1. Theoretical background: Why different prices for the identical good?
   * imperfect info doesn't cause price dispersion, only a high price
   * for price dispersion, buyers and/or sellers must be heterogenous
     e.g., stores are in different locations
     consumers have different search costs (tourists v. townies?)
   * for price dispersion, sellers must vary prices over time
     (otherwise, consumers would learn which stores sell for less)

2. Lach's bottom-line results
   * substantial price dispersion for identical goods at given point in time
   * over time, stores move up and down in the distribution
   * thus, no way for consumers to learn who has consistently low prices
     (there's no such store)
   * thus, price dispersion persists over time

3. Data on Israeli retail store prices for refrigerator, chicken, coffee, flour
   * substantial dispersion, e.g., refrigerator: mean = 3170, std. dev. = 154
   * distribution of prices for the identical good is roughly bell-shaped
   * standard deviation of prices for an article drops as the mean rises
     (payoff to search is greater, so more search, distribution shrinks)
4. “Heterogeneity-controlled” estimates of price variation
   * regression framework:  \( \log P_{it} = \mu + \alpha_i + \delta_t + \gamma_c + \lambda_T + \epsilon_{it} \)

\( \log P_{it} \) = price of product i at time t
  \( \mu \) = intercept
  \( \alpha_i \) = dummies for store (“store effect”)
  \( \delta_t \) = dummies for month (“month effect”)
  \( \gamma_c \) = dummies for location
  \( \lambda_T \) = dummies for type of store
  \( \epsilon_{it} \) = error term

We are mostly interested in variance of \( \epsilon_{it} \)
e.g., \( R^2 \) for regressions for these goods (refrig, chicken, coffee, flour)
is approximately 0.50, 0.60, 0.90, 0.83 respectively
thus, still plenty of price dispersion that is “unexplained”
by the entire set of factors considered (store, location, etc.)

5. Changing position of stores within the price distribution –
test whether stores always are in the top or bottom, or move around
  \( \Rightarrow \) to do this, classify stores’ residual \( \epsilon_{it} \) in the regression for a good
  in terms of top 25%, next 25%, etc.
  \( \Rightarrow \) or simply rank the stores (biggest + \( \epsilon_{it} \), next biggest, …)
then see whether stores change position
6. Stores frequently change position within the distribution
   * Stores typically spend some time at the top and also at the bottom
   * Stores "more often than not" have lowest and later highest rank
     (or vice-versa) over the period covered by the data
   * Construct transition matrix (shows how firms move over time) –
     many transitions; firms do not stay in same quartile for very long
   * Correlation between a firm's position in month t and its position at t+1
     is usually fairly low, and virtually zero after 4-6 months