Historical Impact of Regulation on Big Tech

A Case Study by Manning & Napier

Originally Published: January 2019

Introduction

After years of growth, the information technology sector is facing renewed regulatory scrutiny over its size and power. The inquiries have come at a time when the roles of privacy, fake news, and information bubbles are being challenged in our increasingly digital lives. While little has derailed the internet giants thus far, calls for government oversight are on the rise. With the immense scale and market power of these companies, we should expect regulatory scrutiny to be an ongoing issue.

To better understand the consequences of ongoing regulatory scrutiny, Manning & Napier's technology group looked at past tech industry leaders that faced similar bouts of government oversight, and analyzed the regulatory impact on historical stock performance.

The Process

In conducting the analysis, our team analyzed eight US-based technology companies that were dominant in their respective eras. Within the companies, we identified 54 discrete regulatory cases from 1900 through the present day[1]. We built regulatory timelines for each case and measured the before and after stock price returns per case, per company. Additionally, among the identified cases that led to a significantly negative impact, we observed key warning signs.

Key Takeaways

Regulatory scrutiny is usually a non-event.

- The vast majority of the tech companies reviewed posted strong absolute and relative returns well beyond their first brush with regulators.
- In most regulatory cases, there were few negative outcomes, if any.
- In some cases, there was a moderate impact, but the regulatory requirements were usually not material and not always bad.
- In a few cases, the regulatory outcome was significant and harmful to both the business and stock performance.

Regulatory scrutiny is not an automatic sell signal.

- Rather, it is an ongoing issue that should be expected with the world's most dominant companies.

Regulation can become a sell-trigger when it meets the three criteria below:

- Regulation had a fundamental impact on the business by creating new competition or materially changing the business economics.
- The stock was over-valued entering the period of regulatory scrutiny and underperformed due to regulatory-driven multiple compression.
- The future intensity of government oversight increased, representing a clear turning point in the degree and style of tech company oversight.

Otherwise, investors are best served to remain focused on the fundamentals of the business.

Investors may overestimate the impact of regulatory sanction.

- We believe there is a human propensity to only remember the last case, which is often the most impactful, and forget all of the immaterial cases along the way.

The Companies Studied

IBM
IBM's first brush with anti-trust scrutiny was in 1932. Then again in the 1950s. The famous 1969 -1982 case was actually IBM's third brush with the Department of Justice (DOJ), and the case was dismissed.

Microsoft (MSFT)
The DOJ and European Commission (EC) first looked at Microsoft in the early 1990s, with the Federal Trade Commission (FTC) starting its investigation in May of 1990. This was a full six years before the more widely recalled DOJ case in 1996 through 2001.

AT&T (T)
AT&T was investigated by the DOJ in 1913, nationalized during WWI (1918), investigated by the DOJ again in the 1950s, and a third and final time in 1974 - 1982. As with IBM and MSFT, the case everyone recalls is the last case, when AT&T was broken-up.

Kodak (EK)
The DOJ first investigated Kodak in 1913, and then again in 1951. Private anti-trust cases were launched in 1973 and 1987. The DOJ consent decrees were actually overturned in 1994.

Google (GOOG)
Google has been under non-stop investigation since the EC opened its case in February 2010.

Qualcomm (QCOM)
Like Google, Qualcomm has been under investigation since an EC case in 2005. Its legal battles with licensees extend back to 1996.

Intel (INTC)
The first case was initiated in 1991, and an EC appeal remains ongoing.

Xerox (XRX)
Xerox was placed under anti-trust investigation in 1973 and was sued again in 1992.

Strong Historical Performance

In our most basic analysis, we looked at the total return of tech stocks that came under heavy regulatory pressure from the time of the first regulatory scrutiny through today. Performance was then compared to the total returns of the S&P 500.

Five of the eight companies outperformed the S&P 500 from the initial regulatory case through the present day. The median excess annual return was ~3.0%. The results are below[2].

Ticker	First Regulatory Episode	Annualized Return	S&P 500 Return	Excess Return
T	12/13/1913	11.0%	9.2%	1.8%
IBM	12/31/1932	10.2%	7.1%	3.1%
MSFT	05/01/1990	20.3%	10.0%	10.3%
INTC	06/29/1991	16.9%	9.8%	7.1%
QCOM	10/28/2005	4.6%	9.1%	-4.5%
GOOG	02/10/2010	18.0%	13.3%	4.7%
EK	06/19/1913	2012 Bankruptcy	—	—
XRX	01/29/1973	4.2%	6.8%	-2.6%

Source: FactSet. Analysis: Manning & Napier.

Additionally, we found that from the day before the regulatory case was initiated, until the settlement of the case, the tech stocks were up 68% of the time (by a median of 23%) and EPS grew 83% of the time. This hit-rate was similar to the one-, three-, and five-year periods after the cases were settled, implying that regulation is not an automatic sell trigger. See the full results below.

All Regulatory Cases	Case Ending			Case Ending +1 Year			Case Ending +3 Years			Case Ending +5 Years		
	Price	P/E	EPS	Price	P/E	EPS	Price	P/E	EPS	Price	P/E	EPS
Up	32	17	35	34	26	26	33	23	30	30	18	28
Down	15	25	7	12	16	15	12	17	10	12	17	7
N/A	7	12	12	8	13	13	9	14	14	12	19	19
Total Observations	54	54	54	54	54	54	54	54	54	54	54	54
% Up (ex. N/A)	68%	40%	83%	74%	61%	63%	73%	58%	75%	71%	51%	80%
% Down (ex. N/A)	32%	60%	17%	26%	39%	37%	27%	43%	25%	29%	49%	20%
Median	23%	-3%	26%	14%	5%	16%	20%	10%	35%	46%	7%	48%
Average	46%	-6%	71%	18%	10%	15%	56%	21%	37%	142%	72%	83%

Source: FactSet. Analysis: Manning & Napier.

It should also be noted in the preceding exhibit that 60% of the time the P/E multiple compressed during the regulatory scrutiny, while the multiple expanded 51% to 61% of the time after the case was settled. Whereas the share price and earnings were up a median 20%+ during the case, the median P/E was down -3%, suggesting that we should expect some multiple contraction while a company is under regulatory scrutiny. The compression is quite modest, however, and the hit-rate is only ~60%.

In addition to studying the reactions to each individual case, we also grouped cases into ongoing regulatory periods, or regimes, to identify sustained periods of increased scrutiny. In other words, if a DOJ case started in 1970 and ended in 1975 and a separate EC case started in 1973 and ran to 1980, we consider the entire 1970 - 1980 period as a single regime. The results of this analysis were similar to our case-by-case analysis. The share price and earnings were up ~75% of the time (median of ~30%) during the regulatory scrutiny period, while the P/E declined 62% of the time (median of ~3%).

Discrete Regimes	Case Ending			Case Ending +1 Year			Case Ending +3 Years			Case Ending +5 Years		
	Price	P/E	EPS	Price	P/E	EPS	Price	P/E	EPS	Price	P/E	EPS
Up	19	8	17	19	13	13	19	13	12	17	11	13
Down	7	13	4	6	7	7	6	7	8	8	8	6
N/A	4	9	9	5	10	10	5	10	10	5	11	11
Total Observations	30	30	30	30	30	30	30	30	30	30	30	30
% Up (ex. N/A)	73%	38%	81%	76%	65%	65%	76%	65%	60%	68%	58%	68%
% Down (ex. N/A)	27%	62%	19%	24%	35%	35%	24%	35%	40%	32%	42%	32%
Median	32%	-3%	30%	13%	7%	16%	18%	24%	11%	39%	20%	17%
Average	63%	-4%	108%	20%	14%	11%	51%	34%	20%	131%	128%	54%

Source: FactSet. Analysis: Manning & Napier.

Similarly, we also studied how our sample of companies performed in periods of regulatory "peace," when they were not under any active investigations. Surprisingly, 57% of the time their multiple compressed by a median of 2%, which was quite similar to the performance during the periods of regulatory scrutiny. One thesis is that these businesses were already in a maturing phase and multiple contraction was inevitable.

Unchallenged Periods	Case Ending		
	Price	P/E	EPS
Up	12	6	11
Down	3	8	3
N/A	—	1	1
Total Observations	15	15	15
% Up (ex. N/A)	80%	43%	79%
% Down (ex. N/A)	20%	57%	21%
Median	54%	-2%	75%
Average	238%	6%	190%

Source: FactSet. Analysis: Manning & Napier.

The data suggest that it is important to analyze the most likely fundamental impact of the regulatory scrutiny and to not just make the blanket assumption that scrutiny is a material negative. We find that regulation is typically not a one-time event as these strong businesses with de-facto market monopolies should be expected to come under regulatory scrutiny.

Regulatory reviews are often a signal of business strength.

There is also evidence that incumbents are sometimes able to take advantage of newly imposed regulations and use them to their advantage by increasing barriers to entry[3]. We believe incumbents are often well-positioned to deal with regulation because: 1) they spend heavily on lobbyists and influence the regulations; 2) they have the scale and resources to implement regulations that upstarts often cannot afford or manage;

3) they are usually multi-faceted and retain other customer/supplier leverage points such that they can simply shift to different anti-competitive tactics; 4) despite best intentions, regulations are open to interpretation, unintended consequences, and require effective enforcement.

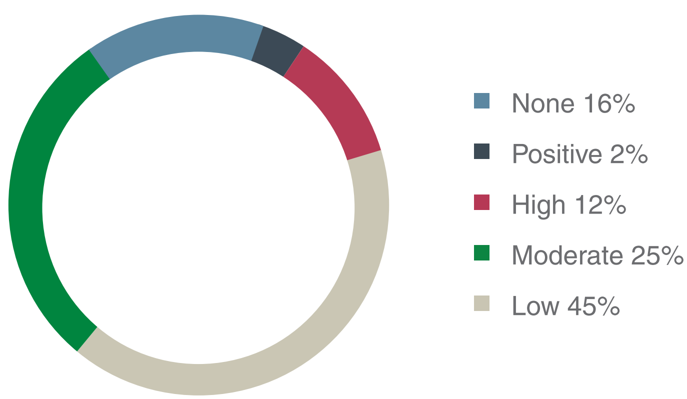
We do want to be clear, however, that we view regulatory scrutiny as generally negative. Still, we suspect that investors underappreciate how often these tech companies were under regulatory review and for how long. There is a propensity to recall the last bout of regulation, or cases that were followed by poor stock performance, which we believe leads investors to overemphasize the impact of regulation. Investors could be confusing correlation with causation.

It is difficult to measure the negative impacts of management distraction and opportunity costs[4].

The Cases That Hurt

Four of the eight companies ultimately suffered regulatory remedies that we would classify as "high" impact. Therefore, by our definition, half of the sample was never hit with high impact remedies, and in over 60% of cases, the remedies were either low, non-existent, or even net positives.

Remedy Materiality N = 51



For the 25% of remedies that were rated "moderate," it is reasonable to suspect some negative impact (particularly in terms of opportunity cost), even if there was no discernable/measureable impact on the business fundamentals.

Remedies were "high" in only 12% of the 51 concluded cases. Refer to the Appendix for details on each case.

From those cases, we identified three common characteristics that denote the potential for significant underperformance.

Fundamental impact:
The Qualcomm, AT&T, and Xerox cases resulted in high remedies, and the IBM cases in moderate remedies. In most high impact remedies regulators effectively required AT&T (break-up), Kodak (photofinishing licensing[5]), IBM (numerous concessions), and Xerox (patent licensing) to create competitors to themselves. We should be on the watch for remedies that dramatically alter the competitive landscape or result in a significant deterioration in the economics of the business (e.g., the NDRC's mandate that Qualcomm cut rates). Regulatory outcomes which are "tweaks" to existing business practices are likely to be benign.

Multiple compression:
High valuation multiples—using a trailing P/E—entering the period of regulatory scrutiny left these stocks prone to significant underperformance. IBM was trading at 43x earnings and Xerox traded at 49x. AT&T was trading at 20x earnings when the Carterfone case started, which was at the high-end of its valuation range. Qualcomm was an exception, having traded at 17x, which was below its historic average and a reasonable absolute multiple for the business.

Shift in regulatory aggression:
There are clearly cycles of greater regulatory scrutiny when governments get more aggressive and the odds of a negative outcome rise. It appears that the AT&T Carterfone ruling marked a change that culminated in the 1984 break-up. More recently, Qualcomm has been hurt by regulators taking a less favorable approach to patent licensing. Looking beyond the four cases to the companies with longer histories (IBM, T, and EK), they each tended to face regulatory scrutiny during similar time periods:

Early 1910s
Clayton Act & establishment of the FTC

1930s
New Deal Era & Robinson-Patman Act (i.e., Anti-Price Discrimination Act)

1950s
Celler-Kefauver Act (i.e., Anti-Merger Act)

Mid-1960s through mid-1980s
Roughly book-ending the period, the DOJ issued its first Merger Guidelines in 1968 and made major revisions in 1982[6]

Going forward, investors should monitor for shifts in regulatory intensity, as well as potential philosophical changes in enforcement.

For example, there have been increasing calls for the US to shift from its consumer-focused approach to a competition-focused view, similar to the EU. An EU approach might lead regulators to take the view that the big Internet platforms are currently causing harm by limiting competition and consumer choice[7].

Appendix: Company Specific Regulatory Timelines

AT&T

The stock declined 24% during the 1965 - 1968 Carterfone case, which ended in high remedies. After which, the stock was down 9% in the ensuing three years and was flat (+1%) the next five years. Relative performance made a "double-peak" in 1993 - 1995 and 1998 - 1999, which did not correspond with regulatory action. The Telecom Act of 1996 was actually more of a net positive. AT&T did well after the 1982 break-up, despite being a high impact remedy that set off secular share loss and lower pricing. That may be because the stock de-rated from 20x the last twelve month earnings at the onset of the Carterfone case, to 8x earnings at the conclusion of the DOJ case that resulted in the break-up.

We believe the Carterfone case represented a shift in how AT&T was regulated, and marked a shift towards a more competitive market. The 1968 FCC Carterfone ruling established that AT&T customers could connect any lawful device to the telephone network, including those offering a competing service. In 1969, the FCC also approved MCI's long-distance license, and in 1974, MCI and the DOJ sued AT&T for anti-trust violations. It was this DOJ case which resulted in the 1984 break-up of AT&T.

AT&T had ~80% market share as of 1934 and maintained ~90% share as of the mid-1950s. Historical data show that the 1984 break-up of AT&T resulted in declining pricing and market share. While it could be argued that the fundamental deterioration did not manifest itself until 1984, 16 years after the Carterfone case, one could argue that the writing was on the wall. The regulatory regime was clearly shifting from benign regulation of a monopoly to the encouragement of greater competition.

Kodak

While the second DOJ case in 1951 had a high impact remedy—Kodak had to license and unbundle photofinishing—the stock was actually up 45% during the case. The stock was a relative underperformer after 1973 with the decline becoming particularly sharp from 1976 on.

We attribute this decline to fundamental factors as the 1973 - 1981 Berkey Photo Case did not result in remedies and Kodak's film market share peaked in 1976. In 1976, Kodak accounted for 90% of film and 85% of camera sales in the US. Fuji Photo, which had entered the US market in 1965 as a white-label supplier, started selling under its own brand in 1972, and in 1976, was first to market with 400-speed color film. At that time, Fuji also was selling photographic supplies for 20% less than Kodak, causing many photo-finishers to switch. Fuji outbid Kodak for the 1984 Olympics sponsorship, which was a catalyst that boosted Fuji's market share to 12% in the US. By 1985, the film market included Konica, Agfa, and dozens of private labels. In 1989, Kodak's US share was down to 76%. By 1997, Kodak's US share and global share had declined to 70% and 44%, respectively, while Fuji Film had taken 33% share of the global market. In 1998, Fuji would slash prices and take another 4% of market share in the next year.

Of course, Kodak eventually suffered from the shift to digital. The digital camera was invented by Kodak in 1976, and in 1986, it introduced the first electronic image sensor. In 1981, Sony introduced its Mavica brand digital camera. It was a watershed moment for the digital photo market. Beginning in 1983, Kodak went on a diversifying acquisition spree buying IBM's copier business, several life sciences businesses, a floppy disk company, and a drug company. By 1994, Kodak had deteriorated so much the consent decrees (1915 and 1951) were terminated.

AT&T			
Party	**Initiation**	**Completion**	**Remedy Materiality**
DOJ	n/a	12/13/1913	Moderate: WU divested; some non-competing inter-connection allowed; acquisitions must not be direct competitors.
US Gov't	06/27/1918	07/31/1919	Moderate: AT&T nationalized, but shareholders guaranteed previous rate of return.
Comm. Act 1934	n/a	06/19/1934	Moderate: FCC created; regulates AT&T's rates.
DOJ (2)	01/14/1949	01/24/1956	Moderate: AT&T can't enter new businesses, must license patents on FRAND terms.
FCC Carterfone	11/29/1965	06/26/1968	High: Consumers can connect any lawful device to the network.
MCI Case	03/31/1974	05/28/1985	Low: $1.8bn award reduced to $113mn on retrial.
DOJ (3)	11/20/1974	01/08/1982	High: Bell system broken-up effective 01/01/1984.
Comm. Act 1996	n/a	01/03/1996	None: More a positive as it represented deregulation.
T-Mobile Deal	03/20/2011	12/19/2011	High: Acquisition blocked.
Time Warner Deal	10/22/2016	On-going	TBD

EK			
Party	**Initiation**	**Completion**	**Remedy Materiality**
DOJ	06/09/1913	02/01/1921	Moderate: Forced divestitures; barred from selling private label film; can't enter exclusive contracts or restrain dealers.
DOJ (2)	12/31/1951	12/31/1954	High: Must license color photofinishing and prohibited from bundling film & photofinishing.
Berkey Photo Case	01/31/1973	09/23/1981	None
Image Tech Case	12/31/1987	08/26/1997	Low: Kodak must sell copier parts at reasonable prices during a ten-year injunction.
Consent Decree Term.	n/a	08/04/1994	Positive: 1921 & 1951 consent decrees terminated given EK's weakened market position.

Google
The stock has been a fairly consistent outperformer. From the initiation of the EC case in 2010 - 2013, however, the stock performed in-line with the market. Google's P/E compressed over the period, but this had more to do with concerns about the transition to mobile. Google did enter the period with a P/E of nearly 27x, but the "moderate" EC comparison shopping remedies were not handed down until 2015, and their implementation was only in 2017.

IBM
The stock appreciated strongly (100%+) during the first (1930s) and second (1950s) DOJ cases. It underperformed during the famous 1969 - 1982 DOJ case. After a strong bounce post-case dismissal, relative performance peaked in 1983 and was sharply negative until bottoming in 1993. IBM actually "won" the case as it was dismissed, but it dragged on for over a decade and was extremely resource-intensive. It was also IBM's third and final brush with the DOJ. They extracted more and more remedies over time, so there is certainly a case to be made that regulators won a war of attrition.

We also wouldn't rule out fundamental factors as the computer hardware market commoditized over time and shifted more towards software and services. IBM had ~85% market share in 1932, ~78% share as of 1964, ~74% share as of 1968, and ~67% share in 1975, so IBM was clearly already losing share prior to, and during, the final anti-trust case. IBM's relative performance bottomed after the third DOJ case when Lou Gerstner was hired in 1993. He famously and successfully pivoted IBM to software and services.

Intel
Intel strongly outperformed after the early 1990s cases, peaking in 2000. The FTC closed a case in 1999, but with low remedies. Seeing the peak also corresponded with MSFT's and the tech bubble, it seems unrelated to regulation. Intel has performed in-line with the market from 2006 through current, which we would attribute to its ongoing reliance on PCs. The only case during which Intel's stock price declined was the 2004 - 2005 Japan Fair Trade Commission (JFTC) case, which was very low impact (Japan only; low remedies).

Google			
Party	**Initiation**	**Completion**	**Remedy Materiality**
FTC (Drug Ads)	01/01/2009	08/24/2011	Low: Enhance drug ad compliance.
EC	02/10/2010	On-going	Moderate: Shopping ads changes.
EC (MMI)	04/30/2012	04/29/2014	Low: "Eliminate the negative effects".
FTC (Google Buzz)	02/16/2010	10/24/2011	Low: Privacy policy audits.
FTC (search, ads, MMI)	06/23/2011	01/03/2013	Low: Opt in for "scraping" of site data; greater ability to manage simultaneous rival ad campaigns; FRAND licensing.
FTC Non-compliance	02/17/2012	08/09/2012	Low

IBM			
Party	**Initiation**	**Completion**	**Remedy Materiality**
DOJ	12/31/1932	01/02/1936	Moderate: Customers allowed to buy third party punch cards.
DOJ (2)	12/31/1952	01/25/1956	Moderate: Must sell equipment; <50% card share; open up maintenance.
DOJ (3)	01/17/1969	01/08/1982	Moderate: Proactively unbundles and opens-up software and services; case ultimately withdrawn.
Telex Case	01/21/1972	09/18/1973	Low: Enjoined from predatory pricing and leasing; Unbundles memory.
EC	07/31/1974	08/03/1984	Low: IBM offers to provide interfaces within 120 days & unbundle mainframes.
EC (2)	07/26/2010	09/20/2011	Low: IBM to provide mainframe spare parts and specs to third party maintenance firms.

Intel			
Party	**Initiation**	**Completion**	**Remedy Materiality**
FTC	06/29/1991	07/15/1993	None: Closed without action.
FTC (2)	09/25/1997	08/06/1999	Low: Can't withhold technical info in IP disputes.
EC	01/01/2001	04/16/2018	Low: Cease anti-competitive behavior; still on appeal.
JFTC	04/08/2004	03/08/2005	Low: Agrees to refrain from illegal business practices.
KTFC	n/a	06/05/2008	None
FTC (3)	12/16/2009	11/02/2010	Moderate: Can't use threats, bundles, discounts to deter competitive purchases.

Microsoft
Relative performance peaked in 1999 and then performed approximately in-line with the market from 2001 - 2013. The peak does roughly correspond to the DOJ case, which ran from 1996 - 2001, but the remedies were only moderate. More likely, the timing can be explained by the tech bubble, Microsoft missing mobile and Internet, and PC declines.

In an October 2007 internal buy recommendation, we stated that, "the consensus opinion is that Microsoft is ex-growth, its core Windows and Office franchises are threatened by the rise of online computing." At the time, the impact of regulation was practically nil. Case in point, the recent improvement in relative performance is due to a successful cloud transition.

Qualcomm
Relative performance peaked in 1999, at the top of the tech bubble, before bottoming in 2002. This performance run pre-dated any regulatory scrutiny. There is a solid case to be made that relative performance peaked again in ~2013 with the NDRC case, which led to a 35% rate cut in China and regulatory (FTC, EC, and others) and legal (Apple, Huawei, and Samsung) contagion.

In April 2018, Qualcomm reported its licensing business would suffer a further material decline as it offered the NDRC licensing terms on a global basis. This supports our view that the NDRC case was a watershed event.

Xerox
Relative stock performance peaked in 1972 - 1973, troughed in 1990, and peaked again in 1998. Xerox was generally a secular underperformer. The 1970s peak does coincide with the FTC (1972 - 1975) and SCM (1973 - 1978) cases, during which the stock significantly underperformed (down >60%). We believe the FTC case was a material negative. Xerox had thwarted competition through its ownership of blocking patents on the dry-toner process it had invented.

The FTC required Xerox to license these patents. By 1982, Xerox's share of the US copier market dropped from >90% in the early 1970s, to <40%, due to an onslaught of cheaper Japanese copiers.

There is a debate as to how much this had to do with the FTC requiring Xerox license its patents versus those patents eventually expiring. Xerox's dry-toner copying process was patented in 1942 and key patents expired in the mid-1970s, at the time of the FTC ruling. That said, Xerox had thousands of patents, many of which had yet to expire. Canon introduced the first competitor to xenography in 1968, based on a different liquid-toner process, and attacked the market with a low cost offering. Canon signed a cross-license in 1978, which may have been enabled by the FTC decision. In 1982, Canon introduced a dry-toner copier, the same technology Xerox used.

Microsoft

Party	Initiation	Completion	Remedy Materiality
FTC/DOJ	05/01/1990	07/15/1994	Low: Agree to change minor offending practices.
EC	06/30/1993	07/15/1994	Low: Agree to change minor offending practices.
DOJ & States	09/01/1996	11/02/2001	Moderate: Modifies contracts, browser choice; ~$2bn in vouchers.
EC (2)	12/01/1998	03/25/2004	Moderate: ordered to license Server protocols & unbundle Media Player.
KTFC	09/05/2001	12/07/2005	Low: Unbundle Media Player in Korea.
Netscape Case	01/22/2002	05/29/2003	Low: Royalty free browser software license.
Novell Case	11/12/2004	04/28/2014	None: Ruled in MSFT's favor.
EC (3)	01/01/2008	12/16/2009	Moderate: Must offer browser choice.
EC Non-compliance	02/27/2008	02/27/2008	None: Two fines for noncompliance with 2004 decree.
EC Non-compliance (2)	07/17/2012	03/06/2013	None: Required to comply with pre-existing browser choice commitments.
SAIC	07/28/2014	On-going	TBD

Qualcomm

Party	Initiation	Completion	Remedy Materiality
EC	10/28/2005	01/24/2018	Low: Cease offending practices.
KTFC	07/29/2006	07/23/2009	Low: Cease offending practices.
JFTC	01/24/2007	09/29/2009	Low: Cease offending practices.
NDRC	11/01/2013	02/01/2015	High: 35% royalty rate reduction.
FTC	09/17/2014	On-going	TBD
KTFC (2)	03/17/2015	12/27/2016	Low: Cease offending practices.
TFTC	12/04/2015	10/11/2017	Low: Cease offending practices.

XRX

Party	Initiation	Completion	Remedy Materiality
FTC	01/29/1973	07/30/1975	High: Must license all 1,700 patents in copier field; end group pricing; sell instead of lease.
SCM Corp	07/31/1973	07/10/1978	Low: $225m in remedies to SCM Corp.
CSU & ISOs	04/30/1992	04/08/1997	None: Court rules that refusal to sell patented parts does not give rise to antitrust liability.

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Pricing and return data provided by FactSet. Unless otherwise noted, figures are presented in USD. Data on cases provided by various sources including but not limited to The NY Times, The Economist, The Washington Post, Federal Trade Commission, U.S. Department of Justice, European Commission. Not all cases have clearly defined beginning and/or end dates. In those cases, we either used a best approximation or labeled the date as n/a. Some cases are still ongoing and have been labeled as such. Analysis by Manning & Napier.

The S&P 500 Total Return Index is an unmanaged, capitalization-weighted measure comprised of 500 leading U.S. companies to gauge U.S. large cap equities. The Index returns do not reflect any fees or expenses. The index accounts for the reinvestment of regular cash dividends, but not for the withholding of taxes. Index returns provided by Bloomberg. The S&P 500 Price Return Index is an unmanaged, capitalization-weighted measure comprised of 500 leading U.S. companies to gauge U.S. large cap equities. The Index returns do not reflect any fees, expenses, or adjust for cash dividends. Index returns provided by Bloomberg. S&P Dow Jones Indices LLC, a division of S&P Global Inc., is the publisher of various index based data products and services, certain of which have been licensed for use to Manning & Napier. Data provided is not a representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent and none of these parties shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

[1]We only focused on company-specific regulatory events. It is possible that there were relevant industry-wide regulations that we missed (e.g., the Telecom Acts, which we did include for AT&T). While we measured stock performance from the start-to-end dates in the timelines, those dates may not perfectly align with public disclosures. Cases are sometimes not made public during the initial investigation period, and settlements can be leaked ahead of time. That said, we looked at 54 different cases and think the sample size is large enough to correct for these potential issues.

[2]Notes regarding the data: Given that AT&T was broken up in 1984, we do not have good pricing data back to 1913, so returns were run since 1984. More history would likely show greater excess return given AT&T was an extremely successful monopoly, with very favorable regulation from 1913, up until the 1970s. For IBM, given limited data, we have calculated a price return (and compared that to an S&P 500 price return), so dividends are not included. IBM has long paid a healthy dividend, so the analysis should hold seeing IBM's annualized price return is 3.1% higher than the S&P. Kodak went bankrupt in 2012 after the film market was disrupted by digital, so we have not calculated an annualized return, but we count it as one of the three stocks which did not outperform the S&P.

[3]For example, we would point to Google and Facebook's current application of the General Data Protection Regulation (GDPR) in the EU. Another example would be AT&T from the early 1900s, up until 1984, when it was a benignly regulated monopoly. Finally, we would also recommend the book Big Blue, which is a great study of IBM's business characteristics and how it was able to bend regulations to its favor over a multi-decade period.

[4]While the 1969 DOJ case against IBM ended in dismissal in 1982, the case involved 66 million pages of documents, 724 trial days, 974 witnesses, and 16,734 exhibits, which must have taken some immeasurable toll on IBM. Despite the case being dismissed, we include it in the Appendix as an instance of a regulatory case that we believe did materially impact the business and stock. In another example, the 1956 DOJ consent decree prevented AT&T from entering new lines of business, a clear opportunity cost. It's also our opinion that Google would likely be more aggressive in making acquisitions, and with certain business strategies, if it was not under a regulatory magnifying glass. While IBM, AT&T, and Kodak thrived for multiple decades under regulatory review, we cannot disprove that the sum total regulatory pressures ultimately led to the deterioration of their businesses.

[5]Although Kodak's Second DOJ Case (1951-1954) was highly impactful on the business, the stock performed well over the period, and therefore, we did not single it out in this analysis.

[6]The initial 1968 version was criticized by some for being overly concerned with market structure issues, while the 1982 update raised the level of market concentration necessary for the government to scrutinize a merger. Since then, enforcement has fallen off with the rise of the "Chicago School" and more laissez-faire premises. In 1978, Robert Bork wrote the highly influential The Antitrust Paradox, which argued for antitrust to focus on consumer welfare rather than the protection of competitors.

[7]The Yale Law Journal article Amazon's Antitrust Paradox is an excellent example of this school of thought.

SMA-PUB079-A USCDN (8/20)