

Competition and Price Wars in the U.S. Brewing Industry

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I.1 Previous Research on Brewing

- 1. Economics of the Macro Brewers:** Early research motivated by the rapid decline in the number of firms (Fig. 1).

Figure 1 Number of Independent Macro-Brewers, 1947-2009

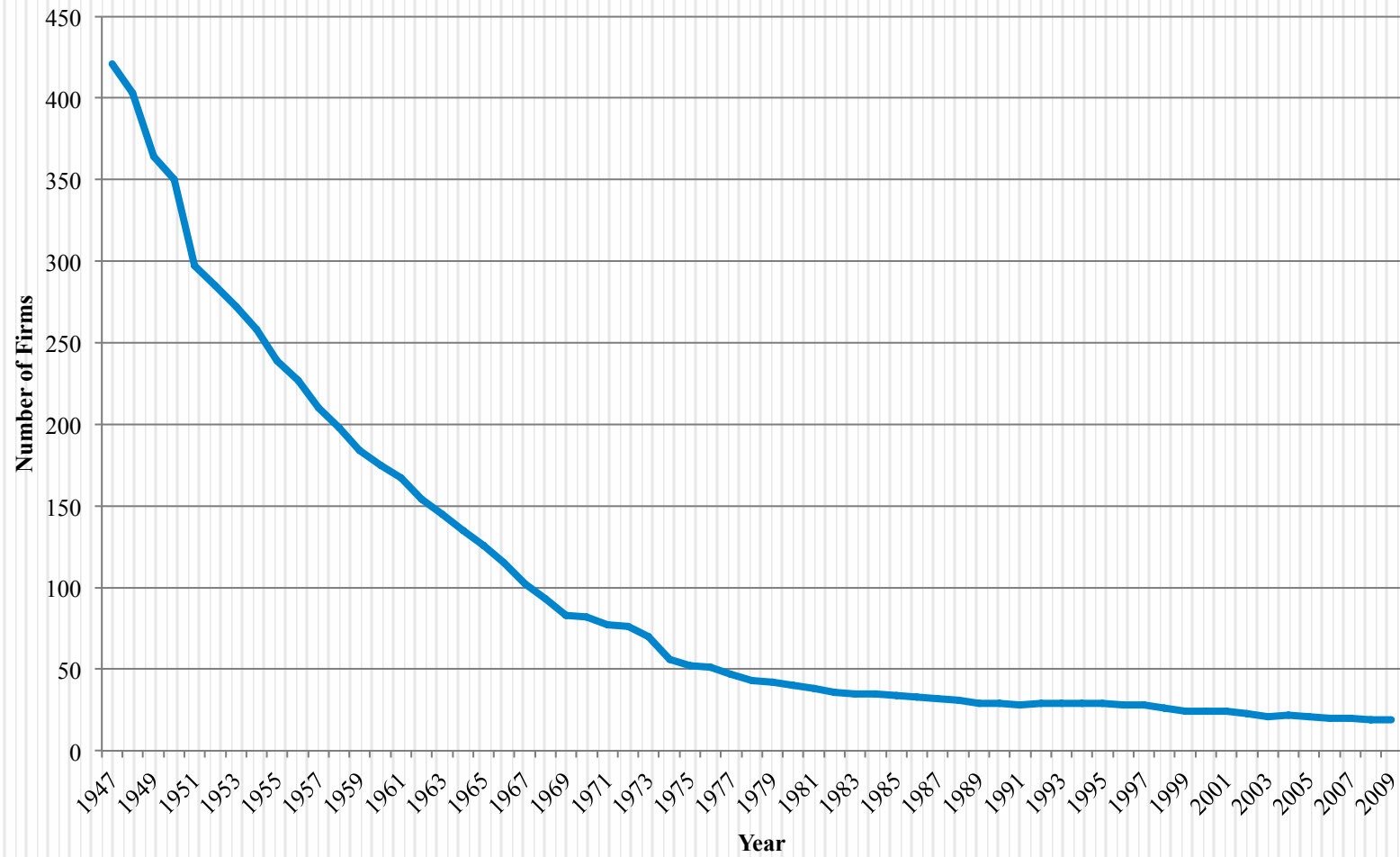
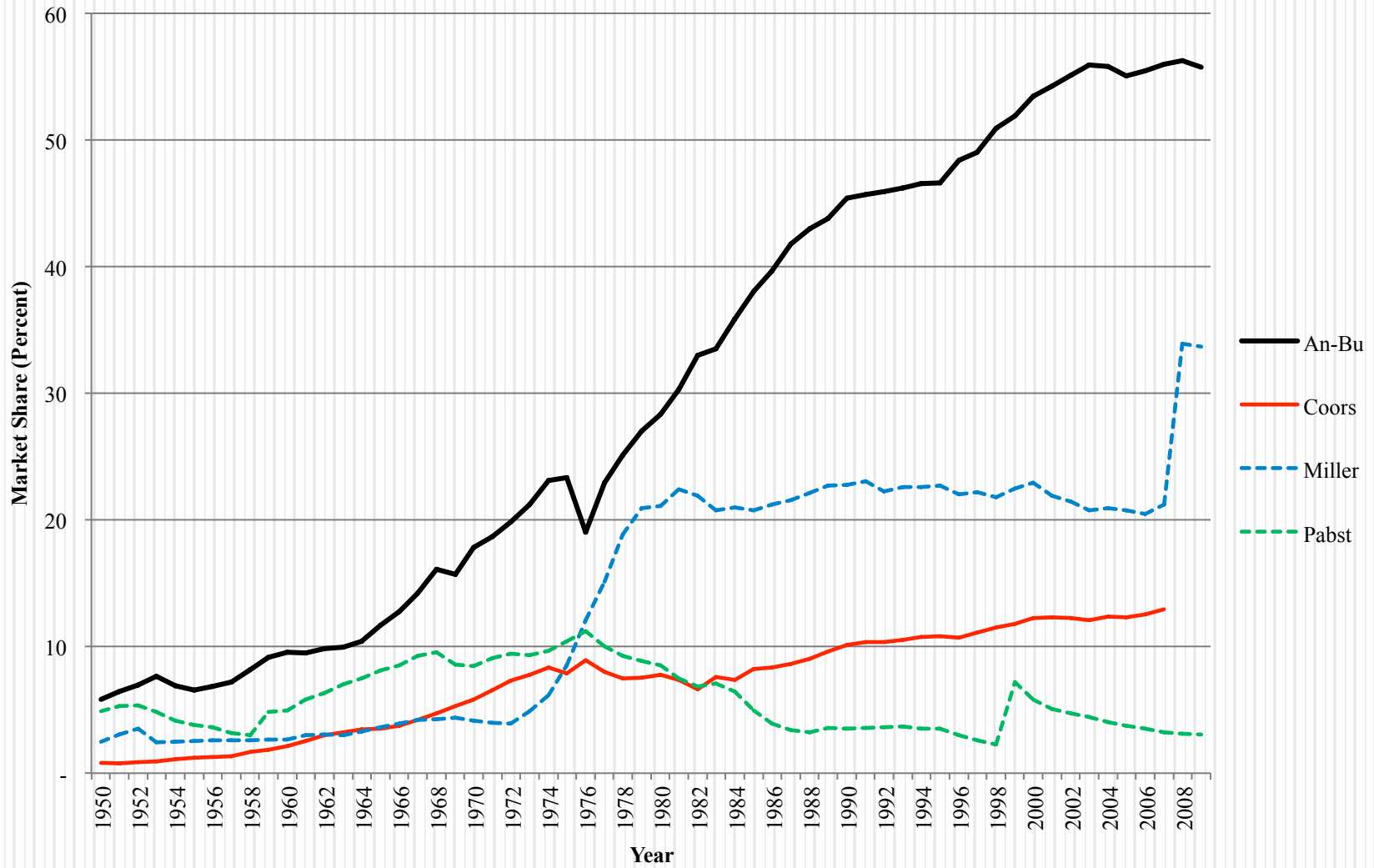


Figure 1b Market Share of Leading Macro-Brewers, 1950-2009



I.2 Previous Research

Answers: Victor J. Tremblay and Carol Horton Tremblay, *The U.S. Brewing Industry: Data and Economic Analysis*, MIT Press, 2005.

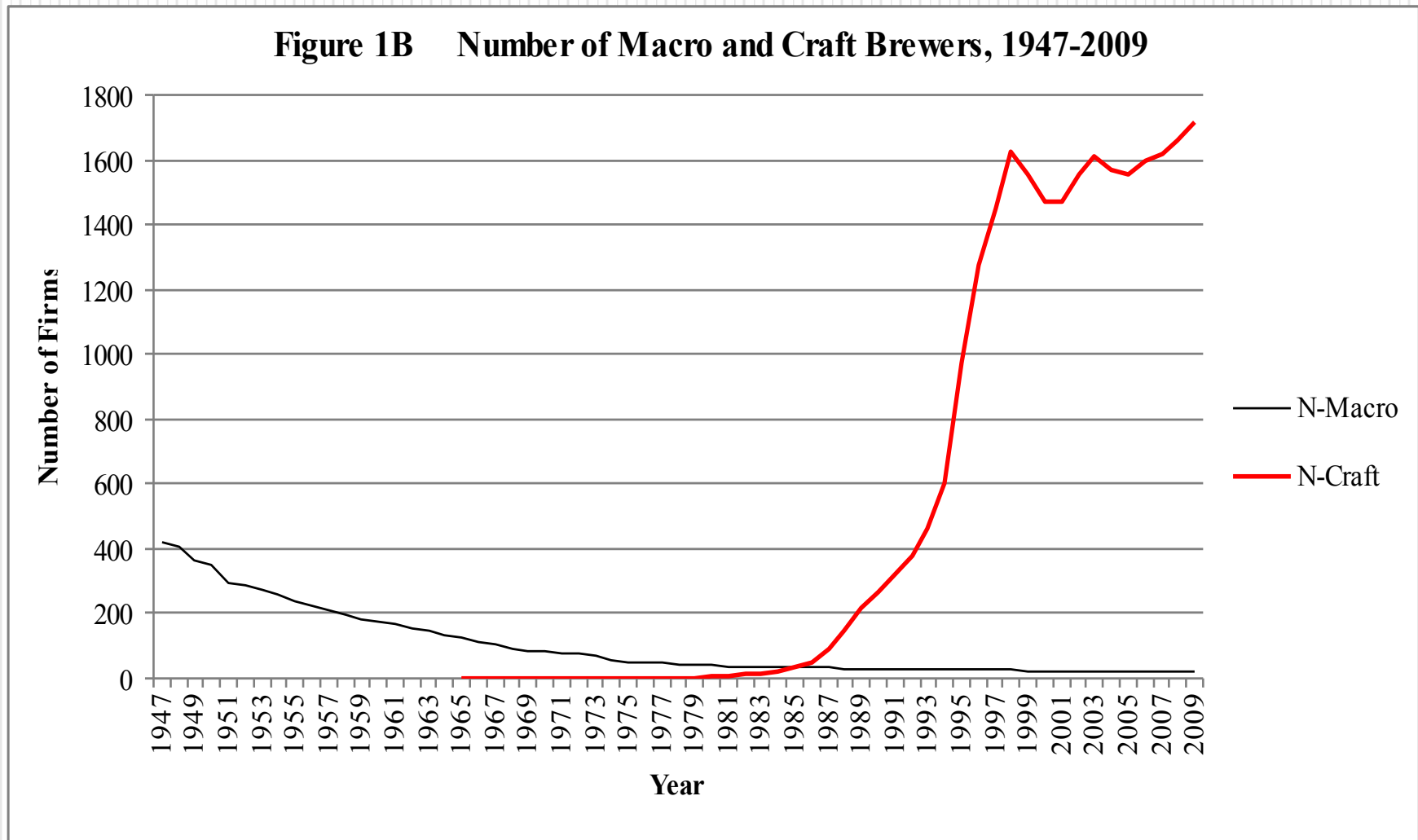
Due to Technological Change in:

- 1. Marketing:** National TV advertising gave a marketing advantage to national brewers (households with TVs: 1950-9%, 1960-87%, 1970-95%).
- 2. Production:** New technologies gave cost advantage to large mass-producing brewers.

I.3 Previous Research

- 2. Economics of the Imports and Micros:**
Carol Horton Tremblay and Victor J. Tremblay,
“Recent Economic Developments in the Import
and Craft Segments of the U.S. Brewing Industry,”
in *The Economics of Beer*, Oxford University Press,
2011.

Figure 1B Number of Macro and Craft Brewers, 1947-2009



II.1 Current Research

Question: How has the decline in the number of mass producers affected price competition?

- **Simple Economic Theory:** A reduction in the number of firms would lead to less competition.
- **Evidence:** Does not support the simple theory.

II.2 Current Research

Answers: “Jayendra Gokhale and Victor J. Tremblay, “Competition and Price Wars in the U.S. Brewing Industry,” *Journal of Wine Economics*, forthcoming.

Competition Remained Fierce – Brewers forced into a war of attrition:

- **Advertising Wars** (1950s-1960s & 1980s-1990s , Fig. 2)
- **Brand Proliferation** (Table 2)

Figure 2 Advertising Per Barrel of Leading U.S. Brewers, 1950-2009

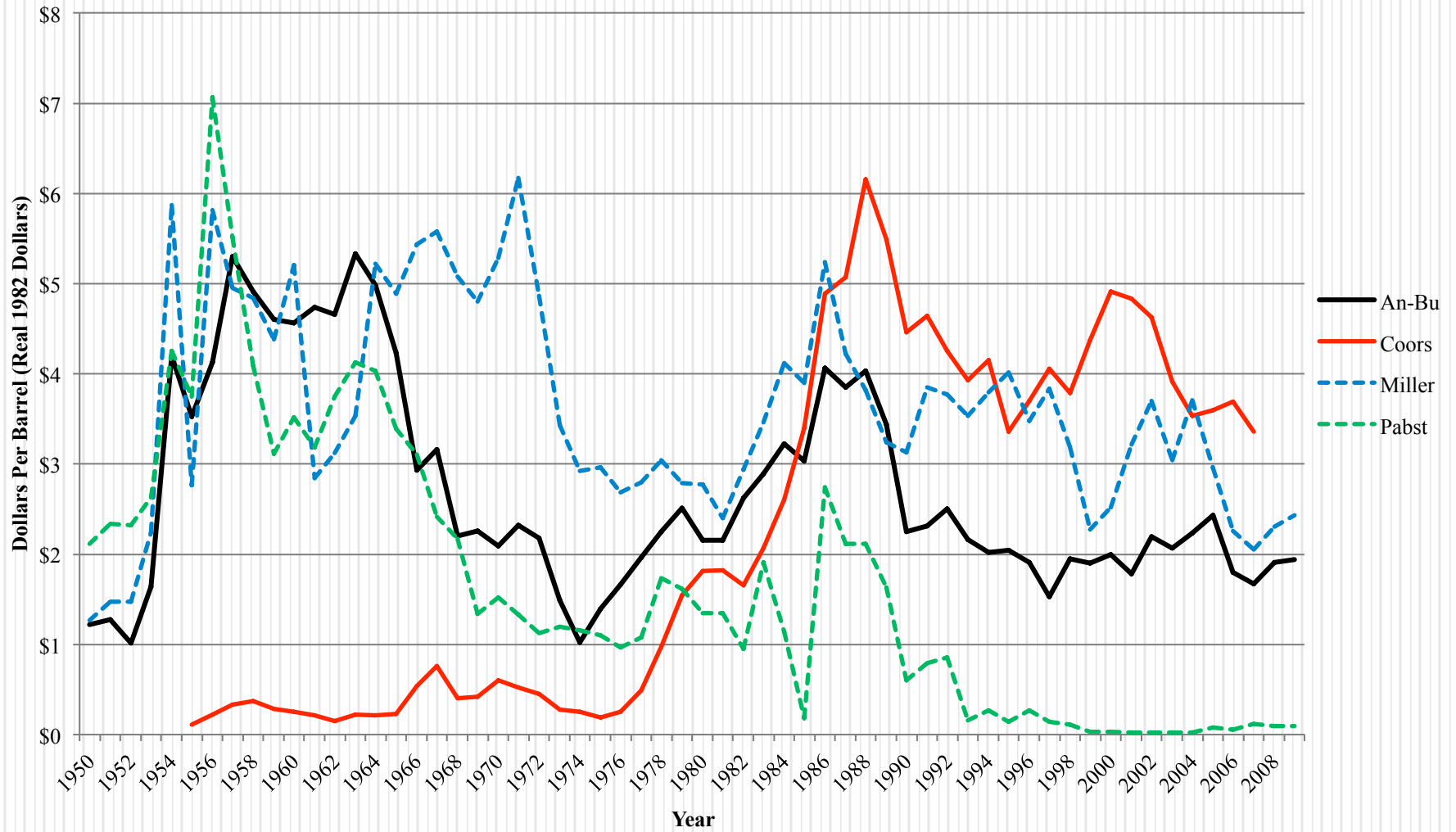


Table 2 Major Domestic Beer Brands of the Anheuser-Busch, Coors, Miller, and Pabst Brewing Companies

Year	Anheuser-Busch	Coors	Miller	Pabst
1950	2	1	1	1
1960	4	1	1	9
1970	3	1	4	5
1980	5	2	3	10
1990	10	10	9	17
2000	29	14	21	54
2010	55	-	61*	33

* This reflects the brands for both Miller and Coors, as the companies formed a joint venture in 2008 to form MillerCoors.

Sources: Tremblay and Tremblay (2005) for 1950-2000 and company web pages for 2010.

II.3 Current Research

Empirical Evidence – Even though the number of competitors has declined:

- Prices remain competitive
- Profits remain low

References:

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Bulow, Jeremy, and Paul Klemperer, “The Generalized War of Attrition,” *American Economic Review*, 89, 1999, 439-468.

Färe, Rolf, Shawna Grosskopf, and C. A. Knox Lovell, *The Measurement of Efficiency of Production*, New York: Springer, 1985.

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Färe, Rolf, Shawna Grosskopf, Barry J. Seldon, and Victor J. Tremblay, “Advertising Efficiency and the Choice of Media Mix: A Case of Beer,” *International Journal of Industrial Organization*, 22 (4), April 2004, 503-522.

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Steinberg, Cobbertt, *TV Facts*, New York: Random House, 1980.

Sutton, John, *Sunk Costs and Market Structure*, Cambridge: MIT Press, 1991.

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_____, and _____, “Recent Economic Developments in the Import and Craft Segments of the U.S. Brewing Industry,” with Carol Tremblay, in Johan Swinnen, editor, *The Economics of Beer*, Oxford University Press, forthcoming-a.

_____, and _____, *New Perspectives on Industrial Organization: Contributions from Behavioral Economics and Game Theory*, Springer Publishing, forthcoming-b.

Tremblay, Carol Horton, Mark J. Tremblay, and Victor J. Tremblay, “A General Cournot-Bertrand Model with Homogeneous Goods,” *Theoretical Economics Letters*, 2011.

Tremblay, Victor J. and Carol Horton Tremblay, *The U.S. Brewing Industry: Data and Economic Analysis*, Cambridge: MIT Press, 2005.

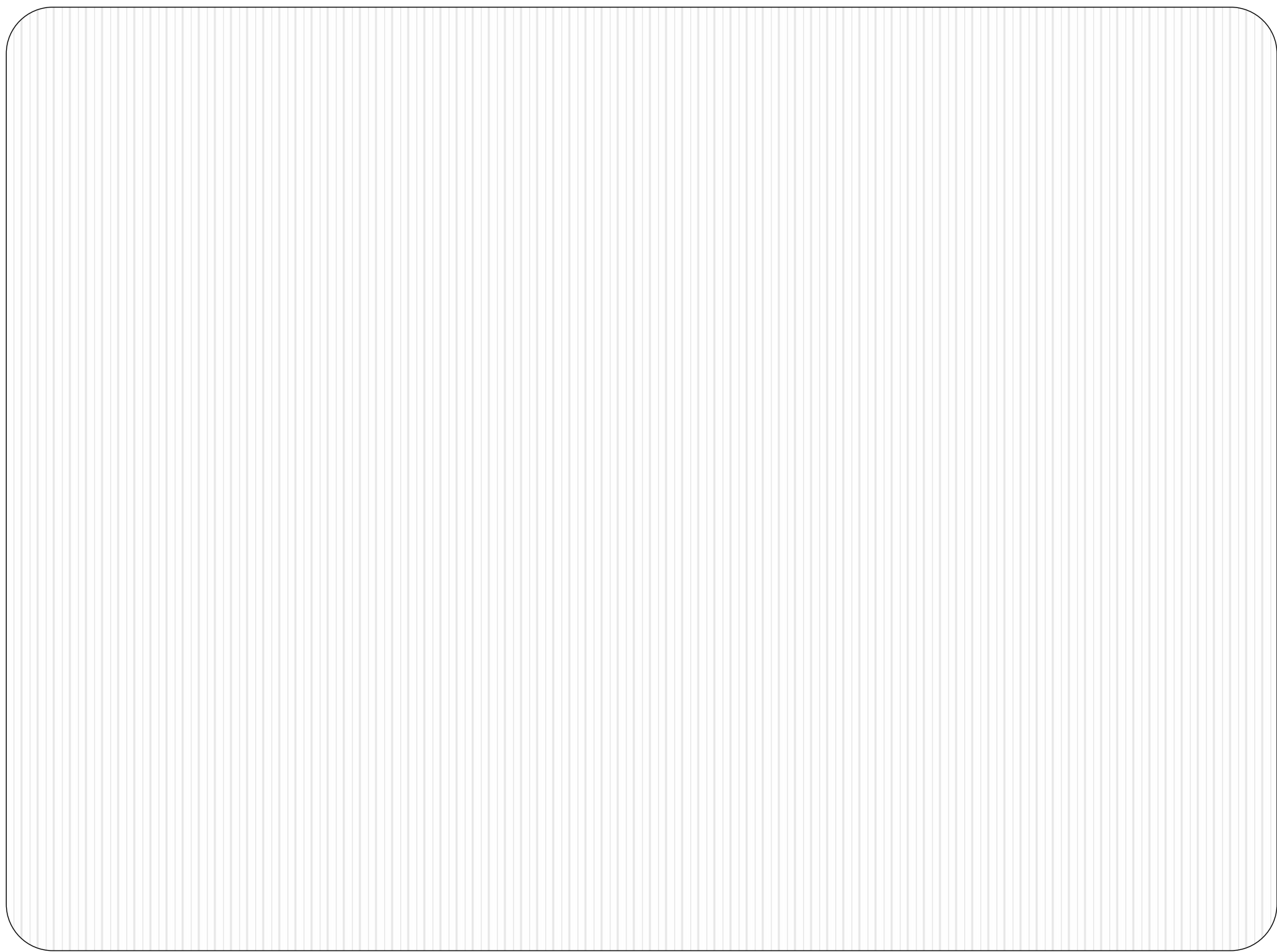




Figure 1a Number of Independent Macro-Brewers, 1947-2009

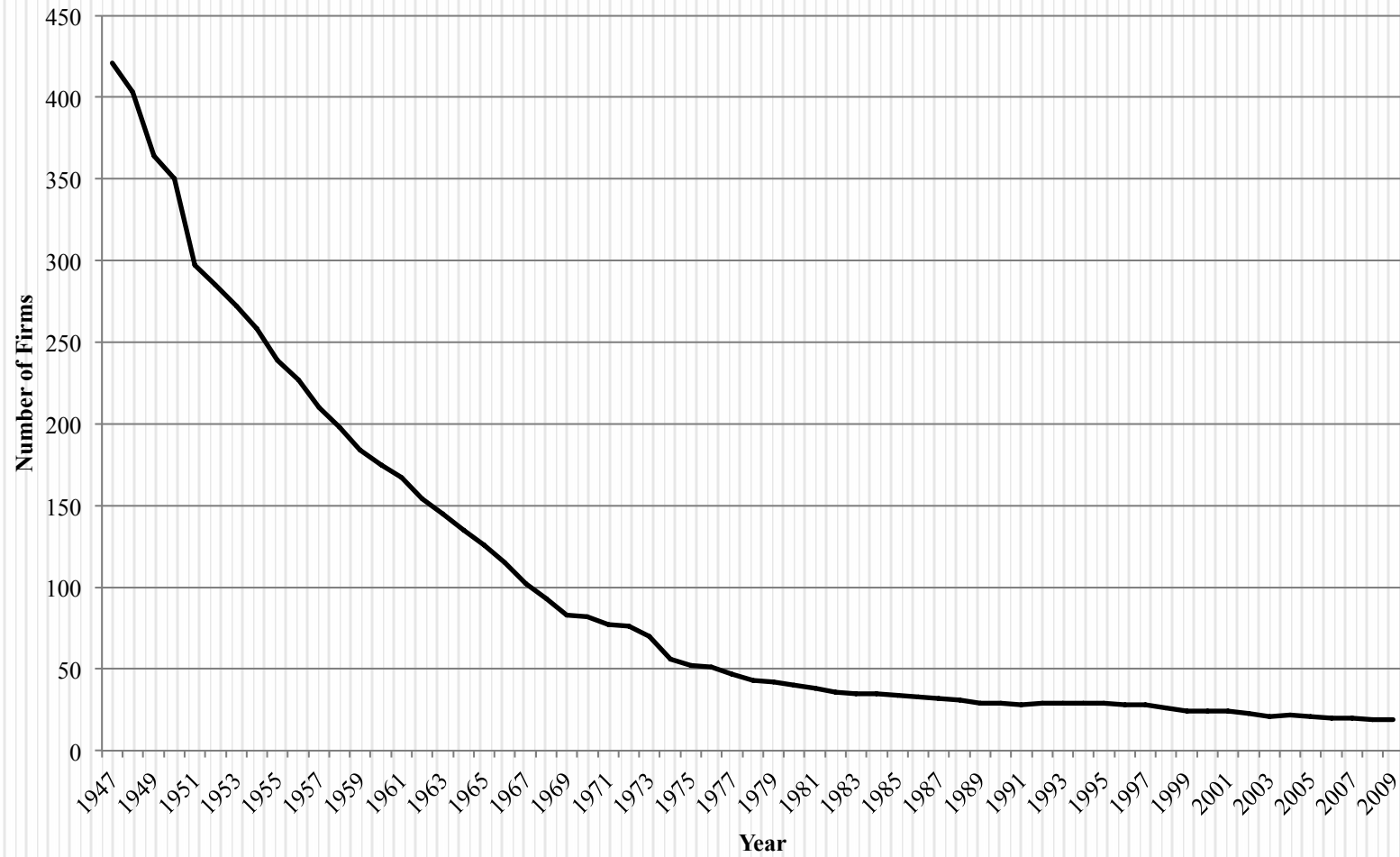


Figure 1 Beer Industry Concentration (Four-Firm Concentration Ratio and Herfindahl-Hirschman Index), 1947-2009

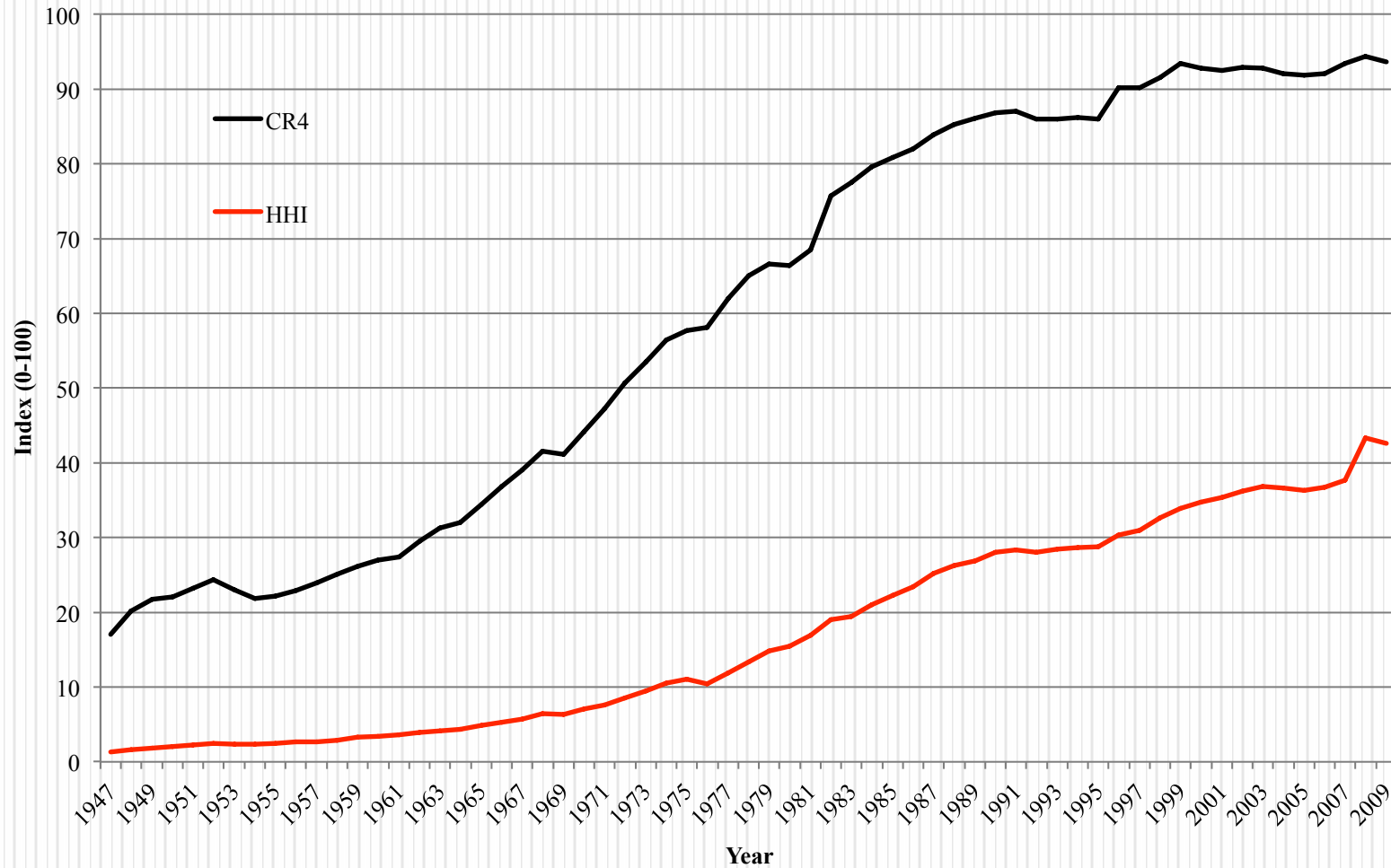


Figure 1b Market Share of Leading Macro-Brewers, 1950-2009

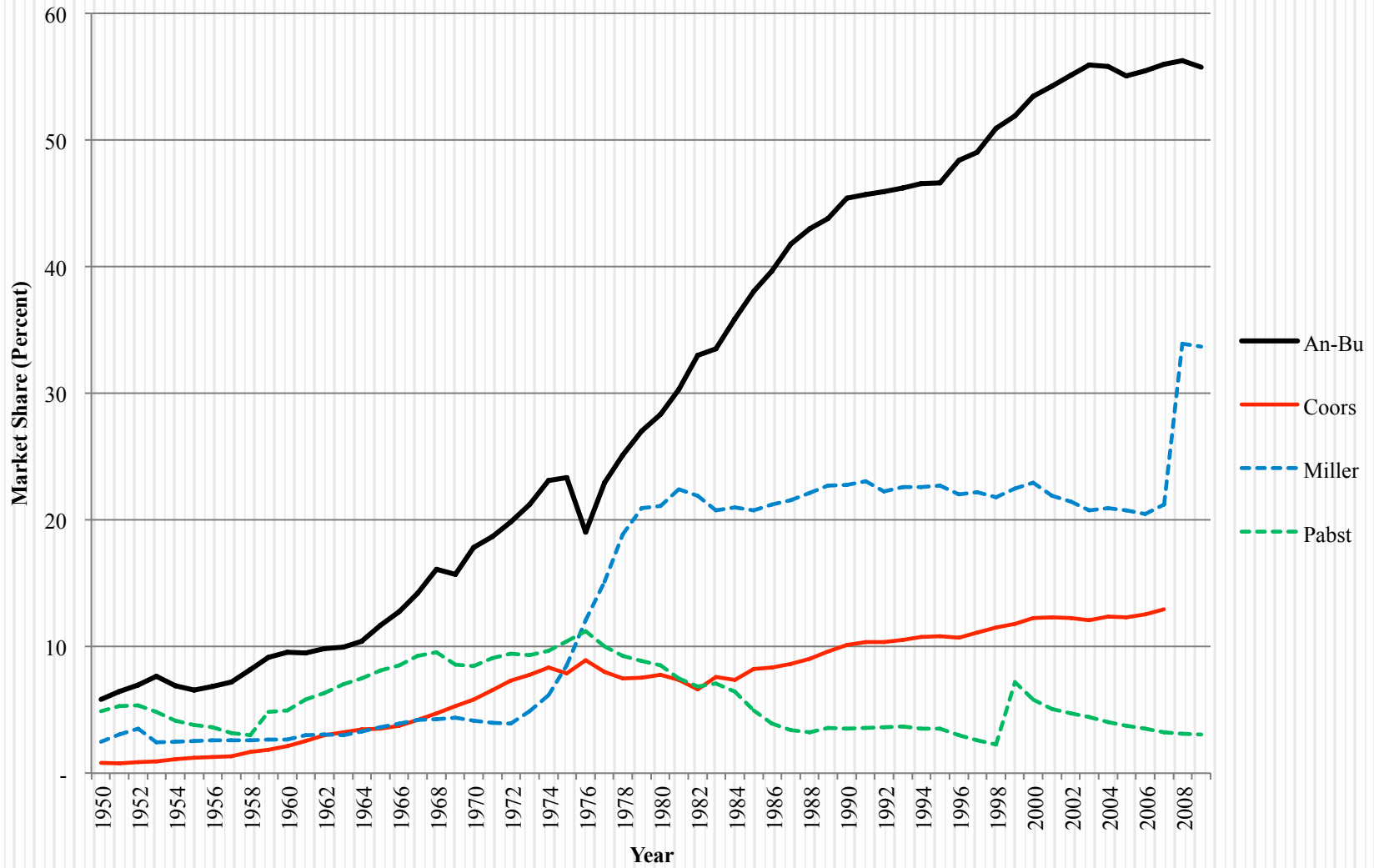


Figure 1B Number of Macro and Craft Brewers, 1947-2009

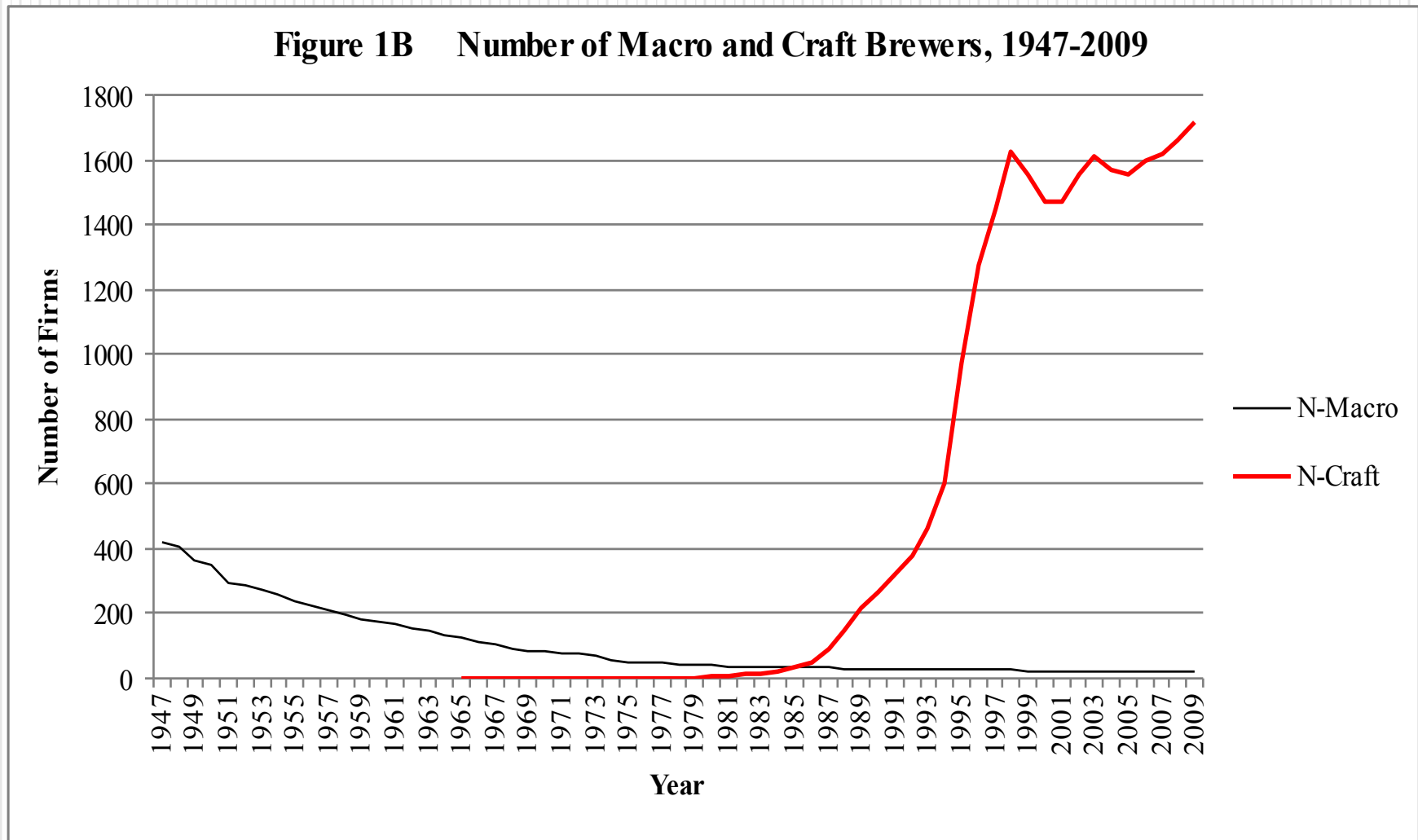


Figure 1C U.S. Market Share for Import and Craft Beer, 1947-2009

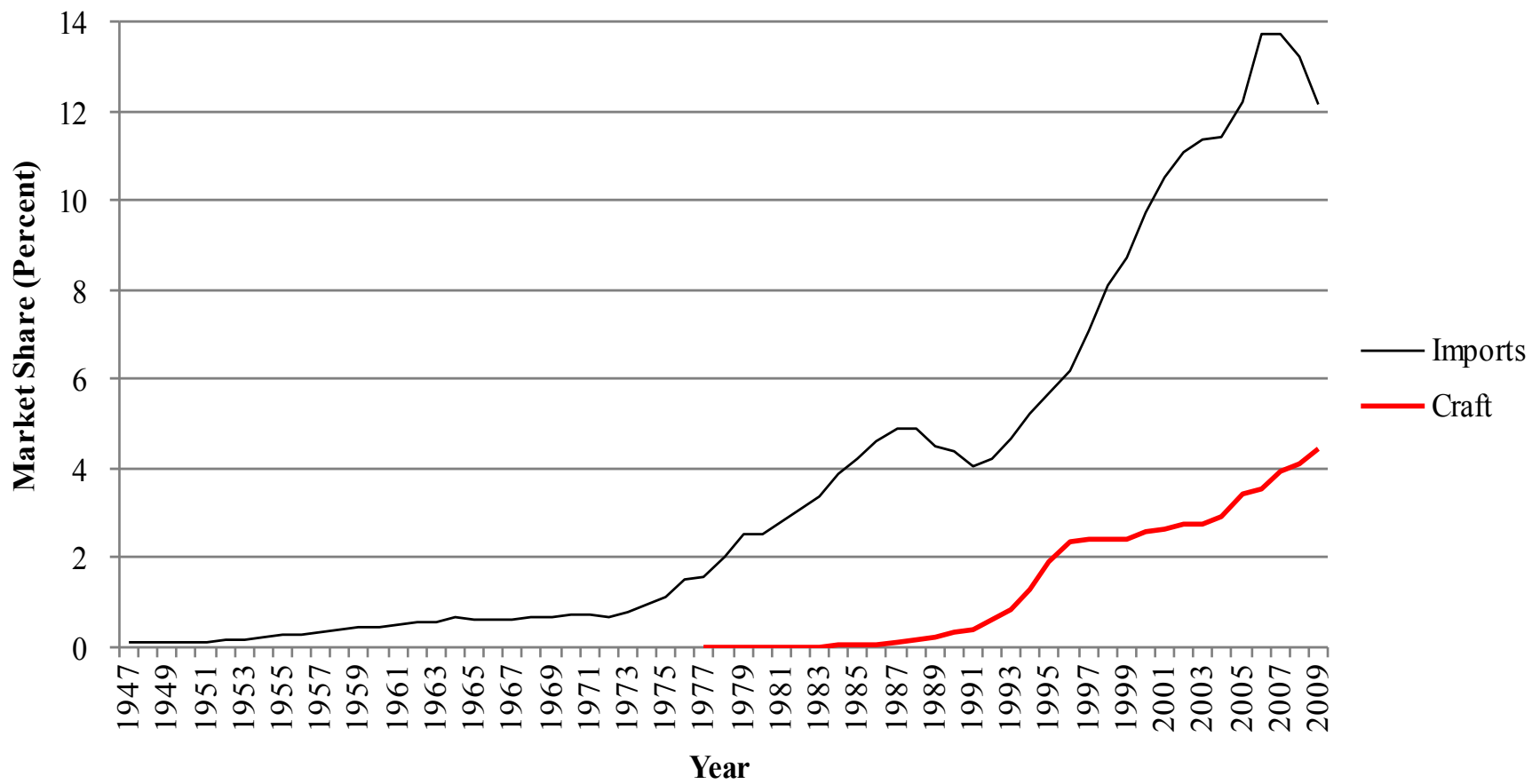


Figure 1d Beer Industry PCM and the “Beer Wars”, 1950-2003

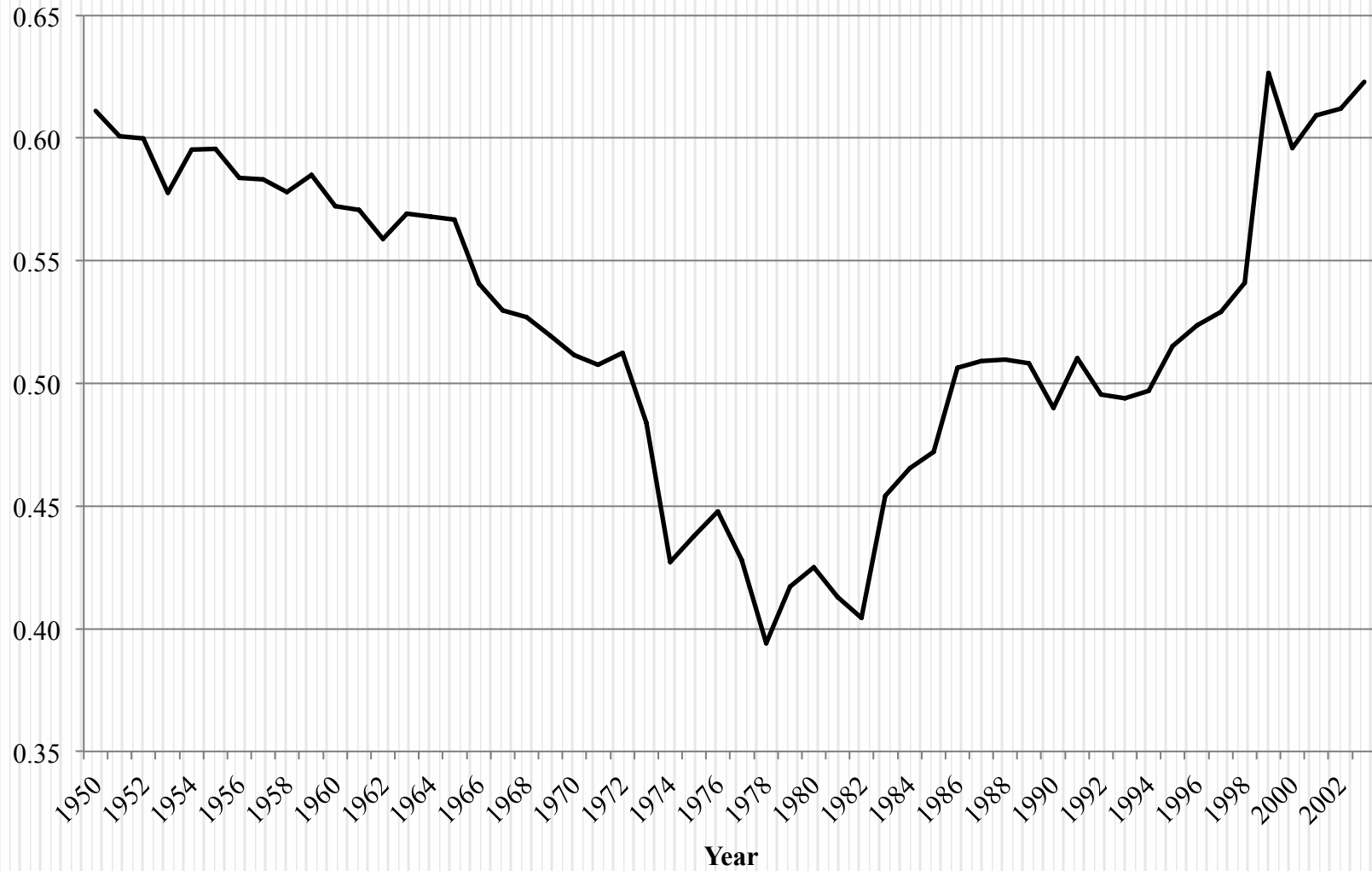


Figure 1e PCM for Anheuser-Busch (A-B), Coors, and Miller, 1977-2008

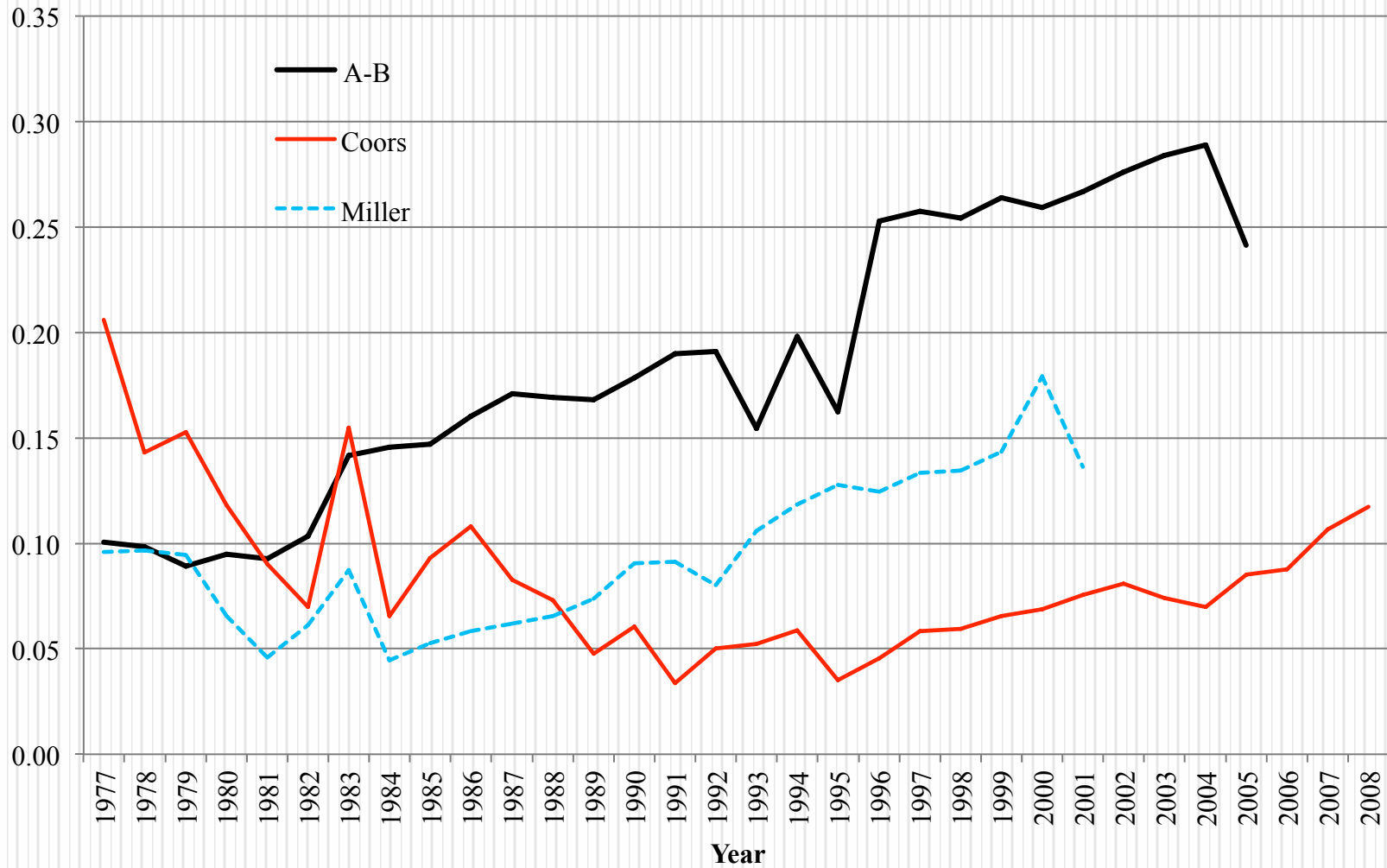


Figure 2 Advertising Per Barrel of Leading U.S. Brewers, 1950-2009

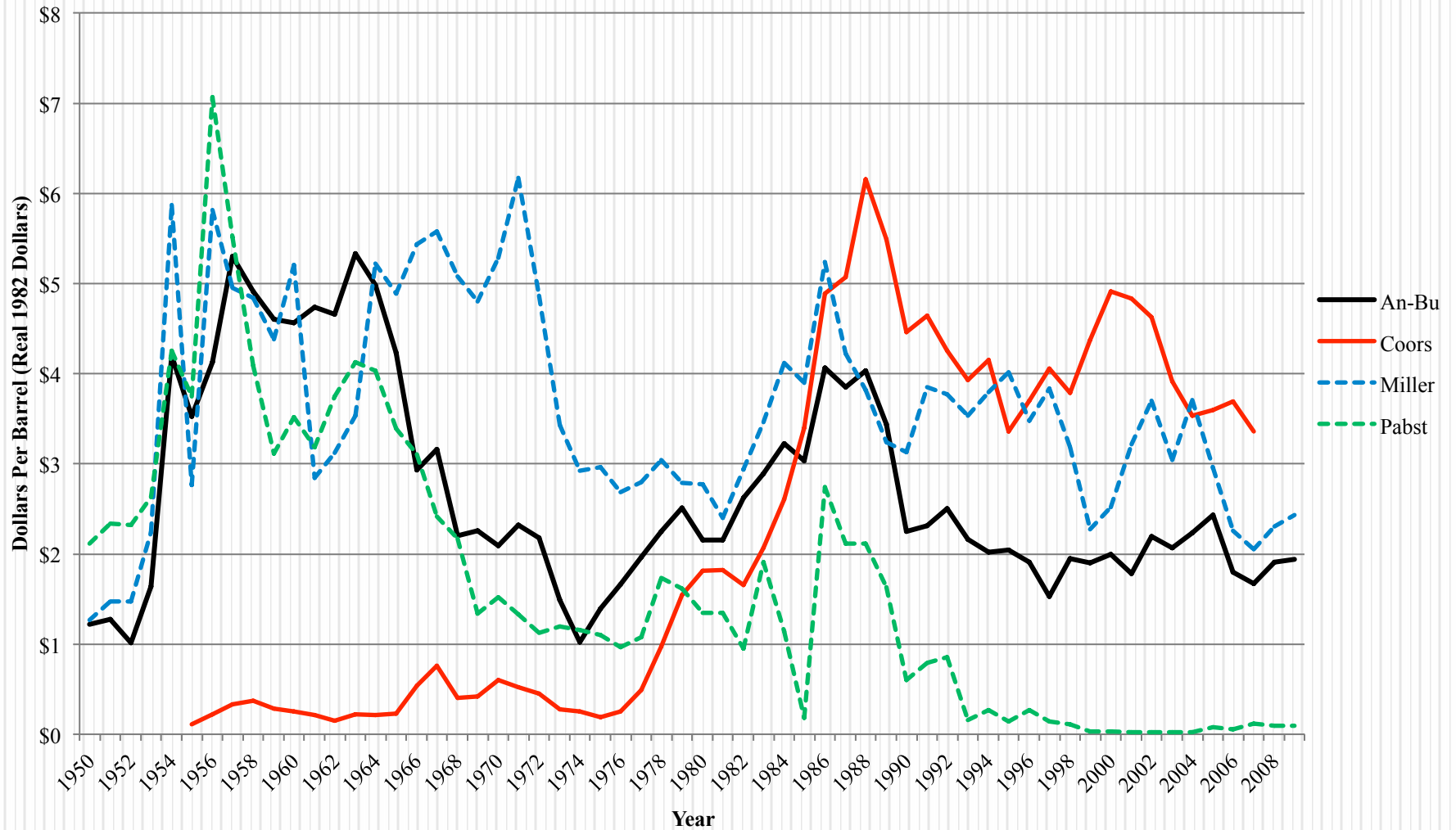


Figure 2a Advertising Per Barrel for the U.S. Brewing Industry, 1950-2009

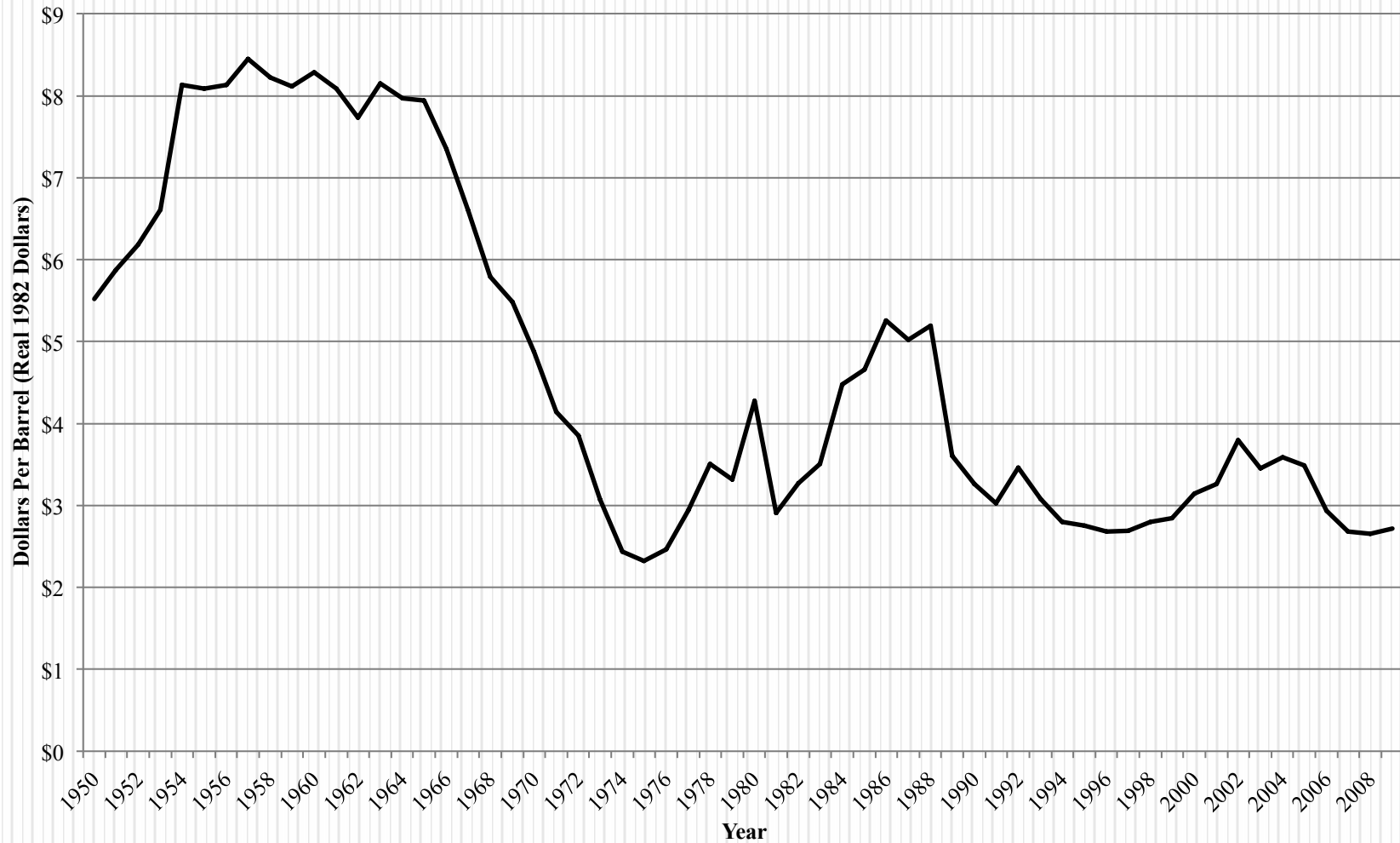


Figure 3 RPD for Anheuser-Busch (A), Miller (M), Coors (C), and Genesee Brewing Companies, 1978-1999

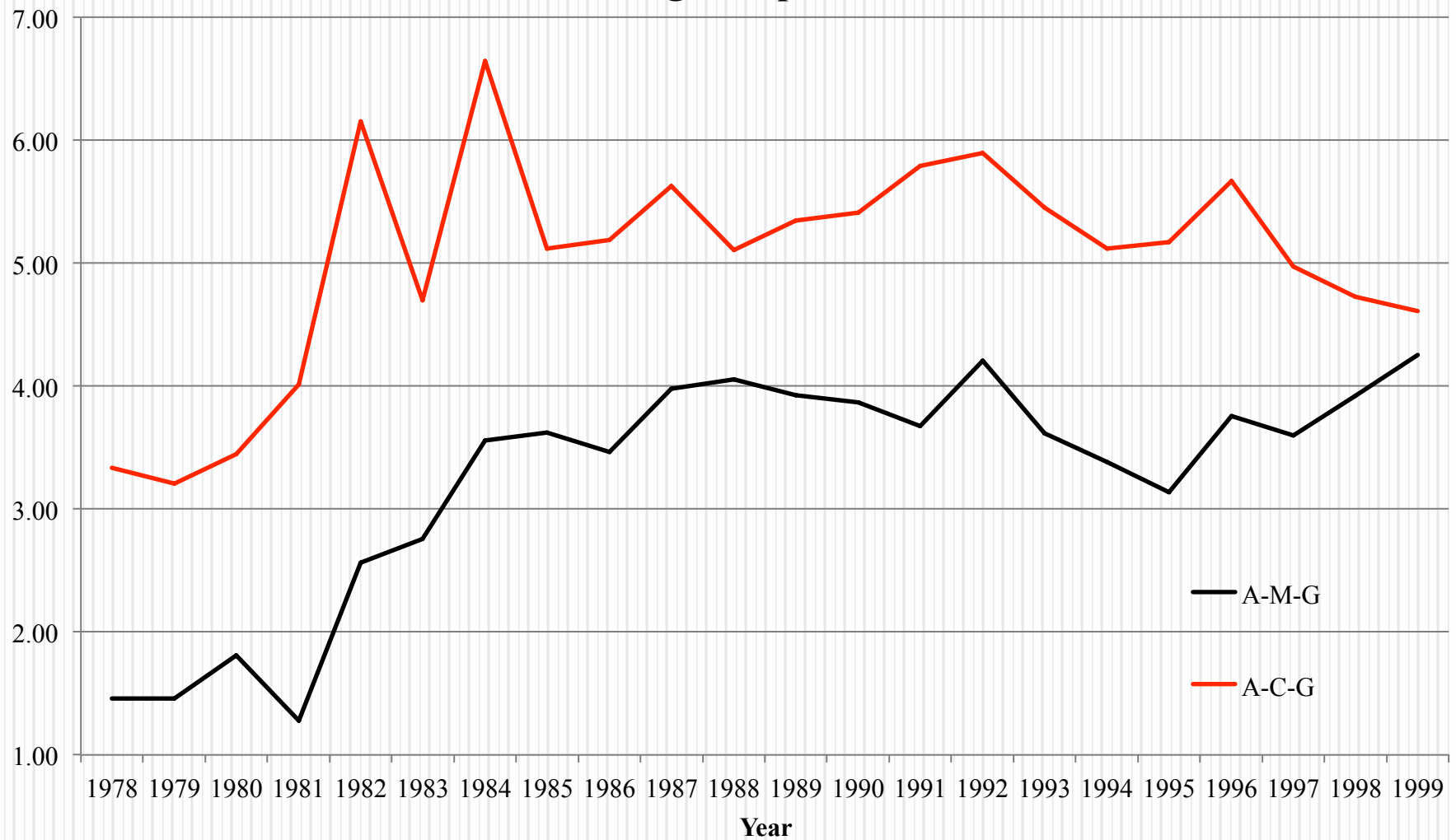


Table 1 The Market Share of the National Brewers, Minimum Efficient Scale (MES), the Number of Brewers (N), and the Cost-Minimizing Number of Competitors (N*) in the U.S. Brewing Industry

Year	Market Share of National Brewers (Percent)	MES-Output (Million Barrels)	MES-MS (Percent)	N	N*	K
1950	16	0.1	0.1	350	840	0
1960	21	1.0	1.5	175	87	88
1970	45	8.0	6.4	82	16	66
1980	59	16.0	9.0	40	11	29
1990	79	16.0	8.4	29	12	17
2000	89	23.0	14.0	24	7	17
2009	93	23.0	14.0	20	7	13

Sources: Steinberg (1980), the *Statistical Abstract of the United States*, Tremblay et al. (2005), and Tremblay and Tremblay (2005).

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