BASIC A/D ALGORITHM

1. Somehow compute an estimate $\hat{\mathbf{s}}_i^T$ of each $\mathbf{s}_i^T$

VARIOUS POSSIBILITIES

- Iterate until short-run approximate equilibrium is detected (until spectral components associated with small λ_i's are annihilated)

$$\pi^T(t) = [\,\mathbf{c}_1^T \quad \mathbf{c}_2^T \quad \mathbf{c}_3^T\,] \quad \Rightarrow \quad \hat{\mathbf{s}}_i^T = \frac{\mathbf{c}_i^T}{\mathbf{c}_i^T \mathbf{e}}$$

- Approximate each stochastic complement $\mathbf{S}_{ii} = \mathbf{P}_{ii} + \mathbf{P}_{i*}(\mathbf{I} - \mathbf{P}_{i})^{-1}\mathbf{P}_{*i}$ with an irreducible $\hat{\mathbf{S}}_{ii} \geq 0.$ Then compute

  $\hat{\mathbf{s}}_i^T$ = normalized (left) Perron vector of $\hat{\mathbf{S}}_{ii}$

Question: How can $\hat{\mathbf{S}}_{ii}$ be obtained?

Answer: Melt mass of $\mathbf{P}_{i*}$ into $\mathbf{P}_{ii}$

- $\hat{\mathbf{S}}_{ii} = \mathbf{P}_{ii}$ + diagonal
- $\hat{\mathbf{S}}_{ii} = \mathbf{P}_{ii}$ + low rank update
- $\hat{\mathbf{S}}_{ii} = \mathbf{P}_{ii}$ (i.e., ignore $\mathbf{P}_{i*}$)