Chapter 4

Outline:

- Construction and the economy
- Supply and demand in construction
- Economic structure of the construction industry
- Economic constraints facing the construction industry

Introduction

- Economics is relevant to those interested in construction hence the construction process takes place continually as part of the annual production output of every society.

Introduction…

- The basic economic problem:

  - resource is scarce in the construction sector too.
- Choice in the construction industry:

  - compromise is necessary in design options
- Economic viability

1. Construction and the economy

- The out puts of the construction industry:

  - building and civil works (planning- operation and maintenance)

- Economic data of the construction sector

  - the money value of the contractors’ earning

  - current price Vs constant price

Construction and the economy

- The contributions of construction to the economy:
  - Produces and maintains the built-environment
  - Benefits to the national income
  - Enhance the rate of fixed capital formation
  - The rate of capital consumption

Construction and the economy…

- Economic sectors:

  - construction straddles all the three sectors: primary, secondary and territory.
- Stimulate economic activities
- Enhance value added

  - leverages among various resources and value add of the inputs as any production process

2. Supply and demand in construction

Introduction

- economic models of the construction industry, like all models, are simplifications of the real world.

  - combine mathematics with words and used to understand the relationship b/n economic cause and effect in the sector.

  - these requires to temporarily ignore many complications which arise in the construction industry: types of buildings, services offered, regional variations,...

A. Effective demand

- Is the quantity of goods or services people are willing and able to buy in a given period of time and at a given price.

  - in the construction industry, it is the quantity of building services and projects clients wish to buy.

- It is demand backed by purchasing power

Effective demand

- The demand for buildings may be seen as a form of investment as the products of the building industry tend to take one or two years to construct whereas the benefits which flow as a result may last for many decades.

Effective demand…

- The quantity of any particular building type demanded will depend on a combination of the following factors.

i. <u>Price</u>

- it is perhaps the most important single factor influencing demand for property

- the downward slopping demand curve shows that when price, and only price changes, there will be a change in the quantity demand.

Factors affecting demand...

ii. Interest rates

Construction and property markets are heavily financed through borrowing;

- thus, higher rates not only deter to purchase property, they also make it non- viable to invest in developments with lower rates of return

Factors affecting demand...

iii. The prices of other products

Demand depends on the prices of other products: substitutes, complimentary, and independent goods

Factors affecting demand…

iv. Income

- it is the ability to pay;
- unless gov't intervenes, low income is a major cause of inferior housing for many individuals

Effective demand… factors affecting demand…

v. Size of population

The quantity demand tends to vary directly with the size of population;

b/c the expected life of buildings may often exceed fifty years, it is important for the long term viability of the projects, to take possible population changes into account; even when the developer expects to sell a property on completion

Effective demand…
factors affecting demand…

vi. Taste

- Tastes or human preferences reflect culture, fashion, habit and even climatic conditions.

- Tastes can influence the demand from individuals as well as companies for particular styles or types of buildings.

- The location of a building is also an important determinant of demand: proximity to markets…

Effective demand... factors affecting demand...

vii. Government policy

Gov't policies may induce or detract demand of the construction services and products.

eg. ADLI induces demand for housing and infrastructure and GTP induces for construction professionals.

Effective demand...
factors affecting demand...

viii. Expectations

Expectations of price changes will affect the quantity demand at any time and vice versa.

eg. The current land lease policy has put the demand decrease in land values and the respective price of housing

B. Supply

- Is the quantity of the services and products of the construction sector that producers are willing and able to offer to clients over a given period of time.

- The quantity supplied also depends on the combined effect of a variety of effects.

Factors affecting supply

i. **Price and fees**

- The quantity of the service/product of the construction sector is determined by the fees / price charged for.

- This in turn creates the upward slop and shift along the supply curve.

Factors affecting supply ...

ii. **Products in competitive supply**

- The price and profitability of alternative works.
- When the price of work on alternative goes up, firms will concentrate their efforts there rather than the current site on which they be working.
- As a result even though the price on a particular site might not have changed, the willingness on supply of firms to work on a site can go down.
- This is results in sub-contracting.

Factors affecting supply…

iii. The factor of production

The price of all or any factor of production will affect the quantity firms can supply. Hence the factors of production are the inputs in order to process the output of the sector; their price will determine the amount supplied.

Factors affecting supply…

iv. Aims and objectives

- Besides to maximizing the profits, some projects will various aims that could affect the amount supplied

eg. Low cost housing schemes

Factors affecting supply…

v. Technology

The use of new technology increases the capacity of firms to produce:
firms can either produce more at the same price or the same out put at a lower price.

Factors affecting supply…

vi. Exogenous factors, gov't policies, and nature

- ***Exogenous factors:*** those aspects of society, and even nature which lie outside the scope of economics.
- ***Gov't policies:*** construction laws, infrastructure investment, interest rate policies determines a lot.

3. Economic structure of the construction industry

Introduction

- The construction sector consists of different types of specialist firm working together on temporary sites to produce buildings and civil engineering works.

Economic structure of the construction industry

Construction firms

- One way of looking at the structure of the construction sector is to look at the number of firms involved in different aspects of the industry.
- Almost all firms in the construction industry are either general builders or classified under specialist trade or another.

Economic structure of the construction industry

a breakdown of the various specialist trades includes:

- General builders
- Building and civil engineering contractors
- Civil engineers
- Plumbers
- Carpenters and joiners
- Painters
- Roofers
- Plasterers
- Glaziers
- Demolition contractors

Cont..

- Scaffolding specialists
- Reinforced concrete specialists
- Heating and ventilating engineers
- Electrical contractors
- Asphalt & tar sprayers
- Plant hirers
- Flooring contractors
- Constructional engineers insulating specialists
- Suspended ceiling specialists
- floor and wall tiling specialists
- miscellaneous

Economic structure of the construction industry…

Tendering

A process of how the system operates when a client or firms wishes to hire a contractor or specialist firm

- Advertisements are placed and several firms will be approached
- Each firm is given tender documents which include the design, specification, and quantities of work required
- The contractors' quantity surveyors then price the bill of quantities and submit bids in sealed envelops
- Usually, the lowest tender price offered wins

Economic structure of the construction industry…

Types of tendering:

i. ***Open tendering:*** the advertisement will appear in trade journals and any number of firms can apply to bid for the work.

ii. Selective tendering: the client prepares a short list of applicants usually of no more than six firms

Tendering…

- Materials and labor costs are included in bills of quantities, which normally incorporate specifications as to how buildings are to be constructed and to what quality.
- Bills of quantities allow comparisons to be made b/n different contractors tendering for a project, on the basis of the same work, starting dates & completion.

Tendering…

- In practice, the actual cost of construction is different from the tender price , for a variety of reasons:
    - Soil conditions, errors and accidents, delays,…
    - There is a great deal of psychology and gamesmanship.

4. Economic constraints facing the construction industry

- Inflation
- Ethical problems
- Substitutes and complementary goods
- Financial markets
- Project management capacity
- Competitiveness of the sector

THANK YOU