BUILDING ECONOMICS
INTRODUCTION - BUILDING AS AN ECONOMIC PROCESS

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2004

PRIMARY SOURCES

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SECONDARY SOURCES

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INTRODUCTION (DIAGRAM – see PowerPoint PDF)

The notion or real property unifies buildings and land across spatial and temporal dimensions.

- Building economics treats parcels of land as it treats buildings as interactive factors in an economic process.
- Because cities are essentially aggregates of buildings and infrastructure, building economics offers some insights into the microeconomic foundations of urban economics.

The task of building economics is to explain economic causes and assist decision-makers in day-to-day operations.

- Economics is a science of means, not of ends.
- One task of building economics is to explain the economic causes and consequences of human action.
- Another task of building economics is to assist the decision-makers in their day-to-day operations involving land and buildings.

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Building economics is about economising the use of scarce resources through the life cycle of buildings.

- This includes human resources needed for building management.
- The time dimension is at the root of all building activity and is especially important to building economics because it is the ultimate scarce resource.

The economic problem is a dynamic economising problem.

- A building should be understood as part of a combination of capital – a combination of land, buildings, plant, and people all dedicated to a specific purpose.
- This purpose, which is embedded in a business plan, may change over time.
- Buildings are designed and erected to provide useful services to their owners whose needs change as economic conditions change.
- These changes reflect the acquisition and transmission of knowledge.
- The role of expectations is important in this context.

There is currently a dynamic shift in emphasis from building investment to building utilisation and operation.

- Ranko Bon – inter-industry input-output tables for 5 nations.
- In most industrialised countries, the share of construction in the gross national product is decreasing.
- The share of new construction in total construction is decreasing.
- The share of maintenance and repair construction is increasing.
- There is a shift of emphasis from building investment to building utilisation and operation.
- The focus of building economics should therefore shift from investment decisions to decisions concerning the use of capital.

There is currently a dynamic shift from property investment to property management.

- A significant proportion of real property holdings will remain in the portfolios of building owners well beyond their present business horizons.
- Real property management, as distinct from development, is gaining momentum.

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VALUE

Economic value is a complex entity made up of scarcity, utility, cost of production, value in use, value in exchange, and marginal utility.

- Value is the power to serve people's needs or desires.
- The value of a good gives an indication both of its scarcity and its utility when compared with others.
- Value is influences by conditions of demand. If you want something desperately (demand is inelastic), then its value to you is increased. For example, the value of water versus the value of diamonds when you are stranded in a desert.

The value of land and buildings is not intrinsic to the land and buildings being valued.

- Intrinsic means belonging to the real nature of a thing, essential, inherent, and not dependent on external circumstances.

The value of land and buildings are ultimately derived from the value of consumption goods.

- Higher order goods are towards production and lower order goods are towards consumption.
- The value of higher order goods is determined by the value of lower order goods.
- For example, consider the sources of rents of high rise buildings. The value of land, buildings, and building-related services ultimately derives from the value people attach to the satisfaction of their immediate needs.
- The demand for land and buildings is a derived demand.

The value of a particular capital good is equal to the prospective value of its marginal product.

- The prospective value of goods is the value of goods sold at a future date.
- In general, the value of the higher order goods is determined by the prospective value of the lower order goods that they help to produce.
- The value of a particular higher order good is equal to the prospective value of the portion of the quantity of lower order good that would not be produced if the higher order good were unavailable in the production process.
- The value of a building, as a complementary capital good forming part of a combination of capital, will be determined by the loss of return that might be suffered in its absence.
- An example is the sky tower.

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The valuation of a long-lived capital asset will depend on its prospective purpose or use.

- The intended purpose or use of the asset will determine its book value.
- Its value will be assessed quite differently if the intention is to dispose of it than if its is expected to remain in operation.

The value of an object is not cast in stone.

- Value changes with changing expectations of the future.

The value of capital goods is always speculative as it depends on expectations concerning future states of the economy.

- The value of goods the building helps produce is at any moment is only a prospective value. This prospective value may change in the future

Cash is the only asset whose value is exact rather than an estimate. All other valuations involves some guesswork, albeit careful guesswork.

USE VALUE AND EXCHANGE VALUE

Buildings may have both use value and exchange value to their owners.

- Buyers who purchase real property in order to use it are primarily motivated by the income stream produced by it.
- The exchange value will still play an important role in a buyer's plans even when his or her primary motivation is to use property.
- Buyers who purchase real property in order to sell it are primarily motivated by the expected price appreciation - capital gain.
- The property in question may not be producing income currently, but income is regarded as being secondary in importance to capital gain.

The economic value is the value that is greater in magnitude.

A task of economising is to identify the cause that may change the relationship between the two forms of value.

- The use value and exchange value of a good are often different in magnitudes.
- For example, a five year old tennis racket which is no longer in production.

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- The relationship between use value and exchange value is not static and the interdependence of use value and exchange value is often neglected in business practice.
- For example, speculative buying and selling may drive up the price of property, and this price may then determine the use by setting a limit on the income stream that could be obtained from the product it helps to produce.
- The speculative bubble may burst, leaving the last owner with a property the exchange value of which must be revised downwards.
- The property would then become accessible to less profitable uses.

In the last analysis, the expected use value dominate the exchange value.

- Both use and exchange values are demand-oriented.
- All speculation implicit in the exchange value is based on the expectation that buying and selling transaction will ultimately cease and someone will buy the property for use.

COMBINATIONS OF CAPITAL

All capital goods included in a combination of capital are complementary.

- A combination of capital may include several buildings.
- All capital goods included in combinations of capital are complementary in the sense that they all contribute to the production process in accordance with a business plan.
- The whole is greater than the sum of the parts.

Buildings are managed as part of a combination of capital.

- The client operates and manages the building as part of a combination of capital informed by a particular business plan.
- If the plan changes, building may begin anew.
- During its life cycle, a building may undergo this process several times.

ECONOMIC AGENTS

Client, designer, and builder are economic agents.

- Each construction project represents a temporary market with three principal economic agents: the client, the designer, and the builder.

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- The language of the market is the only language all the participants in the building process share.

The building process requires co-ordination and negotiation.

- Each economic agent is moved by a unique set of needs and incentives.
- Because each economic agent has distinct objectives and methods, the building process requires continual co-ordination and negotiation.

THE FUTURE AND UNCERTAINTY

Capital decisions depend on expectations and preferences regarding the future.

- Forward looking (ex ante) concepts predominate economics. Backward looking (ex post) concepts are prevalent in accounting.
- When one makes decisions, one considers future costs and not past or sunk costs because our decisions can only affect he future and not the past.
- Ex post costs, or sunk costs, should not impact upon decision-making.

Human action implies uncertainty.

- The notion of action implies the uncertainty of the future.
- People act to shape an unknown and unknowable future in accordance with their purposes.
- Human acts of choice are inherently unpredictable.

Preferences and expectations change as new knowledge is acquired.

- Preferences and expectations are continually revised during the building process as new knowledge is acquired.
- For example, with the advent of computer technology, there was a new need for access floors and ducting for wiring. 1980s buildings were typically inadequate for modification whereas earlier buildings with greater floor to floor height can accommodate access flooring.

BUSINESS PLANS AND REVISIONS

Economic conditions can and do change.

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- A successful building process requires that all protagonists frame mutually consistent business plans.
- In reality, it is unlikely that everyone's plans will be perfectly co-ordinated.
- The interaction of business and building cycles is especially important. (We have a lecture on building cycles).

The revision of a business plan entails reshuffling of combinations of capital.

- At any one moment, some buildings are being used for purposes different from those envisaged when they were designed.

The intensity of capital use can change.

- The intensity of capital use per unit of time can be increased.
- For example, a school used during the day may be used by the community at nights and during weekends.
- The intensity of capital use may be significantly different from that originally planned.
- Therefore, maintenance and replacement expenditures may be substantially greater than that that envisaged in the design process.

SUNK COSTS AND OPPORTUNITY COSTS

An investment project should be undertaken only if it more than pays for itself.

- An investment which involves replacing worn out or technologically obsolete components of an existing capital asset must more than pay for itself, irrespective of the costs sunk in that capital asset in the past.

Under some conditions, we may be best advised to abandon an existing capital asset and disinvest.

Costs should be reckoned in terms of satisfactions foregone.

- Costs represents the anticipated utility loss associated with a rejected alternative.
- The valuation of costs is impossible without an explicit account of opportunity costs – the satisfactions foregone.

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COST, CHOICE, AND INFLUENCE (DIAGRAM – see PowerPoint PDF)

The opportunities for influencing the cumulative project diminish as a project unfolds.

The cumulative cost of a project rises from planning and design, procurement and construction, through to utilisation and operation.

- At the planning and design phase we simultaneously encounter the greatest possibilities for influencing the total project and the lowest expenditure associated with the project.

The planning and design phase offer the greatest opportunities for economising.

- These opportunities shrink most dramatically in the project phase.

The method and cost of financing plays an important role in pushing the project forward despite the knowledge that further planning and design might be beneficial.

- A building project “ossifies” well before it reaches the construction phase. The sunk costs associated with planning and design are rarely the reason for this rapid ossification.
- Planning and design are covered by the developer’s “out of pocket” money, whereas the construction expenditures are heavily leveraged. Planning and design budgets tend to be significant with respect to the developer’s own budget.

The driving force behind the rush in building projects lies within the opportunities for profit foregone because of project delays.

- The opportunity cost of a project is greatest at the outset. It is reckoned in terms of all other alternatives foregone because of that project.
- The longer the construction period, the more likely it is that economic conditions will change thus changing the viability of the project.
- This is the main reason behind the hectic pace of building projects in their early stages and why there is an incentive for both owners and builders to shorten the construction period.

Some projects may be abandoned before completion.

- The opportunity costs of a project declines as the project unfolds. The sunk cost portion grows while the remaining choices gradually shrink. However, the construction period

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affords many new opportunities to reconsider the project as a whole, well before its reaches completion.

- With each phase in the building process, the client perceives the project in the light of ever-new opportunities for profit foregone.
- Many construction projects are abandoned in mid-course because the client feel the ‘remaining’ opportunity cost is too great.

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