Piketty on Capital and Inequality

Ryan Doody

March 25, 2015

Piketty’s Main Claims

1. **The Return on Capital is Greater than Growth.** Piketty claims that \( r \), the average annual rate of return on capital, is in the long-run greater than \( g \), the growth of the economy (i.e., the annual increase in income or output).

\[
 r > g \quad (1)
\]

And, "If . . . the rate of return on capital \([r]\) remains significantly above the growth rate \([g]\) for an extended period of time . . . , then the risk of divergence in the distribution of wealth is very high." [pg. 25]

2. **Inherited Wealth Grows Faster than Income.** If \( r \gg g \), then inherited wealth grows faster than output and income. The reason? "People with inherited wealth need save only a portion of their income from capital to see that capital grow more quickly than the economy as a whole." [pg. 26]

Piketty’s Pessimistic Conclusion: patrimonial capitalism. If the above conditions hold, then capitalism will lead to a distribution of wealth that resembles an aristocracy. Such a distribution is incompatible with the values fundamental to modern democracy.

Capital & Income

1. **What is Income?** "National income is defined as the sum of all income available to the residents of a given country in a given year, regardless of the legal classification of that income." [pg. 43]

\[
 National Income = Domestic Output + net income from abroad
\]

"In slowly growing economies, past wealth naturally takes on disproportionate importance, because it takes only a small flow of new savings to increase the stock of wealth steadily and substantially." [pg. 25]

How is national income related to GDP?

National Income = GDP – the depreciation of the capital used in production + net income received from abroad

Piketty refers to (GDP – the depreciation of the capital used in production) as "domestic output".

<table>
<thead>
<tr>
<th>Labor Income</th>
<th>Capital Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>wages, salary, honoraria, bonuses, etc.</td>
<td>profits, dividends, interest, rents, royalties, etc.</td>
</tr>
</tbody>
</table>

2. **What is Capital?** "[C]apital is defined as the sum total of nonhuman assets that can be owned and exchanged on some market." [pg. 46]

Examples of Capital: Nonfinancial Assets (land, dwellings, commercial inventory, other buildings, machinery, infrastructure, patents, etc.) and Financial Assets (bank accounts, mutual funds, bonds, stocks, other financial investments, insurance policies, pension funds, etc.)."
The Capital/Income Ratio

\[ \beta = \frac{\text{the capital stock}}{\text{the annual flow of income}} \]

The Capital/Income Ratio \( \beta \) is related to the share of income from capital in National Income.

The First Fundamental Law of Capitalism

\[ \alpha = r \times \beta \]

This law is tautological (i.e., it is trivially true given the meanings of its terms).

Example of the First Law

<table>
<thead>
<tr>
<th></th>
<th>Firm A</th>
<th>Firm B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Capital</td>
<td>$5,000,000</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Value of Goods Produced</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Paid out in Wages</td>
<td>$600,000</td>
<td>$700,000</td>
</tr>
<tr>
<td>Profits</td>
<td>$400,000</td>
<td>$300,000</td>
</tr>
<tr>
<td>Capital/Income Ratio</td>
<td>( \beta = 5 )</td>
<td>( \beta = 3 )</td>
</tr>
<tr>
<td>Capital Share</td>
<td>( \alpha = 40% )</td>
<td>( \alpha = 30% )</td>
</tr>
<tr>
<td>Rate of Return</td>
<td>( r = 8% )</td>
<td>( r = 10% )</td>
</tr>
</tbody>
</table>

Savings & Growth

Piketty posits a dynamic law relating the Capital/Income Ratio (\( \beta \)) in an economy to an economy’s Saving Rate (\( s \)) and Growth Rate (\( g \)).

The Second Fundamental Law of Capitalism

\[ \beta = \frac{s}{g} \]

"[A] country that saves a lot and grows slowly will over the long run accumulate an enormous stock of capital (relative to its income), which can in turn have a significant effect on the social structure and distribution of wealth." [pg. 166]

Inequality in Capital & Labor

Piketty claims that inequality with respect to capital is always greater than inequality with respect to labor. This is, in part, because \( r > g \). Because Capital is often transferred via inheritance, Piketty worries that capitalism naturally tends toward patrimonial capitalism.