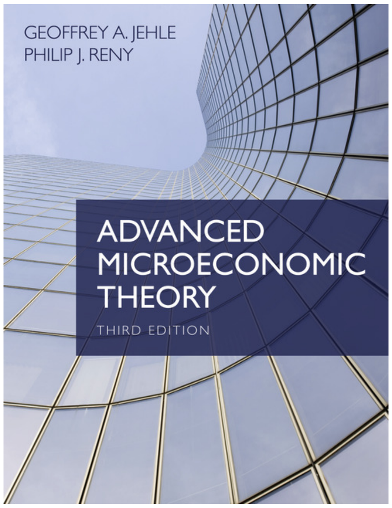

Cumulative Corrections to 3rd Ed.

as of January 2017

We have been alerted to many of these errors, typos and omissions by careful readers, to whom we are very grateful. Some have been noted in the Errata section of the website at http://alfred.objectis.net as they were brought to our attention, but the only cumulative compilation is presented here.

We will update this collection as needed changes are brought to our attention.

GAJ & PJR

Corrections to these pages have not yet been made:

(Red indicates page with change since previous update of this sheet.)

xv, 25, 31, 32, 40, 60, 66, 97, 122, 152, 159, 174, 176, 189, 190, 192, 221, 247, 251, 256, 257, 264, 296, 352, 353, 374, 417, 418, 449, 450, 451, 485, 522, 549, 551, 590, 591, 599, 635, 634, 636

Page:

xv Last line of last full paragraph. The URL has changed to http://alfred.objectis.net

25 Last line of second display: add label "(P-5)".

28 Last line before display (1.12): replace "$\mathbb{R}^n_+ \times \mathbb{R}_+ \to \mathbb{R}$" with "$\mathbb{R}^n_{++} \times \mathbb{R}_+ \to \mathbb{R}$"

31 Second line. Missing t in the definition of y^t: "$y^t \equiv y^1 + (1-t)y^2$" should be "$y^t \equiv ty^1 + (1-t)y^2$"

32 Second paragraph, second line: "Exercise 1.35" should be "Exercise 1.36".

40 Fourth math display on page, right side: last two terms before right bracket should be " +1".

60 Footnote 6, replace "Note that his" with "Note that own-price elasticity" .

66 First line in part (a), top of page, replace "$u(\mathbf{x}) \geq u(\mathbf{y})$" with "$u(\mathbf{y}) \geq u(\mathbf{x})$."

Exercise 1.37, part (b): u should be u^0: it should read, "Conclude that $f(\mathbf{p}) \equiv e(\mathbf{p}, u^0) - \mathbf{p} \cdot \mathbf{x}^0$ is maximised on $\mathbb{R}^n_{++}$ at $\mathbf{p} = \mathbf{p}^0$."

97 Second paragraph, second line; insert "that" between "function" and "rationalises".

122 Exercise 2.28: Remove reference to p_i. Exercise should read:

Let $u(x_1, x_2) = \ln(x_1) + 2\ln(x_2)$, and suppose prices of both goods are unity. Will this person be risk loving, risk neutral, or risk averse when offered gambles over different amounts of income?

152 Last line of Theorem 3.9: "Theorem 5.8" should read "Theorem 3.8".

159 Exercise 3.42. A few changes to make clear that constants in the production and associated cost functions will generally be different from one another. The exercise should read:

3.42 We have seen that every Cobb-Douglas production function, $y = Ax_1^\alpha x_2^{1-\alpha}$, gives rise to a Cobb-Douglas cost function with form, $c(\mathbf{w}, y) = yA^* w_1^\alpha w_2^{1-\alpha}$, and every CES production function, $y = A(x_1^\rho + x_2^\rho)^{1/\rho}$, gives rise to a CES cost function with form, $c(\mathbf{w}, y) = yA^*(w_1^r + w_2^r)^{1/r}$, where A and A^* are (possibly different) constants. For each pair of functions, show that the converse is also true. That is, starting with the respective cost functions, 'work backward' to the underlying production function and show that it is of the indicated form. Justify your approach.

174 Equations 4.12, 4.13 and 4.14, and second display on page 175; the upper limit on the summation sign should be J, not j. Beginning in second paragraph and continuing to the end of the page; all subscripted items should be superscripted instead.

176 Last paragraph of the page, continuing through the next paragraph on page 177; change all subscripts to superscripts.

189 Exercises 4.9 and 4.12 continuing onto next page; change all subscripts to superscripts.

190 Exercise 4.14; change all subscripts to superscripts.

Exercise 4.15, first display, righthand side of the equals sign, second term; the summation should run to J on top, not j, and the p should have a superscript i, not a subscript, giving:

$$q^j = (p^j)^{-2} \left(\sum_{\substack{i=1 \\ i \neq j}}^{J} (p^i)^{-1/2} \right)^{-2}, \qquad j = 1, \ldots, J.$$

192 Exercise 4.25, continuing to top of next page; change all subscripts to superscripts.

221 First sentence: Delete "and the second that production of output always requires some inputs". End the sentence with a period after "zero".

247 First line in the proof of Lemma 5.4: replace "Theorem 5.5" with "Theorem 5.6".

251 Exercise 5.1. Replace entire question with this text:

In an Edgeworth box economy, do the following:

(a) Sketch a situation in which there is no Walrasian equilibrium because preferences are not convex.

(b) Sketch a situation in which there is no Walrasian equilibrium because preferences are not monotonic.

(c) Sketch a situation in which there is no Walrasian equilibrium because preferences are not continuous.

(d) Sketch a situation in which preferences are simultaneously not convex and not monotonic and not continuous, yet a Walrasian equilibrium exists nonetheless.

256 Exercise 5.29. Here is a revised and re-oriented version of the exercise.

5.29 Consider an exchange economy $(u^i, \mathbf{e}^i)_{i\in I}$ in which each u^i is continuous, strictly increasing and quasiconcave on R^n_+. Suppose that $\bar{\mathbf{x}} = (\bar{\mathbf{x}}^1, \bar{\mathbf{x}}^2, \ldots, \bar{\mathbf{x}}^I) >> \mathbf{0}$ is Pareto efficient. Under these conditions, which differ from those of both Theorem 5.8 and Exercise 5.27, follow the steps below to derive yet another version of the Second Welfare Theorem.

(a) Let $C = \{\mathbf{y} \in \mathrm{R}^n_+ \mid \mathbf{y} = \sum_{i\in I} \mathbf{x}^i$, some $\mathbf{x}^i \in \mathrm{R}^n_+$ such that $u^i(\mathbf{x}^i) > u^i(\bar{\mathbf{x}}^i)$ for all $i \in I\}$, and let $Z = \{\mathbf{z} \in \mathrm{R}^n \mid \mathbf{z} \leq \sum_{i\in I} \mathbf{e}^i\}$. Show that C and Z are convex and that their intersection is empty.

(b) Appeal to Theorem A2.24 to show that there exists a nonzero vector $\mathbf{p} \in \mathrm{R}^n$ such that

$$\mathbf{p}\cdot\mathbf{z} \leq \mathbf{p}\cdot\mathbf{y}, \text{ for every } \mathbf{z} \in Z \text{ and every } \mathbf{y} \in C.$$

Conclude from this inequality and from the fact that Z is unbounded below, that $\mathbf{p} \geq \mathbf{0}$.

(c) Consider the same exchange economy, except that the endowment vector is $\bar{\mathbf{x}} = (\bar{\mathbf{x}}^1, \bar{\mathbf{x}}^2, \ldots, \bar{\mathbf{x}}^I)$. Use the inequality in part (b) to show that in this new economy, $\mathbf{p}$ is a Walrasian equilibrium price supporting the allocation $\bar{\mathbf{x}}$. (Hint: Argue by contradiction and use the fact that all consumers have strictly positive endowments in the new economy to show that at prices $\mathbf{p}$, some bundle is strictly affordable and strictly preferred to $\bar{\mathbf{x}}^i$ for some consumer i.)

(d) If consumers' utility functions are not strictly increasing, then their utilities might eventually fall as they consume more of some goods. We might then be able to make all consumers better off by reducing their consumption of those goods. Consequently, without strictly monotonic preferences, we should not insist that $\sum_{i\in I} \mathbf{x}^i = \sum_{i\in I} \mathbf{e}^i$ in our definition of Pareto efficiency. Instead, we should allow $\sum_{i\in I} \mathbf{x}^i \leq \sum_{i\in I} \mathbf{e}^i$, a condition we will call *weak feasibility.* Redefine Pareto efficiency in terms of weakly feasible allocations and repeat parts (a)-(c) above using this new definition of Pareto efficiency and without assuming that consumers' utility functions are strictly increasing but instead assuming merely that they represent preferences that satisfy local non-satiation (i.e., Axiom $4'$ in Chapter 1).

257 Exercise 5.32, part (d). Replace last sentence with this: "Distinguish between two cases: $\delta < 1/2$ and $\delta > 1/2$. Show that existence of spot and futures markets make both consumers strictly better off when $\delta < 1/2$. For what values of δ does storage take place? Conclude that consumer 1, the owner of all shares of the storage firm, only benefits from spot and futures markets when the storage firm is not actually used. Would the results change if consumer 2 had 100 percent ownership?

264 Exercise 5.44. Replace (a) and (b) with

(a) Show that when preferences can be represented by continuous and strongly increasing utility functions, the two definitions are equivalent.

(b) Construct an example with continuous and strictly monotonic preferences where the two definitions are not equivalent.

296 Remove Exercise 6.2 and its hint.

352 Figure 7.31. Missing action labels on the game tree. For player 1, for actions left to right, use L, R and OUT. For player 2, both nodes in information set, for actions left to right, use L, M and R.

353 Change to lowercase ell: Second line, "that player 2 has chosen L." should be "that player 2 has chosen l.

374 Exercise 7.47, part (b). The question as written is wrong. Indeed, that particular game has a unique subgame perfect equilibrium. Therefore, for that game (as for any game with a unique subgame perfect equilibrium), it is impossible to find a subgame perfect equilibrium that is not part of a sequentially rational assessment. The question should be corrected to read as follows: "Find a sequentially rational assessment whose behavioral strategy part is not a subgame perfect equilibrium."

417 Last display on the page should be: $d(1) \geq d(0)$

418 Equation (8.18) should be

$$\frac{\partial \mathcal{L}}{\partial p} = 1 - \left[\sum_{l=0}^{L} (\lambda \pi_l(1) + \beta(\pi_l(1) - \pi_l(0)))u'(w - p - l + B_l) \right] = 0,$$

448 Displayed equation (9.13), top case: insert space after "if" and before "v"

449 Second to last line, replace $c_i^*(0, v_{-i}, \ldots, v_{-i})$ with $c_i^*(0, v_2, \ldots, v_N)$ and replace v_n with v_N.

450 First display, top item on right hand side of equation, second term in $\max(\cdot)$ expression: $Fj(v_j)$ in numerator should be $F_j(v_j)$.

Second-to-last line, towards end of line, $Fj(v_j)$ should be $F_j(v_j)$.

451 Second line, beginning of line, $Fj(v_j)$ should be $F_j(v_j)$.

472 First displayed equation: omit the term $\sum_{x \in X}$

485 Exercise 9.4, part (c), lines 1 and 3: $N - 1$ should be N in both instances.

489 Exercise 9.23, part (b), line 2: replace $\frac{1}{6}$ with $\frac{1}{2}$.

522 Last line before display (A1.2), $-x_i$ should be $+x_i$

549 Exercise A1.34: replace "if and only if" with "if".

551 Display (A2.2): change f' to f''.

590 The display in equation (A2.28) should be:

$$\bar{D} = \begin{vmatrix} 0 & 1 & 1 \\ 1 & -2a & 0 \\ 1 & 0 & -2b \end{vmatrix} = 2(a+b) > 0. \tag{1}$$

591 Theorem A2.18. Conditions (1) and (2) on the sign pattern of the principal minors should be as follows:

1. $\mathbf{x}^*$ is a local maximum of $f(\mathbf{x})$ subject to the constraints if the $n-m$ principal minors in (A2.29) alternate in sign, beginning with that of $(-1)^{m+1}$, when evaluated at $(\mathbf{x}^*, \lambda^*)$.
2. $\mathbf{x}^*$ is a local minimum of $f(\mathbf{x})$ subject to the constraint if the $n-m$ principal minors in (A2.29) all have the same sign as $(-1)^m$, when evaluated at $(\mathbf{x}^*, \lambda^*)$.

599 First line "$\lambda^* \in \mathrm{R}^n$" should be bolded $\boldsymbol{\lambda}^* \in \mathrm{R}^m$. First line of display: replace "λ^*" with bolded "$\boldsymbol{\lambda}^*$".

601 Five lines up from the bottom: replace period with question mark: "$\mathbf{a} \in A$." with "$\mathbf{a} \in A$?"

613 Exercise A2.11, first line: replace "an increasing function" with "a strictly increasing function"

633 Hints for 4.9 and 4.13; change all subscripts to superscripts.

634 Hint for 4.15 (c); the hint should end as "$1 + 1/\sqrt{2k}$."

Hint for 4.25; change subscripts to superscripts.

635 Hint for 6.5. "For part (c)" should be "For part (b)".

636 Hint for 6.17 should read, "For parts (a) and (b), no, yes."