**Inequality of Fear and Self-Quarantine: Is There a Trade-of between GDP and Public Health? – Aum, Lee, Shin (2020)**

The model combines an age-specific SIAISR model with a small economic model, which focuses on different agent groups – self-employed, managers, workers - and their working decision, including work from home decision. A government can introduce pandemic specific policies.

Pandemic part: SIAISR model with young and old people. Infected are asymptomatic or symptomatic. The latter decreases productivity. Health states only observable if tested. Government tests people after some period. Testing groups people in the following categories: (1) untested or tested negative (2) tested positive (3) confirmed recovered. Possibility of false negatives, but not false positives.

Economic part: Young people work, old people are retired. Young people are high-skilled or low-skilled and work in this sector. They can work from home, which decreases productivity. Young people are self-employed, who decide about labor and work from home, workers, who work for managers but can switch occupations, and managers, who decide for themselves and their workers. Adaptive expectations about prices and wages. Three types of government policies: (1) testing a fraction of (a)symptomatic people (2) quarantining symptomatic people (3) lockdown, which forces people to work from home.