Errata, Style Corrections, and Reference Update to the 1st Printing (2001) of The Economics of Network Industries

by
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Revised, October 23, 2012

Remark:

Some (but not all, unfortunately) of the corrections on this file are minor style corrections which will not benefit the reader very much. They are brought here for the sake of completeness and in order to remind me (the author) to replace a few pages in subsequent printing of this book.

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This Draft :   1neterrat27.tex   2012/10/23 13:23   15 pages total

Chapter 1: Introduction to Network Economics

p.5, line 22:   Add a closing comma after "...any information,"

p.7, line 24:   Missing period: Should be "...carriers. Similarly,..."

p.8, line 8:   "regulator" should be "regulators"

p.8, line 15:   Add a comma after "turned out,"

Chapter 2: The Hardware Industry

p.14, line 15:   "graphic-user interface" should be "Graphical User Interface"

p.14, line 21:   delete space between: "Section 2.2 ,..."

p.14, line 21:   delete "and" after "Section 4.1"

p.15, line -3**:**   delete the "," after "This"

p.17, line 2:   remove extra space between "*exhibit* **network**"

p.17, Q3:   "affects" should be "affect"

p.17, line -7**:**   "computer identical users" should be "identical computer users"

p.20, Definition 2.4, should be: ...how many consumers will buy a computer (in the present monopoly case), and how many will buy each brand (in an oligopoly case).

p.20, line -5**:**   "...machines;" should be "...machines);"

p.24, last line: "$\mu_c - \mu_c$" should be: "$\mu_c - \mu_n$"

p.27, line 6**:** "…price charge by Artichoke" should be "…price charged by Artichoke"

p.28, line 6**:** delete extra space before "laptops"

p.28, line 13**:** "whereas" sticks out

p.28, line 16**:** "(graphic-user interface) should be "(graphical user interface)"

p.29, line 17**:** "…in order take into…" should be "…in order to take into…"

p.30, lines -4 **and** -3**:** Replace "$\geq$" by "$=$"

p.32, lines -11 **and** -10**:** Replace "$\geq$" by "$=$"

p.32: Some "A users" should be "A-users", "B users" should be "B-users" and so on.

p.32, line 15**:** "…it increase the network…" should be "…it increases the network…"

p.32, lines $-10, -11$**:** delete the superscript "U" at the two (not numbered) equations (since subscript "U" is reserved for equilibrium values only)

p.32, line -5**:** "Equation…" should be "Equations…"

pp.33–34 Tables 2.1 & 2.2: Replace Firm 1 & Firm 2 by Firms A & B

p.36, line 2 **(after Table 2.3):** "…not the existence…" should be "nor the existence…"

p.38, end of paragraph before Section 2.3.1 begins: Delete the sentences "Finally, we assume…Formally, we let $\beta \geq 4\delta$."

p.39, Two-line equation should be:

$$\pi_B^U = p_{BB}^U \times 1 = \max\left\{p_{AA}^U \times 2; (p_{AA}^U - 2\delta) \times 3\right\}$$
$$\pi_A^U = p_{AA}^U \times 2 = (p_{BB}^U - 2\delta) \times 3.$$

Explanation: If $p_{AA} = p_{BB}$, then user AB is indifferent between purchasing System AA and BB. Hence, if in order for firm B to mildly undercut firm A it merely has to set $p_{BB} < p_{AA}^U$.

p.39, Lines $-8 - 9$: Should be $p_{BB} \le p_{AA}$ (i.e., delete the $-\delta$)

p.39, Line -5: Should be $p_{AA}^U \times 2 \ge (p_{AA}^U - 2\delta)3$ (i.e., delete the $-\delta$)

p.39, Line -4: Should be $p_{AA}^U \le 6\delta$

p.39, Equation (2.31): Should be

$$p_{AA}^I = \frac{3\delta}{2}, \quad p_{BB}^I = 3\delta, \quad \text{and} \quad \pi_A^I = \pi_B^I = 3\delta,$$

p.40, Equation (2.32): Should be

$$CS^I \stackrel{\text{def}}{=} U_{AA} + U_{BB} + U_{AB}$$
$$= \left(\beta - \frac{3\delta}{2}\right) + (\beta - 3\delta) + \left(\beta - \frac{3\delta}{2} - \delta\right) = 3\beta - 7\delta.$$

p.40, Equation (2.33): Should be

$$W^I \stackrel{\text{def}}{=} \pi_A + \pi_B + CS^I = 3\delta + 3\delta + 3\beta - 7\delta = 3\beta - \delta.$$

p.40, line -11: Replace "incompatible" by "compatible"

p.40, lines -5, -4, -2, and -1: Replace "$\ge$" by "$=$"

p.42, Proposition 2.9 , parts (a) and (b) should be combined into: *The profit of each firm is higher when firms sell compatible components than when they sell incompatible components. Formally, $\pi_i^C > \pi_i^I$ for $i = A, B$.*

p.45, line 3**:**   "data-base" should be "database"

p.45, line 19**:**   "...Lotus' menu;" should be "...Lotus' menu);"

p.45, line −13**:**   "*file-transfer*" runs beyond the right-hand margin

p.45, lines −5 **and** −3**:**   DMS should be DBMS

p.46, Exercise 1:   replace c by μ (to obtain consistent notation)

p.46, line −2**:**   Replace "and the that" by "and that the"

Chapter 3: The Software Industry

p.52, line −3**:**   remove space between: "to be"

p.54, Proposition 3.1:   Replace "p_0" by "$p_0 > \mu$"

p.59, equation (3.11):   Replace "$\geq$" by "$=$" (twice)

p.60, Proposition 3.5(b):   Should be "increase" with ϕ (instead of "decrease")

p.61, line −7**:**   "...also facilitates price competition" should be "...also weakens price competition."

p.63, equation (3.20), 2nd part: Replace $s_B + \rho_A(\gamma\eta_p - s_B)$ by $s_B + \rho_B(\gamma\eta_p - s_B)$

p.64, Figure 3.2:   It should be made clear (in the picture) that the vertical axes hit the horizontal axis at $s_A = 0$ and $s_B = 0$, respectively.

p.64, line 2**:**   "variety, both are functions..." should be "variety. Both curves are functions..."

p.67, before (3.21): Should be, "Thus, the utility of a support-oriented consumer is given by"

p.69, 3 lines above (3.25): Should be "(support-oriented and support-independent consumers)"

p.70, line 2**:** Add "[the monopoly] will choose..."

p.70, line 4**:** add a "." at the end

p.71, line 2**:** Should be: "...to get the consumers with low-willingness to pay..."

p.71, lines 3 **&** 4**:** Should be "...from consumers with high-willingness to pay."

p.71, line 7**:** "86386" should be "80386"

p.71, line 7**:** "late 1980s" should be "1985"

p.71, line 8**:** "86386SX" should be "80386SX"

p.71, line -13**:** Deneckere and McAfee (1994) should be (1996)

p.71, line -9**:** "imbedded" should be "embedded"

p.72, after (3.28): "...has already developed..." should be "...has already been developed..."

p.72, Proposition 3.11: "$p_H = (1 + \theta)2\eta$" should be "$p_H = (1 + \theta)\eta$"

p.73: The condition of Proposition 3.12 should be modified to If $\phi_r < \min\{2\eta^2\theta; \eta^2(\theta + 3)\}$

p.74, line 7**:** "(Disk-Operating System)" should be "(Disk Operating System)"

p.74, line 8: Replace "The use the term" by "The use of the term"

p.75, line 6**:**   "...data 1985..." should be "data from 1985..."

p.75, line -9**:**   Replace "the the" by "the"

p.78, line 2:   (style) line sticks out

Chapter 4: Technical Advance and Standardization

p.83, line -11**:**   "Most consumer organization..." should be "Most consumer organizations..."

p.86, Figure 4.1:   Style: Connect the thick dots with a dashed line

p.88:   Replace the word "are never" by " may not be" twice: The caption of Figure 4.2, and the line below it.

p.88, last line: Replace "to η_{t-1} only" by "to η_t only"

p.90, Definition 4.3(a):   Replace "Δg" by "Δ_g" (twice)

p.90, Definition 4.3(b):   Should be: $\Delta \overset{\text{def}}{=} \Delta_g$ for all $g = 1, 2, \ldots$.

p.91, line 4 (equation):   Replace "Δ_g" by "Δ" (twice)

p.93, equation (4.8):   add a reservation utility so that

$$U_i^k \overset{\text{def}}{=} \begin{cases} \alpha q_i - p_i & \text{if he buys brand } i \\ \alpha q_j - \delta - p_j & \text{if he buys brand } j \neq i \\ 0 & \text{if he does not buy any brand,} \end{cases}$$

p.94:   The condition of Proposition 4.3 should be interpreted as the assumption of the entire model.

p.95, line 4:   Replace "$W^B = W^A$" by "$W_B^{\text{MR}} = W_A^{\text{MR}}$"

p.95, last paragraph: By the condition of Proposition 4.3, $p_1^{\text{NR}} = 2\alpha\eta - \delta < 0$, therefore, under mutual nonrecognition firm 1 does not sell to brand 2 oriented consumers. Thus, the entire analysis of this paragraph, including equation (4.12) on p.96 should be deleted.

p.96, Proposition 4.4: Add: "Under the condition of Proposition 4.3..." + fix a typo: "externalities"

p.96, line -16**:** Replace "number foreign" with "number of foreign"

p.96, line -14**:** Gandal and Shy (forthcoming) should be (2001).

p.97, Exercise 1(b): should be "on page 83" instead of page 82

p.98: Gandal, N., and O. Shy. 2001. "Standardization Policy and International Trade." *Journal of International Economics* 53: 363–383.

Chapter 5: Telecommunication

p.105, Assumption 5.1: Style correction: "monopoly" sticks out

p.105, Assumption 5.1: The last part could be made slightly stronger so that $\phi < \min\{\eta(\alpha\eta - \mu), \eta(2\eta - \mu)\}$. This would ensure that the entrant's profit, π^e in equation (5.7) on p.107, is strictly positive.

p.105, line -3**:** Replace "type L consumers" by "type H consumers"

p.107, line 2: "vain" should be "vein."

p.108, line 21**:** Replace "Let q denote total the" by "Let q denote the total"

p.114, 3 lines before (5.15):   should be:

"Substituting $q^e = \eta \hat{x} = 2\eta/3$ and $p = 2\eta/9$ into (5.8) implies that ..."

p.116, eq.(5.20):   the middle expression should be:

$$p = \frac{\eta(13 - \sqrt{7})}{81} \approx 0.128\eta$$

p.116, 3 lines below eq.(5.20):   Should be: $p^E \approx 0.128\eta < 0.222\eta \approx p^I$

p.118, line 9:   Delete the "S" before "The local..."

p.118, line 17:   Style: "Telecomm-" sticks out

p.121, line 10:   Replace "$\pi^E = [p^I - \mu_E - (p^I - \mu^I)]d^E = \mu^I - \mu^E$" by
"$\pi^E = [p^I - \mu^E - (p^I - \mu^I)]d^E = (\mu^I - \mu^E)d^E$"

p.122, Stage I: Should be: ... $a_{\vec{BA}}$ by company A and $a_{\vec{AB}}$ by company B.

p.124, eq.(5.30), top line: Replace "$4\beta_L$" by "$4\eta\beta_L$"

p.127, line before (5.32):   Replace "Thus," with "If, in equilibrium, $q_N = \eta_N$ and $q_S = \eta_S$, we have"

p.129, line -9:   "thought" should be "though"

p.131, Exercise 3:   Replace "$(1 - x)q^e - p$" by "$(2 - x)q^e - p$"

p.132, Exercise 5:   (not an error) simply add: "We continue to assume that $\eta_N > \eta_S$"

Chapter 6: Broadcasting

p.139, top 4-line equation, the left column be: $\pi_A(\tau - 2, \tau)$, $\pi_A(\tau - 1, \tau)$, $\pi_A(\tau + 1, \tau)$ and $\pi_A(\tau + 2, \tau)$

p.142, line 8: Replace "idea" by "ideal"

p.144, Last paragraph: Replace: "...The intuition...home early." by "The intuition behind Proposition 6.4 is that each station will respond to an "early" schedule of the rival by setting its program to the latest possible, i.e., at $\tau + 2$, thereby capturing all viewers arriving home late. However, if the rival station schedules its program "very late," i.e., at $\tau + 1$ or $\tau + 2$, the station responds by broadcasting just before the rival's program, i.e., at $t = \tau$ or $t = \tau + 1$, respectively, thereby capturing all viewers arriving home early. Nilssen and..."

p.145, 3rd paragraph: 81% should be 86% (twice) and 19% should be 14% (twice). To see why this correction is needed let x be the percentage of those who like talk shows, hence $1 - x$ is the percentage of those who like to watch the news. Now, the duopoly profit of each broadcaster (owning each 2 stations) must satisfy

$$\pi = \frac{x}{4} + \frac{x}{4} > \frac{x}{3} + (1 - x) \quad \Longleftrightarrow \quad x > \frac{6}{7} \approx 0.86$$

p.146, Proposition 6.5, Part (b): Should be: If $2\eta_2 < \eta_1 < 3\eta_2$, then...

p.146, Proposition 6.5, Part (c): Should be: If $\eta_1 < 2\eta_2$, then...

p.152, line -6 should be: see McMillan (1994) and Klemperer (1999).

p.161 Add reference: Klemperer, P. 1999. "Auction Theory: A Guide to the Literature." *Journal of Economic Surveys* 13: 227–286.

Chapter 7: Markets for Information

p.163, line 1: Style: "economists" sticks out

p.168: "providers." sticks out of the right margin

p.169: The last paragraph *"Uncaptured" surplus by information providers* is incorrect since we assumed that consumers don't pay for copies (they pay for originals which are excluded from Table 7.2). Hence, uncaptured surplus equals total consumer surplus. Therefore,

p.169, line -5**:** delete the sentence "In this case,...information"

p.169, line -2**:** Should be: $\text{UCD} = \eta$.

p.170 top: Should be

$$\text{UCP} = \rho + \rho^2 + \rho^3 + \cdots + \rho^\eta = \frac{\rho(1 - \rho^\eta)}{1 - \rho}.$$

p.170, lines 7–8**:** The word "consumers" appears twice instead of once

p.170, line 10**:** Delete the entire sentence: "Thus, despite...is digital"

p.171, lines $9, 10$**:** Put a "." after United States. Then replace "thereby adding values to VCRs," by "These rental stores made VCRs even more popular,"

p.172, line -11**:** ",both," should be "both" (i.e., delete two commas)

p.177, eq.(7.5): Should be: $\sum_{j \neq i} q_j$ (instead of q_i)

p.179, eq.(7.8): Should be: $\sum_{j \neq i} q_j$ (instead of q_i)

p.185, reference to Varian (1995): replace "200–201" by "161–162."

p.186, reference to Varian (2000b):   replace "forthcoming" by "473-488."

Chapter 8: Banks and Money

p.189, line -12**:**   Should be: Klemperer (1987a,b, 1995)

p.190, line 1:   "Shy (forthcoming)" should be "Shy (2002)"

p.191, line -18**:**   "Kim, Kliger, and Vale (1999)" should be "Kim, Kliger, and Vale (2003)"

p.193, line -7**:**   "Kim, Kliger, and Vale (1999)" should be "Kim, Kliger, and Vale (2003)"

p.203, line 9**:**   Should be: "Not only are these contracts hard to phrase..." (i.e., delete the 2nd "are")

p.205:   "Shy and Tarkka (1998)" should be "Shy and Tarkka (2002)"

p.206, line 14:   "Thus, we refer a merchant" should be "Thus, we refer to a merchant"

p.212:   Update reference: Kim, Kliger, and Vale. 2003. "Estimating Switching Costs: the case of banking." *Journal of Financial Intermediation* 12: 25–56.

p.212:   Add reference: Klemperer, P. 1995. "Competition when Consumers have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade." *Review of Economic Studies* 62: 515–539.

p.213, reference update: Shy, O. 2002. "A Quick-and-Easy Method for Estimating Switching Costs." *International Journal of Industrial Organization* 20: 71–87.

p.213, reference update: Shy, O., and J. Tarkka. 2002. "The Market for Electronic Cash Cards." *Journal of Money, Credit, and Banking* 34: 299–314.

Chapter 9: The Airline Industry

p.217, line 14 **(style correction):**   "economies" runs beyond the right-hand margin

p.224, line -5**:**   "...in they wish" should be "...if they wish"

p.229, Exercise 1(a):   Should be $c(\eta) \stackrel{\text{def}}{=} \phi + \eta$

p.230, Exercise 1(b):   Should be $c(\eta) \stackrel{\text{def}}{=} \phi + \sqrt{\eta}$

Chapter 10: Social Interaction

p.235, line -4**:**   The first-order condition should be: $0 = \dfrac{\mathrm{d}W}{\mathrm{d}x} = -2\eta\alpha x + \eta\beta$.

p.243, Table 10.1:   Yield should be Average Yield.
Also, the caption should read "...*Note:* Average yield is the average of all gift recipients' ratios of the value they attach to non-cash gifts to the price paid by the giver ."
Remark: This explains why the third column is not equal to the ratio of the first to the second column.

p.243, line 3 below Table 10.1:   "83.9% for the price" should be " 83.9% of the price"

Chapter 11: Other Networks

p.252, lines 22–23:   In Belgium, Flemish 54% (instead of 56%), French 45% (instead of 32%)...

p.253, line -9**:** η_{EH} should be η_{HE}

p.254, Proposition 11.1 (style correction):   "speaker" runs past the right-hand margin

p.283, Exercise 6, 3rd line: "or the road" should be "of the road"

pp.259–260:   Insert question marks at the end of Q1, Q2 and Q3

p.263, line -9**:**   "majoring rule" should be "majority rule"

Appendix A: Normal-Form Games

p.285, line 9**:**   "...checkers.)." should be "...checkers)."

Appendix B: Extensive-Form Games

p.299, line 7**:**   Add a "." after Figure B.1

p.299, line -4**:**   "...cost of -1 units" should be "...cost of 1 unit"

p.299, line -2**:**   "...fees." should be "...fees)."

p.300–301:   Remove some extra spaces: Line 5 after "(vertices)" and Definition B.1(a): after "terminal nodes" and Definition B.2 after "strategy"

p.303, line 2**:**   "...as an incredible..." should be "...is an incredible..."

Appendix C: Undercut-Proof Equilibria

p.309, Definition C.1:   Make it a strong inequality so that: $p_i < p_j - \delta$

p.311, Exercise 1:   replace c_A by μ_A and c_B by μ_B (to obtain consistent notation)

p.311, Exercise 1:   Replace η by δ [in parts (a) and (b)]

Index

p.314, line -4**:**   GUI (Graphical User Interface)

p.315, lines 10-11:   PTT should be listed on the same line.

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End of Errata File