Primate Cities and the Rank-Size Rule
The Rank-Size Rule

- If all cities in a country are placed in order from the largest to the smallest, each one will have a population half the size of the preceding city.
  – Zipf’s law applied to distribution of cities (1935)
Rank-Size Rule

• Cities in a country are ranked according to their size in relation to the country’s largest city
  – Rank 1 – Largest City
  – Rank 2 – ½ the number of people as Rank 1 city
  – Rank 3 – 1/3 the number of people as Rank 1 city
  – Rank 4 – ¼ the number of people as Rank 1 city
  – Rank 5 – 1/5 the number of people as Rank 1 city
Rank-Size Rule (New Zealand and Australia)
Problems with Rank-Size Rule

• In some countries the differences between a First Ranked and a Second Ranked city was much less than expected
  – Ex. New York City is only 1.3 times larger than Los Angeles

• Some countries are dominated by Primate cities so the changes are larger than expected
  – Ex. Kinshasa is 8 times larger than the next largest city Lubumbashi
Rank Size Rule Correlation in Germany

<table>
<thead>
<tr>
<th>Cities</th>
<th>Population (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>3.5</td>
</tr>
<tr>
<td>Hamburg</td>
<td>1.9</td>
</tr>
<tr>
<td>Munich</td>
<td>1.1</td>
</tr>
<tr>
<td>Cologne</td>
<td>0.8</td>
</tr>
<tr>
<td>Frankfurt</td>
<td>0.6</td>
</tr>
</tbody>
</table>

The graph shows the population of cities in Germany, illustrating the rank-size rule correlation.
Uses for Rank-Size Rule

• Sets a general classification for Ranking cities by population in a country
• Measures degree of primacy for a particular city in a country
• Helps distinguish countries with special characteristics
  – Area, Wealth, etc...
Primate City

- The largest city within a nation which dominates the country not solely in size – being more than twice as large as the second city – but also it terms of Influence

“The primate city is commonly at least twice as large as the next largest city and more than twice as significant.”

- Mark Jefferson, 1939
Examples of Primate Cities

• Paris, at a population of 9.6 million is definitely the focus of France, while Marseilles has a population of 1.3 million.

• In the United Kingdom the area of London has a population of 7 million while the second largest city, Birmingham only has around one million people.

• Mexico City, Mexico has a population of 8.6 million while Guadalajara is only about 1/4\textsuperscript{th} the size at 1.6 million.
Activity: What are the primary advantages and disadvantages of living in a primate city?
Advantages and Disadvantages

**Advantages**

- Magnetic attraction for businesses, services and people (cumulative effect)
- Can attract international trade and business
- Centralize transportation and communication
- Enhanced flow of ideas and information among larger populations
- Ability to offer high-end goods due to increased threshold

**Disadvantages**

- Urban-rural inequalities
- Imbalance in development
- Concentration of Power
- Has a parasitic effect, sucking wealth, natural and human resources into city.
- Become centers for unemployment, crime, pollution
Bangkok: The Classic Primate City

• Over 40x larger than any other city in Thailand

• Political, Financial, Cultural, Communication center of Thailand
  – Much of economy of rural Thailand is in support of Bangkok
## Thailand’s Largest Cities

<table>
<thead>
<tr>
<th>Name</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok, Bangkok</td>
<td>5,104,476</td>
</tr>
<tr>
<td>Mueang Samut Prakan, Samut Prakan</td>
<td>388,920</td>
</tr>
<tr>
<td>Mueang Nonthaburi, Nonthaburi</td>
<td>291,555</td>
</tr>
<tr>
<td>Udon Thani, Changwat Udon Thani</td>
<td>247,231</td>
</tr>
<tr>
<td>Chon Buri, Chon Buri</td>
<td>219,164</td>
</tr>
<tr>
<td>Nakhon Ratchasima, Nakhon Ratchasima</td>
<td>208,781</td>
</tr>
<tr>
<td>Chiang Mai, Chiang Mai</td>
<td>200,952</td>
</tr>
<tr>
<td>Hat Yai, Songkhla</td>
<td>191,696</td>
</tr>
<tr>
<td>Pak Kret, Nonthaburi</td>
<td>182,926</td>
</tr>
<tr>
<td>Si Racha, Chon Buri</td>
<td>178,916</td>
</tr>
</tbody>
</table>
Bangkok’s Dominance
Problems of Bangkok

- Flooding
- Garbage/Human Waste
- Transportation
- Recreation Spaces
- Pollution
- Poor Planning
- Finance
- Conflicting demands
- Rapid urbanization/Slums
Bangkok’s Dominance

• In Thailand...
  – 80% of phones are registered to Bangkok Addresses
  – 79% of all pharmacists are located in Bangkok
  – 45% of Doctors are located in Bangkok
  – 72% of all registered cars are in Bangkok
Example of a country without a primate city

Australia

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sydney (NSW)</td>
<td>4,627,345</td>
</tr>
<tr>
<td>2</td>
<td>Melbourne (VIC)</td>
<td>4,137,432</td>
</tr>
<tr>
<td>3</td>
<td>Brisbane (QLD)</td>
<td>2,074,222</td>
</tr>
<tr>
<td>4</td>
<td>Perth (WA)</td>
<td>1,738,807</td>
</tr>
<tr>
<td>5</td>
<td>Adelaide (SA)</td>
<td>1,212,982</td>
</tr>
</tbody>
</table>
Arguments for and against Primate Cities in LDCs

**FOR**
They attract overseas investment and benefits that will eventually benefit the whole country

**AGAINST**
They are unstoppable monsters that create serious problems, shortages and escalating land prices that make them less attractive places to live in.
Regional Primate Cities

- The ideas of Primate cities can be applied to regions within a country and specific states/provinces.
Activity: Does the United States Have a Primate City? Explain your reasoning.
Activity: Are the Twin Cities a regional Primate City for the Upper Midwest? Explain your answer (With Evidence)