$$\{Y : p_j(Y) \geq d_j\}$$

$$= \{Y : p_j(Y) = p_j \text{ and } p_j \in (d_{j,1}, 1]\}$$

$$= \{Y : Y \in S(p_j) \text{ and } p_j \in (d_{j,1}, 1]\}$$

Now, Now, $p_j \geq p_j$

$Y' \geq Y$ then given Z

$F_Z(Y') \geq F_Z(Y)$ as F_Z is a distribution function

NTS $S(p_j)$ increasing in p_i

if $Y \in S(p_i)$, $Y' \geq Y$,

need to use that solution is > 0 then $Y' \geq Y$.

c is known

$Y_i' = F_{Z_{(i)}}^{-1}(p_i')$ $\quad Z_j = Y_j' - cY_i'$ $\quad j \neq i$

and $Z_i = 0$ (due to cancellation)

$Y_i' = F_{Z(Y)}^{-1}(p_i')$ $\quad p_i' = F_{Z(Y)}(Y_i')$