$$\lambda = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$$

$$\textit{then } \theta_\lambda = \frac{P(\omega_2)}{P(\omega_1)} = \theta_a$$

$$\textit{if } \lambda = \begin{pmatrix} 0 & 2 \\ 1 & 0 \end{pmatrix} \textit{then } \theta_\lambda = \frac{2P(\omega_2)}{P(\omega_1)} = \theta_b$$