Some BibTex Style Examples

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The subsequent files illustrate some citation styles found in my MikTex distribution. The name of the style file used is given in the upper left-hand corner of the corresponding example sheet.

All sheets are produced by using NatBib (Layout → Document → Bibliography → Use NatBib (author-year)).
Uzawa’s (1961) theorem states, broadly speaking, that balanced growth requires technological progress to be Harrod neutral (purely labor-augmenting) along the equilibrium growth path. This is an extremely restrictive, and consequently extremely decisive, requirement, establishing that steady-state growth is a highly singular and therefore highly improbable case.¹ Yet textbooks mention the issue only in a cavalier manner, if at all. This may be caused by the original proof being quite intricate. The purpose of this note is to provide a very short proof for a more general variant of the theorem. The theorem establishes that exponential growth implies Harrod neutrality. (“Exponential growth” refers to the case that all key variables grow exponentially; “balanced growth,” requiring certain variables to grow in proportion, is covered as a special case.) In contrast to the classical statement by Uzawa (1961) and the more recent reformulation by Jones and Scrimgeour (2004), the theorem does not involve assumptions about factor pricing (such as marginal productivity theory) or savings behavior.

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References

Aghion, P. and P. Howitt  

Jones, C. I. and D. Scrimgeour  

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Uzawa’s (1961) theorem states, broadly speaking, that balanced growth requires technological progress to be Harrod neutral (purely labor-augmenting) along the equilibrium growth path. This is an extremely restrictive, and consequently extremely decisive, requirement, establishing that steady-state growth is a highly singular and therefore highly improbable case. Yet textbooks mention the issue only in a cavalier manner, if at all. This may be caused by the original proof being quite intricate. The purpose of this note is to provide a very short proof for a more general variant of the theorem. The theorem establishes that exponential growth implies Harrod neutrality. (“Exponential growth” refers to the case that all key variables grow exponentially; “balanced growth,” requiring certain variables to grow in proportion, is covered as a special case.) In contrast to the classical statement by Uzawa (1961) and the more recent reformulation by Jones and Scrimgeour (2004), the theorem does not involve assumptions about factor pricing (such as marginal productivity theory) or savings behavior.

References


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