Managing Financial Resources

Business economics

Forecasting (12)

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Business & Economic forecasting

Forecasting demand

- Time series analysis
  - Trend
  - Seasonal variation
  - Cyclical variation
  - Random shocks
- Trend projection
- Leading indicators
  - Try to discover the correlation between sales and other economic variables over time
- Econometric modelling
  - $Q = a + bP + cA + dY$
    - a=constant intercept term
    - b,c,d = regression coefficients

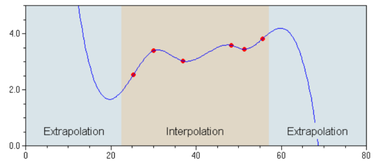
Demand relationship estimation

Regression analysis

1. Identification of variables
   - Variables of demand function --> D = f(Po,Ps,Pc,A,Y,C,W,E,POP)
   - Which is the most important determinant of demand for the good in question?
2. Compilation of data
   - Dataset for each variable needs to be compiled (external or internal)
3. Specification of the form of the demand relationship
   - $Q = a + bP + cA + dY + e$
     - a=constant intercept term
     - e=error term
     - b,c,d = regression coefficients
   - If the relationship is exponential then we might take a notation like
     - logQ=loga+blogP+clogA+dlogY+loge
4. Estimation of the demand relationship
   - least square regression
     - leads to values of a,b,c,d
5. Evaluation of the estimated demand relationship
   - stand back and assess the plausibility
     - mutliple correlation analysis
     - standard error of the estimate

Interpolation and extrapolation of data

- Interpolation
  - describe the demand function with the help of observed and existing data (estimation)
- Extrapolation
  - forecasting future behaviour on the basis of past behaviour



Data source

- Internal past data
- Consumer surveys
  - surveys about future buying intentions
  - Consumer interviews
  - Weaknesses as there are only "what-if" questions and consumer behaves maybe differently
- Market experiments
  - test users with existing products (different compositions etc)
  - Drawback is that consumers know they're being monitored which distorts their behaviour pattern, Sample size must be big which is very costly
  - 3 headings
    - Sales-wave research
      1. Supply product initially at no cost (advertising, give-away)
      2. Re-offer product at different prices along with the competition
    - Simulated store techniques
      1. Show advertisements of different products
      2. Give them money to buy a product
    - Test marketing
      - Sell product in limited number of locations and different ad's etc.