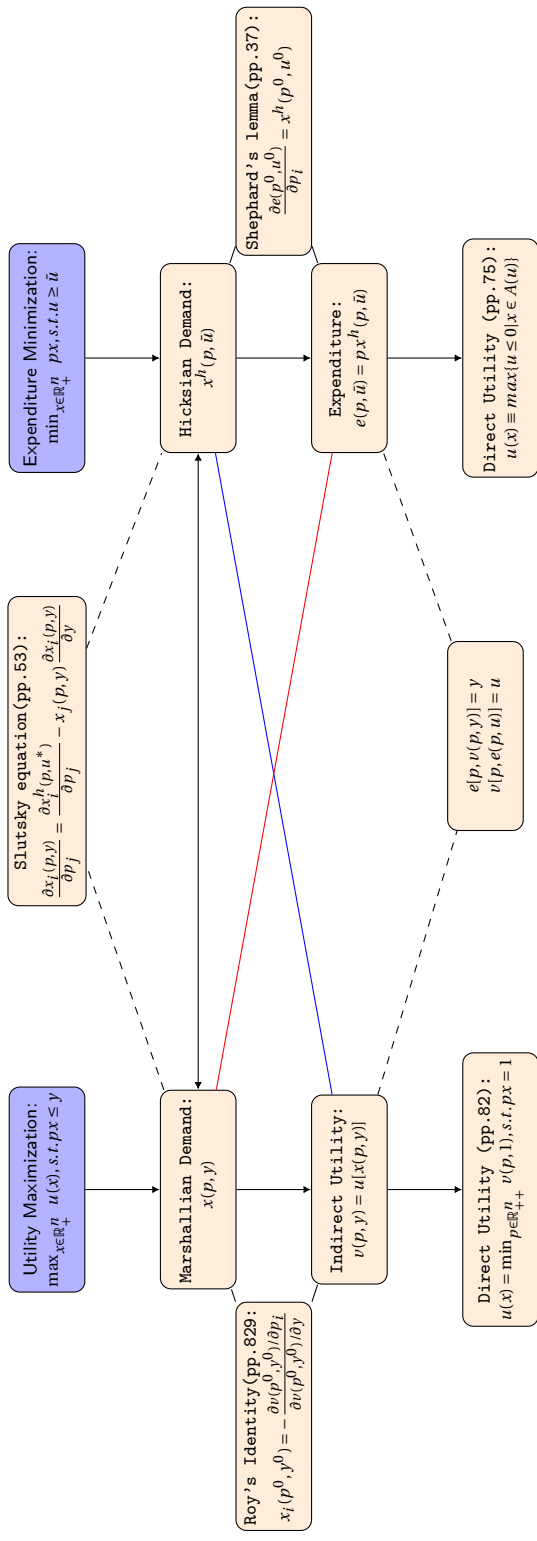


Seminar 3.

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September 15, 2020

Duality



1 Jehle & Reny 2.3

Derive the consumers direct utility function if his indirect utility function has the form $v(p, y) = y p_1^\alpha p_2^\beta$ for negative α and β .

2 Jehle & Reny 2.5(a)

Consider the solution, $e(p, u) = u p_1^{\alpha_1} p_2^{\alpha_2} p_3^{\alpha_3}$ at the end of Example 2.3. Derive the indirect utility function through the relation $e(p, v(p, y)) = y$ and verify Roy's identity.

3 Jehle & Reny 2.7

Derive the consumer's **inverse** demand functions, $p_1(x_1, x_2)$ and $p_2(x_1, x_2)$, when the utility function is of the Cobb-Douglas form, $u(x_1, x_2) = A x_1^\alpha x_2^{1-\alpha}$ for $0 < \alpha < 1$.