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$t=1, 2, \dots, 12$  : t  
 $l=1, 2, \dots, 6$  : l  
 $i=1, 2, \dots, 28$  :  $R1_{ki}$   
 $k=1, 2, \dots, 28$  :  $R2_{li}$   
 $i=1, 2, \dots, 28$  :  $R3_{ij}$   
 $j=1, 2, \dots, 28$  :  $C_{ki}$   
 $i=1, 2, \dots, 28$  :  $C_{li}$   
 $l=1, 2, \dots, 6$  :  $C_{ij}$   
 $i=1, 2, \dots, 28$  :  $d1_{ki}$   
 $j=1, 2, \dots, 28$  :  $d2_{li}$   
 $i=1, 2, \dots, 28$  :  $d3_{ij}$   
 $k=1, 2, \dots, 28$  :  $X_{kit}$   
 $l=1, 2, \dots, 6$  :  $D_{lit}$   
 $i=1, 2, \dots, 28$  :  $y_{ijt}$   
 $k=1, 2, \dots, 28$  :  $P_{kt}$   
 $t=1, 2, \dots, 12$  :  $IMP_{lt}$   
 $j=1, 2, \dots, 28$  : j

$$\begin{aligned}
 & \text{Min} \sum_{k=1}^K \sum_{i=1}^I (R1_{ki} + C_{ki}) d1_{ki} X_{kit} + \\
 & \sum_{k=1}^K \sum_{i=1}^I (R2_{ki} + C_{li}) d2_{li} D_{lit} + \sum_{i=1}^I \sum_{j=1}^J (R3_{ij} + C_{ij}) d3_{ij} y_{ijt} \\
 \text{ST :} & \\
 & 1. \sum_{i=1}^I X_{kit} = P_{kt} \\
 & 2. \sum_{i=1}^I D_{lit} = IMP_{lt} \\
 & 3. \sum_{i=1}^I y_{ijt} = DEM_{jt} \\
 & 4. E_{it} + \sum_{k=1}^K X_{kit} + \sum_{l=1}^L D_{lit} \leq Stor_{it} \\
 & 5. E_{it} + \sum_{k=1}^K X_{kit} + \sum_{l=1}^L D_{lit} \geq \sum_{j=1}^J y_{ijt} \\
 & 6. X_{kit}, D_{lit}, y_{ijt} \geq 0
 \end{aligned}$$

$$C = a + b/d$$

) t j :DEM<sub>jt</sub>  
(  
:E<sub>it</sub>  
( )  
) t i :Stor<sub>it</sub>  
(

d (

K+L+J+2I

(K+L+J+1)I

(3K+3L+3J+2)I +K+L+J

$$C = 0.006 + 2193/d$$

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