

# WHAT IS SEASONALITY?

- PATTERN WITHIN A YEAR
- OBSERVABLE OVER MORE YEARS
- VARIABILITY ACROSS SEASONS
- SIMILAR INTENSITY
- USUAL PATTERN
- SOME REFERENCE PERIOD REQUIRED → SUFFICIENT
- CYCLES → START → END  
→ FREQUENT

# SEASONAL OR NOT?

	G1	G2	G3	G4	G5
1	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓
3	X	X	X	X	X
4	✓	✓	✓	X	X
5	X	X	X	X	X
6	✓	✓	✓	✓	✓
Σ	5	5	5	6	6

# TIEBREAKERS

	G1	G2	G3	G4	G5
Computation time	6mch	2d	5min	1w	2w
Associated costs	10k	100	1000	100	5-10k

$$\frac{\text{STABLE}}{S_t - S_{t-12} = 0}$$

UR

$$S_t - S_{t-12} = \varepsilon_t; E(\varepsilon_t) = 0$$

$$(1 - B^{12}) S_t = \varepsilon_t$$

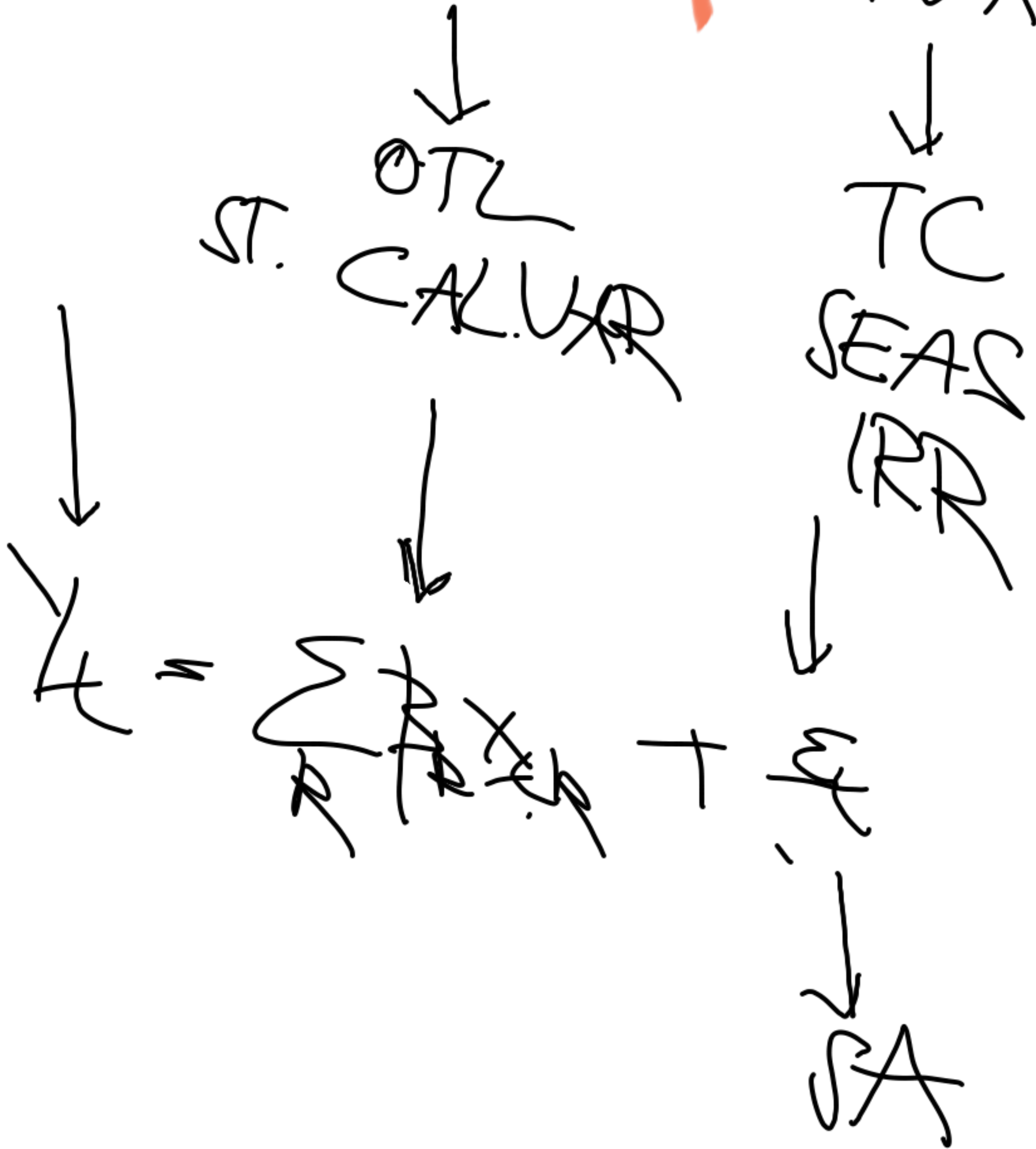
Dynamic

$$(1 - \phi B^R) = \varepsilon_t$$

$$|\phi| < 1$$

# PRETREATMENT

$$\text{DATA} = \text{DET. VAR.} + \text{ST. VAR.}$$





# All principle

$$\varepsilon_t = \boxed{t_t} + s_t + i_t$$

①

↓ LF?

②  $\varepsilon_t - t_t \rightarrow$

③  $= \boxed{s_t + i_t} = (s_i)_t$

↓ LF?

④  $\varepsilon_t - s_t \rightarrow$

$(s_x)_t$