

Exercise walk-through

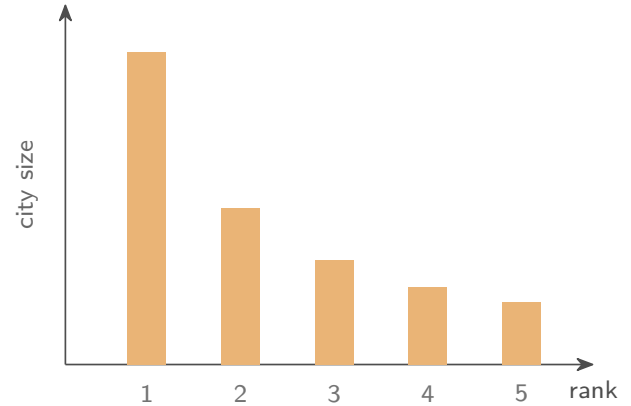
6.5

The Internal Structure of Cities

AP Human Geography

Size and distribution

- The **rank-size rule** : the n th city $\approx 1/n$ of the largest.
- A **primate city** is more than twice the second city.
- The **gravity model** : interaction rises with size, falls with distance.



n th city $\approx 1/n$ of the largest

Worked example – rank-size or primate?

Country A: largest 12M, 2nd 6.1M, 4th 3.0M. **Country B:** largest 12M, 2nd 2.5M. Which fits rank-size?

A: rank-size predicts $2\text{nd} = \frac{12}{2} = 6\text{M}$ and $4\text{th} = \frac{12}{4} = 3\text{M}$. Both match, so A follows rank-size.

B: $12 > 2 \times 2.5 = 5$, so B has a primate city.

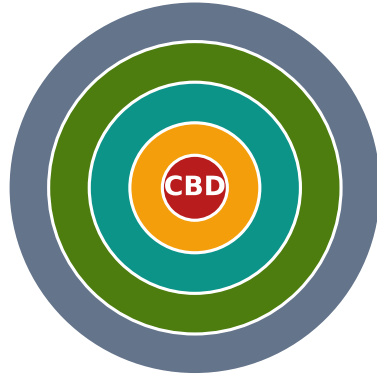
Test the **second** city first:
more than double $\Rightarrow$ primate,
and you can stop. Only if it
is not primate do you check
whether the **whole** $1/n$ ladder
holds.

Internal structure

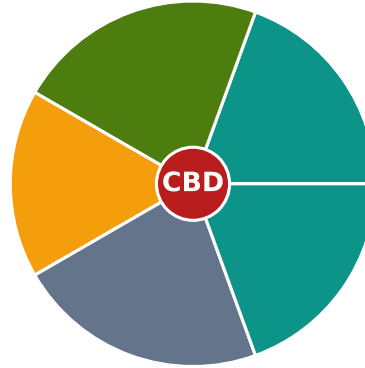
- **Concentric zone model** : rings around a CBD.
- **Sector model** : wedges along transport routes.
- **Multiple nuclei model** : several centres.

The concentric-zone

Concentric zone (Burgess)



Sector (Hoyt) Multiple nuclei (Harris-Ullman)

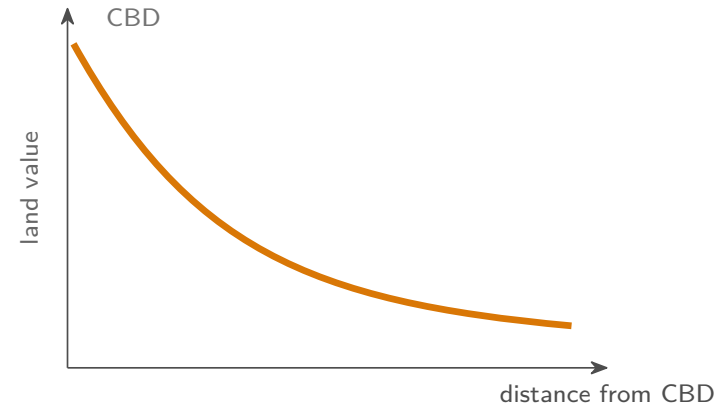


■ CBD ■ wholesale / light mfg ■ low-income housing ■ middle-income housing ■ commuter / industry

The concentric-zone, sector, and multiple-nuclei models each explain city land use differently

Density and infrastructure

- **Land value** peaks at the CBD, pushing buildings up.
- **Zoning** sets what is built where.
- **Infrastructure** enables growth and development.



land value peaks at the CBD (bid-rent)

Exercises 2.1·2.2

2.1 Describe the concentric zone model.

[2]

2.2 State how the sector model differs from the concentric zone model.

[2]

Exercises 2.1-2.2

2.1 Describe the concentric zone model.

[2]

2.1

- rings of land use around a central CBD, from transition/working-class to wealthier commuter zones outward

2.2 State how the sector model differs from the concentric zone model.

[2]

2.2

- the sector model uses wedges along transport routes instead of complete rings

Exercise 2.3 (a)

2.3 A city has grown around several separate centres – a port, an airport, and a university district.

(a) Which model fits best?

[1]

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(a)

- the multiple nuclei model

Exercise 2.3 (b)

2.3 A city has grown around several separate centres – a port, an airport, and a university district.

(b) Explain why.

[1]

Exercise 2.3 (b)

2.3 A city has grown around several separate centres – a port, an airport, and a university district.

(b) Explain why.

[1]

(b)

- growth is anchored on several nodes, not a single CBD

Exercises 3.1-3.2

3.1 A model showing land use as wedges radiating out along transport lines is the [1]

☐

A concentric zone model

B sector model

C multiple nuclei model

D gravity model

3.2 The concentric zone model is organized around a single [1]

☐

A airport

B central business district

C greenbelt

D relict boundary

Exercises 3.1-3.2

3.1 A model showing land use as wedges radiating out along transport lines is the [1]

☐

- A concentric zone model
- B sector model
- C multiple nuclei model
- D gravity model

3.1 B

- wedges along transport routes = sector model

3.2 The concentric zone model is organized around a single [1]

☐

- A airport
- B central business district
- C greenbelt
- D relict boundary

3.2 B

- the concentric zone model centres on the CBD

Exercise 3.3 (a)

3.3 A modern city has many edge nodes rather than one dominant centre.

(a) Name the model that best describes it.

[1]

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(a)

- multiple nuclei model

Exercise 3.3 (b)

3.3 A modern city has many edge nodes rather than one dominant centre.

(b) State one strength of this model over the concentric model.

[1]

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3.3 A modern city has many edge nodes rather than one dominant centre.

(b) State one strength of this model over the concentric model.

[1]

(b)

- it better fits modern cities with several centres and cars, not one CBD