An Analysis of the Modern Monopolies

To What Extent is the FAANGs Business Model Monopolizing

Economics HL

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Contents

Introduction

Research question: To what extent does the FAANG business model lead to a monopoly position?

This essay illustrates how, due to the new methods of today's technologically advanced world, a monopoly market fundamentally differs from what it looked like in the past. These kinds of practices are therefore significantly more challenging to detect and counteract. The playing field has changed. As the law attempts to catch up, the definition of monopoly must evolve. This will be analyzed using the example of the FAANGs companies and their business model.

Definition of a Monopoly

"A monopoly is an industry in which there is only one supplier of a product for which there are no close substitutes and in which is very difficult or impossible for another firm to coexist."[1]

In other words, a monopoly market is one in which a single company has gained a dominant position by taking control of a majority of the market share. Leading up to a total monopoly, as total market control is reached, it becomes increasingly difficult for competing firms to enter the market due to the high barriers to entry that a monopolistic firm imposes. The effects resulting from a monopoly position are in most cases negative. The grasp a monopoly firm has on the market enables price discrimination (i.e. the application of different prices to different customers), stagnating quality of

[1] Baumol and Blinder, *Microeconomics: Principles and Policy*.

the service or product provided, or even the creation of shortages in quantity supplied to drive up demand.

The Business Model

This essay will target the business model of the "FAANGs" companies. These firms (Facebook, Amazon, Apple, Netflix, Google) share a number of key characteristics. So much so, that they've received their own acronym to refer to their specific ways of conducting business.

One of the key characteristics and a common goal shared by the FAANGs is to obtain and retain their customer base through any means necessary. Each of the FAANGs tackles this through a similar method consisting of three steps:

1. procure cheap funding, through low interest loans or shares
2. run at a loss by severely underpricing their supply, for a sustained period of time, thus undercutting their competitors to attract their customers, despite market prices that are already barely covering costs
3. as soon as a significant market share has been established, gradually increase price levels, while sustaining methods to maintain the existing customer base, through the creation of a lock-in ecosystem.

To elaborate, the creation of an ecosystem that offers advantages over competitors' products generates a feeling of importance and ultimately dependence for the consumer, as they would lose their acquired benefits if they were to switch to a non-FAANG company. This is a major step in the direction of becoming more than just a product or service; the FAANGs aim to become a sort of 'utility' companies. Their aim is to provide goods and services that their userbase increasingly connotates with being essential. This puts them on par with the traditional utilities - electricity, running water, the phone service, and access to the internet. Online services are able to easily provide guarantees of 24/7 availability everywhere. This makes attaining the status of utility easier than ever before. With the cost-efficiency and simplicity of cloud-based scalability, even a small e-business is able to reach a worldwide presence with very little initial investment. It comes down to a business model that enables customer dependence in order to fully reap monopoly returns.

Those characteristics are the key features of monopolistic firms, and will be elaborated in the sections specific to each firm discussed.

1 Evolution of the FAANGs

This section provides a brief history and highlights key milestones of each of the FAANGs; where they started, who started them, how they received initial funding, which market they disrupted, and their economic turning points. The aim is to analyze and find common trends in how the FAANGs established their dominant position.

Three companies (Amazon, Facebook, and Google) were chosen for discussion because of their diversity in market type, product or service they provide/sell, and the contrasts for stake holders in those markets.

Facebook

Facebook Inc. was founded by Mark Zuckerberg and a few other students attending Harvard University. The social network originally stemmed from Harvard's student directory, its 'face book'. In February of 2004, Zuckerberg and a fellow student, Eduardo Saverin, agreed to invest $1000 into the site each, with Zuckerberg owning two thirds of the company.[2]

2009 marked a key year for Facebook, as Zuckerberg announced the company was "cash flow positive" in the last quarter.[3] By the next year, in addition to having grown to half a million users in just six years after it opened its doors, half were daily users, each having a daily average usage of 34 minutes.[4] To put this into perspective, if an average human is awake 16 hours, 34 minutes equates to just over 3.5% of awake time being spent on Facebook. An incredible step in becoming a utility, instead of just a product with many alternatives. At this time Facebook was still almost entirely dependent on advertising, and it has rejected "billion-dollar offers from Google and Yahoo."[5]

How they became a 'utility'

According to Statista.com, as of Q2 2019, Facebook has 1.587 Billion daily visitors, and 2.414 Billion monthly users[6], worldwide. That's almost one third of the world's population. Facebook is by far the most visited social

[2] Hoffman, "The Battle For Facebook".
[3] News, "Facebook 'cash flow positive' signs 300M users".
[4] Arthur and Kiss, "Facebook reaches 500 million users".
[5] Arthur and Kiss, "Facebook reaches 500 million users".
[6] Clement, *Number of monthly active Facebook users worldwide as of 2nd quarter 2019 (in millions)*.

media website in the United States, accounting for 45.03% of all social media traffic, followed by Pinterest and Reddit, with 30.56% and 12.5% shares, respectively, as can be seen on figure 1.

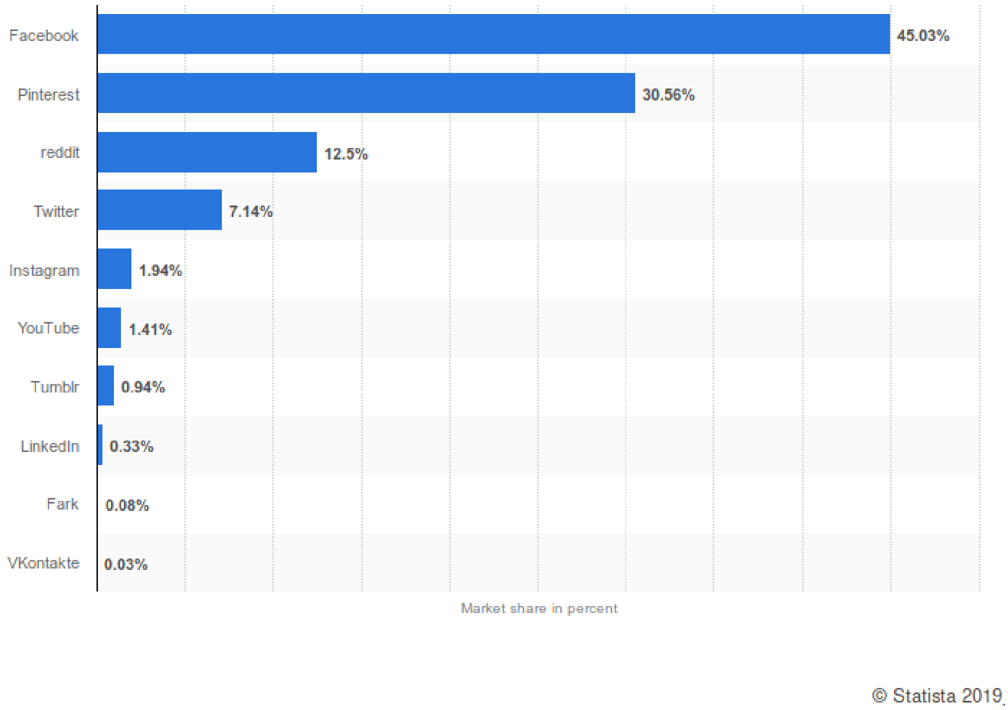

Figure 1: Source: Clement, *Leading social media websites in the United States in May 2019, based on share of visits*

To investigate Facebook becoming an essential good (utility), the Pew Research Center conducted a survey, asking US adults which social media they use, and how often. The following data were collected (see figure 2 below).

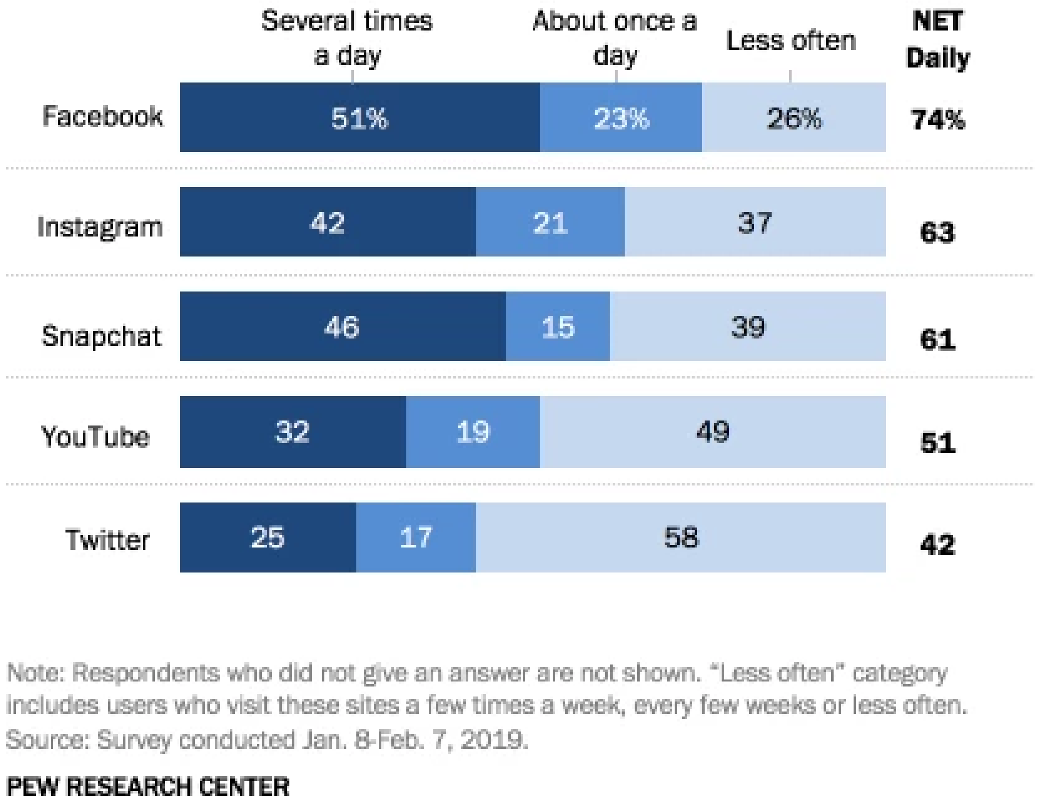

Figure 2: Source: Center, *Roughly three-quarters of Facebook users visit the site on a daily basis*

As can be seen on figure 2, 75% of American Facebook users check the site at least once every day, with over half of users accessing the site more than once per day. This statistic is closely followed by Facebook's subsidiary, Instagram, which garners the attention of two thirds of its userbase every day.

Monopolistic behavior

Facebook is economically speaking less complex than the other FAANGs discussed in this paper. Being a purely digital product/service, the nature of its products offers a number of key advantages in becoming a monopolistic firm. For a social network, long-run growth is almost guaranteed, due to the already large customer base, which incentivizes prospective new users to join it instead of one of its (albeit few) alternatives. With its sole source of revenue being advertisers, and with its immense customer base, it has grown to be the second-largest firm offering highly targeted online ads (behind Google). This is made possible by the vast number of data points collected on each user.

Currently, the disadvantages to the social media market that Facebook monopolizes, has been a fall in quality of the service. Those mainly concern privacy issues, such as the misuse of user data. The Cambridge Analytica scandal that came to light in early 2018, revealed the harvesting of user data for use in targeted political advertisements for the 2016 US Presidential Election (among others). The aftermath is a prime example of the consequences that a firm in a monopoly market faces. Year-over-Year revenues for the first and second quarter decreased only slightly from 49% in Q1[7] to 42% in Q2[8], despite fines of €1Million by an Italian regulator, £500,000 by the British privacy watchdog[9], and $5 Billion by the US FTC.[10] The only thing the CEO, Mark Zuckerberg, had to do was appear in court and issue an apology "It was my mistake, and I'm sorry".[11] Despite public disapproval of its practices, and despite penalties, Facebook's growth only decreased slightly, year over year.

[7] Facebook, *Facebook Reports First Quarter 2018 Results*.
[8] Facebook, *Facebook Reports Second Quarter 2018 Results*.
[9] Scott, "Facebook fined €1 over Cambridge Analytica scandal".
[10] BBC, *Facebook 'to be fined $5bn over Cambridge Analytica scandal'*.
[11] Zuckerberg, *Testimony of Mark Zuckerberg*.

Amazon

At Amazon, growth was the main goal in mind; subsequently Bezos had the slogan "Get Big Fast" printed onto employee T-shirts. And he wasn't wrong; by December of 1996 (under 2 years) there were already 180,000 customer accounts. Less than a year later, its customer base counted 1,000,000 accounts, with revenues jumping from $15.7 Million to $148 Million between 1996 and 1997, reaching $610 Million in 1998. For the longest time, the area that brought Amazon the most growth was its 'Associates' program. Other web stores could leverage Amazon's reach and trust to sell products through the platform at a commission. In 2002, the company launched Amazon Web Services (AWS), offering cheap cloud computing and storage options, which nowadays is one of the go-to platforms startup companies use to get their businesses off the ground. This also shows us that even within the FAANGs, some depend on others. Netflix depends on Amazon's EC2 (Elastic Cloud Compute) and S3 (Simple Storage Service) products to deliver their content. 2005 also marked a key year for Amazon, when it launched a new service that, although not physically tangible, was the first major step in creating a lock-in ecosystem. That product was Amazon Prime, a subscription that for only $79 per year let customers enjoy free two-day shipping on almost any product. Nowadays the subscription costs $119 per year. The popularity of the Prime subscription has risen to about 97 Million US subscribers in 2018[12], and since there are about 127.5 Million households in the US, that equates to a total of 76% of all US households being part of the Prime subscription

[12] Sterling, "Shy of 100MM, survey finds Amazon Prime membership growth has flattened in US".

service, an astonishing metric.

Becoming a 'utility'

For Amazon, becoming a utility hasn't been very difficult. Convenience is brought to consumers in a number of different ways. Firstly, the selection of products is so vast that they can cater to every person's needs. Secondly, delivering that selection of products is made very simple as well; in most areas where Amazon operates, 1-day (or even less in major cities) shipping has been achieved. Shoppers who have a subscription are also less inclined to make their purchases elsewhere. Now that 76% of US households have a Prime subscription, Amazon is receiving almost all of online sales, and thanks to the acquisition of Whole Foods, they now have an 'offline' presence as well, so that customers going grocery shopping have the convenience of picking up their online (Amazon) orders while they're out and about, removing the friction of shopping with Amazon, compared to others, even further.

Monopolistic behavior

As discussed, Amazon is a large player in a few different markets, but its roots are set deepest into the retail market, much more so than in the cloud hosting market they propagate with AWS.

Amazon is historically known to undercut its competition through its algorithms. This is achieved by tracking its third-party "Associates" sales that take place on its site, and then using that sales data to directly compete with those sellers, by underpricing its own listings of those products.[13]

[13] Anderson, "Is Amazon Undercutting Third-Party Sellers Using Their Own Data?"

Another aspect is the Prime membership; due to its grasp on the retail market, Amazon is able to crowd out non-Prime members, through Prime Exclusives, making non-members feel like second-rate customers. This will push consumers who already are regular Amazon customers to purchase the subscription, enabling Amazon to through its customer sales data, eventually facilitate price discrimination. What the Prime membership also creates is a sense of needing to make purchases through Amazon, as a consumer's sunk cost (the price paid for the membership) will otherwise go to waste, as discussed previously.

The negative effects of gaining a monopoly position in the online retail market (which also have adverse effects on the 'offline' retail market) for stakeholders are as follows:

Producer Let us consider the 3rd parties who sell through the Amazon platform as the producers. To remain relevant and benefit from the large customer base, they have to essentially work for Amazon. This means that they are no longer independant, and even if they try to be, Amazon will slash prices for sales made through their platform. This means that on top of the commission sellers have pay Amazon for having facilitated their transaction, they now effectively compete with themselves.

Consumer There is an incentive to shop with Amazon, due to their low prices, when compared to other retailers in their markets. In the present, Amazon is increasingly pushing their Prime subscription model to consumers through different methods; these include the convenience of their unprecedentedly speedy delivery service, the introduction of a streaming service in the ecosystem that crowds consumers out from alternatives, and finally Prime exclusive items.

In essense, as was discussed above, Amazon's well-thought out subscription based model, in combination with their price competition tactics, makes them a dangerous company when it comes to their possibility of becoming a total monopoly.

Google

In the early days of Google, the founders, Larry Page and Sergey Brin who were PhD students at Stanford University, received a total sum of $1 million from angel investors, friends, and family in 1998.[14] The year 2000 became one of the key and most memorable years for Google; the search engine would begin associating advertisements with search queries. That June, Yahoo announced that Google would become its default search engine provider, which as they soon found out, turned out to be a huge mistake.[15] All of Yahoo's search traffic suddenly going through Google meant that Yahoo could no longer benefit from the profiling and targeted advertising. In the fiscal year 2018, Google advertising revenues equated to $116.3 Billion, or 85.3% of the Google segment's total revenue.[16]

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[14] Kopytoff and Fost, "For early Googlers, key word is $$$ / Founders, backers could reap billions when company goes public".

[15] Naughton, "Why's Yahoo gone to Google? Search me".

[16] Inc., *Form 10-K 2018*.

How they became a‘utility’

Stemming from its frequent use in public as a generic term (a brand eponym) the verb ‘to google’ was added to the Merriam-Webster Collegiate Disctionary and the Oxford English Dictionary in 2006, denoted as “to use the Google search engine to obtain information on the internet”.[17] This achievement marked a huge step for Google in bridging the gap between being seen in the eye of the public as a ‘utility’ versus a regular old product or service. Nowadays, Google dominates the worldwide search engine market by an enormous margin over all of its competitors. As can be seen on figure 3 below, Google’s market share of the total worldwide search volume amounts to over 92%.

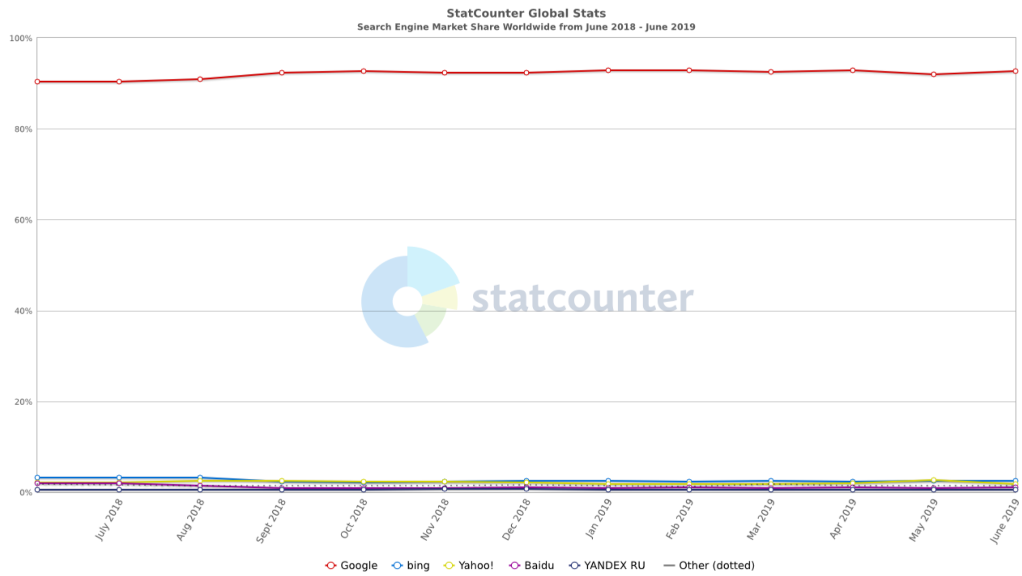

Figure 3: Source: StatCounter, *Search Engine Market Share Worldwide*

[17]Bylund, “To Google or not to Google”.

Monopolistic behavior

It is difficult to categorize Google (Alphabet, Inc.) as a monopoly company due to the markets they operate in. However, Google has over time been able to efficiently market and improve the convenience of its products through the power of its algorithms it extensively trained with search data gained from Yahoo. The development of Google's web crawler which efficiently and effectively indexes many of the internet's web pages, and their databases of possible search queries and their relevant correlations has enabled the creation of Google's 'moat', their security in cementing their market position. This has since become the main barrier to entry to the search engine market that they dominate.

The other market Google dominates, the online advertising market, displays more obvious monopolistic tendencies. Google is widely recognized as the market leader when it comes to serving targeted ads. This is almost in its entirety resulting from their immense presence on smaller third party websites. In this market, search data aggregated on users is leveraged to advertise on these smaller websites, while simultaneously, the visitors of these websites are being tracked, and their surfing habits are added to their 'searcher profile'.

Therefore, since Google is the most widely used search engine and the largest ad network, if companies want recognition, the limited number of alternatives of advertising through searches has put Google on the virtual advertising throne. The highest bidder appears at the top of Google's search results. A possible side effect of paid first-page first-place search results is that it subsequently could lead to large firms in other industries gaining market-dominating positions as well, by paying to have traffic directed to them, leaving smaller firms with less capital biting dust.

As Google becomes a monopoly, a number of parties will be affected. In this case, the economic stakeholders are as follows:

- The consumers
- The producers
- The market itself

Defining who the producer and consumer are in this example is somewhat complex, due to the diversity of markets Google operates in, and how it does so. In the search market, the 'consumers' are both the searcher and Google itself, who facilitates its cost-free search service to the searcher in exchange for their search data, which it uses to improve its profiling algorithms. This helps it provide more relevant results to the searcher's query, rendering Google also a 'producer'. This means that the searcher is both the 'producer' and the 'consumer' simultaneously. In Google's advertising market, the 'consumers' are companies who are looking to buy advertising space, be it at the top of search results pages, or on the vast network of third-party sites' ad spaces. The 'producers' are then those websites on which Google's ads/tracker network is present.

The disadvantages that this brings to the market are that by Google being the largest facilitator of highly targeted advertising, it can easily abuse its position by undercutting the market factors for their own benefit, increasing prices for advertisers and reducing payout to third party sites it can advertise on. Disadvantages for the searchers specifically (consumers and producers of the search service) include that they will be provided with search results that are increasingly biased towards their political, religious, and socioeconomic status, based on the profiling that has been conducted through the data they provided.

2 Stopping the FAANGs

The monopoly position, when not government-appointed, is illegal in almost all jurisdictions, due to the consequences it can have on society. Therefore, one of the main discussion points when talking about the sustainability of the FAANGs is how regulatory bodies will respond to the concerns of these companies becoming monopolies.

2.1 Regulatory friction

As it stands, competition enforcement against the FAANGs, despite the eye-catching levels of fines (Google), has until now remained insufficient in stopping the FAANGs. The argument can be made that the US market and tax structure enable this, of which the comparison can be made between varieties of Oak trees, whereby as the American oak grows fast than its European counterpart, as do US companies in comparison to European ones. It has been a recurring trend that US companies are less innovative, but much greater at upscaling, especially in shareholder anticipation of monopoly-type profits as we have seen in the examples of Amazon and Google.

Europe

2.1.1 The European Commission

In Europe, the FAANGs have been in the crosshairs for multiple violations; they have a long standing track record for anticompetitive behavior as well as agressive tax planning, and not paying taxes. Margrethe Vestager, the EU Competition Commissioner, has a number of big US tech companies in her sights. For instance, Amazon is being criticized because it is registered in Luxembourg, where it has a tax deal and pays only a few million in taxes on a revenue of billions. In October of 2017, Amazon had to repay €250 Million in taxes through the tax deal.[18]

In March, Google settled a case with the European Commission for €1.5 Billion regarding an antitrust case whereby the company was abusing its dominant market position by forcing AdSense customers to sign contracts stating they would not accept advertising from rival search engines. Vestager's comment: "The misconduct lasted over 10 years and denied other companies the possibility to compete on the merits and to innovate."[19]

Aside from the Cambridge Analytica scandal, Facebook has not come under much regulatory scrutiny in Europe. This is largely due to their being a virtual service. To bring a change to this, France and Great Britain have found that Facebook and the FAANGs in general do not fit in the traditional tax system, due to not having a physical presence in most of the countries they operate in. This will lead the introduction of a Digital Tax, which will be levied not on physical sales, but as percentage on revenue from specific

[18] Bartunek, "EU orders Amazon to repay $295 million in Luxembourg back taxes".
[19] Vincent, "Google hit with €1.5 billion antitrust fine by EU".

countries in which they generate earnings.

North America

2.1.2 US authorities

Until recently, not much was said by legislative bodies in the United States. However, out of the darkness came an announcement that the Federal Trade Commission (FTC) and the Department of Justice (DoJ) will be conducting investigations on Facebook, Amazon, Google, and Apple, "whether these companies have too much power".[20]

2.2 Consumer uproar

An example of public backlash toward Big Tech is Amazon CEO Jeff Bezos' August cashing out of 2% of his stock in his company, for a value of roughly $2.8Billion, as though it meant nothing. By comparison, all 250,000 bottomline warehouse workers earned under $15 per hour until last year.[21] This shows just the contrast that exists between senior management earnings versus worker earnings.

3 Conclusion

In general matters, the FAANGs are publicly criticized by ordinary citizens for their lack of fairness and transparency, especially in tax matters. Criticism arises from even their own customers, who are subject to high taxation

[20] Chen, "Regulating or breaking up Big Tech: an antitrust explainer".

[21] Salinas, "Amazon raises minimum wage to $15 for all US employees".

themselves, while their employers aren't. To put this into perspective, these firms' founders (Bezos, Gates, Brin & Page) are among the richest people in world, while their own customers and employees are struggling with just a single job, while their data is being stored and sold on top of it.

In Amazon's case their high volume allows for penetration pricing, which was made possible in the early days by the shareholder patience. Over all those years, amazing progress has been gained on algorithms for delivering product recommendations, and together with Amazon's push for the adoption of their Prime subscription with all its perks, a very powerful ecosystem has evolved.

For both Facebook and Google customers (users of the services) and other firms interested in advertising their own products are left without effective alternative services. Additionaly, tremendous frictionless expansion is possible, because Facebook and Google's products that are based on data are offered free of monetary charge to the public.

Ease of use has been one of the main selling points for the FAANGs' products and services. Their lock-in ecosystems which have helped to turn these companies into the new utilities have, however, been a strong enabler of anticompetitiveness.

Name recognition also plays a large part in normalizing a company's becoming of a monopoly. As mentioned previously, Google's name recognition has led to the genericizing of the very term itself; the neologism 'to google' has been added to reputable dictionaries.

Negative effects on innovation is the hurdle that remains for the future of these mammoth firms. As big companies become inefficient and sluggish, they will acquire new startups to remain relevant and to renew themselves. This 'moat' could eventually leave their markets subsceptible to disruption. To stay afloat, they will have to increase prices as seen on figure 4, below.

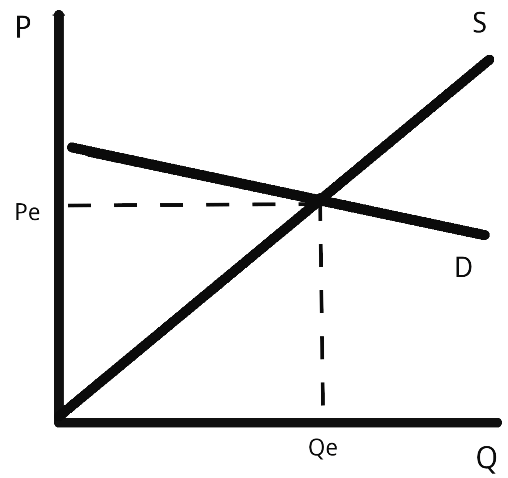

Figure 4: Market diagram for monopolistic firm (by author)

Figure 4 illustrates a market diagram for a monopolistic firm, featuring a low price elasticity of demand. The PED is low in monopolies, due to sustained demand (such as with utilities), and the lack of substitutes.

The regulatory aspect of antitrust enforcement/attention still remains somewhat of a mystery. As tax income goes down, due to friendly deals that small countries (Ireland, Luxembourg) supply them with, there will be increased regulatory scrutiny. This means that such policies are unlikely to continue.

3.1 The research question

Returning to the original question, is the business model that the FAANGs have adopted monopolistic? With the evidence discussed regarding increased scrutiny, fines, and investigations imposed by governmental institutions, as well as pushback from their middle class consumer-base, it is likely that these prospectively monopolistic firms will end up having to be split up. Alternatively, they will having to resort to becoming wildly philantropic. Classic examples of rehabilitation include the late John D. Rockefeller and Andrew Carnegie, perhaps the most successful businessmen of the 19th and early 20th century. These men owned monopolies, and by resorting to undertaking philantropic projects, they became praised by the public. They are remembered to this day in places such as New York City (Rockefeller Center and Carnegie Hall). Perhaps in the future, plans will be announced of a Bezos Tower and Zuckerberg Arena. In modern times there is already a new pseudo-Rockefeller or pseudo-Carnegie, who after having faced significant amounts of regulatory backlash decided he had no other option than to pursue philantropy; his name is Bill Gates.

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