

Geographic Targeting Delivers Customers

There's never enough money to advertise everywhere you want for as long as you want. Which is why the media planner's basic task is allocation. That is, spending a limited resource for greatest total effect in getting people to buy the product.

It is the events in a person's life – the empty cereal box, the high telephone bill, the broken dishwasher, the expiring car lease – that trigger consumers to consider making a purchase. Most brand advertising does its job by being there with a message for the consumer who is ready to buy the product.

Thus, for most established brands, advertising has its greatest effect when a consumer is "in the market." For that reason, **when**

a person gets a message is often more important than how many messages a person gets. And because products are bought every day, brands need to remind people of their name and value every day.

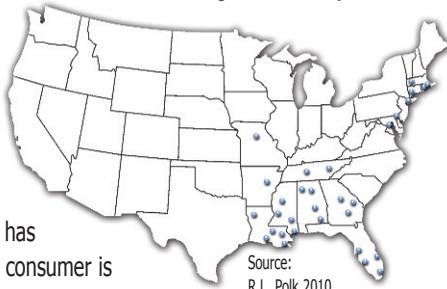
This is an argument for more weeks of advertising...continuous presence, in other words, not just frequency. These new ideas can be summed up in the phrase: recency planning.

Since purchases are made continuously, but we usually don't know who is ready to purchase, the idea is to talk to as many target consumers as possible. **For most established brands today, the goal is "reach and continuity," not "reach and frequency."** In other words, it's much more important to reach a potential customer when s/he is interested in making a purchase than to reach every viewer three times or more. And to do that it is necessary to advertise consistently over time. That's called recency.

Advertising does many things. Over time, it builds brand awareness in the target market which in turn makes it easier to influence the next purchase. Recency's real contribution to advertising is to focus on that next purchase – whether the brand is new or established, cornflakes or cars.

Nissan Maxima

For this sedan, the 31 high-indexing DMAs contained 25.7% of the U.S. population, but delivered over 51.4% of all new Nissan Maxima registrations in 1Q'10.



Source: R.L. Polk 2010

Both weeks and weekly reach are key recency goals.

Unfortunately, most advertisers can't afford both. The traditional trade-offs for buying more weeks – scheduling fewer rating points, using 15s instead of 30s, and maximizing lower-priced programs – have been pushed to the limit. The remaining option is to focus on geography, not demography.

Concentrating solely on demography produces targeting errors.

There are two kinds: "false positives" where the demo is not the target and "false negatives" where the target is not the demo.

False positive errors waste money. A high percentage of demo exposures are delivered to non-prospects. False negative errors distort GRPs and reach – a significant percentage of prospects are not in the GRP or reach calculations.

And there is no way to reduce the error when using demo targets. A larger demo, for example, merely increases false positives – it includes more people who are not the target. A narrower demo increases false negatives – it excludes more people who are the target.

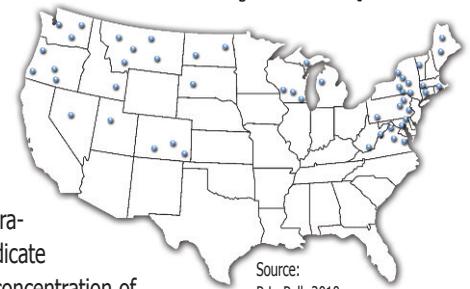
Using geography, however, reduces targeting error by focusing on high response areas. That's why geo-targeting is so important.

Every brand has geographic areas of opportunity. These are spot markets where advertising is most likely to produce sales.

For most brands, markets comprising a third of the U.S. will have a BDI of 125 or higher. For example, on these pages, the high-indexing DMAs shown delivered approximately half of each model's new registrations. (The blue dots indicate DMAs with the highest concentration of purchasers relative to the national average.)

Subaru Outback

For this sedan, the 52 high-indexing DMAs contained 23.5% of the U.S. population, but delivered 50.6% of all new Subaru Outback registrations in 1Q'10.



Source: R.L. Polk 2010

Geography combined with demography is the optimum formula for reaching high-potential consumers. This is the great strength of Spot TV.

Top 25 African-American Markets

In total, the top 25 African-American DMAs contain 61% of all African-American TV households in the U.S. New York tops the list, with 1.26 million African-American households, followed by Atlanta, Chicago, Washington, DC and Philadelphia.

DMA Rank*	Rank	Market (DMA)	A-A TV HH	DMA % of Total U.S.	
				A-A TV HH	% Total U.S.
1	1	New York	1,256,380	8.9	8.9
2	8	Atlanta	664,860	4.7	13.6
3	3	Chicago	589,240	4.2	17.8
4	9	Washington, DC (Hagrstwn)	571,980	4.1	21.9
5	4	Philadelphia	551,070	3.9	25.8
6	2	Los Angeles	475,180	3.4	29.1
7	11	Detroit	378,730	2.7	31.8
8	10	Houston	377,960	2.7	34.5
9	5	Dallas-Ft. Worth	368,640	2.6	37.1
10	25	Raleigh-Durham (Fayetvll)	302,670	2.2	39.3
11	26	Baltimore	297,580	2.1	41.4
12	16	Miami-Ft. Lauderdale	297,110	2.1	43.5
13	48	Memphis	268,620	1.9	45.5
14	23	Charlotte	220,560	1.6	47.0
15	43	Norfolk-Portsmth-Newpt Nws	219,690	1.6	48.6
16	18	Cleveland-Akron (Canton)	210,780	1.5	50.1
17	21	St. Louis	193,670	1.4	51.5
18	40	Birmingham (Ann and Tusc)	180,510	1.3	52.8
19	6	San Francisco-Oak-San Jose	180,350	1.3	54.0
20	52	New Orleans	175,000	1.2	55.3
21	19	Orlando-Daytona Bch-Melbrn	173,730	1.2	56.5
22	14	Tampa-St. Pete (Sarasota)	169,960	1.2	57.7
23	57	Richmond-Petersburg	159,090	1.1	58.9
24	90	Jackson, MS	148,610	1.1	59.9
25	78	Columbia, SC	144,170	1.0	60.9

Source: The Nielsen Company, NSI, Jan., 2011 *Ranked by A-A TV Households

Top 25 Hispanic Markets

In total, the top 25 Hispanic DMAs contain 75% of all Hispanic TV households in the U.S. Los Angeles tops the list, with 1,893,810 Hispanic TV households, followed by New York's 1,276,130. Miami, Houston & Dallas round out the top five Hispanic DMAs; together these five markets contain over 37% of all Hispanic TV households.

DMA Rank*	Rank	Market (DMA)	Hispanic TV HH	DMA % of Total U.S.	
				Hispanic TV HH	% Total U.S.
1	2	Los Angeles	1,893,810	14.2	14.2
2	1	New York	1,276,130	9.6	23.8
3	16	Miami-Ft. Lauderdale	690,640	5.2	29.0
4	10	Houston	586,120	4.4	33.4
5	5	Dallas-Ft. Worth	526,760	3.9	37.3
6	3	Chicago	501,090	3.8	41.1
7	37	San Antonio	400,710	3.0	44.1
8	12	Phoenix (Prescott)	398,750	3.0	47.1
9	6	San Francisco-Oak-San Jose	393,530	2.9	50.0
10	87	Harlingen-Wslco-Brnsvl-McA	297,250	2.2	52.2
11	20	Sacramnto-Stkton-Modesto	270,550	2.0	54.2
12	46	Albuquerque-Santa Fe	254,620	1.9	56.1
13	28	San Diego	248,760	1.9	58.0
14	55	Fresno-Visalia	245,630	1.8	59.8
15	17	Denver	242,270	1.8	61.6
16	97	El Paso (Las Cruces)	226,260	1.7	63.3
17	19	Orlando-Daytona Bch-Melbrn	205,970	1.5	64.8
18	4	Philadelphia	204,680	1.5	66.3
19	14	Tampa-St. Pete (Sarasota)	197,820	1.5	67.8
20	9	Washington, DC (Hagrstwn)	195,170	1.5	69.3
21	8	Atlanta	166,450	1.2	70.5
22	44	Austin	163,000	1.2	71.7
23	42	Las Vegas	157,600	1.2	72.9
24	7	Boston (Manchester)	141,200	1.1	74.0
25	67	Tucson (Sierra Vista)	123,940	0.9	74.9

Source: The Nielsen Company, NSI, Jan., 2011 *Ranked by Hispanic TV Households

Top 25 Asian Markets

In total, the top 25 Asian DMAs contain 80% of all Asian TV households in the U.S. Los Angeles tops the list, with 699,860 Asian TV households, followed by New York's 614,490. San-Francisco-Oakland-San Jose, Honolulu and Chicago round out the top five Asian DMAs; together these five markets contain over 46% of all Asian TV households.

DMA Rank*	Rank	Market (DMA)	Asian TV HH	DMA % of Total U.S. Asian TV HH	Cumulative % Total U.S. Asian TV HH
1	2	Los Angeles	699,860	14.5	14.7
2	1	New York	614,490	12.8	27.3
3	6	San Francisco-Oak-San Jose	530,690	11.0	38.3
4	72	Honolulu	212,650	4.4	42.8
5	3	Chicago	182,650	3.8	46.6
6	9	Washington, DC (Hagrstwn)	173,830	3.6	50.2
7	13	Seattle-Tacoma	152,360	3.2	53.3
8	20	Sacramnto-Stkton-Modesto	130,790	2.7	56.1
9	4	Philadelphia	120,420	2.5	58.6
10	10	Houston	118,430	2.5	61.0
11	5	Dallas-Ft. Worth	114,740	2.4	63.4
12	7	Boston (Manchester)	112,970	2.3	65.7
13	28	San Diego	105,580	2.2	67.9
14	8	Atlanta	81,930	1.7	69.6
15	11	Detroit	64,160	1.3	71.0
16	42	Las Vegas	54,570	1.1	72.1
17	12	Phoenix (Prescott)	51,460	1.1	73.2
18	15	Minneapolis-St. Paul	50,840	1.1	74.2
19	22	Portland, OR	48,980	1.0	75.2
20	17	Denver	42,210	0.9	76.1
21	26	Baltimore	39,910	0.8	77.0
22	19	Orlando-Daytona Bch-Melbrn	39,400	0.8	77.8
23	14	Tampa-St. Pete (Sarasota)	36,990	0.8	78.5
24	16	Miami-Ft. Lauderdale	35,640	0.7	79.3
25	55	Fresno-Visalia	31,680	0.7	80.0

Source: The Nielsen Company, NSI, Jan., 2011 *Ranked by Asian TV Households

Ethnic Buying Power

Hispanic, African-American and Asian target markets have made substantial gains in buying power* over the last decade. Each of these consumer groups have out-paced the total U.S. buying power growth rate since 1990.

Buying Power (billions of dollars)				
	1990	2000	2009	2014
African-American	318.1	590.2	910.4	1,136.8
Hispanic	211.9	489.4	978.4	1,330.4
Asian-American	116.5	268.7	508.6	696.5
Total	4,270.5	7,187.6	10,717.8	13,097.1

Percentage Change in Buying Power				
	1990-2009	1990-2014	2000-2009	2009-2014
African-American	186.2	257.3	54.3	24.9
Hispanic	361.8	528.0	99.9	36.0
Asian-American	336.6	497.9	89.3	36.9
Total	151.0	206.7	49.1	22.2

In 2014, African-Americans will account for 8.7% of all U.S. buying power, up from 7.4% in 1990.

Compared to the total U.S., African-Americans spend more on:

- Telephone Services
- Electricity
- Groceries
- Natural Gas

In 2014, Hispanics will account for 10.2% of all U.S. buying power, up from 5.0% in 1990.

Compared to the Total U.S., Hispanics spend more on:

- Groceries
- Telephone Services
- Housing
- Clothing

In 2014, Asians will account for 5.3% of all U.S. buying power, up from 2.7% in 1990.

Compared to the average U.S. household, Asians spend more on:

- Food
- Housing
- Furniture
- Vehicle Purchases

* Total personal income available after taxes for spending on goods and services (same as disposable personal income).

Source: University of Georgia Selig Center for Economic Growth, "The Multicultural Economy 2009," Third Quarter 2009. Economic research from the Terry School of Business at the University of Georgia is published every quarter and their estimates in part are based on data from the U.S. Bureau of Economic Analysis.

Ethnic Buying Power

Top States for African-American Buying Power: The ten largest African-American states account for 61% of the African-American buying power.

Rank	State	Totals in Billions of Dollars
1	New York	86
2	Texas	72
3	California	62
4	Georgia	61
5	Florida	61
6	Maryland	52
7	Illinois	45
8	North Carolina	41
9	Virginia	38
10	New Jersey	35

Top States for Hispanic Buying Power: The ten states with the largest Hispanic markets account for 80% of the Hispanic buying power.

Rank	State	Totals in Billions of Dollars
1	California	253
2	Texas	175
3	Florida	101
4	New York	76
5	Illinois	43
6	New Jersey	37
7	Arizona	31
8	Colorado	21
9	New Mexico	18
10	Georgia	15

Top States for Asian Buying Power: The ten states with the largest Asian markets account for 75% of the Asian buying power.

Rank	State	Totals in Billions of Dollars
1	California	163
2	New York	51
3	Texas	34
4	New Jersey	32
5	Illinois	23
6	Hawaii	22
7	Washington	17
8	Florida	15
9	Virginia	15
10	Massachusetts	13

Source: University of Georgia Selig Center for Economic Growth, "The Multicultural Economy 2009," Third Quarter 2009

Local News Delivers Quality Viewers

In every local broadcast market, there are opportunities to reach targeted consumers via programs that cater to local market nuances. Here are some examples of the different types of goods and services that over-index among news viewers in five DMAs.

Category	Index of News Viewers against Total Market (Adults 18+)
Albuquerque, NM (Morning Local News)	
Plan to buy a Smartphone in the next 12 months	162
Plan to purchase a pool/hot tub/home spa in the next 12 months	150
Went to a live show at a casino in the past year	142
Planning to buy a home security system in the next 12 months	141
Made an addition to home in the past year	131
Las Vegas, NV (Late Local News)	
Business decision maker for overnight delivery services	204
Plan to buy a pool/hot tub/home spa in the next 12 months	195
Plan to purchase a computer in the next 12 months	157
Plan to purchase a digital computer in the next 12 months	136
Plan to purchase a smoking cessation product in the next 12 months	133
Rochester, NY (Morning Local News)	
Consulted with a plastic/cosmetic surgeon in the past 12 months	170
Purchased arthritis medication in the past 12 months	134
Used services of an attorney in the past 12 months	124
Purchased medication for high blood pressure in the past 12 months	117
Purchased medication for a digestive disorder in the past 12 months	117
San Francisco, CA (Late Local News)	
Plan to purchase an eReader device in the next 12 months	200
Purchased medication for migraines in the past year	150
Plan to purchase an energy saving appliance in the next 12 months	139
Plan to purchase a major appliance in the next 12 months	127
Took medication for weight loss in the past year	124

Example: In Albuquerque, viewers of morning local broadcast news are 62% more likely than all Albuquerque adults to be planning to buy a Smartphone in the next 12 months.

Note: All M-F local broadcast affiliates and independent news programs are included in the news viewer definitions.

Source: Scarborough Research, 2009 Release 1
(Apr 2009 - Mar 2010 Alb & LV; Feb 2009-Jan 2010 Rochester & SF)

Sales Distinctions by DMA

No goods or services sold in the U.S. have equal distribution throughout all 210 television markets. Some may have flatter patterns than others, but there are always market variations based on consumer lifestyles and interests.

Listed below are examples of television markets that have above average indices in three selected sales categories. Spot TV enables advertisers to target high indexing markets for greater ROI.

DMA	2009	
	DMA Rank	CDI
Gourmet Cooking/Fine Foods		
San Francisco, CA	6	132
New York, NY	1	124
Miami, FL	16	121
Las Vegas, NV	38	120
Washington DC	9	119
Casino Gambling		
San Francisco, CA	6	113
Miami, FL	16	112
Honolulu, HI	62	110
Baltimore, MD	27	109
Chicago, IL	3	108
Fashion Clothing		
San Francisco, CA	6	122
New York, NY	1	121
Las Vegas, NV	38	118
Washington, DC	9	117
Miami, FL	16	116

Notes: CDI, or Category Development Index, is derived by dividing a market's percentage of U.S. sales for a category by the market's percentage of U.S. population.

Source: SRDS Local Market Audience Analyst 2009; DMA Rank based on Nielsen DMA Rank, September 2009.



Research 101 – Television Markets

DMA (Designated Market Area)

A Nielsen term used to identify an exclusive geographic area of counties in which the home market television stations hold a dominance of total hours viewed. Each county in the U.S. is assigned to only one of the 210 DMAs.

Universe Estimate (U.E.)

Total persons or homes in a given population, e.g., TV households in the U.S. or in a specific DMA.

Metered Markets

DMAs in which household viewing is measured by set-tuning meters in one panel of households, while demographic viewing is collected via diaries from a separate sample. Household viewing data is reported on an overnight basis.

Local People Meter Markets (LPM)

Local markets with the same metering device used for national Nielsen data. The People Meter measures TV set-tuning and demographic data on a 52-week basis, eliminating the need for diaries.

Diary Markets

DMA viewing for both set-tuning and demographics is recorded in a paper television viewing diary. Diary markets are measured only during the "sweep" months. Demographics for metered markets are also obtained with diaries.

Cable Television Terms

Coverage Area

The number or percentage of TV households that could receive an individual cable channel or program. Coverage reflects the ability to view, not actual viewing.

Wired Cable Homes

The household is "wired" for cable via a wire to the home from a cable head-end located in the community, and can receive cable channels on any connected TV set in the home.

Alternate Delivery Source (ADS)

Technologies for the delivery of cable channels that are alternatives to a wire going into the home: satellite dish (C-Band), Direct Broadcast Satellite (DBS), Satellite Master Antenna (SMATV) and Microwave Multi Distribution System (MMDS).

Research 101 – Media Terminology & Formulas

Rating

The audience of a particular program or network at a specific period of time expressed as a percent of the total audience population or universe.

For example, in a typical large DMA, a 12 NSI household rating would equal delivery of 885,160 HH or 12% of a HH universe of 7,376,330.

If a program has a 12 national (NTI) household rating, and the U.S. TV household universe is 114.5 million, then 12% of 114,500,000, or 13,740,000 households, are tuned to the program.

FORMULA

Share (%) x HUT (%) = Rating

Audience (000's) / Universe Estimate (000's) = Rating

Share

The percent of the Households Using Television (HUT) or Persons Using TV (PUT) which are tuned to a specific program or station at a specified time.

For example, a 12 household rating divided by a television usage level (HUT) of 60 would yield a share of 20.

FORMULA

Rating (%) / HUT or PUT (%) = Share

Note: Share is a percent of the viewing audience available during a specific time period. A rating is a percent of the universe estimate.

HUT (Homes Using Television)

The percent of all TV households with one or more sets in use during a specific time period. When this term applies to people, it is called Persons Using Television (PUT).

For example, HUTs in prime time are generally in the 60-65% range while 7AM-9AM could be about 30-35%.

FORMULA

Rating (%) / Share (%) = HUT

HH with TV sets on (000's) / Total HH Universe (000's) = HUT

Research 101 – Media Terminology & Formulas

Audience Composition

The percent that a specific demographic segment is of a larger demo segment. Usually calculated using either Persons 2+ or Adults 18+ as the base, it can be calculated using either impressions or VPVHs.

FORMULA

$A_{25-54} (000) / A_{18+} (000) =$
The A25-54 % audience composition of Total Adults

Cost Per Thousand (CPM)

Advertisers' cost to deliver one thousand viewer exposures to a commercial. The total cost for one or a series of commercials is divided by the projected audience in thousands.

For example, if the cost of a commercial is \$50,000 and the projected audience is 4,606,000, then the CPM equals \$10.86 (\$50,000/4,606).

FORMULA

Media cost / Impressions in thousands = CPM

Cost Per Rating Point (CPP)

An advertising cost to deliver a single rating point. CPP is calculated by dividing the cost of running a commercial by the size of the audience, expressed in rating points.

For example, if the cost is \$50,000 and the rating for a program is 12, then the cost per point is \$4,166.67 (\$50,000 divided by 12).

FORMULA

Average unit cost / Rating (%) = CPP
Total schedule cost / GRPs = CPP

Viewers Per Viewing Household (VPVH)

The number of viewing persons per tuning household. Usually reported as "per 1,000 viewing households." VPVH is not a percentage, it is a ratio of a demographic segment to households and represents an actual number of people.

For example, if there are 13.5 million households tuned to a program and the Women 18-49 VPVH is .43, then there are .43 W18-49 in each of these 13.5 million households.

FORMULA

Persons Projection / Household Projection = VPVH

Research 101 – Media Terminology & Formulas

Reach

The number of different individuals or households exposed at least once to a program or commercial across a stated period of time. It is expressed as a percentage of a given universe. A household or person is counted once, no matter how many times the telecast has been viewed. Also called cumulative or unduplicated audience.

FORMULA

GRPs (%) / Frequency = Reach

Frequency

Average number of times a household or person viewed a given television program, station or commercial during a specific time period. For instance, a schedule of 150 GRPs divided by the percent of homes reached (70%) would deliver a frequency of 2.1.

FORMULA

GRPs (%) / Reach (%) = Frequency

Reach & Frequency Example

Schedule = 150 GRPs
Total DMA Households = 10
Channel 2 HH News Viewing (M-F 6-7PM) = 7 out of a 10 HH universe

*Household had no viewing to Channel 2 News

In this example, Ch. 2 News reach is 7 HH out of the DMA universe of 10 HH, or 70%. Frequency is calculated by dividing the 150 GRPs by the 70% reach, yielding an average 2.1 frequency.

Each household exposure to the commercial is counted in the GRP total, but any duplication of viewing by the same household is eliminated in the reach calculation because each household is counted only once. Commercial XYZ has been seen in 7 out of 10 households an average of 2.1 times.

Television Acronyms

Various industries all have their own unique language or nomenclature and the television advertising business is no exception. Listed below are some of the common acronyms that are used and what they stand for, followed by useful terms and definitions.

- AAAA**American Association of Advertising Agencies
- AAF**American Advertising Federation
- ADS**Alternate Delivery Systems
- AFTRA**American Federation of Television and Radio Artists
- AMOL**Automated Measurement of Lineups
- ANA**Association of National Advertisers
- ARF**Advertising Research Foundation
- AWRT**American Women in Radio and Television
- BDI**Brand Development Index
- CATV**Cable Television
- CC**Closed Captioned
- CDI**Category Development Index
- CNAD**Cable National Audience Demographics Report
- COLTAM**Committee on Local Television Audience Measurement
- COLTRAM**Committee on Local Television and Radio Audience Measurement
- CPM**Cost Per Thousand
- CPP**Cost-Per-Rating Point
- DBS**Direct Broadcast Satellite
- DMA**Designated Market Area
- DTV**Digital TV
- DVD**Digital Versatile Disk
- DVR**Digital Video Recorder
- EBS**Emergency Broadcast System
- EDI**Electronic Data Interchange
- FCC**Federal Communications Commission
- FTC**Federal Trade Commission
- GAA**Gross Average Audience
- GRP**Gross Rating Point
- HDTV**High Definition Television
- HUT**Households Using Television
- IRTS**International Radio & Television Society Inc.
- LCD**Liquid Crystal Display
- LMA**Local Marketing Agreement
- LPM**Local People Meter
- LPTV**Low Power TV Station
- MMDS**Multi-channel Multi-point Distribution System
- MSO**Multi-System Operator
- MVPD**Multichannel Video Programming Distributor

- NAB**National Association of Broadcasters
- NAD**National Audience Demographics Report
- NATPE**National Association of Television Program Executives
- NSI**Nielsen Station Index
- NTI**Nielsen Television Index
- OTO**One Time Only
- PBS**Public Broadcasting Service
- PPM**Personal People Meter
- PPV**Pay-Per-View
- PSA**Public Service Announcement
- PUT**Persons Using Television
- ROI**Return on Investment
- ROS**Run-Of-Schedule
- ROSP**Report on Syndicated Programs
- SDTV**Standard Definition Television
- SMATV**Satellite Master Antenna Television
- STB**Set-Top Box
- TSA**Total Survey Area
- UE**Universe Estimate
- UHF**Ultra High Frequency
- VHF**Very High Frequency
- ViP**Viewers in Profile
- VOD**Video On-Demand
- VPVH**Viewers Per Viewing Household

Glossary of Television Terms



Ad Hoc Network

A group of stations that is formed for a special purpose, such as the showing of a one-time TV program or series. Ad hoc is Latin for “for this.”

Adjacency

A commercial or program that immediately follows or precedes another on the same TV station.

Advertising Weight

A measure of advertising delivery, normally stated in terms of number of commercials, homes reached, target audience impressions, and gross rating points.

Affidavit

A notarized statement from a television station that confirms the commercial actually ran at the time shown on the station’s invoice.

Affiliate

A TV station, not owned by a network, that grants a network use of specific time periods for network programs and advertising, often for compensation. Remainder of broadcast day is programmed locally.

Alternate Delivery Systems (ADS)

TV homes with unwired cable access are referred to as having Alternate Delivery Systems. The four components of ADS are:

- Direct Broadcast Satellite (DBS): Programming delivered directly via household's own small (usually 18") dish; DBS is the largest component of ADS.
- Satellite Master Antenna (SMATV): Serves housing complexes and hotels; signals received via satellite and distributed by coaxial cable.
- Microwave Multi Distribution System (MMDS), "Wireless Cable": Distributes signals by microwave. Home receiver picks up signal, then distributes via internal wiring.
- Satellite Dish (C-Band/KU Band), "Big Dish": Household receives transmissions from a satellite(s), via a 1- to 3- meter dish.

Audience Composition

The distribution of a station's audiences by demographic group.

Audience Duplication

The extent to which the audience of one station is exposed to that of another.

Audience Flow

A measure of the change in audience during and between programs. Audience flow shows the percentages of people or households who turn on or off a program, switch to or from another channel, or remain on the same channel as the previous program.

Automated Measurement of Lineups (AMOL)

The technology which allows The Nielsen Company to track an identification code within locally transmitted TV signals for network and nationally syndicated programs. Nielsen is also linked by computers to networks and syndicators in order to receive their latest schedule changes. Using this technology, Nielsen can pin down exactly what program was shown on what channel at a particular time.

Average Audience (AA)

A widely used rating term, expressed as a percentage, to reflect viewing to the average minute of a program or time period. It is an average of the audience at minute 1, 2, 3, etc. As such, it serves as an estimate of the average commercial audience (households or persons).

Average Quarter-Hour Audience

Estimated number of people who watch a program or station for a minimum of five minutes within a specific quarter hour.

B

Back Channel

A means of communication from users to content providers. As content providers are transmitting interactive television (analog or digital) to users, users can connect through a back channel to a website. It can be used to provide feedback, purchase goods and services, etc.

Barter

The exchange of quantities of commercial time for merchandise or services.

Barter Syndication

A program distribution method in which the syndicator retains and sells a portion of the show's advertising time. In "cash plus barter," the syndicator also receives some money from the station on which the program airs.

Basic Cable

Channels received by cable subscribers at no extra charge, usually supported by advertising and small per-subscriber fees paid by cable operators.

Billboard

A brief announcement, usually 3, 5 or 10 seconds in length, and usually earned by advertisers paying extra for the program being ordered. Billboards are afforded, in most instances, at the top and bottom (beginning and end) of the show. The product and/or sponsor's name is mentioned in a statement such as "...the following portion of (program) is being brought to you by (sponsor)..." Also, called OPEN when used at the top of a show, and CLOSE when used at the bottom of a show.

Brand Development Index (BDI)

A measure of the relationship of a specific brand's sales to population in a specific geographic area. The BDI is derived by dividing an area's percent of total U.S. sales by that area's percent of population.

Broadband Services

High-speed cable Internet, digital cable and digital phone services all through a single pipeline.

Broadcast Calendar

The standard Broadcast calendar, created in the 1960s, is designed to conform to the uniform billing period adopted by broadcasters, agencies and advertisers for billing and planning functions. Under this system, the standard week starts on Monday and ends on Sunday. The standard Broadcast billing month always ends on the last Sunday of the calendar month.

Broadcast Coverage Area

The geographic area that receives a signal from an originating TV station.

C

Cable Television (Cable TV or CATV)

A television distribution system whereby TV signals are transmitted via cable (insulated wire), rather than through the air, to subscribers in a community or locality. Cable television systems are generally called cable systems; the companies that own and operate them are known as cable system operators or cablecasters.

Category Development Index (CDI)

A measure of the relationship of a specific category's sales to population in a specific geographic area. The CDI is derived by dividing an area's percent of total U.S. sales by that area's percent of population. Comparing BDI and CDI can be helpful in gauging brand or category potential.

Clutter

Excessive amounts of advertising carried by media vehicles. Term refers to the total amount of advertising time and space and to its scheduling long strings of consecutive commercials for broadcasting.

Confirmation

A statement (verbal or written) given to advertising agencies by a network, station, or rep firm when accepting an order for a commercial and/or media schedule.

Continuity

Scheduling advertising consistently over a period of time without interruption in order to build or maintain advertising awareness and recall.

Co-op Advertising

TV advertising paid for jointly by a manufacturer and retailer.

Cost-Per-Rating Point (CPP)

Used by most media planners in developing and allocating market budgets and setting rating point goals. It is defined as the cost of reaching one percent of the target audience within a specified geographic area.

$$\frac{\text{Average Cost per Spot}}{\text{Average Rating Point per Spot}} \text{ OR } \frac{\text{Cost of Schedule}}{\text{Gross Rating Points}}$$

Cost Per Thousand (CPM)

The cost of reaching 1,000 homes or individuals with a specific advertising message. CPM is a standard advertising measure to compare the relative cost efficiency of different programs, stations, or media.

Coverage

The percentage of homes or persons receiving a particular broadcast signal within a specific geographic area.

Cumulative Audience (CUME)

It is the total non-duplicated audience for one or a series of telecasts, programs, messages, or time-periods. It is expressed as a percentage of a given universe. A household or person is counted once no matter how many times the telecast has been viewed. This also is known as reach, net unduplicated audience, or net reach.

D

Datacasting

The broadcast of information and other services using a digital television channel. Broadcasters can offer additional related information while a program is being viewed.

Dayparts

The time segments that divide the TV day for ad scheduling purposes. These segments generally reflect a television station's programming patterns. Comparison of audience estimates between dayparts may indicate differences in size and composition of available audience. While dayparts may vary by market, station and affiliation, the most common dayparts* are:

...Dayparts continued

Early morning	5:00am-9:00am	Prime M-Sat	8:00pm-11:00pm
Daytime	9:00am-3:00pm	Sun	7:00pm-11:00pm
Early fringe	3:00pm-5:00pm	Late news	11:00pm-11:30pm
Early news	5:00pm-7:00pm	Late fringe	11:30pm-2:00am
Prime access	7:00pm-8:00pm	Overnight	2:00am-5:00am

*Eastern Time

Decoder

An electronic device used for converting a scrambled TV signal into a viewable picture.

Demographics

Audience composition based on various socioeconomic characteristics such as age, sex, income, education, household size, occupation, etc.

Designated Market Area (DMA)

Represents an exclusive geographic area of counties in which the home market stations are estimated to have the largest quarter-hour audience share (as defined by Nielsen).

Digital Television (DTV)

Generic term that refers to all digital television formats, including high-definition television (HDTV) and standard-definition television (SDTV).

Digital Video Recorder (DVR)

Refers to "digital video recorder," also known as "personal video recorder." A DVR or PVR records broadcasts on a hard disk drive which can then be played back at a later time (this is known as "time shifting"). A DVR often enables smart programming, in which the device records an entire series or programming defined by keywords, genre, or personnel; and offers pause control over "live" broadcasts.

Discrepancy

A difference between station billing and the original order; requires a discussion between the buyer and the station before the invoice is paid.

Direct Broadcast Satellite (DBS)

A television technology that delivers signals directly from a satellite to a home through the use of a small (usually 18") dish.

Direct Response

Advertising that seeks direct and prompt response from the viewer by means of exhibiting telephone numbers, box numbers, or other means of getting the viewer to order or inquire about objects shown.

Drop-In Ad

A local commercial inserted into a national program, or, more generally, an advertising message inserted into a larger advertisement, as for a local dealer or retailer, or a phrase, such as a public service slogan, or symbol; also called a hitch-hike ad.

Duopoly

An instance where two stations in the same designated market area are owned by the same party. Though once forbidden by the FCC, the rules surrounding duopolies have been relaxed in recent years.

E

Electronic Data Interchange (EDI) See definition under eBusiness.

Efficiency

The relationship of media cost to audience delivery.

eBusiness

The transfer of data from one computer to another. When computers connect, trading partners can conduct business transactions electronically. eBusiness promises a more efficient procedure for processing Spot TV buys electronically.

Equal Time

The FCC's Equal Opportunities Rule (part of Section 315 of the Communications Act) states that if a broadcast station or cable system gives or sells time to one candidate for public office, it must offer equivalent time to other candidates. News shows are exempt.

Exposure

A person's physical contact with an advertising medium or message. It can be in a visual and/or an audio form.

F

Flight

A scheduling tactic that alternates periods of advertising with periods of no activity.

Fragmentation (Audience)

The increasing number of audience subdivisions which, together, constitute total TV usage. Television audiences are said to be fragmented, for example, across a broad spectrum of video sources: multiple broadcast networks, cable networks, syndicated programs, DBS services, VCR and video game usage, Internet usage, etc.

Frequency

The average number of times an accumulated audience has the opportunity to be exposed to advertisements, a particular program, or program schedule, within a measured period of time.

Reach x Frequency = Gross Rating Points

G

Geographic Targeting, or Geo-Targeting

The process of identifying a brand's geographic areas of opportunity, or the markets (DMAs) in which advertising is most likely to produce sales. Geographic targeting combines demographic and sales data to reach high-potential customers. See pages 64-67 for more information.

Gross Rating Points (GRP)

The sum of individual telecast ratings on a total program basis or advertiser commercial schedule, without regard to duplication. For example, 10 announcements each with a 10 rating would produce a total of 100 GRPs.

H

Hiatus

Period in a campaign when an advertiser's schedule is suspended for a short period of time, after which the schedule resumes.

High Definition Television (HDTV)

One mode of operation of digital TV whereby the broadcaster transmits a wide-screen picture with many times more detail than is contained in current analog television pictures. HDTV has 1125 lines of resolution vs. NTSC signals which have 525 lines of resolution.

Households Using Television (HUT)

The percentage of all television households in a survey area with one or more sets in use during a specific time period.

I

Impressions

Number of homes or individuals exposed to an advertisement or group of advertisements.

Independent Station

Stations not affiliated with any network, usually refers to commercial stations only.

Infomercial

A television commercial that is similar in appearance to a news program or talk show format, usually 30 minutes in length.

Interactive Television

A combination of television with interactive content. Programming can include richer graphics, one-click access to websites through TV Crossover Links, electronic mail and chats, and online commerce through a back channel.

Interconnect

Two or more cable systems distributing a commercial signal simultaneously, and offering a multiple system buy in which only one contract need be negotiated. Interconnects can be hard, where systems are directly linked by cable, microwave relays or by satellite, and the signal is fed to the entire Interconnect by one head-end; or soft, where there is no direct operational connection between the participating systems.

L

Lead-in

A program that immediately precedes another program on the same station or network. (Lead-out is the program that immediately follows another program.)

Live Ratings

The Nielsen Company's term for ratings reported as strictly live with no DVR playback activity.

Live Plus Ratings

The Nielsen Company’s term for live ratings plus seven-day DVR playback activity.

Live Plus Same Day Ratings (Same Day Ratings)

The Nielsen Company’s term for live ratings plus DVR playback activity until 3:00 am of the same Nielsen day.

Local Marketing Agreement (LMA)

An agreement between two owners in which one markets and sells advertising for the other.

Local Spot

The advertising purchased in a market and aimed only at the audience in that market (see Spot TV).



Make-good

A spot offered by a station in place of a regularly scheduled announcement that did not run or was improperly aired.

Media Mix

The distribution of time and money allocated among TV, radio, print and Internet advertising that makes up the total advertising budget of an advertiser, agency or media buyer.

Metro Area

A U.S. Government definition; the counties that comprise each Standard Metropolitan Statistical Area.

Multichannel Video Programming Distributors (MVPDs)

A multichannel video program distributor is an entity such as a cable operator, a BRS/EBS provider, a direct broadcast satellite service, a television receive-only satellite program distributor, or a satellite master antenna television system operator, that makes available for purchase, by subscribers or customers, multiple channels of video programming.

Multicasting

Broadcasting several programs at once via DTV on a single channel. A viewer might be able to receive two programs at the same time, and choose the program preferred.



National Spot

A form of broadcast advertising in which national advertisers, through their agency or buying service, select their target markets and stations to fit their marketing needs. The station usually has a contract with a rep firm to represent it to ad agencies (see Spot TV).

Network

A connecting system which allows simultaneous telecasting of a single origination by a number of stations.

NTSC

National television system committee. The organization that developed the analog television standard currently in use in the U.S., Canada, and Japan. Now generally used to refer to that standard. The NTSC standard combines blue, red, and green signals modulated as an AM signal with an FM signal for audio.



O&O Station

A television station owned and operated by a national network.

Optimization

Term used for a method of media planning using computer programs that develop the optimum media mix to spend advertising dollars most effectively. These media modeling systems allocate using media audience and cost data for all measured media vehicles plus the brand’s requirements in terms of budget, target audience, reach & frequency goals and other factors. Television optimizers identify the combination of programs, dayparts and stations that will optimize reach at the lowest cost.



Pay-Per-View TV (PPV)

A system in which payment is made for a single showing of a program. Subscribers of the pay-television company can phone in their “orders” prior to a showing, activate the system – that is, clear the scrambled channel – or press a button to utilize two-way equipment that activates the system.

Pay Television (Pay TV)

Home television programming for which the viewer pays by the program or by the month; also called pay television, subscription television (STV), or toll TV. Pay television includes over-the-air transmission (with scrambled signals) and cable transmission (pay cable).

Penetration

A proportion of households owning televisions or subscribing to cable.

Personal People Meter (PPM)

Arbitron’s PPM is a pager-sized device that is worn by consumers throughout the day to automatically detect inaudible codes that radio and television broadcasters and cable networks embed in the audio portion of their programming.

Personal Video Recorder (PVR)

See definition under Digital Video Recorder (DVR).

Persons Using Television (PUT)

A measurement of the total number of people in the target audience who are watching television for five minutes or longer during an average quarter-hour. PUT is generally expressed as a percent.

Piggyback

The back-to-back scheduling of two or more brand commercials of one advertiser in network or spot positions.

Pod

A group of commercials, promos or announcements contained in a television program break.

Post Buy Analysis

An analysis of schedule performance after it runs; offers a means of measuring a media buy as run versus its goal or original estimate of achievement.

Pre-emption

An omission of an announcement from a previously confirmed broadcast schedule; the advertiser is either offered a make-good or takes a credit.

Psychographics

Audience analysis on the basis of psychological factors such as lifestyles, values and interests and how they affect purchase behavior.

Q

Quarter Hour Audience

Individuals viewing a station at least five minutes in a specific 15-minute period.

R

Rating

A percentage of total households or population owning TVs who are tuned to a particular program or station at a specific time (e.g., a six rating for women 18-49 means 6 percent of all women 18-49 in the defined geographic area were viewing that station or program).

Rating Point

A value equal to one percent of a population or universe.

Reach

The number of unduplicated households or people exposed to a program, group of programs or an advertiser's schedule over a specific time period.

Reach x Frequency = Gross Rating Points

Rep Firm

Media sales representation company with offices in major advertising centers which represents stations in various markets for national advertising sales.

Rotation

Scheduling of advertising in the same program or time period on different days each week (horizontal rotation) or throughout a particular day (vertical rotation) in order to increase advertising exposure to different prospects.

Run-Of-Schedule (ROS)

Scheduling of commercials at any time of a station's choosing.

Road Blocking

The scheduling of a brand's commercial at approximately the same time on all networks, or all stations in a given market.

S

Satellite Station

A station that has agreed to rebroadcast the transmission of another station (generally operating in a larger nearby market) to an area that cannot otherwise be served by that station.

Saturation

The concentration of a heavy amount of advertising in a short period of time in order to attain maximum reach.

Scatter Plan

Scheduling method where the advertiser's commercials are rotated among a broadly described group of programs and/or time periods.

The advantage is that the advertiser gains a greater net audience (reach); the disadvantage may be that the station may include less attractive spots/commercial units in the schedule.

Schedule

A listing of the time of day and dates an advertiser's commercials are planned to run.

Set-top box (STB)

These receivers (named because they typically sit on top of a television set) convert and display broadcasts from one frequency or type – analog cable, digital cable, or digital television – to a standard frequency (typically channel 3 or 4) for display on a standard analog television set.

Share

The percent of households (or persons) using television who are tuned to a specific program, network, or station at a specific time.

Spill-In

The penetration of a television signal transmitted from outside the market area.

Spill-Out

The transmission of a television signal beyond its own market area.

Sponsorship

The purchase of all or part of a television program by one advertiser.

Spot TV

The advertising time purchased from individual stations. There are two major types: local and national. Local spots are purchased in one market and aimed only at the audience in that particular market. National spots are bought by national advertisers in several markets.

Standard Definition Television (SDTV)

An alternative method of operation for digital television that offers the opportunity to transmit two to eight standard quality programs in place of – but in the same channel as – that used for HDTV. By employing higher compression ratios, more programs may be transmitted.

Standard Error

A measure of the margin of error in a survey result attributable to sampling.

Strip

Refers to a television program aired five days a week, mainly Monday-Friday.

Subscription Television

See definition under Multichannel Video Programming Distributors.

Superstation

A station that provides satellite transmission of its signal to cable systems throughout the country. The extended coverage allows the superstation to claim increased viewership.

Sweeps

Ratings surveys in which local markets are simultaneously measured by a rating service (see page 46).

Syndicated Program

A program that is produced for national distribution, but which is shown on individual local stations rather than on a national network is called a syndicated program. These programs may be sponsored either locally or nationally.

T

Target Audience

The audience most desired by advertisers in terms of potential product/service usage and revenue potential.

Television Households

An estimate of the number of households that have one or more television sets.

Total Audience

Percent of households tuning to all or to any portion of a program for at least 6 minutes.

Total Survey Area (TSA)

A geographic area term; includes metro area and any additional counties where a statistically significant amount of viewing can be attributed to stations originating in the metro area. These outlying counties may well be a part of an adjacent metro area or DMA.

U

Ultra High Frequency (UHF)

An area of the broadcast spectrum that carries television signals for stations with channels 14 through 83.

Universe Estimate (UE)

The population chosen for a research study. The estimated number of actual households or people from which the sample will be taken and to which data will be projected.

Upfront

The first selling wave for the broadcast or cable networks, and syndication. It usually occurs in the spring after the new fall schedules have been announced and presented to major advertisers. The commercial time not sold in the upfront is sold later in the season in the scatter market.

U

Very High Frequency (VHF)

An area of the broadcast spectrum that carries television signals for stations with channels 2 through 13.

Video On-Demand (VOD)

Allows VCR-type control of broadcast or cable programs, or video and movies offered on a PPV basis.

Viewers Per Viewing Household (UPVH)

The number of viewing persons per tuning household; usually reported as “per 1000 viewing households.”

ViP (Viewers in Profile)

The local television ratings book from The Nielsen Company, issued after sweeps periods for each of the 210 television markets in the U.S. (see page 46).

W

Weighted Average

A statistical quantity calculated by multiplying each value in a group by an assigned weight, summing these products and dividing the total by the sum of the weights.

Wraparound Commercial

A commercial with noncommercial material wrapped around it, such as a question about a past sports event at the beginning and the answer at the end; sometimes called an insert, as when it is inserted within a movie surrounded by questions about the movie.

Glossary of Multiplatform Terms

A

Ad Server

A system used to determine which ads to serve based on the priority of an ad. It is also responsible for pacing the campaign, tracking and reporting on impression delivery and click-thru rates.

Atlas

An ad server used by advertisers and agencies to create and track ads.

B

Banner

In the ad industry, this is generally associated with the 468x60 size ad.

Blog

Blog is short for weblog. A journal (or newsletter) that is frequently updated and intended for general public consumption. Generally representative of the personality of the author or the website.

Bluetooth

Bluetooth is a computing and telecommunications industry specification that describes how mobile phones, computers and PDAs can easily interconnect with each other and with home and business phones and computers using a short wireless connection.

C

Click Command

A unique URL placed in front of a "raw" URL, which enables the system that created it to track the click activity.

Compression

The process of reducing the size of a media file by eliminating data. Higher compression means that the compression utility defines greater amounts of data as redundant. This can lead to loss of image quality, but highly compressed images can be delivered more efficiently over a network.

Converter Box

An electronic device that hooks up to an analog television set and its over-the-air antenna. The box converts the digital TV signal into analog, making the signal viewable on an analog TV. Any analog TV set that currently receives free OTA programming via an antenna will need a DTV converter box to continue to receive television service after February 17, 2009.

Cost Per Action (CPA)

A cost model incurred based on a user taking some specifically defined action in response to an ad. Examples of actions include sales transaction, customer acquisition or registration.

Cost Per Click (CPC)

A cost model incurred every time a user clicks on an ad.

Cost Per Lead (CPL)

A cost model incurred every time a user provides specific data to be used by the advertiser as a sales lead.

Click-Thru Rate (CTR)

The ratio of ad clicks to ad impressions.

D

Deck

The portal screen on a wireless phone where the wireless carrier places links to content.

E

Event

Any logged or recorded action that has a specific date and time assigned to it by either the browser or server. The occurrence of an event can be counted in three ways:

Event: Each occurrence of the event is counted; Visit: Each visit where the event occurs at least once is counted; Visitor: Each unique visitor that executed the event at least once is counted.

F

Floating Ads

An ad that appears within the main browser window on top of the web page's normal content, appearing to "float" over the top of the page.

Fold

A term to describe content placement on a page. The fold is the part of the screen that divides what can be seen initially (above the fold) from the content that is only visible by scrolling down (below the fold).

H

Hyperlink

A text or graphic link which redirects the user to a new URL or web page when the individual clicks on the link.

I

IPTV (Internet Protocol Television)

Television and/or video signals are distributed to subscribers or viewers using a broadband connection over Internet Protocol.

L

Landing Page

A web page where a user is taken upon clicking an ad.

Leaderboard

A horizontal ad unit that measures 728x90 pixels.

M

Message Unit

An ad unit that measures 300x250 pixels.

Microsite

A custom website designed specifically for an advertiser.

Mobisode

Mobisode is a media industry term for a broadcast television episode specially made for viewing on a mobile telephone screen and usually of short duration.

O

Opt in

A direct, pro-active request by an individual recipient to have their email address or mobile phone number added to a specific mailing list. Advertisers are offering opt-in mobile updates such as coupons, entertainment options and restaurant reservations for mobile phone users.

P

Page-takeover

An ad that prohibits a user from viewing content on web page until the ad is complete or closed.

Page Views

A statistic used to count web pages seen by users.

Portal

A website that often serves as a starting point for a web user's session. It typically provides services such as search, directory of websites and others such as stock quotes, email or message boards.

Pull

Term used to describe how a wireless subscriber obtains content when they ask (i.e., pull) content to themselves.

Push

Term used to describe how a wireless subscriber obtains content when they don't specifically ask for it each time.

R

Rich Media

A type of ad that incorporates animation, sound, video and/or interactivity. It can be used either singularly or in combination with technologies like streaming media, sound and Flash. It is deployed via standard web and wireless applications.

S

Skyscraper

A vertical ad unit that measures 160x600 or 120x600 pixels.

Share-of-Voice (SOV)

A ratio of impressions bought to the total impressions available on a website.

Social Networking

Web sites that allow people to link to others to share opinions, insights experiences and perspectives, whether it's music fans on MySpace, business contacts on LinkedIn, or classmates on Facebook. Many media sites have adopted social networking features such as blogs, message boards, podcasts and wikis to help build online communities around their content.

U

Unique Visitor

A unique individual or browser who visits a website at least once for a specific time period. If that individual visits more than once during that time period, he/she is counted as one unique visitor. Unique visitors can be identified by user registration or cookies.

2011 Survey Dates

Survey	Survey Dates	Markets
January	January 6 – February 2	28 Markets (4 wks)
February	February 3 – March 2	210 Markets (4 wks)
March	March 3 – March 30	LPM Markets Only (4 wks)
April	March 31 – April 27	LPM Markets Only (4 wks)
May	April 28 – May 25	210 Markets (4 wks)
June	June 2 – June 29	LPM Markets Only (4 wks)
July	June 30 – July 27	207 Markets (4 wks)
August	July 28 – August 24	LPM Markets Only (4 wks)
September	August 25 – September 21	LPM Markets Only (4 wks)
October	September 29 – October 26	30 Markets (4 wks)
November	October 27 – November 23	210 Markets (4 wks)
December	December 1 – December 28	LPM Markets Only (4 wks)

Source: The Nielsen Company

Broadcast Calendar

This standard broadcast calendar, created in the 1960s, is designed to conform to the uniform billing period adopted by broadcasters, agencies and advertisers for billing and planning functions. Under this system, the standard week starts on Monday and ends on Sunday. The standard broadcast billing month always ends on the last Sunday of the calendar month.

2010

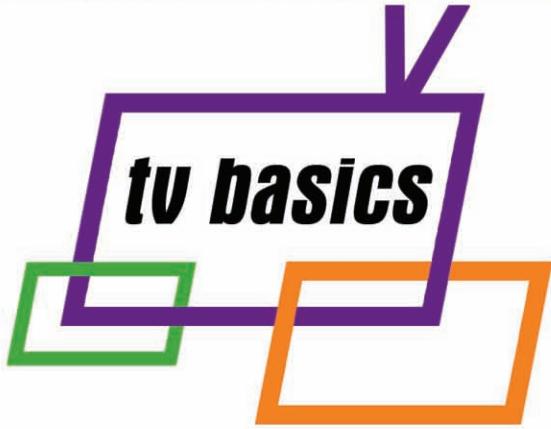
2011

M	T	W	T	F	S	S		M	T	W	T	F	S	S
28	29	30	31	1	2	3	JAN	28	29	30	1	2	3	4
4	5	6	7	8	9	10		5	6	7	8	9	10	11
11	12	13	14	15	16	17		12	13	14	15	16	17	18
18	19	20	21	22	23	24		19	20	21	22	23	24	25
25	26	27	28	29	30	31								
M	T	W	T	F	S	S		M	T	W	T	F	S	S
1	2	3	4	5	6	7	FEB	26	27	28	29	30	31	1
8	9	10	11	12	13	14		2	3	4	5	6	7	8
15	16	17	18	19	20	21		9	10	11	12	13	14	15
22	23	24	25	26	27	28		16	17	18	19	20	21	22
								23	24	25	26	27	28	29
M	T	W	T	F	S	S		M	T	W	T	F	S	S
1	2	3	4	5	6	7	MAR	30	31	1	2	3	4	5
8	9	10	11	12	13	14		6	7	8	9	10	11	12
15	16	17	18	19	20	21		13	14	15	16	17	18	19
22	23	24	25	26	27	28		20	21	22	23	24	25	26
M	T	W	T	F	S	S		M	T	W	T	F	S	S
29	30	31	1	2	3	4	APR	27	28	29	30	1	2	3
5	6	7	8	9	10	11		4	5	6	7	8	9	10
12	13	14	15	16	17	18		11	12	13	14	15	16	17
19	20	21	22	23	24	25		18	19	20	21	22	23	24
25	26	27	28	29	30	31		25	26	27	28	29	30	31
M	T	W	T	F	S	S		M	T	W	T	F	S	S
26	27	28	29	30	1	2	MAY	1	2	3	4	5	6	7
3	4	5	6	7	8	9		8	9	10	11	12	13	14
10	11	12	13	14	15	16		15	16	17	18	19	20	21
17	18	19	20	21	22	23		22	23	24	25	26	27	28
24	25	26	27	28	29	30								
M	T	W	T	F	S	S		M	T	W	T	F	S	S
31	1	2	3	4	5	6	JUN	29	30	1	2	3	4	5
7	8	9	10	11	12	13		6	7	8	9	10	11	12
14	15	16	17	18	19	20		13	14	15	16	17	18	19
21	22	23	24	25	26	27		20	21	22	23	24	25	26

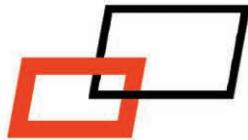
M	T	W	T	F	S	S		M	T	W	T	F	S	S
27	28	29	30	31	1	2	JAN	27	28	29	30	1	2	3
3	4	5	6	7	8	9		4	5	6	7	8	9	10
10	11	12	13	14	15	16		11	12	13	14	15	16	17
17	18	19	20	21	22	23		18	19	20	21	22	23	24
24	25	26	27	28	29	30		25	26	27	28	29	30	31
M	T	W	T	F	S	S		M	T	W	T	F	S	S
31	1	2	3	4	5	6	FEB	1	2	3	4	5	6	7
7	8	9	10	11	12	13		8	9	10	11	12	13	14
14	15	16	17	18	19	20		15	16	17	18	19	20	21
21	22	23	24	25	26	27		22	23	24	25	26	27	28
M	T	W	T	F	S	S		M	T	W	T	F	S	S
28	1	2	3	4	5	6	MAR	29	30	31	1	2	3	4
7	8	9	10	11	12	13		5	6	7	8	9	10	11
14	15	16	17	18	19	20		12	13	14	15	16	17	18
21	22	23	24	25	26	27		19	20	21	22	23	24	25
M	T	W	T	F	S	S		M	T	W	T	F	S	S
28	29	30	31	1	2	3	APR	26	27	28	29	30	1	2
4	5	6	7	8	9	10		3	4	5	6	7	8	9
11	12	13	14	15	16	17		10	11	12	13	14	15	16
18	19	20	21	22	23	24		17	18	19	20	21	22	23
24	25	26	27	28	29	30		24	25	26	27	28	29	30
M	T	W	T	F	S	S		M	T	W	T	F	S	S
25	26	27	28	29	30	1	MAY	31	1	2	3	4	5	6
2	3	4	5	6	7	8		7	8	9	10	11	12	13
9	10	11	12	13	14	15		14	15	16	17	18	19	20
16	17	18	19	20	21	22		21	22	23	24	25	26	27
23	24	25	26	27	28	29								
M	T	W	T	F	S	S		M	T	W	T	F	S	S
30	31	1	2	3	4	5	JUN	28	29	30	1	2	3	4
6	7	8	9	10	11	12		5	6	7	8	9	10	11
13	14	15	16	17	18	19		12	13	14	15	16	17	18
20	21	22	23	24	25	26		19	20	21	22	23	24	25

Note: Circled dates designate holidays.

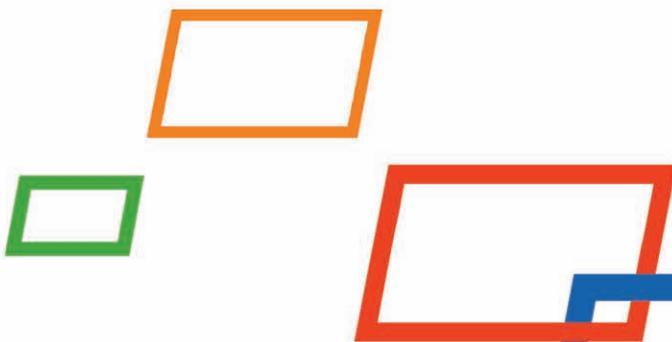
the growth and scope of television a report on the growth and scope of television a report on the growth and scope of television a report on the growth



pe of television a report on the growth and scope of television a report on the growth and scope of television a report on the growth and scope of tele



television a report on the growth and scope of television a report on the growth and scope of television a report on the growth and scope of television



the growth and scope of television a report on the growth and scope of



port on the growth

3 East 54th Street, New York, NY 10022-3108
Tel: 212-486-1111 | Fax: 212-935-5631 | www.tvb.org

Web TVs bigger for manufacturers than 3D

[Print](#)

By Chris Nuttall in San Francisco

Published: August 29 2010 17:23 | Last updated: August 29 2010 17:23

Internet-connected TVs are proving bigger this year for manufacturers than the much vaunted 3D technology.

Nearly 28m TV sets with built-in internet connectivity are expected to ship over 2010, according to the iSuppli research firm, compared with just 4m 3D TVs. This would be a rise of 125 per cent on the 12m units shipped in 2009.

TV makers are rushing to offer web services and content such as movies, music and photos, with iSuppli expecting that by 2014, 54 per cent of flat-panel TVs shipped – about 148m units – will have internet connectivity and services.

The figures imply that TV makers will hold a majority share of the smart TV market in the coming years, with their relationship with consumers altering as they move to provide content as well as services.

That would require new partnerships with content providers and perhaps a radical change in business model. Attendees at this year's Society for Information Display conference, a key industry gathering, debated whether TVs would become subsidised like cell phones in future in exchange for consumers signing up for service contracts.

The alternative view was that TV makers would quickly discover they should stay out of services and focus on making high-performance but essentially "dumb" monitors.

"Aggregating content and managing something like an App Store is not a core competency of a Samsung or a Vizio or an **LG**, which makes the hardware," says Tim Chang, a venture capitalist with Norwest Venture Partners.

Integrating an internet connection and adding content and services to a TV could negate the need for a set-top box, although the expertise and dominance of set-top box makers suggest predictions of the demise of the STB are premature.

"The worst place you can put this technology is in the TV set, with people changing their TVs every five to seven years and technologies that have been built into TVs having a history of quickly becoming redundant," says Neil Gaydon, chief executive of Pace, the world's biggest digital set-top box maker.

"The set-top box provides a clean and flexible way of getting these new services into the home."

STBs might face more of a threat from the "residential gateway" modem, where the internet connection enters the home.

The addition of an ethernet networking port to TVs or Wi-Fi gives these more remote devices equal access, while a popular standard known as DLNA (Digital Living Network alliance) allows media to be streamed easily over network connections.

"This new development threatens to eventually eliminate the pay-TV set-top box as it currently exists, moving the proprietary pay-TV conditional access system to a home gateway server and then sending secure compressed video over a local area network to any TV set or PC in the home," says a recent report from IMS Research.

In that context, [Pace's agreed deal to pay \\$475m for California-based 2Wire](#), a leading provider of residential gateways for telcos, represents it hedging its bets and expanding beyond its cable and satellite core customers.

The chipmaker **Broadcom** spreads itself even further in providing chips for Wi-Fi and Bluetooth technologies, cable and telco modems, Blu-ray players, satellite STBs and digital TVs.

Scott McGregor, chief executive, can make a case for each of the sectors it serves coming to dominate internet TV.

The traditional players can win with their established relationship with customers and high-quality picture and content, he says. TV makers can win as they have the eyes of the consumer and the costs of making their TVs connected are relatively small.

PC makers have a case in that they hold much of the data a consumer would want to access through the TV, and games console makers appeal to a younger demographic with their subsidised devices, great graphics and growing online services. Network and storage device makers would allow consumers to centralise all their content on hard drives and media servers in the home.

“Even the remote control provider is not to be discounted – you can download remote control apps to your smartphone, so there’s no reason it can’t become the remote control for all your consumer electronics boxes and get an edge.”

Broadcom is also working with traditional providers on subsidised tablet devices that will act as remote controls for the entire home to increase the number of services that can be sold.

Tim Chang says consumer comfort with the companies who have their credit card details could be a determining factor.

“The magic piece is the billing relationship – what has made [Apple](#) so successful with its products is that it has 100m credit cards in its system – customers are trained to click to buy something.”

This could bring in new contenders – such as [Amazon](#) and even [Facebook](#), he says.

“It’s fascinating to watch these giant companies converging on the same space and it’s all going to be a battle over billing.”

[Copyright](#) The Financial Times Limited 2010. Print a single copy of this article for personal use. [Contact us](#) if you wish to print more to distribute to others.

"FT" and "Financial Times" are trademarks of the Financial Times. [Privacy policy](#) | [Terms](#)
© Copyright [The Financial Times](#) Ltd 2010.



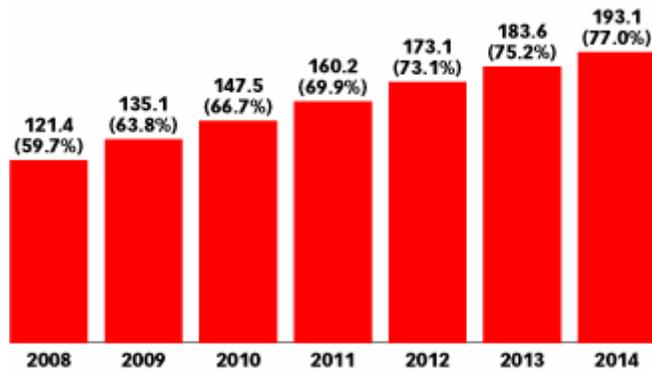
Online Video Goes Mainstream

APRIL 28, 2010

18- to 34-year-olds at the forefront

This year, eMarketer estimates that 66.7% of US Internet users—147.5 million people—are watching video online each month. By 2014, that figure is forecast to rise to 77% of Internet users, or 193.1 million people. In the same period, online video advertising spending will surge from \$1.4 billion to \$5.2 billion.

US Online Video Viewers, 2008-2014
millions and % of Internet users



Note: individuals of any age who watch video content online at least once per month

Source: eMarketer, April 2010

114434

www.eMarketer.com

The roots of a content-delivery platform rivaling that of TV are beginning to take hold and will continue to grow over the next five years as consumers become comfortable with watching all forms of video content—long and short, professional and amateur—on their Internet-connected phones, laptops, desktops, tablets and TVs.

But by 2014 the notion of monthly viewership, eMarketer's current standard, will likely be outdated. Daily or weekly viewing will be the relevant frequencies, with usage perhaps measured in minutes and hours spent each day, as it is for a small yet significant and growing portion of teens and young adults who expect content to be available anywhere on demand.

Already, 29% of Internet users under 25 say they watch all or most of their TV online, according to a survey commissioned by Retrevo.

A closer look at viewership rates by age shows classic early-adopter patterns, with 18- to 34-year-olds exhibiting the highest viewership.

US Online Video Viewers, by Age, 2008-2014*% of Internet users in each group*

	2008	2009	2010	2011	2012	2013	2014
0-11	50.0%	54.1%	58.1%	61.9%	67.0%	70.8%	75.1%
12-17	70.0%	74.9%	79.0%	82.8%	87.1%	90.1%	91.8%
18-24	80.1%	83.2%	86.0%	90.1%	93.0%	94.1%	95.2%
25-34	75.1%	80.0%	84.1%	88.0%	91.1%	93.1%	93.9%
35-44	69.1%	74.0%	77.1%	79.9%	82.9%	85.9%	88.0%
45-54	50.2%	54.9%	58.1%	60.9%	64.0%	66.1%	68.1%
55-64	35.1%	40.2%	43.8%	49.1%	53.1%	55.9%	59.0%
65+	18.8%	22.7%	25.8%	28.8%	33.2%	36.2%	39.0%

Note: individuals who watch video content online at least once per month
Source: eMarketer, April 2010

114439

www.eMarketer.com

eMarketer projects significant growth in video viewers across all age groups in part because of how easy it is to share content online. But the amount of time baby boomers and seniors will watch online video will be smaller compared with their younger counterparts because of their familiarity with traditional TV viewing.

US Online Video Viewers, by Age, 2008-2014*millions*

	2008	2009	2010	2011	2012	2013	2014
0-11	7.8	9.2	10.8	12.5	14.6	16.5	18.7
12-17	16.3	17.6	18.8	19.8	21.0	21.9	22.5
18-24	21.3	22.7	24.0	25.6	26.7	27.2	27.6
25-34	25.7	28.4	30.7	32.9	34.8	36.2	37.2
35-44	23.3	25.3	26.6	27.9	29.5	31.1	32.3
45-54	16.4	18.6	20.4	22.0	23.6	24.8	25.8
55-64	7.8	9.6	11.4	13.6	15.4	17.0	18.7
65+	2.8	3.7	4.8	5.9	7.5	8.9	10.3
Total	121.4	135.1	147.5	160.2	173.1	183.6	193.1

Note: individuals who watch video content online at least once per month;
numbers may not add up to total due to rounding
Source: eMarketer, April 2010

114437

www.eMarketer.com

Another trend marketers are watching is pay walls, but how much professional content will be put behind them is unclear. Subscription models would have a dampening effect on overall consumption and advertising dollars. The free long-form content on Hulu.com, for example, has been a factor in widening viewer demographics and increasing ad spending.

©2010 eMarketer Inc. All rights reserved. www.emarketer.com



The 2009 U.S. Digital Year in Review

A Recap of the Year in Digital Marketing

February 2010



FOR FURTHER INFORMATION, PLEASE CONTACT:

Sarah Radwanick
comScore, Inc.
312-775-6538
press@comscore.com

The 2009 U.S. Digital Year in Review

2009 represented a critical year in the relatively brief history of digital media; a year that was marred by the overhang of a global economic recession that had a particularly negative impact on the U.S. advertising and e-commerce markets. But it was also a year in which digital consumer activity soared, new innovations grabbed hold in the marketplace and businesses got more serious about navigating the digital landscape.

In order for digital marketers to position themselves for success in the year ahead, one must begin by reflecting on what has happened in the past year and how the prevailing trends set the stage for 2010. Among the many questions that will be addressed in this report include:

- Which consumer trends dominated the digital media landscape in 2009?
- How are people spending their digital media consumption time?
- Which new and emerging technologies and services are capturing the attention of the marketplace?
- What is the state of the digital advertising market?
- How are trends in the mobile market changing the digital media landscape?

The comScore 2009 U.S. Digital Year in Review offers an overview of the prevailing trends in digital media usage during the year and considers their implications for the year ahead. This report will examine the trends in U.S. Internet usage, search activity, e-commerce, online video consumption, online advertising, and mobile, and what digital strategies will be most important for success in 2010.

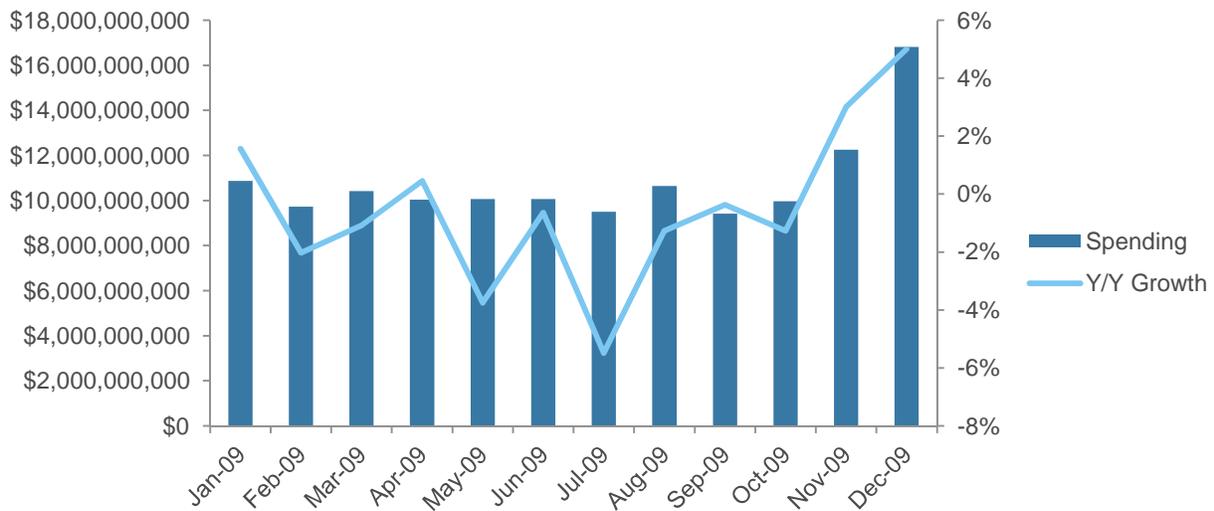
U.S. E-Commerce 2009

2009 Marks First Year on Record of Declining Growth Rates for U.S. E-Commerce

The U.S. e-commerce market in 2009 exhibited substantial softness in the face of the global economic recession, which exerted downward pressure on consumer discretionary spending reflected in the e-commerce market. Total U.S. e-commerce spending reached \$209.6 billion in 2009, down 2 percent versus the previous year and the first year on record with negative growth rates. Travel e-commerce spending dropped 5 percent to \$79.8 billion, while retail (non-travel) e-commerce spending remained virtually flat at \$129.8 billion.

Throughout most of the decade, retail e-commerce spending saw growth rates in excess of 20 percent annually, but 2008 showed signs of softness as the economy first began to weaken. While that year still saw retail e-commerce grow at a rate of 6 percent, it was the first time on record of single-digit growth rates. However, 2009 on the whole fared significantly worse than the previous year with year-over-year growth rates remaining negative throughout most of the year. The 2009 holiday season represented a bright spot in this predominantly negative year for e-commerce as it marked a return to positive growth rates with both November and December showing gains of a few percentage points. While some of this growth is attributable to more favorable year-over-year comparisons versus the disastrous 2008 holiday season, it does suggest that the tides of consumer sentiment are beginning to turn and that 2010 may be a healthier year for retail e-commerce.

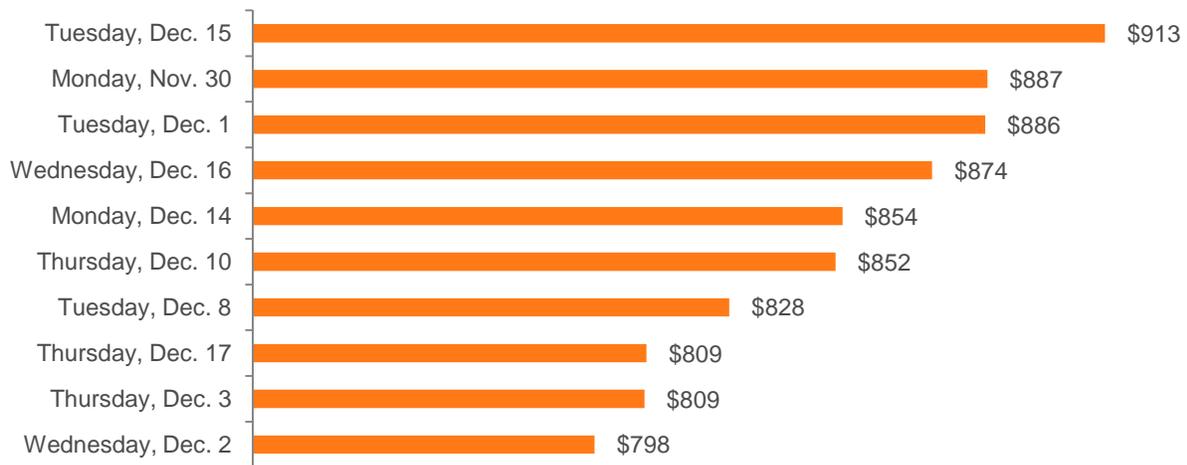
2009 U.S. E-Commerce Spending by Month



*November and December growth rates based on corresponding shopping days relative to Thanksgiving, not calendar days
Source: comScore, Inc. (U.S.)

The heaviest individual spending day of the year was Tuesday, December 15 with \$913 million in spending, the first day on record to eclipse the \$900 million spending threshold. Cyber Monday (Nov. 30, 2009) was the second heaviest spending day with \$887 million, followed by December 1 with \$886 million and December 16 with \$874 million.

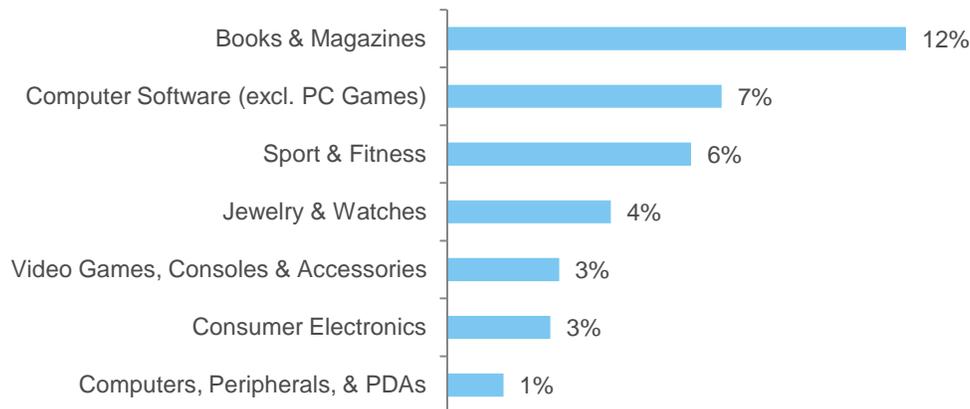
Top 10 U.S. Online Retail Spending Days in 2009 (Spending in Millions)



Source: comScore, Inc. (U.S.)

In this recessionary year, only a handful of retail e-commerce categories experienced growth. Books & Magazines topped the list of gaining categories with 12 percent growth, bolstered by category-wide price-cutting and the release of numerous high-profile best-sellers. Computer software (up 7 percent) ranked second, followed by Sport & Fitness (up 6 percent) and Jewelry & Watches (up 4 percent), which rebounded from an especially weak 2008. Other positive growth categories included Video Games, Consoles & Accessories (up 3 percent), Consumer Electronics (up 3 percent) and Computers, Peripherals & PDAs (up 1 percent).

Positive Growth U.S. Retail E-Commerce Categories in 2009

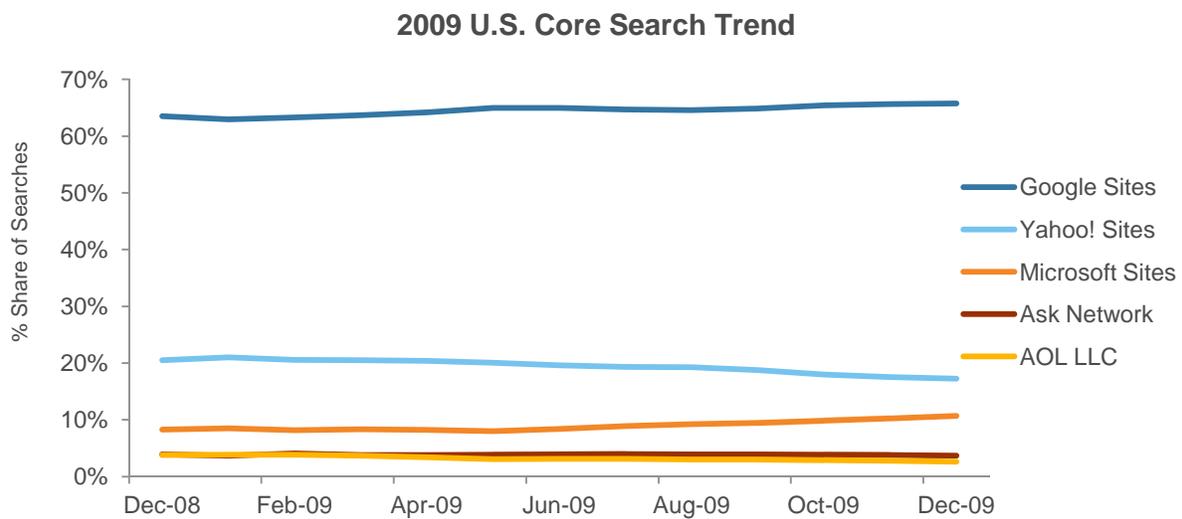


Source: comScore, Inc. (U.S.)

U.S. Core Search Market 2009

Google and Bing Gain Share

The search market in 2009 saw a bit of a shake-up with the June introduction of Bing, Microsoft’s new search engine, which has allowed Microsoft to gain renewed traction in the search marketplace. During the course of the year, Microsoft Sites grew from 8.3 percent to 10.7 percent share of all search queries with nearly all of that growth coming in the second half of 2009 subsequent to Bing’s introduction. Despite the new engine’s initial gains, Google Sites continued to hold a strong lead in the U.S. search market with 65.7 percent of all searches in December, up 2.2 percentage points versus year ago.



Source: comScore qSearch (U.S.)

The U.S. core search market grew 16 percent overall in 2009, driven by a 6-percent gain in unique searchers and a 10-percent gain in searchers per searcher. Google Sites’ search query volume grew 21 percent, driven both by gains in searches per searcher (up 10 percent) and unique searchers (9 percent). Microsoft Sites had the largest growth in search volume at 49 percent, propelled by sizeable gains in both unique searchers (15 percent) and searches per searcher (30 percent). Ask Network increased its search query volume by 12 percent, driven mainly by attracting more searchers (up 19 percent).

% Change	Unique Searchers	Searches per Searcher	Searches
Total U.S. Internet	6%	10%	16%
Google Sites	9%	10%	21%
Yahoo! Sites	-5%	3%	-2%
Microsoft Sites	15%	30%	49%
Ask Network	19%	-6%	12%
AOL LLC	-17%	-4%	-20%

Source: comScore qSearch (U.S.)

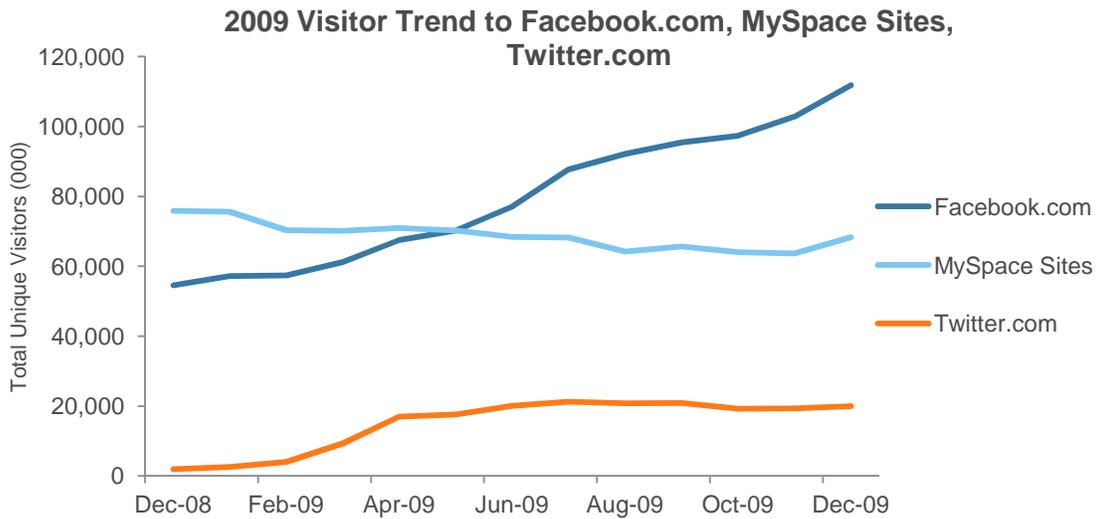
Social Networking Trends 2009

Social Networking Remains One of the Web's Top Activities in 2009

Social networking continued to gain momentum in 2009 with nearly 4 out of 5 Internet users visiting a social networking site in December 2009. The activity now accounts for 11 percent of all time spent online in the U.S., making it one of the most engaging activities across the Web.

Facebook and Twitter Surge, MySpace Refocuses on Entertainment

2009 proved to be a landmark year in the U.S. social networking market, as category leader Facebook and upstart network Twitter both posted triple-digit growth. Facebook surged to the #1 position among social networks for the first time in May and continued its strong growth trajectory throughout the year, finishing with 112 million visitors in December 2009, up 105 percent during the year. Twitter finished the year with nearly 20 million visitors to its website, up from just 2 million visitors from the previous year. Much of Twitter's extraordinary audience growth occurred during the first few months of 2009, at one point jumping from 4 million visitors to 17 million visitors between February and April. Meanwhile, 2008 category leader MySpace has experienced some softening in its audience; however, a new strategic focus on entertainment content is exhibiting signs of success with MySpace Music having grown 92 percent in the past year.



Source: comScore Media Metrix (U.S.)

Facebook Shows Across-the-Board Usage Gains

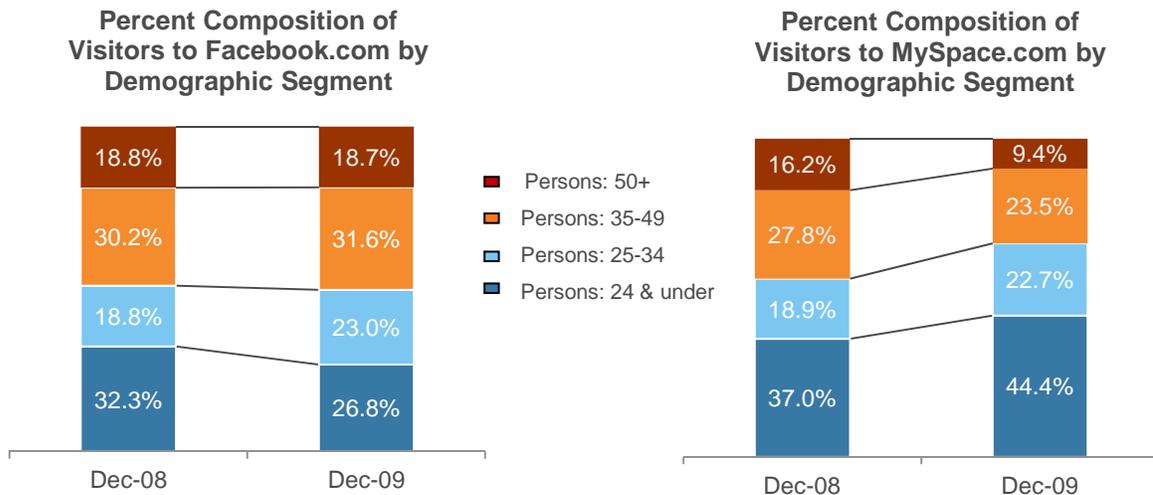
In addition to its surging population of users, Facebook grew substantially across nearly every performance metric in 2009. Unique visitors, page views, and total time spent all increased by a factor of two or more. Frequency metrics such as average minutes per usage day (up 6 percent) and average usage days per visitors (up 37 percent) also saw gains. As more people use Facebook more frequently, the site has grown to account for three times as much total time spent online as it did last year. The only metric by which Facebook decreased was the average minutes per visit (down 11 percent), which can likely be attributed to the increasing frequency with which people are visiting the site.

Facebook.com	Dec-2008	Dec-2009	% Change
Total Unique Visitors (000)	54,552	111,888	105%
Average Daily Visitors (000)	13,396	37,679	181%
Total Minutes (MM)	9,265	27,624	198%
Average Minutes per Usage Day	22.3	23.7	6%
Total Pages Viewed (MM)	17,868	44,891	151%
Average Usage Days per Visitor	7.6	10.4	37%
Average Minutes per Visitor	169.8	246.9	45%
Total Visits (000)	913,814	3,071,137	236%
Average Minutes per Visit	10.1	9.0	-11%
Average Visits per Visitor	16.8	27.4	64%

Source: comScore Media Metrix (U.S.)

2009 Social Networking Demographic Trends

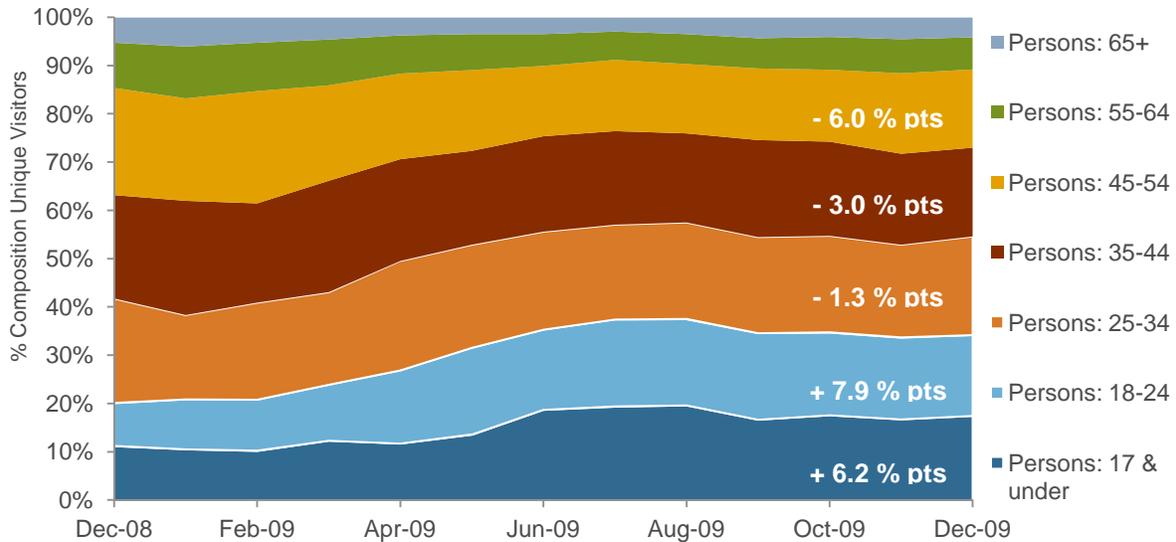
An analysis of demographic composition of Facebook, MySpace and Twitter users revealed important differences that reflect their appeal to various audiences. MySpace saw its user composition shift toward younger audience segments in 2009, with people age 24 and younger now comprising 44.4 percent of the site's audience, up more than 7 percentage points from the previous year. Facebook's audience, by contrast, was evenly split between those younger and older than 35 years of age. The most noticeable demographic shift on Facebook during the year occurred with 25-34 year olds, who now account for 23 percent of the audience, up from 18.8 percent last year.



Source: comScore Media Metrix (U.S.)

As Twitter's audience grew in 2009, the site experienced interesting shifts in its demographic composition. All demographic segments achieved substantial gains in visitors, but certain segments grew more rapidly than others to gain in terms of their share of audience. The initial success of Twitter was largely driven by users in the 25-54 year old age segment, which made up 65 percent of all visitors to the site in December 2008, with 18-24 year olds accounting for just 9 percent of visitors. This older age skew varied dramatically from the traditional social media early adopter model, in which younger users tend to drive the lion's share of usage. Despite Twitter's initially older skew, as it gained widespread popularity with the help of celebrity Tweeters and mainstream media coverage, younger users flooded to the site in large numbers, with those under age 18 (up 6.2 percentage points) and 18-24 year olds (up 7.9 percentage points) representing the fastest growing demographic segments.

Twitter Demographic Segment Trend



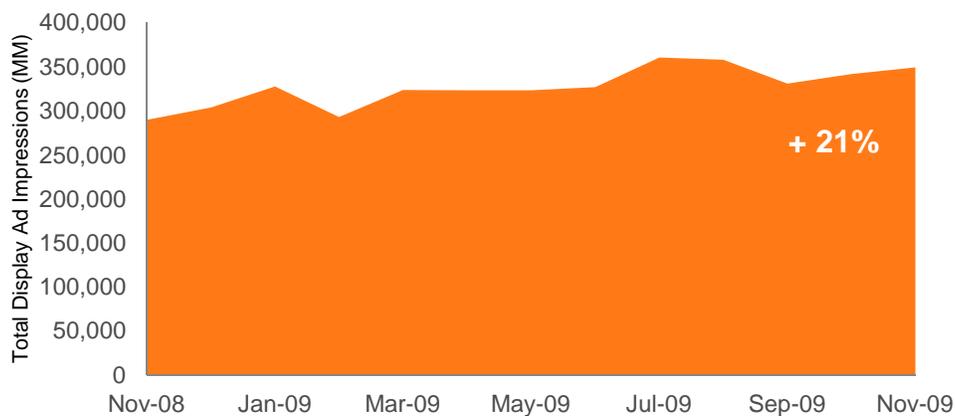
Source: comScore Media Metrix (U.S.)

U.S. Online Display Advertising 2009

Display Advertising Posts Gradual Gains Throughout the Year

U.S. Internet users viewed a total of 4.3 trillion display ads (standard and non-standard IAB ads, includes both static and rich media, but not video) during the past twelve months, representing a growth rate of 21 percent versus year ago. These gains were driven by an 8-percent increase in the number of people exposed to display ads online and a 12-percent increase in average frequency.

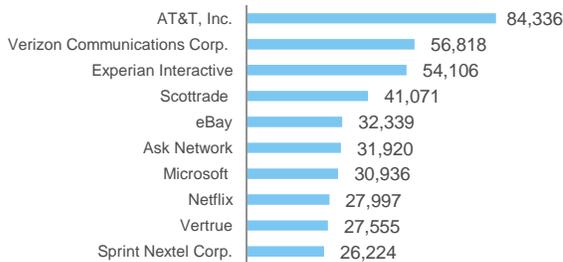
2009 U.S. Display Ad Impression Trend



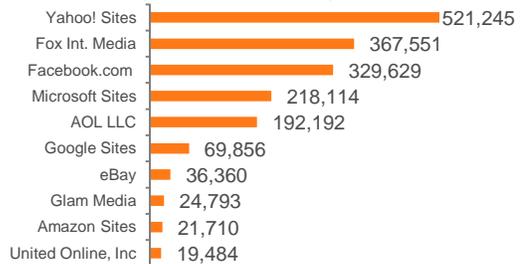
Source: comScore Ad Metrix (U.S.)
 comScore Ad Metrix measures online display advertisements, including static and rich media ads, viewed by U.S. consumers. The estimates reflect both IAB and non-IAB display ad sizes, but do not include text and video ads.

Mobile phone network providers AT&T Inc. (84.3 billion ad impressions) and Verizon (56.8 billion impressions) ranked as the top U.S. online display advertisers over the last 12 months, while Sprint also ranked in the top ten with 26.2 billion impressions. Experian Interactive, which includes ClassesUSA.com, LowerMyBills.com and FreeCreditReport.com, ranked as the #3 advertiser with 54.1 billion views, followed by Scottrade (41.1 billion) and eBay (32.3 billion). On the publisher side, Yahoo! Sites served the most display ads in the past 12 months at 521.2 billion, followed by Fox Interactive Media (which includes MySpace.com) with 367.6 billion and Facebook.com with 329.6 billion.

Top Ten U.S. Online Display Advertisers by Number of Impressions in Millions (Dec-08 to Nov-09)



Top Ten U.S. Online Display Publishers by Number of Impressions in Millions (Dec-08 to Nov-09)



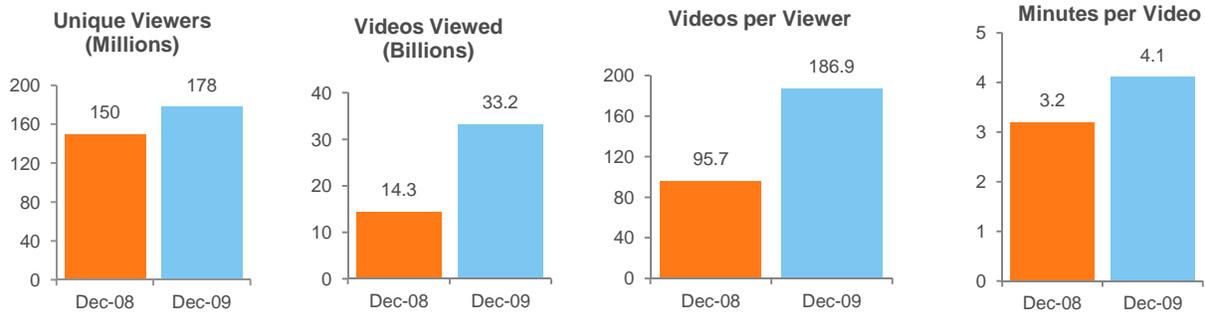
Source: comScore Ad Metrix (U.S.)
 comScore Ad Metrix measures online display advertisements, including static and rich media ads, viewed by U.S. consumers. The estimates reflect both IAB and non-IAB display ad sizes, but do not include text and video ads.

U.S. Online Video Market 2009

Online Video Soars to New Heights

Online video viewing accelerated in 2009, with 19 percent more people in the U.S. viewing more videos for longer periods of time, according to comScore Video Metrix. In December 2009, 86 percent of the total U.S. online population viewed video content. Americans also viewed a significantly higher number of videos in 2009 versus the prior year, due to both increased content consumption and a growing number of video ads being delivered. The average online viewer consumed 187 videos in December 2009 (up 95 percent vs. year ago), while the duration of the average video viewed grew from 3.2 to 4.1 minutes.

Total U.S. Online Video Market

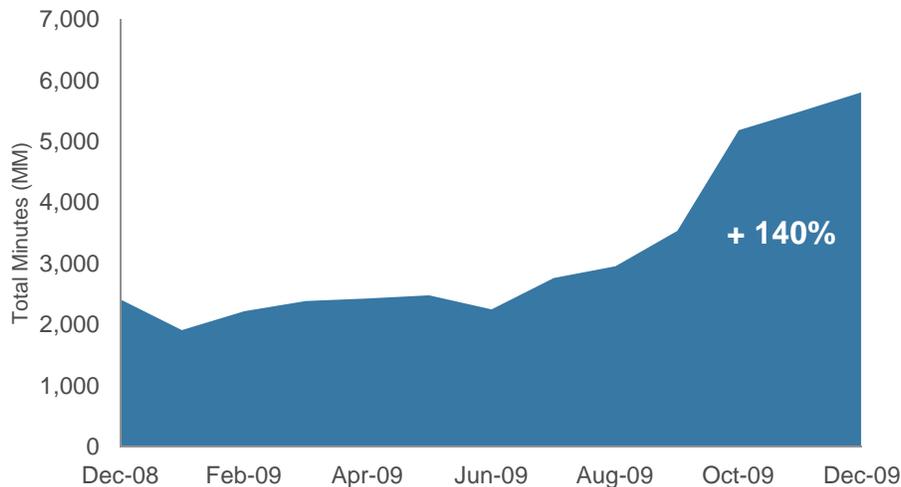


Source: comScore Video Metrix (U.S.)

Hulu Viewership Jumps in 2009

The past year saw Hulu continue its rapid ascent as one of the top video content providers, reflecting a broader shift towards consumption of more long-form, premium video content online and the increasing fragmentation of traditional TV viewing. In December 2009, Hulu viewers watched more than 1 billion streams for a combined 5.8 billion minutes (97 million hours), up 140 percent versus year ago. The average Hulu viewer watched more than 2 hours of online video during the month.

2009 Hulu U.S. Total Minutes Trend

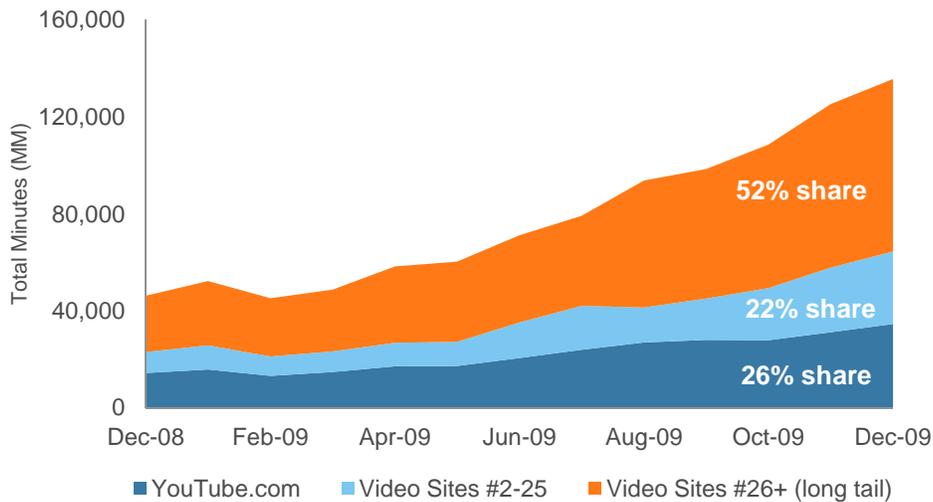


Source: comScore Video Metrix (U.S.)

More Than Half of Time Spent Viewing Video Occurs on “Long Tail” Video Sites

An analysis of where Americans spend their time viewing online video content revealed that top-ranked video site YouTube accounted for more than a quarter (26 percent) of total time spent viewing video, more than the combined time spent of video content sites ranked between #2 and #25 (22 percent). Meanwhile, the majority of online video viewing (52 percent) occurred at video sites ranked outside of the top 25, suggesting the increased fragmentation of online video and the emergence of sites in the “long tail.”

2009 U.S. Video Viewing Trend by Total Duration



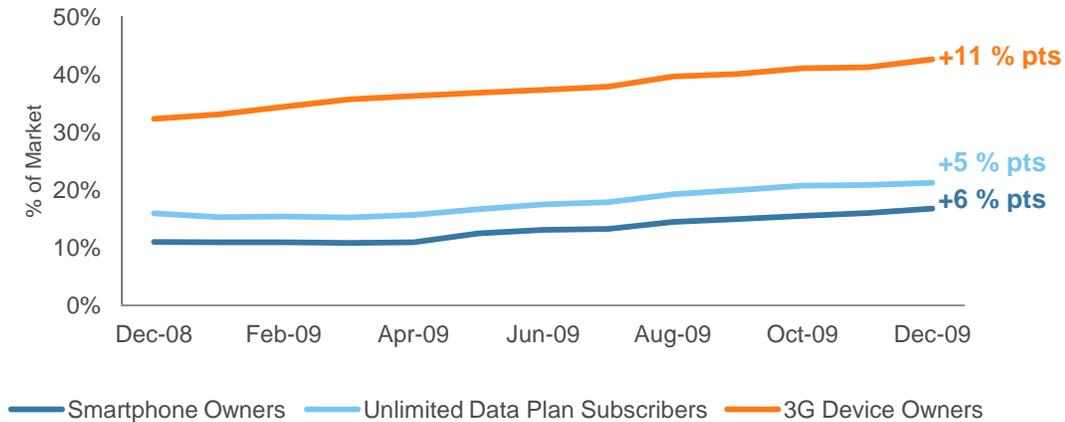
Source: comScore Video Metrix (U.S.)

U.S. Mobile Market 2009

Market Enablers Fuel Mobile Media Usage

The growth in mobile media usage is largely attributable to the growth in smartphone and 3G device ownership and the increasing ubiquity of unlimited data plans, all of which facilitate the mobile Web experience. From December 2008 to December 2009, the percentage of mobile phone subscribers with unlimited data plans increased from 16 percent to 21 percent, with several phones now requiring an unlimited data plan subscription at the time of purchase. During the same period, smartphone ownership increased from 11 percent to 17 percent, while 3G phone ownership increased from 32 percent to 43 percent.

Growth of Mobile Market Enablers



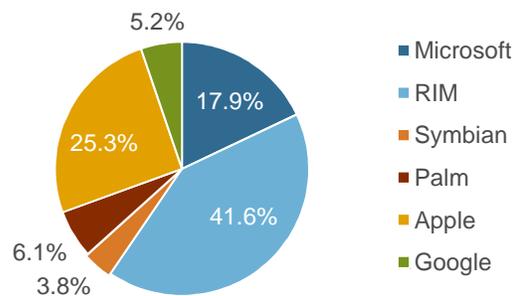
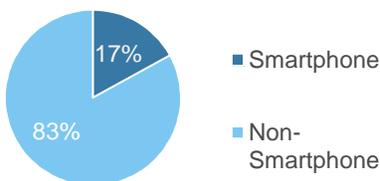
comScore MobiLens
 Three month average December 2008 – December 2009 U.S.

Smartphone Penetration Rises in 2009

Smartphone penetration continued to climb in 2009 as consumers were presented with a growing number of smartphone handset options. Among the high-profile smartphone introductions in 2009 were the Palm Pre, Motorola Droid, Motorola Cliq and others. In December 2009, smartphones were owned by 17 percent of the mobile phone subscribers, up nearly 6 percentage points versus year ago. Among smartphone operating system (OS) platforms, RIM retained its lead with 41.6 percent market share, followed by Apple at 25.3 percent (up 8.5 percentage points from the previous year) and Microsoft at 17.9 percent. Google’s OS share (5.2 percent) gained considerably in the final months of 2009 and is poised for continued growth in 2010 with the introduction of new devices featuring the Android platform.

Smartphone OS Marketshare

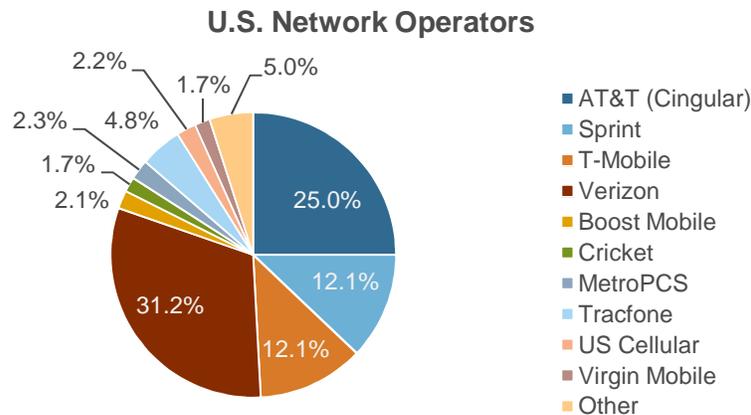
Smartphone Penetration



comScore MobiLens
 Three month average ending December 2009, U.S.

Verizon Tops Among U.S. Mobile Network Providers

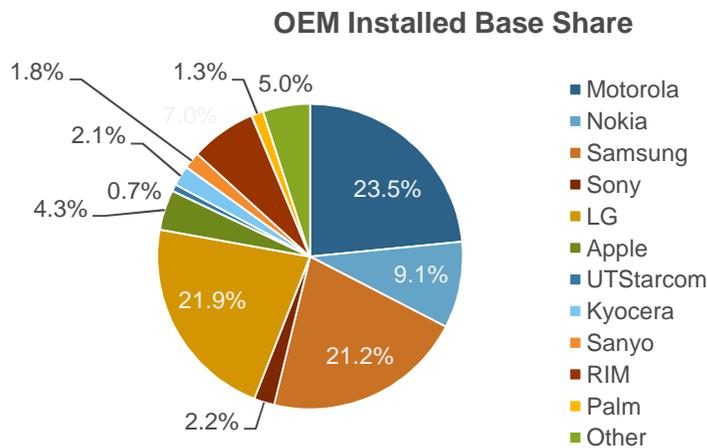
The largest four mobile network providers, Verizon, AT&T, Sprint and T-Mobile, combined to account for 80 percent of the entire U.S. mobile subscriber market in December 2009. Verizon led as the largest service provider in the U.S. with a market share of 31.2 percent in December, followed by AT&T with 25.0 percent share. Sprint and T-Mobile each captured 12.1 percent of the market



comScore MobiLens, Three month average ending December 2009, U.S.

Motorola Continues to Lead OEM Market in 2009

Motorola led the OEM (original equipment manufacturer) market in December 2009 with 23.5 percent of devices owned by mobile subscribers. While many of these handsets are legacy devices, Motorola has also made a more recent splash in the market with the introduction of the Droid and the Cliq. LG captured the second largest share of the handset market with 21.9 percent (up 2.0 percentage points versus the previous year), followed closely by Samsung with 21.2 percent (up 2.7 percentage points). Apple captured 4.3 percent of the OEM market, up from just 1.9 percent share in December 2008, as the iPhone continued to gain traction.



comScore MobiLens, Three month average ending December 2009, U.S.

Looking Ahead to 2010

Emerging from Recession Offers New Opportunities for Digital Marketers

As we begin to emerge from the recession, 2010 is a year that the digital media industry should be greeting with tempered optimism. 2009 compelled many businesses to streamline operations, focus on their core businesses and seek opportunities in new markets, all of which can be very effective drivers of a company's long term growth. The critical question is whether or not the economy will see sustained increases in consumer demand, which is necessary to drive continued growth in the digital advertising sector. Companies that are most efficient in scaling up their operations and in developing new and innovative approaches to complex business issues are the ones who will capture the largest share of the pie as the economy rebounds.

With that in mind, the following are some of the key digital media trends that businesses should consider as part of their broader strategies if they want to position themselves for success in this arena in 2010:

- Despite a significant drop-off in growth rates, e-commerce remains a relative bright spot for retailers. New buyers continue to enter the channel, and as average spending per buyer rebounds off its 2009 lows the e-commerce channel should return to healthy growth rates. The online media channel also continues to be an important driver of offline purchase behavior, so marketers in all industries need to retain a clear focus on having an online presence, where their consumers frequently begin the purchase process.
- Social networking and social media continue to drive much of the innovation occurring around the Internet today. A critical challenge remains the ability to effectively harness the marketing intelligence inherent in the way people communicate and interact with one another through the digital medium and make it actionable. Even as new capabilities emerge that leverage the "social" value of the medium, it is worth remembering that this channel can already deliver substantial reach for ad campaigns and despite low click-through rates there is measurable view-through value from these ads.
- The U.S. search market saw significant innovation from the core engines in 2009, with Bing's growth promising to make the market more competitive. The trends to watch in 2010 include increased integration of real-time (i.e. Twitter) and vertical-specific search results as the engines seek to both improve the user experience and move the consumer more efficiently down the decision funnel.
- Online video continues to capitalize on the continued increase in media fragmentation, consumer generated content, and a rising generation of consumers very comfortable using their computers as primary or secondary entertainment devices. As this market has emerged, higher quality video and more seamless integration of video ads are emerging and adding value to the digital advertising market -- to the benefit of both advertisers and publishers.
- The digital display advertising market is innovating on several fronts right now, including the emergence of new ad units that promote higher engagement, cutting edge ad targeting techniques, the development of niche audience ad networks, and the increasing popularity of online ad exchanges to buy and sell inventory. Each of these developments is contributing to the improved allocation and effectiveness of digital ad campaigns. Marketers must maintain a critical eye on the performance of their campaigns, in relation to how both digital media and traditional media components are performing.

- With so many new smartphone models reaching the market in 2009, the next year promises a rapid increase in market penetration of these devices, which likely means a corresponding uptick in mobile web usage. As more consumers turn to their mobile devices for consuming content and managing their digital lives, there is significant opportunity for innovators to deliver new value to consumers in how they use these devices. The development of mobile applications across new platforms also presents new business opportunity and monetization potential for publishers and developers alike.

About comScore, Inc.

comScore, Inc. (NASDAQ: SCOR) is a global leader in measuring the digital world and preferred source of digital marketing intelligence. In an independent survey of 800 of the most influential publishers, advertising agencies and advertisers conducted by William Blair & Company in January 2009, comScore was rated the 'most preferred online audience measurement service' by 50% of respondents, a full 25 points ahead of its nearest competitor. comScore's capabilities are based on a massive, global cross-section of approximately 2 million Internet users who have given comScore permission to confidentially capture their browsing and transaction behavior, including online and offline purchasing. comScore panelists also participate in survey research that gathers and integrates their attitudes and intentions. Using its proprietary technology, comScore measures what matters across a broad spectrum of digital behavior and attitudes, helping clients design more powerful marketing strategies that deliver superior ROI. With its recent acquisition of M:Metrics, comScore is also a leading source of data on mobile usage. comScore services are used by more than 1,200 clients, including global leaders such as AOL, Microsoft, Yahoo!, BBC, Carat, Cyworld, Deutsche Bank, France Telecom, Best Buy, The Newspaper Association of America, Financial Times, ESPN, Fox Sports, Nestle, Starcom, Universal McCann, the United States Postal Service, the University of Chicago, Verizon Services Group and ViaMichelin.

FOR MORE INFORMATION, PLEASE CONTACT:

Sarah Radwanick
comScore, Inc.
312-775-6538
press@comscore.com

Annual Cisco Visual Networking Index Forecast Projects Global IP Traffic to Increase More Than Fourfold by 2014

Video to Surpass Peer-to-Peer as Top Internet Traffic Contributor by End of 2010, Global Online Video Community to Exceed 1 Billion Users by 2014

June 10, 2010 - [Cisco](#) announced the results of the annual Cisco® [Visual Networking Index \(VNI\) Forecast, 2009-2014](#), which projects that global Internet traffic will increase more than fourfold to 767 exabytes, or more than 3/4 of a Zettabyte, by 2014. This amount is 100 exabytes higher than the projected level in 2013, or an increase the equivalent of 10 times all the traffic traversing Internet Protocol networks in 2008.

The growth in traffic will continue to be dominated by video, exceeding 91 percent of global consumer IP traffic by 2014. Improvements in network bandwidth capacity and Internet speeds, along with the increasing popularity of HDTV and 3DTV are key factors expecting to quadruple IP traffic from 2009 to 2014.

Overview:

- The Cisco VNI Forecast, which focuses on two primary user groups—consumers and businesses—was developed as an annual study to estimate global IP traffic growth and trends. Projections are based on Cisco analysis and modeling of traffic, usage, and device data from independent analyst sources. Cisco validates its forecast, inputs, and methodology with data provided by service providers worldwide.
- To help network users better understand global IP traffic growth drivers and trends, Cisco updated several of its unique resources:
 - The [VNI Forecast widget](#) provides customized views of the growth of various network traffic types around the globe (revised for this 2009 - 2014 forecast period).
 - The [VNI PC Pulse application](#) for desktop and laptop computers helps consumers learn more about their individual impact on IP networks and compare their network usage with that of others around the world.

Research Highlights:

Total Global IP Traffic in "Bytes"

- Global IP traffic is expected to increase more than fourfold (4.3 times) from 2009 to 2014, reaching 63.9 exabytes per month in 2014, up from approximately 56 exabytes per month in 2013. This is equivalent to 766.8 exabytes per year - almost three-quarters of a zettabyte, by 2014.
- The nearly 64 exabytes of global IP traffic per month projected for 2014 is equivalent to 16 billion DVDs; 21 trillion MP3's; or 399 quadrillion text messages.

Regional IP Traffic Trends

- By 2014, the highest IP-traffic generating regions will be North America (19.0 exabytes per month), Asia Pacific (17.4 exabytes per month), Western Europe (16.2 exabytes per month) and Japan (4.3 exabytes per month).
- The fastest growing IP-traffic regions for the forecast period (2009-2014) are Latin America (51 percent compound annual growth rate [CAGR], 7.9-fold growth), the Middle East and Africa (45 percent CAGR, 6.5-fold growth), and Central Europe (38 percent CAGR, 5.1-fold growth).

Primary Growth Driver: Video

- By 2014, the sum of all forms of video (TV, VoD, Internet video, and peer-to-peer) will continue to exceed 91 percent of global consumer traffic.
- Global Internet video traffic will surpass global peer-to-peer traffic by the end of 2010. For the first time in the last 10 years, peer-to-peer traffic will not be the largest Internet traffic type.
- The global online video community will include more than 1 billion users by the end of 2010.
- By 2014, it would take more than two years to watch the amount of video that will cross global IP networks every second; to watch all the video crossing

the network that year would take 72 million years.

3DTV and HD (Advanced Video)

- Globally, advanced video traffic, including three-dimensional (3-D) and high-definition TV (HDTV), is projected to increase 13 times between 2009 and 2014.
- By 2014, 3-D is expected to account for 4 percent of total Internet video traffic.
- By 2014, 3-D and HD video is forecast to comprise 42 percent of total consumer Internet video traffic.

Global File Sharing

- Global file sharing traffic is projected to reach 11 exabytes per month in 2014, 22 percent CAGR from 2009-2014.
- P2P will grow at a CAGR of 16 percent, while web-based and other file sharing will grow at CAGR of 47 percent from 2009-2014.
- By 2014, global P2P traffic will be 17 percent of global consumer Internet traffic, down from 36 percent in 2009.

Global Business IP Traffic

- Global business IP Traffic is forecast to reach 7.7 exabytes per month in 2014, more than tripling from 2009-2014.
- Business video conferencing is projected grow ten-fold over the forecast period, growing almost three times as fast as overall business IP traffic, at a CAGR of 57 percent from 2009-2014.
- Web-based video conferencing is the fastest growing sub-category, growing 180-fold from 2009-2014 (183 percent CAGR from 2009-2014).

Mobile Broadband

- Global mobile data traffic will increase 39 times from 2009 to 2014.
- By 2014, annual global mobile data traffic will reach 3.5 exabytes per month (or a run rate of more than 42 exabytes annually).

Consumer vs. Business

- Consumer IP traffic is projected to grow faster than business:
 - For 2009, consumer IP traffic represented 79 percent of monthly total global IP traffic and business IP traffic was 21 percent of monthly total global IP traffic.
 - By 2014, consumer IP traffic (web surfing, instant messaging, user-generated videos, etc.) will represent 87 percent of monthly total global IP traffic; while business IP traffic (email, voice, Internet, HD and web-based video conferencing, etc.) will represent 13 percent of monthly total global IP traffic.

Network Speed Enables IP Traffic Growth: 2000 vs. 2010 Comparison

- In just a decade, the average global residential Internet connection download speed has increased 35 times, which has helped to dramatically increase Internet usage.
- In 2000, the average global residential Internet connection download speed was 127 kilobits per second (Kbps). The current (2010) average global residential Internet connection download speed is 4.4 megabits per second (Mbps.)

Network Download Evolution:

Online Activity	2000 Download Time	2010 Download Time
Download a DVD-quality movie (4 GB)	3 days	2 hours
Download a MP3 audio file (3 MB)	3 minutes	5 seconds
Download an email attachment (1 MB)	1 minute	2 seconds

Cisco VNI Forecast Widget:

Media/Analysts/Bloggers: Use Cisco's interactive VNI Forecast widget to create custom forecast charts and views by region, application and end-user segment. Get the [VNI Forecast Widget](#).

Enhanced Consumer Application:

Cisco VNI PC Pulse Application:

The Cisco Visual Networking Index (VNI) PC Pulse application measures the amount and types of traffic that you generate from your PC (for example,

Web browsing, video, e-mail, etc.). The application also provides a new "IP DNA" abstract image that represents your personal usage preferences. You can compare your individual data against aggregate global statistics from other Cisco VNI PC Pulse users around the world to see how you rate. [Get Cisco PC Pulse](#)

Supporting Quote:

- **Pankaj Patel, senior vice president and general manager, Service Provider Group, Cisco** *"Service providers are faced with evolving bandwidth and scalability requirements as residential, business and mobile consumers continue to demonstrate a healthy appetite for advanced video services across a variety of networks and devices. IP networks must be intelligent and flexible enough to support this tremendous variety of traffic growth. The Cisco VNI Forecast offers a global snapshot of video's significance in our daily lives and signals the need for further network preparations to support the quadrupling of the Internet and the more than 1 billion online video users by 2014."*

Supporting Resources:

- [Cisco Visual Networking Index Forecast Web Site: http://www.cisco.com/go/vni](http://www.cisco.com/go/vni)
- Watch the full VoD: [Top trends behind Cisco's annual VNI Forecast 2009-2014: http://tools.cisco.com/cm/jsp/index.jsp?id=101868&redir=YES&userid=%28none%29](http://tools.cisco.com/cm/jsp/index.jsp?id=101868&redir=YES&userid=%28none%29)
- [Blog: Cisco VNI Forecast: Highlights for Video Service Providers: http://blogs.cisco.com](http://blogs.cisco.com)
- [Cisco VNI Forecast and Methodology, 2009 – 2014 White Paper: http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html](http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html)
- [Cisco VNI White Paper on "Hyperconnectivity": http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/VNI_Hyperconnectivity_WP.html](http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/VNI_Hyperconnectivity_WP.html)
- [Cisco VNI Forecast FAQs: http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/qa_c67-482177_ns827_Networking_Solutions_Q_and_A.html](http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/qa_c67-482177_ns827_Networking_Solutions_Q_and_A.html)
- [Cisco Visual Networking Index Free Applications: http://www.ciscovnipulse.com/](http://www.ciscovnipulse.com/)
- [Cisco VNI Data Visualization: http://www.ciscovnipulse.com/](http://www.ciscovnipulse.com/)
- [News@Cisco Feature: The Cisco VNI: Benchmark for Broadband Demand: http://newsroom.cisco.com/dlls/2010/ts_052410.html?sid=BAC-NewsWire](http://newsroom.cisco.com/dlls/2010/ts_052410.html?sid=BAC-NewsWire)

About Cisco

Cisco, (NASDAQ: CSCO), is the worldwide leader in networking that transforms how people connect, communicate and collaborate. Information about Cisco can be found at <http://www.cisco.com>. For ongoing news, please go to <http://newsroom.cisco.com>. Cisco equipment in Europe is supplied by Cisco Systems International BV, a wholly owned subsidiary of Cisco Systems, Inc.

Press Contact

Silvana Theodoropoulou
Tel: +30 2106381457
E-mail: stheodor@cisco.com



Leichtman Research Group

[About Us](#)
[Research](#)
[Press](#)
[Contact Us](#)

Press Release

Under 350,000 Add Broadband in the Second Quarter of 2010

Top Telephone Companies Report a Cumulative Net Loss of Broadband Subscribers

Durham, NH August 11, 2010 -- Leichtman Research Group, Inc. (LRG) found that the nineteen largest cable and telephone providers in the US -- representing about 93% of the market -- acquired 336,000 net additional high-speed Internet subscribers in the second quarter of 2010. Net broadband additions in the quarter were the fewest of any quarter in the nine years LRG has been tracking the industry.

Other broadband findings for the quarter include:

- The top phone companies had a net loss of about 7,500 subscribers -- compared to a gain of 385,000 subscribers in 2Q 2009
- AT&T had a net loss of 92,000 subscribers in the quarter -- this is the first time that *any* of the top ten broadband providers reported a quarterly net subscriber loss
- AT&T and Verizon added 451,000 fiber subscribers in the quarter (via U-verse and FiOS), while having a net loss of 515,000 DSL subscribers
- The top cable companies added over 340,000 broadband subscribers -- about 140% of the additions of a year ago
- Overall, broadband additions in 2Q 2010 amounted to 53% of those in 2Q 2009
- The top broadband providers now account for about 73.5 million subscribers -- with cable companies having 40.5 million broadband subscribers, and telephone companies having over 32.9 million subscribers
- The top cable broadband providers now have a 55% share of the overall market -- a slight increase from the 54% share of the market they had at the end of 2Q 2009

"While the second quarter is traditionally slower for broadband growth, the weakness in 2Q 2010 was compounded by the market continuing to mature, as well as AT&T and Verizon focusing on selling multi-service fiber offerings, often at the expense of their traditional DSL services," said [Bruce Leichtman](#), president and principal analyst for Leichtman Research Group, Inc. "Cable was able to add broadband subscribers at a faster pace than a year ago, accounting for all of the net broadband additions in the quarter."

Broadband Internet Provider	Subscribers at End of 2Q 2010	Net Adds in 2Q 2010
Cable Companies		
Comcast	16,448,000	119,000
Time Warner	9,606,000	96,000
Cox*	4,285,000	35,000
Charter	3,187,900	21,900
Cablevision	2,637,000	27,000
Mediacom	814,000	10,000
Insight	517,500	1,200
Cable ONE	406,900	1,589
RCN	316,000	1,000
Other Major Private Cable Companies**	2,320,000	31,000

Total Top Cable	40,538,300	343,689
Telephone Companies		
AT&T	15,952,000	(92,000)
Verizon	9,338,000	28,000
Qwest	2,859,000	7,000
CenturyLink	2,336,000	30,000
Windstream^	1,274,800	14,700
Frontier	647,487	3,427
FairPoint*	295,000	0
Cincinnati Bell	249,000	1,400
Total Top Telephone Companies	32,951,287	(7,473)
Total Broadband	73,489,587	336,216

Sources: *The Companies and Leichtman Research Group, Inc.*

* LRG estimate

** Includes LRG estimates for BrightHouse Networks, and Suddenlink

^ Windstream total includes the purchase of Iowa Telecom

Company subscriber counts may not represent solely residential households

Totals reflect pro forma results from system sales and acquisitions

Top cable and telephone companies represent approximately 93% of all subscribers

About Leichtman Research Group, Inc.

Leichtman Research Group, Inc. (LRG) specializes in research and analysis on broadband, media and entertainment industries. LRG combines on-going surveys and analysis with years of hands-on industry experience to provide companies with a richer understanding of the potential impact and adoption of new products and services. For more information about LRG, please call (603) 397-5400 or visit www.LeichtmanResearch.com.



[Click here](#) to download a printable version (in PDF® format).
(Requires [Adobe® PDF® Reader™](#)).



(C) Copyright 2010. Leichtman Research Group, Inc. All rights reserved.
For questions/problems with the site, contact us at webmstr@LeichtmanResearch.com.

Site designed and maintained by  BLUE HOUND COMMUNICATIONS

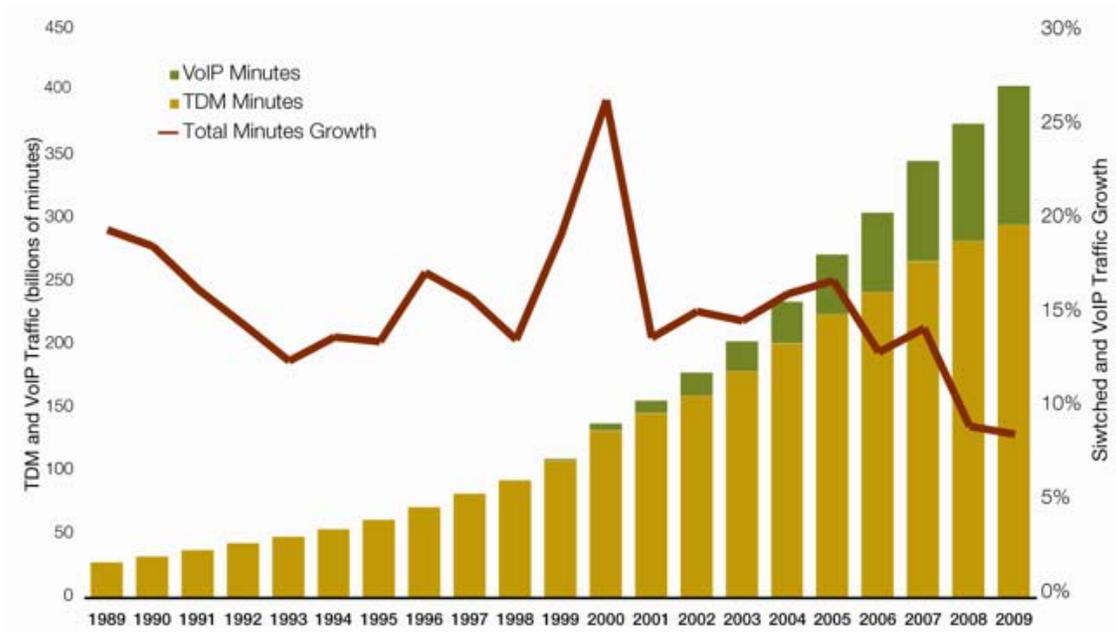
Executive Summary

Few industries have experienced more wrenching changes than the international long-distance telecommunications market. Over the past 20 years, service providers have weathered market liberalization, the fallout of the telecom industry market bubble, brutal price competition, and rapid technological innovation. The coming years hold their own challenges, as carriers now must determine when to abandon legacy infrastructure in favor of IP networks, come to grips with consumer Voice-over-IP services, and contend with flat-rate (and sometimes free) international calling plans. Carriers' adaptation to the changing market environment is complicated by the deep recession that has gripped the global economy. These market conditions have a clear impact on the international voice market. The *TeleGeography Report* analyzes and quantifies the state of the international long-distance industry and assesses the factors that are likely to shape it in the years ahead.

Traffic Trends

Over the past 20 years, international voice traffic has grown at a cumulative rate of just over 14 percent annually (see Figure: International Call Volumes and Growth Rates, 1989-2009). Growth was especially rapid during the late 1990s due to a confluence of factors. A wave of market liberalization, which peaked in 1998, brought new entrants to the market, resulting in sharp declines in international calling rates. Mobile phones emerged as a mass-market product and gained hundreds of millions of new subscribers, creating new opportunities for consumers and business people to make calls. Calling cards and pre-paid services made international communications affordable to low-income immigrants, spurring call growth to developing countries, in particular.

FIGURE 1
International Call Volumes and Growth Rates, 1989-2009



Notes: Data for 2009 are projections based on half-year results. VoIP traffic reflects international traffic transported as VoIP by carriers, and excludes PC-to-PC traffic.

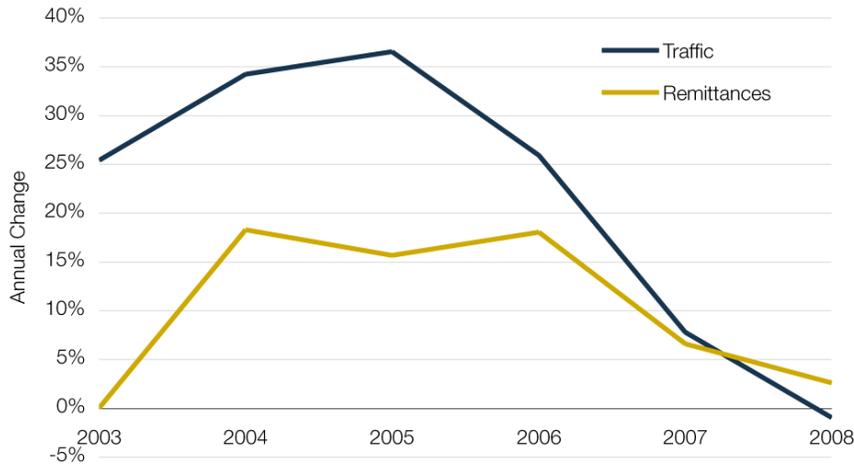
Source: TeleGeography research

© 2009 PriMetrica, Inc.

In 2008, the global recession exerted a powerful drag on international call volumes. Global traffic growth slowed from 14 percent in 2007 to only 8 percent—the slowest growth ever recorded by TeleGeography. Total international voice traffic grew from 346 billion minutes in 2007 to 376 billion minutes in 2008. Traditional time division multiplexed (TDM) international traffic increased 6 percent in 2008, from 267 billion minutes to 282.8 billion minutes. International Voice over IP (VoIP) traffic grew a relatively modest 16 percent in 2008, from 79.7 billion minutes to 92.7 billion minutes. TeleGeography projects that global traffic will reach 406 billion minutes in 2009, 27 percent of which will be transported as VoIP (see Figure: International Call Volumes and Growth Rates, 1989-2009).

The slowing world economy particularly affected international traffic to Central America. International migration has served as an important driver of traffic growth from the U.S. to Latin America. The flow of calls from immigrants to their home countries closely tracks the flow of money, in the form of remittance payments to central banks. The rapid expansion of the U.S. economy (and the housing market, in particular) in the 2000s provided ample opportunity for migrant workers from Latin America, which lead to sharp increases in international voice traffic and remittance payments to families in Latin America. The collapse of the U.S. housing market in 2008 and the subsequent deep recession have had a clear impact on both remittance payments and international call volumes to Latin America (see Figure: Change in Traffic and Foreign Remittances to Latin America, 2003-2008). Traffic to Mexico, the world’s largest calling destination, declined 4 percent in 2008, and aggregate traffic to Central America declined 5 percent.

FIGURE 2
Change in Traffic and Foreign Remittances to Latin America, 2003-2008



Notes: Traffic reflects TDM and VoIP.

Source: TeleGeography, World Bank

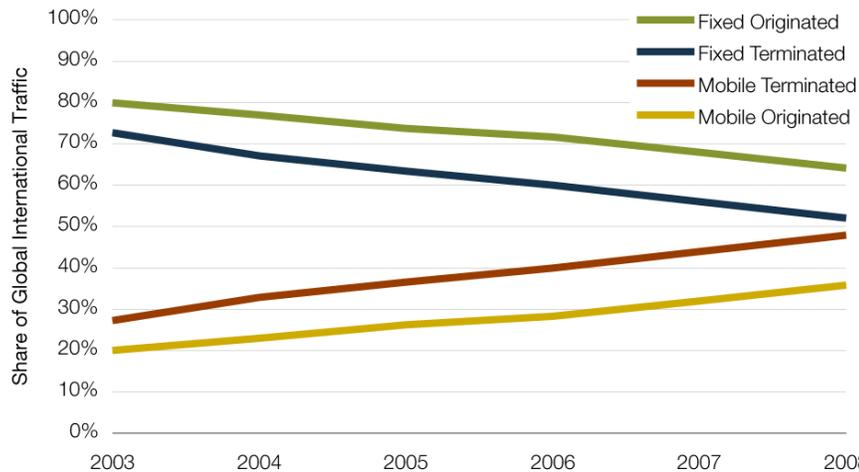
© 2009 PriMetrica, Inc.

International Traffic from Mobile Phones

Mobile phone subscriptions overtook fixed lines in 2002. By 2008, there were 4 billion active mobile accounts globally, accounting for 77 percent of global phone lines. In recent years, the locus of growth has shifted to developing countries. Mobile subscriber growth in Africa has led the world in recent years, growing 35 percent in 2008 after having increased 39 percent in 2007. While growth rates in Africa are tremendous, the subscriber base remains very small—mobile penetration in Africa is still only 39 percent. Subscriber growth in some developing countries has been phenomenal. India gained 112 million new mobile subscribers in 2008—a net increase that exceeds the total number of mobile subscribers in Germany. China gained 89 million mobile subscribers in 2008, and Brazil, Indonesia, and Vietnam all gained more than 30 million mobile subscribers. Conversely, mobile subscription growth in more mature markets has slowed. There, a growing number of mobile operators have begun to roll out aggressively priced international calling plans to help boost their subscriber rolls.

Mobile subscribers and operators have become a powerful force in the international voice market. In 2008, mobile-originated international traffic grew 19 percent, and accounted for 36 percent of total international traffic, up from 32 percent in 2007 (see Figure: International Calls to and from Fixed and Mobile Phones, 2003-2008). Mobile terminated traffic grew 18 percent in 2008, and accounted for 48 percent of international traffic terminated in 2008. TeleGeography projects that mobile terminated traffic will exceed traffic terminated on fixed lines in 2009.

FIGURE 3
International Calls to and from Fixed and Mobile Phones, 2003-2008



Source: TeleGeography research

© 2009 PriMetrica, Inc.

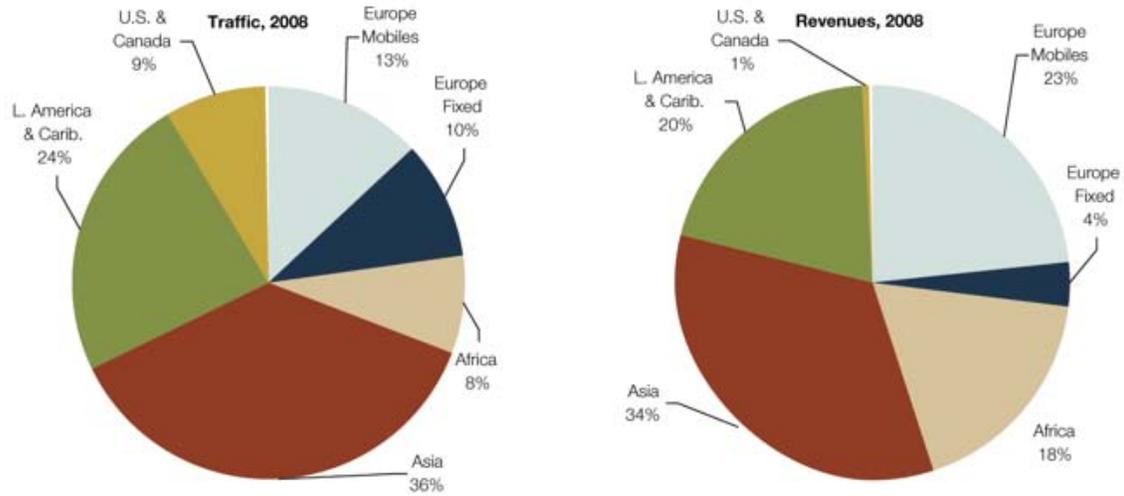
Wholesale Carriers and Services

A highly developed international voice wholesale market has emerged in the past decade. Many retail service providers, including wireless network operators, calling-card providers, and new market entrants, rely heavily on wholesale carriers to transport and terminate their customers' international calls.

Some regions receive disproportionately large volumes of wholesale traffic. For example, 83 percent of traffic terminated to Central Asia, Sub-Saharan Africa, and South America was terminated by wholesale carriers. Conversely, only 39 percent of traffic to Western Europe and 46 percent of traffic to North America was terminated by wholesale carriers. Within Western Europe, however, 52 percent of traffic to mobile phones was routed via wholesale carriers (see Figure: Traffic and Wholesale Revenues by Destination Region, 2008).

The year 2008 marked a sharp downturn in overall revenue growth for the international wholesale market. International wholesale traffic revenues grew by only 3 percent between 2007 and 2008, compared to 11 percent growth in the previous year. This result stemmed primarily from lagging traffic, not from falling prices. The decline in traffic from the U.S. to Central America was particularly harmful. While overall wholesale revenues grew—albeit slowly—wholesale revenues for calls to Central America actually *declined*, from \$1.4 billion in 2007 to \$1.1 billion in 2008.

FIGURE 4
Traffic and Wholesale Revenues by Destination Region, 2008



Notes: Data reflect wholesale TDM plus wholesale VoIP traffic volumes.

Source: TeleGeography research

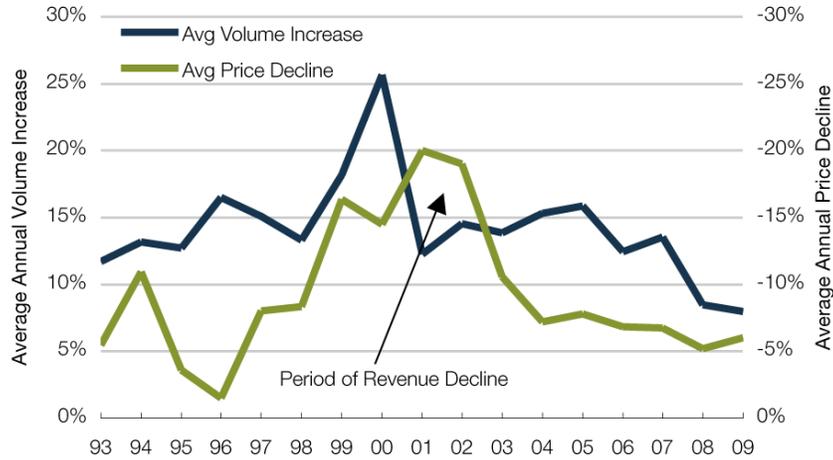
© 2009 PriMetrica, Inc.

Prices and Revenues

In telecom, it seems prices can only go down. Retail call prices have declined every year since TeleGeography started tracking international call prices in 1988. The world average retail price of an international call is now less than one-fifth of the \$1.20 per minute price from 15 years ago. Despite the steady decline in prices, retail revenues have inched upwards, as volume growth offset price decline (see Figure: Rate of Price Decline versus Volume Growth, 1993-2009). Revenues have held up, in part, because prices are no longer falling nearly as quickly as they were a few years ago. World average retail prices dipped by only 5 percent in 2008, compared to a 19 percent decline in 2002.

Although average industry revenues have remained stable, international carriers hardly face a rosy future. Prices are no longer falling as quickly as they did at the beginning of the decade, but neither are carriers' costs. For several years in a row, carriers have seen prices fall faster than their own termination costs, squeezing per-minute margins. Wholesale carriers face particularly thin margins. iBasis, for example, reported an average 0.61¢ margin per minute for its wholesale traffic in Q2 2008. The company managed to increase this margin to 0.64¢ by Q2 2009, but only while shedding 1.5 billion minutes of low-margin traffic. Several wholesale carriers have indicated to TeleGeography that they are shifting their emphasis from volume growth to margin stability.

FIGURE 5
Rate of Price Decline versus Volume Growth, 1993-2009



Notes: Data reflect both TDM and VoIP volumes. Periods where volume increases outpace average price declines mark a period of revenue growth. When price declines outpace volume increase, revenue declines. Data for 2009 are projections.

Source: TeleGeography research

© 2009 PriMetrica, Inc.

Outlook

TeleGeography projects that global international voice traffic will grow approximately 7 to 8 percent annually between 2009 and 2011, well below the trends recorded over the past 25 years. Recent trends suggest that challenging times lie ahead.

Traffic growth is slowing. At the beginning of this decade, carriers could rely on double-digit annual traffic growth to bail them out from the effects of rapid price declines. Now, the inverse holds true. Prices are no longer in free-fall, but traffic growth has decelerated. The traffic slowdown was particularly dramatic in 2008 due, in part, to the faltering world economy. The economy's drag on traffic growth is a temporary phenomenon, and will abate as the economy eventually improves. However, its effects mask a more permanent threat to international carriers: computer-based voice services are siphoning away traffic.

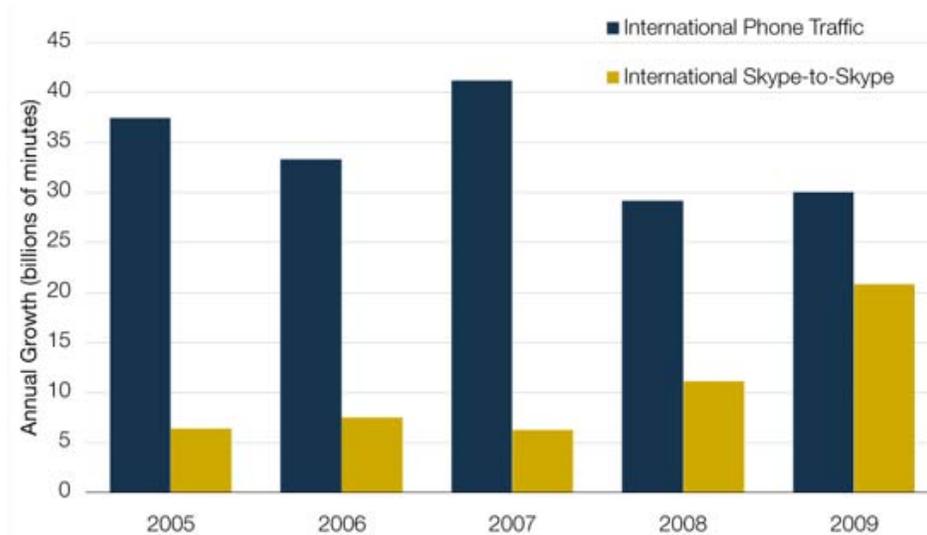
Voice traffic is moving off of the PSTN. Computer-based VoIP, and Skype, in particular, are large enough to have a meaningful impact on the international voice market. TeleGeography estimates that Skype users generated 33 billion minutes of international "Skype-to-Skype" traffic in 2008 and projects that Skype's on-net international traffic will reach approximately 54 billion minutes in 2009. In the span of 6 years, Skype has emerged as the largest provider of cross-border communications in the world, by far.

The volume of traffic routed via Skype is growing at an astonishing pace. Skype's international traffic is projected to increase by approximately 21 billion minutes in 2009, compared with 11 billion minutes in 2008. By comparison, TeleGeography projects that the total volume of international traffic terminated by carriers to fixed and mobile phones will

increase by approximately 30 billion minutes (see Figure: Net Increase in ILD and International Skype Traffic, 2005-2009). Given these immense traffic volumes, it's difficult not to conclude that at least some of Skype's growth is coming at the expense of traditional carriers. If all of Skype's on-net traffic had been routed via traditional telcos, global cross-border telephone traffic would have increased 11 percent in 2008 and would be projected to grow 12 percent in 2009.

International voice is becoming a “loss leader.” International communications is no longer a core business for some carriers. A growing number of telecommunications companies are offering flat-rate or heavily discounted international calling service to attract and retain subscribers to their bundled fixed-line or mobile phone services. These calling plans have often led to marked increases in international call volumes, if not international call revenues. Carriers' willingness to offer free or flat-rate international service is an indication that they no longer view international voice as a source of revenue in its own right.

FIGURE 6
Net Increase in International Phone and Skype Traffic, 2005-2009



Notes: International phone traffic reflects carrier TDM and VoIP. Skype traffic growth reflects Skype-to-Skype traffic only. Data for 2009 are projections.

Source: TeleGeography research

© 2009 PriMetrica, Inc.

In light of these trends, TeleGeography believes that a growing number of retail service providers, including many incumbents, will choose to get out of the business of transporting and terminating international voice traffic. BT's announcement in June 2009 that it would essentially outsource much of its international voice termination to Tata Communications underscores this trend. Rather than investing capital in a segment that faces both daunting challenges and limited growth prospects, many service providers will choose to outsource their international voice termination or to merge their international carrier business into that of a larger entity.

The content on the preceding pages is a section from TeleGeography's TeleGeography Report

The work is based on sources believed to be reliable, but the publisher does not warrant the accuracy or completeness of any information for any purpose and is not responsible for any errors or omissions.

This work is for the confidential use of subscribers. Neither the whole nor any part of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopied, recorded or otherwise, without prior written consent from PriMetrica, Inc.

All rights reserved. © 2009 PriMetrica, Inc.

TeleGeography Research.

A Division of PriMetrica, Inc.

Washington, D.C. / San Diego / Exeter

U.S. tel: +1 202 741 0020 / U.K. tel: +44 1392 315567.

www.telegeography.com



[Back to article](#)

State of the Media: TV Usage Trends, Q2 2010

November 18, 2010

Nielsen's latest State of the Media fact sheet shows that in the second quarter of 2010, U.S. television continued to reach more people over more platforms. The amount of television viewing in the U.S. remains high. In the second quarter of 2010, the average person watched more than 143 hours of television per month. This rate of consumption is essentially flat compared to the same period a year ago; however, the emergence of the DVR as a widely distributed device has changed viewing behaviors in many homes. The average person living in a DVR home watched 24 1/2 hours of DVR playback during this period. Looking at demographic groups more closely, the age group that watched the most television by DVR playback was viewers age 25-34. That demographic watched 29 1/2 hours of DVR playback per month.

As in past periods, the lowest overall viewing is done by teens, with viewing increasing with each older age break. And women continue to watch more television than men, with 54 percent of all TV viewing consumed by that demographic.

Overall Usage Number of Users 2+ (in 000's) - Monthly Reach

	Q2 2010	Q1 2010	Q2 2009	% Diff Yr to Yr
Watching TV in the home°	286,648	286,225	284,306	0.82%
Watching Timeshifted TV°	97,914	94,599	82,677	18.43%

Source: The Nielsen Company

Monthly Time Spent in Hours:Minutes Per User 2+

	Q2 2010	Q1 2010	Q2 2009	% Diff Yr to Yr	Hrs:Min Diff Yr to Yr
Watching TV in the home*	143:37	158:25	143:51	-0.2%	-0:14
Watching Timeshifted TV (all TV homes)*	9:27	9:36	8:02	17.7%	1:25
DVR Playback (only in homes with DVRs)	24:27	25:48	24:11	1.1%	0:16

Source: The Nielsen Company

Editor's Note: TV viewing patterns in the US tend to be seasonal, with TV usage higher in the winter months and lower in the summer months, sometimes leading to a decline in quarter to quarter usage.

Download [State of the Media: TV Usage Trends, Q2 2010](#) ^[1].

Article printed from Nielsen Wire: <http://blog.nielsen.com/nielsenwire>

URL to article: http://blog.nielsen.com/nielsenwire/media_entertainment/state-of-the-media-tv-usage-trends-q2-2010/

Copyright © The Nielsen Company. All rights reserved.

[Español](#)

Press Releases

Time Warner Inc. Announces Widespread Distribution of Cable TV Content Online Comcast and Time Warner Develop Principles for “TV Everywhere Model” Comcast to Begin National Technical Trial of “On Demand Online”

New York, NY & Philadelphia, PA - June 24, 2009

Time Warner Inc. (NYSE:TWX) announced today that it has partnered with Comcast Corporation (NASDAQ: CMCSA, CMCSK) to develop broad principles for the TV Everywhere model to guide the distribution of its television content online. The agreement between the companies will make it possible for Comcast customers to access programming from Turner Broadcasting’s award-winning entertainment networks free online and on demand. In addition, Comcast announced it will begin a national technical trial of its “On Demand Online” service in July carrying programming from Time Warner’s Turner networks TNT and TBS.

The companies endorsed a framework that would bring significantly more television content to customers online in a manner that is consumer-friendly, pro-competitive and non-exclusive. To ensure rapid adoption and deployment of online television content across the industry, a set of principles for the TV Everywhere model was designed to be simple and attractive for any programmer and any video distributor to elect to adopt.

The companies agreed to the following principles:

- Bring more TV content, more easily to more people across platforms.
- Video subscribers can watch programming from their favorite TV networks online for no additional charge.
- Video subscribers can access this content using any broadband connection.
- Programmers should make their best and highest-rated programming available online.
- Both networks and video distributors should provide high-quality, consumer-friendly sites for viewing broadband content with easy authentication.
- A new process should be created to measure ratings for online viewing. The goal should be to extend the current viewer measurement system to include advertiser ratings for TV content viewed on all platforms.
- TV Everywhere is open and non-exclusive; cable, satellite or telco video distributors can enter into similar agreements with other programmers.

Time Warner Chairman and Chief Executive Officer Jeff Bewkes said: “TV Everywhere is no longer just a concept, but a working model to deliver consumers more television content over broadband than ever before. We consistently look to

make our popular, branded content more accessible to consumers in order to grow our business. This progressive approach to delivering television content online will enable the continued vibrancy and growth of distribution outlets, their content partners and advertising clients.”

Brian L. Roberts, Chairman and CEO of Comcast said, “Today’s announcement is all about giving our customers exponentially more free content, more choice and more HD programming online as well as on TV. We have been working for a year to bring more TV and movie content to our customers online and we are thrilled that Time Warner is joining us in our national technical trial. Ultimately, our goal is to make TV content available to our customers on all platforms.”

The innovative agreement for this national On Demand Online technical trial will deliver more TNT and TBS programming online, free of charge to Comcast video customers, than previously available. Comcast customers in the trial will be able to access TNT’s award winning programming like *The Closer* and *Saving Grace*, as well as the TBS line-up including Tyler Perry’s *Meet the Browns* and *My Boys*. The shows will be initially accessible on Comcast.net, Fancast.com and will soon be available on TNT.tv and TBS.com.

The On Demand Online technical trial will involve premium long-form content with approximately 5,000 customers. The trial period will be dedicated to testing the new authentication technology on a national basis that will enable secured access to the content. This national trial will give customers an opportunity to explore the service and provide feedback that will help to shape the service over time. The initial trial is the first phase of a multi-phase rollout that will expand the amount of content, features and functionality of the service as subsequent iterations are implemented.

In the coming weeks, Comcast expects other programming networks to participate as the nationwide trial expands. Time Warner expects to announce similar trials with other distributors.

About Comcast Corporation

Comcast Corporation (Nasdaq: CMCSA, CMCSK) (www.comcast.com) is the nation’s leading provider of entertainment, information and communication products and services. With 24.1 million cable customers, 15.3 million high-speed Internet customers, and 6.8 million Comcast Digital Voice customers, Comcast is principally involved in the development, management and operation of cable systems and in the delivery of programming content.

Comcast’s content networks and investments include E! Entertainment Television, Style Network, Golf Channel, VERSUS, G4, PBS KIDS Sprout, TV One, ten sports networks operated by Comcast Sports Group and Comcast Interactive Media, which develops and operates Comcast’s Internet businesses, including Comcast.net (www.comcast.net). Comcast also has a majority ownership in

Comcast-Spectacor, whose major holdings include the Philadelphia Flyers NHL hockey team, the Philadelphia 76ers NBA basketball team and two large multipurpose arenas in Philadelphia.

About Time Warner Inc.

Time Warner Inc., a global leader in media and entertainment with businesses in television networks, filmed entertainment, publishing and interactive services, uses its industry-leading operating scale and brands to create, package and deliver high-quality content worldwide through multiple distribution platforms. For more information about Time Warner Inc., please visit www.timewarner.com.

About Turner Broadcasting System, Inc.

Turner Broadcasting System, Inc., a Time Warner company, creates and programs branded news, entertainment, animation and young adult media environments on television and other platforms for consumers around the world.

©2010 Comcast | [Investor Relations](#) | [Press Room](#) | [Corporate Blog](#) | [Privacy Statement](#) | [Visitor Agreement](#) | [Comcast.com Feedback](#) | [Site Map](#)



PHOTOGRAPHY • GADGETS • BUYING GUIDES • TALK BACKS • ENTERTAINMENT



Home » Computing » New Report Shows More People Dropping Cable TV for Web Broadcasts

New Report Shows More People Dropping Cable TV for Web Broadcasts

By: [Ryan Fleming](#) • April 16, 2010

0

Share 3 1

A recent report claims that over the last two years, 800,000 Americans have cut their cable television and now watch their TV online. That number is expected to double by next year.

A recent [report](#) issued by The Convergence Consulting Group shows that there is a small, but growing trend towards abandoning the traditional methods of watching television programming via cable boxes, in favor of watching the same content online.

With services like Hulu and Netflix streaming (not to mention plenty of other semi-legal, or even blatantly illegal ways to watch television – looking at you, BitTorrent) offering a wider variety of programming, the trend is worth noticing.



Although the number of people choosing to abandon their cable television sets is growing, it is not considered a significant threat to the cable industry, which counts over 101 million subscribers nationwide. While the trend online is increasing, the

cable companies aren't worried yet. The increase in HD channels, on-demand content and DVRs are still attracting viewers. Upcoming 3D TV channels could also add to the cable market as well. Online advertising expenditures are currently estimated to make up only about 2.5 percent of the cable industry's advertising budget on average.

Upgrade Digital

The report estimates up to 17 percent of the weekly TV watching audience go online to watch one or two full length TV shows per week. The numbers are still relatively low, but they are growing.

at

Related Posts



Computing , Entertainment

Tags: Cable Television • Hulu • Online Television

Trackback URL: <http://www.digitaltrends.com/computing/new-report-shows-that-more-and-more-people-are-dropping-cable-tv-in-favor-of-web-broadcasts/trackback/>

Login

- [This blog post](#)
- [All blog posts](#)

Subscribe to this blog post's comments through...

-
- [Subscribe in NewsGator Online](#)
- [Add to My Yahoo!](#)
- [Feedblitz](#)

LATEST

- Facebook
- yet
- OnLive tv
- 4chan-ba
- PayPal tc
- Disney E
- Tweet Wi
- time



15,747 pe



Jack



Soumen

" + __flash
getCurrent
(instance.C
(argument:
{ return ev:

-  Add to Pageflakes
-  Add to Google
-  Subscribe with Bloglines
- 

 [RSS Feed](#)

Subscribe via email

Email Address

[Subscribe](#)

[Follow the discussion](#)

Comments (3)

 Logging you in...

[Close](#)

Login to IntenseDebate

Or [create an account](#)

Username or Email:

Password:

[Forgot login?](#)

[OpenID](#)

[Cancel Login](#)

[Close](#)  **WordPress.com**

Username or Email:

Password:

[Lost your password?](#)

[Cancel Login](#)

[Close](#)

Login with your OpenID

Or [create an account using OpenID](#)

```

__flash__ε
increment(
(instance.C
(argument:
{ return ev:
__flash__ε
setDisable
(instance.C
(argument:
{ return ev:
__flash__ε
getTargetE
(instance.C
(argument:
{ return ev:
__flash__ε
getState="
("" + __flas
getTotalTir
(instance.C
(argument:
()) { return ε
__flash__ε
setStyles=
("" + __flas
getErrorCc
(instance.C
(argument:
getCurrent
(instance.C
(argument:
{ return ev:
__flash__ε
setTargetE
(instance.C
(argument:
{ return ev:
__flash__ε
getBitrates
(instance.C
(argument:
getCanRat
(instance.C
(argument:
(instance.C
(argument:
eval(instar
__flash__ε
pauseMov
(instance.C
(argument:
eval(instar
__flash__ε

```

OpenID URL:

http://

[Back](#)

[Cancel Login](#)

[Dashboard](#) | [Edit profile](#) | [Logout](#)

- Logged in as

Sort by: [Date](#) [Rating](#) [Last Activity](#)

+1 [Vote up](#) [Vote down](#)



jay douglas · 33 weeks ago

While online TV is growing exponentially, there's also a parallel movement to ditching cable/satellite for over the air FREE TV. This is doable if you're in or near an urban area. HDTV works best via an antenna since it isn't compressed. There are new indoor antennas that replace rabbit ears and are specifically designed for HDTV.

[Report](#)

[Reply](#)

+1 [Vote up](#) [Vote down](#)



jay douglas · 33 weeks ago

While online TV is growing exponentially, there's also a parallel movement to ditching cable/satellite for over the air FREE TV. This is doable if you're in or near an urban area. HDTV works best via an antenna since it isn't compressed. There are new indoor antennas that replace rabbit ears and are specifically designed for HDTV.

[Report](#)

[Reply](#)

+2 [Vote up](#) [Vote down](#)



Tim · 33 weeks ago

As a college kid, the internet is gold.

I find no need for cable (or movie theaters). The end

[Report](#)

[Reply](#)

Post a new comment

Enter text right here!



Comment as a Guest, or login:

- [Login to IntenseDebate](#)
- [Login to WordPress.com](#)
-
- [Login to Twitter](#)
- [Login to OpenID](#)

[Go back](#)

```

setQueryS
(instance.C
(argument:
eval(instar
__flash__ε
getBitrateC
(instance.C
(argument:
eval(instar
__flash__ε
getErrorTe
(instance.C
(argument:
eval(instar
__flash__ε
getCurrent
(instance.C
(argument:
setIsEndSi
(instance.C
(argument:
{ return ev:
__flash__ε
setTargetE
(instance.C
(argument:
(instance.C
(argument:
(instance.C
(argument:
eval(instar
__flash__ε
setTargetE
(instance.C
(argument:
(instance.C
(argument:
(instance.C
(argument:
eval(instar
__flash__ε
getPlayhea
(instance.C
(argument:
setCurrent
(instance.C
(argument:
eval(instar
__flash__ε
fetchMetac
(instance.C
(argument:
{ return ev:
__flash__ε
getCurrent
(instance.C
(argument:
{ return ev:
__flash__ε
setIsStartS
eval(instar
__flash__ε

```

toggleFulls
(instance.C
(argument:
) { return ε
__flash__ε
loadRating
(instance.C
(argument:
(instance.C
(argument:
{ return ev:
__flash__ε
moveScrul
(instance.C
(argument:
{ return ev:
__flash__ε



Share on Facebook



Connected as [\(Logout\)](#)

Email (optional)



Not displayed publicly.



Tweet this comment



Connected as [\(Logout\)](#)

Email (optional)



Not displayed publicly.

Name

Email

Website (optional)



Display name wants to be an insider, and you can be one too! Choose your poison: sign-up for our Newsletter, join us on Facebook, or follow us on Twitter. Do all three and you'll be swimming in the the latest news, reviews, videos and more gadget goodness!

DT NEWSLETTER SIGN-UP

OUR FACEBOOK

TWITTER U

Not displayed publicly. Sign up for the Digital Trends newsletter and find out about the latest contests, the hottest content, and the most popular videos. Let us keep you up-to-date!

Become a DT soldier! Join us on Facebook and share the best news, guides, videos and other cool information directly with all your friends. Some might even thank you for it!

Do you Twitter be able interact

If you have a website, link to it here.

OpenID URL

Weekly Newsletter

SIGN-UP

Join the thousands and follow the best of us on Facebook.

Join t us on

Cr
Si

Subscribe to

None

Comments by intenseDebate That's Right. Sign-up For Our Monthly Random Prize Drawings and You Could Be That Winner.



SITEMAP

Home | Sitemap | Podcasts | Product Reviews | Videos | Technology News | Downloads | Forums | Shops | E3 | CES

SE

CORPORATE

AI

[About Digital Trends](#) | [Contact Us](#) | [Corrections](#) | [Terms of Use](#) | [Privacy Policy](#) | [Jobs](#) | [Advertise With Us](#)

PARTNERS

[Yahoo!](#) | [WindowsMedia.com](#) | [Sam's Club](#) | [World Now](#) | [Sympatico](#) | [Future Shop](#)

POPULAR TOPICS

[Verizon iPhone](#) | [Apple iPhone 4 Review](#) | [Xbox 360 Slim](#) | [Apple iPhone 4](#) | [Best iPad Apps](#) | [HTC EVO 4G Review](#) | [The Best Android Phones](#) | [Laptop Reviews](#) | [TV Reviews](#) | [Digital Camera Reviews](#) | [Cell Phone Reviews](#) | [Samsung Phones: Which One Should You Choose](#) | [Windows Phone 7 Pictures](#) | [Best Laptops under \\$500](#) | [StarCraft 2 Review](#)

Find out why the t
Trends offers a pr
service. [Click here](#)

Copyright © 2010 Digital Trends - All rights reserved.

MicRA

Microeconomic Consulting & Research Associates, Inc.

1155 Connecticut Avenue NW, Suite 900
Washington, D.C. 20036
(202) 467-2500
www.micradc.com

Consumer Benefits from Cable-Telco Competition

Michael D. Pelcovits, PhD
Daniel E. Haar

Updated November 2007

* This report was commissioned by Comcast. The methodology, analysis, and conclusions are the authors' own.

Table of Contents

Executive Summary	i
I. Introduction and Background	1
II. Competition from Cable Voice Service.....	7
Price comparison between cable and ILECs.....	7
III. Quantification of Benefits to Cable Voice Customers	9
Forecasting Future Sales	9
Calculating Consumer Savings	11
IV. Benefits from Competition from OTP VoIP Providers	14
Competitive Response by the Incumbents	17
V. Effect of Competition in Small Business Market	21
Size of the Small Business Market	22
Effect of Competition on Prices Charged to Small Business	23
VI. Total Savings	27
Benefits to Residential and Small Business 2008-2012	29
VII. Benefits Already Realized	30
Direct Benefits	30
Indirect Benefits.....	32

Executive Summary

What is new in the updated report

In August 2006, we released our report on the consumer benefits from cable-telco competition. Since then, cable voice service has penetrated the market at a much more rapid pace than we and others had predicted. Also, the cable companies and the incumbent local exchange carriers (“ILECs”) have been cutting prices very aggressively, which brings even more benefits to consumers. This report describes these developments in the marketplace and presents new information on the benefits to date from cable competition as well as updated projections on the benefits from increased competition in the local voice market. Among the new findings in the report:

- As of June 2007 there were over 12 million cable voice subscribers, which is an increase of more than 4 1/2 million subscribers from June 2006.
- Preliminary estimates show 13 million cable voice subscribers as of September 2007.
- Subscribers to cable voice service save almost \$12.00 a month on their telephone bills compared to the rates charged by the incumbents.
- Subscribers to “triple play” bundles of voice, Internet, and video service save far more than consumers who subscribe to the three services separately.
- The ILECs have been forced to respond to competition by lowering prices and offering attractive bundles. This creates enormous benefits to consumers.
- The total benefit from competition in residential and small business voice service markets during the period 2008 through 2012 is projected to be \$111 billion.
- Consumers have already received benefits of \$23.5 billion from cable voice competition over the past four years and from the competitive response of the ILECs over the past two years.

Summary of report

Competition in telecommunications has brought significant benefits to U.S. residential and small business customers. Over 12 million customers now subscribe to cable voice service, and that number is growing rapidly as cable providers are now realizing their goal to offer voice service to the vast majority of households in the United States. This has brought direct consumer benefits of \$4.0 billion to the cable companies' subscribers and \$19.5 billion in indirect consumer benefits due to the competitive response of the ILECs, for a total of \$23.5 billion of consumer benefits.

Cable voice service has evolved to become an IP (Internet Protocol) based service. IP-based service is lower-cost, lower-priced, and rich with enhanced calling features compared to traditional telephone services. The major cable providers offer a comprehensive bundle of voice service, including unlimited calling within the United States, at prices at or below \$40.00 per month.

We project that 32 million households will subscribe to cable voice services by the end of 2012. Based on an \$11.70 average price difference between cable voice service and traditional telephone services, we calculate annual benefits of \$2.26 billion in 2008 climbing to \$4.46 billion in 2012. The sum total of these benefits for the five-year period is \$17.2 billion.

VoIP providers, whose customers provide their own broadband connection (*over the top* or "OTP" VoIP), also bring competitive pressure to bear in the market. We estimate benefits to their customers in 2008 of \$1.01 billion, which will increase to \$1.37 billion in 2012. Over a five-year period, these benefits will amount to \$6.11 billion.

These benefits, however, are dwarfed by the indirect benefits from the competitive pressure placed on the ILECs by competitors. The ILECs' response to competition has already benefited consumers. Initially, this response was to competition from the UNE-P-based CLECs, which obtained almost their entire network functions from the ILECs. With the threat from UNE-P now disappearing, however, continued and even growing benefits from this competitive response rests on the viability and profitability of facilities-based providers, and especially the cable companies.

Based on the competitive response observed to date, and even assuming no additional price cuts by the ILECs, we estimate benefits from competition in the voice market to the nearly 100 million households in the U.S. with wireline telephones to be approximately \$71.7 billion over

Consumer Benefits from Cable-Telco Competition

the next five years.

Small business customers also benefit from competition for telephone service in general, and from cable voice service in particular. The small business customer can cut his or her telephone bill by about 50 to 70 percent by using a cable provider's voice service. We rely on a much more conservative assumption about the savings to small business customers from competition. We estimate that over a five-year period, cable voice service will provide small business customers with a savings of \$811 million off their telephone bills. This class of customers will also benefit from the competitive pressure placed on the ILECs. We estimate this benefit, which will accrue to 5.5 million small businesses, will equal \$15.5 billion over the next five years.

Total consumer benefits from all sources equal more than \$111 billion over the next five years.

Total Savings from Cable-Telco Voice Competition (in millions)

Category	Savings
Cable, Residential Market	\$17,202
Cable, Small Business Market	\$811
OTP VoIP	\$6,110
ILEC Competitive Response, Residential Market	\$71,723
ILEC Competitive Response, Small Business Market	\$15,503
Total	\$111,348

Note: Total may not compute exactly due to rounding.

Competition is not a sure thing. The incumbent local telephone carriers ("ILECs") continue to dominate the residential local telephone market with an 88% market share, and therefore have the incentive and ability to thwart competition by raising the costs of their rivals. Although the cable companies can control the costs of their own networks, they are not immune to the anticompetitive actions of the ILECs. So long as the cable companies have a much smaller share of the local voice market, the ILECs will be able to impose artificial interconnection costs on them, and thereby gain a significant competitive advantage.

Consequently, the consumer benefits from competition, which are estimated in this report, will not be realized unless Congress and federal and state regulators maintain vigilance over interconnection requirements, which voice service competitors have relied on since the passage of the Telecommunications Act of 1996.

I. Introduction and Background

The telecommunications industry in the United States has experienced a roller-coaster ride over the eleven-year period following passage of the Telecommunications Act of 1996. Passage of this Act was expected to stimulate intense competition in the telecommunications industry by facilitating entry into local markets by long distance carriers and other competitive local exchange carriers (CLECs). As a trade-off for long distance carrier entry into local markets, the Bell Operating Companies (BOCs) were provided with a mechanism to free themselves from the U.S. District Court restrictions on their entry into the long distance market. Most observers anticipated a complex and confusing transition period to competition; nevertheless, policymakers hoped it would result in vigorously competitive markets, which would benefit users in all segments of the telecommunications market.

Markets did not fulfill the expectations that robust competition would develop in all major local telephone markets. There was a “land rush” by competitors into some segments of the market. CLEC investment in fiber optic networks in major business districts exploded. The long distance companies entered local markets very aggressively using the unbundled network elements of the ILECs. And the BOCs broke through into the long distance market and quickly gained substantial shares of the market. As of December 2003, the CLECs provided almost 14% of residential and small business telephone lines and 24% of all business lines.¹ Competition from the CLECs in the residential market, however, rested on very thin ice. Of the total 18.7 million lines provided by CLECs to residential customers, 15.2 million were provided over the unbundled network element platform (UNE-P).² UNE-P permitted rapid, widespread entry by CLECs, but it was dependent totally on the will of the FCC to continue to pursue the goal of facilitating entry by UNE-P-based CLECs and on whether the FCC’s interpretation of the 1996 Act would be upheld by the courts.

In December 2004, following a long period of litigation and regulatory warfare at the FCC and state commissions, the FCC adopted an order that eliminated the UNE-P requirement³. The impact of this decision was compounded by the acquisition of the two largest CLECs operating in

¹ Federal Communications Commission, *Local Telephone Competition: Status as of June 30, 2006*, January 2007, Table 2. (Hereafter: FCC Local Telephone Competition Report).

² FCC Local Telephone Competition Report, Tables 2 and 4.

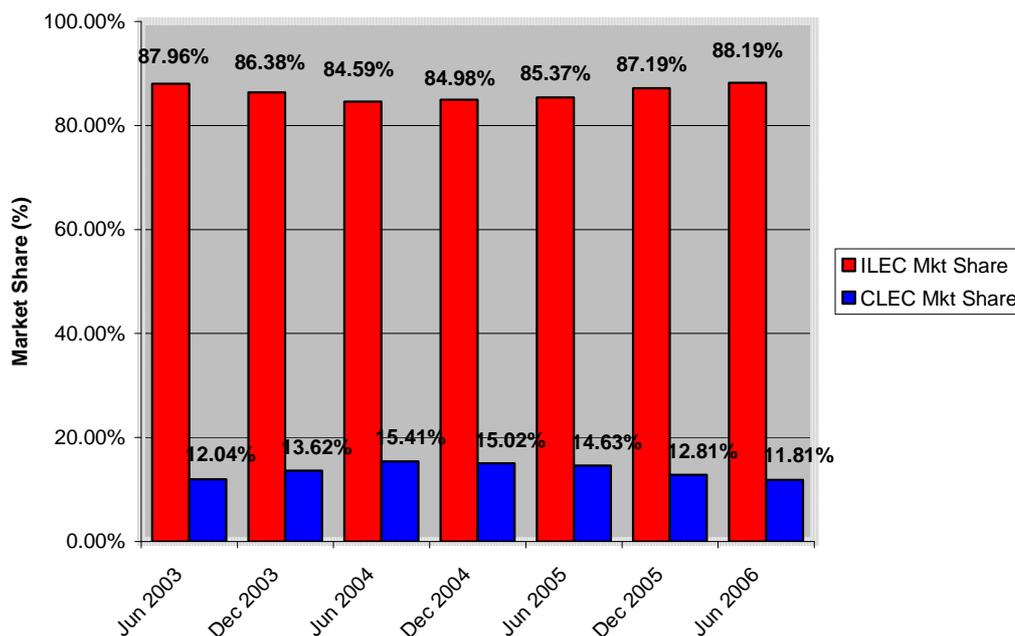
³ Federal Communications Commission, *Order on Remand*, WCC Docket No. 04-314, December 15, 2004; CLECs were allowed to continue to serve existing UNE-P customers for a brief transition period.

* This report was commissioned by Comcast. The methodology, analysis, and conclusions are the authors’ own.

the residential market (*i.e.*, AT&T and MCI) by the two largest BOCs (*i.e.*, SBC and Verizon). As a result of these events, the share of the residential market served by CLECs leasing facilities owned by the ILECs has been shrinking steadily.⁴

Since the demise of the UNE-P rules, competition has grown in the residential and small business market from cable television companies, wireless carriers, and providers of voice services over the Internet, such as Vonage, that do not own local communications facilities. Nevertheless, the ILECs still maintain a dominant position in the provision of voice service to residential and small business customers, with an 88% share of residential access lines.⁵ Until competition is fully established in these markets, which will take many more years under the best of circumstances, the ILECs will have the incentive and ability to foreclose competitors' access to the market by using a variety of tactics that can raise their rivals' costs.

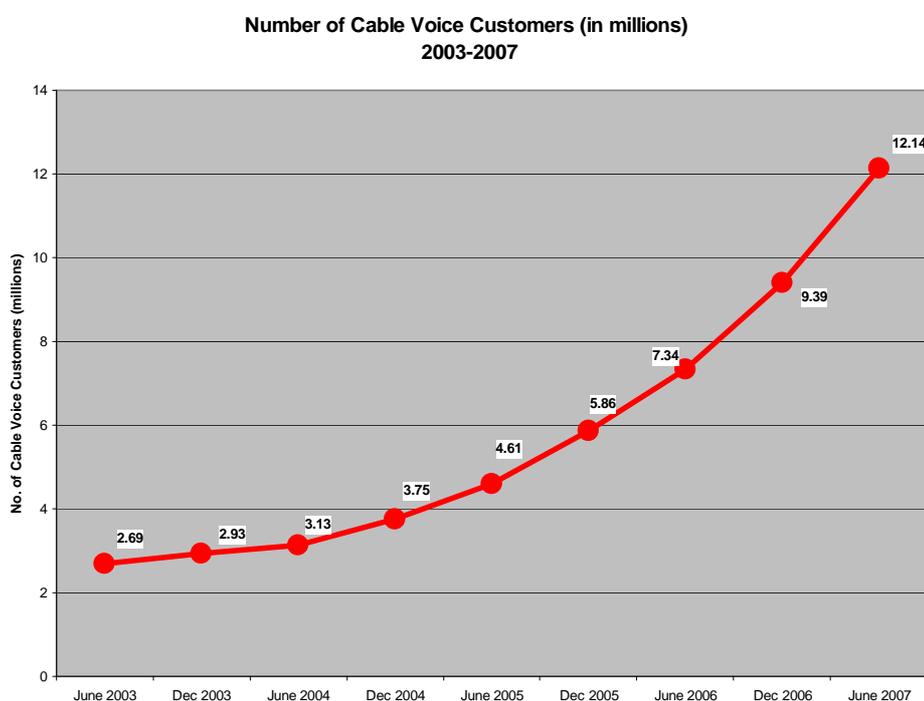
Residential Lines Market Share: (2003-2006)



⁴ Between June 2004 and June 2006 the number of UNE-P lines has fallen from 17.1 million to 8.4 million lines. Over the same period, resold lines increased by 123,000 and unbundled loops (without switching) increased by approximately 100,000. FCC Local Competition Report, Table 4.

⁵ FCC Local Competition Report, Table 2. This report shows the ILECs with 94.4 million residential lines and the CLECs with 12.4 million lines, as of June 30, 2006.

Of these three classes of competitors, cable companies will provide the greatest competitive pressure over the long run. Cable television lines pass 96% of households in the U.S. and an increasing number of small businesses.⁶ Cable companies provided voice service to 12.1 million homes as of June 30, 2007,⁷ and approximately 13 million homes as of September 30, 2007.⁸ Cable offers voice services to e service to more than approximately 80% of U.S. households within a short period of time.⁹



⁶ Residential statistics obtained from SNL Kagan, *Cable TV Investor*, July 31, 2007, at 2. Business market statistics obtained from the Insight Research Corporation, "Cable Telephony in Small Businesses: The Competitive Threat to ILECs 2004-2009, May 2004. (Hereafter, "Insight Report").

⁷ SNL Kagan, *Broadband Technology*, August 24, 2007, at 9.

⁸ Preliminary industry estimate for September 2007.

⁹ Cable voice service homes passed was 100.4 million of the 126.7 million households in the United States representing a penetration rate of approximately 80%. (See SNL Kagan LC, *Broadband Technology*, June 20, 2007 at 4.) (Hereafter, "SNL Kagan Report"). Similarly, a recent study by Bernstein Research estimates that 76% of total households in the United States are passed by cable companies offering telephone service. (See Bernstein Research, *VoIP: The End of the Beginning*, April 3, 2007, at Exhibit 3; hereafter, "Bernstein Research Report").

Wireless competition is an important factor in the residential market, but does not provide as powerful a competitive threat as cable voice service for a number of reasons. First, only some households appear willing to “cut the cord” and use wireless service as a complete substitute for wireline service.¹⁰ Most consumers do not view wireless as an effective substitute for wireline service, and it would be improper to put the two products in the same market for purposes of competition analysis.¹¹ The small number of customers that have ported their wireline number to their wireless phone also points to wireless service as more of a complement to wireline service, not a substitute, except for certain demographic groups.¹² Second, the customers that stand to benefit the most from cable voice competition are the big spenders on wireline service, who are typically not cutting the cord.¹³ Third, the two largest wireless carriers (AT&T and Verizon) are owned or controlled by the BOCs, who have little incentive to cannibalize their own wireline businesses in region. Moreover, to the extent that independent wireless providers, such as Sprint, constitute a competitive threat to the ILECs, they too depend on the ILECs for the same essential inputs as the cable companies and are subject to the threat of significant cost increases for interconnection with the ILECs.

VoIP service providers unaffiliated with a cable company or ILEC, such as Vonage, are also important players in the market, but they do not control access to their own customers. Their customers must subscribe to a broadband service, which is provided either by an ILEC through DSL or by the local cable company. These VoIP companies cannot provide market discipline to the same degree as the major facilities-based competitors to the ILECs, *i.e.*, the cable companies.

¹⁰ As of 2005, approximately 10.5% of US households with telephone service had “cut the cord”. Federal Communications Commission, *Trends in Telephone Service*, February 2007 at Table 7.4, shows that 11.3 million households of the total 107 million households with telephone service in 2005 had wireless service only.

¹¹ *Declaration of Simon Wilkie*, Exhibit A to Petition to Deny of Cbeyond Communications, et al., Before the Federal Communications Commission, WC Docket No. 05-65, August 25, 2005, at 21; “Confronting Telecom Industry Consolidation, A Regulatory Agenda for Dealing with the Implosion of Competition,” prepared for National Association of State Utility Consumer Advocates by Lee L. Selwyn, Helen E. Golding, and Hillary A. Thompson, Economics and Technology, Inc., April 2005.

¹² Since number portability to wireless service began in November 2003, only 1.8 million numbers have been switched from landline numbers to wireless numbers as of June 2006. This figure represents only 3.2% of the total numbers that were ported during the period. Similarly, during the same time period 54,000 wireless numbers were switched to landline numbers FCC Telephone Trends Report, Table 8.8

¹³ “Cord-Cutting Reaches One in 20 Mobile Households,” Charles S. Golvin, Forrester Research Inc., at 2

Competition in voice services brings enormous benefits to consumers. This has been proven time and time again by markets that were opened to competition and protected from monopoly abuse. Competition in the terminal equipment market, which had previously been controlled by the Bell System monopoly, encouraged the delivery of superior products and lower prices for all types of equipment, including telephone sets, PBXs, answering machines, and facsimile machines. Competition in the long distance market is a powerful and well-documented example of the benefits of moving from monopoly to competition.¹⁴

Competition is not inevitable. As shown by the rapid demise of UNE-P-based competition, CLEC competition was eliminated by a combination of legal and regulatory decisions and the abuse of market power by the Bell monopolies. Although owning network facilities allows the cable companies to control their costs, this does not mean they are immune to anticompetitive actions. Specifically, the cable companies cannot provide voice service unless they are able to connect their customers with the ILECs' customers. So long as the cable companies have a smaller share of the market, the ILECs can use their dominant position to impose artificial interconnection costs on them, and thereby maintain a significant competitive advantage. Consequently, future consumer benefits from competition, which are estimated in this report, will not be realized unless Congress and federal and state regulators maintain vigilance over interconnection requirements, which the competitors have relied on since the passage of the Telecommunications Act of 1996.

¹⁴ Michael D. Pelcovits, "Long Distance Telecommunications," in *Network Access, Regulation, and Antitrust*, ed. Diana L. Moss, American Antitrust Institute, Routledge 2005.

An example of a recent threat posed by major changes in interconnection policy can be found in the “Missoula Plan” for so-called reform of Intercarrier Compensation, which was sponsored by a large coalition of ILECs and other telecommunications companies. This seemingly benign attempt to “accommodate today’s Intermodal, competitive and increasingly Internet-oriented communications environment,” will create artificial barriers to competition from cable companies, wireless carriers, and other non-facilities-based entrants.¹⁵ Our report does not provide an analysis of how the Missoula Plan distorts markets and denies opportunities for competition. Rather the purpose of this report is to quantify the risk to consumers from measures that could lead to re-monopolization of the residential and small business telecommunications market. The benefits from competition measured in this report are at risk should pro-competitive policies not be maintained and enforced over the next several years.

¹⁵ “Missoula Plan,” filed at the FCC in CC Docket No. 01-92 on July 24, 2006, at 1.

II. Competition from Cable Voice Service

Cable voice service has already brought significant benefits to consumers. Until recently, cable companies provided voice service using older circuit-switched technology. This required significant investment in telephone-specific technology and limited the range of services that could be provided to customers. Subscription to cable voice service reached about three million customers using the old technology.¹⁶

Over the past two years, cable providers have initiated voice service by carrying voice signals over their managed IP networks. These IP-based services are made available at a lower cost and lower price than comparable traditional telephone services, and provide an astounding array of enhanced service features. The price of a cable voice service to residential customers, which includes unlimited local and long distance calling and a dozen calling features, is as low as \$34.95 per month, plus approximately \$6.00 in taxes and other fees. The features of a typical cable voice service are shown in the chart below.

Features of Typical Cable Voice Service

- Call Waiting, Caller ID, Call Blocking, Three-Way Calls
- Call Screening, Repeat Dialing, Speed Dialing, Voice Mail
- Unlimited Local and Long-Distance Calls, 911 Access, Bundled Billing
- Allow Customers to Manage Service Features and Listen to Voice Mail on the Internet
- Assign Specific Ringtones to Different Numbers

Price comparison between cable and ILECs

Customers using cable voice services save a significant amount compared to comparable services offered by the ILECs. For example, a subscriber to one of Verizon's Freedom packages

¹⁶ Kagan Report, at 5.

pays in the range of \$34.99 to \$60.99 per month plus at least \$10.00 in fees and taxes. Comparable services from AT&T and BellSouth cost at least \$50.00 plus fees and taxes. Depending on the features sought by the customer, the savings provided by cable voice service can be as high as \$29 per month, as shown in the table below.

Voice Product Type	Product	Price
Cable	Cablevision	\$34.95
	Comcast	\$39.95
	Cox	\$44.90
Traditional	AT&T One Rate USA	\$63.95
	Bell South PreferredPack Plan + PreferredPack Unlimited	\$53.94
	Qwest Choice Home + Qwest Unlimited	\$45.99
	Verizon Freedom Value	\$34.99
	Verizon Freedom Essentials	\$39.99
	Verizon Freedom	\$55.99-\$60.99

Since our last report, Verizon has introduced a new product: Verizon Freedom Value. This product does not include voicemail, nor does it have any of the other desirable options included in the cable voice unlimited calling plans.

Also since the publication of the original report, both the ILECs and cable companies have introduced bundled packages containing high-speed Internet access, digital video and unlimited local and long distance calling. These new "Triple Play" bundles offer significant savings off the stand alone prices of the services included. The prices of the Triple Play bundles are as low as \$89.95 for cable customers and \$94.99 for ILEC customers.

Triple Play Product Type	Product	Price
Cable	Cablevision Optimum Triple Play	\$89.85
	Comcast Triple Play	\$99.99
	Time Warner All-the-Best Package	\$109.85
Traditional	Bell South Triple Choice	\$120.93
	Qwest Choice Bundle	\$107.97
	Verizon Triple Freedom	\$94.99-\$104.99

III. Quantification of Benefits to Cable Voice Customers

We now quantify the benefits accruing to cable voice customers over the next five years. This requires an analysis and projection of the number of cable voice subscribers and an estimate of the average monthly savings per subscriber.

Forecasting Future Sales

We forecast future sales of cable voice subscriptions to both homes and small businesses using the Bass model of product adoption, which is well-recognized and widely used in business and academic settings.¹⁷ The Bass model describes new sales in year t , S_t , as a function of three key parameters: the market potential, m , the coefficient of adoption due to external influences (such as the mass media), p , and the coefficient of adoption due to internal influences (*i.e.*, word-of-mouth from previous adopters), q . The functional form is:

$$S_t = p(m - N_{t-1}) + q(N_{t-1}/m)(m - N_{t-1}),$$

where N_{t-1} is the cumulative number of past subscribers as of the previous year. Thus, $m - N_{t-1}$ represents the total number of customers who have not yet, but will at some time, purchase cable voice service. This relationship indicates that a constant proportion, p , of not-yet-adopters ($m - N_{t-1}$), will adopt due to external media influences each year, while a growing proportion, $q^*(N_{t-1}/m)$, of not-yet-adopters will adopt due to word-of-mouth influences each year.

In the original version of the report, the average number of residential users of cable voice services in 2007 was forecasted to be 10.0 million. Due to the rapid customer growth experienced in 2006 and the beginning of 2007 (where at the end of the second quarter of 2007 the number of cable voice subscribers was already 12.1 million),¹⁸ it now appears that this estimate was too low. Taking into account this trend, the new forecasted average number of cable voice users in 2007 is

¹⁷ Frank Bass, "A New Product Growth Model for Consumer Durables," *Management Science*, 1969.

¹⁸ Kagan Research, LLC, *Broadband Technology*, August 24, 2007, at 9.

12.4 million.¹⁹ Similarly, the size of the potential market has also grown from 107 million households to 110.8 million households since the original version of the report was published.²⁰

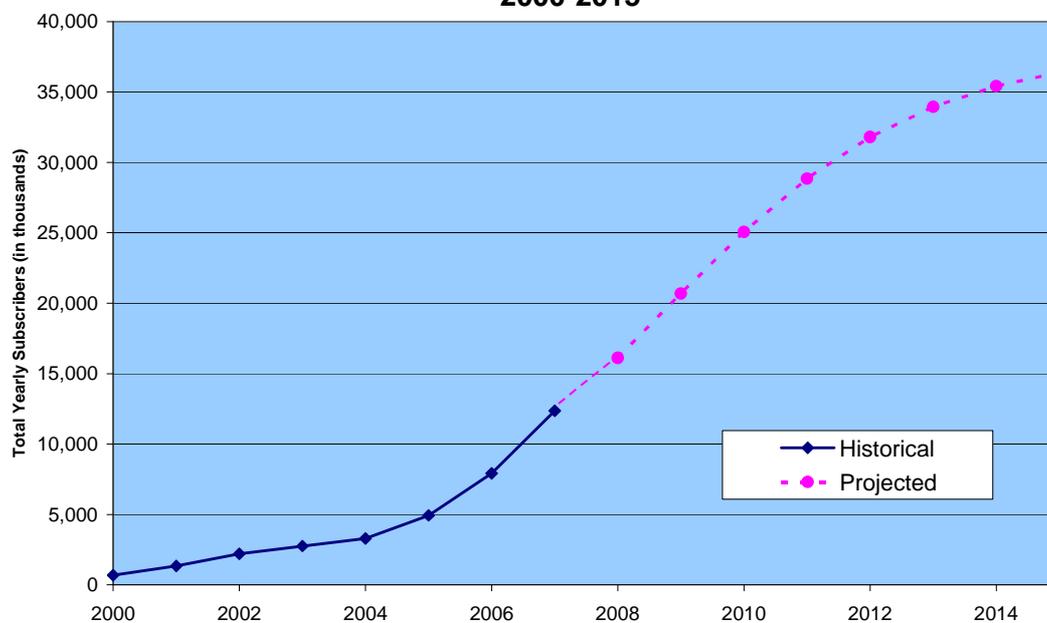
Based on this updated data, we now estimate the market potential over the next fifteen years for cable voice services to be 38.8 million subscribers. Our methodology remains the same, wherein we base the expected growth of cable voice service on the experience in the long distance market where facilities-based providers achieved approximately a 35% share of the market within 15 years following divestiture. Using data on past adoption of cable voice by residential customers, we estimate the p and q parameters to be .00135 and .3867, given the estimated market potential of about 38.8 million subscribers.²¹ Accordingly, we forecast average residential users of cable voice services to be around 16.1 million in 2008, growing to 31.8 million by 2012. The entire adoption curve for a 15-year period is shown in the chart below.

¹⁹ The estimate of total subscribers in a year is the average of subscriber estimates for all four quarters. Kagan projects that there will be 14.3 million cable subscribers at the end of 2007 (See SNL Kagan Report at 1). Similarly, Bernstein Research forecasts that there will be 13.4 million cable voice subscribers by the end of 2007. (See Bernstein Research Report at 7).

²⁰ This number reflects the number of households in the United States with telephones as of March 2007. (See Federal Communications Commission, *Telephone Subscribership in the United States*, June 2007, Table 1).

²¹ The potential market is the 110.8 million households with telephones in the US (*Telephone Subscribership in the United States*. FCC: June 2007.) This estimate of the entire market is then multiplied by 35%, which is the market share that major competitors to AT&T in the long-distance market reached after about 12 years of competition. This market share figure is based on data in: *Long Distance Market Shares: Fourth Quarter 1998*. FCC, March 1999.

US Residential Cable Voice Subscribers 2000-2015



Calculating Consumer Savings

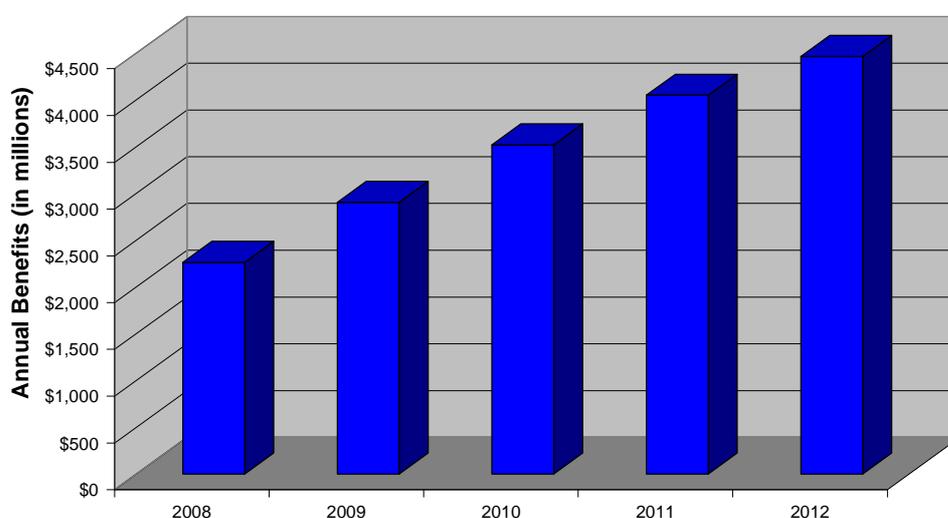
In the prior version of our study we based the estimate of customers' savings on voice service from a 2006 J.D. Power study of the average revenue per subscriber for cable and ILEC services, which found that cable voice services cost \$11.19 less per month on average than the ILEC competitors' traditional phone services.²² Based a more recent version of the J.D. Power study, we now estimate a somewhat larger cost saving. According to this new study, customers of cable voice service reported spending \$39.80 per month on average for voice service.²³ Customers of the ILECs reported spending an average of \$51.50 per month on telephone service. This indicates that cable voice services cost \$11.70 less per month on average than their ILEC competitors' traditional telephone services.

²² J.D. Power and Associates. *J.D. Power and Associates Reports: Cable Companies Dominate Customer Satisfaction Rankings for Local and Long Distance Telephone Service*. July 12, 2006.

²³ J.D. Power and Associates. *J.D. Power and Associates Reports: Bundling Video with Voice and Data Services Gives Cable Companies a Competitive Edge over Telephone Providers*. July 11, 2007.

Using the updated estimate of cost savings of \$11.70 per month, we then apply it to the new number of cable voice subscribers derived from the market diffusion model. This yields an updated estimate of annual benefits of \$2.26 billion in 2008, which increases to \$4.46 billion in 2012. The graph below shows the updated estimate of the yearly benefits. The sum of these benefits for the five-year period is \$17.2 billion.

Direct Benefits to Residential Customers of Cable Voice



The sum total of these benefits for the five-year period is \$17.2 billion, as shown in the table below. (This does not include any benefits to small business customers, which are discussed in a subsequent section of the report.)

Direct Benefits to Residential Customers of Cable Voice (in millions)

	2008	2009	2010	2011	2012	5-year Total
Cable Voice Subscribers	16.1	20.7	25.1	28.8	31.8	
Annual savings	\$2,262.6	\$2,904.5	\$3,520.3	\$4,050.0	\$4,464.4	\$17,201.7

Note: Total may not compute exactly due to rounding.

This estimate of \$17.2 billion in total savings is very likely to underestimate the benefit to cable customers for a number of reasons: First, as shown above in our comparison of the total cost to the subscriber of the ILECs' calling plans and the corresponding plans of the cable providers, actual savings are likely to be much greater than the \$11.70 differential used in the calculation. The price difference between comparable ILEC and cable bundled service plans is sometimes as high as \$29 a month.

Second, the \$11.70 average price difference between the ILEC and cable customers ignores any difference in the nature of services purchased by these customers. Since ILEC prices are generally higher and many customers are very slow to respond to either a competitor's price or the ILECs' own competitive response, the average ILEC customer will buy fewer services than the average cable customer. When an ILEC customer switches to a cable provider, the customer will not only get a lower price but also the benefit of the features and unlimited calling typical of the cable companies' plans, which are not included in the \$17.2 billion savings.

IV. Benefits from Competition from OTP VoIP Providers

Another type of new entrant into the residential market is the “over-the-top” (OTP) VoIP provider, which provides service directly to customers who lease broadband access on their own. The largest of these providers, Vonage, serves approximately 2.4 million subscribers and has a market capitalization of \$249 million.²⁴ As of the end of 2006, Vonage’s estimated market share of the total VoIP market (inclusive of cable companies and OTP VoIP) was 23.9 percent.²⁵ Dozens of other OTP VoIP providers market their services to customers throughout the United States. It was estimated that there were 2.7 million OTP VoIP subscribers, excluding those provided by the BOCs.²⁶ Thus as of the end of 2006, Vonage provided service to approximately 82 percent of all OTP VoIP subscribers.²⁷

OTP VoIP providers generally offer service at prices below the cable providers. There are a number of reasons for this, aside from the reduced level of customer service and service features, such as the lack of a battery back-up and professional installation.

In order to estimate the direct benefits to consumers from the OTP VoIP providers, we assume that their average prices are \$10 per month less than cable, which is the approximate price difference in the current market.²⁸ Therefore, these providers’ customers will save \$21.70 per month compared to the ILECs’ prices, predicated on their subscribing to broadband Internet service anyway.

²⁴ Number of customers as of March 31, 2007 was 2.39 million. [See, Vonage First Quarter 2007 Shareholder Synopsis available at <http://files.shareholder.com/downloads/VAGE/0x0x56424/ad50fa02-58fb-4dc5-abfc-5bd1100ce9be/FactSheet.pdf> .] Market capitalization is given as of October 25, 2007.

²⁵ Vonage had 2.224 million subscriber lines as of the end of 2006. [See, Vonage First Quarter 2007 Shareholder Synopsis.] Market share information of the VoIP market is from the Bernstein Research Report at 3.

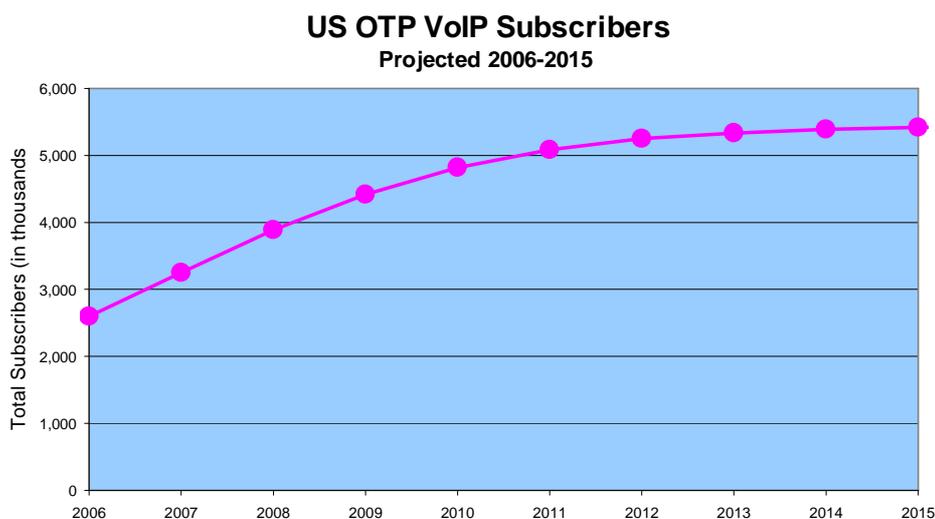
²⁶ Bernstein Research Report at Exhibit 1.

²⁷ This figure is calculated using the number of Vonage subscriber lines at the end of 2006 which was estimated to be 2.22 million.

²⁸ Vonage’s Premium Unlimited residential bundle, for example, is currently priced at \$24.99 per month (\$10 less than Cablevision’s price). See <http://vonage.com/index.php?ic=1>.

We approach the calculation of direct benefits for this market segment using the same method described above for the cable companies. We use the same market diffusion model, but adjust it to reflect a smaller initial level of sales and projected long-run adoption saturation level of sales from the OTP VoIP providers. In our prior report we estimated that the saturation market share of these providers would be 10%. This was based on the market share reached by the small long distance carriers after 12 years of competition in that market. Recent events in the market, including the patent litigation threatening Vonage's viability, and the rapid penetration of the cable companies VoIP services, suggest a lower saturation level for the OTP VoIP providers. Therefore, in this update, we cut the saturation market share in half to 5%. This results in a much lower estimate of the benefits from OTP VoIP providers.

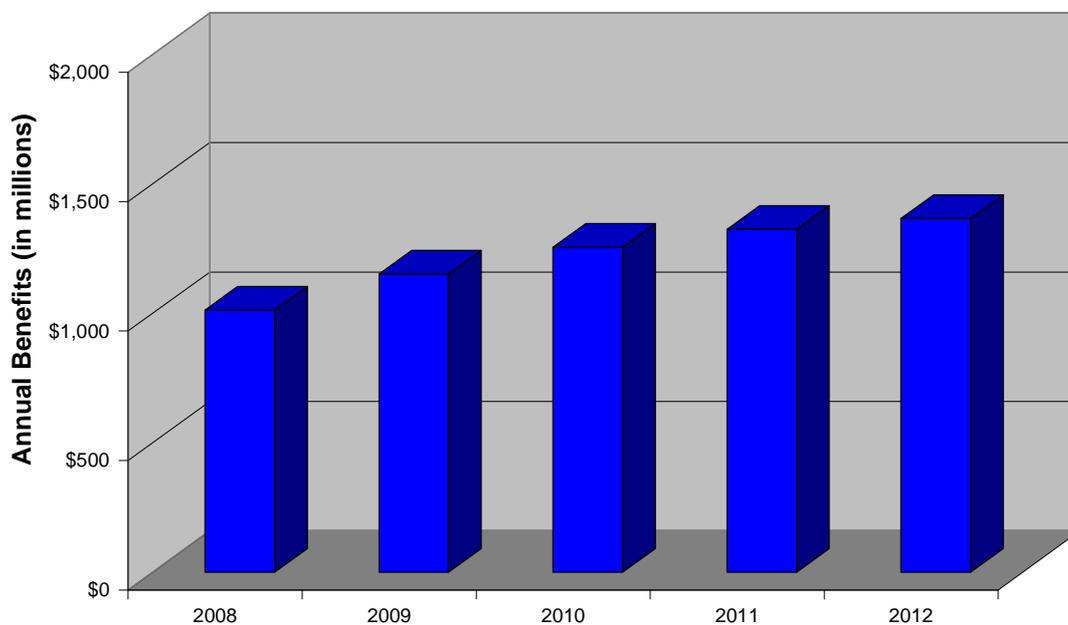
The diffusion curve is shown in the graph below. Using the updated information regarding the size of the potential market, the new long run saturation level is estimated to be 5.5 million subscribers.²⁹



We estimate yearly cost savings for OTP VoIP providers by multiplying the estimates of subscribers each year by the cost savings of \$21.70 per month. This yields annual benefits, as shown in the graph below, ranging from \$1.01 billion in 2008 to \$1.37 billion in 2012.

²⁹ We estimate the long-run saturation by multiplying the potential market of 110.8 by 5%.

Direct Benefits to Customers of OTP VoIP Telephone



The sum of the yearly benefits over five years is \$6.11 billion, as shown in the table below.

Direct Benefits to Residential Customers of OTP VoIP (in millions)

	2008	2009	2010	2011	2012	5-year Total
VoIP Subscribers	3.9	4.4	4.8	5.1	5.2	
Annual savings	\$1,012.2	\$1,151.7	\$1,255.6	\$1,324.4	\$1,366.0	\$6,109.9

Note: Total may not compute exactly due to rounding.

Competitive Response by the Incumbents

We have estimated the potential benefits from cable voice and OTP VoIP providers over the next five years to be \$17.2 billion and \$6.11 billion, respectively. These benefits, however, are dwarfed by the indirect benefits from the competitive pressure placed on the ILECs by competitors. The competitive response by the ILECs to competition will benefit all customers who use wireline service and have an alternative to the ILEC.³⁰

The magnitude of indirect benefits can be gauged by looking at the ILECs' response to the entry by the CLECs into the local market. The CLECs introduced services that offered unlimited local and long distance services and bundled calling features, such as call waiting, caller ID, and voice mail. This led the ILECs to respond with their own bundled service offerings. The ILECs' new bundled services were priced well below the amount customers would have paid for the individually priced services in the package assembled at their tariffed rates.

Now that the pressure from the UNE-P-based providers has been eliminated, the consumer benefits from CLEC competition are at risk. The pressure on the ILECs to maintain low prices will come primarily from the cable companies and to a lesser extent from the wireless and OTP VoIP providers. We now attempt to measure the magnitude of these benefits.

Our approach to measuring these benefits is to examine the effect of UNE-P-based competition on the ILECs. The basis of this approach is the fact that, absent pressure from UNE-P-based CLECs, the effect of losing the competitive pressure from facilities-based cable providers would allow the ILECs to raise prices back to where they were prior to entry of the UNE-P-based competitors.³¹

³⁰ The benefit accrues to customers that stay with the ILECs and to customers that switch to a CLEC. For ILEC customers, this price reduction is their entire benefit. CLEC customers, however, benefit from the ILEC response to competition, which forms a new base price off of which the CLEC will still offer a discount.

³¹ The market is now in a transition state between a monopoly and a state of full competition. We have measured the benefits from bringing the current, limited amount of competition into the market. If competition evolves further, the benefits to all customers will increase. The benefits from pro-competitive policies, therefore, are likely to be substantially higher than estimated in this study.

To estimate the effect of CLEC competition on the ILECs' rates and the resulting benefit to consumers, we compare the average monthly household expenditure on wireline service between 1998 (the pre-CLEC era) and 2004/2005, which was the height of success of the UNE-P based CLECs. According to the FCC, the average household spent \$61 on local and long distance service per month in 1998. This same measure fell to \$49 in 2004 and \$48 in 2005.³² In our prior report, we relied on TNS Telecoms data, which indicated that average spending in 2005 was \$50.16.³³ In this report, we rely on the most recent FCC data, which provides a consistent data series over this entire period. To err on the conservative side, we base the estimated cost savings on the slightly higher price for 2004, rather than the 2005 price data, because the peak of UNE-P-based competition occurred toward the end of 2004. Based on this observed decline in spending between 1998 and 2004, we estimate that the effect of competition on average spending by residential customers was \$12.00 per month.

We apply the competitive pricing effect to all households with wireline service, which we estimate to be 90% of the total 110.8 million households with telephone service.³⁴ This yields a figure of 99.7 million households in 2007, which are projected to grow by 1.5% per year. Furthermore, we subtract some households from the nationwide wireline total to account for the limited impact of competition on local markets served by small independent ILECs. Some of the smaller independent ILECs have refused to enter into interconnection agreements with competitors and may continue to withhold interconnection. We approximate the percentage of the market with a competitive impact by taking the ratio of access lines served by the largest eleven local exchange carriers to the total of all access lines, which is 0.955.³⁵

These adjustments to exclude wireless-only households and households in areas served by the smaller ILECs generate our estimate that 96.7 million households will receive the benefits

³² *Trends in Telephone Service*. FCC, April 2007, Table 3.2. The 2005 figure used in this calculation differs somewhat from the J.D. Power 2005 estimate of average spending of ILEC customers. There are many possible reasons for this, including the possible use of a different sample or the existence of sampling error. In any case, this should not bias the estimate obtained from the two sources for the two different effects of competition.

³³ The 2005 figure used in the previous report was taken directly from a TNS press release on March 13, 2006 (see <http://www.tnstelecoms.com/press-3-13-06.html>), which provided statistics for the fourth quarter of 2005. The minor disparity between the FCC number and the TNS number may be due to differences in what data from the TNS Bill Harvesting data is averaged.

³⁴ Households with wireless service only will also benefit to the extent that wireless carriers must respond to lower wireline prices. We have not included any benefits for these customers or any wireless customers that might benefit from increased pricing pressure from wireline service.

³⁵ *Trends in Telephone Service*, Table 7.3.

from a competitive response in 2008. We then apply the estimate of \$12.00 per month per subscriber to this number of households, which yields our estimate of \$13.9 billion in benefits from the competitive response in 2008. Applying the same methodology for all five years of the study, we estimate that consumers will receive benefits from a competitive response of \$71.7 billion.

Savings from the ILECs' Competitive Response is \$71.7 billion over 5 Years

We confirm this result in two ways. First, we estimated the reduction in real prices for voice service using the US City Average CPI for Telephone Services produced by the U.S. Bureau of Labor Statistics.³⁶ This yields a 24.0% real price decline from June 1998 to June 2007. Assuming that prices were \$48.00 per month in 2006,³⁷ this implies that the average price was around \$63.51 in 1998, a price decline of approximately \$15.50 in that time period. This methodology suggests that indirect benefits from cable voice and OTP VoIP competition will be more than \$100 billion over the next five years.

Indirect Benefits to Residential Voice Customers from Competition with Cable (in millions)

<i>Approach</i>	<i>Pre-competition price</i>	<i>Post-competition price</i>	<i>Price difference</i>
Household average expenditure	\$61.00	\$49.00	\$12.00
CPI	\$63.51	\$48.00	\$15.51

Finally, we present an estimate based on a study performed by the Phoenix Center in 2004.³⁸ This study showed that “all you can eat” long distance plans competing with the ILECs result in a savings of around \$69 billion over five years, if these packages are priced at \$50. The

³⁶ U.S. Bureau of Labor Statistics, CPI, series CUUR0000SEED and CUUR0000SA0.

³⁷ From the fourth quarter 2005 TNS figure cited above.

³⁸ Phoenix Center Policy Bulletin No. 8, January 27, 2004. The Phoenix Center study estimates consumer surplus for the average subscriber to the ILECs' service compared to the consumer surplus if that customer would subscribe to a UNE-P-based CLEC's bundled service offering. This analysis is based on a sample of 16,000 telephone bills in 1999. The study does not distinguish between direct and indirect benefits from competition.

latter estimate of savings is conservative, as the prices of several such “all you can eat” services are much lower than \$50 a month; Verizon’s Freedom Essentials plan, as mentioned above, costs \$39.99 per month. Similarly, Verizon’s Freedom Value plan costs \$34.99 per month.

These results are confirmed by the recent response of the ILECs to the increased competition from cable companies and other service providers. Several ILECs have lowered the effective prices of their bundled voice service plans. The timing of the price reduction is closely related to the acceleration of voice service entry by cable providers in many markets. For example, Verizon introduced the Freedom Essentials Plan in 2005, and the Freedom Value Plan in 2006³⁹ which provide a \$16 savings and a \$21 savings respectively off of the original Freedom plan.⁴⁰ The Freedom Essentials Plan lacks a few features of the Freedom plan, but these are unlikely to be important or valuable to many customers.⁴¹ Likewise, the Freedom Value Plan does not include voice mail or any other calling features. It is likely that Verizon has retained the old plan in order to avoid having to reduce rates on its base of customers, who do not seek lower prices in response to marketplace developments. For new customers or price-sensitive customers, however, the Verizon website directs their attention to the lower-priced Freedom Essentials and Value plans.

Also, as discussed earlier, the ILECs have responded more recently to competition from cable companies with bundled service plans that include high-speed Internet service and video service, along with the suite of voice services. This marketplace development, which has occurred since we wrote our prior report, provides even more compelling evidence that competition brings down prices dramatically across large swaths of the market. And in light of these new developments, we are confident that the price effect used in this paper to calculate benefits is very modest and likely understates the true benefits.

Although we do not have a complete count of the number of households served by smaller ILECs that do not interconnect with competitors, it is possible to estimate the additional benefits

³⁹ “In an effort to compete with the ever-growing customer base of cable companies, Verizon is rolling out two new nationwide plans that are 30 to 46 percent cheaper than its existing plans,” *Telecom Happenings*, v1, no. 12. Tele-Tech Services, December 2005 (see http://www.telecomdb.com/Subscribers/Updates/december_05.htm).

⁴⁰ Monthly fees, exclusive of subscriber line charge, taxes, and other fees based on rates in Maryland. Comparable prices exist in other jurisdictions.

⁴¹ The three major features that distinguish Verizon Freedom from Verizon Freedom Essential are unlimited calling to Canada, three-way calling, and speed dialing.

that would accrue from adding the previously excluded households served by the smaller ILECs to the benefit tally. These benefits would be equal to \$3.4 billion over the five year study period, assuming the same \$12.00 price response to competition. In all likelihood, however, the competitive response would be greater in areas that have experienced very little competition in the past.

In conclusion, we have found compelling evidence that the BOCs have been forced to respond to competition from the UNE-P-based CLECs and more recently by the cable providers, the OTP VoIP providers, and to some extent by wireless providers. Nevertheless the BOCs still retain a very large share of the residential market, and they are capable of using their dominant position to disadvantage rivals. Therefore, if policymakers were to eviscerate the competitive interconnection policies adopted in the wake of the Telecommunications Act of 1996, and upon which competitors to the BOCs have relied, competitive forces would be weakened and consumers would face a substantial price increase for voice services.

V. Effect of Competition in Small Business Market

Several of the cable providers offer voice service to small business customers. These offerings are generally priced far below comparable services offered by the ILECs. For example, Cablevision offers the Optimum Voice service to its online business customers at a price per line of \$34.95 for three lines or fewer and \$29.95 for four or more lines. Optimum Voice includes unlimited local, regional, and long distance calling within the U.S., Puerto Rico and Canada, and several other calling features shown in the box below.

Optimum Voice (Cablevision) Service Features:

- Call Waiting, Caller ID, Call Blocking, Three-Way Calling
- Other Call Blocking and Anonymous Calling Features, “Find Me” Forwarding Service
- “My Optimum Voice” Allows Customers to Manage Calling Features, Voice Mail, and Call Details on the Internet
- Assign Specific Ringtones for up to 32 Different Numbers

The savings to small business customers of these cable services are enormous. The average price paid for flat-rate local service by businesses with a single line in urban areas was \$47.90 in October 2005.⁴² This price is for local service only and does not include any calling features or long distance calling. When the cost of these other services are added to the expenditure on basic local service, the average small business pays about \$100 per month,⁴³ which is between two and three times higher than the price of Cablevision's Optimum Voice product.⁴⁴ In other words, the small business customer can cut his telephone bill by about 50 to 70 percent by using a cable provider's voice service.

ILECs have responded to competition in the small business market. For example, Verizon offers a Freedom package to business customers at prices ranging from \$36 to \$42 per month. This package, however, does not include any calling features, which would cost an additional \$5 to \$25 per month, depending on the features chosen. On an apples-to-apples comparison, then, Verizon's product is in the range of \$41 to \$67 per month, which implies a price difference between \$6 and \$32 per month relative to cable voice offerings.

Size of the Small Business Market

It is difficult to draw precise boundaries on the definition of a small business. There are 7.25 million business establishments in the United States, and 5.20 million of these are owned by enterprises with fewer than 20 employees.⁴⁵ This cutoff would correspond to the definition used by Verizon in its description of the businesses to which it targets small business service offerings.⁴⁶

We have chosen to use an even more conservative definition of small business by limiting this analysis to firms with fewer than 10 employees.⁴⁷ This narrows our focus to the type of businesses that are less likely to be served by the traditional CLECs and are much more

⁴² FCC Telephone Trends, Table 13.2.

⁴³ Lehman Brothers Equity Research, *Business Markets – Sizing the Cable Opportunity*, June 6, 2007 at 2. This figure is for the average monthly telecom spending by small business with 1 to 4 employees.

⁴⁴ The FCC figure and the SBA Survey include taxes and fees, so to compare their numbers to Optimum Voice it is necessary to use a price for this service that includes taxes and fees.

⁴⁵ Bureau of the Census, 2003 County Business Patterns.

⁴⁶ <http://www22.verizon.com/pages/business>.

⁴⁷ The estimate used in the paper appears very conservative in comparison to the recent Lehman Brothers Research Report, which estimates the number of small businesses with 1-4 employees to be 8 million. This group alone is estimated to spend \$9 billion annually on wireline voice services.

dependent on competition from cable voice service. According to the U.S. Census reports, there are 4.55 million business establishments in this category.⁴⁸ This is a much smaller number than cited in other studies of the number of small business U.S. firms that cable companies compete for.⁴⁹

Monthly expenditures on local and long distance wireline service by these establishments are shown in the table below.

Number of Employees in the Firm	Number of Establishments	Average Expenditure on Local and Long Distance
less than 4	3,510,352	\$153
5 to 9	1,037,709	\$345
Total	4,548,061	\$197

Source: Bureau of Census, SBA Survey.
 Note: Expenditure for total is a weighted average for all firms.

Effect of Competition on Prices Charged to Small Business

Increased competition, especially from cable companies, has the potential to bring enormous savings to small business customers. We estimate these savings using a number of very conservative assumptions:

- Cable penetration is estimated to follow the same growth pattern as in the residential market, but lagging two years behind.
- Cable is assumed to save a typical small business customer 10% (off the current price) on its monthly bill compared to prices charged by the ILECs after their competitive response. This is based on the comparison made earlier between Verizon Freedom Business and Cablevision's Optimum Voice.

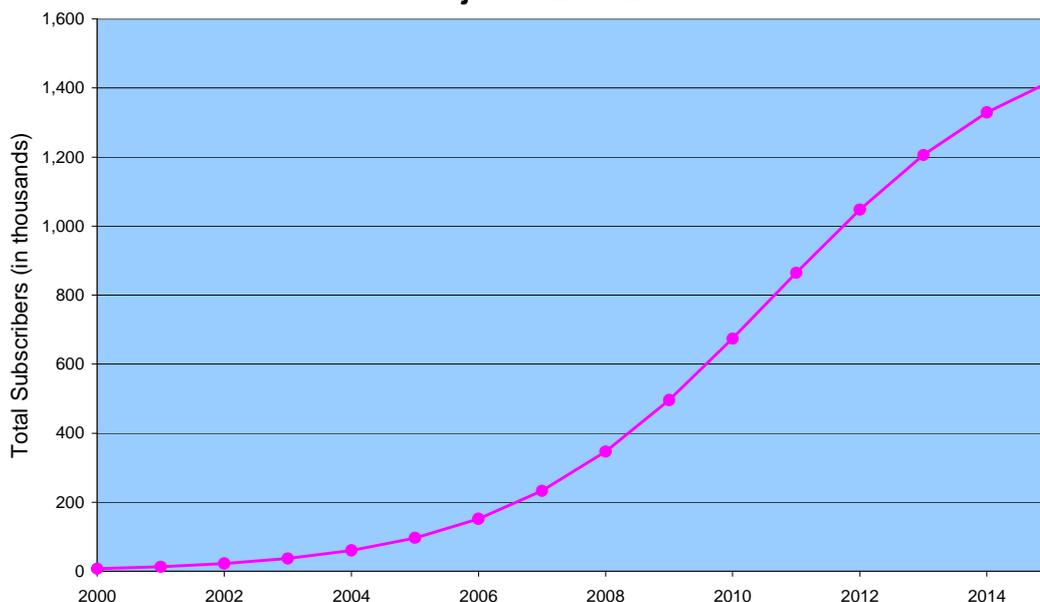
⁴⁸ Bureau of the Census, 2003 County Business Patterns.

⁴⁹ Insight Research Corporation, *Cable Telephony: The Threat to Small Business ILEC Markets 2007-2012*, April 2007.

- The competitive response of the ILECs is assumed to provide all small business voice customers with a 25% price reduction off of their average monthly bills. This is far below the full potential, because the rates paid by most small business establishments are far above cost, comparable residential rates, or the competitive responses already seen in the marketplace.

The savings from cable voice service in the small business market are shown below and are broken down into direct and indirect components. Though we do not have data on historical adoption by small businesses, we use the coefficients of external and internal influence estimated for residential consumers⁵⁰ and an adoption saturation level of 1.6 million⁵¹ to forecast sales of cable voice to small businesses of around 314 thousand in 2008, growing to 859 thousand in 2012, as shown in the graph below.

US Small Business Cable Voice Subscribers
Projected 2000-2015

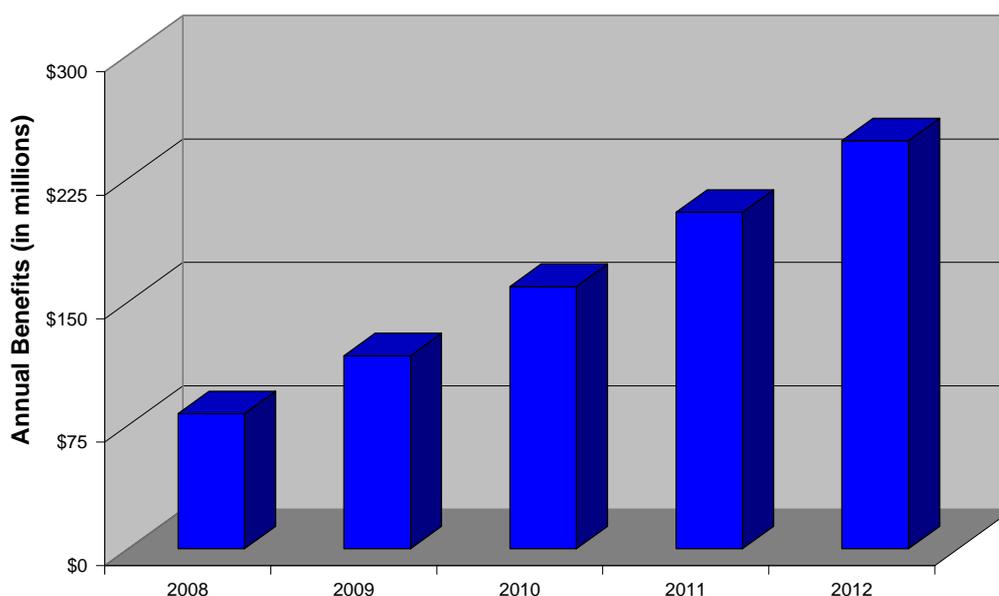


⁵⁰ This is a conservative assumption as adoption of new technology by businesses often occurs more rapidly than adoption by consumers.

⁵¹ This is estimated as 35% of the total number of small businesses in the US with 10 or fewer employees.

Using these forecasted sales and an estimated direct savings of \$19.70 a month for business customers, which is a very modest 10% saving, we estimate yearly benefits ranging from \$74.23 million in 2008 to \$203.07 million in 2012.

Direct Benefits to Small Business Customers of Cable Voice



The total direct benefit to small business customers over a five-year period is \$810.7 million as shown in the table below.

Direct Benefits to Small Business Customers of Cable Voice (in millions)

	2008	2009	2010	2011	2012	5-year Total
Cable Voice Subscribers	0.3	0.5	0.7	0.9	1.0	
Annual savings	\$82.0	\$117.2	\$159.3	\$204.4	\$247.8	\$810.7

Note: Total may not compute exactly due to rounding.

We also compute the indirect savings to the small business market as a result of the competitive response by the ILECs. Based on the assumptions described above, the indirect savings to the average small business will be \$49.25 a month. This benefit will accrue to all 4.5 million small businesses. Therefore, we estimate that over a five-year period the total indirect benefits to small business will be equal to \$15.5 billion.

Total Savings from the ILECs' Competitive Response in the Small Business Market is \$15.5 billion over Five Years

VI. Total Savings

Savings from the sources discussed above total \$111.3 billion over the five-year period 2008-2012. These savings are summarized in the table below and depicted in the chart on the following page.

Total Savings from Cable-Telco Voice Competition
(in millions)

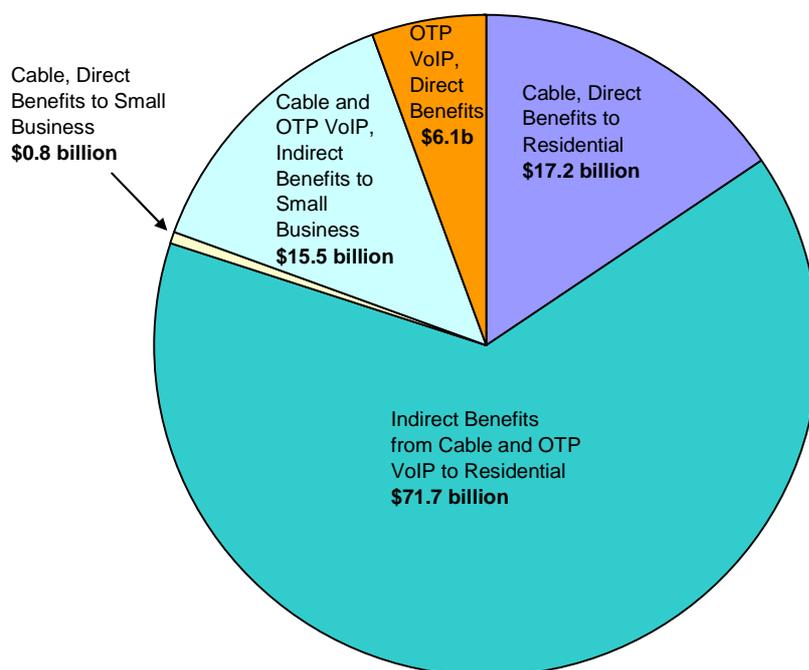
Category	Savings
Cable, Residential Market	\$17,202
Cable, Small Business Market	\$811
OTP VoIP	\$6,110
ILEC Competitive Response, Residential Market	\$71,723
ILEC Competitive Response, Small Business Market	\$15,503
Total	\$111,348

Note: Total may not compute exactly due to rounding.

\$24.1 billion of these benefits are directly observable in the lower prices that customers of cable voice and OTP VoIP pay as compared to traditional alternatives, although this calculation still leaves out the value of the increased features that cable voice services provide. Further, we estimate that the effect of competition from cable and other CLECs leads to a reduction in the overall level of prices of voice service provided to all customers, yielding total indirect savings of \$87.2 billion in the next five years.

Benefits are also estimated on a statewide basis for all categories. These were computed by apportioning the nationwide benefits among the states based on the number of households (for residential benefits) and the number of small businesses (for the business market benefits). Results are shown on the attached table.

**\$111.3 Billion in Benefits to Consumers over 5 Years
from Cable Voice and OTP VoIP Competition**



Benefits to Residential and Small Business 2008-2012

State	Savings to Residential			Savings to Small Business		Total Savings
	Cable, Direct	Cable, Indirect	OTP VoIP, Direct	Cable, Direct	Cable, Indirect	
Alabama	\$288,718,108	\$1,203,814,336	\$102,549,712	\$10,391,189	\$198,714,402	\$1,804,187,746
Alaska	\$38,075,940	\$158,758,182	\$13,524,183	\$2,282,653	\$43,651,994	\$256,292,952
Arizona	\$344,707,477	\$1,437,262,819	\$122,436,561	\$13,055,294	\$249,661,044	\$2,167,123,195
Arkansas	\$172,926,912	\$721,021,263	\$61,421,866	\$7,074,693	\$135,291,866	\$1,097,736,598
California	\$1,795,549,938	\$7,486,571,478	\$637,760,926	\$94,053,306	\$1,798,614,852	\$11,812,550,501
Colorado	\$281,966,936	\$1,175,665,224	\$100,151,764	\$17,082,647	\$326,677,532	\$1,901,544,103
Connecticut	\$198,340,038	\$826,981,663	\$70,448,348	\$10,284,774	\$196,679,399	\$1,302,734,223
Delaware	\$51,525,700	\$214,837,153	\$18,301,400	\$2,621,504	\$50,131,959	\$337,417,716
District of Columbia	\$38,786,464	\$161,720,723	\$13,776,554	\$1,802,630	\$34,472,326	\$250,558,698
Florida	\$1,123,128,532	\$4,682,900,682	\$398,923,738	\$55,738,204	\$1,065,901,514	\$7,326,592,669
Georgia	\$515,004,173	\$2,147,317,359	\$182,924,201	\$22,846,676	\$436,905,122	\$3,304,997,531
Hawaii	\$67,711,266	\$282,323,105	\$24,050,347	\$3,360,702	\$64,267,897	\$441,713,318
Idaho	\$81,159,063	\$338,393,890	\$28,826,867	\$4,724,483	\$90,347,969	\$543,452,273
Illinois	\$714,336,449	\$2,978,436,172	\$253,724,982	\$34,499,153	\$659,739,585	\$4,640,736,341
Indiana	\$377,294,277	\$1,573,133,952	\$134,011,058	\$15,265,222	\$291,922,282	\$2,391,626,791
Iowa	\$181,308,630	\$755,968,959	\$64,398,966	\$8,809,231	\$168,462,063	\$1,178,947,850
Kansas	\$166,183,592	\$692,904,893	\$59,026,708	\$8,146,859	\$155,795,281	\$1,082,057,333
Kentucky	\$258,432,134	\$1,077,536,527	\$91,792,444	\$9,427,220	\$180,280,075	\$1,617,468,400
Louisiana	\$269,213,818	\$1,122,490,912	\$95,621,987	\$10,777,632	\$206,104,494	\$1,704,208,843
Maine	\$94,886,190	\$395,629,345	\$33,702,602	\$4,882,411	\$93,368,090	\$622,468,638
Maryland	\$315,555,649	\$1,315,713,851	\$112,082,131	\$14,633,331	\$279,838,390	\$2,037,823,351
Massachusetts	\$374,691,966	\$1,562,283,579	\$133,086,744	\$20,345,490	\$389,074,045	\$2,479,481,824
Michigan	\$621,688,684	\$2,592,139,972	\$220,817,446	\$25,834,838	\$494,048,806	\$3,954,529,746
Minnesota	\$310,277,830	\$1,293,707,905	\$110,207,503	\$16,270,545	\$311,147,430	\$2,041,611,213
Mississippi	\$171,249,390	\$714,026,812	\$60,826,027	\$6,383,444	\$122,072,872	\$1,074,558,546
Missouri	\$359,586,699	\$1,499,301,952	\$127,721,508	\$16,529,006	\$316,090,065	\$2,319,229,231
Montana	\$59,352,264	\$247,470,126	\$21,081,316	\$4,235,903	\$81,004,684	\$413,144,293
Nebraska	\$106,255,139	\$443,032,343	\$37,740,736	\$5,615,370	\$107,384,723	\$700,028,312
Nevada	\$136,922,949	\$570,902,218	\$48,633,627	\$5,763,851	\$110,224,182	\$872,446,827
New Hampshire	\$80,723,943	\$336,579,648	\$28,672,317	\$4,337,327	\$82,944,242	\$533,257,476
New Jersey	\$478,834,603	\$1,996,507,814	\$170,077,141	\$28,687,709	\$548,605,277	\$3,222,712,544
New Mexico	\$115,762,030	\$482,671,461	\$41,117,486	\$4,751,933	\$90,872,911	\$735,175,821
New York	\$1,096,476,089	\$4,571,772,937	\$389,457,063	\$62,360,323	\$1,192,538,654	\$7,312,605,066
North Carolina	\$541,282,633	\$2,256,885,780	\$192,258,041	\$22,504,973	\$430,370,617	\$3,443,302,044
North Dakota	\$42,182,032	\$175,878,595	\$14,982,625	\$2,298,696	\$43,958,778	\$279,300,727
Ohio	\$696,466,070	\$2,903,925,366	\$247,377,606	\$27,696,290	\$529,646,008	\$4,405,111,340
Oklahoma	\$220,541,012	\$919,548,945	\$78,333,906	\$9,657,695	\$184,687,543	\$1,412,769,101
Oregon	\$215,300,072	\$897,696,768	\$76,472,378	\$11,902,025	\$227,606,663	\$1,428,977,906
Pennsylvania	\$755,218,308	\$3,148,893,674	\$268,245,799	\$32,074,970	\$613,381,072	\$4,817,813,822
Rhode Island	\$62,583,488	\$260,942,760	\$22,229,013	\$3,494,745	\$66,831,250	\$416,081,257
South Carolina	\$265,122,449	\$1,105,431,890	\$94,168,775	\$10,651,075	\$203,684,307	\$1,679,058,496
South Dakota	\$48,044,173	\$200,320,876	\$17,064,798	\$2,848,771	\$54,478,070	\$322,756,688
Tennessee	\$363,894,437	\$1,517,263,126	\$129,251,573	\$13,183,099	\$252,105,092	\$2,275,697,326
Texas	\$1,240,539,758	\$5,172,448,490	\$440,627,001	\$51,069,513	\$976,620,472	\$7,881,305,233
Utah	\$119,014,848	\$496,234,135	\$42,272,854	\$6,924,607	\$132,421,728	\$796,868,172
Vermont	\$42,669,457	\$177,910,921	\$15,155,754	\$2,635,764	\$50,404,657	\$288,776,552
Virginia	\$437,059,646	\$1,822,326,527	\$155,239,105	\$19,594,884	\$374,719,949	\$2,808,940,111
Washington	\$365,515,868	\$1,524,023,707	\$129,827,488	\$19,475,814	\$372,442,928	\$2,411,285,806
West Virginia	\$121,567,940	\$506,879,287	\$43,179,686	\$4,353,013	\$83,244,209	\$759,224,135
Wisconsin	\$345,488,675	\$1,440,520,036	\$122,714,035	\$15,148,291	\$289,686,165	\$2,213,557,202
Wyoming	\$32,621,716	\$136,016,717	\$11,586,899	\$2,296,379	\$43,914,465	\$226,436,175
Total	\$17,201,745,455	\$71,722,926,854	\$6,109,883,596	\$810,686,160	\$15,503,039,998	\$111,348,282,062

Note: Total may not compute exactly due to rounding.

VII. Benefits Already Realized

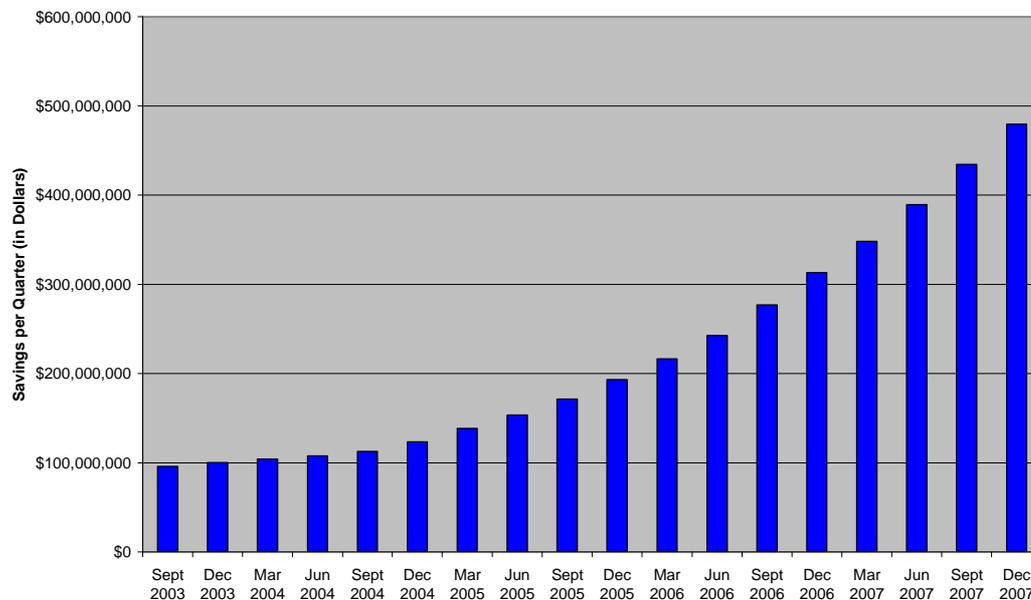
In this updated report we include an estimate of the benefits from cable voice competition already realized. We calculate the benefit from two sources: the direct benefit to cable voice subscribers, and the indirect benefit to all voice subscribers resulting from the ILECs' competitive response to cable voice service. The savings over the past two years from these sources totals nearly \$23 billion. (We also show benefits on a statewide basis, but only for 2007.)⁵² Benefits for the entire period to date are estimate only for residential customers, since competition in the business market was very limited. Also, we exclude any benefits from OTP VoIP services.

Direct Benefits

We estimate direct benefits already realized using the same method and same data sources used earlier in the paper to estimate projected benefits to cable voice subscribers. Although benefits begin prior to 2003, we restrict our measurement to the period of time covered by the primary data sources described and utilized earlier. This covers a period of four years plus two quarters (third and fourth quarter 2003 and 2004 through 2007). Benefits are calculated as the monthly savings $\$11.70 \times 3$ (the number of months per quarter) \times the number of cable voice subscribers during that quarter. The benefits are shown on a quarterly basis in the chart below. For the entire period, the benefit to cable voice subscribers totals \$4.0 billion.

⁵² Prior to 2007, cable penetration had not yet reached the level or geographic distribution where it would be reasonable to use the proportion of households in each state as a proxy for the number of cable voice customers in each state or the number of ILEC customers benefiting from a competitive response.

Direct Benefits to Cable Voice Subscribers
(June 2003 to December 2007)



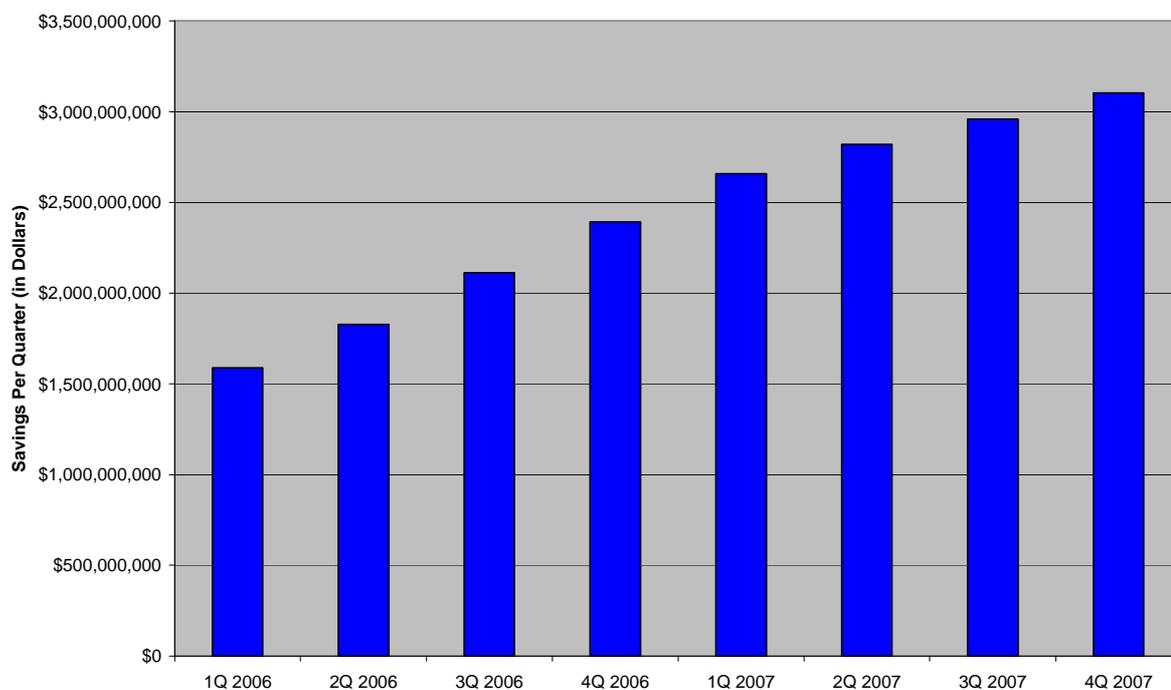
Indirect Benefits

In order to estimate indirect benefits from the ILECs' competitive response, we modify the methodology that was used in the main study to project future benefits. For this earlier period, we limit the indirect benefits to the customers in the residential market that were passed by cable companies offering voice service. Because cable voice competition was limited in geographic scope, it is unlikely that the ILECs were forced to respond everywhere. Therefore, we assume that the ILECs' response to competition only benefited consumers in the areas where cable voice service was available. Annual data on cable penetration of the voice market were obtained from the Kagan Report and extrapolated to estimate penetration on a quarterly basis.

We begin the benefit period in 2006, even though cable companies began offering voice service several years earlier. The reason is that prior to 2006 (or arguably prior to 2005), the ILECs faced widespread competition from UNE-P-based CLECs. Therefore, it is difficult to attribute their competitive response to the cable companies alone. Rather than allocate the benefits during this earlier period, we begin the benefit period after the UNE-P-based CLECs are forced to exit the market for new subscribers.

Benefits from the ILECs' competitive response are then estimated by multiplying the number of households in each quarter that were passed by cable companies offering voice service by our previously-derived estimate of the average monthly competitive reduction in price by ILECs, which is \$12.00. Total benefits for all of 2006 and 2007 equal \$19.5 billion. The benefits are shown on a quarterly basis in the chart below.

**Benefits to Households with Telephone Service due to ILECs' Competitive Response
(January 2006 to December 2007)**



Benefits to Residential Customers in 2007

State	Savings to Residential		Total Savings
	Cable, Direct	Cable, Indirect	
Alabama	\$27,710,453	\$193,713,490	\$221,423,942
Alaska	\$3,654,435	\$25,546,798	\$29,201,233
Arizona	\$33,084,174	\$231,279,183	\$264,363,357
Arkansas	\$16,597,099	\$116,024,158	\$132,621,257
California	\$172,332,460	\$1,204,712,257	\$1,377,044,717
Colorado	\$27,062,492	\$189,183,835	\$216,246,327
Connecticut	\$19,036,188	\$133,074,926	\$152,111,114
Delaware	\$4,945,310	\$34,570,825	\$39,516,135
District of Columbia	\$3,722,629	\$26,023,519	\$29,746,149
Florida	\$107,795,110	\$753,555,599	\$861,350,708
Georgia	\$49,428,832	\$345,538,615	\$394,967,447
Hawaii	\$6,498,761	\$45,430,422	\$51,929,183
Idaho	\$7,789,447	\$54,453,132	\$62,242,579
Illinois	\$68,560,253	\$479,279,277	\$547,839,529
Indiana	\$36,211,775	\$253,143,079	\$289,354,854
Iowa	\$17,401,556	\$121,647,816	\$139,049,372
Kansas	\$15,949,892	\$111,499,773	\$127,449,664
Kentucky	\$24,803,680	\$173,393,317	\$198,196,997
Louisiana	\$25,838,479	\$180,627,216	\$206,465,695
Maine	\$9,106,943	\$63,663,257	\$72,770,199
Maryland	\$30,286,254	\$211,719,959	\$242,006,212
Massachusetts	\$35,962,012	\$251,397,076	\$287,359,088
Michigan	\$59,668,148	\$417,117,877	\$476,786,025
Minnesota	\$29,779,702	\$208,178,841	\$237,958,542
Mississippi	\$16,436,095	\$114,898,636	\$131,334,731
Missouri	\$34,512,246	\$241,262,298	\$275,774,544
Montana	\$5,696,484	\$39,822,006	\$45,518,490
Nebraska	\$10,198,107	\$71,291,177	\$81,489,284
Nevada	\$13,141,527	\$91,867,539	\$105,009,067
New Hampshire	\$7,747,685	\$54,161,191	\$61,908,876
New Jersey	\$45,957,366	\$321,270,884	\$367,228,249
New Mexico	\$11,110,554	\$77,669,762	\$88,780,316
New York	\$105,237,074	\$735,673,320	\$840,910,394
North Carolina	\$51,950,974	\$363,169,973	\$415,120,947
North Dakota	\$4,048,528	\$28,301,753	\$32,350,281
Ohio	\$66,845,098	\$467,289,265	\$534,134,362
Oklahoma	\$21,166,983	\$147,970,521	\$169,137,504
Oregon	\$20,663,970	\$144,454,147	\$165,118,118
Pennsylvania	\$72,483,993	\$506,708,687	\$579,192,680
Rhode Island	\$6,006,609	\$41,989,974	\$47,996,583
South Carolina	\$25,445,799	\$177,882,139	\$203,327,938
South Dakota	\$4,611,161	\$32,234,918	\$36,846,079
Tennessee	\$34,925,692	\$244,152,546	\$279,078,237
Texas	\$119,063,950	\$832,331,878	\$951,395,827
Utah	\$11,422,752	\$79,852,219	\$91,274,971
Vermont	\$4,095,309	\$28,628,788	\$32,724,097
Virginia	\$41,947,908	\$293,242,255	\$335,190,163
Washington	\$35,081,313	\$245,240,434	\$280,321,747
West Virginia	\$11,667,791	\$81,565,199	\$93,232,990
Wisconsin	\$33,159,152	\$231,803,323	\$264,962,475
Wyoming	\$3,130,952	\$21,887,323	\$25,018,275
Total	\$1,650,981,150	\$11,541,396,400	\$13,192,377,550

Note: Totals may not compute exactly due to rounding.

HEINONLINE

Citation: 96 Yale L.J. 209 1986-1987

Content downloaded/printed from
HeinOnline (<http://heinonline.org>)
Mon Dec 6 11:40:57 2010

- Your use of this HeinOnline PDF indicates your acceptance of HeinOnline's Terms and Conditions of the license agreement available at <http://heinonline.org/HOL/License>
- The search text of this PDF is generated from uncorrected OCR text.
- To obtain permission to use this article beyond the scope of your HeinOnline license, please use:

[https://www.copyright.com/ccc/basicSearch.do?
&operation=go&searchType=0
&lastSearch=simple&all=on&titleOrStdNo=0044-0094](https://www.copyright.com/ccc/basicSearch.do?&operation=go&searchType=0&lastSearch=simple&all=on&titleOrStdNo=0044-0094)

The Yale Law Journal

Volume 96, Number 2, December 1986

Article

Anticompetitive Exclusion: Raising Rivals' Costs To Achieve Power over Price

Thomas G. Krattenmaker† and Steven C. Salop††

TABLE OF CONTENTS

I. ANTITRUST LAW AND EXCLUSION DOCTRINE	215
A. <i>Disparate Doctrines for a Single Phenomenon</i>	215
B. <i>Contemporary Criticisms of Prevailing Doctrines</i>	219

† Professor of Law, Georgetown University Law Center.

†† Professor of Economics, Georgetown University Law Center. The authors have benefitted from comments on earlier drafts by Phillip Areeda, Ian Ayres, Jon Baker, Stanley Besen, Joseph Brodley, Dennis Carlton, George Hay, Louis Kaplow, Victor Kramer, Robert Lande, Fred McChesney, Philip Nelson, Wendy Perdue, Robert Pitofsky, Garth Saloner, David Scheffman, Marius Schwartz, Warren Schwartz, Joe Simons, Frederick Warren-Boulton, Lawrence White, and the editors of *The Yale Law Journal*, and from participants in seminars at the Department of Justice, the Federal Trade Commission, Georgetown University, GTE Labs, Harvard, MIT, Princeton, the University of Chicago, the University of Pennsylvania and Yale. Kathleen McChesney provided helpful research assistance. An earlier draft of this Article was prepared for the Department of Justice, Antitrust Division, in connection with the Department's efforts to draft Vertical Restraints Guidelines. See *infra* Section VIII.C. This Article does not represent the views of the Department of Justice, nor do the Department's Guidelines mirror our analysis. *Id.* A somewhat technical summary of Sections VII.A. and VII.B. of this Article was published earlier as Krattenmaker & Salop, *Competition and Cooperation in the Market for Exclusionary Rights*, 76 AM. ECON. REV. 109 (1986) (Papers and Proceedings). Our views on the issues we discuss in this Article have been greatly shaped by the influential and insightful debate in Bork, Bowman, Blake & Jones, *The Goals of Antitrust: A Dialogue on Policy*, 65 COLUM. L. REV. 363 (1965).

II.	TOWARD A UNIFIED STANDARD FOR ASSESSING EXCLUSION CLAIMS	223
III.	EXCLUSIONARY RIGHTS	227
	A. <i>The Nature of Exclusionary Rights</i>	227
	B. <i>The Effects of Exclusionary Rights</i>	228
IV.	ACHIEVING ANTICOMPETITIVE EFFECTS BY DEALING IN EXCLUSIONARY RIGHTS	230
	A. <i>Raising Rivals' Costs</i>	230
	1. <i>Discredited Foreclosure Theory</i>	231
	2. <i>Legitimate Theories: Raising Rivals' Costs by Foreclosing Supply</i>	234
	a. <i>Bottleneck</i>	234
	b. <i>Real Foreclosure</i>	236
	3. <i>Legitimate Theories: Raising Rivals' Costs by Inducing Collusion</i>	238
	a. <i>Cartel Ringmaster</i>	238
	b. <i>Frankenstein Monster</i>	240
	B. <i>Gaining Power over Price</i>	242
	1. <i>Effects on Rivals' Costs</i>	243
	2. <i>Effects on Competitive Abilities or Incentives</i>	243
	a. <i>Ability to Compete ("Foreclosure")</i>	243
	b. <i>Incentive to Compete ("Facilitating Coordination")</i>	244
	c. <i>Effects on Potential Competitors ("Raising Barriers to Entry")</i>	246
	3. <i>Effects on Production Efficiency</i>	247
	C. <i>The "Leverage" Debate</i>	248
V.	POLICY IMPLICATIONS	249
VI.	MEASURING THE LIKELIHOOD OF ANTICOMPETITIVE EFFECTS	253
	A. <i>Are Rivals' Costs Raised?</i>	254
	1. <i>Bottleneck</i>	258
	2. <i>Real Foreclosure</i>	259
	3. <i>Cartel Ringmaster</i>	260
	4. <i>Frankenstein Monster</i>	262
	B. <i>Does the Purchaser Gain Power to Raise Price?</i>	262
VII.	PROFITABILITY	266
	A. <i>Rivals' Counterstrategies</i>	268
	B. <i>Suppliers' Incentives</i>	273
	C. <i>Efficiency Justifications</i>	277

Raising Rivals' Costs

1. <i>Treating Efficiencies as Irrelevant</i>	278
2. <i>Putting Efficiencies in the Balance</i>	279
3. <i>The Policy Dilemma</i>	280
VIII. ALTERNATIVE COMPREHENSIVE STANDARDS	282
A. <i>The "Output" Test</i>	283
B. <i>The Justice Department's Vertical Merger Guidelines</i>	284
C. <i>The Justice Department's Vertical Restraints Guidelines</i>	286
IX. CONCLUSIONS	289
A. <i>A Summary Illustration</i>	289
B. <i>Looking Ahead</i>	291

Antitrust law governs a wide range of disparate practices across the entire economy, and is frequently perceived as a complex body of highly specialized rules. Yet at its core antitrust law is a simple matter: It seeks, by prohibiting undue collusion among competitors and unjustifiable exclusion of competing firms, to prevent companies from obtaining and exercising the power to price above competitive levels.¹ Collusion and exclusion are the twin objects of antitrust scrutiny, but they are not equally focused in the sights of antitrust enforcers and courts.

Today, antitrust law is most coherent and least controversial when trained on concerted action by competing firms, so-called "horizontal restraints" or on "horizontal" mergers among competitors. Particular claims of collusion or undue concentration can be difficult to assess, but the factors to be examined are not in great dispute, and the illegitimacy of horizontal collusion or combination intended or expected to restrict output and raise prices is well settled.²

The state of antitrust law governing exclusion is quite a different matter. It is in substantial disarray. Recent critical scholarship has demonstrated that prevailing antitrust law applies disparate and questionable rules to superficially different commercial practices that have identical effects on the market.³ These criticisms, in turn, have shaken judges' confi-

1. See R. BORK, *THE ANTITRUST PARADOX* 134-60 (1978); R. POSNER, *ANTITRUST LAW* 23-31, 171 (1976). Two major antitrust casebooks organize the principal materials along these collusion/exclusion lines. See M. HANDLER, H. BLAKE, R. PITOFKY & H. GOLDSCHMID, *TRADE REGULATION* 636-895 (2d ed. 1983); R. POSNER & F. EASTERBROOK, *ANTITRUST* 603-902 (2d ed. 1981). For an argument that an analysis such as the one offered here is needed, see Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213 (1985).

2. See, e.g., L. SULLIVAN, *HANDBOOK OF THE LAW OF ANTITRUST* 197-212 (1977); Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division* (pts. 1 & 2), 74 YALE L.J. 775 (1965), 75 YALE L.J. 373 (1966).

3. See *infra* Section I.B.

dence in prevailing doctrines. For example, although the Supreme Court has left on its books many cases that appear to reflect a deep hostility to exclusion by vertical integration, more than fifteen years have passed since the Court last ruled for the plaintiff in a vertical restraints case not involving resale price maintenance.⁴ In the recent *Hyde* case,⁵ rejecting challenges to two classic methods of vertical integration, exclusive dealing arrangements, and tie-in sales, four members of the Court expressly sought to revise the formal rules governing tie-ins.⁶ Although the other five Justices joined in a Court opinion that did not overtly seek such change, their opinion also casts doubt on the continued viability of conventional vertical restraints analysis.⁷

Subsequent cases have not clarified the law. During the 1984 Term, the Court rendered opinions in two cases in which plaintiffs complained of anticompetitive exclusion. In *Northwest Stationers*,⁸ a unanimous Court rejected the claim that plaintiff's expulsion from a wholesale purchasing cooperative was a per se violation of the antitrust laws. In *Aspen Ski*,⁹ the Court, again speaking unanimously, affirmed a judgment entered on a jury verdict that defendant, who controlled three of Aspen's four major facilities for downhill skiing, had monopolized that market by refusing to continue to market jointly with plaintiff, the operator of the fourth facility, a weekly ticket enabling its purchaser to ski all facilities for an extended period. In many respects, these opinions speak the language of current antitrust enforcement authorities, who have criticized prevailing doctrines and asserted that antitrust law should be concerned solely with practices that are likely to generate market power, defined as the ability to

4. The last such case was *Fortner Enters. v. United States Steel Co.*, 394 U.S. 495 (1969). That decision produced only a temporary victory. See *United States Steel Co. v. Fortner Enters.*, 429 U.S. 610 (1977). These results may have effects in lower courts as well. For example, recent empirical research shows that the plaintiff win rate in litigated vertical cases has fallen substantially since 1980. Salop & White, *Treble Damage Reform: Implications of the Georgetown Project*, 55 ANTITRUST L.J. 73, 79 (1986).

Despite our use of the term in this introduction, this Article does not treat "vertical restraints" in one sense in which the term frequently is employed in the literature. "Vertical restraint" is often used to include any element of an agreement between buyers and suppliers, especially an agreement on the price at which the buyer will resell. See, e.g., Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 140-43 (1984). As explained below, see *infra* Sections I, III.A., we consider here only agreements between buyers and suppliers in which the supplier agrees to refuse to deal with one or more of the buyer's competitors (or to discriminate against them with respect to price). The cases we consider can be anticompetitive because they force disadvantaged buyers to seek alternate sources of supply. See *infra* Section IV.

5. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2 (1984).

6. *Id.* at 32-42 (O'Connor, J., concurring).

7. See *infra* note 26.

8. *Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co.*, 105 S. Ct. 2613 (1985).

9. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 105 S. Ct. 2847 (1985).

Raising Rivals' Costs

raise price above competitive levels and to restrict output.¹⁰ These opinions assert that claims of exclusion should be judged by assessing their competitive impact—effects on consumers and the competitiveness of the market—rather than by their effects on competitors or other would-be suppliers to consumers. Neither opinion, however, explains how that assessment can be made. Both *Northwest Stationers* and *Aspen Ski* appear to be decisions in which the Court felt its way through murky precedent to what the Justices' instincts told them were "correct" results despite the lack of a coherent analytical framework.¹¹ This Article seeks to provide the unified analysis for which both the Court and its critics search. Our conclusions reject both the Court's prevailing formal rules and its harshest critics' proposals to abandon virtually all review of allegations of anticompetitive exclusion. Unlike the present Court, we believe that analysis of such claims should involve applying a unified legal doctrine to a series of practices previously thought to raise distinct issues. Following scholars critical of prevailing rules, we believe the new doctrine should reflect the present state of economic theory concerning collusion and exclusion. That new doctrine also should build upon the widely shared perception that the purpose of antitrust law is to further consumer welfare.¹² Finally, the new doctrine should provide more rigorous measures of anticompetitive effects than do current rules.

Unlike the Court's harshest critics, however, we do not believe that economic theory or antitrust policy suggests that virtually all exclusion claims

10. In *Northwest Stationers*, the Court held that the per se rule against concerted refusals to deal was not available to the plaintiff because it had failed to show that "the cooperative possesses market power or exclusive access to an element essential to effective competition." *Northwest Stationers*, 105 S. Ct. at 2621. Similarly, the *Aspen Ski* opinion pointedly asserted that the legality of the defendant's conduct was not to be tested solely by its effects on the plaintiff. *Aspen Ski*, 105 S. Ct. at 2859. Although the effect of defendant's conduct on its rivals was a starting point, the Court also measured the challenged conduct's "impact on consumers and whether it has impaired competition in an unnecessarily restrictive way." *Id.* Further, the opinion approvingly cited the view that disruption of distribution patterns (i.e., exclusion of competing purchasers or suppliers) harms competition when it increases rivals' distribution costs and thereby renders supply patterns less efficient. *Id.* at 2858 n.31 (quoting R. BORK, *supra* note 1, at 156).

11. The *Northwest Stationers* Court left completely unclear the circumstances in which claims of efficiency are to be considered. The Court appears to have suggested that the plaintiff could prevail—on a rule of reason rather than a per se analysis—even if it did not prove defendant possessed market power. *Northwest Stationers*, 105 S. Ct. at 2621 ("Absent [a showing of market power] with respect to a cooperative buying arrangement, courts should apply a rule-of-reason analysis."). At the same time, the Court hinted at the possibility that its analysis would be applicable only to antitrust challenges to expulsions from buying cooperatives. *Id.* at 2620–21. The *Aspen Ski* opinion appears to conclude that the practice harmed consumers because some were "angry," "infuriated," or "irate." *Aspen Ski*, 105 S. Ct. at 2860 & n.36, and contains no analysis of whether downhill skiing in Aspen constitutes a market. *Id.* at 2856 n.26.

12. See R. BORK, *supra* note 1, at 72–89. Of course, the term "consumer welfare" can embrace several distinct values. We try to highlight this fact where relevant. See *infra* Sections IV.B.3., VII.C.2. In general, our analysis assumes that antitrust law is designed to achieve allocative efficiency. Those who would employ antitrust law for additional purposes may wish to add further tests of illegality to those advocated here.

are chimerical. Rather, employing the methods of analysis set forth in this Article, we demonstrate that, in carefully defined circumstances, certain firms can attain monopoly power by making arrangements with their suppliers that place their competitors at a cost disadvantage. Our central argument is that claims of anticompetitive exclusion should be judged according to whether the challenged practice places rival competitors at a cost disadvantage sufficient to allow the defendant firm to exercise monopoly power by raising its price.

The proper approach to a wide variety of claims of exclusion, including those raised in *Hyde*, *Northwest Stationers*, and *Aspen Ski*, is to follow a two-step analysis to estimate the likelihood of anticompetitive effects. First, one should ask whether the conduct of the challenged firm unavoidably and significantly increases the costs of its competitors. If so, one then should ask whether raising rivals' costs enables the excluding firm to exercise monopoly power—that is, to raise its price above the competitive level.¹³ In other words, we inquire into injury to competition as well as injury to competitors. Although few exclusion claims probably would survive this two-step analysis, what we propose is far from a disguised rule of per se legality.¹⁴

We begin by reviewing the present state of antitrust law concerning exclusion claims, explaining why that law is presently confused and how our approach would unify and rationalize it. We then describe techniques that competitors successfully can employ to raise their rivals' costs and the circumstances under which success may confer on them the power to raise price. Next, we attempt to show how courts and antitrust enforcers might develop a set of objective guidelines to carry out the proposed two-step analysis. We also explain why it would be erroneous to assume that rivals always can protect themselves against anticompetitive exclusion, and we set out several ways to treat the efficiency defenses of those who exclude. Finally, we compare our analysis with those of others, including the Department of Justice, and outline some of the broader implications of our antitrust theories.

13. In some limited circumstances where the competitors' exclusion results from a conspiracy among suppliers orchestrated by the buyer, this second question may be unnecessary. See *infra* Section IV.A.3.a.; see also *infra* Section IV.B.3.

14. Although the specific questions we would ask are unique, our analysis has an affinity with, and seeks to build upon and extend to, cases involving multiple, unintegrated suppliers—what existing literature often terms the essential facilities doctrine. See, e.g., Note, *Unclogging the Bottleneck: A New Essential Facility Doctrine*, 83 COLUM. L. REV. 441 (1983). The inquiries we advocate not only would protect the core values furthered by the Sherman Act, but also would fuse the treatment of exclusion cases with the law's present approach toward claims of collusion.

I. ANTITRUST LAW AND EXCLUSION DOCTRINE

A troublesome recurring phenomenon with which antitrust policy must grapple is the contract between purchasers and suppliers for the sale or purchase of goods or rights, that is claimed to have an unduly exclusionary feature. In such cases, the "vertical" agreement is alleged to harm competition not because it reflects collaboration among competitors but because it excludes competitors—of the buyer, seller, or both—from offering or obtaining comparable deals and therefore tends to confer market power on one or both contracting parties. This Article deals only with the nature and effects on competition of restraints containing a predominant vertical element, assuming for purposes of analysis that the real and hypothetical cases we discuss do not spring from agreements to which only competitors are parties.¹⁵ Thus, we analyze the "horizontal" effects of "vertical" contracts.

Courts have frequently been receptive to such claims of undue, unfair, or anticompetitive exclusion as grounds upon which to invalidate vertical agreements. As a result, exclusive dealing arrangements, tying contracts, boycotts, refusals to deal, and vertical mergers are all identified by prevailing formal case law precedent as deserving close antitrust scrutiny, if not outright hostility.¹⁶ The standards for that scrutiny appear to vary with the type of conduct involved. Each type is governed by distinct legal standards, emerging from different lines of cases. Yet all these standards have been attacked on the grounds that they share two interrelated features—they seek to protect the interests of excluded competitors and they confuse harm to those competitors with harm to competition.¹⁷

A. *Disparate Doctrines for a Single Phenomenon*

Notwithstanding the divergent formal tests of illegality, cases falling within any one of these classifications of exclusion all begin and end at the

15. Where competitors agree on restraints to impose on their purchasers or suppliers, courts are likely to treat their agreement as per se unlawful. *See, e.g.*, *Interstate Circuit, Inc. v. United States*, 306 U.S. 208 (1939); *Eiberger v. Sony Corp. of Am.*, 459 F. Supp. 1276 (S.D.N.Y. 1978), *rev'd in part*, 622 F.2d 1068 (2d Cir. 1980). The principal justification for this treatment would be that to gain any efficiencies associated with vertical restraints, competitors ordinarily need not agree among themselves to impose them. Thus, the (horizontal) agreement among competitors adds an unjustifiable anticompetitive feature. Difficulties arise in applying the vertical-horizontal agreement distinction where one firm at one level of distribution enters identical agreements with two or more firms at another level. *See, e.g.*, *Klor's, Inc. v. Broadway-Hale Stores*, 359 U.S. 207 (1959); *Interstate Circuit, Inc. v. United States*, 306 U.S. 208 (1939). Our analysis accounts for this issue. *See infra* Section IV.A.3.a.

16. *See infra* Section I.A. Some empirical observations suggest that these precedents have substantial effects. For example, from 1973 to 1983, plaintiffs won 43% of all dealer termination cases that were not settled, as opposed to 25% of horizontal price fixing cases and 23% of predatory pricing cases. Salop & White, *Economic Analysis of Private Antitrust Litigation*, 74 *Geo. L.J.* 201 (1986).

17. *See infra* Section I.B.

same point. In each, the expressed fear is that, rather than enhancing competition by reducing costs or improving quality, the challenged practice may destroy competition by providing a few firms with advantageous access to goods, markets, or customers, thereby enabling the advantaged few to gain power over price, quality, or output. A survey of the leading cases in this area illustrates at once the wide variety of formal standards the Court has applied to exclusionary practices and the underlying identity of the antitrust policies at which the Court has aimed.

A leading exclusive dealing case, *Standard Stations*,¹⁸ concerned the legality of agreements under which Standard Oil sold gasoline to independent service stations. These independents promised not to carry other brands of gasoline,¹⁹ thus conferring on Standard a right to exclude its competitors from selling to these stations. Fearing that the exclusive dealing arrangements “effectively foreclose[d] whatever opportunity there might be for competing suppliers to attract [the independents’] patronage,”²⁰ the Supreme Court held that these agreements were shown to be illegal “simply by proof that a substantial portion of commerce [in gasoline] is affected.”²¹ A demonstration “that competitive activity has actually diminished or probably will diminish” was explicitly not required.²²

The leading tie-in case remains *International Salt*,²³ in which the government challenged contracts for the lease of machines that injected salt tablets into canned products. The International Salt Company leased its machines subject to the lessee’s agreement to use only International’s salt tablets in the machines.²⁴ The Supreme Court condemned the agreement. It held that the antitrust laws make it “unreasonable, per se, to foreclose competitors from any substantial market.”²⁵ The tie-in contracts in question fell within this principle because “[t]he volume of business affected by these contracts cannot be said to be insignificant or insubstantial and the tendency of the arrangement to accomplishment of monopoly seems obvious.”²⁶

18. *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293 (1949).

19. *Id.* at 296.

20. *Id.* at 314.

21. *Id.* at 299; *see also id.* at 314.

22. *Id.* at 299; *see also id.* at 314 (“evidence that competitive activity has not actually declined is inconclusive”).

23. *International Salt Co. v. United States*, 332 U.S. 392 (1947).

24. *Id.* at 394.

25. *Id.* at 396. The relevant competitors were the other salt sellers.

26. *Id.* As a formal matter, the more recent case of *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2 (1984), distinguished *International Salt*, and explicitly required that, for a tying arrangement to be per se unlawful, the seller must possess market power in the tying product. 466 U.S. at 16–17. The *International Salt* Court noted that the seller had a patent on its machines, but did not assert that these patents conferred market power. 332 U.S. at 395. Thus, *Hyde* eventually may be

Raising Rivals' Costs

In *Klor's*,²⁷ the Supreme Court held that a complaint by Klor's, an appliance store, that manufacturers and distributors of brand name appliances conspired among themselves and with Broadway-Hale, a rival appliance store, either not to sell to Klor's or to sell to it only on unfavorable terms, alleged an antitrust violation. The Court classified this behavior as a group boycott²⁸ and said that such agreements were particularly suspect because they "cripple the freedom of traders and thereby restrain their ability to sell in accordance with their own judgment."²⁹ If the facts alleged by Klor's were true, antitrust policies were violated in two ways: Klor's lost "its freedom to buy appliances in an open competitive market" and the manufacturers and distributors were "deprive[d] . . . of their freedom to sell to Klor's."³⁰

In *Associated Press*,³¹ the Supreme Court invalidated membership requirements imposed by a joint venture. The Associated Press (AP) was formed by over 1200 newspapers to collect and distribute news.³² The association's by-laws prohibited all AP members from selling news to non-members and granted each member powers to block non-member competitors from joining.³³ The Court stated that, under the Sherman Act, "[w]hile it is true in a very general sense that one can dispose of his property as he pleases, he cannot 'go beyond the exercise of this right, and by contracts and combinations, express or implied, unduly hinder or obstruct the free and natural flow of commerce.'"³⁴ The Court concluded that "the exclusive right to publish news in a given field, furnished by AP and all of its members, gives many newspapers a competitive advantage over their rivals."³⁵ Consequently, the Sherman Act required that AP news be furnished to competitors of established members without discrimination.³⁶

*Brown Shoe*³⁷ is the Supreme Court's principal treatment of vertical mergers. The Court held unlawful a merger between Brown Shoe, which accounted for about four percent of U.S. shoe production, and Kinney,

understood to have modified the tie-in rule expressed in the text. See *also supra* text accompanying notes 5-7.

27. *Klor's, Inc. v. Broadway-Hale Stores*, 359 U.S. 207 (1959). On *Klor's* awkward future after *Northwest Wholesale Stationers, Inc. v. Pacific Stationery & Printing Co.*, 105 S. Ct. 2613 (1985), see *infra* text accompanying notes 52-53.

28. 359 U.S. at 212.

29. *Id.* (quoting *Kiefer-Stewart Co. v. Seagram & Sons*, 340 U.S. 211, 213 (1951)).

30. *Id.* at 213.

31. *Associated Press v. United States*, 326 U.S. 1 (1945).

32. *Id.* at 3-4.

33. *Id.* at 9-11.

34. *Id.* at 15 (quoting *United States v. Bausch & Lomb Co.*, 321 U.S. 707, 722 (1944)).

35. *Id.* at 17 (footnote omitted).

36. *Id.* at 21.

37. *Brown Shoe Co. v. United States*, 370 U.S. 294 (1962).

which enjoyed about 1.6 percent of national retail shoe sales.³⁸ In assessing the legality of a vertical merger, the Court asserted that “an important consideration . . . is the size of the share of the market foreclosed.”³⁹ That factor alone, however, would be determinative only in extreme cases in which the foreclosure is either “of monopoly [or] *de minimis* proportions.”⁴⁰ For vertical mergers inside the extremes of foreclosure, like the combination of Brown Shoe and Kinney, a complete examination of the nature and purpose of the merger was necessary. After reviewing such factors at some length,⁴¹ the Court held the merger unlawful “because the trend toward vertical integration in the shoe industry, when combined with Brown’s avowed policy of forcing its own shoes upon its retail subsidiaries, may foreclose competition . . . without producing any countervailing competitive, economic, or social advantages.”⁴²

Although this Article primarily addresses purchaser-supplier agreements and mergers, our analytical framework also applies to exclusion cases arising from the conduct of a single firm. For example, *Lorain Journal*⁴³ is a classic case of monopolization by exclusion of competitors. In that case, the *Lorain Journal* refused to sell advertising space to customers who also wished to advertise on WEOL, a new radio station that competed with the *Journal*.⁴⁴ Although no explicit contracts were involved, the Court held that the “publisher’s attempt to regain its monopoly . . . by forcing advertisers to boycott a competing radio station violated Section 2.”⁴⁵

*United Shoe Machinery*⁴⁶ is another leading monopolization case. In this case, United Shoe allegedly excluded potential competitors from the market for shoe machinery by refusing to sell its machines to them. Instead, it leased them on a long term basis with (possibly large) early termination charges, gave discounts for repeat purchases and required lessees to use the machines at full capacity if work was available.⁴⁷ As Judge Wyzanski put it, “much of United’s market power is traceable to the magnetic ties inherent in its system of leasing” that lead to the “unnatural barriers” to competition.⁴⁸

38. *Id.* at 302–03.

39. *Id.* at 328.

40. *Id.* at 329.

41. *Id.* at 329–34.

42. *Id.* at 334.

43. *Lorain Journal Co. v. United States*, 342 U.S. 143 (1951).

44. *Id.* at 147–49.

45. *Id.* at 152.

46. *United States v. United Shoe Mach. Co.*, 110 F. Supp. 295 (D. Mass. 1953), *aff’d per curiam*, 347 U.S. 521 (1954).

47. 110 F. Supp. at 319–23, 340.

48. *Id.* at 344–45.

Raising Rivals' Costs

Thus, *Standard Stations*, *International Salt*, *Klor's*, *Associated Press*, *Brown Shoe*, *Lorain Journal*, and *United Shoe Machinery* each proceeds as though a different commercial practice is at issue and states a distinct general standard for assessing the antitrust legality of each practice. At the same time, these opinions (and the progeny of each) express concern with an identical, underlying antitrust policy issue: the undue, unfair, or anticompetitive exclusion of rivals by their competitors.

B. *Contemporary Criticisms of Prevailing Doctrines*

A second shared characteristic of the antitrust standards governing assertedly exclusionary conduct is that all are under heavy assault from persons arguing vigorously that the fear of exclusion is illusory or wrong-headed.⁴⁹ The terms and conditions under which goods are bought and sold, it is argued, are simply one of the ways in which firms compete. How, the critics ask, can an exclusive dealing or tying contract be labeled exclusionary when all firms may compete to obtain or offer such an agreement? Why would one firm refuse to deal with another unless it is inefficient to deal? Can a merger of a purchaser and a supplier harm competition any more severely than habitual, unilateral decisions by that purchaser and supplier to look principally to one another for purchases and sales? In short, these critics argue that what the courts have called anticompetitive exclusionary conduct is in fact efficient behavior that, if successful in increasing market shares, should be replicated by competitors rather than prevented by courts. From this critical perspective, none of the Court's opinions discussed above makes a convincing case that the challenged restraint harmed competition. Perhaps additional facts not relied upon by the Court, or other sensible antitrust values besides the goal of protecting against the acquisition or enhancement of market power might justify the Court's results. But the articulated and applied doctrines and values do not point strongly in the directions the Court has taken.

From a critical viewpoint, *Standard Oil* did not foreclose any supplier's opportunity to attract independent stations' patronage. All gasoline producers were free, and remained free, to compete for service stations by offering a better deal than did *Standard*. Unless *Standard* tied up so many

49. This section does not attempt to replicate all the criticisms that have been aimed at these doctrines but, rather, to explain the critics' basic analytical contentions and to convey some of the flavor of their rancor. In most cases, we have recast the criticisms in our own terms. For fuller elaboration of some influential critical views, in their own terms, see, for example, R. BORK, *supra* note 1, at 299-309, 330-44, 365-81; E. GELLHORN, *ANTITRUST LAW AND ECONOMICS* 200-01, 288-90, 298-300, 318-21 (2d ed. 1981); H. HOVENKAMP, *ECONOMICS AND FEDERAL ANTITRUST LAW* 205-06, 214-37, 242-45, 277-80 (1985); R. POSNER, *supra* note 1, at 171-84, 196-207; Easterbrook, *The Limits of Antitrust*, 63 *TEX. L. REV.* 1 (1984).

service stations that it achieved monopoly power in gasoline retailing, it could profit from its exclusive dealing arrangements only if exclusive dealing was a cheaper (i.e., more efficient) method of distributing gasoline.⁵⁰ To focus analysis on the foreclosure of other suppliers and hold irrelevant the effects on competitive activity, as the Court did, is to concentrate on a competitively neutral aspect of the exclusive dealing arrangements in disregard of the only plausible antitrust issue presented by the case.

International Salt, in this critical view, made the same mistake of ignoring the competitive effects of the challenged practice while relying on competitively neutral criteria to invalidate it. Competitors of the salt company were harmed only if they could not match a deal obviously advantageous to the canners. Consumers were not harmed by the injection of one brand of salt rather than another into canned food unless the salt used was sold at a monopoly price. Thus, the International Salt Company could not be said to have gained market power in salt simply because the "volume of business affected by [its tie-in] contracts cannot be said to be insignificant or insubstantial."⁵¹

As written, *Klor's* appears to be a parody of antitrust analysis. If General Electric agreed not to sell to Klor's, how can that be said to "cripple" GE's "freedom"? Does the Sherman Act protect General Electric against making a poor business judgment? If the agreement not to sell to Klor's was a good business judgment, then why does the Court protect Klor's "freedom to buy appliances"? Does the Sherman Act require that GE and Klor's enter into an inefficient arrangement for fear that they will otherwise "restrain their ability to sell in accordance with their own judgment"? The *Klor's* opinion ignores the constraints that competition imposes on rivals' incentives and also appears to adopt as an antitrust principle a limitless duty to deal regardless of the competitive consequences. Confronted with an opportunity to overrule or re-rationalize *Klor's*, the Court in *Northwest Stationers*⁵² did neither. Rather, the Court cited *Klor's* several times without explaining how that opinion was consistent with the conclusion that the plaintiff could not recover because it had failed to show that the buying cooperative from which it was excluded possessed market power.⁵³

The *Associated Press* opinion announces, rather than explains, a result.

50. *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293, 314 (1949).

51. *International Salt Co. v. United States*, 332 U.S. 392, 396 (1947). For a different perspective on the nature of the practice at issue in *International Salt* and the antitrust issue it might pose, see Salop, *Practices That (Credibly) Facilitate Tacit Coordination*, in *NEW DEVELOPMENTS IN THE ANALYSIS OF MARKET STRUCTURE* 265 (J. Stiglitz & G. Mathewson eds. 1986).

52. *Northwest Wholesale Stationers, Inc. v. Pacific Stationery and Printing Co.*, 105 S. Ct. 2613 (1985).

53. *Id.* at 2617-21.

Raising Rivals' Costs

The Court does not explain how excluded non-members were disadvantaged when they were at all times free to form rival associations for gathering and disseminating news. Nor does the Court explore whether the economies generated by linking firms in different towns would be disrupted by requiring an open membership policy, even in towns that already contain enough members to gather the local news that papers in other towns wish to have. Is it not preferable to stimulate competition among joint ventures rather than to encourage all rivals to join the same association, thereby enhancing any market power it may have already acquired?

Brown Shoe appears to commit virtually all the errors discussed above. Paradoxically, the Court enunciated a sensible general standard for assessing vertical mergers—that a comprehensive inquiry into purpose and effect was superior to a simple foreclosure calculus—but it then explained its conclusion that the merger was illegal in untenable terms. Four factors are cited in support of that conclusion.⁵⁴

The first, a trend toward vertical integration in the shoe industry, suggests nothing about the state of competition in the industry. Given the lack of concentration and the absence of entry barriers in both shoe manufacturing and shoe retailing, vertical integration could not unduly disadvantage any firm. If it lowered the costs of the merging firms, it could be duplicated to everyone's benefit by the merging firms' rivals.

The second factor, Brown's "avowed policy of forcing its own shoes upon its retail subsidiaries," appears to find Brown Shoe guilty of pursuing an unprofitable, rather than an anticompetitive strategy. Given the competitive structure of the industry, Brown Shoe would shoot itself in the foot if its manufacturing division were allowed to produce and "force" upon its retail division unwanted or inferior shoes.

A third factor cited by the *Brown Shoe* Court is the possibility that other firms—producers or retailers—might be foreclosed from the shoe markets. But a producer who could no longer sell to Kinney because Brown now sells to Kinney should simply have sold to Brown's former customers. What the Court calls "foreclosure" was merely a realignment of shipping patterns. These assertions will be true unless Brown expands its market share as a result of the merger. Brown can attain this goal, given its pre-merger four percent market share, however, only by offering better shoes or lower prices. If antitrust law does not actively seek such results, it should at least tolerate them.

Finally, the Court asserted that the merger would not produce any countervailing advantages. But the manner in which a firm organizes the

54. *Brown Shoe Co. v. United States*, 370 U.S. 294, 334 (1962).

production and sale of commodities is one of the ways in which competition in the market for those commodities occurs. Thus, the merger was one method by which Brown and Kinney could seek to increase their respective abilities to produce and sell shoes. Both firms had small market shares and neither was protected by entry barriers, so neither could insulate itself from competition by their merger. Brown's "countervailing competitive . . . advantage" thus was apparent to anyone who did not equate the realignment of shipping patterns with foreclosure, assume that the company would benefit from forcing unwanted shoes upon itself, or confuse a trend to vertical integration with a tendency toward increased market power.

The analysis in *United Shoe Machinery* is similarly unclear. The "magnetic ties" of United's leases could well be a product of United's ability to satisfy customers' needs at a low price. United was not the only firm to lease its machines; that was the "long-standing tradition" in the industry.⁵⁵ If rivals were foreclosed, the villain apparently was competition on the merits.

Common to all these criticisms is the argument that foreclosure is being treated as a basis for illegality when, in fact, it is merely the realignment of shipping patterns or the inevitable result of superior, efficient, competitive behavior. Further, the prevailing standards in these assertedly disparate areas appear to concentrate on competitors' commercial interests rather than the public interest in competition. The Court's concern appears to be whether successful competitors have fairly shared the market's spoils with their less productive rivals, not whether the targets of antitrust inquiry have successfully devised tactics that create or enhance their discretion to raise price.⁵⁶

55. *United States v. United Shoe Mach. Co.*, 110 F. Supp. 295, 314 (D. Mass. 1953), *aff'd per curiam*, 347 U.S. 521 (1954).

56. To many readers, these criticisms—particularly of *Klor's* and *Associated Press*—may seem unduly harsh. *Klor's* may well be understood as involving an agreement among competing appliance manufacturers as to which customers the manufacturers would sell, with the Court simply imposing on the alleged conspirator-rivals the burden of proving an efficiency justification. See E. GELLHORN, *supra* note 49, at 197-98; R. BORK, *supra* note 1, at 331-32. *Associated Press* may, similarly, only prevent firms with market power from conspiring to erect virtually impenetrable entry barriers. Although the Supreme Court did not rest its affirmation on this ground, the District Court adopted this view of the case. *United States v. Associated Press*, 52 F. Supp. 362, 371-73 (S.D.N.Y. 1943); see also R. BORK, *supra* note 1, at 340 ("[P]erhaps AP's power was so great that a denial of access to AP news had the effect of suppressing competition generally, but that was the precise issue defendants wanted to try and Justice Black said need not be tried.").

We do not reject as illogical the premises of these interpretations. But they are interpretations, not the specific syllogisms employed in the Court's opinions. In the realm of exclusionary issues, it is the Court's doctrine, more than its precise results, that has failed to leave a coherent analytic framework for subsequent cases.

II. TOWARD A UNIFIED STANDARD FOR ASSESSING EXCLUSION CLAIMS

The criticisms sketched above, in their most extreme form, suggest that antitrust law should permit all "vertical restraints"—limitations on the terms or conditions under which purchasers and suppliers will deal, imposed without horizontal collusion among competing purchasers or suppliers—and all "vertical mergers"—corporate combinations that do not actually or potentially compete with each other but do have a purchase-supply relationship. From a critical perspective, such agreements or combinations may harm competitors, but cannot diminish the vigor of competition. Most courts and commentators have not yet subscribed to such views; but the critics' assaults have rendered the prevailing doctrines respecting many of these practices untenable.

In short, antitrust policy with respect to allegedly exclusionary behavior is presently inarticulate. Courts and enforcement agencies sense that certain vertical restraints have the capacity to generate monopoly power or to facilitate its exercise. However, courts and enforcers lack a coherent theory that enables them to explain how such results may be attained and a reliable description of the conditions under which these outcomes are most likely to occur. Consequently, none of the doctrines canvassed above requires rigorous proof that a challenged restraint is anticompetitive or proof of a set of facts that are reasonably reliable indicators that the practice entrenches market power or facilitates its exercise.

This Article articulates an explicit, coherent analysis for exclusionary conduct cases. Our analysis does not take issue with the criticisms of prevailing, formal doctrine.⁵⁷ The leading Supreme Court cases do appear to announce standards of illegality that are not consistent with a policy of protecting and promoting competition. Indeed, these formal standards often may work at cross purposes with that policy, as the critics contend. Nevertheless, a sensible antitrust law need not treat as lawful all exclusive dealing arrangements, tie-ins, vertical mergers, refusals to deal, and boycotts. We present an antitrust theory that explains how a wide variety of exclusionary restraints can, under fairly strict conditions, create or enhance market power. We also offer guidelines to assist enforcement agencies and courts in developing reliable, objective, administrable tests to indicate when such anticompetitive results are probable and, therefore, which specific conditions should be present before the arrangement is condemned.

To summarize, a firm may gain the ability to raise price by contracting

57. See *supra* Section I.B. As one author has put it, our criticism is from "inside the Chicago School model." Hovenkamp, *supra* note 1, at 255-83.

with input suppliers⁵⁸ for the suppliers' agreements not to deal with the purchasing firm's competitors on equal terms. We call these agreements "exclusionary rights contracts." Under certain conditions, such contracts for exclusionary rights can have the effect of raising rivals' costs by restraining the supply of inputs available to rivals, thereby giving the purchaser power to raise prices in its output market. Courts should inquire whether the firm that purchases an exclusionary rights agreement thereby places its competitors at such a cost disadvantage that the purchaser can then exercise monopoly power by raising its price.

There have been a number of criticisms made of the plausibility of predatory pricing, but these arguments do not apply to the exclusionary strategies we analyze. Raising rivals' costs can be a particularly effective method of anticompetitive exclusion. This strategy need not entail sacrificing one's own profits in the short run; it need not require classical market power as a prerequisite for its success; and it may give the excluding firm various options in exercising its acquired power. By embedding a collusive agreement in a vertical contract that raises input prices by restraining sales to rivals, the firm reduces coordination costs, making it more efficient at preventing cheating and distributing the gains from collusion. Thus, these strategies involve creating additional horizontal market power through the mechanism of vertical contracts. As a result, one cannot assume that rivals necessarily have available counterstrategies or that suppliers necessarily will find it unprofitable to grant exclusionary rights. Nor can one dismiss these claims of anticompetitive effect with the argument that there is only a single monopoly profit and that "leverage" is impossible. These strategies involve markets that are not single firm monopolies, and the strategies entail contracts with multiple suppliers. Moreover, excluded rivals may choose not to contest the strategy, preferring instead to live under the shelter of the excluding firm's high prices.⁵⁹

An example will clarify the techniques involved. In our analysis, were Standard Oil bent on acquiring monopoly power in selling gasoline, perhaps the company might have done so successfully through its exclusive dealing arrangements. These contracts may not have improved the efficiency of Standard's retailing service, but instead left its gasoline refining

58. Exclusionary rights contracts may be formed with customers as well as suppliers. See *infra* text following note 60.

59. In the current jargon of economists, strategies to raise rivals' costs are more "credible" than predatory pricing. See Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263 (1981); Salop & Scheffman, *Raising Rivals' Costs*, 73 AM. ECON. REV. (Papers and Proceedings) 267 (1983). For articles anticipating our fuller elaboration of the theory of exclusion, see DeLong, *The Role, If Any, of Economics in Antitrust Enforcement*, 12 SW. U.L. REV. 298 (1981); Hovenkamp, *supra* note 1, at 274-80; Williamson, *Antitrust Enforcement: Where It's Been, Where It's Going*, 27 ST. LOUIS U.L. REV. 289 (1983).

Raising Rivals' Costs

competitors facing a remaining group of retail service providers small enough to collude effectively. This result would raise the costs of Standard's competitors, relative to Standard's costs, and give Standard the option to raise price, expand its market share, or do both, even if Standard were a "price taker." This tactic does not necessarily require that Standard sacrifice its profitability, even in the short run, and might even go uncontested by its rivals if they believed Standard would be an effective price setter. The strategy requires only that entry into gasoline retailing be difficult and that retailers are sufficiently disorganized that, before the exclusive dealing arrangement, they cannot collude successfully on their own. Moreover, the tactic can succeed even if Standard faces more than a few competitors, so long as it raises the costs of enough of them.⁶⁰

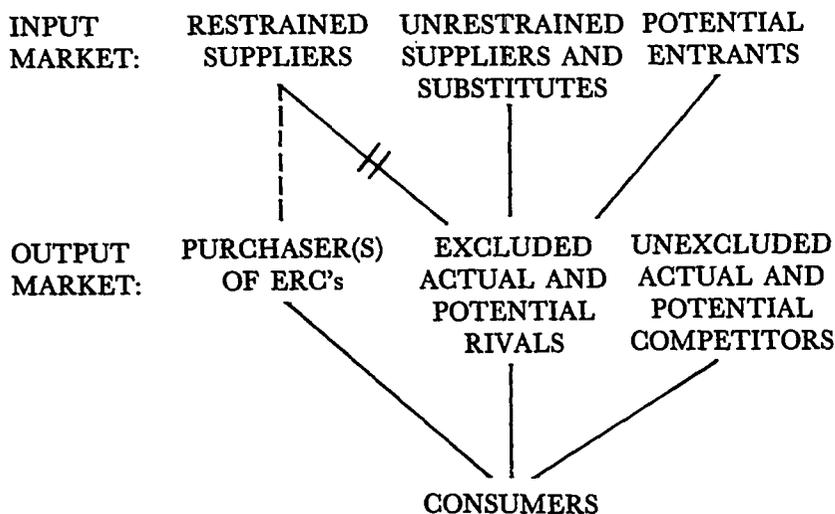
Our theory of exclusionary rights can be translated into an administrable and enforceable set of standards. Of course, such standards would sacrifice accuracy and flexibility to some extent as a necessary cost of obtaining swifter and less idiosyncratic results. Nevertheless, economic analysis can describe the conditions under which a strategy of raising rivals' costs by purchasing exclusionary rights enables the purchaser to obtain market power. To return to the *Standard Stations* example, if entry into gasoline retailing were easy, or if the retailers not committed to Standard were numerous and unorganized, then Standard could not, by obtaining exclusionary rights from a few retailers, increase the probability that remaining retailers would collude against Standard's competitors. Or, if Standard could not repulse counterstrategies by its rival refiners, then it could gain nothing from attempting exclusive dealing as a means of seeking market power. These and other considerations may be dealt with by

60. As described above, see *supra* notes 18–22 and accompanying text, the *Standard Stations* case—like many other cases turning on claims of anticompetitive exclusion—was resolved by a standard much less stringent than the two-part test advocated here. Thus, it is quite impossible to say with any assurance how frequently the strategy of gaining monopoly power by raising rivals' costs is employed. Certainly, it appears that Alcoa employed the practice at an early stage in the firm's development. See *infra* text accompanying note 61. Many cases involving asserted abuse of government processes are raising rivals' costs cases. See *infra* note 62. Several other key antitrust cases—including *Associated Press*, see *supra* note 56, *Terminal Railroad*, see *infra* notes 80–82 and accompanying text, *Interstate Circuit*, see *infra* notes 96–99 and accompanying text, and the later *Alcoa* case, see *infra* note 61 and accompanying text—appear to condemn strategic conduct of this sort without employing the precise analysis set out in this Article. Recent cases in which exclusionary rights issues have been raised include *AT&T*, the Civil Aeronautics Board rulemaking on computer reservations systems, and *Ball Memorial Hospital*. See *MCI Communications Corp. v. American Tel. & Tel.*, 708 F.2d 1081, 1131 (7th Cir. 1983) (denying competitors equal access to local telephone network); *United Air Lines v. Civil Aeronautics Bd.*, 766 F.2d 1107 (7th Cir. 1985) (Posner, J.) (biasing information about delisting and price discriminating against rivals in computer reservations systems owned by large airlines can disadvantage rivals in market for air travel); *Ball Memorial Hosp. v. Mutual Hosp.*, 784 F.2d 1325, 1338 (7th Cir. 1986) (Easterbrook, J.) (Blue Cross discount on hospital services can violate Section 2 of Sherman Act by shifting costs to rivals, if hospitals must break even and Blue Cross has market power). Thus, although we cannot prove that the practice is widespread, we see no reason to doubt that it occurs.

standards that measure the plausibility of an assertion that a contractual agreement has an anticompetitive exclusionary effect.

The *Standard Stations* example reveals another concept that is fundamental to our analysis, namely, that in analyzing vertical relationships, “buyer” and “seller” are often imprecise terms. In conventional imagery, Standard would be portrayed as “upstream,” at the top of the vertical relationship with gasoline retailers “downstream.” In this context, Standard sells gas to service stations, which use that gasoline as an “input” into their business of re-selling gas to consumers. As an analytical matter, however, it is sometimes appropriate to describe the retailers as the “upstream” firms, supplying retailing services (sites, pumps, attendants) as inputs to “downstream” refiners like the Standard Oil Company, which employ these retail services in the business of selling gas to automobile owners. Contracts for the sale of goods to persons other than the ultimate consumers often exhibit these dual features. To assess claims of anticompetitive exclusion, the proper question is not which firm is a buyer and which a seller, but whether one (or both) is the purchaser of an exclusionary right that raises rivals’ costs and gives the purchaser power over price in its market.

BASIC ANALYTIC FRAMEWORK



Raising Rivals' Costs

The diagram entitled "Basic Analytic Framework" presents a more comprehensive, stylized representation of the phenomena we have in mind. In all these kinds of cases, certain firms (here, those in the middle level of the diagram) compete to sell to consumers (bottom level) and, to do so, also purchase inputs from a market of input suppliers (top level). When one or more firms ("Purchaser(s)" in the diagram) obtain exclusionary rights contracts ("ERC's") from one or more input suppliers ("Restrained Firms"), the purchaser's competitors who are the targets of these agreements ("Excluded Rivals") are denied that source of supply or receive it only at discriminatory rates (represented by the cross-hatched diagonal line in the diagram). These excluded rivals will seek to turn to any unrestrained suppliers, potential entrants, or producers of substitute inputs to prevent their costs from rising. Under certain conditions, these efforts will not prevent a material increase in excluded rivals' costs. When this result occurs, the excluded rivals no longer constrain the purchasing firm from pricing above the competitive level. Of course, consumers will attempt to avoid a price increase by turning to any unexcluded rivals, potential entrants, or producers of substitute consumer products. Under certain conditions, however, these efforts will not prevent the price consumers must pay from rising above the competitive level that existed before the implementation of the exclusionary rights agreement.

III. EXCLUSIONARY RIGHTS

A. *The Nature of Exclusionary Rights*

The types of antitrust cases examined above all center around the acquisition of interests that may be termed exclusionary rights. Exclusionary rights contracts can exist in a variety of forms. At one extreme, the agreement involves only the purchase of an exclusionary right; no goods or other commodities are to be exchanged. For example, Alcoa reportedly purchased exclusionary covenants from power companies from which Alcoa did not purchase electricity. The contracts involved only the companies' promises not to sell electricity to other aluminum producers, not the sale of electricity to Alcoa.⁶¹ In other words, Alcoa purchased only market power, not electric power. Such contracts are "naked" exclusionary rights agreements. At the other extreme, most supply contracts involve only the sale of some units of an input to the buyer. Its competitors are not ex-

61. *United States v. Aluminum Co. of Am.*, 44 F. Supp. 97, 121-44 (S.D.N.Y. 1941), *aff'd in part, rev'd in part*, 148 F.2d 416 (2d Cir. 1945). The trial judge's discussion of this issue is confusing because he does not carefully distinguish between allegations that Alcoa purchased more electricity (or "water power") than it reasonably needed and that Alcoa obtained the ability to foreclose competitors from plants from which it took no electricity. The latter appears to be the case with respect to at least some of Alcoa's transactions. *Id.* at 124-38.

pressly excluded from purchasing other units of the input from the same seller. Yet, of course, other buyers necessarily are excluded from access to the particular units sold. Implicitly, at least, a type of exclusionary right is acquired.

Contested cases at either extreme are exceedingly rare. Aside from *Alcoa* and many cases claiming misuse of government processes,⁶² a naked exclusionary rights contract is not mentioned, to our knowledge, in any reported antitrust case. Nor, to our knowledge, has any court ever held illegal an agreement for the purchase of some units of a good, where all the units are used or consumed by the purchaser, simply because those units are therefore not available to other prospective purchasers.

Between these extremes, however, a wide variety of contracts contain exclusionary rights provisions. Exclusive dealing arrangements, tying contracts, group boycotts, and refusals to deal all commonly involve an exclusionary right.⁶³ Further, the legality of a vertical merger usually is tested by assuming that the merged purchasing firm has acquired an exclusionary right in the supplying firm's products and asking how the exercise of that right may affect competition in both the input and output markets.⁶⁴

B. *The Effects of Exclusionary Rights*

Measured by the consumer welfare standard, exclusionary rights may be completely innocuous, neither harming competition nor furthering it.⁶⁵ In many cases, however, these rights will have discernible procompetitive or anticompetitive effects. Indeed, the same practice may generate both types of effects.

Exclusionary rights may generate procompetitive benefits by reducing the parties' costs or creating a new product. For example, an exclusionary rights purchaser may increase its certainty, and therefore reduce its cost,

62. See, e.g., *Eastern R.R. Presidents Conf. v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961) (challenging conspiracy by railroads to increase truckers' costs by influencing state legislation).

63. When International Salt Company tied the sale of salt to the lease of salt-injecting machines, it acquired a right to exclude other salt makers from selling to International's lessees. *International Salt Co. v. United States*, 332 U.S. 392, 394-95 (1947), discussed *supra* notes 23-26. Standard Oil's agreements with gasoline stations gave Standard the right to prevent the stations from selling other brands of petroleum products. *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293, 296 (1949), discussed *supra* notes 18-22. The agreement of which Klor's complained apparently gave Broadway-Hale the right to prevent several appliance manufacturers from selling to Klor's or to require them to sell to Klor's on disadvantageous terms. *Klor's, Inc. v. Broadway-Hale Stores*, 359 U.S. 207, 209 (1959), discussed *supra* notes 27-30. Similarly, each member of the Associated Press venture acquired a right to exclude its competitors from obtaining news gathered by other AP members. *Associated Press v. United States*, 326 U.S. 1, 10-13 (1945), discussed *supra* notes 31-36.

64. For example, as noted above, the *Brown Shoe* Court analyzed the merger as though Brown had acquired the right to prevent Kinney from selling its retail services to other shoe manufacturers. *Brown Shoe Co. v. United States*, 370 U.S. 294, 331-32 (1962), discussed *supra* notes 37-42.

65. We discuss here effects on competition, not only effects on competitors. The latter issue is addressed below. See *infra* Section IV.B.3.

Raising Rivals' Costs

of being able to obtain an assured supply of inputs.⁶⁶ The purchasing firm may associate its product with that of the supplier, thereby easily and clearly identifying the joint product in consumers' minds or facilitating joint promotional campaigns.⁶⁷ Exclusivity may reduce a manufacturer's costs of maintaining the reputation and quality of its product after title and control have passed to the purchaser or may prevent free-riding by competitors.⁶⁸ Finally, the exclusionary right may be the unavoidable outgrowth of a productive joint venture, permitting the parties each to manufacture goods that are best marketed together.⁶⁹

The acquisition of exclusionary rights also may be a particularly effective strategy for acquiring monopoly power.⁷⁰ A vertical agreement or merger may confer on the purchaser a power to raise price above the competitive level by effectively raising the costs of the purchaser's rivals.⁷¹ Where both these events occur—i.e., the competitors' costs increase and the purchaser thereby gains the ability to raise price—any version of the consumer welfare standard is violated. Absent overriding efficiencies, the purchaser's ability to place an artificial restriction on output is anticompetitive.

Were antitrust courts and enforcement authorities to focus on these elements, they could analyze a wide variety of superficially disparate antitrust claims under a single set of standards. The following two sections explain how these anticompetitive results may occur, how the purchase of exclusionary rights may effectively raise rivals' costs, and how those cost increases may leave the acquiring firm with the power to raise its price. First, we describe a number of methods by which these anticompetitive results can be achieved. Second, borrowing from similar work in horizontal merger analysis, we describe how agencies and courts could identify the key elements of market structure and firm behavior that are conducive

66. It is perhaps significant that Kinney, a major shoe retailer, may have agreed to merge with Brown Shoe in connection with its move into higher income neighborhoods and a higher quality line of products. *Brown Shoe*, 370 U.S. at 304 n.8 (quoting testimony of Brown Shoe's president).

67. Such efficiencies might well explain the exclusionary rights obtained in *Standard Stations*, discussed *supra* notes 18-22, 63.

68. See, e.g., R. BORK, *supra* note 1, at 378-80. Such efficiencies might explain the arrangements at issue in *Klor's*.

69. For example, the *Associated Press* arrangement allowed the venturers to market jointly the news stories produced by the various members.

70. In such cases, some balance must be struck between the relative probabilities that the practice at issue will have anticompetitive or procompetitive effects and their likely magnitudes. Our principal purpose is to explain how enforcement authorities and courts can assess the anticompetitive potential of exclusionary rights, for these rights usually are, at worst, competitively neutral. See *infra* Section V. In a later section, we also seek to initiate the inquiry into treatment of the claims that anticompetitive effects of exclusionary practices may be outweighed by redeeming procompetitive or efficiency benefits. See *infra* Section VII.C.

71. By a vertical agreement, we mean an agreement between firms that are in the position of buyer and seller. See *supra* notes 4, 15 and accompanying text. The supplier may share in the purchaser's increased profits and may also obtain the power to raise price to the purchaser's rivals.

to successful exclusionary strategies. We describe how they can develop objective standards for evaluating the extent to which such factors are present in specific industries. Using these techniques, antitrust authorities could estimate, without prolonged and open-ended trials, the likelihood that particular exclusionary rights agreements in particular cases have these anticompetitive effects.⁷²

IV. ACHIEVING ANTICOMPETITIVE EFFECTS BY DEALING IN EXCLUSIONARY RIGHTS

A. *Raising Rivals' Costs*

We can identify four distinct methods by which an exclusionary rights contract can raise the costs of the purchaser's rivals. With all these methods, the agreement raises rivals' costs by "foreclosure": more precisely, by restricting the supply available to rivals of a key input without similarly restricting the amount available to satisfy the purchaser's demand. Two of these methods succeed by restricting rivals' supply directly. They are techniques of direct foreclosure. The others induce suppliers to restrict output in response to incentives created by the exclusionary rights agreement. They are methods of facilitating tacit or express collusion that lead to foreclosed or restricted supply.

None of these techniques is novel to antitrust law or industrial organization economics.⁷³ Indeed, most have been at the root of one or more

72. These sections thus progressively put more flesh on the structured inquiry that we advocate for antitrust analysis of exclusion claims.

73. The economic analysis in this section represents a synthesis of a large number of economics articles on the subjects of cost raising and rent-seeking strategies generally, as well as several articles on vertical integration, vertical foreclosure, exclusive dealing and special interest regulation. For a sampling of these articles on cost raising and rent-seeking generally, see S. SALOP & D. SCHEFFMAN, *MULTI-MARKET STRATEGIES IN A DOMINANT FIRM INDUSTRY* (Federal Trade Commission, Bureau of Economics, Working Paper No. 100, 1984) (revised as *COST RAISING STRATEGIES*, FTC Bureau of Economics Working Paper No. 146, 1986); Caves & Porter, *From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition*, 91 Q.J. ECON. 241 (1977); Hovenkamp, *supra* note 1; Nelson, *Increased Rents from Increased Costs: A Paradox of Value Theory*, 65 J. POL. ECON. 387 (1957); Ordoover, Sykes & Willig, *Nonprice Anticompetitive Behavior by Dominant Firms Toward the Producers of Complementary Products*, in *ANTITRUST AND REGULATION* 115-30 (F. Fisher ed. 1985); Ordoover & Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 YALE L.J. 8 (1982); Posner, *Theories of Economic Regulation*, 5 BELL J. ECON. 335 (1974); Rogerson, *A Note on the Incentive for a Monopolist To Increase Fixed Costs as a Barrier to Entry*, 99 Q.J. ECON. 399 (1984); Salop & Scheffman, *supra* note 59; Sharfstein, *A Policy To Prevent Rational Test-Market Predation*, 15 RAND J. ECON. 229 (1984); Tullock, *The Welfare Costs of Tariffs, Monopolies, and Theft*, 7 W. ECON. J. 224 (1967); Williamson, *Wage Rates as Barriers to Entry: The Pennington Case in Perspective*, 82 Q.J. ECON. 85 (1968).

Many scholars have analyzed cost raising strategies in a regulatory context. These analyses often can be helpful in understanding similar strategies in unregulated markets. See, e.g., R. BORK, *supra* note 1, at 347-64; Maloney & McCormack, *A Positive Theory of Environmental Quality Regulation*, 25 J.L. & ECON. 99 (1982); Oster, *The Strategic Use of Regulatory Investment by Industry Subgroups*, 20 ECON. INQUIRY 604 (1982); Salop, Scheffman & Schwartz, *A Bidding Analysis of Special*

Raising Rivals' Costs

litigated cases the results of which have not been denigrated by those who espouse the single-focus consumer welfare approach to antitrust law. Those cases, of course, involved collaboration among competitors (i.e., horizontal restraints) to raise rivals' costs.

What is novel here is, first, the recognition that these same results also may follow from agreements solely between purchasers and suppliers and, second, the claim that virtually all antitrust issues not involving collaboration (or merger) among competitors are best analyzed by asking whether they unjustifiably confer on one party the power to raise price by raising its rivals' costs. To place this argument in context, one must understand the assertions to which it reacts. Thus, we first review the debate surrounding the present formal doctrine of exclusionary vertical restraints and then explain what the critics have overlooked.

1. *Discredited Foreclosure Theory*

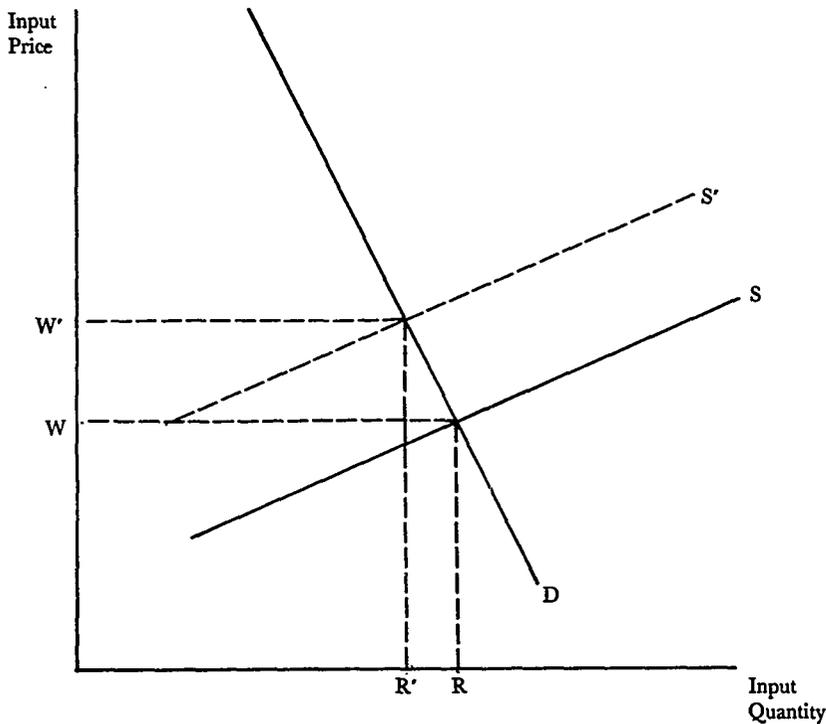
Initially, antitrust enforcers and courts seemed to claim that the vice of harmful vertical restraints was that they foreclosed supply. For example, an exclusive dealing contract between Input Seller I and Buyer B denied the production of I to B's competitors, disadvantaging them relative to B.

Figure 1 illustrates this argument. Before the exclusive dealing arrangement, B and its rivals pay a price W for the input supplied by I and I's competitors, as determined by the interaction of the buyers' demand (D) and the sellers' supply (S). After the exclusive dealing arrangement is in place, I's inputs are no longer available, and this "shortage" in supply (S') drives the price to B's rivals to a higher price W' . This view of foreclosure as a practice that inevitably disadvantages unintegrated firms appears to be the principal concept underlying the results and rationales in

Interest Regulation: Raising Rivals' Costs in a Rent Seeking Society, in FEDERAL TRADE COMMISSION, *THE POLITICAL ECONOMY OF REGULATION: PRIVATE INTERESTS IN THE REGULATORY PROCESS* 102 (1984).

For some analyses of vertical integration, foreclosure, and vertical restraints, see M. PORTER, *COMPETITIVE STRATEGY* 300 (1980); M. SALINGER, *VERTICAL MERGERS AND MARKET FORECLOSURE* (Columbia Univ. Graduate School of Business, First Boston Working Paper Series No. FB-84-17, 1985); Fisher, *Can Exclusive Franchises Be Bad?*, in *ANTITRUST AND REGULATION*, *supra*, at 153 (1985); Waterson, *Vertical Integration, Variable Proportions and Oligopoly*, 92 *ECON. J.* 129 (1982); Westfield, *Vertical Integration: Does Product Price Rise or Fall?*, 71 *AM. ECON. REV.* 334 (1981); Warren-Boulton, *Vertical Control with Variable Proportions*, 82 *J. POL. ECON.* 783 (1974); White, *Antitrust and Video Markets: The Merger of Showtime and The Movie Channel as a Case Study*, in *VIDEO MEDIA COMPETITION: REGULATION, ECONOMICS AND TECHNOLOGY* 338 (E. Noam ed. 1985); White, *Vertical Restraints in Antitrust Law: A Coherent Model*, 26 *ANTITRUST BULL.* 327 (1981).

FIGURE 1



important Supreme Court opinions condemning exclusive dealing arrangements,⁷⁴ tie-ins,⁷⁵ and vertical mergers.⁷⁶

That line of reasoning, however, is fatally flawed. Figure 2 demonstrates why. The Court's view of foreclosure appears to capture only half

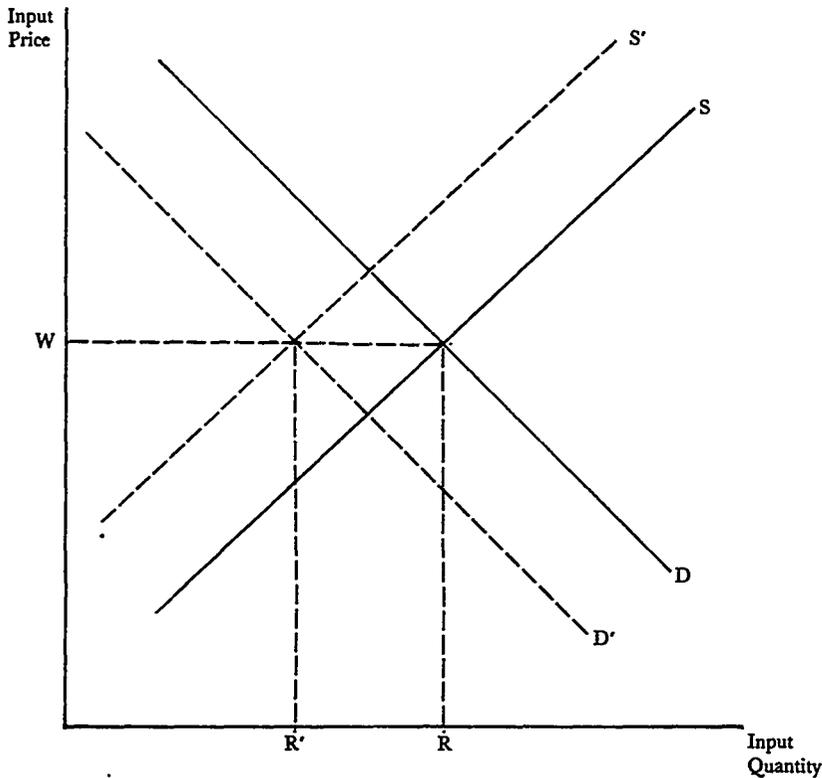
74. See *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293, 314 (1949) ("It cannot be gainsaid that observance by a dealer of his requirements contract with Standard does effectively foreclose whatever opportunity there might be for competing suppliers to attract his patronage."); *supra* notes 18-22 and accompanying text.

75. See *International Salt Co. v. United States*, 332 U.S. 392, 396 (1947) ("The volume of business affected by these contracts cannot be said to be insignificant or insubstantial and the tendency of the arrangement to accomplishment of monopoly seems obvious."); *supra* notes 23-26 and accompanying text.

76. See *Brown Shoe Co. v. United States*, 370 U.S. 294, 324 (1962) ("Every extended vertical arrangement by its very nature, for at least a time, denies to competitors of the supplier the opportunity to compete for part or all of the trade of the customer-party to the vertical arrangement."); *supra* notes 37-42 and accompanying text.

Raising Rivals' Costs

FIGURE 2



of the picture. If I's inputs are no longer available to B's rivals, it may also be the case that B is no longer adding to the demand for inputs from I's competitors. The exclusive dealing arrangement (or tie-in sale or vertical merger) may lead to a realignment of purchase patterns among firms, but has no necessary tendency to raise rivals' costs. Indeed, in the case depicted in Figure 2, price remains the same, as the loss of I's supply (represented by a shift from S to S') is cancelled by the disappearance of B's demand (the shift from D to D').

The only effect of the exclusive dealing arrangement (or other vertical restraint) in the case illustrated is to remove from the open market a quantity of input resources (R-R') equivalent to that amount now supplied by I and purchased by B under their contract. Far from being presumptively harmful, the critics of the Court's simple foreclosure view contend, such a result has no probable anticompetitive effect and therefore is

presumptively procompetitive.⁷⁷ They assume that I and B would choose to avoid reliance on the market mechanism only if that choice lowered the costs of transferring I's input. If that also lowers the effective cost to B, consumer welfare would be furthered by asking B's rivals to emulate the vertical arrangement, rather than by permitting them to persuade judges to hold it illegal.

In our view, that critique is often correct, but not nearly universally so. Where rivals' ability to substitute costlessly is limited, exclusionary rights can injure consumers. In two non-trivial instances, direct foreclosure can disadvantage rivals by irretrievably raising their costs, thereby harming consumers by giving purchasers discretion over price. In two other types of cases, identically harmful results can occur as a result of foreclosure of supply stemming from changes in effective market structure (and, therefore, in the pricing incentives of input suppliers) that the exclusionary right brings about. Foreclosure theory may still be correct, but not for the reasons originally advanced.

2. *Legitimate Theories: Raising Rivals' Costs by Foreclosing Supply*

a. *Bottleneck*

The simplest and most obvious method by which foreclosure of supply can raise rivals' costs is the purchaser's obtaining exclusionary rights from all (or a sufficient number of) the lowest-cost suppliers, where those suppliers determine the input's market price.⁷⁸ Competitors of the purchaser experience a cost increase as they necessarily shift to higher cost suppliers or less efficient inputs.

Antitrust literati know this as the "Bottleneck" or "essential facilities" problem.⁷⁹ This Bottleneck method is precisely the technique employed collectively by a group of vertically integrated firms in the *Terminal Railroad* case.⁸⁰ In that case, a group of railroad operators obtained an important input: the only railroad bridges across the Mississippi River at St. Louis.⁸¹ The railroad operators also obtained a promise from the bridge owners (here, the railroad operators themselves) that the bridges could be made available to other, non-owner, railroads on discriminatory terms.⁸²

77. See, e.g., R. BORK, *supra* note 1, at 304-09.

78. In more technical terms, the industry supply curve need not be discontinuous, but it must have a less perfectly elastic region. Absent the exclusionary rights agreement, however, low cost suppliers have sufficient available capacity so that demand does not push price to the higher levels.

79. See, e.g., Note, *supra* note 14. The phenomenon appears to correspond also to the concept of "qualitative foreclosure" alluded to in the exclusive dealing cases.

80. *United States v. Terminal R.R. Ass'n*, 224 U.S. 383 (1912).

81. *Id.* at 391.

82. *Id.* at 399-400.

Raising Rivals' Costs

Excluded railroads could avoid this risk only by building their own bridges or ferries.

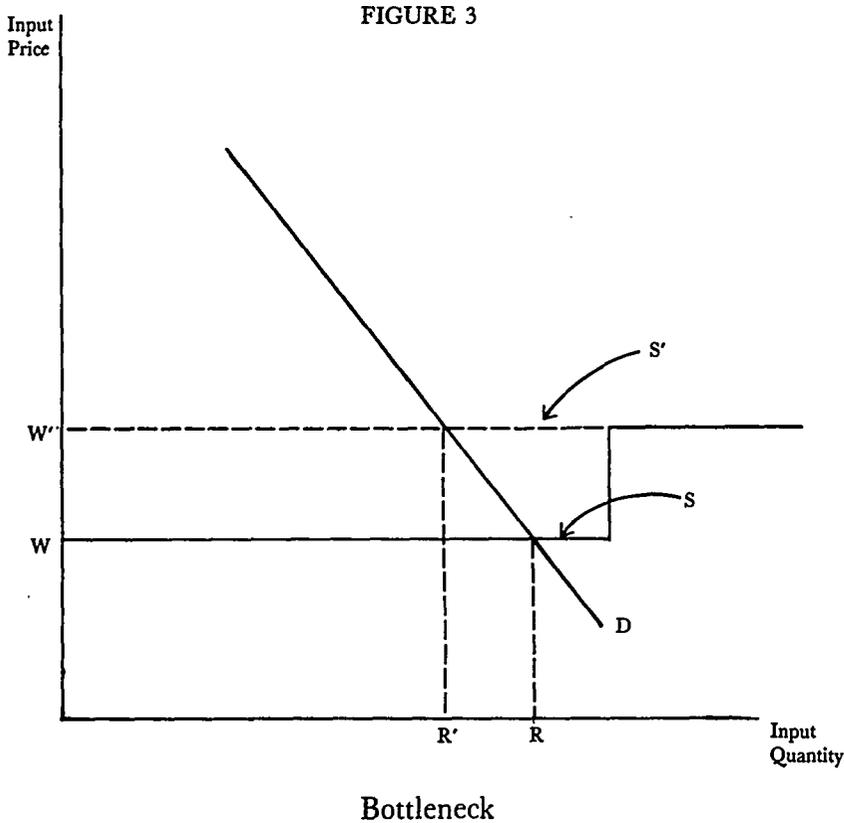


Figure 3 illustrates the Bottleneck method. Before certain purchasers obtain exclusionary rights to the input available to rivals, supply (S) and demand (D) interact to yield a price of W . Purchase of rights to exclude rivals from all the low-cost supply of the input reduces supply to S' . Because only higher-cost sellers can satisfy the remaining rivals' demand (D), price increases to W' and quantity falls from R to R' .

Figure 3 reflects agreements with suppliers in which the purchaser obtains solely the naked right to exclude rivals from the inputs without a requirement that it purchase quantities of the input as well. We refer to such an agreement as a "naked" exclusionary right.⁸³ Figure 3 also reflects the extreme case in which the purchaser obtains the right to all the low-cost input, and additional supplies can be produced only at a dis-

83. Many exclusionary rights agreements are not naked but are bundled with the purchase of inputs by the firm. In that case, demand would shift back. (As expressed in Figure 3, the demand curve would shift to the left. However, the input price would still rise to W' .)

cretely higher cost. This is the limiting case of the method of "Real Foreclosure" analyzed next.

b. *Real Foreclosure*

Foreclosure also can raise rivals' costs when the purchaser acquires an exclusionary right over a representative portion of the supply, withholding that portion from rivals and thereby driving up the market price for the remainder of the input still available to rivals.⁸⁴ Antitrust lingo often dubs this method a "supply squeeze" or "quantitative foreclosure," because the emphasis is not on the unique quality of the input foreclosed, but rather is on the sheer amount. We call it the Real Foreclosure technique to denote that the purchaser gains actual, effective control of the inputs to restrict potential supply and to raise price.⁸⁵

In a leading monopoly case,⁸⁶ Alcoa was accused of having employed this Real Foreclosure tactic on two separate occasions. First, when Alcoa's patents on the manufacture of aluminum expired after the turn of the century, Alcoa maintained its monopoly in part by obtaining promises from some electrical utilities not to supply power to any other aluminum manufacturer.⁸⁷ The price of electricity to Alcoa's potential rivals would increase as they bid for the remaining scarce supply.⁸⁸ The right acquired was a naked exclusionary right; Alcoa apparently did not purchase any electricity from these utilities.⁸⁹ *Alcoa* also involved a more controversial type of Real Foreclosure. Judge Learned Hand concluded that, wholly apart from its covenants with electrical utilities, Alcoa had illegally maintained its monopoly by repeatedly expanding its capacity before demand for aluminum increased.⁹⁰ One interpretation of this charge against Alcoa is that it used a variant of the Real Foreclosure technique that we denote as Overbuying. Alcoa's excess accumulation of scarce inputs, notably bauxite, left potential new aluminum manufacturers facing the prospect that their bids would significantly drive up the prices of the remaining

84. Thus, Bottleneck is a special case of Real Foreclosure in which all the lowest cost (lowest price) input is foreclosed from rivals.

85. Obviously, some barriers to entry and expansion must exist for price to rise.

86. *United States v. Aluminum Co. of Am.*, 148 F.2d 416 (2d Cir. 1945).

87. *Id.* at 422.

88. An alternative explanation for Judge Hand's—and Alcoa's lawyers'—apparent belief that the practice was obviously harmful is that Alcoa had employed the Bottleneck technique, tying up the lowest cost producers of a key input. This example illustrates the convergence of the two variations on a single method.

89. *See supra* note 61.

90. 148 F.2d at 430–31. Judge Hand never explained how this behavior threatened to increase or protect Alcoa's market power. Indeed, at some points in the opinion he appears indifferent to that issue. *See id.* at 427 (Sherman Act intended to forbid "good" trusts as well as "bad" for social and moral as well as economic reasons).

Raising Rivals' Costs

available inputs. By overbuying bauxite, Alcoa raised its rivals' costs of producing aluminum.⁹¹

FIGURE 4

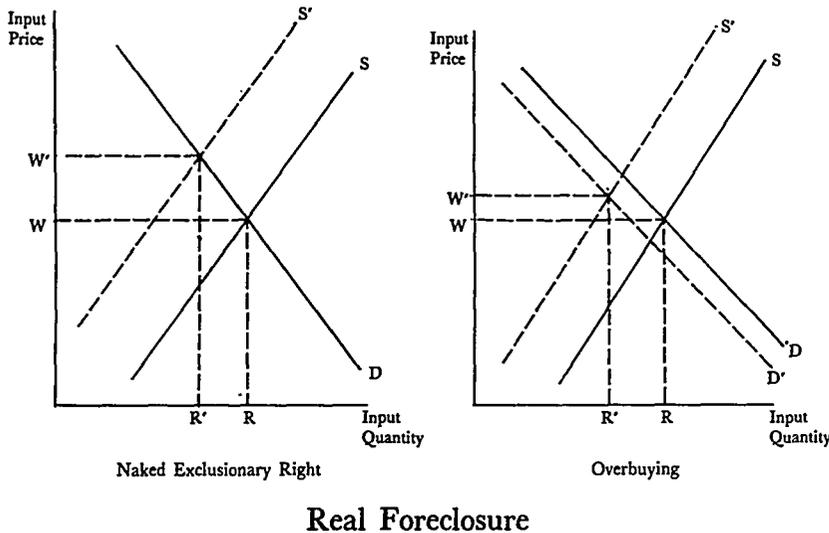


Figure 4 illustrates the Real Foreclosure technique. Use of a naked exclusionary right—that is, foreclosure of supply without acquiring or consuming any of it—is illustrated in the left panel. Overbuying—foreclosure by “excessive” acquisition—is depicted in the right panel.

Before adoption of the exclusionary rights contract, price in both cases is W (intersection of S and D). In the left panel, a naked exclusionary rights agreement reduces the supply available to rivals with no reduction in demand. In the right panel, Overbuying occurs when the contract removes, from the market in which the excluding firm's rivals purchase, more supply (shift in supply from S to S') than the excluding firm absorbs for its own use (shift in demand from D to D'). Price therefore increases to W' (intersection of S' and D'), even though suppliers are sufficiently

91. Judge Hand apparently rejected this claim of Overbuying on the ground that Alcoa's intent to deprive its rivals of inputs was a factual issue, resolved in Alcoa's favor by the district court. *See id.* at 432-34. However, it is difficult to see how Alcoa's increases in capacity harmed competition unless they increased rivals' costs. Judge Wyzanski later suggested that Judge Hand felt constrained by the trial judge's findings of fact to seek out an alternative basis for condemning Alcoa. *See United States v. United Shoe Mach. Co.*, 110 F. Supp. 295, 341 (D. Mass. 1953), *aff'd per curiam*, 347 U.S. 521 (1954). For a case more clearly involving issues of Overbuying, albeit involving substantial collusion issues as well, see *American Tobacco Co. v. United States*, 328 U.S. 781, 800-04 (1946). We suggest a rather permissive legal standard for Overbuying claims. *See infra* note 228.

numerous that no single seller can exercise individual market power.⁹² This higher price is paid by both the purchaser of the exclusionary right and its rivals. It does not follow, however, that the purchaser gains no anticompetitive advantage. Competitors' cost increases may be larger if the purchaser uses the input less intensively, if it is vertically integrated into the production of some fraction of its input needs, or if its input purchase price is protected by a long term contract or superior bargaining ability. Moreover, if marginal costs rise faster than average costs, the resulting price increase could benefit all the firms.

3. *Legitimate Theories: Raising Rivals' Costs by Inducing Collusion*

Under certain conditions, exclusionary vertical restraints also can facilitate pricing coordination that enriches suppliers while raising the costs of the purchaser's competitors.⁹³ The suppliers who inflict these harms may or may not participate in the vertical restraint.

a. *Cartel Ringmaster*

There are two variants of this collusive method, one involving discrimination against rivals and the other involving refusal to deal. We denominate both as the Cartel Ringmaster technique because the purchaser, in effect, orchestrates cartel-like discriminatory input pricing against its rivals.⁹⁴ The purchaser provides a more efficient organizing, profit-sharing, and policing mechanism than the suppliers could generate themselves.

In the first type of case, a firm purchasing a vertical restraint may, as part of the agreement, induce a number of its suppliers to deal with the purchaser's rivals only on terms disadvantageous to those rivals. Antitrust lore sometimes describes this as a "price squeeze," although this term is most commonly employed when the selling and buying firms practicing the restraint are merged.

The technique, employed by defendants in *Terminal Railroad*,⁹⁵ also is aptly illustrated by *Interstate Circuit*.⁹⁶ In that case, Interstate Circuit, a company that operated motion picture theaters throughout Texas, obtained from movie distributors the promise that the distributors would, in effect, raise the costs of exhibitors competing with Interstate Circuit.⁹⁷

92. Cf. *infra* Section IV.A.3.b (discussing Frankenstein Monster method).

93. Bottleneck and Real Foreclosure also can be viewed as facilitating coordination where the purchasing firm contrives to restrain output directly.

94. We considered calling this "the F.R. Gadd" technique in honor of the case law's most notorious, though ultimately unsuccessful, cartel orchestrator. See *American Column & Lumber Co. v. United States*, 257 U.S. 377, 401 (1921). Gadd, however, sought to organize his cartel differently.

95. 224 U.S. 383; *supra* text accompanying notes 80-82.

96. *Interstate Circuit, Inc. v. United States*, 306 U.S. 208 (1939).

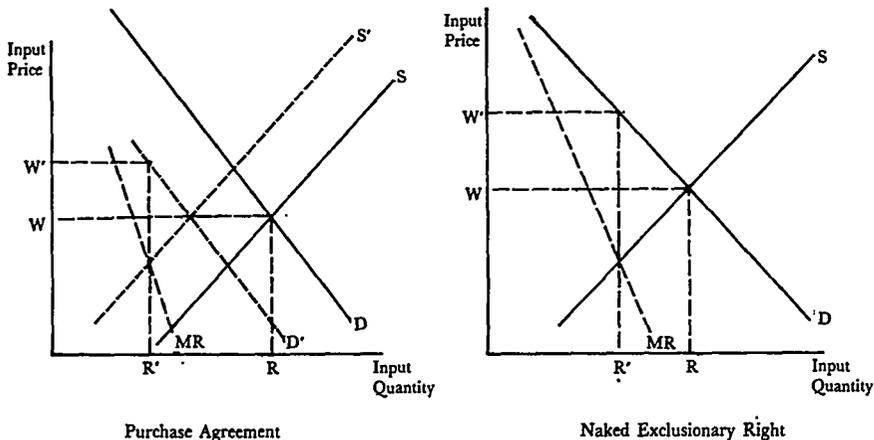
97. *Interstate Circuit* operated first-run theaters. Each agreement required a distributor to compel

Raising Rivals' Costs

The Department of Justice obtained a ruling that the practice was illegal on the grounds that the distributors had agreed among themselves to raise the prices charged to Interstate Circuit's competitors.⁹⁸ The distributors thus had violated the per se prohibition on horizontal price fixing. Even in the absence of an express or implied horizontal agreement, however, the Supreme Court could have examined the government's claim under the Cartel Ringmaster theory: Interstate Circuit obtained promises from its suppliers to disadvantage its rivals by raising their costs.⁹⁹

Figure 5 illustrates the Cartel Ringmaster method of raising rivals' costs. Initially, supply (S) and demand (D) interact to establish price at W, quantity at R. In the left panel, a vertical restraint removes the purchaser's demand from the market (shift in demand from D to D'), and generates a corresponding reduction in supply (from S to S'). The agreement also directs (or has the effect of directing) suppliers to reduce or eliminate their competition in selling the remaining output to the purchaser's rivals. Suppliers therefore are able to price in a monopolistic fashion, restricting output to the point (R') where marginal revenue (MR) equals the costs of supply (S') and charging a higher price W'.¹⁰⁰

FIGURE 5



Cartel Ringmaster

second-run theaters to raise their ticket prices. *Id.* at 216-18. The price that theaters paid for exhibition rights did not necessarily rise but, presumably, their costs of attracting patrons did. Second-run operators could no longer use low prices to lure customers but had to resort to other less efficient means, such as advertising, more comfortable seats, or more butter on the popcorn. Resale price maintenance agreements similarly can raise the costs of discounters.

98. *Id.* at 226-27.

99. An analysis somewhat similar to this one is provided at the conclusion of the *Interstate Circuit* Court's opinion. *Id.* at 230-32.

100. In the case in which pricing coordination is imperfect, the price will be in the range between W and W'.

In the right panel, a similar diagram—without any shift in the demand and supply curves—depicts the case of naked exclusionary rights. Cartel Ringmaster also may involve outright refusals to deal with rivals by a number of suppliers. In this case, the suppliers also can gain by sharing directly in the increased profits of the purchaser or by extracting some of its gains by raising the purchaser's input costs.¹⁰¹

Cartel Ringmaster is somewhat different from the other techniques analyzed here because it has a greater horizontal aspect. Its profitability may not depend on the purchaser's gaining power over price in the market in which it sells and sharing the resulting profit with restrained suppliers. Instead, it is possible that the suppliers themselves may gain sufficient benefits from charging a higher monopoly price for their input, irrespective of any additional benefits obtained by the purchaser from competing against higher cost rivals. Indeed, in extreme cases, they may profit enough to be able to compensate the purchaser for its role as organizer of the collusive scheme.¹⁰² Moreover, by embedding the collusive agreement in a vertical contract that raises input prices, it is easier to prevent cheating and to redistribute the collusive gains. The purchaser can monitor the agreement and, absent antitrust strictures, enforce it.¹⁰³ Given this difference, it may be unnecessary for courts to require proof of power over price before finding an antitrust violation in this case, where the suppliers' conduct is essentially horizontal, that is, where it is profitable to suppliers irrespective of any payments made to them by the purchaser.¹⁰⁴

b. *Frankenstein Monster*

Finally, a vertical restraint can effectively alter the industry structure confronting the purchaser's competitors and thereby significantly increase the probability that the remaining *unrestrained* suppliers can successfully collude, expressly or tacitly, to raise price. We denominate this the Frank-

101. If the latter approach is taken, and the purchaser has the power to pass on cost increases, then the exclusionary right agreement may require a two-part pricing scheme or ancillary restraints (such as maximum resale price maintenance) to prevent the purchaser from passing along too much of its cost increases to consumers and thus reducing the suppliers' profits.

102. Indeed, one could imagine a "sham" input contract for these purposes. For example, suppose a supplier of supermarket shopping carts contracted with competing supermarkets to supply carts under a long term requirements contract on the condition that they raise the prices of eggs and milk to their monopoly levels. In this fashion, the input supplier could act as a Cartel Ringmaster for its customers.

103. See Posner, *Information and Antitrust: Reflections on the Gypsum and Engineers Decisions*, 67 GEO. L.J. 1187 (1979); Krattenmaker & Salop, *Competition and Cooperation in the Market for Exclusionary Rights*, 76 AM. ECON. REV. (Papers and Proceedings) 109, 112 (1986).

104. This may well be a proper explanation of the practices involved in *Interstate Circuit*, where the Court applied something akin to a per se rule. 306 U.S. at 230-32. Of course, if the exclusionary agreement also creates large efficiencies, per se treatment may be unwarranted. See *Broadcast Music, Inc. v. Columbia Broadcasting Sys.*, 441 U.S. 1 (1979).

Raising Rivals' Costs

enstein Monster technique, because through this method the purchaser of an exclusionary rights contract creates and turns loose upon its rivals an industry structure likely to generate a price increase. As an extreme example, suppose a manufacturer signs exclusive dealing contracts with all but one retailer. Assuming that there are entry barriers, the one remaining retailer can then monopolize trade with the manufacturer's rivals. That retailer is the Frankenstein Monster.¹⁰⁵ Similarly, by purchasing exclusionary rights from the most likely potential entrants, the purchaser might also use the Frankenstein Monster technique to facilitate collusion among established input suppliers by eliminating or reducing the threat of entry. Unlike the Cartel Ringmaster technique, when a purchaser employs the Frankenstein Monster tactic, its rivals' cost increase is inflicted by suppliers that are *not* parties to the exclusionary rights agreement.

The assumption that when entry is not easy, high levels of, and significant increases in, industry concentration raise the probability of coordinated, monopolistic behavior is a central tenet underlying virtually all antitrust policy. No leading case of which we are aware has held that these results can follow from vertical integration, although the plaintiff in *Klor's* may have had such a claim in mind.¹⁰⁶

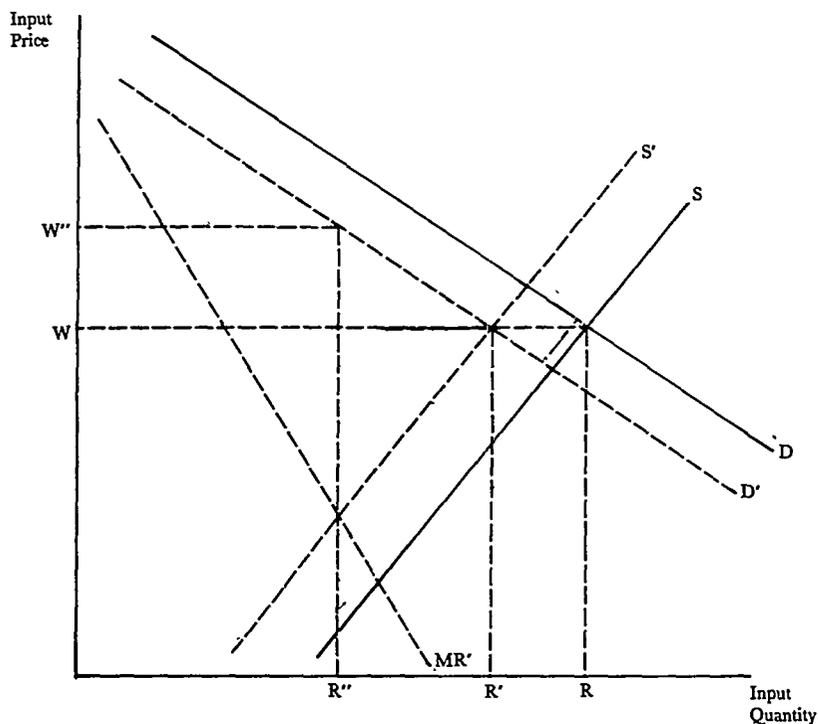
Figure 6 depicts the manner in which the Frankenstein Monster method works for a non-naked exclusionary rights agreement with an established firm.¹⁰⁷ Before adoption of the restraint, supply (S) and demand (D) interact to determine a price at W and quantity sold at R. The restraint removes both the purchaser's demand (shift from D to D') and the seller's supply (shift from S to S') from the market. These events reduce

105. More generally, assume an input supply market of five equal-sized firms. If one buyer, B, enters into an exclusive dealing arrangement with three of these firms, B's rivals must then purchase their input from an industry comprising only two equal-sized firms. Much theoretical and empirical research suggests that, in industries where entry is not easy, a decrease in the number of significant competitors increases the likelihood of tacit or express price coordination. See, e.g., Weiss, *The Concentration-Profits Relationship and Antitrust*, in CONFERENCE ON INDUSTRIAL ORGANIZATION, INDUSTRIAL CONCENTRATION: THE NEW LEARNING (H. Goldschmid, M. Mann & J. Weston eds. 1974); Plott, *Industrial Organization Theory and Experimental Economics*, 20 J. ECON. LIT. 1485 (1982).

106. As discussed earlier, *Klor's* also (or instead) may have had the Bottleneck variant in mind. For a more comprehensive description of the *Klor's* case, see *infra* Section IX.A. Conceivably, the result in *Standard Stations* or *Alcoa* might be justifiable on Frankenstein Monster grounds. See *supra* text accompanying notes 60, 87-88. Pursuit of any one of these strategies for raising rivals' costs does not necessarily foreclose simultaneous pursuit of any other. In theory, it is possible, with an identical series of exclusionary rights contracts, for a purchasing firm (a) to deny rivals access to the lowest cost suppliers (Bottleneck), (b) to subject rivals to an artificially restricted supply (Real Foreclosure), (c) to induce restrained suppliers to price discriminate against rivals or to refuse to deal with them (Cartel Ringmaster), and (d) to present unrestrained suppliers with a significantly greater opportunity to collude against rivals (Frankenstein Monster). Indeed, it is possible that the restraints in *Alcoa*, *Terminal Railroad*, and *Interstate Circuit* each accomplished all these results.

107. We do not illustrate here the case of a naked restraint with either an established firm or a potential entrant. That diagram would be identical to the right panel in Figure 5. In the case of imperfect pricing coordination, the price would be in the range between W and W'' in Figure 6.

FIGURE 6



Frankenstein Monster

total market sales to R' while price remains at W . However, if the purchaser creates a Frankenstein Monster, so that the remaining suppliers can coordinate their pricing, they then would supply only the quantity (R'') where marginal revenue (MR') equals the cost of supply (S'), yielding a price of W'' .

B. *Gaining Power over Price*

A firm that raises its rivals' costs has not necessarily gained anything. It may have harmed one or more of its competitors, but has it harmed competition? Competition is harmed only if the firm purchasing the exclusionary right can, as a result, raise its price above the competitive level. Under two conditions, each of which may frequently occur, the purchaser will

Raising Rivals' Costs

not be able to increase its price and so competition in the market in which the purchaser and its rivals sell may remain unaffected.¹⁰⁸

1. *Effects on Rivals' Costs*

First, the increase in the input's price may be so insignificant that it has little effect on the total costs of actual or potential competitors. This result can occur if the input price increase is small or if the input from which rivals are excluded accounts for only a small fraction of their total costs. Consumer welfare is unlikely to be affected by a strategy that raises the price of a key input from \$10 to \$10.01 or by one that doubles the total cost of one of a firm's inputs from \$1 to \$2 when other necessary inputs cost \$1,000 per unit of output produced.

2. *Effects on Competitive Abilities or Incentives*

Second, even if excluded rivals' costs increase significantly, the purchaser of an exclusionary right still may not gain power over price. Competition from any of three sources—other competitors who also purchase exclusionary rights, unexcluded rivals, or potential entrants—might still prevent the purchasing firm(s) from raising price as these other competitors take up the slack caused by the diminished output of excluded rivals. This competition will not occur, however, if these firms lack the ability or incentive to compete.

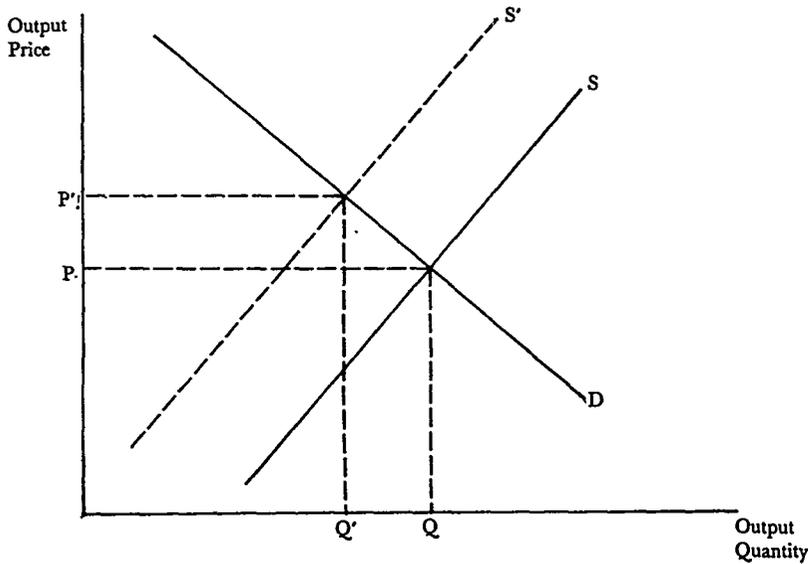
a. *Ability To Compete ("Foreclosure")*

Unexcluded firms not saddled with significantly increased costs from the exclusionary right will nonetheless lack the ability to compete for the slack if they face barriers to entry or expansion such as governmentally enforced production quotas or their own limited capacity that cannot be expanded rapidly without increasing costs. In such a case, unexcluded firms' selling prices (and often market shares) will increase as a result of excluded rivals' decreased sales caused by their increased costs.¹⁰⁹

108. For a technical analysis of this issue, see S. SALOP & D. SCHEFFMAN, *supra* note 73; Salop, Scheffman & Schwartz, *supra* note 73.

109. This result, occurring in the purchasing firm's output market, is analogous to the results produced in the same firm's input market by the Bottleneck and Real Foreclosure techniques. Bottleneck and Real Foreclosure increase input prices by directly restraining input supplies. Here, output prices charged by firms in the purchasing firm's market rise because supply is restricted by the combination of cost increases to certain firms and entry or expansion barriers facing the remaining firms.

FIGURE 7



Foreclosure

Figure 7 illustrates this phenomenon.¹¹⁰ When output supply shifts back, because of constraints on excluded rivals, from *S* to *S'*, output price rises from *P* to *P'* and output falls from *Q* to *Q'*. The barriers to entry and expansion facing unexcluded firms prevent them from expanding to maintain the competitive price at *P*.

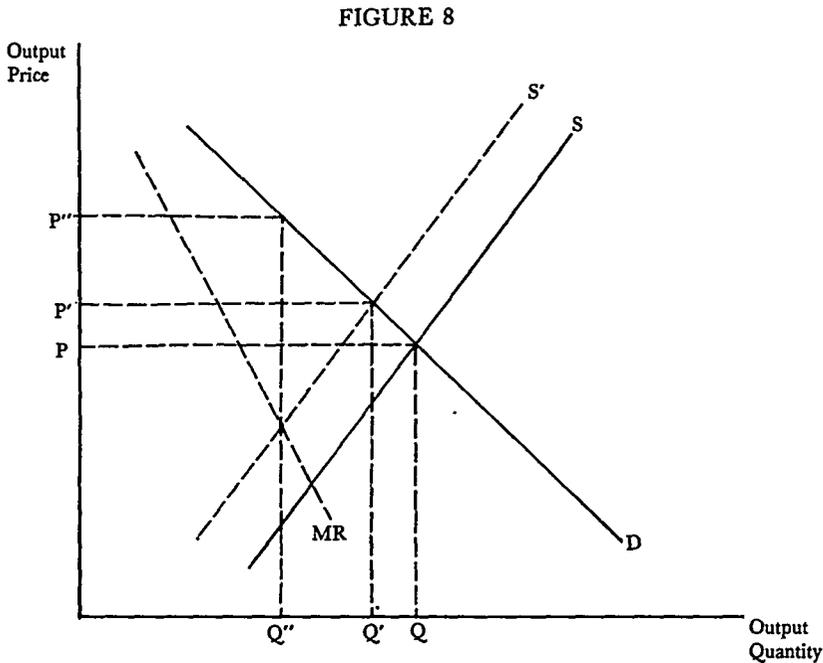
b. *Incentive to Compete ("Facilitating Coordination")*

Even if both the firm(s) purchasing exclusionary rights and any established rivals whose costs are not increased by these rights can expand or enter to take up the slack, they may lack the incentive to do so. After the exclusion of the rivals, these firms may be sufficiently few that they can then choose not to compete but, rather, to collude expressly or to coordinate tacitly among themselves to restrain output and raise price. Purchasers gain power over price when exclusionary rights agreements remove

110. Our depictions of the input market in Figures 1-6 denote price and quantity by the symbols *W* and *R* respectively. For the output market, Figures 7-9 denote price as *P* and quantity as *Q*.

Raising Rivals' Costs

restraints on their pricing (and output) decisions. This is the kind of result antitrust policy seeks to avoid.¹¹¹



Unlike the case depicted in Figure 7, where foreclosure raised the equilibrium price to P' , facilitating coordination leads, in Figure 8, to a further price increase to the monopoly price, P'' , and a further output reduction to Q'' . Competitors are now better able to coordinate prices, leading them to set marginal revenue (MR) equal to marginal costs (S') at output Q'' .¹¹²

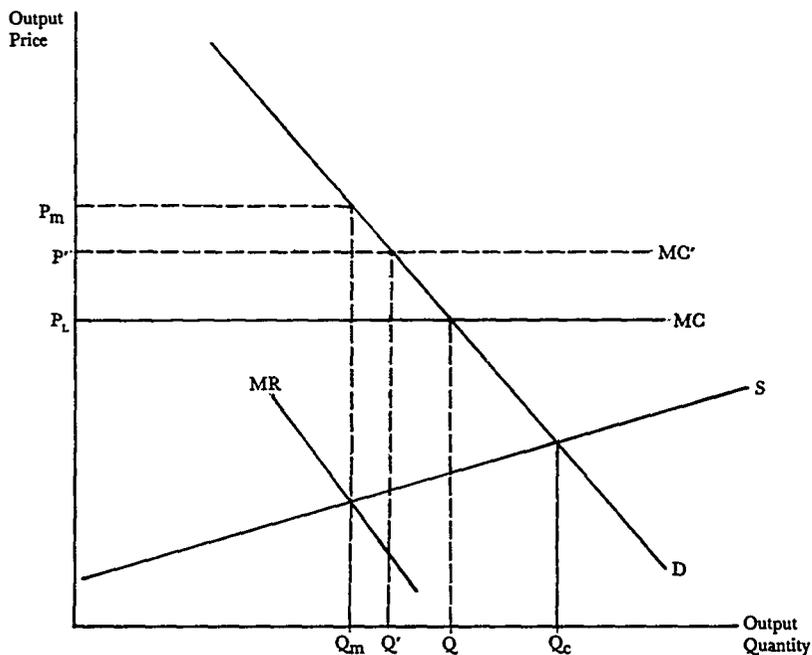
111. This increased influence over price and quantity in output markets is analogous to the collusive results produced in the input market by the Cartel Ringmaster and Frankenstein Monster techniques, which raise input prices by removing from the competitive arena those firms that prevent remaining suppliers from expressly colluding or tacitly coordinating prices against the purchaser's rivals.

112. In most cases, presumably, pricing coordination will be imperfect, leading to a price in the range between P' and P'' .

c. *Effects on Potential Competitors ("Raising Barriers to Entry")*

In some markets, potential competition provides a significant competitive check on established firms distinct from the check that established firms exert on each other. Even assuming that established firms could collude successfully to achieve a monopoly, potential entrants can keep prices down if entry is easy. Thus, if exclusionary rights significantly raise costs for potential entrants, such rights will raise entry barriers into the market and enhance established firms' power to raise price.¹¹³

FIGURE 9



Raising Barriers to Entry

This case is illustrated in Figure 9. The supply curve of established firms is denoted by S, and the monopoly price and quantity, unconstrained by entry, are denoted by P_m and Q_m .¹¹⁴ However, the market

113. See J. BAIN, *INDUSTRIAL ORGANIZATION* 331 (1959); R. POSNER & F. EASTERBROOK, *supra* note 1, at 516-17, 666; W. BAUMOL, J. PANZER & R. WILLIG, *CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE* (1982); see also *supra*, Section IV.A.3.b. (discussing Frankenstein Monster).

114. The monopoly output, Q_m , is the output level at which marginal revenue (MR) equals the

Raising Rivals' Costs

price is constrained to a lower level denoted to P_L equal to the long-run costs of potential entrants (MC). If the exclusionary rights agreement raises the costs of potential entrants to MC' , entry would provide less of a restraint on established firms, allowing the market price to rise from P_L to P' and output to fall from Q to Q' .¹¹⁵

3. *Effects on Production Efficiency*

The preceding analysis explains how a firm that raises its rivals' costs may enrich itself by gaining larger profits and hurt consumers by raising price above prevailing levels. That result is certainly inconsistent with the central goals of antitrust policy.¹¹⁶ In more technical terms, allocative efficiency has declined because price has risen above the actual cost of production and output has fallen accordingly. Some consumers willing to purchase the product at a price sufficient to cover the production costs cannot do so.

Even if the purchaser succeeds only in raising its rivals' costs (and does not also gain power to raise price), it still may deprive society of another benefit promised by free markets, minimization of the costs of producing output. This benefit, often termed "production efficiency," is realized when each firm minimizes its own costs of production and when all firms produce output commensurate with their relative costs (i.e., when lower cost firms produce more output).¹¹⁷ Simply raising some rivals' costs, without conferring power over price, can reduce production efficiency if, as a consequence, excluded rivals reduce output leaving slack that can only be taken up by higher cost competitors.¹¹⁸ Moreover, the excluded rivals no longer produce at minimum cost if the exclusionary rights agreement compels them to substitute less efficient inputs.

Our approach, however, would not impose antitrust liability on exclusionary rights purchasers who reduce production efficiency without also gaining power over price. We omit such a standard principally because, except in extreme cases, firms have no incentive to impose production inefficiencies on their rivals (i.e., to raise rivals' costs) unless they also can achieve power over price. Thus, cases in which the purchaser inflicts only production inefficiencies should be quite rare. Yet acceptance of such claims would permit rivals routinely to complain of efficient exclusionary

cost of supply for established firms (S). The competitive price is the price where supply equals demand at a higher output, Q_c .

115. If pricing coordination is imperfect, price will rise to a level in the range between P_L and P' .

116. *See supra* note 12 and accompanying text.

117. This statement assumes that all firms have rising marginal costs. If all firms have constant marginal costs, of course, then efficiency dictates that the lowest cost firm produce all the output.

118. That is, lower cost competitors cannot enter or expand at constant costs.

practices. Many, perhaps most, exclusionary rights agreements can plausibly be alleged to confer some cost savings on firms that purchase them.¹¹⁹ In our judgment, to make the incidental infliction of production inefficiencies on rivals, by itself, a basis for liability would place too heavy a burden of self-restraint on firms that antitrust policy urges to compete with each other.¹²⁰

C. *The "Leverage" Debate*

The preceding analysis might be questioned on a different basis. One line of criticism of prevailing vertical integration doctrine holds that "[t]here is only one monopoly profit to be made in a chain of production."¹²¹ According to this criticism, a firm that monopolizes one market cannot increase its profits by extending, or "leveraging," that monopoly into a vertically adjacent market. Some might argue that our analysis conflicts with this "no leverage" proposition because it suggests that input suppliers can gain power simply by integrating with their purchasers.

This criticism, however, misconceives our claims by assuming the existence of a monopolistic input supplier.¹²² Our analysis explains how the purchase of exclusionary rights can facilitate output restrictions by suppliers who, absent these rights, would be selling inputs as competitors or oligopolists, not as monopolists. The purchasing firm plays two roles in this process: It, in effect, organizes disorganized suppliers, and it profits from the suppliers' restrictions of output to the purchaser's rivals and therefore can compensate suppliers for that restriction. Our claim is not that the exclusionary rights agreement magically can transfer or extend monopoly power from one level in a chain of production to another. Rather, we have shown that exclusionary rights, by effectuating a partial merger or supply restraint, or by facilitating coordination among compet-

119. See *supra* Section III.B. Where no plausible efficiency claim can be made, as in the case of naked exclusionary rights, plaintiffs might be relieved of the burden of proving that the purchaser achieved power over price or might at least be held to a less rigorous standard of proof on that issue.

120. Those who disagree with these conclusions need not discard our entire analysis. They can simply embrace our analysis of techniques for raising rivals' costs, employ this analysis to formulate a standard of liability, and possibly create a mechanism for exempting exclusionary rights supported by substantial efficiency justifications.

121. R. POSNER & F. EASTERBROOK, *supra* note 1, at 870.

122. Indeed, the no leverage view rests on several limited premises: (a) There is a monopoly supplier; (b) The purchasing firm and its rivals use all inputs, not just those sold by the restrained supplier, in fixed proportions; (c) The purchasing firm and its actual and potential rivals employ identical technologies, face equal costs, have constant marginal costs of production, and, if they are multiproduct firms, confront no cost or demand interdependencies; and (d) The purchasing firm and all its actual and potential rivals are vertically integrated to the same degree and have the same degree of bargaining power over input suppliers. Only under these stringent conditions (or under the equally extreme assumption that suppliers can perfectly price discriminate) is it true that vertical integration (or raising rivals' costs) can never be profitable. See authorities cited *supra* note 73.

Raising Rivals' Costs

ing suppliers, can generate monopoly power that would not exist otherwise.

If the input supplier is a single-firm monopoly, the exclusionary rights agreements may not permit purchasers to gain power over price. In these cases, the monopoly supplier often would prefer to sell to a competitive market or would need no help in orchestrating its own unilateral restriction in the supply of inputs.¹²³ Although simple, even this limited proposition is not universally true. For example, if a monopoly input supplier is subject to price regulation, it may be able to evade that regulation, and charge monopoly prices, by integrating with one or more of its purchasers via exclusionary rights agreements.¹²⁴ Also, if firms in the output market sell many products and use the restrained input only in some of those products, but there are cost or demand interdependencies in producing or selling the products, then excluding rivals from one input used in one product market may give an exclusionary rights purchaser a competitive advantage and power to raise price in other markets.¹²⁵ Thus, purchases of exclusionary rights from monopolistic input suppliers should be viewed less skeptically, but should not be immunized from antitrust liability.

V. POLICY IMPLICATIONS

To review the argument, a successful anticompetitive exclusionary rights agreement can substantially raise the input costs of the purchaser's rivals. When this occurs, the purchasing firm can then raise its output price unless enough actual or potential unrestrained competitors remain ready, willing, and able to discipline the purchasing firm's prices. Both the cost increase to rivals and any resulting price increase by the firm strategically acquiring an exclusionary right are unambiguously inconsistent with the consumer welfare antitrust standard, unless the exclusionary rights agreement also allows the purchasing firm to achieve overriding economies.¹²⁶ Absent redeeming efficiencies, rivals' costs and, therefore,

123. See R. POSNER & F. EASTERBROOK, *supra* note 1, at 803.

124. See *id.* at 870 n.2 (regulated seller can realize monopoly profits by integrating into input supply market).

125. For example, suppose Broadway-Hale denied Klor's access to kitchen appliances sold by a monopolistic supplier-manufacturer. Klor's might then encounter more difficulty attracting consumers into its store and thereby face higher costs of selling other items (say, stereos) on which Klor's competes with Broadway-Hale. If so, then Broadway-Hale might be willing to compensate the monopolist kitchen appliance supplier for its revenue loss out of Broadway-Hale's gains in the stereo market. An appliance price rise over the monopoly level probably would reduce the supplier's profits by less than the gain to Broadway-Hale because the supplier was maximizing its profits before the restraint. The Envelope Theorem demonstrates that a small price rise above the monopoly price charged to rivals would reduce the supplier's profits by an order of magnitude less than the increase in Broadway-Hale's profits. See H. VARIAN, *MICROECONOMIC ANALYSIS* (1982).

126. Significant efficiencies should not necessarily immunize exclusionary rights that enhance market power. See *infra* Section VII.C. The purchaser may still price monopolistically while produc-

prices are artificially increased and the purchasing firm acquires effective monopoly power, the ability to raise price above the competitive level.¹²⁷

One may fairly ask why exclusionary rights agreements are not more commonly employed to generate monopoly power. Apart from antitrust constraints, the reason is that in many instances the exclusionary right will not harm competition and therefore promises no economic benefit to its purchaser. Certain structural conditions must exist within the relevant markets for such a strategy to succeed. A sensible antitrust rule should take account of the existence of such conditions.

Suppose, for example, that firm A, one of twenty-five manufacturers of wooden matches, obtained a promise from two suppliers of paper clips, S_1 and S_2 , that they would not sell to firm B, another wooden match maker. The agreement is quite unlikely to have any anticompetitive effects. B might use paper clips in its business operations, but should be able to switch easily to competitors of S_1 and S_2 . If not, B may be able to use staples or tape without increasing its costs so much that it must raise price significantly. In other words, there would be no effective foreclosure. However, even if B's costs do increase, A is not likely to achieve power to raise the price of wooden matches, given the twenty-three other competitors A faces. Supply of wooden matches would not fall significantly, and pricing coordination would not be substantially easier. Finally, even if A significantly raised the costs of all its competitors, competition from paper matches probably would constrain A's ability to raise wooden match prices. In such a case, the inference would be virtually overwhelming that A's exclusionary right is harmless. An antitrust policy predicated on the consumer welfare standard would not proscribe such a contract.¹²⁸

How may antitrust enforcers and judges separate the sheep from the goats? Generalizing from the hypothetical, two conditions must be satisfied before the purchase of exclusionary rights can have an anticompetitive effect. First, conditions in the input market must enable the purchaser to raise its competitors' costs by purchasing exclusionary rights. These exclusionary rights contracts must significantly raise the competitors' costs.¹²⁹

ing efficiently. See Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18 (1968).

127. The purchasing firm sometimes may choose to exercise this monopoly power by expanding its output rather than by raising its price. Such a choice, which may be altered by the firm at any time, does not affect the consumer welfare analysis of the exclusionary rights practice. In this case the injury is the potential for price increases in the future as well as the inefficiency of its output expansion relative to its (formerly) lower cost rivals. There is a potential conflict between the welfare of consumers and rivals only in extreme cases where the purchaser increases output so much that price actually falls. In such cases, the purchaser maintains the power, if not the incentive, to raise price, given current demand conditions.

128. For a possible qualification of this conclusion, see *supra* Section IV.B.3.

129. Throughout this Article, when we refer to rivals' costs, we mean those costs that affect firms' pricing opportunities and strategies. As a general matter, this means that one should inquire into

Raising Rivals' Costs

Second, conditions in the output market must enable the purchaser, after its competitors' costs increase, to increase its price. It will acquire this power only if unexcluded rivals lack the ability or incentive to expand their output in response to the purchaser's price increase and if potential entrants cannot take up the slack.

This anticompetitive power to raise price does not necessarily include only the traditional market power of a seller to raise price above marginal cost without losing all of its sales.¹³⁰ Even in a perfectly competitive market, firms pricing at marginal cost can gain if their rivals' marginal costs increase and if that increase results in a higher competitive market price (as higher cost rivals reduce their outputs).¹³¹ Thus, a firm need not enjoy or acquire traditional market power to gain the ability to price above pre-exclusionary-rights competitive levels. The strategy requires only barriers to entry and expansion in the output market to succeed.¹³² As explained

whether the exclusionary strategy increases rivals' marginal (or incremental) costs. Marginal cost is the additional cost of producing an additional unit of output. Incremental cost is a more general concept, encompassing the additional cost of producing an increase in output, regardless of whether the increase is a single unit or a firm's total output, or involves the additional cost of improving product quality. Marginal and incremental costs govern pricing behavior. *See infra* text accompanying note 194. Fixed costs are those costs that do not vary with the quantity produced and do not affect pricing behavior except in those cases where fixed costs are rightfully considered incremental.

Thus, whether the cost of a particular input is deemed fixed depends on the time period under consideration. This issue is reminiscent of the controversy over what costs to include as variable costs in predatory pricing cases. *See* 3 P. AREEDA & D. TURNER, *ANTITRUST LAW* 154-56 (1978); Ordover & Willig, *supra* note 73. In general, the duration of the exclusionary rights agreement determines whether the affected cost is marginal or fixed. The input purchase involves a marginal (or incremental) cost to the rival if the input can be varied by that firm within the time period of the exclusionary rights agreement.

Further, where product quality is an issue, the distinction between fixed and marginal cost is less important. Both affect incremental cost if the level of fixed costs varies with different quality levels, even while remaining fixed for different quantities produced. In this case, when a rival's fixed costs rise, the rival may find it most efficient to produce a somewhat lower quality product to economize on fixed costs. To keep its product competitive, however, this rival also would have to lower its price accordingly. The effect would resemble a marginal cost increase because the rival is made less capable of constraining price increases by the exclusionary rights purchaser. The rival's effective incremental costs—its cost of increasing product quality by an incremental amount—rise as a result of the exclusionary right. A similar analysis applies to exclusionary conduct that reduces a rival's customer base. This latter analysis often is useful in analyzing exclusionary tying arrangements. The fixed-marginal cost distinction also is blurred if the exclusionary right affects a firm considering entry or expansion. For established firms, some input costs are marginal if they are contemplating expansion, but fixed if they are evaluating a contraction in output. For entrants, all costs are marginal (or incremental). If an entrant does not produce, it need not bear even fixed costs.

Thus, the relevant question is whether rivals' marginal (or incremental) costs rise. In answering that question, however, one must be particularly sensitive to the duration of the exclusionary rights agreement, whether the agreement is likely to affect rivals' product quality, and whether excluded rivals are contemplating entry, expansion, or contraction.

130. *See* 2 P. AREEDA & D. TURNER, *supra* note 129, § 501; *see also infra* note 132.

131. The competitive price will rise only if marginal costs of established firms rise with output. Rising marginal costs create what we sometimes refer to as barriers to expansion.

132. For example, even if the market for taxi rides is perfectly competitive, in the sense that no single taxi driver has power over price, taxi owners collectively will likely earn more if bus service is greatly reduced and no new taxis enter the market. As a general matter, a firm can gain the power to raise price by unilaterally restraining its own output, by colluding with rivals to coordinate an indus-

below, however, the size of the firm, relative to its rivals, is relevant if one accounts for the likelihood that rivals can successfully resist the imposition of exclusionary rights.¹³³

If these two basic conditions are met, the strategy can succeed. For the strategy to succeed, however, the firm seeking an exclusionary right also must be able to purchase that right profitably, and its rivals must lack effective counterstrategies. Finally, one must consider whether some apparently anticompetitive exclusionary rights deals should be shielded from antitrust attack because they do or may generate overriding cost efficiencies.

The foregoing structure constitutes the coherent, articulated theory linking the fact of exclusion to the potential for anticompetitive injury that antitrust law presently lacks for vertical contract cases. When an exclusive dealing agreement, tying practice, vertical merger, boycott, or refusal to deal is challenged on the ground that it unduly restrains trade by excluding competitors, that complaint should be analyzed according to this framework.¹³⁴ Antitrust courts and enforcement agents should not focus on whether a non-trivial amount of commerce in the purchasing market is affected or whether traders have crippled their own or someone else's freedom or made consumers irate. Nor should they restrict their analysis to whether a substantial share of the purchasing market has been foreclosed to sellers.¹³⁵ Rather, they should center their analysis on whether the acquirer of the exclusionary right has gained power to raise its price because its acquisition has significantly raised its competitors' costs.¹³⁶ If so, courts and enforcers next should consider whether intervention is appropriate in light of the likely costs to the purchaser, counterstrategies available to its rivals, and the efficiency benefits of the practice.¹³⁷

try output restraint, or by inducing rivals to restrain their outputs unilaterally by raising their costs. In the latter case, even in a perfectly competitive output market, the exclusionary rights purchaser could still be said to have monopoly power, that is, the ability to exclude rivals ("raise rivals' costs") and control price ("gain power over price").

133. See *infra* Sections VII.A., VII.B.

134. Collaboration among competitors as an additional, perhaps separate, issue, especially with regard to Cartel Ringmaster, is discussed *infra* note 136.

135. See *supra* Section I. These questions may throw some light on the underlying issues of raising rivals' costs, power over price, and cost savings, but they do not have independent significance.

136. Cartel Ringmaster may provide an important exception to this approach. In Cartel Ringmaster, the vertical restraint may increase suppliers' profits directly as they are able to raise their prices to the rivals. Profitability thus may not depend on the purchaser's gaining power over price. Instead, the purchaser may be acting purely as a cartel manager. See *supra* note 102. In such a case, proof that rivals' costs are raised may be sufficient for antitrust liability. Proof of power over price may be unnecessary since the practice is, in essence, horizontal price-fixing. This is not to say, however, that efficiency defenses would not be available. See *Broadcast Music, Inc. v. Columbia Broadcasting Sys.*, 441 U.S. 1 (1979).

137. We seek to provide full analyses of these issues *infra* Section VII. In sum, we conclude that one cannot assume that rivals will always or usually be able to prevent purchasers from obtaining anticompetitive exclusionary rights or that suppliers will be unwilling to grant them. If rivals must

Raising Rivals' Costs

Three different types of objections can be offered to these arguments. First, some might argue that the standards we propose are theoretically sound but impractical as bases for implementing antitrust policy because they are too vague or open-ended. Others may argue that we are tilting at windmills, that without the aid of antitrust law, rivals easily can adopt counterstrategies to prevent exclusionary cost-raising tactics, that suppliers rarely will be willing to sell exclusionary rights, and that the intervention of antitrust authorities will lead only to the undue disruption of efficiency enhancing practices. Still others may assert that, although antitrust can and should respond to exclusion claims with a unified, simplified analytical structure, other methods are superior. The following three sections respond, in turn, to each of these arguments.¹³⁸

VI. MEASURING THE LIKELIHOOD OF ANTICOMPETITIVE EFFECTS

At a minimum, the structure elaborated in the preceding section defines the framework within which exclusionary vertical restraints issues should be analyzed. Some may complain that the standards we propose are so open ended and vague that they are not practically administrable. There is no simple or agreed upon method for determining how precise a standard must be before it can be deemed practically administrable.¹³⁹ Nevertheless, clearer standards than those set out above are available. They can be developed by adopting objective measures for estimating the likelihood and magnitude of anticompetitive effects. This process requires identifying the key factors of market structure and firm behavior that are conducive to successful exclusionary strategies and objective standards to measure the extent to which such factors are present in specific cases. In this fashion, the inquiry may be tightly structured to narrow the range of factual issues presented.¹⁴⁰

pay to avoid exclusion, then that payment can effectively raise their costs. Suppliers can be induced to grant exclusionary rights when purchasers can compensate them from the purchasers' increased profits that result from gaining power to raise price. Although these results will not always occur, they do reveal that one cannot assume that a competitive market for exclusionary rights is likely to lead to competitive product markets. Just as a competitor's direct acquisition of its rivals can sometimes create market power, so can the indirect acquisition that results from controlling rivals' sources of supply. Finally, exclusionary rights agreements often can lower their purchasers' costs. Where, however, opponents have carried the burden of showing that the agreement probably confers on its purchaser the power to raise price, defenders of the practice should be required to prove measurable, specific, countervailing efficiencies to justify the practice.

138. Our experience has been that a reader is likely to fear one of these arguments much more strongly than the others. However, readers vary greatly in identifying the most feared counterargument. Different readers, then, may wish to read the following three sections in different orders.

139. One reason is that people may mean different things in asserting that a legal rule or standard cannot be practically administered. They may fear that the standard permits frivolous claims, that it does not sufficiently proscribe the range of potentially relevant issues in close cases, or that it does not permit efficient disposition of meritorious claims.

140. Two sources of difficulty deserve emphasis. First, we do not claim the ability to judge when

A. *Are Rivals' Costs Raised?*

Our earlier analysis reveals that this question is best addressed by considering the various methods by which exclusionary rights can raise rivals' costs. The firm that purchases an exclusionary right achieves no anticompetitive end unless that firm's competitors suffer significant increases in their costs as a result.¹⁴¹ A set of standards or rules based on measures of likely effects emerges from considering how this might occur.

First, competitors will experience a cost increase if any of four conditions holds after the exclusionary right is established: (a) Bottleneck—the remaining input suppliers, who have not granted exclusionary rights, are more expensive or less efficient sources than the suppliers that entered into the exclusionary rights agreements; (b) Real Foreclosure—the remaining input suppliers have increasing costs of expansion or such limited capacity that competition for their goods by excluded purchasers will drive up their prices; (c) Cartel Ringmaster—the exclusionary rights agreement induces the supplying firms subject to it to refuse to deal with the purchaser's rivals or to sell to them only at higher prices than are charged to the purchaser; (d) Frankenstein Monster—although prior to the agreement input suppliers were unlikely to collude successfully, after the agreement the structure of a market consisting only of the remaining suppliers is such that they probably may now, tacitly or expressly, coordinate to increase price above levels that prevailed before the exclusionary agreement.¹⁴²

Second, the cost increase that results from any or all of these causes will

a particular rule is either "just right" or "sufficiently practicable." Second, as one improves predictability by adopting objective standards, measures, guidelines, or filters to distinguish permissible from impermissible conduct, one necessarily alters the probability that every meritorious claim will be vindicated and all others vitiated. Easterbrook, *supra* note 49, at 14-15. Moreover, choosing quickly applicable methods of measuring effects entails choosing the direction in which one wants to err. Should one be more careful to disapprove restraints that, if fully examined, would prove to be anticompetitive or to approve those that would prove harmless or procompetitive? The choice is unavoidable. One who believes that antitrust enforcement is likely to be dominated by boobs, indolents, and publicity hounds will wish to err on the side of overly permissive standards. One who believes that many firms very frequently confront and act upon opportunities to seize market power will wish to err in the opposite direction. Resolving these contentions is difficult. Not only are both difficult to test, but proof of one belief does not disprove the other. For these reasons, some will object to any further attempt to clarify—and therefore narrow or widen—the scope of illegal exclusionary vertical restraints by objective tests.

We try to take account of these sources of difficulty by setting out a series of measures for resolving each of the issues identified to this point. We seek to show that each measure will be responsive to the policy issues raised by vertical restraints cases. However, as discussed above, we are not prepared to defend any of them against the charges that they (a) are insufficiently administrable, (b) unduly sacrifice correct results for predictable ones or vice versa, or (c) err in the wrong direction. Such objections often can be met by altering the liability thresholds for the various objective measures.

141. For a discussion of the proper measure of cost, see *supra* note 129, *infra* Section VI.A.1.

142. In all of these illustrations, of course, "suppliers" refers not only to firms currently selling to the purchaser or its rivals but also to potential entrants and firms selling substitute products.

Raising Rivals' Costs

harm competition only if it is "significant" in the sense that it will materially increase the price that the purchaser's rivals must charge in their market to achieve the same level of profits. Thus, the input must account for a significant element of the rivals' total costs and the increase in the cost of that input must be significant, in magnitude and duration, as well.¹⁴³ Further, enough of the purchaser's actual and potential rivals must suffer the price increase so that remaining unexcluded rivals cannot or will not prevent the purchaser from exercising power over price.

A formal antitrust law that sets out these conditions as the initial inquiries in exclusion cases would be preferable to the formal standards now apparently in force. This refined approach, however, is still vague in that it does not indicate where to draw lines or how to measure the variables. When is a cost increase "significant" or a price rise "material"? What market structures are conducive to collusion? Different judges or different enforcement officials might vary greatly in identifying the precise point at which any of these conditions is met. Different economists might choose alternative variables as measures of relevant market conditions.

These problems are not unfamiliar to antitrust lawyers. Indeed, many of these issues have puzzled advocates, enforcers, and scholars concerned with antitrust merger law for decades. At the public enforcement level, the present resolution of the vagueness problem is to specify more particularly the circumstances in which these conditions are likely to arise. The Department of Justice (DOJ) has promulgated a set of merger guidelines¹⁴⁴ that define an analytic framework for evaluating the competitive effects of corporate mergers and constrain the Department's choices of which mergers to challenge. These guidelines employ numerical measures of market structure and pricing behavior that, together with other less easily quantifiable factors, are treated as surrogate measures for the likelihood of monopoly or collusive behavior. They also specify numerical thresholds beyond which the risk of anticompetitive effects arising is considered intolerable.¹⁴⁵ The approach of the merger guidelines can be adapted to

143. This formulation includes the duration of the cost increase as well as its size. If an exclusionary rights agreement raises rivals' costs for one day, to take an extreme example, competitive harm is unlikely. When we refer to an increase in costs, we mean those costs that persist long enough to affect firms' long-term pricing opportunities and strategies. The duration of the cost increase also affects the degree to which variable, rather than fixed, costs are increased. *See supra* note 129.

144. 49 Fed. Reg. 26,824 (1984) [hereinafter 1984 DOJ Merger Guidelines]. These guidelines replaced merger guidelines issued by the Justice Department in 1982 which, in turn, superseded Department merger guidelines promulgated in 1968. 2 Trade Reg. Rep. (CCH) ¶ 4500 (1971). In 1982, the Federal Trade Commission issued a "Statement Concerning Horizontal Mergers," *id.* at ¶ 4516, which has had little practical influence on merger policy or practice. The DOJ and FTC merger guidelines and statement are reviewed in detail in T. BRUNNER, T. KRATTENMAKER, S. SKITOL & A. WEBSTER, *MERGERS IN THE NEW ANTITRUST ERA* (1985) [hereinafter *MERGERS IN THE NEW ANTITRUST ERA*].

145. The use of guidelines might be justified on the grounds that they are accurate predictors of

the similar problem of gauging the probable effects of an exclusionary restraint.¹⁴⁶

Two features of the DOJ guidelines are particularly relevant here. First, the guidelines specify that the market power that merger enforcement is designed to avoid is the ability to raise price by a certain amount over a benchmark level.¹⁴⁷ Second, the guidelines seek to use objective standards to define those markets in which firms are most likely to be able to coordinate price increases or unilaterally to restrain output. Such markets, according to the guidelines, contain some entry barriers and exhibit a certain concentration level as defined according to the Herfindahl-Hirschman Index (HHI).¹⁴⁸ This measure is tempered by judgments

anticompetitive results or that, although not as reliable as one might desire, they are as cost-effective as the results of more protracted, open-ended litigation.

146. Of course, one who disagrees in principle with the approach of guidelines would not care to take this step. If the objection is to the concept or practice of using numerical measures as predictors of behavior, then presumably the preferred approach would be to follow the more general standards for assessing the legality of exclusionary rights agreements developed above. If the objection is that the merger guidelines use incorrect measures, either because the numbers are wrong or the wrong factors are used as predictors, then the following analysis can be altered easily to substitute the preferred for the disfavored numbers or predictors. For example, one might regard an 1800 HHI as relatively insignificant and draw a sharp distinction at a 2500 HHI. Someone else might believe useful guidelines should employ more prominent and systematic measures of entry barriers rather than market concentration. See, e.g., Salop, *Measuring Ease of Entry*, 31 ANTITRUST BULL. 551 (1986).

147. 1984 DOJ Merger Guidelines, *supra* note 144, §§ 2.11, 2.31. The guidelines appear to treat the ability to raise price by 5% over current price as a measure of market power. There is dispute, however, over whether 5% is truly the guidelines' benchmark. The dispute arises because of the kinds of results the merger guidelines generate. Under the guidelines, a market is a group of products within a geographic region such that a hypothetical firm that monopolized all those products could profitably impose a "small but significant and nontransitory" increase in price. *Id.* The DOJ states that its objective methods for defining markets under these guidelines "in most contexts will use a price increase of five percent lasting one year." *Id.* § 2.11.

One way to read the policy underlying these tests is that the guidelines permit a complete merger of all firms producing a product whose price could be raised by at most 4%. Hence, market power under the guidelines can be described as the ability to raise price by at least 5%.

Frederick Warren-Boulton has suggested, however, that the guidelines also would interdict a merger of far fewer than all the producers of a product whose price profitably can be raised only slightly more than 5%. Hence, one might say that the guidelines' policy is to combat relatively small increases in the probability of collusion, which translate to effective expected price increases of much less than 5%.

Yet another interpretation of the guidelines' results is that they rest upon an implicit understanding of business judgments: that firms will not bear the risks and costs of attempting to collude or coordinate on pricing unless they can expect at least a 5% price increase if they succeed.

Of these three interpretations, the first suggests that if the merger guidelines are taken to express a general antitrust policy, exclusionary rights that increase rivals' marginal costs by 5% or more are suspect. The second interpretation argues for a lower figure. The third raises an empirical judgment about how firms assess the relative costs and risks of seeking price increases by (a) express or tacit horizontal price coordination or (b) vertical exclusionary rights contracts.

A second issue is the price benchmark used to evaluate the price increase. Whether the proper price benchmark should be the current price (as in the 1984 guidelines) or the competitive price depends on whether the restraints are already in place and whether opportunities for deconcentration are intended to be preserved.

148. *Id.* § 3.1. The HHI is calculated by squaring the market share of each firm in the relevant market and summing the resulting values. The weight placed on concentration measures like the HHI is controversial. See, e.g., CONFERENCE ON INDUSTRIAL CONCENTRATION, INDUSTRIAL CONCEN-

Raising Rivals' Costs

based on certain other objective "plus" factors regarding the ease of collusion, such as the homogeneity of the market's product and the ability of smaller firms in the market to expand output.¹⁴⁹ The guidelines provide that mergers among non-dominant competitors are likely to be challenged where the post-merger industry HHI in the market exceeds 1000 and the HHI increase due to the merger is more than 100, or where the post-merger HHI has increased more than 50 to a total of over 1800. Where one of the merging firms already has a thirty-five percent market share, a smaller HHI increase renders the merger suspect (the "leading firm proviso").¹⁵⁰

These measures of intolerable effects and methods of estimating their likelihood could simply be carried over to the rule for determining when an exclusionary rights agreement is sufficiently likely to raise rivals' costs and give power over price enough to warrant prohibition.¹⁵¹ A number of considerations suggest, however, that enforcers and courts should be more tolerant of potentially anticompetitive vertical exclusionary rights agreements than of potentially anticompetitive horizontal mergers. First, some observers probably believe that, as compared to horizontal mergers, agreements conferring exclusionary rights also produce efficiencies more often, or produce larger efficiencies, or both.¹⁵² Second, mergers are more permanent than commercial contracts, and any harm they cause is thus more

TRATION: THE NEW LEARNING (H. Goldschmid, M. Mann & J. Weston eds. 1974).

149. 1984 DOJ Merger Guidelines, *supra* note 144, § 3.0.

150. *Id.* § 3.12.

151. For example, if the claim is that a restraint creates an unacceptable likelihood that unrestrained firms will coordinate their pricing decisions and thereby raise the costs of the purchasing firm's rivals (Frankenstein Monster), and it appears that entry barriers exist, one could ask whether the post-restraint HHI of the unrestrained suppliers would be deemed intolerably high by the merger guidelines. Since the merger guidelines purport to address the same questions our exclusionary rights analysis yields—for example, how much market power is too much, at what point does concentration unduly threaten coordination—a simple transfer of the numerical thresholds in the merger guidelines to a set of standards for screening out unconvincing vertical restraints complaints might seem logical and sensible (or, more precisely, as sensible as the merger guidelines).

In fact, however, a simple transfer of numbers may be quite illogical. As noted above, all guidelines substitute quick and generalized analysis, based on objective data, for slower and more particularized study of additional relevant facts. As such, guidelines are not only attempts to arrive at sound surrogate figures for conclusions that could be verified only by complicated, lengthy, detailed examination of firms and industries, but are also exercises in determining an acceptable margin of error. In choosing to draw a line above which the HHI is taken to indicate a very substantial likelihood of collusion—and therefore a high probability that the merger will be challenged—the guidelines drafters had to choose how much to err on the side of permitting mergers that upon close inspection would be likely to generate market power and how much to risk blocking neutral or procompetitive mergers. Balancing these two kinds of error, the drafters chose two balance points, 1000 and 1800. Because the probable errors may not be the same for cases involving mergers and those involving vertical restraints, a simple transfer of these numbers to exclusionary rights cases may be illogical.

152. See, e.g., R. BORK, *supra* note 1, at 217–22, 225–31 (same); L. SULLIVAN, *supra* note 2, at 613–17, 667–69 (efficiency justifications more likely and more important in vertical mergers than in horizontal mergers); see also O. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTI-TRUST IMPLICATIONS* (1975). In principle, vertical restraints are more easily aimed at efficiency goals; they allow the parties to integrate only to the point necessary to reduce costs.

lasting. For the same reason, anticompetitive exclusionary restraints can be remedied more cheaply and more quickly than anticompetitive horizontal mergers. Third, it is often claimed that the efficiencies that horizontal mergers produce can usually be obtained by the less threatening method of internal expansion.¹⁵³

The policy considerations are not all one-sided, however. For example, mergers can revitalize firms.¹⁵⁴ Further, the more complete integration of the merger may make certain efficiencies not only more permanent, but of greater magnitude. Alternative, less restrictive vertical restraints may exist that provide equivalent efficiency benefits without increasing rivals' costs or raising entry barriers.¹⁵⁵ Finally, an exclusionary vertical agreement can solidify cooperation among competing firms. Embedding the collusive agreement in a vertical contract can make it easier and more credible to prevent cheating because the purchaser may be well situated to monitor the suppliers and (absent antitrust strictures) enforce the contract. At the same time, purchasers who gain from collusion against their rivals can transfer some of their extra profits back to the suppliers. In this way, they can make some of the side payments that may be necessary for successful coordination.¹⁵⁶

Thus, whether the merger guidelines' particular numerical thresholds should, where appropriate, be grafted directly onto a set of standards for vertical restraints cases depends on a judgment about the relative desirability of tolerant attitudes towards mergers and exclusionary rights agreements. We can, however, describe when standards of measurement like those in the Department's guidelines might facilitate assessing antitrust attacks on exclusionary rights agreements and what kind of specific numerical standards might be adopted by analogy to the merger guidelines.¹⁵⁷

1. *Bottleneck*

Whether remaining sources of supply are higher-cost and therefore necessarily higher-priced than restrained suppliers is a question that must be

153. See, e.g., 1968 Department of Justice Guidelines at pt. 10, 2 Trade Reg. Rep. (CCH) ¶ 4510 (1971).

154. 1984 DOJ Merger Guidelines, *supra* note 144, at pt. 1.

155. Whether a less restrictive alternative is available may depend on the type of exclusionary right at issue. This highlights a problem with establishing general guidelines for varied types of exclusionary rights. One could argue, for example, that tying arrangements and overbuying allegations should be subjected to different guidelines because alternative methods for achieving possible efficiency gains are not as widely available for one type of conduct as for the other.

156. See Krattenmaker & Salop, *supra* note 103, at 111-12.

157. Exclusionary practices not directly involving input suppliers also can be analyzed using the methods set out in this Article. For example, if a firm is alleged to have dynamited its rival's factory, the first question to ask is whether that conduct significantly raised the rival's costs.

Raising Rivals' Costs

answered directly. No surrogate standard exists—nor should one be necessary or particularly helpful—for determining whether restrained suppliers control an “essential facility” or a “bottleneck.”

The question remains whether the cost increase is large enough to give the advantaged purchasing firm too great a power over price. The Department's guidelines suggest that the cost increase is unacceptable if it means that excluded rivals cannot avoid experiencing an increase of some specified amount (e.g., five percent) in their costs. Those who prefer a deeper or shallower safe harbor for exclusionary rights agreements than for mergers might adopt a higher or lower figure. Whatever number is chosen, the central point is that the likelihood that a price increase will confer monopoly power on competitors is a function of both the size of the increase and the magnitude of the particular factor of production in the firms' overall costs of doing business.

We denominate as the cost share, or CS, the percentage of rivals' costs that is accounted for by the input involved in the exclusionary rights agreement.¹⁵⁸ Cost share is relevant to all of the mechanisms of raising rivals' costs that we discuss. The smaller the cost share of the input, the less will be the effect on rivals' overall costs of a price increase for that one input. For example, if retailing services represent forty percent of the costs of selling shoes, foreclosure of that input will allow a shoe price increase four times as great as that which could be obtained were retailing only ten percent of costs.

2. *Real Foreclosure*

Whether the exclusionary rights arrangement will so limit remaining supply available to rivals that it will lead them to bid up the price of that supply, thereby increasing their costs to the point that the purchaser obtains power over price depends on the cost share, on what we call the net foreclosure rate, and on factors concerning market definition and entry barriers. The net foreclosure rate (NFR) measures the shrinkage resulting from the exclusionary rights agreement of supply open to rivals. The NFR is the percentage of the suppliers' capacity that was available to rivals before the exclusionary rights agreement was adopted but that is no longer available as a result of the agreement. Thus, any pre-agreement consumption of supply by the purchasing firm is subtracted from the total amount of supply foreclosed and from the amount previously available. For example, assume that Brown Shoe accounted for ten percent of shoe

158. As a practical matter, one can often assume that marginal costs equal average incremental costs and treat cost share as the share of incremental costs accounted for by the restricted supply product. See *supra* note 129.

manufacturing sales and Kinney controlled thirty percent of shoe retailing capacity. If Brown acquired Kinney and then excluded other shoe manufacturers from selling through Kinney (i.e., buying shoe retailing services from Kinney), the net foreclosure rate would be twenty-two percent.¹⁵⁹ The greater the share of supply foreclosed, the greater the price increase the purchaser would be able to charge in the output market in which it sells.

The percentage increase in rivals' unit cost of the foreclosed input exactly equals the net foreclosure rate if the rivals' ability to substitute to alternative input suppliers implies an elasticity of demand for the input equal to unity and if the supply of the input cannot be expanded through entry or expansion of unexpected suppliers when the input price begins to rise.¹⁶⁰ In this case, the NFR equals the percentage reduction in output. If, in addition, elasticity is one, then the percentage increase in price equals the percentage reduction in supply and rivals' incremental costs rise by the product of NFR and CS. The exclusionary rights strategy will raise the input price by more or less than the net foreclosure rate, depending on the rivals' ability to substitute to other inputs, the degree to which new suppliers and remaining nonforeclosed suppliers can take up the excess demand created by the foreclosure, and conditions in the output market.¹⁶¹ These issues are analyzed in gauging market definition and ease of entry in the purchaser's output market, using the standard tools of the merger guidelines.

3. *Cartel Ringmaster*

Whether the supplying firms from which the purchaser has obtained exclusionary rights have agreed to refuse to deal with or to raise price to the purchaser's rivals is a question of fact. Assuming that they have, the agreement nonetheless may prove ineffectual for any of three reasons.

First, as previously discussed, the increase in excluded rivals' input costs may be too insignificant to give the purchaser power over price. Second, the restrained suppliers may be sufficiently numerous and small that the agreement may break down as they succumb to the desire to shave price or to deal with rivals despite the contract. This constraint on price rises should not be overstated. Frequently, the exclusionary rights agree-

159. This is calculated as follows: Before the merger, 90% of the supply capacity was available to Brown's competitors. Since Brown foreclosed 20% of that 90%, the net foreclosure rate is 20% divided by 90%, or 22%. See 2 P. AREDA & D. TURNER, *supra* note 129, at 376-85, for an analysis of measuring foreclosure.

160. This ignores, for now, any increase in the output market price. That price rise is taken into account below.

161. 1984 DOJ Merger Guidelines, *supra* note 144, at pt. 2 (discussing these issues of "factors" in context of gauging market definition and entry barriers in input market).

Raising Rivals' Costs

ment itself will serve as a vehicle by which the purchaser of the rights prevents such defections by monitoring and legally enforcing the restrained suppliers' agreements to act in concert. But the incentives of these firms to compete with each other may override the purchaser's ability to keep them in line, particularly if non-price competition is an essential factor in that market and enforcement of the agreement by the purchaser is difficult. The likelihood that competition among restrained suppliers will undo the purchaser's strategy could be measured by treating the restrained firms' capacities as a "market" and then computing the HHI for that market. The higher the HHI, and the more guidelines "plus" factors suggest that collusion is more likely, the greater the probability that the price discrimination will persist.

Third, competition from unrestrained firms may undermine the strategy. That likelihood can be measured by analyzing the competitive significance of a hypothetical merger among the restrained firms by comparing two HHIs. Initially, one would calculate the HHI of the entire supply market before the restraint, the "pre-merger" HHI. Next, the HHI of the supply market after the restraint should be calculated, treating all restrained firms as though they had merged.¹⁶² This corresponds to the post-merger HHI. The "post-merger" HHI and the increase in the HHI, together with consideration of the magnitude of entry barriers and the presence or absence of plus factors indicating an enhanced likelihood of collusion, measure whether competition from unrestrained firms is likely to erode the scheme.¹⁶³

Putting these three possibilities together and borrowing directly from the Department of Justice merger guidelines,¹⁶⁴ a colorable claim is advanced under the Cartel Ringmaster theory if the following three conditions are met: (a) The exclusionary rights agreement directs the supplying firm(s) to refuse to deal with the purchaser's rivals, or to deal with them on terms so disadvantageous that, if implemented, the differential will raise rivals' costs by some stated amount (e.g., five percent);¹⁶⁵ (b) The HHI of a hypothetical "market" consisting only of the restrained firms exceeds 1000 (or 1800) and other industry characteristics do not indicate that price coordination is exceedingly difficult; (c) A horizontal merger of

162. Again, capacity rather than output generally is the proper base for calculating concentration measures in exclusionary rights cases.

163. One "plus" factor would be the ability of the purchaser to transfer profits back to the restrained firms through the exclusionary rights agreement. *See supra* text accompanying note 156.

164. *See supra* text accompanying notes 148-50 (discussing guidelines' general approach to gauging market power).

165. One may want to prevent input price increases of less than five percent, especially in light of the horizontal coloration of this practice. Indeed, as we discuss elsewhere, Cartel Ringmaster is the one place where proof of power over price may be unnecessary; the vertical restraint may be a veil for express collusion among suppliers. *See supra* notes 102, 136.

all the restrained firms would violate the DOJ guidelines. In other words, the HHI of the input supply market, treating all restrained firms as one, exceeds 1000 (or 1800), has been increased by at least 100 (or 50) by the restraint, and does not exhibit low entry barriers or characteristics indicating that oligopoly pricing coordination would be unusually difficult.¹⁶⁶

4. *Frankenstein Monster*

Where the restrained firms have promised to discriminate against or to refrain entirely from dealing with the purchaser's rivals, and the asserted harm is that unrestrained firms can then collude against those rivals by cutting sales to rivals in order to raise price, the analogy to the horizontal merger guidelines is quite direct. The question is whether removal of the restrained firms from the market unacceptably increases the likelihood that the unrestrained firms will coordinate prices or unilaterally restrict output and thus significantly raise rivals' input costs.

Following the guidelines' methodology, one should simply compare the pre-restraint supplier HHI confronting the purchaser's rivals (all capacity of all suppliers) with the post-restraint HHI (treating all unrestrained firms as a "market" and excluding restrained firms from that market), taking into consideration entry barriers and the presence or absence of plus factors. For those who would preserve a numerical consistency between the concentration levels for merger and exclusion standards, the restraint is suspect if the post-restraint HHI exceeds 1000 (or 1800) and is 100 (or 50) greater than the pre-restraint HHI (or falls within the dominant firm proviso), and if the post-restraint market does not exhibit low entry barriers or characteristics indicating that pricing coordination would be unusually difficult.¹⁶⁷

B. *Does the Purchaser Gain Power To Raise Price?*

Once it is established that the purchasing firm has raised its rivals' costs, the second prong of the antitrust test determines whether the purchaser thereby has gained monopoly power, the ability to raise the price at which it sells. The likelihood of price increases in the output market, and their probable size, depend on the size and competitive significance of the excluded rivals, the market share of the purchaser of the exclusionary right, and the effect of the exclusionary rights on ease of entry and expan-

166. Those who would treat vertical restraints cases more or less leniently than horizontal mergers will, in adopting measures for gauging market power and the likelihood it will be exercised, wish to raise or lower one or more of the foregoing numbers.

167. Those championing a more interventionist policy toward horizontal mergers than toward exclusionary rights agreements would increase one or more of those numbers, while those disfavoring exclusionary agreements would move in the opposite direction.

Raising Rivals' Costs

sion. Again, one can turn to the Department of Justice merger guidelines for methods to streamline the inquiry by designating specific, objective measures by which to judge the arrangement. Whether the resulting reduction in rivals' actual and potential supplies will drive up prices depends on the ability and willingness of consumers to switch to other unexcluded firms (including entrants) and on the incentives of the purchasers of exclusionary rights and other unexcluded firms to continue to compete. These issues are the central questions that the Department's guidelines address.¹⁶⁸

Because the merger guidelines pose the same questions raised by this aspect of the vertical restraints analysis, the simplest technique might be to borrow the merger guidelines directly by treating the purchaser of an exclusionary right as having merged with all the excluded firms whose costs were raised significantly. In this fashion, the question whether a firm, by employing an exclusionary rights agreement, has acquired power over price becomes identical to the question asked by the merger guidelines: Does the absence via merger (here, via exclusion) of the acquired (here, excluded) firm as a constraint on the acquiring (here, purchasing) firm permit the latter to raise prices, either unilaterally or by coordinating with its competitors?¹⁶⁹

This approach, while simple, would overlook some very important differences between mergers and vertical exclusion. Although the purchasing firm has significantly and effectively raised its rivals' costs, it has not gained the complete control over them that it could achieve by merging with them. Disadvantaged rivals remain free to engage in non-price competition and to seek over the long run to develop alternative sources of supply. Moreover, the purchasing firm cannot directly share above-normal profits with its rivals to prevent exploitation of these opportunities as well as it could were they merged. Finally, a strategy of indirectly restricting rivals' production by raising their costs is a less efficient (more costly) method of restraining output than simply ordering a reduction in production in a merged firm.

Another reason not to borrow the merger approach without qualification is that more than one firm may acquire an exclusionary right that raises its rivals' costs, and two firms each may purchase exclusionary rights to exclude the other.¹⁷⁰ Competition among these purchasers may

168. See 1984 DOJ Merger Guidelines, *supra* note 144, pts. 2, 3.

169. In the case of exclusion, the issue of unilateral restraints on output reflected in the "leading firm proviso" of the guidelines would often arise. See *id.* § 3.12. On the issue of the proper price benchmark, see *supra* note 147.

170. See, e.g., *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293 (1949); *United States v. Terminal R.R. Ass'n*, 224 U.S. 383 (1912).

prevent price from increasing. In such a case, excluded firms may have been harmed, but consumers have not. Accordingly, where many firms have purchased exclusionary rights, one should determine whether competition among them is likely to remain robust and whether competition from other unexcluded firms (substitutes and potential entrants) can constrain their price increases.

On the other hand, the purchaser of exclusionary rights gains the benefit of the higher prices caused by restricting the output of competitors. This amount surely exceeds the share of joint profits gained by restricting the output of a wholly owned merger partner.¹⁷¹ In addition, disadvantaged rivals may have significant incentives to cooperate with a competitor that has raised their costs by exclusionary tactics. They may prefer to join the competitor in restricting output to raise price, instead of combatting their cost increases.¹⁷² Exclusionary rights agreements also can create or enhance barriers to entry, reducing the check on prices provided by potential competition. Finally, restricting output by raising rivals' costs may create more social waste than a simple voluntary output restriction following a merger. For all these reasons, the specific numerical thresholds set forth in the horizontal merger guidelines almost certainly should not be borrowed intact for measuring this aspect of plausible exclusionary rights claims.

This catalog of differences between mergers and vertical restraints suggests a preferred approach that remains consistent with the basic thrust of merger analysis. One can treat as the antitrust "market" the capacity of only those firms purchasing exclusionary rights and other unexcluded firms. If that "market" contains entry barriers, including any created by the exclusionary agreement, the next step would be to compute the HHI for that "market," as compared to the pre-exclusion market of all established firms including those excluded by the agreement. These HHIs would then be measured against the merger guidelines' standards and other objective plus factors indicating a higher or lower likelihood of collusion.¹⁷³

In this fashion, one captures two key elements of the likelihood that the firm gained power over price. The significance of foreclosure¹⁷⁴ is mea-

171. In the latter case, one's partner restricts output whereas, in exclusionary rights strategies, the output of an independent firm is reduced. In addition, in the case of Cartel Ringmaster, the purchaser of exclusionary rights may be compensated further by the suppliers that gain from the exclusion.

172. For technical analyses, see Salop, Scheffman & Schwartz, *supra* note 73; R. MACKAY, *MERGERS FOR MONOPOLY: PROBLEMS OF EXPECTATIONS AND COMMITMENTS* (FTC Bureau of Economics Working Paper No. 112, 1984).

173. The standards would be inflated or deflated to account for any different attitude toward exclusionary rights agreements.

174. See *supra* Section IV.B.2.a.

Raising Rivals' Costs

sured by the change in HHI caused by moving from an initial market of all rivals to a later one containing only firms purchasing exclusionary rights and unexcluded firms. The probabilities of unilateral output restraints and price coordination¹⁷⁵ are measured by the level of the HHI for the post-restraint output market.¹⁷⁶ To determine whether a third element, the raising of entry barriers by the exclusionary rights agreements is present,¹⁷⁷ one would examine any effects on potential entrants. If the exclusion raises the costs of likely potential entrants to the point at which they will not enter in the face of a small price rise, then one cannot argue that potential competition will obviate any harmful effects in the established firms' markets.¹⁷⁸

In short, the power over price prong of the test for exclusionary restraints could proceed from the underlying concepts of the merger guidelines. However, the test should not slavishly copy the guidelines' numerical thresholds, if only because the role of market power is somewhat different in exclusionary restraints.¹⁷⁹ Moreover, the direct applicability of the guidelines is even further attenuated by the fact that the issues presented by an exclusion case differ considerably from those in horizontal

175. See *supra* Section IV.B.2.b.

176. Examining only the HHI and changes in HHI means that exclusions in unconcentrated markets will go unchallenged. Ordinarily, this makes sense. As discussed in Section VI, a firm with small market share is unlikely to be able to acquire profitably exclusionary rights that are anticompetitive. To be successful, the small firm would have to collude with its competitors in purchasing rights to exclude other rivals. That horizontal collaboration should be enough to render the agreement illegal. See, e.g., *Interstate Circuit, Inc. v. United States*, 306 U.S. 208 (1939); *United States v. Terminal R.R. Ass'n*, 224 U.S. 383 (1912); see also *supra* note 15. However, where governmental processes are invoked to achieve exclusion, coordination among small firms may be easier to accomplish and more difficult to describe as naked horizontal behavior. Consider, for example, the use of trade associations to impose licensing or other costs on rivals of established firms. In such cases, it may be preferable to calculate the fraction of industry capacity accounted for by firms whose costs were raised rather than to rely exclusively on HHI figures.

177. See *supra* Section IV.B.2.c.

178. As discussed earlier, one could view the purchaser of exclusionary rights as analogous to the acquirer of the excluded firms. For this reason, the DOJ guidelines on acquisitions of potential entrants also can inform the evaluation of the effects of exclusionary rights agreements on ease of entry. DOJ Merger Guidelines, *supra* note 144. The DOJ guidelines examine the HHI in the market of the established firm, *id.* § 4.131, that firm's market share, *id.* § 4.134, the condition of entry into the market, *id.* § 4.132, and any cost advantages of the acquired potential entrant, *id.* § 4.134. Similarly, to evaluate claims that exclusionary rights create or enhance entry barriers, one would examine the HHI of the market to determine if tacit coordination of established firms were possible and if potential entry provided a check on coordination. If so, one would examine the effect of the exclusion on the costs of the most likely potential entrants. The market share of the exclusionary rights purchaser would be relevant in the analysis of counterstrategies, discussed *infra* Sections VII.A., VII.B.

179. As discussed, *supra* text accompanying notes 130-33, the purchaser of an exclusionary rights agreement need not gain classical market power (i.e., be able to price above marginal cost without losing all of its sales) to attain power to raise price. Even if the remaining "market" of unexcluded firms is unconcentrated, those firms can gain power to raise price if excluded rivals accounted for a significant fraction of capacity and the market has entry barriers.

merger cases. It is therefore necessary that some additional factors, not specified in the merger guidelines, be considered.¹⁸⁰

First, in exclusionary rights cases, one has more information about rivals' incentives to restrict output than in the typical merger case. The increase in rivals' costs creates a clear incentive for them to reduce their output. Thus, the fraction of industry output accounted for by rivals whose costs have been raised is an important additional element to examine.

Second, it is useful to inquire whether the exclusionary right raises the costs of an input used on a fixed cost basis or whether the cost of the input is properly included in the rivals' short run incremental costs. Because established firms' prices in the short run depend on short run incremental costs, then only those exclusionary rights that increase short run incremental costs will lead to immediate pressure on price.¹⁸¹ In contrast, exclusionary rights that only raise established rivals' fixed costs will not give the purchaser the ability to raise its price unless the cost increases are high enough to induce some rivals to exit the market in the long run or to forego expansion in a growing market. This cost allocation analysis may be difficult in practice.¹⁸²

Finally, price elasticity of demand for the purchasing firm's product should be considered. If elasticity is low, the firm is more likely to turn its rivals' disadvantage to greater consumer harm and the restraint should be more suspect. Conversely, if price elasticity is high, challenge should be less likely.¹⁸³

VII. PROFITABILITY

We have argued that antitrust enforcers and courts should neither routinely embrace nor casually dismiss claims of undue, unfair or anticompetitive exclusion stemming from agreements between sellers and purchasers of inputs. Rather, the issues raised by such claims should be more carefully defined and evaluated against the consumer welfare goals of antitrust

180. For technical analyses, see S. SALOP & D. SCHEFFMAN, *supra* note 73; Salop, Scheffman & Schwartz, *supra* note 73.

181. Exclusion that requires rivals to reduce their prices to maintain competitiveness has effects equivalent to increases in marginal costs because such firms are less able to constrain competitors' price increases. *See supra* note 129.

182. Which inputs are fixed and which are variable may differ from firm to firm, according to the time period under consideration, whether one is evaluating entry, expansion or contraction or whether product quality is an issue. *See supra* note 129.

183. Price elasticity may be difficult to measure precisely. However, the DOJ Merger Guidelines' approach to market definition sometimes gives an approximate value. It can sometimes be inferred by econometric analysis or from the price-cost margin. *See* D. SCHEFFMAN & D. SPILLER, *GEOGRAPHIC MARKET DEFINITION UNDER THE DOJ MERGER GUIDELINES* (FTC Bureau of Economics Working Paper No. 129, 1985); Baker & Bresnahan, *The Gains from Merger or Collusion in Product-Differentiated Industries*, 33 J. INDUS. ECON. 427 (1985).

Raising Rivals' Costs

law. Exclusionary agreements threaten these goals when they give a competitor power, by raising its rivals' costs, to raise price above pre-agreement levels.

The effort to develop and apply standards or to resolve claims of exclusion in detail would be unnecessary, however, if disadvantaged firms could always fend for themselves. If exclusionary rights agreements are likely to be unprofitable for purchasers because suppliers will have limited incentives to sell the rights and because their rivals will usually have available effective counterstrategies, the techniques of exclusion sketched above should be of no concern. Anticompetitive exclusion would be sufficiently impractical or ineffectual so that its theoretical harms could be assumed to be nonexistent in fact.

Certainly, in most industries, exclusionary rights contracts cannot be profitably employed for anticompetitive ends. Where the markets involved are unconcentrated and lack entry barriers (and the exclusionary right does not itself create an entry barrier), an exclusionary rights agreement is unlikely to raise rivals' costs significantly or to give the purchaser power over price. In still other markets, a firm or group of firms may already possess so much market power that the exclusionary right has no further effect.¹⁸⁴ In others, regulations apart from those imposed by antitrust law may make an exclusionary rights strategy impossible by imposing on suppliers a duty to deal with all on equal terms.

But suppose a firm could gain or enhance its market power by acquiring an exclusionary right from an input supplier. Although such a strategy theoretically could succeed, any of three considerations might suggest that antitrust policy should be indifferent to that possibility. First, rivals might be expected in most or all cases to outbid the potential purchaser of an exclusionary right. If rivals would pay sellers more *not* to be excluded than the firm would be willing to pay for exclusion, then the exclusionary deal would not be struck. Second, even without antitrust inhibitions, suppliers might not gain from selling exclusionary rights because they would thereby reduce their sales and profits. Some might argue, therefore, that we can expect that suppliers will have little incentive to enter into anticompetitive exclusionary rights agreements. Taken together, these two considerations reveal that, to obtain an exclusionary right, the purchaser must be prepared to pay more than what the targeted rivals would pay to avoid exclusion plus the additional profits that suppliers could gain from continuing to sell to the potentially excluded rivals. As a result, firms

184. In this case, however, enjoining the exclusionary right may increase the potential for reduction in market power in the future. *See supra* note 147. The 1984 DOJ Merger Guidelines evince no concern over this issue, but the 1968 guidelines did. *Compare* 1984 DOJ Merger Guidelines, *supra* note 144 with 1968 DOJ Merger Guidelines, *supra* note 144, at pt. 4.

often will be unable to profit from purchasing exclusionary rights. Third, as noted above, some exclusionary rights agreements may reduce their purchaser's (or suppliers') costs. Perhaps this phenomenon might occur most of the time and perhaps these efficiencies would (or should be assumed to) outweigh any competitive harms arising from increases in rivals' costs.

The remainder of this section treats, in order, these three issues of counterstrategies, suppliers' incentives, and efficiencies. We conclude that none of these considerations offers a reason to avoid the inquiries, developed earlier, into the effects of exclusionary agreements.¹⁸⁵ Exclusionary practices that both raise rivals' costs and confer on their purchasers discretion to raise price are, because of those facts alone, often likely to be profitable for suppliers and impervious to counter-bidding by excluded rivals and, where they present potential efficiency defenses, generally do so in a context in which it is difficult, consistent with current antitrust law, to justify recognizing such defenses.¹⁸⁶ Certain factors increase the probability that the potential purchaser can offer an amount sufficient to induce the suppliers to grant exclusionary rights. These factors could be utilized in refining standards of liability. First, as noted above, the larger the purchaser's market share, the greater is its reward for achieving power over price, hence the greater its willingness to pay for an anticompetitive exclusion. Profitability thus is more likely the higher the purchaser's market share. Second, the demand for the supplier's product may be so broad that losing only those few buyers who compete with the purchaser may have negligible effects on the supplier's revenues. This suggests that courts should be more willing to intervene when the purchaser's rivals account for only a small fraction of the input suppliers' total sales.

A. *Rivals' Counterstrategies*

Locating substitute inputs is one type of counterstrategy. For example, if Broadway-Hale had obtained a promise from GE that GE would not sell to Klor's, Klor's might have avoided any damage by buying from Westinghouse. In terms of the previous analysis, the exclusionary right would not have raised the costs of Broadway-Hale's rivals in a predictable manner.

185. Our attention was sharply drawn to the issues discussed in Section VII by several thoughtful comments made at a workshop devoted to discussion of exclusion at Georgetown University Law Center.

186. For discussion of counterstrategies and criticisms of arguments that exclusion can be an effective anticompetitive strategy, see Easterbrook, *supra* note 59; Kaplow, *Extension of Monopoly Power Through Leverage*, 85 COLUM. L. REV. 515 (1985); M. Roe, *Monopoly Power and Leverage: The Double Count Argument* (rev. ed. Mar. 1986) (unpublished manuscript).

However, rivals may have still other counterstrategies available to them. Suppose the exclusion, if effectuated, would raise rivals' costs and confer power over price on the purchaser. Can rivals be expected ordinarily to follow the counterstrategy of outbidding the potential purchasers of exclusionary rights to escape exclusion? That is, might Klor's be able to pay GE more not to be excluded than Broadway-Hale was willing to pay for the right to exclude Klor's?¹⁸⁷ If the exclusion would be inefficient, rivals might be willing to pay suppliers more to avoid their exclusion than purchasers would pay to obtain it.¹⁸⁸ Put more concretely, why would Klor's not counter Broadway-Hale by paying GE for an agreement that GE would continue to sell to Klor's?

The short answer is that the question is not relevant to the antitrust policy issues raised by exclusionary rights agreements. If rivals must pay the additional cost of admission to avoid cost increases from exclusion, then the admission fees themselves serve as the cost-increasing devices. Indeed, the purchaser of exclusionary rights might prefer this outcome because rivals' costs could be raised at a lower out-of-pocket cost to itself.¹⁸⁹

A second flaw in relying on counteroffers to prevent exclusion is that the argument for doing so demonstrates a misunderstanding of economic efficiency. The fact that the exclusion is economically inefficient does not imply that the rivals will outbid the exclusionary right purchaser. Many of the economic benefits of non-exclusion of rivals are conferred upon third parties who are not involved in the competitive bidding for the exclusionary right—the consumers of the product. Only if these consumers would share with the excluded rivals in the expense of outbidding the predator would inefficient exclusion be prevented.¹⁹⁰ Yet, unless the rivals

187. We are assuming here that Klor's and Broadway-Hale compete to purchase the right to exclude Klor's. This should be contrasted with the more complex case in which each firm competes for the right to exclude the other. We focus on the former case of a pure exclusionary right for two reasons. First, the complex right actually is composed of two pure exclusionary rights, one to exclude Klor's and the other to exclude Broadway-Hale. Second, as an analytic matter, the issue is not the identity of the excluded firm, but whether exclusion occurs and its effects on competition.

188. Cf. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

189. This analysis may be illustrated with the following numerical example. Suppose Broadway-Hale offered to pay the appliance manufacturers to reduce their sales to Klor's below their sales levels of previous years by proposing a price of \$50 per unit sales reduction. In that case, if suppliers had previously charged Klor's a price of \$200, they would now be unwilling to sell to Klor's at any price less than \$250. The suppliers' effective marginal (opportunity) costs would be raised to \$250, once the opportunity to be compensated by Broadway-Hale was taken into account. The analysis would be similar if Broadway-Hale offered to pay a number of appliance manufacturers to exclude Klor's, either on a per-unit basis or altogether on an all-or-nothing basis.

190. See Easterbrook, *supra* note 59, at 270. For a critique, see M. Roe, *supra* note 186, at 34 n.42. Indeed, in a recent article, Salop, Scheffman & Schwartz, *supra* note 73, at 124-25, have shown, in the context of exclusionary government regulation, that when consumers do not enter into the bidding process on the side of rivals, competition for exclusionary rights will replicate the seller cartel outcome, not the competitive equilibrium. This analysis of public rent-seeking also applies to the type of private rent-seeking activities involved in the purchase of exclusionary rights from non-

are selling to a market comprising exclusively a limited number of large buyers, consumers are unlikely to be sufficiently organized to add to the rivals' bids.¹⁹¹ Instead, small consumers will attempt to "free ride" on the expenditures of others. Put another way, competition is a public good and so society cannot depend on consumers to protect themselves from the adverse effects of exclusion of some sellers by others.¹⁹² Thus, there is no reason to expect that rivals would be able to outbid purchasers of exclusionary rights simply because exclusion would be inefficient.

Counterstrategies, however, are not always doomed to failure. Therefore, antitrust analysis should discriminate among cases according to the likelihood of successful counterstrategies. The parties' bids are determined by their probable respective gains and losses should the transaction occur. The purchaser stands to gain market power and its maximum bid reflects the prospect of those increased profits. Potentially excluded rivals, on the other hand, stand to gain only the pre-existing, more competitive price and profit levels if they are not excluded. Thus, as a general matter, because the purchaser has more to gain than rivals have to lose, it can bid more for the exclusionary right. Only if the industry (including unex-

governmental input sellers.

The following simple numerical example illustrates the point. Referring to the table below, suppose that by excluding some of its rivals, the purchaser can increase its profits by 100, from 100 to 200. Suppose that the rivals' profits would fall by 50, from 75 to 25. Finally, suppose that exclusion reduces the consumer benefits by 75, from 200 to 125. In this case, as shown in the table, exclusion is economically inefficient, because the total losses borne by consumers and rivals, 125, exceed the gains to the purchaser, 100.

	PRE-EXCLUSION	POST-EXCLUSION	DIFFERENCE
PURCHASER	100	200	100
RIVALS	75	25	(50)
CONSUMERS	200	125	(75)
TOTAL	375	350	(25)

In this case, the rivals, if necessary, would be willing to pay the suppliers an amount up to their full losses from exclusion, equal to 50 in this case, not to be excluded. However, the purchaser would be willing to pay more, up to its gain of 100, for the exclusionary right. Thus, in a competitive bidding situation between rivals and the purchaser in which consumers did not participate, the purchaser is likely to prevail even though aggregate efficiency then would be reduced. Of course, if consumers did participate fully on the side of rivals, that coalition would prevail in the absence of free riding. However, free riding likely would prevent full consumer participation in this case.

191. Even in this case, if the big buyers are themselves firms that compete with one another, they may have little incentive to provide such a benefit to each other. See Salop, *supra* note 51. In that case, efficiency would require customers of these buyers to enter the bidding on the side of the excluded rivals two levels up the chain of production. In addition, even where there is a limited number of large buyers, free rider and other bargaining problems may prevent coordination in the bidding process.

192. This is, in fact, a standard economic justification for antitrust law generally and, more specifically, for public enforcement of antitrust law. See, e.g., K. ELZINGA & W. BREIT, *THE ANTI-TRUST PENALTIES* 3-4 (1976); Kaplow, *supra* note 186, at 531-36; see also M. Roe, *supra* note 186, at 41 n.48 ("Could the consumer response be to band together and hire a single lawyer or law firm to control United? Might we call that banding together 'government' or 'The Sherman Act' and that law firm 'the antitrust division of the United States Department of Justice?'")

Raising Rivals' Costs

cluded rivals) were able to achieve the collusive outcome without exclusionary rights or if the potentially excluded rivals were far more efficient than the purchaser of the rights would exclusion not reduce joint profits.¹⁹³

This analysis has two important implications. First, successful exclusion is more likely when the predator is large and the excluded rivals are small. The gains and losses from exclusion depend on the bidders' relative market shares as well as on the price received. For this purpose, then, market share is significant for its own sake, not simply as a proxy for traditional market power.

Second, certain exclusionary rights strategies inflict less harm on excluded rivals, given equivalent costs to the purchaser. Those strategies that harm rivals less in conferring a given benefit on the purchaser are more likely to succeed because they have a greater bang-per-buck for the purchaser. Excluded firms would be willing to bid less to counter those practices that inflict less additional cost on them. Therefore, the purchaser can offer less and still outbid its rivals. For example, exclusionary rights inflict less harm on rivals when they increase rivals' incremental costs relative to their fixed costs.¹⁹⁴ This distinction between incremental and fixed costs is important because of the way in which exclusionary rights raise prices.

Ignoring for the moment any constraints imposed by potential entrants, because short run market prices depend on short run incremental costs, only exclusionary rights that increase rivals' short run incremental costs will lead to immediate upward pressure on prices. In contrast, as discussed earlier in the analysis of power over price, exclusionary rights that only raise established rivals' fixed costs, so that average costs are increased without affecting short run incremental costs, will give the purchaser no ability to raise its price. However, because these cost increases inflict injury on these rivals, they would have an incentive to try to counter them. Thus, exclusionary rights that raise rivals' incremental costs appreciably and raise fixed costs only slightly are more likely to succeed than strategies that have the opposite effect.¹⁹⁵

193. In terms of the numerical example set out *supra* note 190, it is not surprising that the gains to the purchaser from excluding its rivals, equal to 100 in the example, would exceed the losses to rivals, equal to 50 in the example. The more vigorous competition in the absence of exclusion tends to drive prices down, reducing the profits for all.

For the basic argument, see Bain, *A Note on Pricing in Monopoly and Oligopoly*, 39 AM. ECON. REV. 448 (1949); Gilbert & Newberry, *Preemptive Patenting and the Persistence of Monopoly*, 72 AM. ECON. REV. 514 (1982); Salop, *Strategic Entry Deterrence*, 69 AM. ECON. REV. 335 (1979); Spence, *Entry, Capacity, Investment and Oligopolistic Pricing*, 8 BELL J. ECON. 534 (1977).

194. For a discussion of these cost concepts, see *supra* note 129.

195. Some strategies may have a disproportionately large effect on rivals' incremental costs. Such strategies would include, for example, an agreement with a supplier to eliminate a rival's quantity

Two other factors may reduce rivals' incentives to bid. First, should the exclusionary transaction be consummated, the purchaser that thereby also gains traditional market power may raise its price-cost margin, allowing its rivals to follow suit. These rivals may prefer being, in effect, conscripted cartelists to being unshackled competitors.¹⁹⁶ Second, if the agreement excludes several rivals and no one firm individually can buy itself out of the exclusion without all doing so, then the coordination costs will make it more costly for the rivals to cooperate in bidding against their exclusion.¹⁹⁷

In those cases, however, where rivals may buy their way out of the exclusion on an individual basis, it is unlikely that exclusion will be complete. Instead, a few rivals may succeed in avoiding complete exclusion by outbidding the purchaser, thereby preventing the purchaser from obtaining a perfect monopoly. Even in this case, though, too few rivals will succeed in this counterstrategy to deny the purchaser some power to raise price, although perhaps not to the complete monopoly level.¹⁹⁸

Finally, if exclusionary rights strategies have efficiency benefits—if they reduce the costs of the purchaser—the purchaser also is more likely to succeed in its strategy. The purchaser can increase its bid to reflect the cost savings. Thus, a successful exclusionary rights strategy does not always entail a reduction in consumer welfare. This issue is taken up in detail below after we discuss the suppliers' incentives to sell exclusionary rights.

discount or to create an overtime wage premium in a labor contract. Similarly, rights that affect only potential entrants and expansions of established firms are likely to be more cost effective to the purchaser, because entrants treat all costs as marginal and because expanding established firms often view most of their costs as marginal costs. In contrast, rights to exclude competitors from inputs used on a fixed cost basis are less likely to be cost effective. For example, at the limit, if a rival either must have one unit of an input or must exit from the market, as an airline needs a gate at an airport, then it would be willing to pay up to the present value of all its future profits (less the scrap value of its business) in a counterbid to prevent its exclusion.

196. See M. Roe, *supra* note 186, at 25–27.

197. See Salop, Scheffman & Schwartz, *supra* note 73.

198. See, e.g., R. MACKAY, *supra* note 172; Lewis, *Preemption, Divestiture, and Forward Contracting in a Market Dominated by a Single Firm*, 73 AM. ECON. REV. 1092 (1983). This analysis is analogous to the question of whether, in the absence of merger law, merger to the point of monopoly would generally occur. For example, in the analogous horizontal merger context, Mackay shows that a firm with significant initial market share will be able profitably to increase its market power and market share by buying up its competitors. R. MACKAY, *supra* note 172, at 19. However, Mackay also shows that the purchaser generally will be unable to achieve a complete monopoly. *Id.* at 21. Mackay's analysis further indicates that the likelihood of such mergers to (incomplete) monopoly increases with the initial market share of the purchaser. *Id.* This observation corresponds with the point made above that exclusionary rights strategies are more likely the larger the pre-exclusion market share of the potential purchaser.

Raising Rivals' Costs

B. Suppliers' Incentives

That the purchaser often will bid more than its rivals may not necessarily mean that it will bid enough. The purchaser also must make an offer sufficiently large to compensate the suppliers for any loss in sales revenue they suffer. Although this constraint limits somewhat the gains to exclusion and sometimes may even prevent successful exclusion, the basic result will remain unchanged in most cases. Frequently, suppliers will have alternative outlets for their goods at little loss in revenue. The purchaser's product may be only one of several different products that employ the suppliers' goods as an input. Thus, little additional compensation would be needed to cover the suppliers' revenue shortfall from the loss of some customers in one of their markets.¹⁹⁹ Further, if the exclusion will give the purchaser's power over price, there generally will be sufficient additional profits available to compensate the suppliers for their lost revenues, assuming transaction costs are not prohibitive.²⁰⁰

In any business arrangement, transaction costs in the form of "holdout" problems may be overwhelming. The holdout problem may describe another situation in which suppliers will not enter exclusionary rights agreements. If the purchaser tries to obtain exclusionary rights from many suppliers, some of those suppliers may have the incentive to hold out for a higher price. Suppliers may anticipate receiving a higher price for the input from rivals, assuming the purchaser succeeds in getting exclusionary rights from others,²⁰¹ or they may believe that the purchaser can be made to cede more of its monopoly profits. Of course, if enough suppliers do hold out, the exclusionary rights strategy will fail and rivals' costs will not be raised.

These holdout problems, however, are unlikely to provide significant constraints on exclusionary behavior in most cases. Instead, they are more likely to affect the distribution of profits between the purchaser and seller

199. This basic point can be illustrated by altering somewhat the previous numerical example set out above. See *supra* note 189. Consider a manufacturer with low marginal costs that sold the right to exclude Klor's, thereby foregoing revenue of \$200 per unit. Suppose that supplier's next-best alternative would entail continuing to produce the units, but exporting those excess appliances for sale in Samoa at a price of \$190, less additional transportation costs of \$5. Thus, ignoring any counteroffer by Klor's, the suppliers would be willing to sell exclusionary rights for \$15, the sum of the revenue loss of \$10 (i.e., \$200-\$190) plus the additional transportation costs of \$5.

The potential for a counteroffer by Klor's complicates the analysis. If Klor's next-best alternative sources of appliances would cost it \$50 more (i.e., \$250), its maximum counteroffer would equal \$50. In this case, Broadway-Hale could succeed in outbidding Klor's only if it offered the suppliers more than \$65—the sum of Klor's maximum bid of \$50 plus the revenue loss of \$10 plus the transportation costs of \$5. However, if Broadway-Hale gains sufficient power over price from this exclusion, its strategy still will be profitable. See *infra* note 204.

200. See Coase, *supra* note 188.

201. For example, see *supra* Sections IV.A.2.b. (Real Foreclosure), IV.B.3.b. (Frankenstein Monster).