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(PSI)

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) ARMA (MAPE)

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(ARMA (3,3))

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بيشتر

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(SO₂,O₃, NO₂, Dust, Co)

...

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(PM-10))

(TSP) کلیه

EPA ()

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EPA

	ppm		CO
	/ ppm		NO ₂
	/ ppm		O ₃
	/ ppm		SO ₂
	$\mu\text{g} / \text{m}^3$		

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.(Wang, 2005)

O₃, NO₂, ,SO₂)

(Dust, Co)

/ / / /

PSI . (PSI)

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PSI ()

PSI : ()

	PSI
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PSI

PSI ()

PSI

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NO ₂	SO ₂	TSP	CO	O ₃	
PPM	PPM	μg / m ³	PPM	PPM	
	/			/	
	/			/	
/	/			/	
/	/			/	

(:)

: (α)

$$F(t) = f(t+h) = \alpha_0 Y_t + (1-\alpha) \cdot F(t-1)$$

h f(t+h)

(Y)

d

(Sedighi, 2002)

p q
d

$$F(t) = \alpha_0 Y_t + (1 - \alpha) \cdot F(t - 1)$$

$$F'(t) = \alpha_0 Y_t + (1 - \alpha) \cdot F'(t - 1)$$

$$F'(t) = f(t + h)$$

q p

Microfit

Eviews

(Pesaran and pesaran, 1996)

ARIMA ARMA

()

p d q ARIMA(p,d,q)

d

ARMA ARIMA
ARMA ARIMA

(Pindyick, 1998)

x ARIM(p,d,q)

()

$$U_d = \frac{2(d^2 + 3d + 1)(n - d - 2)}{(d + 3)!}$$

d : U_d

$$y_t = \theta_1 y_{t-1} + \dots + \theta_p y_{t-p} + \varepsilon_t + \Phi_1 \varepsilon_{t-1} + \dots + \Phi_q \varepsilon_{t-q}$$

d
ARIMA(p ,q)

: n

) ARIM(p,d,q)

(

= T₂

$$\chi_p^2 = \frac{(u_1 - U_1)^2}{U_1} + \frac{(u_2 - U_2)^2}{U_2} + \dots + \frac{(u_n - U_n)^2}{U_n}$$

F

F(T₂, T₁-K)

d

u

H₀

F

d

U

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χ_p^2

$$\frac{6}{7} \chi_p^2$$

(Vacha, 2000)

/

χ_p^2

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MAPE

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Predictive Failure

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Predictive Failure

H₀

H₀ ; No Predictive Failure

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RSS

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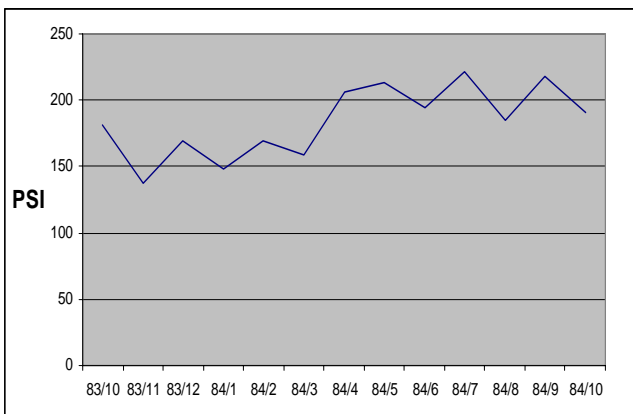
RSS

:

(RSS₁)

$$\frac{RSS - RSS_1}{RSS_1} \times \frac{T_1 - K}{T_2}$$

= T₁



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(:) . ()

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χ^2

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χ^2

ARIMA ARMA

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ARMA

d

(p)

q p

(q)

(q p)

q p

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PSI

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Eviews

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(MAPE)

(QSB

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PSI

q p

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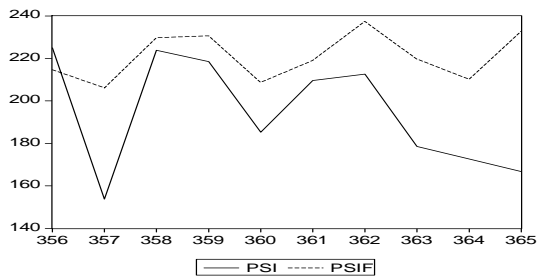
ARMA ()

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MAPE	
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PSI : ()
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 (/) Variance (/) Bias

ARMA) MAPE

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ARMA

ARMA

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ARMA ()

ARMA (3,3)

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: PSI

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AR(1)	/	/	/	/
AR(2)	/	/	/	/
AR(3)	/	/	/	/
MA(1)	/	/	/	/
MA(2)	/	/	/	/
MA(3)	/	/	/	/
R^2	/			/
\overline{R}^2	/			/
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F				/

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Predictive Failure

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No)

(Predictive Failure

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PSIF

PSI

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- 2- Total Suspended Particulate Matter
 - 3- Pollutant Standards Index
 - 4- Auto-Regressive Conditionally Heteroscedastic
 - 5- Generalized Auto-Regressive Conditionally Heteroscedastic
 - 6- Autoregressive Moving Average
 - 7- Autoregressive Integrated Moving Average
 - 8- Simple Average
 - 9- Moving Average
 - 10- Moving Average with linear trend
 - 11- Single Exponential Smoothing
 - 12- Single Exponential Smoothing with linear trend
 - 13- Double Exponential Smoothing
 - 14- Double Exponential Smoothing with linear trend
 - 15- Bias
 - 16- Variance
 - 17- Mean Absolute Percentage Error
 - 18- Akaike Criterion
 - 19 -Schwarz Criterion

1- Pollutant Standards Index

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