

The Challenges of Using Return on Capital as an Indicator of Monopoly Power

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Abstract

Large technology companies have come under renewed antitrust scrutiny in recent years, in part due to their high return on capital. In this paper, we review return on capital as a potential indicator of monopoly power, from both a theoretical and empirical perspective. Our findings are twofold. First, we find that existing academic literature provides no theoretical basis for using the observed return on capital as an indicator of monopoly power. Second, we find that empirically, persistently high returns on capital are not uncommon, even among companies that operate in competitive industries. Our findings therefore suggest that the return on capital can be a misleading indicator of monopoly power, and regulators should exercise caution in drawing inferences based on profitability and returns on capital.

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I. Background

Large technology companies have recently come under fire from competition authorities. In early July 2020, the United Kingdom’s Competition and Markets Authority (“CMA”) finalized its long-standing investigation into Google and Facebook, recommending the establishment of a “pro-competition regulatory regime” that would have the power to “breakup” platforms “where necessary.”⁵ In the same month, the United States Congress conducted a hearing to examine the “[d]ominance of Amazon, Facebook and Google.”⁶ In October 2020, the United States Department of Justice (“U.S. DOJ”) filed a formal antitrust suit against Google,⁷ and media reports suggest that an antitrust suit against Facebook is likely to be filed soon.⁸

Competition authorities and regulators across the globe are assessing antitrust enforcement and competition policy in the digital economy. For example, the Competition Commission of India, the Japan Fair Trade Commission, and China’s State Administration for Market Regulation (SAMR) have each issued reports on topics pertaining to the digital economy including e-commerce and internet platforms.⁹ The growing number of reports and policy papers released in recent years reflects the ongoing debate over the capability of current antitrust rules and tools to handle the emergence of large technology platforms, the scrutiny of business practices and models, and the challenge to protect and preserve innovation while minimizing potential harm to competition.

One of the concerns regulators—and in particular, the CMA—have expressed is that the persistently high profits earned by companies such as Google and Facebook is a signal of monopoly power. The general argument is that since economic profits would be expected to invite entry in competitive markets and drive down profits, high economic profits should not persist in competitive markets.

⁵ Competition and Markets Authority, “Online Platforms and Digital Advertising Market Study Final Report,” July 1, 2020 (“CMA Final Report”), at p.5, available at: <https://www.gov.uk/cma-cases/online-platforms-and-digital-advertising-market-study>.

⁶ U.S. House Committee on the Judiciary Subcommittee on Antitrust, Commercial and Administrative Law, “Online Platforms and Market Power, Part 6: Examining the Dominance of Amazon, Facebook and Google,” July 29, 2020, available at <https://judiciary.house.gov/calendar/eventsingle.aspx?EventIDs=3113>.

⁷ Complaint, U.S. Dept. of Justice *et. al.* v. Google, 1:20-cv-03010 (D.D.C. Oct. 20, 2020), available at <https://www.justice.gov/opa/press-release/file/1328941/download>.

⁸ *See, e.g.*, McKinnon, John D., “Facebook, Google to Face New Antitrust Suits in U.S.,” *Wall Street Journal*, November 30, 2020.

⁹ Competition Commission of India, “Market Study on E-Commerce in India: Key Findings and Observations,” August 1, 2020, available at https://www.cci.gov.in/sites/default/files/whats_newdocument/Market-study-on-e-Commerce-in-India.pdf; Japan Fair Trade Commission, “Interim Report Regarding Digital Advertising,” April 2020, available at <https://www.jftc.go.jp/en/pressreleases/yearly-2020/April/20092901.pdf>; State Administration for Market Regulation, “Anti-Monopoly Guidelines on the Sector of Platform Economies,” November 10, 2020, available at http://www.samr.gov.cn/hd/zjdc/202011/t20201109_323234.html.

As a proxy for economic profits, regulators such as the CMA compare companies' accounting returns on capital with their cost of capital in an effort to identify monopoly profits.¹⁰ This approach has superficial appeal. Return on capital is a function of operating profits, which reflect fixed costs such as R&D, as well as the cost of past investments through depreciation expenses. The cost of capital, when appropriately estimated, measures the opportunity cost of investment. If the return on capital persistently exceeds the opportunity cost of capital for a company, in a competitive market deep-pocketed investors will finance entrants and compete away profits until the return on capital equals its opportunity cost. Therefore, regulators argue that returns on capital persistently in excess of cost ("excess returns") are indicative of market power and barriers to entry.¹¹

In this paper, we evaluate the use of excess returns as a tool for diagnosing monopoly power, and conclude from both a theoretical and empirical perspective that excess returns are in fact a poor indicator of monopoly power.

The academic literature has raised important concerns about using excess returns as the basis for antitrust enforcement on both practical and theoretical grounds. First, excess returns calculated from accounting data are frequently misleading due to inaccuracies in the accounting for the timing of depreciation and profits in financial statements. Second, although economic theory proposes that economic profits should be zero in a competitive, mature industry in long-run equilibrium, it provides little guidance on how long profits might persist in dynamic industries where economic profits are necessary to induce firms to invest in risky innovation.

We analyze excess returns for a large sample of 1,298 public companies listed on major U.S. exchanges from 2010 to 2019. We find that persistently high excess returns were common among U.S. public companies during this time period. Moreover, a number of companies with persistently high excess returns operated in industries that are generally considered highly competitive, such

¹⁰ CMA Final Report, at pp. 67-68 ("We have found through our profitability analysis that the global return on capital employed for both Google and Facebook has been well above any reasonable benchmarks for many years. ... This evidence is consistent with exploitation of market power.").

¹¹ CMA Final Report, Appendix D at pp. D3-4, available at https://assets.publishing.service.gov.uk/media/5efb1c97e90e075c58556244/Appendix_D_Profitability_of_Google_and_Facebook_non-confidential.pdf ("ROCE [Return on Capital Employed] is a good measure to test where profits for a particular firm or sector are high, because it can be compared against an objective benchmark, the weighted average cost of capital (WACC). Another way of looking at this is that while all companies need to earn positive margins to be sustainable, margins themselves do not provide any information about whether this is higher than might be expected in a market that is working well: some sectors with high asset investment and low operating costs will tend to have high margins. ROCE also has the benefit that it can be compared against what profit a company would require to recover the cost of investments made in the past. A finding that ROCE is higher than the WACC is not in itself indicative of a competition problem. A firm that innovates and gains a competitive advantage may earn higher ROCE for the period that it is able to sustain that competitive advantage. In a market characterised by effective competition, any excess of returns above the WACC would then be expected to be eroded over time. However, our guidance indicates that a finding that 'profitability of firms which represent a substantial part of the market has exceeded the cost of capital over a sustained period could be an indication of limitations in the competitive process.'")

as restaurants or retail. Our empirical results are consistent with findings from the academic literature that excess returns can be misleading indicators of monopoly power.

The rest of this paper is organized as follows. In Section III, we review the relevant academic literature. In Section IV, we present our empirical analyses. We conclude in Section V.

II. Review of Academic Literature

There is no single, commonly accepted method for measuring economic profits for the purpose of identifying market power. Some economic models measure market power by the difference between price and marginal cost.¹² However, price-cost margins ignore fixed costs that companies may need to recover by pricing their product above marginal cost.¹³ Technology companies often incur high fixed research and development (“R&D”) costs, but bear negligible variable costs to deploy their platforms,¹⁴ and often operate in two-sided markets where the price-cost margin on either side of the market need not be zero even in competitive markets and in the absence of fixed costs.¹⁵ Price-cost margins may therefore be less relevant for measuring the market power of today’s large technology companies leading antitrust authorities such as the CMA to consider alternative measures such as excess returns.

In general, the academic literature cautions against using bright-line tests based on profitability for antitrust enforcement. Economic theory predicts only that economic profits are zero *in perfectly competitive markets that are in long-run equilibrium*.¹⁶ However, real-world markets are characterized by varying degrees of product differentiation and corresponding economic profits, and the “long-run equilibrium” requirement is unlikely to apply to dynamic industries that are regularly upended by fast-paced technological innovation.

¹² In particular, the Lerner Index is calculated as the difference between price and marginal cost, divided by price. See Lerner, Abba. P., “The Concept of Monopoly and the Measurement of Monopoly Power,” *The Review of Economic Studies*, Vol. 1, No. 3, 1934, pp. 157-175.

¹³ Elzinga, Kenneth G., and David E. Mills, “The Lerner Index of Monopoly Power: Origins and Uses.” *American Economic Review*, Vol. 101, No. 3, 2011, pp. 558-564 (“Elzinga and Mills (2011)”), at 561 (“a relatively high Lerner Index may reveal nothing more than the necessity of covering fixed costs.”).

¹⁴ Elzinga and Mills (2011), at p. 560 (“the cost structure of firms in many technology-driven industries...is markedly front-loaded. Marginal cost pricing in these industries is neither feasible nor desirable.”).

¹⁵ Wright, Julian, “One-Sided Logic in Two-Sided Markets,” *Review of Network Economics*, Vol. 3, No.1, 2004, pp. 44-64 at p. 55 (“Often one might try to infer market power from the fact a firm can profitably sustain its price (significantly) above cost. However, even in a perfectly competitive two-sided market, it is normal for the price on one side of the market to be above cost and the price on the other side to be below cost. Such a price structure does not reflect any market power. Rather, this might reflect the need to encourage demand by one type of user rather than another, so as to increase the total demand for the service.”).

¹⁶ Fisher, Franklin M., “Economic Analysis and ‘Bright-Line’ Tests,” *Journal of Competition Law and Economics*, Vol. 4, No. 1, 2007, pp. 129–153, at 139 (“Economic analysis does not show that economic profits are zero in competition. The theorem in question states that economic profits are zero in *perfect competition in long-run equilibrium*.... Among other bizarre features of *U.S. v. IBM* was the (at least implicit) contention that the computer industry of 1945-1980 could be analyzed as usually in long-run equilibrium, ignoring the waves of technological change that characterized it.”)

Economic theory provides no clear guidance on how long economic profits can persist in competitive industries. Research has found that over the past fifty years, successful companies in competitive industries have been able to sustain and renew their competitive advantage through successful innovation.¹⁷ Empirical studies have also found wide variation in firms' productivity due to differences in management quality,¹⁸ suggesting that difficult-to-replicate intangible organizational capital plays a large role in the success of firms.

Economic profits provide the incentive for innovation, and in the absence of barriers to entry, economic profits earned by an incumbent spur entry. However, it might take a promising entrant years to prove its business model and scale up. The idea that deep-pocketed investors should be able to create a challenger firm by spending a lump sum equivalent to the value of the invested capital of the incumbent is simplistic. Even in highly competitive markets, successful innovation might grant a firm persistent profits before being disrupted by a challenger.

The academic literature also cautions against bright-line tests based on excess returns as a motivation for antitrust enforcement. The return on capital calculated using accounting information generally does not equal the underlying economic return of interest, as accounting conventions do not adequately capture the timing of the benefits and costs of investments.¹⁹ The problem with measuring returns on capital using accounting data is exacerbated for firms whose capital is comprised primarily of intangible assets that are not reflected on companies' balance

¹⁷ McKinsey & Company, *Valuation*, 7th Ed., John Wiley & Sons, 2020, p. 141 (“[E]mpirical studies show that over the past five decades, companies have been generally successful in sustaining their rates of ROIC. It appears that when companies have found a strategy that creates competitive advantages, they are often able to sustain and renew these advantages over many years. ... While competition clearly plays a major role in driving down ROIC, managers can sustain a high rate of return by anticipating and responding to changes in the environment better than their competitors do.”)

¹⁸ See, e.g., Bender, Stefan, Nicholas Bloom, David Card, John Van Reenen, and Stefanie Wolter, “Management Practices, Workforce Selection,” *Journal of Labor Economics*, Vol. 36, No. S1, 2018, pp. S371-S409.

¹⁹ Fisher, Franklin M., and John J. McGowan, “On the Misuse of Accounting Rates of Return to Infer Monopoly Profits,” *American Economic Review*, Vol. 73, No. 1, 1983, pp. 82–97, at 89 (“[N]o inference about relative after-tax economic rates of return is possible from after-tax accounting rates of return”), at 91 (“Economists (and others) who believe that analysis of accounting rates of return will tell them much (if they can only overcome the various definitional problems which separate economists and accountants) are deluding themselves.... [E]xamination of absolute or relative accounting rates of return to draw conclusions about monopoly profits is a totally misleading enterprise.”). Carlton, Dennis, “Does Antitrust Need to Be Modernized?” *Journal of Economic Perspectives* at 164 (“Maybe the courts should focus on whether profits are excessive? Yet for courts to attempt the difficult calculation of economic rates of return strikes me as not generally helpful. Arguments about the relevant time frame and accounting issues would make such analysis extremely difficult.”) Baker, Jonathan B., and Timothy F. Bresnahan, “Empirical Methods of Identifying and Measuring Market Power,” *Antitrust Law Journal*, 1992, Vol. 61, pp. 3-16, at 5 (“In addition, the way accountants spread costs over time and adjust asset values for depreciation frequently causes accounting measures of profit to bear little relation to those underlying economic concepts that might in principle be related to market power.”).

sheets.²⁰ Therefore, excess returns calculated from accounting data can be misleading indicators of monopoly power.

Analyzing market power in specific product markets through the lens of excess returns is especially challenging. Large technology firms operate complex product and service ecosystems that are difficult to disentangle. Measuring return on capital specific to a given product or service would require the allocation of revenues, costs, and investments across interrelated (and often bundled) products and services, an exercise that is often impossible using available accounting data.²¹ Therefore, while excess returns have the advantage of incorporating all relevant costs, including the opportunity cost of capital, excess returns at the company level need not be informative of competition at the product market level.

III. Empirical Analyses

In this section, we describe our empirical analyses and results.

A. Variable Construction

Excess returns represent the difference between the return a company earns on its investments and the opportunity cost of those investments. There are a number of important practical considerations in calculating the return on investments using accounting data. Such considerations include the following.

- Taxes.
 - The company and its investors receive after-tax profits, and therefore measures of economic profit should exclude taxes. Note that in its Online Platforms and Digital Advertising Market Study, the CMA calculated excess returns using pre-tax profits, which would tend to overstate excess returns.²²
 - In principle, taxes should be measured based on the marginal tax rate on cash profits.²³ However, marginal tax rates are generally not publically reported by

²⁰ Fisher (2007), at 139 (“Except in cases, such as trucks, where the capital equipment involved can be bought and sold on a thick second-hand market, accounting rates of return bear almost no necessary relation to true economic rates of return.”)

²¹ Kirkwood, John B., “Market Power and Antitrust Enforcement,” *Boston University Law Review*, Vol. 98, 2018, pp. 1169-1227, at 1190 (“The alternative is to start with the firm’s accounting statements and adjust them to obtain a reasonable measure of the firm’s economic profits on the product in question. That, however, would involve breaking down the figures by product line, and properly capitalizing and depreciating each expenditure that contributes to revenue over more than one year. Proper economic depreciation, however, would again require timing each outlay and each receipt. In addition, accounting results have to be adjusted for the growth rate of the product, since both the timing of the revenue stream and the growth rate of investment can produce sharp discrepancies between accounting profits and economic profits.”)

²² See CMA Final Report, Appendix D. Note that although our definition of excess returns is slightly different from that of the CMA, our results would be qualitatively unchanged using the CMA’s formulation.

²³ Damodaran, Aswath, “Return on Capital (ROC), Return on Invested Capital (ROIC) and Return on Equity (ROE): Measurement and Implications,” *Working Paper*, July 2007 (“Damodaran (2007)”), available at <http://people.stern.nyu.edu/adamodar/pdfiles/papers/returnmeasures.pdf>, p. 7.

companies, and therefore analysts typically use taxes as reported on financial statements. We follow that practice here.

- Timing of profits and investments.
 - Returns on investments should represent the profits generated by existing investments. As investments might not begin to generate returns immediately, it is common practice to calculate excess returns using profits measured at year-end, and invested capital measured at either the beginning of the year or at mid-year.²⁴ We follow a mid-year convention here. Note that the CMA measured capital as of year-end in their calculations of excess returns.
- Intangible capital.
 - In principle, capital should include all assets that generate benefits over multiple periods, including investments in intangibles such as R&D and marketing. Investments in intangible capital are difficult to measure, as they are not capitalized on companies' balance sheets. Consistent with the baseline approach taken by the CMA, we do not attempt to adjust invested capital for intangibles.²⁵

We calculate excess returns as the difference between companies' return on invested capital ("ROIC") and weighted average cost of capital ("WACC"). ROIC is generally defined as after-tax operating profits normalized by the book value of invested capital,²⁶ and therefore represents the after-tax return earned by the company on its capital stock. Specifically, for company i in calendar year t , we calculate ROIC using income statement and balance sheet data from S&P Capital IQ as:

$$ROIC_{i,t} = \frac{EBIT_{i,t} - \text{Income Tax Expense}_{i,t}}{\frac{1}{2}(Invested\ Capital_{i,t} + Invested\ Capital_{i,t-1})}$$

where *Invested Capital* is the sum of *Total Equity* and *Total Debt*, net of *Cash and Short-Term Investments*.²⁷

We obtain data on WACC from Bloomberg at the fiscal year level. For companies with fiscal years that differ from calendar years, we calculate calendar year WACC as the weighted average of fiscal year WACC, with weights corresponding to the overlap between fiscal and calendar years.²⁸

For each company in our sample (described below), we also calculate average excess returns, weighted by invested capital. We weight average excess returns by invested capital to take into account changes in company size over time.

²⁴ Damodaran (2007), pp. 10-11.

²⁵ CMA Final Report, pp. 67-68.

²⁶ McKinsey & Company, *Valuation*, 7th Ed., John Wiley & Sons, 2020, pp. 128-129; Damodaran (2007).

²⁷ To reduce the impact of outliers, we drop observations where *Invested Capital* is negative in either year t or $t-1$, and set negative *Income Tax Expense* values to zero.

²⁸ For example, for a company with fiscal years ending on June 30, 2001 and June 30, 2002, calendar year 2001 WACC would be the average of WACC for these two fiscal years.

B. Sample of Companies

Our dataset includes companies in S&P Capital IQ that, as of May 25, 2020, were currently operating, incorporated in the U.S., had the U.S. as their primary geographic location, and were listed on one of three major U.S. exchanges: NYSE, Nasdaq, and AMEX (also known as NYSE American). To avoid results being skewed by extraneous factors, we exclude financial companies (whose accounting data are difficult to compare to firms in other sectors), companies in sectors that are heavily regulated, companies that rely on patent protection to maintain returns, and companies whose profitability is driven by commodity prices.²⁹ These include the following firms in the Global Industry Classification (“GICS”) sectors: Energy, Financials, Healthcare, and Utilities, and firms in the GICS sub-industries: Aerospace and Defense, Airlines, Aluminum, Copper, Diversified Metals and Mining, Diversified REITs, Gold, Hotels and Resort REITs, Industrial REITs, Marine Ports and Services, Precious Metals and Minerals, Railroads, Silver, Steel, and Tobacco.³⁰ We also exclude firms for which no GICS sub-industry classification is available. We include only companies for which we can calculate excess returns for at least five years between 2010 and 2019. These screens result in a dataset of 1,298 companies with 12,083 non-missing excess returns from 2010 to 2019.

C. Results

In this section, we tabulate the number of companies that had average excess returns above various thresholds ranging from 0 percent to 50 percent during 2010-2019, examine the persistence of excess returns above these thresholds, and enumerate large companies that had average excess returns over 20 percent.

In interpreting the results presented in this section, a natural question is what level of excess returns might be considered “too high” and potentially indicative of monopoly power. We note that

²⁹ See Al-Ubaydli, Omar and Patrick McLaughlin, “RegData: A Numerical Database on Industry-Specific Regulations of All United States Industries and Federal Regulations, 1997–2012,” *Regulation & Governance*, Vol. 11, No. 1, 2017, pp. 109–123; Dayanandan, Ajit and Donker, Han, “Oil prices and accounting profits of oil and gas companies,” *International Review of Financial Analysis*, Vol. 20, No. 5, 2011, pp. 252–257; Damodaran, Aswath, “Valuing Financial Services Firm,” *Journal of Financial Perspectives*, Vol. 1, No. 1, 2013, pp. 59–74 (“The third is that the accounting rules that govern accounting for financial services firms have historically been very different from the accounting rules for other firms, with assets being marked to market more frequently.”).

³⁰ S&P Capital IQ classifies companies according to the Global Industry Classification Standard (GICS) industry classification. GICS industry classifications are jointly developed and maintained by S&P Global and Morgan Stanley Capital International (MSCI). S&P and MSCI use them to define various financial market indices, including the S&P 500 Index, as well as for use by the financial community at large. GICS assigns each company to a sector, industry group, industry, and sub-industry. The classification consists of 11 sectors, 24 industry groups, 69 industries, and 158 sub-industries. GICS assigns each company to the sub-industry “whose definition most closely describes the business activities that generate the majority of the company’s revenues.” GICS relies on quantitative information from company annual reports, as well as qualitative information from investment research reports. See “GICS - Global Industry Classification Standard,” *S&P Global and MSCI*, available at: https://www.spglobal.com/marketintelligence/en/documents/112727-gics-mapbook_2018_v3_letter_digitalspreads.pdf.

Facebook and Alphabet, the two companies identified by the CMA with high excess returns had average excess returns of 28 percent and 26 percent by our measure, respectively.

High average excess returns were common over the 2010-2019 period. In Figure 1, we present the number of companies that had average excess returns above various thresholds. Of the 1,289 companies with at least five years of available excess returns from 2010 to 2019, 790 had positive average excess returns, 242 had average excess returns over 10 percent, 116 had average excess returns over 20 percent, 51 had average excess returns over 30 percent, 38 had average excess returns over 40 percent, and 29 had average excess returns over 50 percent.

Figure 1:
Number of Companies with Average Excess Returns Above Various Thresholds

Average Excess Return Threshold:	0%	10%	20%	30%	40%	50%
Number of Companies Above Threshold:	790	242	116	51	38	29

Sources: S&P Capital IQ and Bloomberg.

Consistent with findings in the literature, high excess returns tend to be persistent.³¹ In Figure 2, we tabulate the number of companies whose excess returns were above various thresholds for at least a given number of years. As Figure 2 shows, 282 companies had positive excess returns throughout the period running from 2010 to 2019, and 122 companies had excess returns above 20 percent for at least 5 years.

Figure 2:
Number of Companies with Excess Returns Above Various Thresholds for Multiple Years

Number of Years Above Threshold:	Excess Return Threshold:					
	0%	10%	20%	30%	40%	50%
1	1,173	671	387	270	188	146
2	1,089	515	299	200	132	95
3	999	416	221	129	81	56
4	918	340	171	92	56	40
5	835	287	122	62	37	29
6	720	229	92	50	32	23
7	622	176	69	31	23	15
8	506	129	53	26	15	13
9	412	104	38	20	12	9
10	282	65	22	12	4	3

Sources: S&P Capital IQ and Bloomberg.

Note: Each counts represents the number of companies that had excess returns above the given threshold for at least the specified number of years.

Another measure of persistence is whether companies that had high excess returns in the first half of our 2010-2019 sample continued to have similarly high excess returns in the second half of the sample. In Figure 3, we present results from analyses of the likelihood that a company that had

³¹ See McKinsey & Company, *Valuation*, 7th Ed., John Wiley & Sons, 2020, pp. 148-152.

high excess returns in the first half of our sample continues to do so in the second half of our sample. Consistent with Figure 2, we find that continued high excess returns are the norm, rather than the exception. 79 percent of companies that had positive average excess returns in the first half of the sample continue to have positive average excess returns in the second half. Such persistence is observed even for higher thresholds. For example, 46 percent of the companies that had average excess returns over 20 percent in the first five years of the sample continued to earn average excess returns over 20 percent in the second five years of the sample.

**Figure 3:
Persistence of High Average Excess Returns Across First and Second Halves of 2010-2019**

Average Excess Return Threshold:	0%	10%	20%	30%	40%	50%
% of Companies That Exceeded Threshold in 2010-2014 That Also Exceeded the Threshold in 2015-2019:	79%	58%	46%	41%	48%	35%

Sources: S&P Capital IQ and Bloomberg.

Note: Percentage figures represent the proportion of companies that had average excess returns above a given threshold in the 2010-2014 period and then also had average excess returns above the same threshold in the 2015-2019 period.

The list of companies with persistently high excess returns makes it clear that a bright-line rule using excess returns would result in a high rate of false positives for diagnosing monopoly. To illustrate this, in Figure 4 we provide a list of companies with average revenue over \$1 billion that had average excess returns over 20 percent for the full sample. As Figure 4 shows, a simple rule to bring antitrust action against companies with average excess returns over 20 percent for a ten year period would call for antitrust scrutiny in clearly competitive industries, such as fast food (*e.g.*, Dominos, Denny’s, Starbucks, Wingstop, Yum! Brands); apparel (*e.g.*, Gap, Levi Strauss, Nike, TJX), food and beverage (*e.g.*, Hershey’s, Monster Beverage), consumer goods (*e.g.*, Best Buy, Clorox, Colgate-Palmolive, Energizer, Estee Lauder, Home Depot, Kimberly-Clark, Motorola), and hotels and hospitality (*e.g.*, Booking Holdings, Choice Hotels). Higher regulatory thresholds would similarly lead to false positives. For example, Domino’s Pizza, Starbucks, and Yum! Brands all had average excess returns over 30 percent in the 2010-2019 period.

**Figure 4:
U.S. Companies with Average Excess Returns Above 20% and Average Revenue Above \$1 Billion, Sorted by GICS Sub-Industry**

GICS Sub-Industry	Company	Average Excess Return
Agricultural and Farm Machinery	Toro	24%
Air Freight and Logistics	Expeditors International of Washington	39%
Air Freight and Logistics	C.H. Robinson Worldwide	20%
Apparel Retail	TJX	54%
Apparel Retail	The Buckle	54%
Apparel Retail	Ross Stores	49%
Apparel Retail	L Brands	30%
Apparel Retail	The Gap	27%
Apparel, Accessories and Luxury Goods	Tapestry	30%
Apparel, Accessories and Luxury Goods	Levi Strauss & Co	28%

Application Software	Intuit	40%
Application Software	Cadence Design Systems	20%
Automotive Retail	AutoZone	42%
Commodity Chemicals	Westlake Chemical Partners	22%
Communications Equipment	Arista Networks	179%
Communications Equipment	F5 Networks	47%
Communications Equipment	Cisco Systems	27%
Communications Equipment	Motorola	24%
Computer and Electronics Retail	Best Buy	24%
Construction Machinery and Heavy Trucks	Meritor	26%
Data Processing and Outsourced Services	Mastercard	172%
Data Processing and Outsourced Services	Paychex	40%
Data Processing and Outsourced Services	Western Union	29%
Data Processing and Outsourced Services	Automatic Data Processing	26%
Electrical Components and Equipment	Rockwell Automation	31%
Environmental and Facilities Services	Rollins	27%
Footwear	NIKE	27%
Footwear	Deckers Outdoor Corporation	20%
Home Improvement Retail	The Home Depot	20%
Homebuilding	NVR	28%
Homefurnishing Retail	Sleep Number	36%
Household Products	Colgate-Palmolive	39%
Household Products	Clorox	24%
Household Products	Energizer	24%
Household Products	Kimberly-Clark	21%
Human Resource and Employment Services	Robert Half International	30%
Human Resource and Employment Services	TriNet Group	25%
IT Consulting and Other Services	Cognizant Technology Solutions	22%
IT Consulting and Other Services	IBM	21%
Industrial Machinery	Graco	23%
Interactive Home Entertainment	Electronic Arts	77%
Interactive Home Entertainment	Take-Two Interactive	24%
Interactive Media and Services	Facebook	28%
Interactive Media and Services	Alphabet	26%
Internet and Direct Marketing Retail	Booking Holdings	28%
Packaged Foods and Meats	Hershey	27%
Packaged Foods and Meats	Lancaster Colony Corporation	20%
Personal Products	Nu Skin Enterprises	23%
Personal Products	Estée Lauder	22%
Restaurants	Domino's Pizza	100%
Restaurants	Starbucks	34%
Restaurants	Yum! Brands	31%
Semiconductor Equipment	KLA Corporation	46%
Semiconductor Equipment	Lam Research	27%
Semiconductors	NVIDIA	74%
Semiconductors	Xilinx	44%
Semiconductors	Maxim Integrated Products	23%
Semiconductors	Texas Instruments	21%
Semiconductors	Skyworks Solutions	20%
Soft Drinks	Monster Beverage	38%
Specialized Consumer Services	WW International	32%
Specialized Consumer Services	H&R Block	29%
Specialty Stores	The Michaels Companies	54%
Specialty Stores	Ulta Beauty	29%

Systems Software	Microsoft	69%
Systems Software	Oracle	21%
Technology Hardware, Storage and Peripherals	Apple	29%
Trucking	Landstar System	26%

Sources: S&P Capital IQ and Bloomberg.

D. Discussion

Our empirical results—and in particular, the results in Figure 4—are consistent with both (i) the practitioner view that even in competitive markets, persistent innovation and strong brand reputation can allow companies to earn persistent excess returns, and (ii) the academic view that accounting-based measures of excess returns bear little relation to true economic excess returns.

Perhaps reflecting these concerns, not all competition authorities appear to place the same importance on excess returns in their deliberations.³² Despite the CMA’s existing inquiry into Google’s excess returns, the subsequent complaint filed by the U.S. DOJ against Google did not reference Google’s high excess returns as an indicator of monopoly power.³³ Similarly, a recent U.S. Congressional antitrust hearing discussed Alphabet, Amazon, Apple, and Facebook, but did not include Microsoft,³⁴ even though Microsoft’s 69 percent average excess return was over double the average excess returns earned by each of the other four firms.

The use—and potential abuse—of excess returns to assess monopoly power is of particular relevance in the assessment of digital and e-commerce platforms. Platform-based business models are frequently characterized by two-sided network effects and economies of scale and scope, as well as rapid technological innovation and dynamic disruption. These characteristics exacerbate the challenges associated with calculating and allocating costs and investments and measuring excess returns, as well as making inferences about monopoly power based on excess returns and profitability.

IV. Conclusion

Regulators should exercise caution when using analyses of profitability and excess returns to diagnose monopoly power. The academic literature suggests that regulators should carefully evaluate whether: the industry has reached long-run equilibrium; whether excess returns are the product of successful innovation by the incumbent; and whether excess returns can be reliably estimated. Our empirical results demonstrate that excess returns, especially when analyzed in isolation, can be misleading indicators of monopoly power.

³² See also Fisher (2007), p. 140 (“More troubling is the fact that, although I have reason to believe that the U.S. Antitrust Division now understands the issues [concerning excess returns] correctly, that appears to me not to be true in other countries, particularly in the U.K., where the appropriate authorities keep on trying to rely on profit evidence.”).

³³ See Complaint, U.S. Dept. of Justice *et. al. v. Google*, 1:20-cv-03010 (D.D.C. Oct. 20, 2020), available at <https://www.justice.gov/opa/press-release/file/1328941/download>.

³⁴ U.S. House Committee on the Judiciary Subcommittee on Antitrust, Commercial and Administrative Law, “Online Platforms and Market Power, Part 6: Examining the Dominance of Amazon, Facebook and Google,” July 29, 2020, available at <https://judiciary.house.gov/calendar/eventsingle.aspx?EventID=3113>.