* Time independent Shrinkage vs. initialization shrinkage
  + H\_0 refers to time 0 vs. H\_0 refers to general desirable shape of coefficients (independent of time).
    - Normalize the filter error or not: mean filter error means time independent shrinkage; cumulated filter error means time dependent (initialization) shrinkage.
  + Time independent shrinkage is more desirable in the presence of richly parametrized filters in order to avoid overfitting (Bayesian initialization in time zero dissipates over time and thus overfitting will become an issue).
* Possible applications:
  + Replication and shrinkage towards model-based
  + Towards any H0:
    - HP/CF,…
    - Empirical H\_0 (financial trading):
      * Good empirical filter is H\_0
      * Shrinkage towards this design as new data flows in.
* Difference replication through shrinkage vs. plugging spectral densities and signal
  + Customization of MBA cannot be done with strong shrinkage
* Impose constraints i1/i2: the constraints have priority over H0-regularization.
* Difference Shrinkage vs. replication
  + Shrinkage allows for a continuous solution leading from unconstrained MDFA to perfect replication of model-based.
* Regularization: decay and smoothness impose shrinkage of levels and second order differences. We might want to add first order differences.
  + Idea 1: Taylor approximation
  + Idea 2: We may want a particular shape of the coefficients but we don’t know their precise levels. Then it is useful to impose shrinkage of first and second order differences but not of levels.
* H0-prior
  + Bad: Almost no optimal solution is a zero-filter
  + (very) good: zero is an anisothropic number
    - Zero-prior favors no scales (amplitudes)
    - Zero-prior favors no direction (phase/delay/lead)
    - Zero-prior is a clean-sheet and let’s the data speak