$c, c(x)$ Variable cost of production; cost function. Used in economics and overbooking models

$C_i, \mathbf{C}$ Initial capacity of resource i; vector of initial capacities. Also used to denote the j^{th} *complete set,* $C_j = \{1, \ldots, j\}$.

$d_j, \mathbf{d}, d(p), \mathbf{d}(\mathbf{p})$ Demand (deterministic or mean) for product j; vector of demands. A demand function depending on price p; vector demand function.

$D_j, \mathbf{D}$ Demand (random variable) for product j; vector of demand random variables.

$h_{ij}, \mathbf{h}$ Cost parameters or vector of cost parameters in an overbooking models.

i Generally indexes resources but also used as a generic index.

j Generally indexes products but also used as a generic index.

$J(p), J(v)$ The marginal revenue as a function of price; the virtual value of a buyer with value v.

k Capacity cost in economics models; generic integer variable.

m The number of resources; generic integer variable.

n The number of products; generic integer variable.

N Population size or market potential in a pricing or an auction model.

$\mathcal{N}$ Denotes the set $\{1, 2, \ldots, n\}$ (e.g., set of n choice alternatives).

$p_j(t), \mathbf{p}(\mathrm{t}), p_j, \mathbf{p}$ Price of product j at time t or vector of prices at time t; static price of product j; vectors of static prices.

$q_j, q_t, \mathbf{q}$ The probability that a customer shows up (e.g., the probability that class j does not cancel); vectors of probabilities.

$R(v)$ Expected revenue in an auction for buyer with value v.

S, S_k A subset of product classes or alternatives in a choice model; also used to represent a sum of random variables.

t Used to index time, either in discrete or continuous time.

T The number of periods in a discrete-time problem or the length of the horizon in a continuous-time problem. Also used to denote a generic set.

$u_j, \mathbf{u}, \mathbf{u}(\mathrm{t}), u(x)$ Control variables in a dynamic program or other optimization problem, most often an accept or deny decision or a quantity decision. Also, u_j is used to denote the mean of a random-utility U_j in a random-utility model or to denote a utility function in economics models as in $u(x)$ is the utility of x.

$U_j, \mathbf{U}$ Random utility (random variable); vector of random utilities.

$v_j, \mathbf{v}$ Reservation price (private value) of customer j; vector of reservation price (private values).

$V_j(x), V_t(x)$ Optimal value function.

$V_t^M(\mathbf{x})$ A given approximation M to the optimal value function (e.g., $V_t^{DLP}(x)$ is the approximation of the value function produced by the deterministic linear program (DLP) model).

$x_i, \mathbf{x}$ Capacity variable; vector of capacities. For example, the remaining capacity of resource i in a dynamic program or the quantity of capacity chosen by firm i. Also used as the decision variable in overbooking models, where it represents the