ADDED MINIMUM VALUES

x's replaced by z's

$$z_{10} = b_1 - min_{10} - (1+r_1)^{-1} min_{11} - (1+r_1)^{-2} min_{12} - (1+r_1)^{-3} min_{13} - (1+r_1)^{-1} z_{11} - (1+r_1)^{-2} z_{12} - (1+r_1)^{-3} z_{13}$$

$$z_{20} = b_2 - min_{20} - (1+r_2)^{-1} min_{21} - (1+r_2)^{-3} min_{22} - (1+r_2)^{-3} min_{23} - (1+r_2)^{-1} z_{21} - (1+r_2)^{-2} z_{22} - (1+r_2)^{-3} z_{23}$$

X_{10} & X_{20} with z's added

$$X_{10} = b_1 - (1+r_1)^{-1} min_{11} - (1+r_1)^{-2} min_{12} - (1+r_1)^{-3} min_{13} - (1+r_1)^{-1} z_{11} - (1+r_1)^{-2} z_{12} - (1+r_1)^{-3} z_{13}$$

$$X_{20} = b_2 - (1+r_2)^{-1} min_{21} - (1+r_2)^{-2} min_{22} - (1+r_2)^{-3} min_{23} - (1+r_2)^{-1} z_{21} - (1+r_2)^{-2} z_{22} - (1+r_2)^{-3} z_{23}$$

good

$$X_{11} = min_{11} + z_{11}$$
$$X_{12} = min_{12} + z_{12}$$
$$X_{13} = min_{13} + z_{13}$$
$$X_{21} = min_{21} + z_{21}$$
$$X_{22} = min_{22} + z_{22}$$
$$X_{23} = min_{23} + z_{23}$$

$$a = b_1 + b_2 - p_0 - (1+r_1)^{-1} min_{11} - (1+r_1)^{-2} min_{12} - (1+r_1)^{-3} min_{13} - (1+r_2)^{-1} min_{21} - (1+r_2)^{-2} min_{22} - (1+r_2)^{-3} min_{23}$$

$$- (1+r_1)^{-1} z_{11} - (1+r_1)^{-2} z_{12} - (1+r_1)^{-3} z_{13} - (1+r_2)^{-1} z_{21} - (1+r_2)^{-2} z_{22} - (1+r_2)^{-3} z_{23} - y_0$$

$$y_1 = p_1 - min_{11} - min_{21} - z_{11} - z_{21}$$
$$y_2 = p_2 - min_{12} - min_{22} - z_{12} - z_{22}$$
$$y_3 = p_3 - min_{13} - min_{23} - z_{13} - z_{23}$$

complex ⇒ $-c = -(X_{10} + X_{11} + X_{12} + X_{13} + X_{20} + X_{21} + X_{22} + X_{23})$

complex ⇒ $-w = (-a \text{ above})$

replaced by artificial variable

	z_{11}	z_{12}	z_{13}	z_{21}	z_{22}	z_{23}	y_0
z_{10}							
z_{20}							
x_{10}							
x_{20}							
x_{11}							
x_{12}							
x_{13}							
x_{21}							
x_{22}							
x_{23}							
a							
y_1							
y_2							
y_3							
$-c$ or w							

14 equations
20 unknowns
so 14 can be expressed by remaining 6
(but I had to introduce an artificial variable)