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Collis Huntington
Mark Hopkins
Leland Stanford
Land Values Versus Land Rents

- Perishable commodities - bread, milk
  - One use
  - Price per use
- Land provides service forever
- Price to use for a period (rent)
- Price for the right to use forever (value)
Linking Rent and Value

\[ V_0 = \sum_{t=1}^{\infty} \frac{R_t}{(1+i)^t} \]

- \( R_t \) rent to use land in period \( t \)
- \( V_t \) price to purchase land in period \( t \)
- \( i \) interest rate
A Constant Growth Rate

Suppose land rent increase g percent each year:

\[ R_t = (1+g)R_{t-1} \]

\[ V_0 = \sum_{t=1}^{\infty} \frac{R_t}{(1+i)^t} = \frac{R_1}{i - g} \]
Value Grows at the Same Rate

\[
V_0 = \frac{R_1}{i-g}
\]

\[
V_1 = \frac{R_2}{i-g}
\]

\[
\frac{V_1}{V_0} = \frac{R_2}{R_1} = (1 + g)
\]
\[ V_0 = \frac{R_1}{i-g} \]

Suppose \( i = 10\% \)

<table>
<thead>
<tr>
<th>g</th>
<th>i-g</th>
<th>( \frac{1}{i-g} )</th>
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<tbody>
<tr>
<td>-5%</td>
<td>15%</td>
<td>$6.67</td>
</tr>
<tr>
<td>0%</td>
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<td>1%</td>
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<td>9.9%</td>
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<td>$1,000</td>
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<td>10%</td>
<td>0</td>
<td>infinity</td>
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It’s Anybody’s Guess!

- What are future rents?
- Opinions vary
- People expecting high growth will be willing to pay the most.
- Price of land will be set by people with highest expectations
- Speculation to those with lower expectations
The User Cost Interpretation

How much does it cost me per period to own a piece of land instead of investing in another asset?

\[ R_1 = iV_0 - [V_1 - V_0] \]

\( iV_0 \) interest I could earn
\( (V_1 - V_0) \) capital gains
User Cost

\[ R_1 = iV_0 - [V_1 - V_0] \]
\[ = iV_0 - [(1+g)V_0 - V_0] \]
\[ = \{ i - [(1+g)-1] \} V_0 \]
\[ = (i-g) V_0 \]
\[ R_1 = (i-g)V_0 \]

Suppose \( i = 10\% \)

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<thead>
<tr>
<th>g</th>
<th>i-g</th>
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Land Values and Social Justice

- Benefits of growth go to land owners
- Land is owned by only a few
- Most don’t benefit from growth
- Landowners are passive recipients
SINGLE TAX

IS

SOCIETY'S LIBERATOR
Reading for Monday

☐ “The True Remedy”
☐ “Application of the Remedy”
☐ Page 118 through 132 of reader
First Midterm

☐ Wednesday
☐ One question from the list
☐ I bring bluebooks
☐ You bring pen
☐ Grading rubric