$$\phi(B) Y_t = \vartheta(B) \varepsilon_t$$

$$Y_t = \frac{\vartheta(B)}{\phi(B)} \varepsilon_t$$

$$Y_t = \psi(B) \varepsilon_t \longrightarrow \psi_1, \psi_2, \ldots ?$$

Es. se $\phi(B) = (1 - \phi B)$ e $\vartheta(B) = (1 - \vartheta B)$,

dato che $(1 - \phi B)^{-1} = \sum_{j=0}^{\infty} (\phi B)^j$

si ha:

$$(1 + \psi_1 B + \psi_2 B^2 + \ldots) = (1 + \phi B + \phi^2 B^2 + \ldots) \cdot (1 - \vartheta B)$$

$$= 1 - \vartheta B + \phi B - \phi \vartheta B^2 + \phi^2 B^2 - \vartheta \phi^2 B^3 + \ldots$$

da cui

$$\psi_1 = (\phi - \vartheta)$$

$$\psi_2 = \phi^2 - \vartheta\phi \Rightarrow \psi_2 = \phi(\phi - \vartheta)$$

$$\vdots \qquad \vdots$$