Probabilistic consequence function: $P(p|\theta,a)$

Probability distribution: $P(x|\theta)$

Main set
- Payoffs: $p=\{p_0,p_1,\ldots,p_7\}$
- States of nature: $\Theta = \{\theta_0, \theta_1\}$
- Observations: $X=\{x_0,x_1,\ldots,x_7\}$
- Actions: $A = \{a_0, a_1\}$

Neyman-Pearson decision rules

Risk set: risk function

$$R_d(\theta_j) = -\sum_{j=0}^{7} P(x_j|\theta_j) \omega(\theta_j,d(x_j))$$

$\omega(\theta_j,d(x_j))$

Risk function

Figure 1: Basic schematic model of Decision Theory applied herein.