

Excerpts from the Full Data Set

The *Keeley Report* contains three exhibits that report only some of the data. By eliminating some data, these graphs create the illusion that the process that generated the data is more chaotic than is actually the case.

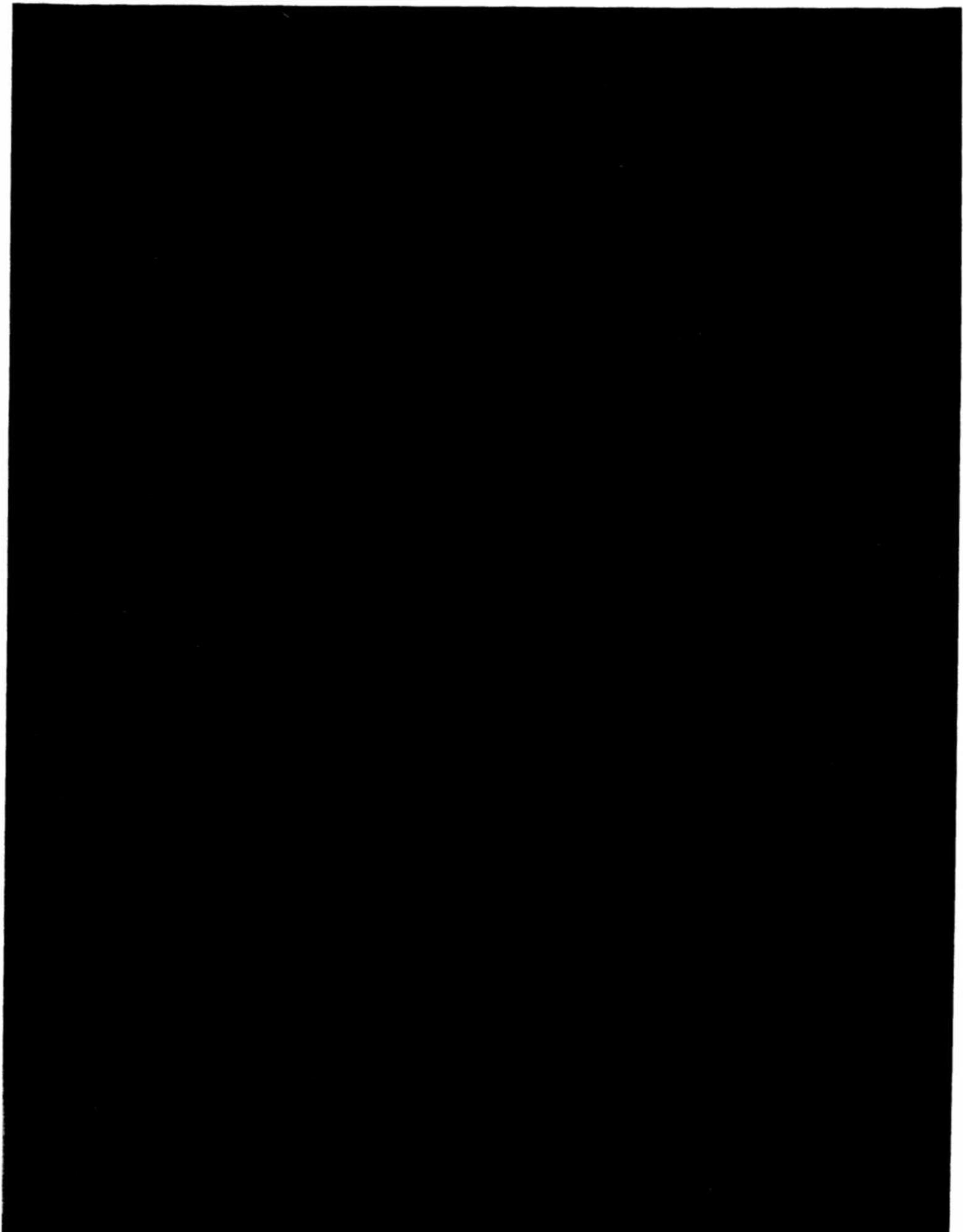
[REDACTED]

⁶¹ Tufte, *supra*, pp. 74-75, discusses why this is misleading.

⁶² [REDACTED]

63

[REDACTED]



Comparisons with Known but Ignored Differences

The *Keeley Report* often presents comparisons that have known sources of differences that are not taken into account. [REDACTED]

[REDACTED]

COMMONALITY OF PRICING ACROSS TECHNOLOGIES

[REDACTED]

⁶⁴ *Keeley Report*, p. 60.

⁶⁵ *Ibid.*, p. 16.

⁶⁶ *Ibid.*, p. 65. [REDACTED]

[REDACTED]

⁶⁷ *Ibid.*, p. 5.

⁶⁸ *Keeley Deposition*, p. 215.

⁶⁹ *Keeley Report*, p. 62.

[REDACTED]

⁷⁰ *Keeley Deposition*, pp. 117-18
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁷¹ *Noll Report*, p. 14.

⁷² *Noll Report*, p. 24, footnote 17.

[REDACTED]

Price Correlations among Buyers of the Same Product

The simplest approach to determine whether prices for the same product are common among different purchasers is a correlation test. [REDACTED]

[REDACTED]

73 [REDACTED]

[REDACTED]

⁷⁸ Keeley Deposition, p. 123.

⁷⁹ See Ernst R. Berndt, "The Measurement of Quality Change," Ch. 4 of *The Practice of Econometrics: Classic and Contemporary*, Addison-Wesley, 1991; Ariel Pakes, "A Reconsideration of Hedonic Price Indices with an Application to PCs," *American Economic Review* Vol. 93, No. 5 (December 2003), pp. 1578-96; Patrick Bajari and Lanier Benkard, "Demand Estimation with Heterogeneous Consumers and Unobserved Product Characteristics: A Hedonic Approach," *Journal of Political Economy* Vol. 113, No. 6 (December 2005), pp. 1239-76; and Paul D. Chwelos, Ernst R. Berndt, and Iain M. Cockburn, "Faster, Smaller, Cheaper: A Hedonic Price Analysis of PDAs," *Applied Economics* Vol. 40, No. 22 (November 2008), pp. 2839-56.

[REDACTED]

Price Regressions Pooling All Products

[REDACTED]

80 [REDACTED]

[REDACTED]

⁸¹ *Keeley Deposition*, p. 123.

⁸² *Ibid.*, pp. 212-13.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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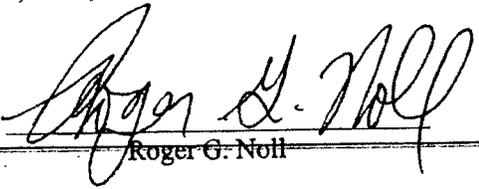
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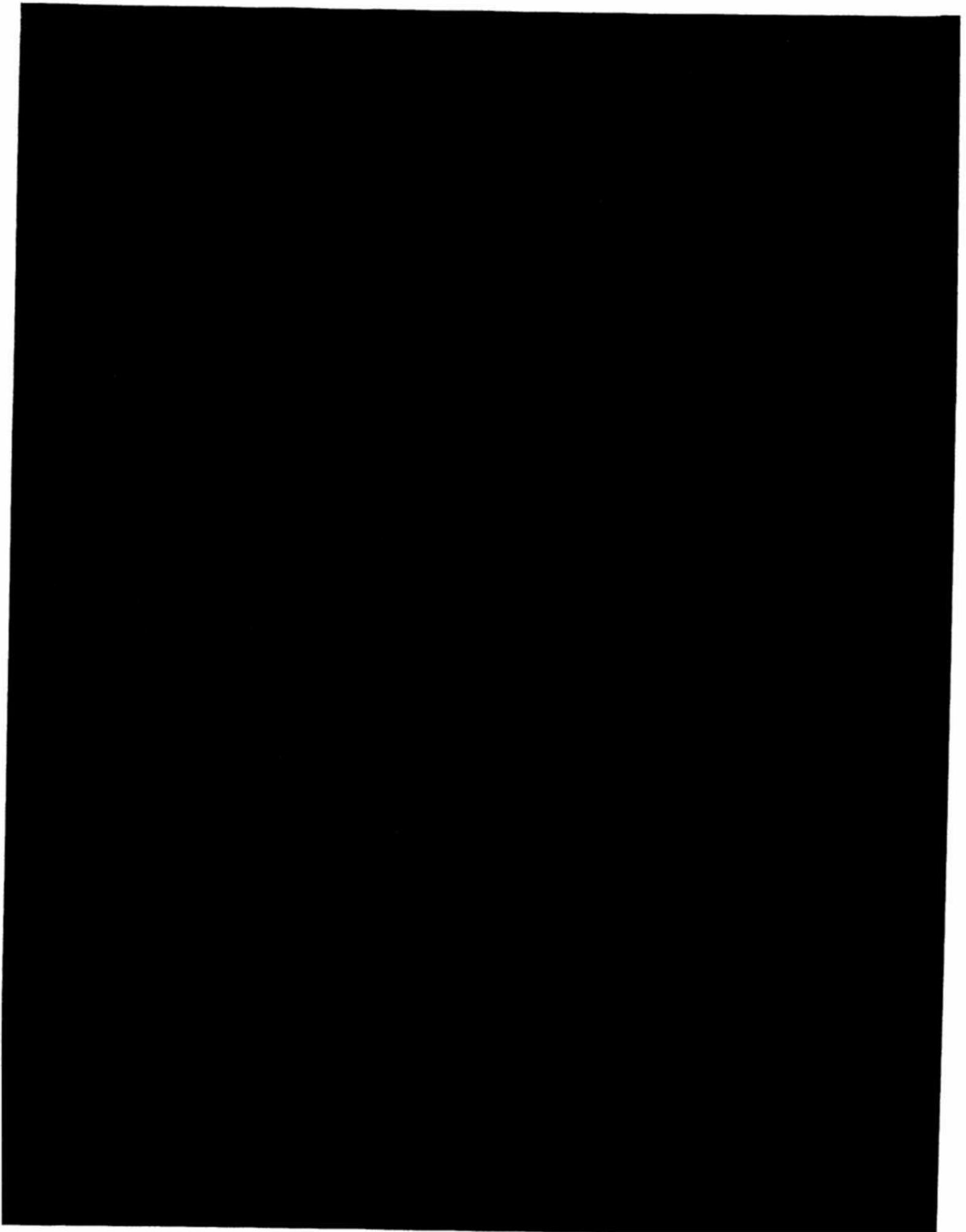
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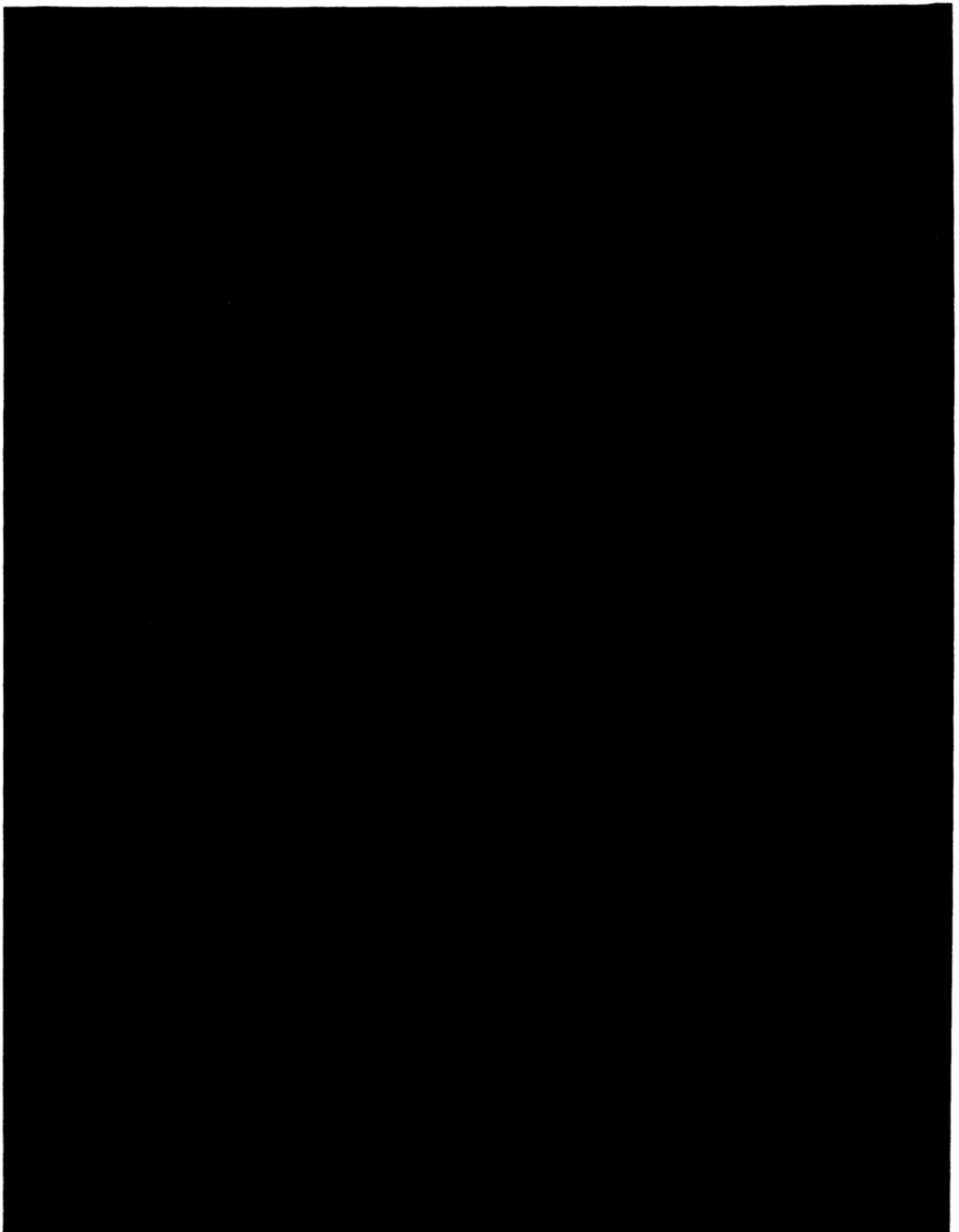
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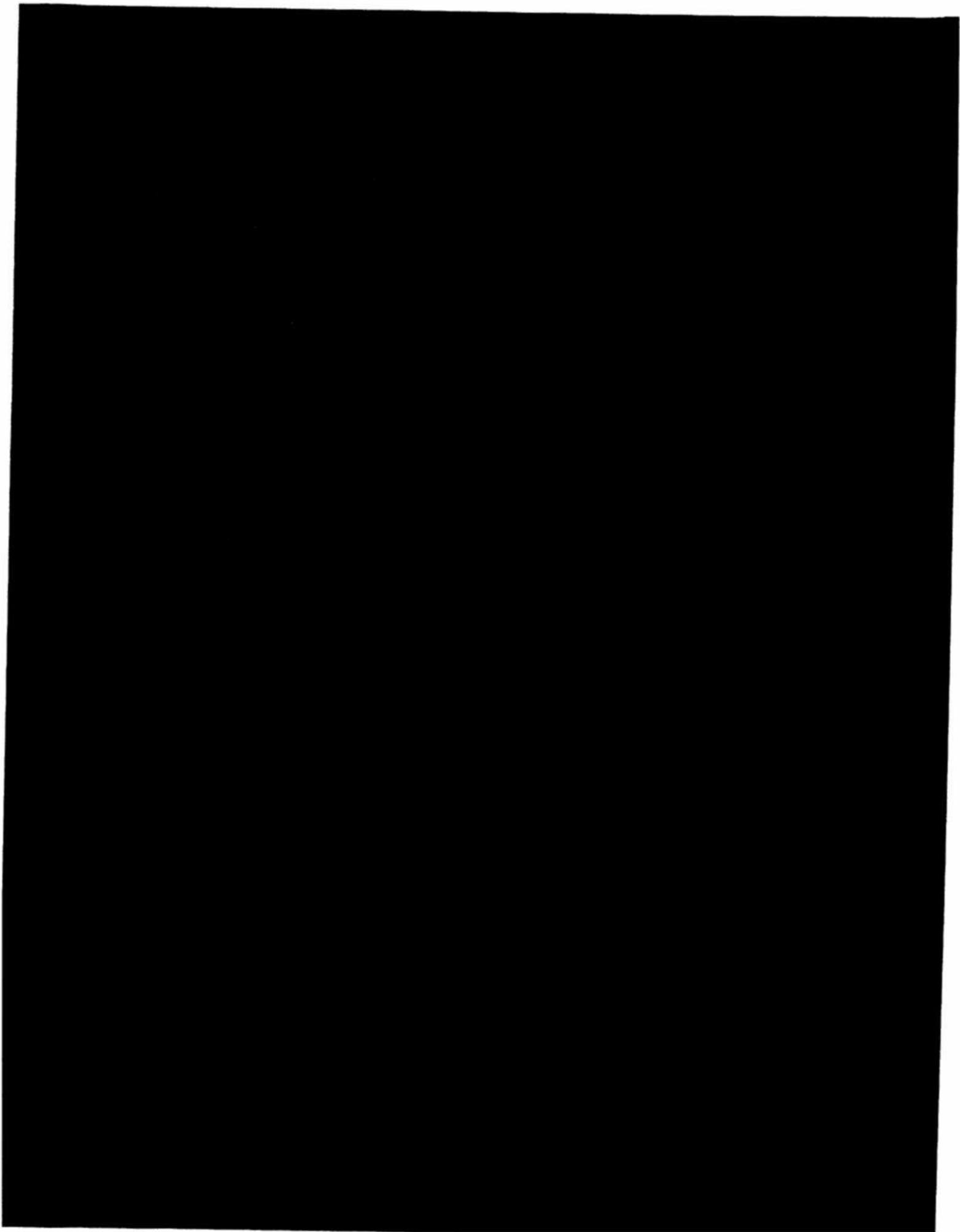
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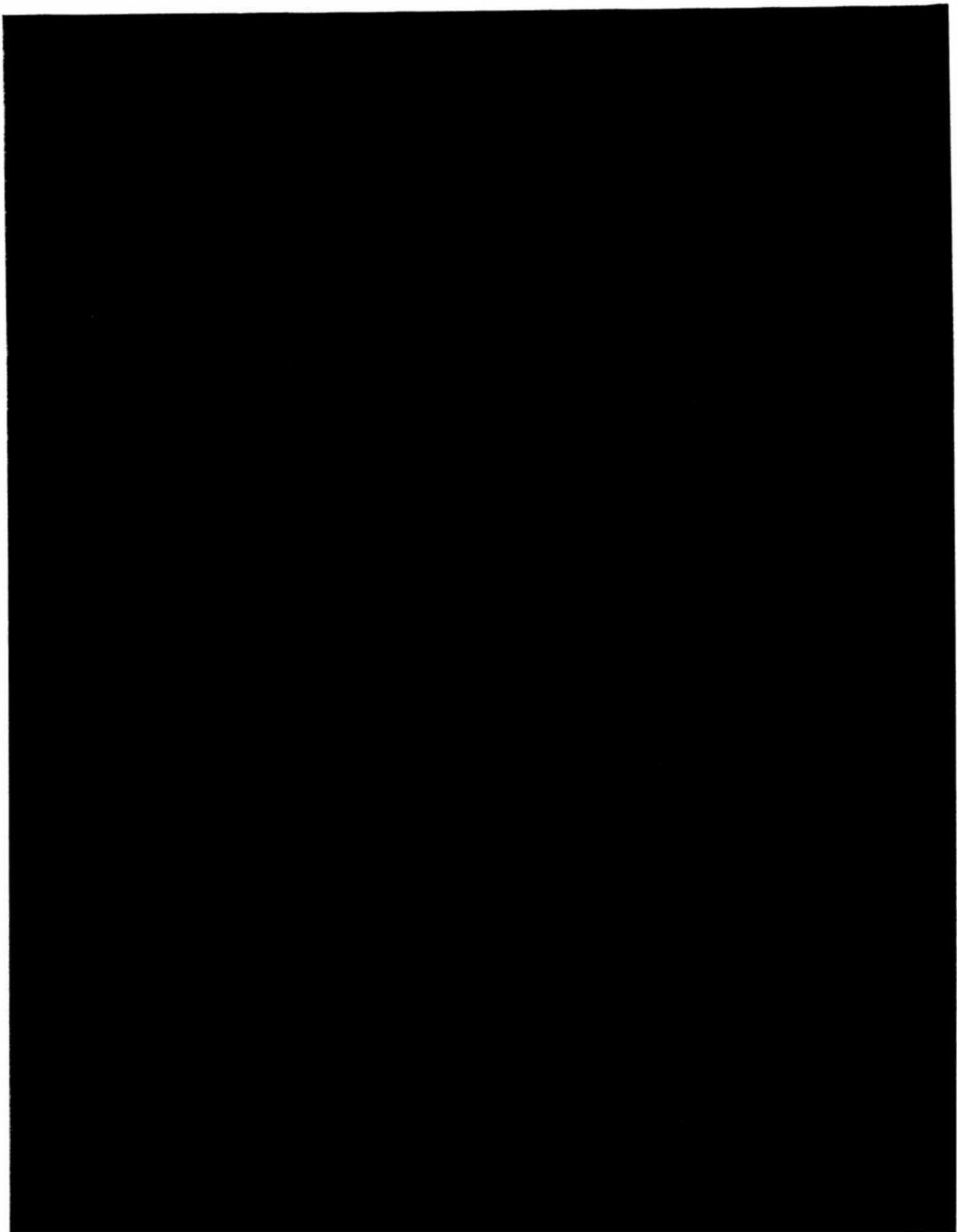
I declare under penalty of perjury that the foregoing is true to the best of my knowledge and belief. Executed on September 22, 2009, at Stanford, California.


Roger G. Noll









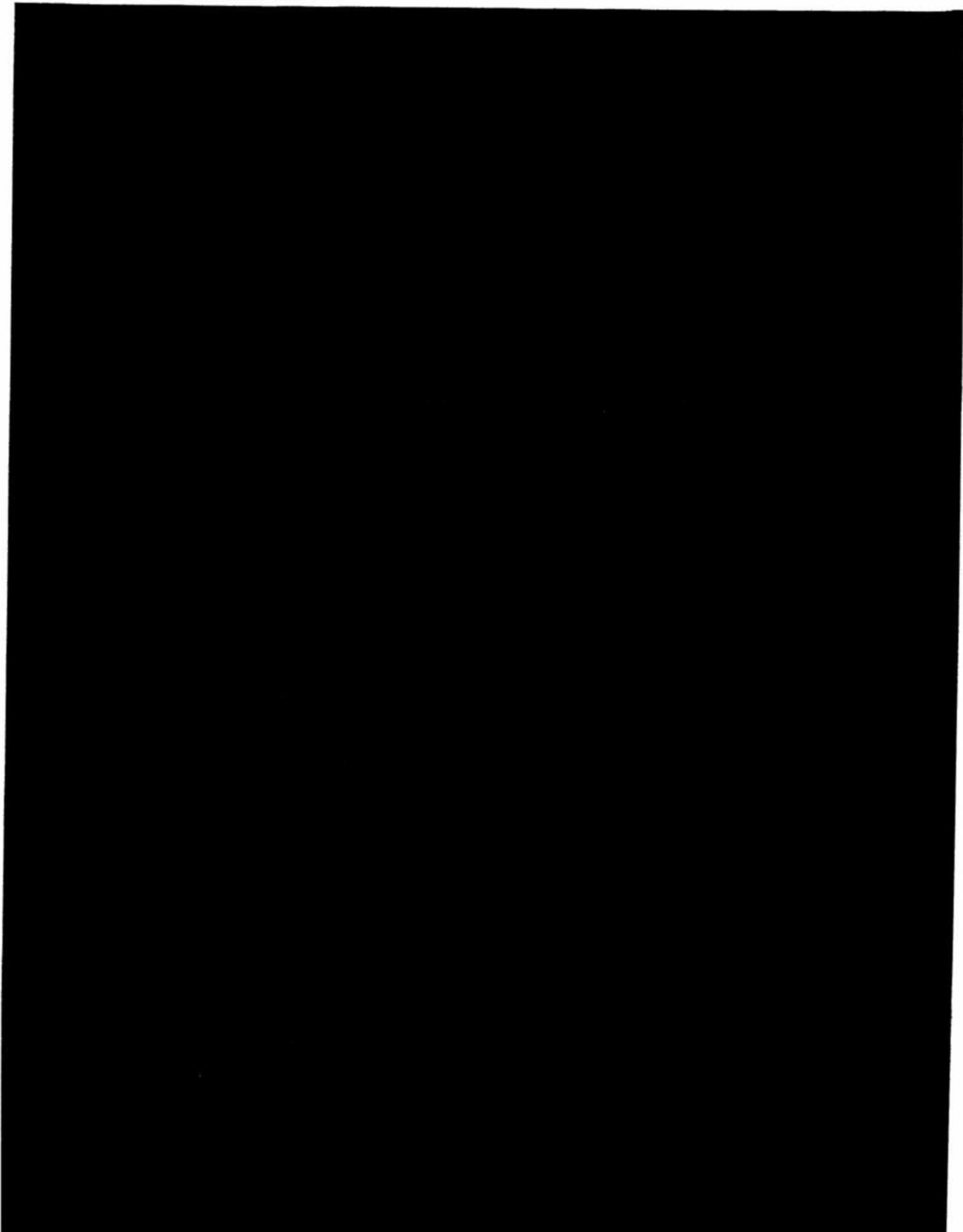


Figure 1
Elasticity Example

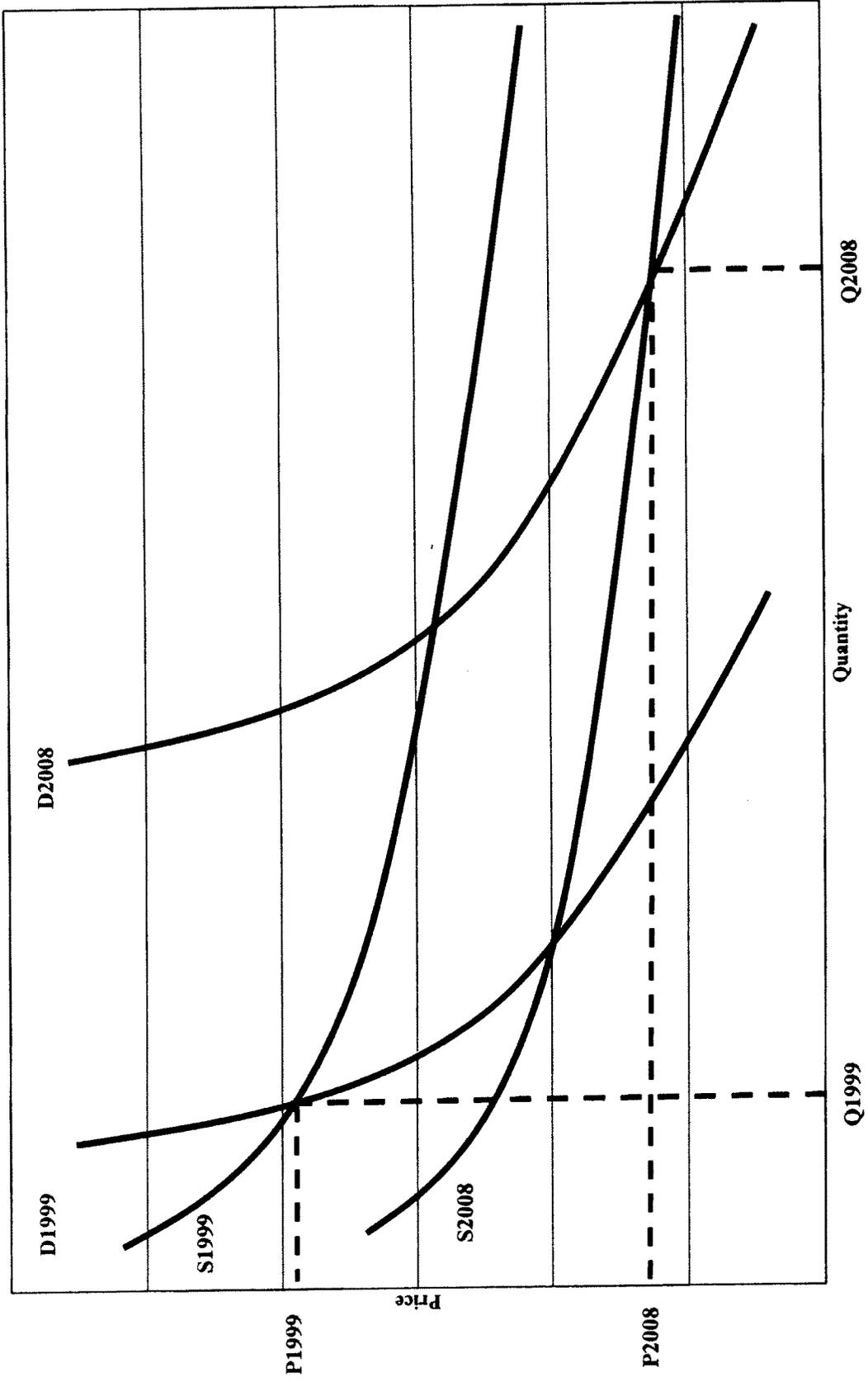
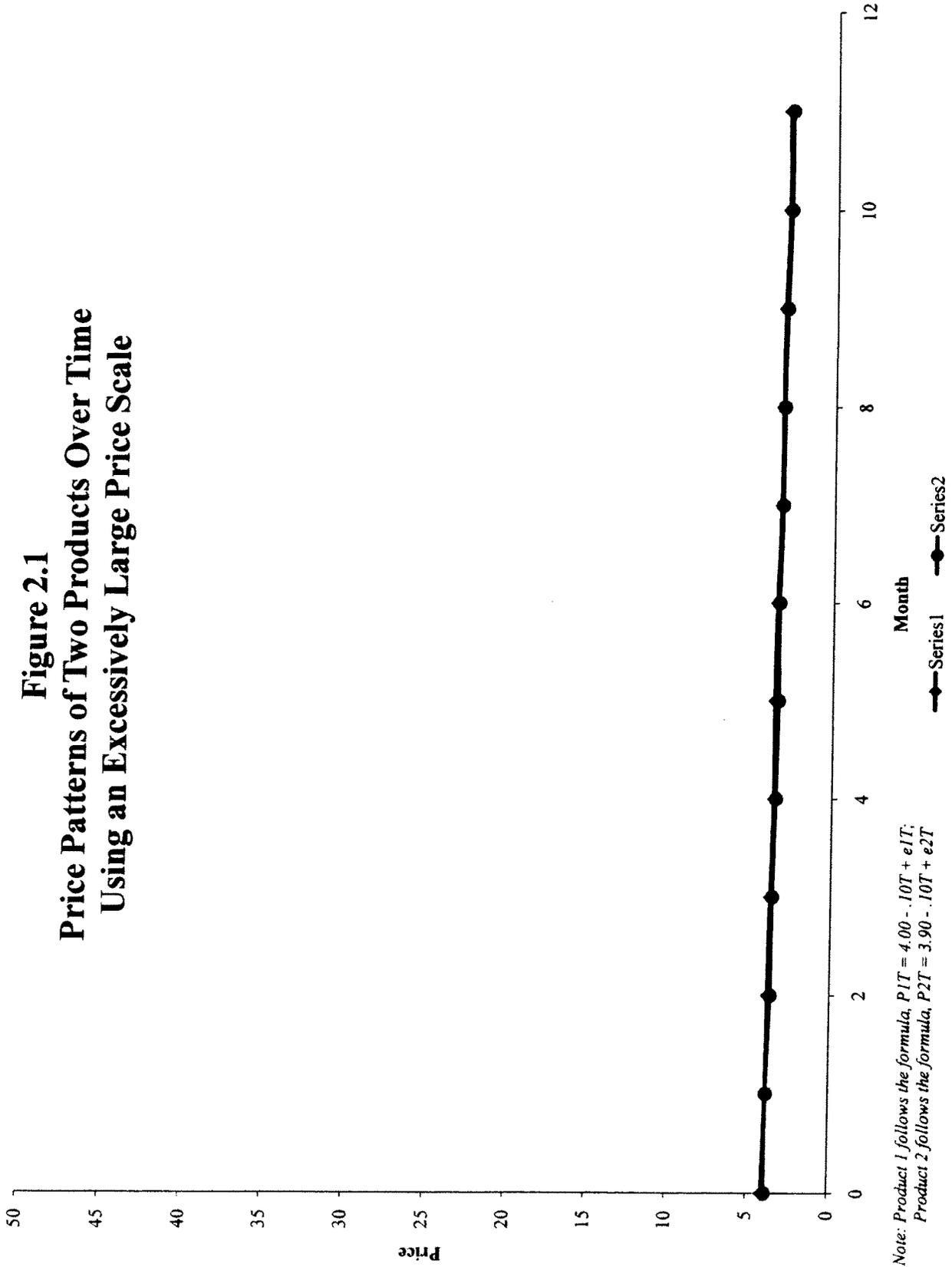
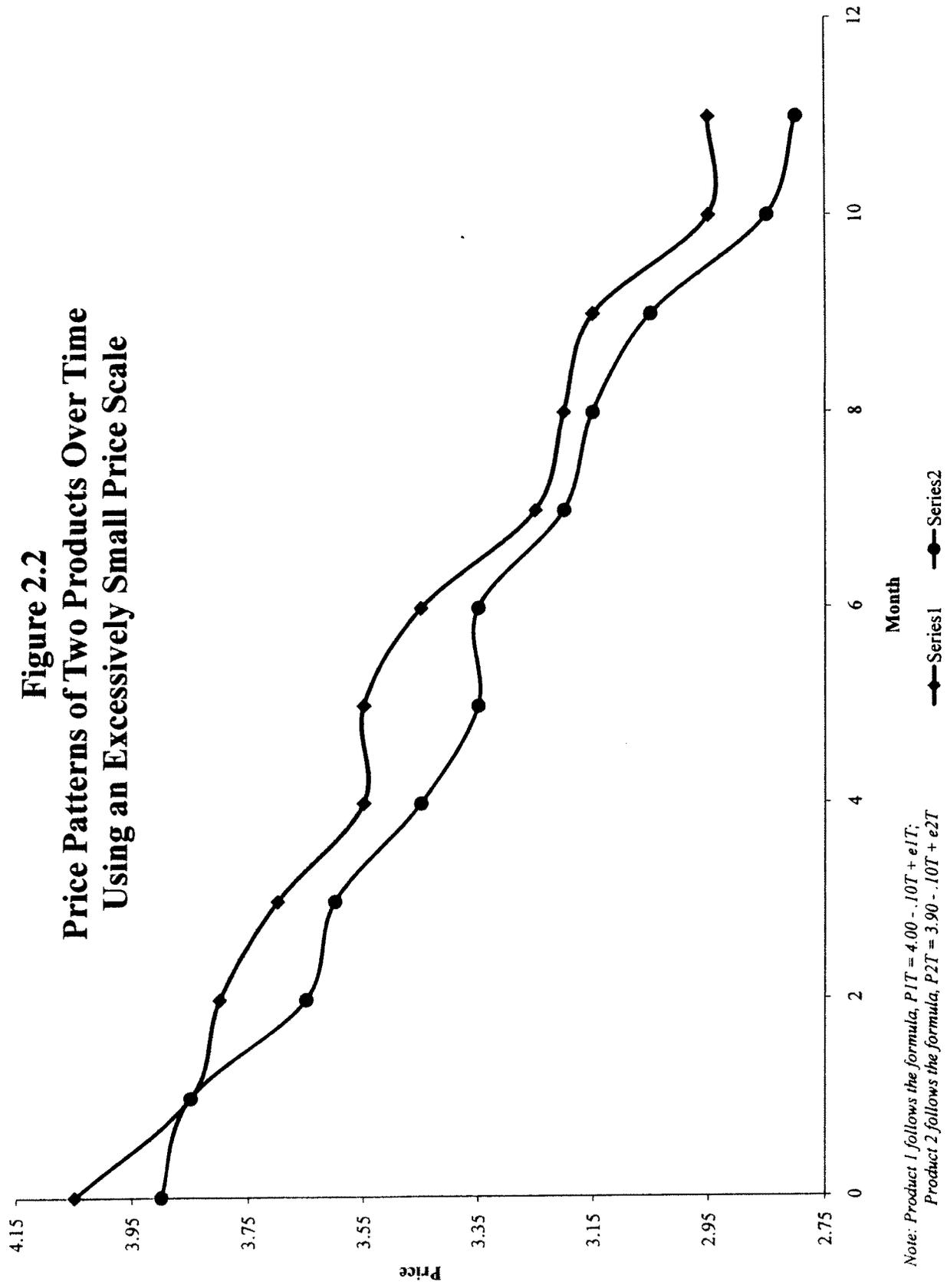


Figure 2.1
Price Patterns of Two Products Over Time
Using an Excessively Large Price Scale



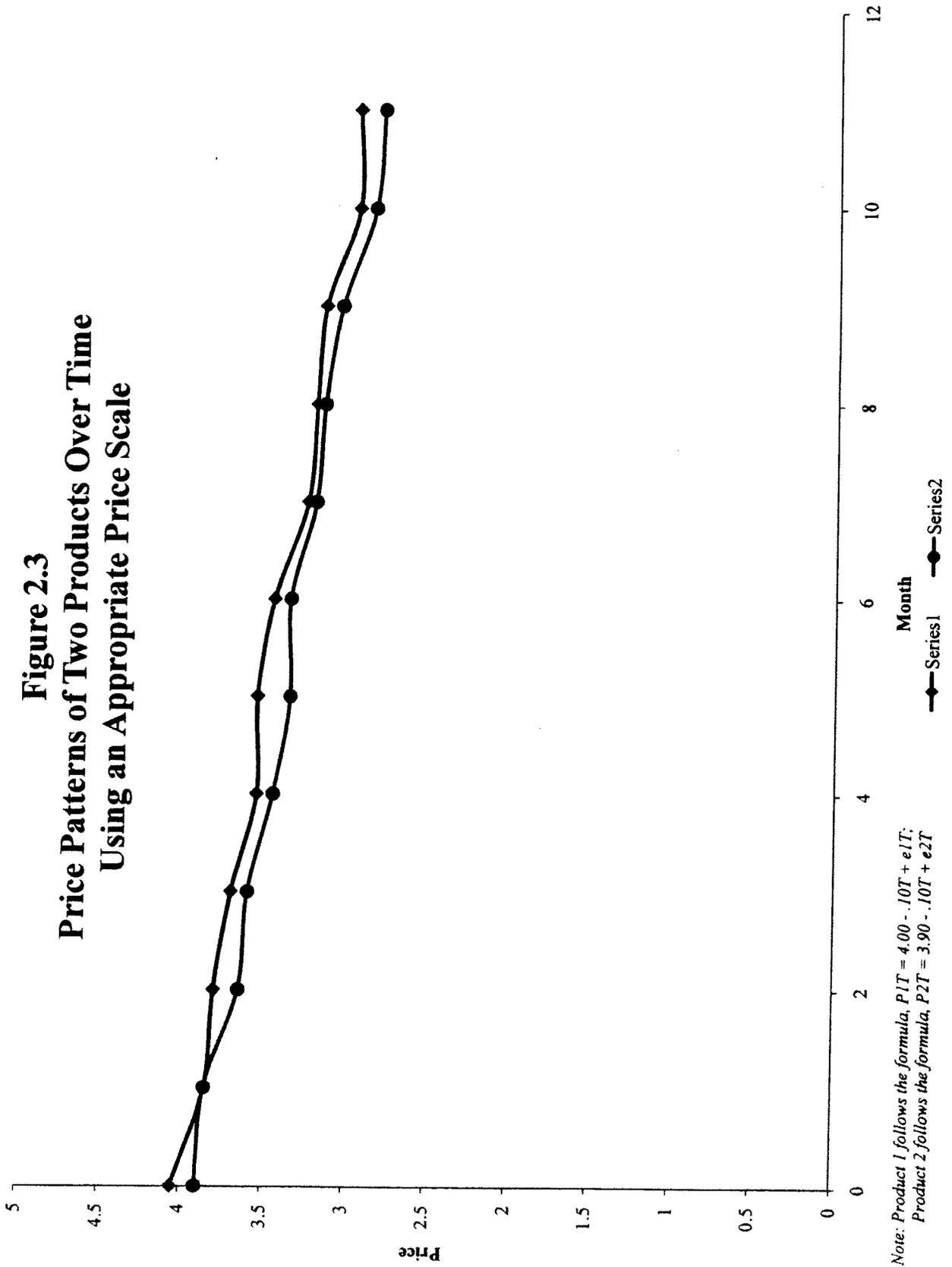
Note: Product 1 follows the formula, $P1T = 4.00 + .10T + e1T$;
 Product 2 follows the formula, $P2T = 3.90 + .10T + e2T$

Figure 2.2
Price Patterns of Two Products Over Time
Using an Excessively Small Price Scale



Note: Product 1 follows the formula, $P1T = 4.00 - .10T + e1T$;
 Product 2 follows the formula, $P2T = 3.90 - .10T + e2T$

Figure 2.3
Price Patterns of Two Products Over Time
Using an Appropriate Price Scale



Note: Product 1 follows the formula, $P1T = 4.00 - .10T + e1T$;
 Product 2 follows the formula, $P2T = 3.90 - .10T + e2T$

Exhibits 10N through 10N.5(a)

have been redacted

Exhibit 11N

has been redacted

Exhibit 19.2N

has been redacted

Exhibits 19.5N and 19.6N

have been redacted

Exhibits 20N.1 through 20N.3

have been redacted

Exhibits 30.1N and 30.2N

have been redacted

Exhibit 31N

has been redacted

Exhibits 19R.1 and 19R.2

have been redacted

Exhibits 21R.1 and 21R.2

have been redacted

Exhibits 23R.1 and 23R.2

have been redacted

Exhibits 25R.1 and 25R.2

have been redacted

Exhibits 26R.1 and 26R.2

have been redacted

Exhibit 27R

has been redacted

Exhibits B1.2 and B1.10

have been redacted

Exhibits B2.2 and B2.24

have been redacted

Exhibit B3.1

has been redacted

Exhibits B4.2 and B4.8

have been redacted

Exhibits B5.12 and B5.17

have been redacted

Exhibits B6.3 and B6.10

have been redacted

Reply Exhibits D.1 through D.4

have been redacted

Appendix A
Reply Report List of Documents Reviewed

DECLARATIONS

Declaration of Michael C. Keeley, Ph.D, In Support of Defendants' Joint Opposition to Direct Purchaser Plaintiffs' Motion for Class Certification, October 20, 2009
Declaration of Erik Aldana in Support of Defendants' Joint Opposition to Direct Purchaser Plaintiff's Motion for Class Certification, October 20, 2009
Declaration of Juseon Kim in Opposition to Class Certification, October 20, 2009
Defendants' Joint Opposition to Direct Purchaser Plaintiff Timothy Chanda's Motion for Class Certification, September 1, 2009

DEPOSITIONS

Erik Aldana, August 20, 2009
Doug Hauck, August 21, 2009
Michael Keeley, September 9, 2009
Juseon Kim, August 19, 2009

LITERATURE

Bajari, Patrick and Lanier Benkard, "Demand Estimation with Heterogeneous Consumers and Unobserved Product Characteristics: A Hedonic Approach." *Journal of Political Economy* Vol. 113, No. 6 (December 2005), pp. 1239-76.
Berndt, Ernst R. "The Measurement of Quality Change," Ch. 4 of *The Practice of Econometrics: Classic and Contemporary*, Addison-Wesley, 1991
Carlton, Dennis W. "The Rigidity of Prices." *American Economic Review* Vol. 76, No. 4 (September 1986), pp. 637-58.
Carlton, Dennis W. "The Theory and the Facts of How Markets Clear: Is Industrial Organization Valuable for Understanding Macroeconomics?" in Richard Schmalensee and Robert D. Willig, *Handbook of Industrial Organization*, North-Holland, pp. 909-944.
Chwelos, Paul D., Ernst R. Berndt, and Iain M. Cockburn, "Faster, Smaller, Cheaper: A Hedonic Price Analysis of PDAs." *Applied Economics* Vol. 40, No. 22 (November 2008), pp. 2839-56.
Huff, Darrell and Irving Geiss. "How to Lie with Statistics," W. W. Norton, 1993 (reissue from 1954), Chapter 5, "The Gee-Whiz Graph," pp. 60-65.
Nicholson, Walter. *Microeconomic Theory: Basic Principles and Extensions*, South-Western College Pub, 2004, p 28.
Noll, Roger G. "Buyer Power and Economic Policy." *Antitrust Law Journal* 72(2) (2005), pp. 311-40.
Pakes, Ariel. "A Reconsideration of Hedonic Price Indices with an Application to PCs." *American Economic Review* Vol. 93, No. 5 (December 2003), pp. 1578-96.

LITERATURE Cont.

Perry, Martin K. "Vertical Integration: Determinants and Effects." in Richard Schmalensee and Robert D. Willig, *Handbook of Industrial Organization*, North-Holland, 1989.

Tufte, Edward R. *The Visual Display of Quantitative Information*, 2nd Edition, Graphics Press, 1986, Chapter 2, "Graphical Integrity," pp. 53-59.

LETTERS

Letter from Casandra L. Thomson to Judith A. Zahid, September 14, 2009
Letter to J. Zahid from Vincent Panhuys, September 15, 2009
Letter to J. Zahid from Matthew Warren, September 16, 2009
Letter to J. Zahid from Rianne Rocca, September 16, 2009
Letter from Ryan Padden to J. Zahid, September 17, 2009

WEBSITES

<http://www.apple.com/ipod/compare-ipod-models/>, accessed September 14, 2009
<http://www.apple.com/iphone/compare-iphones/>, accessed September 14, 2009
http://www.samsung.com/global/business/semiconductor/products/flash/downloads/Nand_Flash.pdf
http://hsa.hynix.com/us_sa/product/mobile.jsp

DATA

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BATES STAMPED DOCUMENTS

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