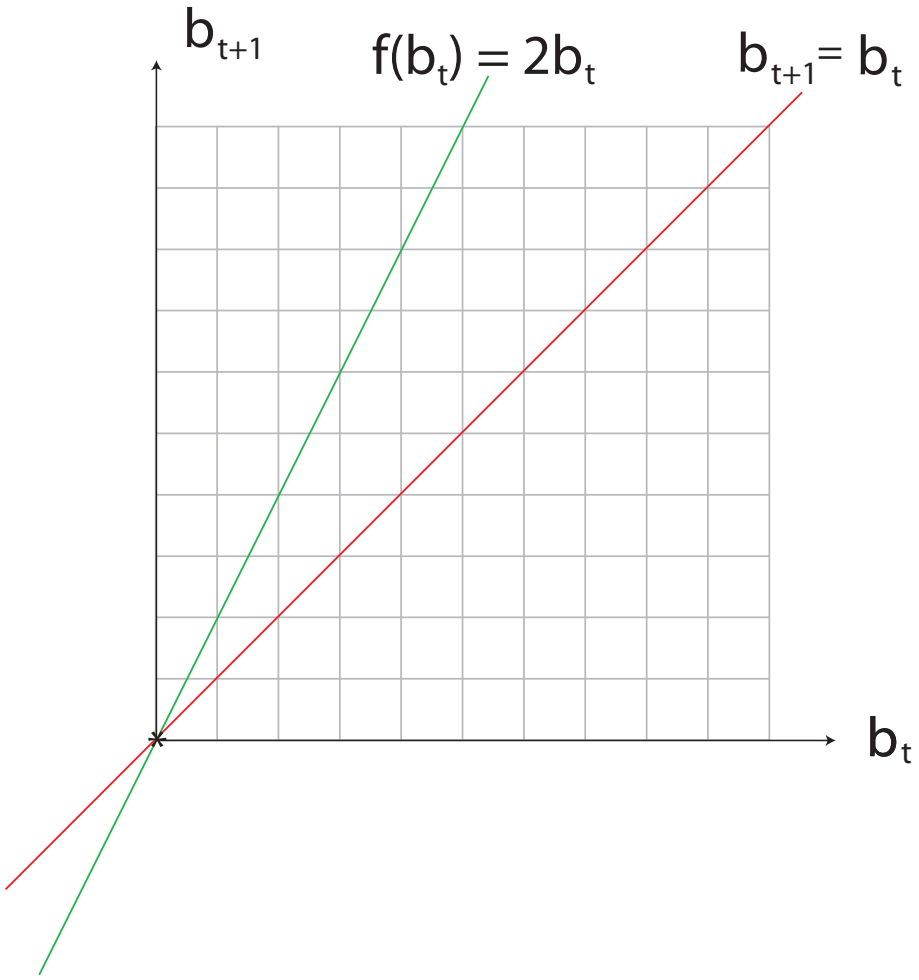


Example:

$$M_{t+1} = \frac{1}{2} M_t + 1$$

Graphical Criterion for Stability of Equilibria for a DTDS with an Increasing Updating Function

- An equilibrium is **unstable** if the graph of the (increasing) updating function crosses the diagonal from **below to above**.



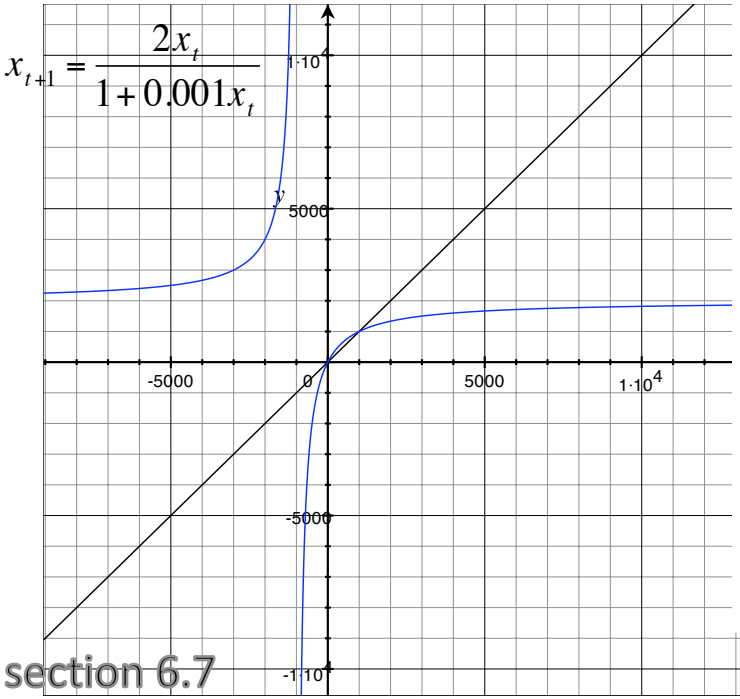
Example:

$$b_{t+1} = 2b_t$$

Graphical Criterion for Stability of Equilibria for a DTDS with an Increasing Updating Function

Example:

DTDS for a limited population



Zoom In