



Cumulative Corrections

as of June 2005

The Second Edition of *Advanced Microeconomic Theory* has been re-printed several times. On the occasion of some re-printings—notably the 3rd, 5th and 9th—corrections and some minor changes were incorporated, accounting for small differences students and instructors have sometimes noticed in their respective copies.

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 WebBoard at <http://alfred.vassar.edu> 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

To determine which corrections apply to *your* copy of the text:

- Look at the sequence of integers on the bottom of the copyright page: the first integer on the left is the number of the printing.
- Identify the pages corrected *after* your printing.

Printing

Corrections to these pages have not yet been made:

4, 261, 323, 371, 401, 417, 525, 537, 539, 541, 542

9th. April, 2005. Corrections were made on pages:

9, 12, 21, 39, 61, 64, 90, 99, 106, 115, 133, 145, 184, 246, 416, 442, 452, 468, 481, 513, 532, 533

5th. November, 2002. Corrections were made on pages:

40, 59, 119, 146, 170, 178, 195, 232, 285, 429, 460, 461, 484, 515, 533

3rd. October, 2001. Corrections were made on pages:

61, 69, 86, 94,95, 114, 120, 123, 146, 192, 193, 194, 195, 200, 201, 204, 206, 207, 218, 232, 237, 283, 284, 285, 288, 318, 346, 371, 377, 423, 455, 511, 525, 531

Page:

4. last word of second paragraph, replace “satisfised” with “satisfied”
9. line just above statement of Axiom. Replace “hall” with “ball”
12.
 - second line, replace two instances of “ x_1 ” with “ x_2 ”
 - fourth line, replace “ x_2 ” with “ x_1 ”
21. last line, replace “good” with “good 1”
39. line labelled (E.7), in first bracketed term, omit the term: x_2^ρ
40. element in last line should be: $u + \varepsilon < \bar{u}$
45. third line, replace “3.3” with “1.3”
48. first line, replace “part 1” with “part 2”
59. line 8: final term in display should be: $p_j \frac{\partial x_j}{\partial p_j}$.
61.
 - Exercise 1.9, replace “angels” with “angles”
 - Exercise 1.13, end of second line should read: $x_2^1 \geq x_2^2$.
64. Exercise 1.44, replace display with the following:

$$\frac{\partial x_i^s(\mathbf{p}^0, \mathbf{x}^0)}{\partial p_j} = \frac{\partial x_i^h(\mathbf{p}^0, u^0)}{\partial p_j}, \quad i, j = 1, \dots, n,$$

69. line 7 of second paragraph: replace “income” with “utility”.
86. last line of display (E.2), last term should read: $c_3(p_1, p_2, u)$.
90. fourth paragraph, seventh line, replace “ $u(x^1)$ ” with “ $u(\mathbf{x}^1)$ ”
95.
 - AXIOM G5 should be followed immediately by this paragraph:

“Together with G1, Axiom G5 implies that when the agent is indifferent between two gambles, he must be indifferent between all convex combinations of them. That is, if $g \sim h$, then because by G1 $g \sim g$, Axiom G5 implies $(\alpha \circ g, (1 - \alpha) \circ h) \sim (\alpha \circ g, (1 - \alpha) \circ g) = g$.”

- third to last paragraph should start with: “Our next, and final axiom . . .”

99. second line, replace “ $\sim a^i$ ” with “ $\sim a_i$ ”
106. third paragraph, third line, replace “ordinate” with “abscissa” and replace “abscissa” with “ordinate”
114. Exercise 2.18:
- second line: replace \succsim with \sim .
 - fifth line: replace \succsim with \sim .
115. Exercise 2.24, first line, replace “ x ” with “ w ”
119. • First paragraph, line 7, replace text starting with, “Quite directly . . .” and ending with, “. . . $(1 - t)$ of the period.” with the following text:
- “One interpretation is that strict quasiconcavity implies the presence of at least some complementarities in production. Intuitively, two inputs, labor and capital say, are to some degree complementary if very little production can take place if one of the inputs is low, even if the other input is high. In this sense, both inputs *together* are important for production. In such a situation, the average of two extreme production vectors, one with high labor and low capital and the other with low labor and high capital, will produce strictly more output than at least one of the two extreme input vectors, and perhaps even both. The assumption of strict quasiconcavity extends this idea to strict averages of all distinct pairs of input vectors.”
- last sentence of first paragraph, insert “of” as in “. . . a positive amount of output requires. . .”
120. final display on page, omit the term: $(s \neq t)$
123. second line, display, should read:
- $$y = \min\{x_1, \dots, x_n\}$$
133. second and third lines, replace “ y^1 ” with “ y^2 ”
145. Exercise 3.1, first line: omit “/” between two terms in parentheses
146. • Exercise 3.10, first sentence: replace superscript β with superscript $1 - \alpha$, as in $y = Ax_1^\alpha x_2^{1-\alpha} - mx_2$

- Exercise 3.10, second sentence should read: “Calculate σ for this function and show that, for $m \neq 0$ and $\alpha \neq 1$, AP_2 rises as $\sigma \rightarrow 1$.”
 - Exercise 3.15(b) should read: (b) $\lim_{\rho \rightarrow -\infty} y = \min\{x_1, \dots, x_n\}$
170. last entry in second row of table in Figure 4.6 should be: -0.066
178. Exercise 4.19(d), second line: replace p' with p^1
184. fifth paragraph, display, replace “**I**” with “ I ”
192. 192-3,
- Theorem 5.3, condition 3, second line, replace \bar{p}'_k with \bar{p}_k
 - last line. Delete the entire sentence that begins bottom p.192, continues to top of p.193, through display (P.1), to end of paragraph: “In addition ... statement of the theorem.”
194. 194-5:
- replace all five instances of (P.2) with (P.1) and replace (P.3) with (P.2)
 - line 4 from bottom. Remove overbar so term reads: $z_k(\mathbf{p}^*)$
 - display in line 3 from bottom.
Omit overbar so first term on left reads: $\mathbf{p}^* \cdot \mathbf{z}(\mathbf{p}^*)$
Omit overbar so first term on right reads: $\sum_{k=1}^n z_k(\mathbf{p}^*)$
 - starting last paragraph on the page with, “Now by ...” and ending at end of second paragraph on p.195 with, “... as desired.”, replace entire block of text with:

“Now, condition 2 in the statement of the theorem (Walras’ law) says that $\mathbf{p}^* \cdot \mathbf{z}(\mathbf{p}^*) = 0$, so we may conclude that the left-hand side and therefore also the right-hand side of the preceding equation is zero. But because the sign of $\tilde{z}_k(\mathbf{p}^*)$ is the same as that of $z_k(\mathbf{p}^*)$, the sum on the right-hand side can be zero only if $z_k(\mathbf{p}^*) \leq 0$ for all k . This, together with $\mathbf{p}^* \gg \mathbf{0}$ and Walras’ law implies that each $z_k(\mathbf{p}^*) = 0$, as desired.”
- 200.
- line 1 should begin: “Suppose that u^i is strictly increasing on ...”
 - line 7 second sentence, should read:
“Then $u^i(\mathbf{x}^i) \geq u^i(\hat{\mathbf{x}}^i)$ and $\mathbf{p} \cdot \mathbf{x}^i < \mathbf{p} \cdot \hat{\mathbf{x}}^i$. Consequently ...”
 - line 10 should read: “remains strictly less expensive than $\hat{\mathbf{x}}^i$. But ...”

- line 11 should read: “ $\mathbf{p} \cdot \bar{\mathbf{x}}^i < \mathbf{p} \cdot \hat{\mathbf{x}}^i$. But this ...”
201. Theorem 5.6, second sentence should read: “utility function, u^i , is strictly increasing on ...”
204. throughout Theorem 5.8, and its proof, replace all five instances of “competitive equilibrium” with “Walrasian equilibrium”
206.
 - Assumption 5.2. Delete condition 2:
“2. $Y^j \cap \mathbb{R}_+^n = \{\mathbf{0}\}$.”
Then condition 3 becomes 2, and 4 becomes 3. Renumber accordingly.
 - line 11, replace “third” with “second”
 - line 16, replace “fourth” with “third”
 - end of first paragraph following Assumption 5.2. Add sentence:
“Although Assumption 5.2 does not impose it, all of our results to follow are consistent with the assumption of ‘no free production,’ (i.e. $Y^j \cap \mathbb{R}_+^n = \{\mathbf{0}\}$).”
207.
 - first line of Theorem 5.9 should read: “... conditions 1 through 3 ...”
 - first line following statement of Theorem 5.10, second sentence should read: “Conditions 1, 3, and the boundedness of ...”
218. Theorem 5.14 should begin: “If each u^i is strictly increasing ...”
232. Exercise 5.2:
 - second sentence should begin: “His ...”
 - Replace third (final) sentence with:
“Show that whenever the price of a good rises by a sufficiently small amount, the consumer will be made worse off if initially he was a net demander of the good (i.e., his demand exceeded his endowment) and made better off if he was initially a net supplier of the good. What can you say if the price of the good rises by a sufficiently *large* amount?”
237. Exercise 5.37(a) should read:
“... when preferences are continuous and strictly monotonic, ...”
246.
 - third paragraph, replace “6.4” with “6.3”
 - fifth paragraph, fourth line following display, replace “6.5” with “6.4”
261. Exercise 6.2 should be deleted. It has become irrelevant given the definition of WP adopted on p. 242.

283. Example 7.3. [Click Here](#) for a complete revision of Example 7.3. Or, for line-by-line corrections:

- line 11 of Example should read: "... firms' costs are strictly less than the common price, ..."
- Figure 7.7, right-hand matrix, row 2, column 2 should be: (6,2)
- same matrix, row 3, column 3 should be: (16,0)

284. • Figure 7.8, top-left matrix, row 2, column 2 should be: (6,5,2)

- same matrix, row 3, column 2 should be: (3,12,2)
- same matrix, row 4, column 2 should be: (3,0,2)
- top-right matrix, row 2, column 3 should be: (16,0,0)
- same matrix, row 3, column 3 should be: (12,6,0)
- same matrix, row 4, column 3 should be: (8,0,0)
- end of first paragraph should read:
"... their payoffs would be 12, 6, and 0, respectively."
- last paragraph, continuing on p.285, should read:

"Finding one Nash equilibrium is particularly easy here. Note that firms $2l$ and $2h$ each have a weakly dominant strategy: choosing a price of 4 is weakly dominant for firm $2l$, and choosing a price of 6 is weakly dominant for firm $2h$. But once we eliminate the other strategies for them, firm 1 then has a strictly dominant strategy, namely, to choose a price of 4. To see this, suppose that $p_1 = 4$ and $p_n = 6$. Then according to Fig. 7.8, firm 1's payoff is 3 if he chooses $p_1 = 6$, 12 if he chooses $p_1 = 4$, and 7 if he chooses $p_1 = 1$."

285. • first line, replace " p_n " with " p_h "

- third line, replace "in which all three firms choose a price of 4." with "in which two of the three firms choose a price of 4 while the third chooses a price of 6."

288. Figure 7.9

- delete rightmost branch of the game tree labelled, " r_4 ," leaving only branches labelled r_1 , r_2 and r_3 at 1's first node.
- leftmost payoff, as well as fourth, sixth, and seventh payoff from left to right, should all be: $\begin{pmatrix} 1 \\ -1 \end{pmatrix}$

318. last line, right-hand side of equation should be: $v_3(T | I_{3\gamma})$
323. Exercise 7.10(b), first line following matrix, omit the phrase, “all of which are pure and”
346. legend on Figure 8.7, line 7 should contain: “... $MRS_l(\psi_l^1) > \underline{\pi}$. Consequently ...”
371.
 - Exercise 8.8. Add to stem of question, following “equal to L .”, the sentence: “Assume that the low-risk consumer strictly prefers full insurance at the high-risk competitive price to no insurance.”
 - Exercise 8.9(c):
 - * after first sentence insert: “Also, assume low-risk consumers strictly prefer no insurance to full insurance at the high-risk competitive price.”
 - * second sentence should read: “... is low enough, the only ...”
377. Theorem 9.1. Omit comma in theorem title.
401. Exercise 9.13, line 4. Replace “ $b_i/2 + \max(0, v_j - b_j/2)$ ” with “ $\max[a_i, b_i/2 + \max(0, v_j - b_j/2)]$ ”
416. sixth line from bottom, replace “[1, -1]” with “[-1, 1]”
417. Fourth line from bottom, remove bolding: replace “ \mathbf{x}^1 ” with “ x^1 ”
423. line 8 in Proof of Theorem A1.4: term should be “ S_i^c ”
429. next to last line. Remove bolding so that term reads: $f^{-1}(B)$
442. 12th line, replace “exceeds the vertical” with “exceeds (or equals) the vertical”
451. line 8. Replace “ $(\mathbf{x} - y)$ ” with “ $(\mathbf{x}, -y)$ ”
452. Proof of Theorem A1.19. Replace “ $\min[-f(\mathbf{x}^1), -f(\mathbf{x}^2)] = \max[f(\mathbf{x}^1), (\mathbf{x}^2)]$ ” with “ $-\min[f(\mathbf{x}^1), f(\mathbf{x}^2)] = \max[-f(\mathbf{x}^1), -f(\mathbf{x}^2)]$ ”
455. Exercise A1.26, second sentence should read: “Conclude that the complement of every open interval is the union of two closed sets.”
460. second line of text, term should be: “... $f'(x^1)$...”
461. Figure A2.3, second labelled point on the x -axis should be x^1
468. second to last line, replace “(P.1)” with “(P.3)”

481. display labelled (P.3), first parenthetical term, replace “ $\frac{f_{12}}{f_{11}}z_1$ ” with “ $\frac{f_{12}}{f_{11}}z_2$ ”
484. line 8 should be:

$$f(\mathbf{x}^t) > tf(\mathbf{x}') + (1-t)f(\mathbf{x}'),$$
511. Exercise A2.20, second line. Term should be: $f(x) = -x^4$
513. Chapter 1 theorems should be numbered 1.n, not 2.n.
515. item labelled 9.1. Omit comma after “First-Price”
525.
 - Hint for Exercise 3.21. Replace “ $\mathbf{z}^2 = \mathbf{z}^1 + \Delta\mathbf{z}$ for $\Delta\mathbf{z} \geq \mathbf{0}$ ” with “ $\mathbf{z}^2 = \Delta\mathbf{z}^1 \geq \mathbf{0}$ ”
 - Hint for Exercise 3.53. Replace with: $K^* = 5\sqrt{w_f/w_k}$
 - Answer to Exercise 5.2. Replace with:
“Differentiate the indirect utility function with respect to the price that rises and use Roy’s identity.”
531.
 - line 3, replace “89” with “83”
 - line 16, publisher should be: “North Holland”
532. third line from bottom, insert new reference
Nikaido, H. (1968). *Convex Structures and Economic Theory*. New York: Academic Press.
533.
 - after line 13, insert the following missing reference:
Sen, A. (1970a). *Collective Choice and Social Welfare*, San Francisco, Holden-Day.
 - in Selten (1965) reference, remove hyphen and add umlaut so word is “Nachfragerträge”. Replace volume number “12” with “121.” Replace “fur” with “für”. Replace “Gesamte” with “gesamte”. Remove “ , 667-689”
 - in Slutsky reference, replace “bilancie” with “bilancio”
 - remove reference to Sonnenschien (1971)
 - remove reference to Spence (1976)
 - in Von Neumann reference, replace “Economics” with “Economic”
 - in Wald reference, replace “fur” with “für”
 - in Walras reference, replace “d’économic” with “d’économie”
537. First column, after line 20, “of exchange economy, 186–87” insert new index item “Cost function, 127–35” and two sub-items “and duality, 135” and “and integrability, 135”

- 538. Index item “Gradient.” Replace “46” with “464”
- 539. Replace “Leader (Stakelberg)” with “Leader (Stackelberg)”
- 541. Add as first sub-item under “Quasiconcave functions”: “and bordered Hessian, 511e”
- 542. Replace two instances of “Stakelberg” with “Stackelberg”