

URBANIZATION AND ENVIRONMENT

Bhanupong
Lecture 29

Outline

- CBD and agglomeration economies
- Spillover effects and industry location
Urbanization in comparison
- Cost of excessive concentration

Central Business District (CBD)

- CBD refers to the commercial center of a large city
- CBDs are anything but static.
- Within the city, central office functions, since they require frequent contact between firms, will exert a mutual attraction.
- Firms will locate close together rather occupying scattered sites.

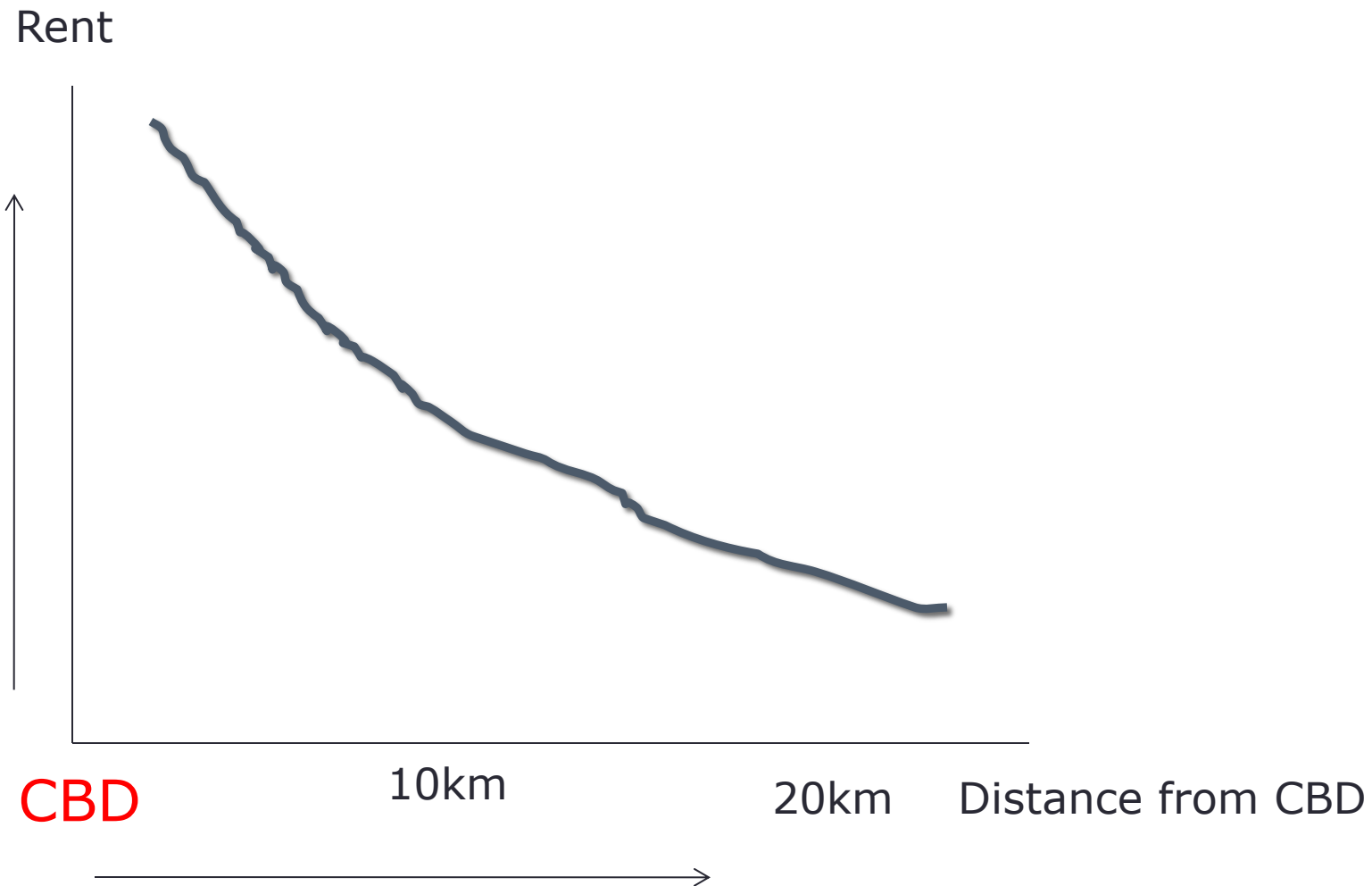
Retail therapy and mall rats

- Non-traded sector
- Private health care services and hospital stock prices
- Shopping malls and the service sector
- Employment-generating sector

Rent will increase with proximity to the center because:

- (1) Transportation and communication costs will be decreasing and
- (2) Sales will be increasing as distance from the center diminishes.

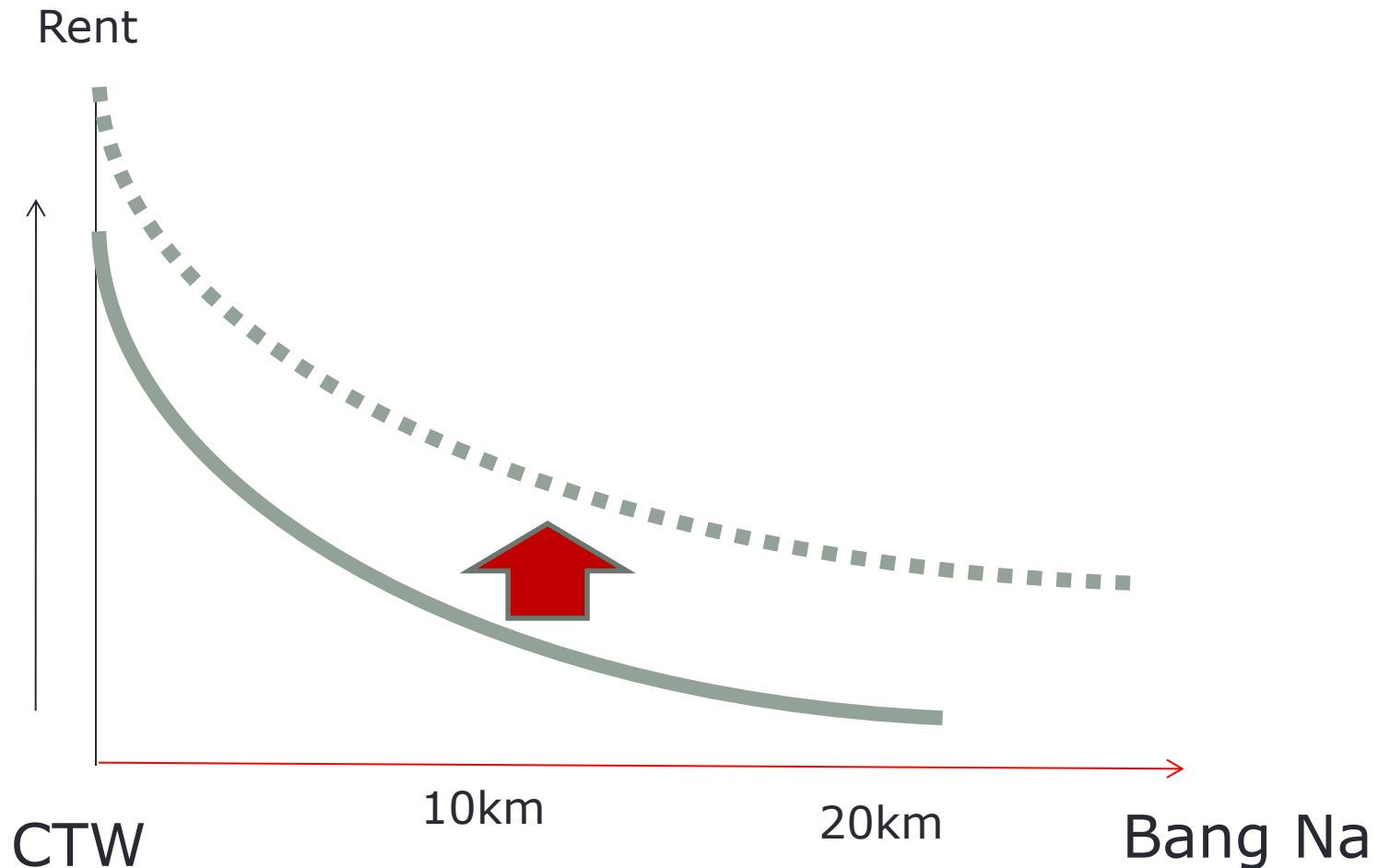
Rent Gradient



Changing rent gradients: slope and intercept shifts

- Inflation (land as inflation hedge)
- Transportation cost (oil prices)
- Traffic jam (higher opportunity cost)
- New infrastructure: expansion of BTS and MRT
- De-concentration (new shopping malls away from the old CBD)

Changes in factor affecting land rent slope and intercept shifts



A trade-off

- Land prices are required to decline with distance to compensate for higher transportation costs, as individual moves away from the CBD.
- The individual can acquire a larger piece of land in compensation for less convenient access to the CBD.
- This is a trade-off relationship between access to CBD and **space**.

The rich and the poor

- The cost of commuting depends on distance.
- Wealthy families settle on large plots of relative cheap land toward the city's edge.
- Poor families tend to occupy very small portions of higher priced land near the center.
- In developing countries, there are a large number of slums in capital cities.

Where do you live?

- For the poor family, the increase in commuting costs as distance increases will diminish rapidly the small fund of income available for housing.
- Consequently the poor cannot bid much for locations where commuting cost is expensive.
- The rich, who are prepared to spend large sums on housing, find the barrier of commuting costs rather *inconsequential* and can bid higher prices than the poor for land at distance locations.

Infrastructure affecting land prices

- Urban land markets are differentiated and can be segmented into sectors by transportation routes (Undergrounds and sky trains).
- Quality of infrastructure and transportation routes in different areas produces different impact on land prices.

Go vertically

- As the cost of commuting to CBD keeps on rising, land prices in CBD continue rising exorbitantly.
- To increase areas in CBD, buildings became taller and taller.
- Price per square meter of housing unit has increased dramatically.
- To seemingly maintain the unit price, the average size of condominium in the city has been declining.

Economies of agglomeration

- Firms obtain benefits when they locate near each other.
- Economies of scale and net work effects (network externality).
- IT centers, Panthip plaza, MBK
- Pratunam, Platinum mall, Future Park
- Korean and Japanese towns in CBDs of Bangkok.

Economies of agglomeration

- The more related firms that are clustered together, the **lower** the cost of production (firms have competing multiple suppliers, greater specialization and division of labor result) and the greater the market that the firm can sell into.
- Even when multiple firms are in the **same** (competitors) cluster, there may be advantages because that cluster **attracts** more suppliers and customers than a single firm could alone.
- Cities are formed and grow to exploit economies of agglomeration.

Economies of Agglomeration



Diseconomies of agglomeration

- Diseconomies of agglomeration take place when additional competition drives down pricing power.
- Large cities attract problems of crowding and congestion.
- It is this tension between economies and diseconomies that allows cities to grow, but keeps them from becoming too large.

Why too much concentration in mega cities

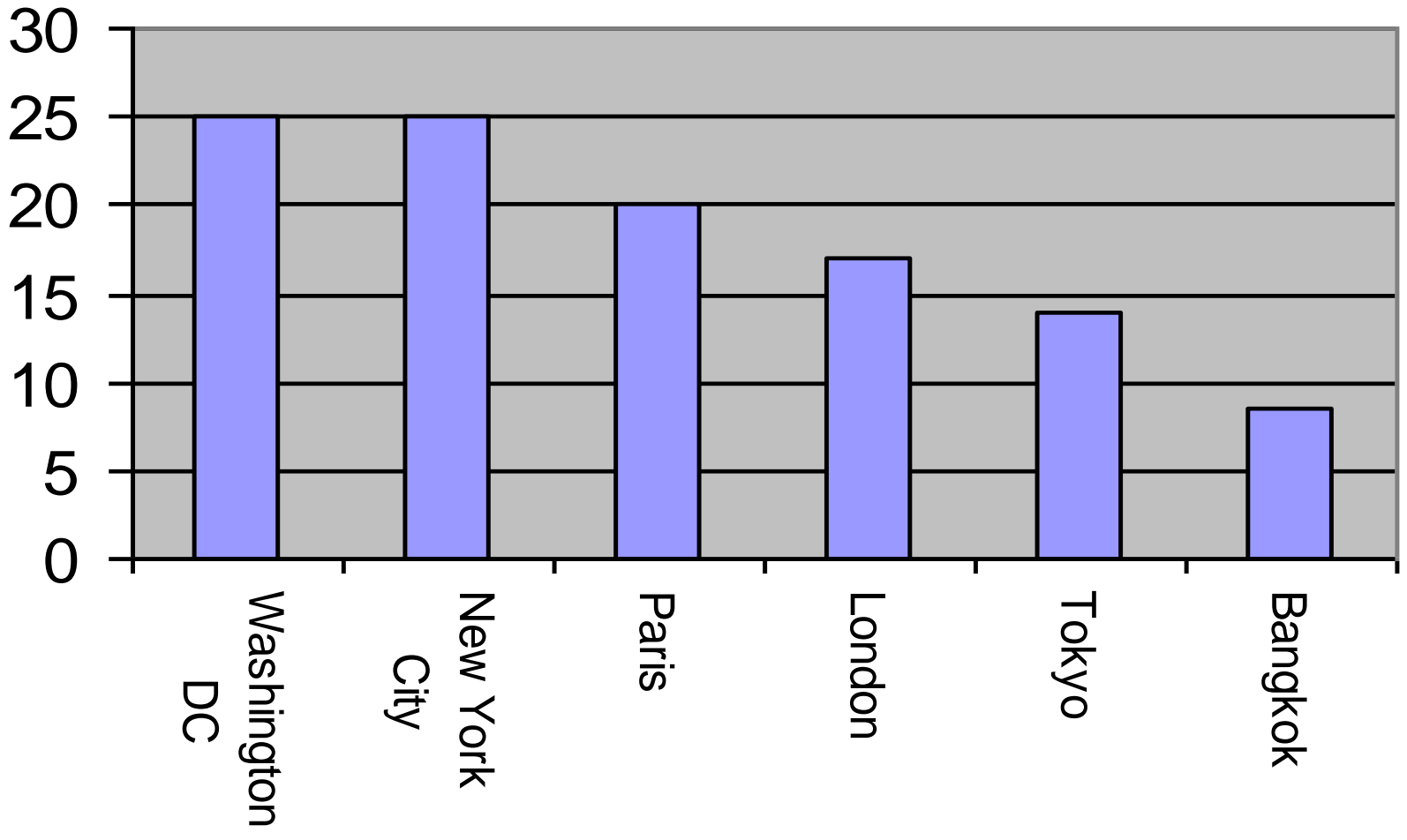
- Underdeveloped institutions for urban planning and management
- Inadequate human resources
- Externalities of congestion and pollution are relatively *underpriced* in megacities, relative to small cities, encouraging overpopulation in larger cities.

Consequences of heavy concentration

- Excessive concentration significantly **reduces** economic growth.
- **Growth losses** in countries with excessive mega-cities resulting from significantly deficient human and physical capital investment.
- Wages, land and infrastructure costs escalate with mega-city size relative to scale benefits for standardized products, making it more difficult to attract foreign investment and to remain competitive in world markets.

Urban Road Area

percent to total urban area



The cost of travel and transportation in Vietnam is the highest in the world

- Transport costs in Vietnam account for 11.8% of GDP, compared to less than 4.5% in the US, 4.8% in Singapore, 5.8% in the EU, and 6% in Japan.
- Currently the total surface area for traffic in HCM City accounts for 1.7% to 2% of the total urban land, so the figure may keep rising.
- However, the costs of travel and transport in Vietnam are high, not only from traffic jams but from many other reasons
- Besides official costs such as fuel, labor, vehicle depreciation, the cost of transportation in Vietnam is because transport service providers have to "bear the huge cost that they cannot reveal."
- What are they? They are bribes for traffic police, for poor-quality roads, for prolonged road projects or for poor transport management.

Consequences of traffic congestion

- Huge economic cost
- Alarming levels of CO, black smoke, Hydrocarbon, noise level and particulate matter (PM) .
- Road traffic is responsible for 70% of the dust.
- The main sources of dust are diesel and motor cycle exhaust and construction sites.

Cleaner air

- Air quality in Thailand has improved significantly in the past decade.
- Bangkok's air quality is rated ahead of Beijing, Jakarta, New Delhi and Manila, according to World Bank Environment Monitor (73 air monitoring stations across Thailand).
- Bangkok still trails Hong Kong, Singapore Taipei and Tokyo.
- Lead, dust and carbon monoxide in Bangkok and urban areas had decreased to an acceptable level.

Further costs of excessive concentration

- Traffic accidents
- Contamination of ground water
- Gastrointestinal and infectious diseases
- Poor air quality
- Time lost due to long commutes
- Health costs from exposure to high level of air and water pollution.

What are PM10 and where from?

- Smaller than 10 microns or 1/7 of the thickness of a human hair.
- PM10 come from motor vehicles, slash-and-burn farming, waste burning, forest fires, heavy industries, and dust from construction sites
- PM 10 is among the most harmful of air pollutants, When inhaled, these particles lodge deep in the lungs and can cause many kinds of respiratory illness
- Source: Pollution Control Department

PM 2.5

- The effects of inhaling particulate matter that have been widely studied in humans and animals include asthma, lung cancer, cardiovascular disease, respiratory diseases, premature delivery, birth defects, and premature death.
- The World Health Organization (WHO) estimated in 2005 that “Fine particulate air pollution (PM(2.5)), causes about 3% of mortality from cardiopulmonary disease, about 5% of mortality from cancer of the trachea, bronchus, and lung, and about 1% of mortality from acute respiratory infections in children under 5 years, worldwide
- Short-term exposure at elevated concentrations can significantly contribute to heart disease.
- A 2011 study concluded that traffic exhaust is the single most serious preventable cause of heart attack in the general public, the cause of 7.4% of all attacks

How to alleviate urban concentration

- Investment in interregional transport and telecommunications to facilitate de-concentration of industry.
- The government creates investment promotional zoning to attract investors to rural areas.
- Fiscal de-concentration: small cities can raise fiscal resources and provide services need to compete with primate cities for industry and population.

Summary

- Business cycles are related to booms and bust in housing markets because there are lags in supply adjustment to price changes.
- This is a trade-off relationship between access to CBD and space, which explains choice of residential location among the rich and the poor in the city.
- Agglomeration economies explains choice of firms and business location as firms receive benefit network externality and spillover effects of being close together.

Summary

- Urbanization in developing countries is so rapid that they cannot prepare for the smooth transformation from rural to urban structure.
- Cost of excessive concentration prevails in mega cities.

State whether you agree or disagree with the following statement. Provide brief reasons

1. Despite high rent, many poor people choose to live in slums in Bangkok, because of large wage differentials between urban and rural areas.
2. Since defense spending is public goods, the optimal level of military expenditure depends more on the level of threat by enemies rather than tax revenues.
3. The inflation rate in April 2010 was contained at 3 % year-on-year; inflation targeting strategy is effective in Thailand.

State whether you agree or disagree with the following statement. Provide brief reasons

4. Wider interest spreads of small commercial banks in Thailand indicated that they were less efficient and experienced lower profits than larger banks.
5. An proper exchange rate policy should aim at maintaining the stability of the bath-dollar exchange rate to avoid excessive foreign exchange risk that could lower international competitiveness of the export sector.
6. Other things equal, political violence in 2014 will reduce Thailand's long-term growth path.
7. The gravity model suggests that Thailand should engage in free trade agreements with neighboring countries rather than countries in other parts of the world.

State whether you agree or disagree with the following statement. Provide brief reasons

8. The sharp rebound of manufactured exports in the first quarter of 2010 underscored the increasing competitiveness of Thailand's manufacturing sector.
9. In 2010, as oil prices increased due to world economic recovery, it was likely that income inequality in Thailand would be worsened.
10. Both Baumal-Bowen cost disease and the Dutch disease have dissimilar impacts on the Thailand's international competitiveness..