

## 11.4 Stationarity

Wednesday, February 3, 2021 9:27 PM

$(x_t, x_{t+1}, \dots, x_{t+m})$  vs  $(x_{t-h}, x_{t-h+1}, \dots, x_{t-h+m})$   
↳  $x$  is stationary if joint distribution is equal for all  $t, h, m$

### Covariance Stationarity

- 1)  $E(x_t)$   $\text{Var}(x_t)$  are constant
- 2)  $\text{Cov}(x_t, x_{t-h})$  depend on  $h$ , not on  $t$

### Weak dependence vs high persistence

$\{x_t : t=1, 2, \dots\}$  is w.d. if  $x_t$  &  $x_{t-h}$  are "almost" indep. as  $h$  increases for all  $t$