Tobinのqモデル，簡単バージョン　　塩路．

$$
\begin{cases}
Y = F(K) \\
\Pi = F(K) - I - \frac{\psi}{2} I^2 \\
V_0 \equiv \sum_{t=0}^{\infty} \frac{1}{(1+r)^t} \left(F(K_t) - I_t - \frac{\psi}{2} I_t^2 \right) \\
K_{t+1} - K_t = I_t
\end{cases}
$$

$$
\mathcal{L} \equiv \sum_{t=0}^{\infty} \frac{1}{(1+r)^t} \left(F(K_t) - I_t - \frac{\psi}{2} I_t^2 + q_t (I_t - K_{t+1} + K_t) \right)
$$

$$
(1+r)^t \frac{\partial \mathcal{L}}{\partial I_t} = -1 - \psi I_t^2 + q_t = 0 \quad \cdots\cdots ①
$$

$$
(1+r)^t \frac{\partial \mathcal{L}}{\partial K_{t+1}} = -q_t + \frac{1}{1+r} \left(F'(K_{t+1}) + q_{t+1} \right) = 0 \quad \cdots\cdots ②
$$

ここで，$F(K) = -\frac{A}{2} K \cdot (K - 2\bar{K})$ とする．

$$
① \Rightarrow K_{t+1} = K_t + \frac{1}{\psi} (q_t - 1) \quad \cdots\cdots ③
$$

$$
② \Rightarrow AK_{t+1} - B - q_{t+1} = -(1+r) q_t \quad \cdots\cdots ④ \quad (\text{ただし } B \equiv A\bar{K})
$$

$$
\begin{bmatrix} \quad & \quad \\ \quad & \quad \end{bmatrix} \cdot \begin{bmatrix} K_{t+1} \\ q_{t+1} \end{bmatrix} = \begin{bmatrix} \quad & \quad \\ \quad & \quad \end{bmatrix} \cdot \begin{bmatrix} K_t \\ q_t \end{bmatrix} + \underbrace{\begin{bmatrix} \quad \\ \quad \end{bmatrix}}_{\text{定数項}}
$$

という形に直すと？