

(.)

$$y = Xb + Zu + e$$

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$$n \times 1 = y$$

$$p \times 1 = b \quad (.)$$

$$= u$$

$$n \times p = X \quad q \times 1$$

$$n \times q = Z$$

$$n \times 1 = e$$

$$E(u) = 0 \quad E(e) = 0$$

$$E(y) = E(Xb) + E(Zu) + E(e) = Xb + 0 + 0 = Xb$$

$$\text{Var}(y) = \text{Var}(Xb) + \text{Var}(Zu) + \text{Var}(e) + \text{Cov}(Zu, e) \quad ($$

$$+ \text{Cov}(e, Zu) = ZCZ' + R$$

$$\text{Var} \begin{bmatrix} u \\ e \end{bmatrix} = \begin{bmatrix} A\sigma^2 a & 0 \\ 0 & I\sigma^2 e \end{bmatrix}$$

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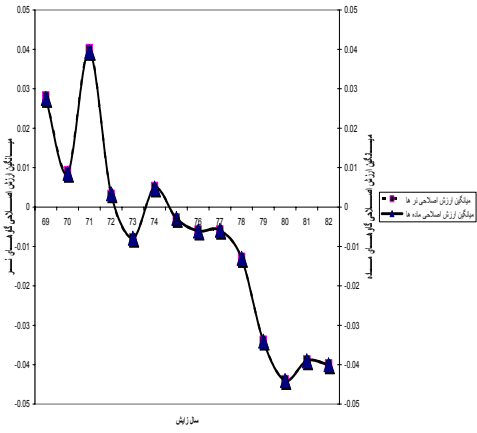
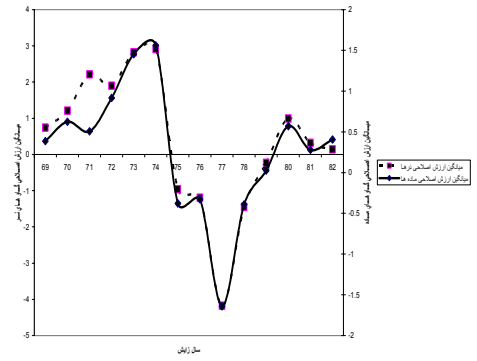
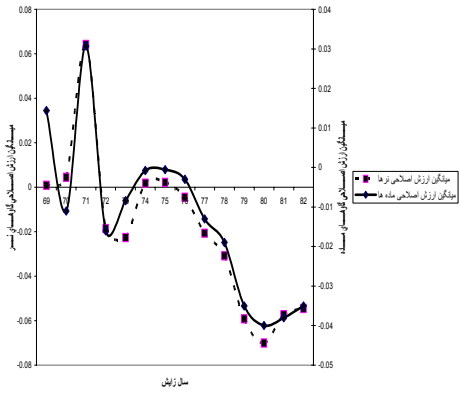
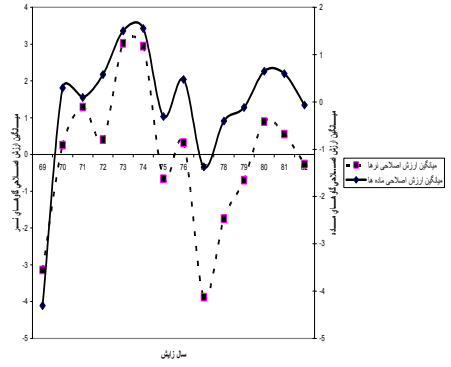
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