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The Uber Bubble: Why Is a Company That Lost $20 Billion Claimed to Be Successful?

Posted on November 20, 2019 by Hubert Horan

In the first of three interrelated articles, transportation consultant Hubert Horan discusses Uber's "uncompetitive economics." There is no real innovation in the company's business model, he argues. Its market share is the product of predatory pricing and gigantic subsidies, not of higher productivity.

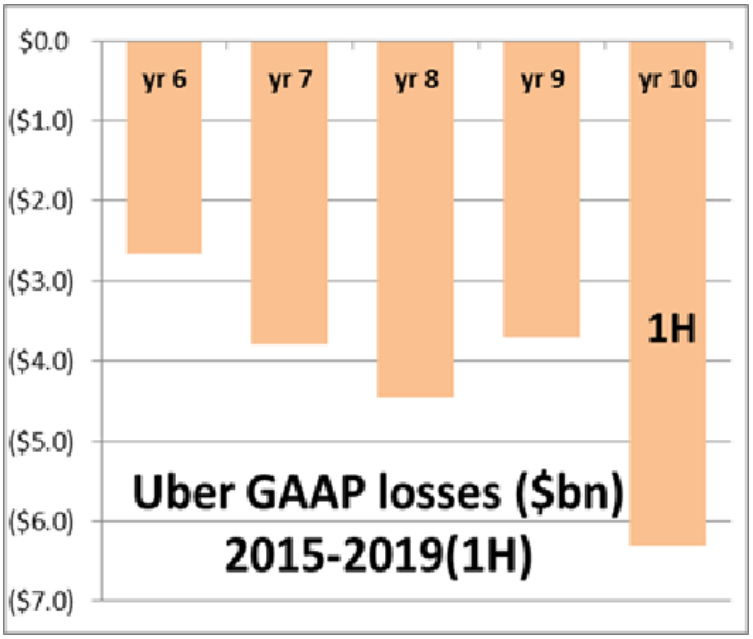
Why is Uber, a company that has lost over $20 billion and shows no signs that it could ever achieve sustainable profits, still widely seen as a successful, highly innovative company that has years of highly-profitable growth ahead? Why is it widely believed that Uber has brought major improvements to urban transport and huge welfare benefits for passengers when it has failed to establish a sustainably viable business model and was always explicitly pursuing artificial market power enabled by quasi-monopoly industry dominance?

This is the first of a three-part explanation. This first part provides an overview of Uber's uncompetitive economics and abysmal financial results for *ProMarket* readers unaware of the evidence. Part two will explain how Uber manufactured and promulgated false PR narrative claims that created its "innovative and successful" image and blocked awareness and discussion of the losses and subsidies that directly contradicted those claims. Part three will describe the indefensible work produced by Uber's "academic research" program, whose sole purpose was to create the false impression that major PR narrative claims were backed by independent research that met traditional academic standards.

Readers can find detailed discussion and documentation of these issues in two previously published papers. My 2017 *Transportation Law Journal* paper, which documents Uber's uncompetitive economics and its narrative programs, and my recent *American Affairs Journal* article which updates Uber's terrible financial results through this year's IPO.

Uber's Uncompetitive Economics

Uber (which began operating in 2010) has lost over $20 billion since the beginning of 2015. It is not (as it has long claimed) rapidly "growing into profitability" like previous Silicon Valley tech companies such as Facebook and Amazon, as it does not have the scale or network economies those companies had, and its cost structure has little in common with true tech companies.



Uber is actually a higher cost/less efficient producer of urban car services than the taxi companies it has driven out of business; individual Uber drivers with limited capital cannot acquire, finance, maintain and insure vehicles more economically than Yellow Cab; expenses other than drivers, vehicles, and fuel account for 15 percent of traditional taxi costs but Uber charges drivers 25-30 percent without coming close to covering their actual costs. All of Uber's early popularity and rapid revenue and valuation growth are explained by the billions in predatory investor subsidies needed to drive those more efficient (but poorly capitalized) incumbents into bankruptcy.

There is no independent evidence that any Uber "technological innovation" had any material impact on its cost competitiveness and there is no evidence that they had any impact on competition in any other industry. Uber's pricing system is far simpler than what airlines had 30 years ago. Oracle founder Larry Ellison noted that Uber's app was less sophisticated than something his cat could have developed.

Uber's margin gains have not come from efficiency improvements but from its ability to unilaterally cut driver compensation by 40 percent since 2016. These cuts reduced driver take-home pay below minimum wage levels in many markets and transferred over $3 billion from labor to capital.

Nothing in Uber's business model actually increased overall car service productivity or solved any of the taxi industry's traditional problems, which were due to structural issues common to all forms of urban transport. Service during peak periods (Saturday night; when it rains) was highly unreliable because the cost of peak capacity is 4-5 times higher than the cost of midday capacity (just like transit systems and expressways).

Taxi demand is sociologically bipolar; 35 percent of users have incomes over $100,000 and 55 percent have incomes under $40,000. Thus, on Saturday night wealthier people out for a night on the town compete for service with night shift workers who do not have transit options. Many neighborhoods were poorly served because the empty backhaul doubled the actual trip cost. Uber's surge pricing does not improve efficiency, it simply prices those night shift workers out

of the market. And as Uber has demonstrated, unlimited taxi market entry can lead to ruinous overcapacity and can allow part-timers to cherry-pick the peak revenue that full-time drivers depend on to cover their costs.

Converting these growing multi-billion dollar losses into sustainable profits would require one of the greatest operating company turnarounds in history. There is no evidence that the market is willing to pay the true cost of Uber's service. Any attempt at a bankruptcy-type restructuring would wipe out its current owners and Uber does not have a sustainably profitable core business to reorganize around.

Uber's Pursuit of Global Dominance and Unregulated Market Power

For 100 years, the taxi industry was highly fragmented and competitive. There had never been any strong tendency towards concentration in individual markets, and no evidence of synergies between markets. But Uber was always pursuing quasi-monopoly industry dominance, claiming its entry had magically converted the industry into a global "winner-take-all" game.

The only way Uber's investors could achieve outsized investment returns was to achieve industry dominance powerful enough to allow them to sustainably exploit the anticompetitive market power that companies like Amazon, Google, and Facebook have recently achieved. Uber's global dominance ambitions were widely understood across Silicon Valley. It was "in the empire-building phase" with a "massive burn in a play to conquer the world." Once dominant, every potential passenger and cab driver in every major city across the world would need to have Uber's app on their phone. That dominance and app ubiquity would eliminate the possibility of any serious competitive threat, create huge pricing power, and create opportunities to extract rents from other companies wanting to reach Uber's users. The investors' original expectation was they could reap billions in returns from an IPO before Uber's terrible economics became widely recognized.

Uber's investors also understood that maximizing future anticompetitive market power and rent-extraction potential required absolute laissez-faire. Uber was not pursuing more liberal entry and pricing rules but working to effectively nullify any form of governmental oversight. This meant eliminating the public's right to establish standards for market competition, safety, insurance, driver licensing, vehicle maintenance, or obligations to provide services to all people and neighborhoods in a city.

Uber's investors were attempting to seize effective control of the taxi industry from local citizens and their democratically elected governments. The "economic freedom" Uber was pursuing was the unfettered freedom to accumulate capital and the elimination of any conflicting laws intended to protect anyone else's welfare.

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False Claims and Propaganda: Why Uber's Narratives Are Wrong But Successful

Posted on November 27, 2019 by Hubert Horan

Uber's narratives reduce everything to emotive battles between good and evil. If Uber's success is inevitable, and resistance is futile, no one needs to waste time examining any actual economic or financial data.

Part one of this series documented Uber's uncompetitive economics, its inability to earn sustainable profits in competitive markets, and its explicit pursuit of quasi-monopoly industry dominance. This second part will address the question of why a company that has lost over $20 billion and was always explicitly pursuing artificial market power enabled by quasi-monopoly industry dominance is still widely seen as a successful, highly innovative company that has created huge welfare benefits for passengers and cities.

Uber has always pursued growth and dominance using political techniques that proved successful in partisan political settings. In the second part of this series, I will describe the most important of those political techniques: Uber's successful program for manufacturing and promulgating PR narratives. These narratives worked in conjunction with Uber's massive predatory subsidies (which allowed it to bulldoze more efficient competitors) and its monomaniacal growth-at-all-costs culture and created an image of unstoppable power.

Detailed discussion and documentation for most of the material in this series can be found in my 2017 *Transportation Law Journal* paper and my recent *American Affairs Journal* article.

Uber's Narratives Were Wrong But The Media Ignored the Economic Evidenc

Uber's narratives were consistently wrong, but since the media totally ignored the economic evidence that would have refuted them, they dominated public discussion for years. Narrative construction and promulgation may be Uber's greatest competitive strengths. Examples of Uber's many unjustified (or blatantly false) claims include:

- Uber grew because consumers freely chose its superior service in open, competitive markets (ignore the massive subsidies that grossly distorted market price signals)
- Uber's powerful technology can overwhelm incumbents in any market, anywhere (ignore the fact that the technology has never affected competition in any other industry, and Uber's dismal failure in markets like China, where incumbents were not fragmented and poorly capitalized).

- Existing taxi service problems were caused by regulations and corrupt regulators desperate to block Uber's innovation and job creation in order to protect the "evil taxi cartel" (there was no taxi industry cartel; Uber wanted people to believe the innocent victims in this battle were the Silicon Valley billionaires pursuing global industry dominance).
- Existing laws can't be applied to Uber, because "ride-sharing" is a totally new "sharing industry" with totally different economics (ignore the fact that the cost structures of Uber and Yellow Cab have the exact same components and nothing in Uber's model is being shared).
- Just like other tech companies, our startup losses will quickly become big profits and we (Uber) will eventually grow to the point where we displace car ownership and public transport (please ignore our actual costs, lack of scale economies, and actual profits and losses).
- Labor laws can't protect our drivers because we are a software company, not a transportation company, and drivers aren't important to our business (ignore the fact that Uber hasn't "sold" software to anyone that wasn't working for it).
- We'll become profitable when driverless cars allow us to eliminate the cost of drivers (ignore the fact that cars without steering wheels may never become widely available, will be much more expensive than today's cars for many years, and that Uber has no potential to dominate this industry).

Uber's Narratives Were Copied From a 1990s Campaign Against Taxi Regulations

Uber was less efficient than Yellow Cab and could not produce positive cash flow, much less sustainable profits. Its communication program needed to generate widespread enthusiastic public support while completely diverting attention from its losses and subsidies. It needed to convince people that all of the taxi industry's problems had been caused by regulations, and that the combination of Uber's cutting-edge technological innovations and regulatory disobedience had solved them, thus generating massive benefits for passengers, drivers, and cities.

Uber's origin story rests with an extensive 1990s political program conducted by pro-corporate and libertarian think tanks funded by Charles and David Koch. This program was not advocating more liberal taxi regulations, but the same total elimination of any form of public oversight over taxis, including safety and licensing, that Uber later pursued. All of Uber's original PR narratives were taken from this campaign on an almost copy/paste basis.

The '90s campaign narratives, repeated across dozens of publications, framed the elimination of taxi oversight as a heroic battle for progress, innovation, and economic freedom that would enable thousands of struggling immigrant entrepreneurs whose desire to drive taxis had been blocked by the "cab cartel" and the corrupt regulators beholden to it. A laissez-faire taxi industry would produce lower fares, reduce wait times, improve service in poorly served neighborhoods, and increase driver jobs and wages. None of these assertions were backed by any objective evidence or analysis.

The ’90s campaign was designed to create a one-sided debate, with arguments from its well-organized and well-financed supporters overwhelming any counterarguments that the fragmented taxi industry could prepare. The goals of this campaign were not achieved, because it had no local grassroots support and because local officials recognized that the risks of adopting radical changes to longstanding taxi regulations could not be justified by future benefits that were purely hypothetical.

Uber substituted “technology innovators” into the hero’s role originally occupied by “struggling immigrant entrepreneurs,” but otherwise used the same heroic us-versus-them framing, the same promises of magical gains, and the same demonization of the “evil cab cartel” and corrupt regulators that Uber’s investors needed to vanquish.

Uber’s multi-billion dollar investment base effectively weaponized the laissez-faire claims from the 1990s and ensured that its messaging would totally dominate media coverage. Uber won public opinion because its massive subsidies created the false appearance that its technology and regulatory disobedience had actually generated huge public benefits, and its monomaniacal culture intimidated the few journalists and politicians who tried to raise doubts.

The Propaganda That Created an “Alternate Reality Bubble”

Uber’s narratives (like the earlier Koch-sponsored laissez-faire claims) fit classic definitions of propaganda, including “deliberate, systematic attempts to shape perceptions, manipulate cognition, and direct behavior in ways that block interactive discussion,” and “a massive orchestration of attractive conclusions packaged to conceal their actual purpose and lack of sound supporting evidence”.

Instead of inviting discussion of alternative approaches to improve taxi service and finances based on objective industry data, Uber’s narratives reduce everything to emotive battles between good and evil. Uber’s narratives demanded people take sides in a black-and-white moral struggle between heroic innovators and corrupt regulators where compromise was impossible. Once people take sides in an us-versus-them political battle—out of ideological sympathy or because they want to be on the side likely to win—they tend to block out new information that might force them to recognize they’d been duped.

Uber’s propaganda converted a battle that should have been based on competitive economics into a raw power game, one which investors willing to fund tens of billions in losses were much more likely to win. The combination of Uber’s PR/propaganda program and its ability to project an image of unstoppable power allowed it to create a powerful alternate reality bubble. If Uber’s success is inevitable and resistance is futile, no one needs to waste time examining any actual economic or financial data. And for many years, no one in the Silicon Valley tech world, or the business press, or the venture capital industry, or Wall Street, ever did.

“Uber’s propaganda converted a battle that should have been based on competitive economics into a raw power game, one which investors willing to fund tens of billions in losses were much more likely to win.”

Propaganda-Based PR Requires Elite Reinforcement

Uber's ability over the last ten years to maintain the widespread perception that it is a successful, highly innovative company demonstrates that propaganda techniques can be just as effective in corporate startups as they have proven to be in partisan political settings. But, as successful political propaganda has long demonstrated, effective narrative promulgation requires the endorsement of seemingly independent elite channels. With sufficient repetition, the narrative claims of the propagandist become part of conventional wisdom and critical voices become marginalized.

Uber's us-versus-them propaganda framing also manipulated the mainstream business and tech industry press into taking its side. Reporters based in Silicon Valley, who viewed technology as one of the main drivers of economic progress, readily endorsed Uber's pre-packaged "heroic tech innovator" narrative, which was far easier than researching the economics of urban transport. Uber knew reporters were anxious to remain on friendly terms with the executives of the company that's poised to become the next Amazon. Uber knew that once they'd published multiple stories about Uber's powerful innovations, wonderful benefits, and inevitable success, the media would never retract these earlier glowing articles and acknowledge they had originally been duped.

The most emphatic endorsements of Uber's narratives came from liberal-leaning mainstream publications like *The New York Times*, *The Washington Post*, *The Atlantic* and the *New Yorker*, whose relatively-wealthy readers liked that they were suddenly getting better taxi service at lower fares. These outlets were apparently oblivious to the fact that they were amplifying claims originally written by Koch-funded groups who wanted to undermine market competition, the concept of urban transport as a public good, and any form of regulatory oversight.

Uber's propaganda successfully blocked media cognition of its actual economic and financial performance. Even after Uber's horrendous run of bad publicity in 2017, or its trainwreck IPO, the mainstream media continued to ignore the question of whether Uber's longstanding claims about powerful, technology-driven efficiencies had ever been independently verified, and failed to explain why Uber had failed to rapidly convert early losses into robust profits as Amazon and other tech unicorns had. None of the frequent stories about systemic sexual harassment at Uber suggested any link between bad behavior (which had been going on for years with the board's full support) and a business model that required a hyper-aggressive growth-at-all-costs culture.

A 9,000 word *New Yorker* story about how new CEO Dara Khosrowshahi would save the company following its 2017 travails provided Uber with the "redemption" narrative it needed but made no attempt to explain Uber's losses or what Khosrowshahi planned to do to eliminate them. A recent 350-page book by the *New York Times* reporter that had covered Uber, Mike Isaac, did not provide any data about losses or any other aspect of Uber's economics and portrayed the board rebellion and all other conflicts at Uber as personality issues unrelated to any debates about strategy, objectives, or performance.

That book illustrates how, even if the superficial norms of journalism are observed (there were no errors of fact), it could get the story totally wrong and badly mislead readers. There were other cases where allegedly independent journalists openly served as Uber advocates. In trying to get Kalanick to agree to an interview, Bloomberg's senior technology editor described his Uber

book as a way to not only counter growing public criticism, but to get the public to embrace Uber's efforts to "change the way cities work," using his desire to get the public to understand Uber's story as leverage to get Kalanick to agree to interviews other journalists could not get. As with less-biased reporting, there was no attempt to explain Uber's losses or explain how it might ever become profitable. But less extreme examples of media malfeasance—such as the financial pressures that favor pre-packaged narratives over actual journalism, the near-exclusive focus on Uber's side of the story, and the failure to examine or explain Uber's economics—better explain why the public came to widely accept Uber's manufactured narratives.

The mainstream media treats corporate PR claims as if they were grounded in the same norms of factual accuracy and pursuit of truth more prevalent at university seminar discussions. Reporters enjoy their powerful high-status role as objective arbiters who can tell the public what to think about economic issues. But this position also makes them willfully blind to sophisticated and well-financed efforts to shape their coverage, as well as other techniques that deliberately violate their norms.

Part three of this series will examine the "academic research" component of Uber's narrative promulgation program, which was designed to create the false impression that major narrative claims are backed by rigorous independent research that met traditional academic standards.

Uber's Growth Was Driven by Three Strategic Innovations

Amazon, Google, and Facebook established a two-part template for how a "tech startup" could achieve a 9-digit valuation. These companies first established a foundation based on legitimate product and efficiency breakthroughs (major e-commerce and distribution efficiencies, highly-valued new search, and social networking services) and demonstrated that their core business could earn sustainable, growing profits in competitive markets. Those efficient foundations supported further growth, industry dominance, and immunity from new competition. That allowed them to pursue more stratospheric valuations by exploiting anticompetitive market power and rent-extraction and buying out any potential competitive threats.

Uber is not just another "tech bubble" company that benefitted from extremely cheap capital and popular perceptions that "disruptive technology" could solve all the world's problems. Its strategy was based on three innovative components no other large startup had ever attempted.

Uber's first major strategic breakthrough was to completely skip the difficult "find legitimate product/efficiency breakthroughs" part and the even harder "achieve sustainable profits in competitive markets" part of the previous unicorn model. Uber's investors were the first to provide initially $13 billion (now over $20 billion) in funding in order to bulldoze incumbents who had lower costs but could not withstand years of predatory subsidies from Silicon Valley billionaires. This was 2300 times more pre-IPO funding than Amazon required, because Amazon could generate strong positive cash flow.

Uber's second major strategic breakthrough was the monomaniacal "growth at all costs" culture that original Uber CEO Travis Kalanick established during the earliest days of Uber's operation. This culture successfully intimidated most of Uber's early legal, journalistic, and political critics and helped create the widespread impression that Uber was an unstoppable power. This culture

also directly produced the open lawbreaking, journalist harassment, obstruction of local law enforcement, competitor sabotage attacks on rape victims and other individuals who had sued Uber, and systemic sexual harassment within management. Companies that can generate positive cash flow do not have to tolerate this kind of behavior, but it was celebrated at Uber.

Uber's investors fully supported this "growth at all costs culture" (and the huge losses incurred to support Uber's predatory behavior) and never uttered a word of complaint until 2017, when they realized that negative publicity about this behavior could threaten the IPO they were pursuing.

Uber's third major strategic breakthrough was to treat business development as an entirely political process, using techniques that had proven successful in partisan political settings. Uber's investors knew that it needed raw political power to accelerate growth, and to maintain its hoped-for dominance.

Amazon, Google, and Facebook didn't invest in major PR/lobbying efforts until after their core businesses had become securely profitable. Uber was the first startup where PR and lobbying had been a top priority from day 1. No other young startup had seen the need to hire a former Senior Advisor to a US president (David Plouffe) or the close confidant of a British Prime Minister (Rachel Whetstone) as senior PR executives.

This three-part strategy sustained Uber through ten years of massive losses that would have quickly destroyed any startup with a less sophisticated strategy. The fatal flaw was that Uber never achieved the dominance needed to exploit anti-competitive market power because the taxi industry never had the powerful scale/network economies needed to drive winner-take-all dominance.

Part two of this series will focus on how Uber used those political techniques to establish the image that it was highly innovative, powerfully competitive and had created huge public benefits while blocking economic evidence contradicting those claims. Part three will examine the "academic" component of Uber's PR narrative promulgation efforts, which was designed to create the false impression that major narrative claims were backed by rigorous, independent research that met traditional academic standards.

https://promarket.org/ubers-academic-research-program-how-to-use-famous-economists-to-spread-corporate-narratives/

Uber's "Academic Research" Program: How to Use Famous Economists to Spread Corporate Narratives

Posted on December 5, 2019 by Hubert Horan

Uber's employees co-authored academic papers with brand name scholars that were then used to back the company's PR and lobbying strategy. Published in respected journals, those articles are based on proprietary data and non-replicable analysis. Moreover, they all don't discuss the subsidies that make it possible for Uber to pursue market dominance despite its endless losses.

Part one of this series documented Uber's uncompetitive economics, its inability to earn sustainable profits in competitive markets, and its explicit pursuit of quasi-monopoly industry dominance. Part two described Uber's manufacture and promulgation of PR narrative claims, which were almost entirely wrong. Uber used propaganda-based techniques that had proven successful in partisan political settings to create the widespread belief that a company that has lost over $20 billion and had been openly pursuing quasi-monopoly industry dominance was highly innovative and successful and created huge welfare benefits for consumers and cities.

This first part of this post outlines the major problems found throughout Uber's "academic research" program, which should be seen as an integral part of Uber's overall narrative program. The second part of the post presents reviews of four prominently publicized papers that illustrate that this program was producing research that formally met traditional academic standards but whose results are highly problematic. A number of other Uber-sponsored and supported journal articles that I have reviewed are just as dubious as the ones discussed here.

Unless links to other sources are provided, more detailed explanations and source documentation of points about Uber's economics and narrative programs in this series can be found in my 2017 *Transportation Law Journal* paper and my recent *American Affairs Journal* article.

The core findings of all four papers directly support important Uber PR claims: that Uber's growth was driven by major productivity advantages; that the regulations Uber evaded significantly reduced traditional taxi productivity; that Uber's drivers have higher earnings and greater job satisfaction than traditional taxi drivers; that Uber has created billions in annual consumer welfare benefits; and that any regulatory limits on Uber's operating practices would significantly reduce driver welfare. However, the core findings of all four papers are highly problematic.

"None of the papers actually analyzed their nominal subjects (comparative taxi operating productivity, the labor market for taxi drivers, changes in

consumer welfare since Uber's entry, or factors affecting driver welfare)."

Uber's "Academic Research" to Support Its PR narrative

Uber's "academic research" program was established by David Plouffe and Jonathan Hall in 2014 to allow Uber supporters to assert that major narrative claims were backed by rigorous, independent academic research. In each case, Uber engaged the participation of well known, often brand name economists, who usually were open public supporters of Uber's agenda. The articles were published in journals considered prestigious.

Employing academics to consult on corporate PR and lobbying projects isn't necessarily a problem. If Uber had clear evidence of productivity advantages, or higher driver pay, or large consumer welfare benefits, it could publish that evidence under its corporate name and invite independent outsiders to review the evidence and vouch for its legitimacy.

The problem is that Uber supported academic research that formally followed the same procedures and standards as independent or university-sponsored research but whose outcome would almost certainly prove useful to its strategy. Uber benefited tremendously not only from journal articles, but also from simplified versions of the articles' findings that were then widely publicized by pro-Uber columnists and think tanks in non-academic channels such as newspapers and internet blogs.

This allowed Uber to transform narrowly stated journal claims into much broader, tweetable claims ("academic research proves Uber produces big benefits for drivers") aimed at the same mainstream press and policymakers who Uber's overall PR narratives had been targeted at.

Editors of prestigious economic journals were unable to critically evaluate articles about detailed aspects of Uber's business model. Responses to the original articles would be impossible since other economists would not have access to Uber's proprietary data or its research funding.

Just as Uber knew the mainstream press was largely pliant and uncritical about its overall PR narratives, it knew that none of the reporters or policymakers reading the simplified claims would have the time or ability to scrutinize the claim, or to determine whether it was actually supported by the original paper, or to evaluate the claimed independence of the original analysis.

Luigi Zingales's October 9th *ProMarket* post pointed out that Uber's policy of only allowing selected academics access to its proprietary data raised concerns about how academics could "become an unintended instrument in the PR efforts of powerful firms."

As the discussion of the four papers below indicates, there was nothing unintended about Uber's efforts to utilize academics in support of its PR objectives. Any academic journal claims put forward by Uber and their external academic consultants should be presumed dubious.

There are countless examples in other fields of academic research actually sponsored or ghostwritten by private companies. Big corporations such as Monsanto used to cooperate with scientists to support research projects that could be useful for their strategies, as internal e-mails revealed. In the case of Uber, companies' employees directly co-authored academic papers.

Cramer and Krueger's Claim

Disruptive Change in the Taxi Business: The Case of Uber

Judd Cramer and Alan B. Krueger[1]
Princeton University

December 31, 2015

The 2015 Cramer/Krueger paper *Disruptive Change in the Taxi Business: The Case of Uber*, published initially by the National Bureau of Economic Research and then by the *American Economic Review* in 2016, provided an analytic background to two major Uber PR objectives. It gave credibility to the claim that Uber had a huge productivity advantage (38 percent overall; 66 percent in some cities) over traditional taxis thanks to its cutting-edge technological innovations and its evasion of traditional regulations. It also distracted the public from the huge subsidies that were the primary driver of observable taxi vs Uber competitive dynamics.

Alan Krueger acknowledged having worked as an Uber consultant in 2014-2015 when he was also writing the initial draft of one of this paper.

The paper significantly overstated its Uber vs taxi utilization advantage by using incompatible measures of total work hours—total shift hours for taxis, time with the app on for Uber. Taxi drivers have a huge incentive to drive very long shifts in order to cover daily vehicle lease and fuel costs, while Uber drivers have incentives to drive short shifts during demand peaks, and have incentives not to turn their app on unless prepared to immediately accept ride requests. The paper concealed this by not presenting any of the actual data (hours/miles with passengers, total hours/miles worked) used in the utilization comparison.

Cramer and Krueger seemed to have little grasp of the peaking and empty backhaul problems that actually drive utilization rates, and they made no effort to present any analysis of historic taxi operating issues. As the Chen, Chevalier, et.al. paper (discussed below) documents, most Uber drivers only drive short shifts during demand peaks, and have incentives not to turn their app on unless prepared to immediately accept ride requests. Thus, the Uber data largely reflects seat occupancy during peak demand periods, while the taxi data measures seat occupancy across an entire day. The paper did not present any of the actual data (hours/miles with passengers, total hours/miles worked) used in the utilization comparison.

Cramer and Krueger presented Uber's superior productivity as driven by "technology" and "scale" effects and regulatory evasion, but they provided no evidence showing that any of these factors increased productivity. They can't point to anything Uber's "technology" did to smooth demand peaks or stimulate new demand closer to each drop-off point.

The paper notes that radio dispatch technology is not very new, but provides no evidence that Uber's slightly faster transmission of demand requests could possibly explain the large claimed utilization differences. Their "scale effects" claim is similarly unsubstantiated. Market share did not shift to Uber because its size had dramatically reduced unit costs, or because passengers strongly prefer larger companies, it shifted because Uber's massive subsidies gave customers much more capacity and much lower prices than could be economically justified

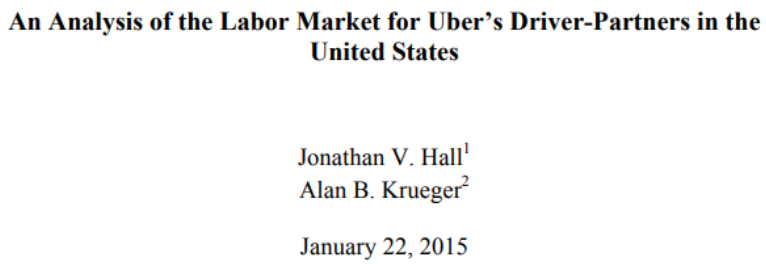
Cramer and Krueger's only example of how Uber's regulatory avoidance might have improved utilization (jurisdictional limits, such as those preventing Manhattan drivers from picking up return fares at Newark Airport) was trivial, and their discussion of the evils of occupational licensing had nothing to do with the utilization rates purportedly at issue.

Normally, superior productivity would create a significant overall cost advantage and would drive superior financial results, but Cramer and Krueger avoid any mention of Uber's staggering losses. Uber may have had a better ratio of revenue miles to total miles during this period, but this would have been explained by Uber's massive subsidies, not by operational efficiencies.

Traditional taxi supply was limited to what actual fare revenue could cover, while passengers increasingly flocked to Uber vehicles since (in the period studied), they only had to pay 41 percent of the cost of their trips on average, and peak-period passengers received much larger subsidies. Cramer and Krueger improperly suggest that their purported utilization advantage explains why Uber could be charging less traditional taxis. They not only ignored that sustainable prices require sustainable profits but made no attempt to determine whether their claimed seat occupancy advantage gave Uber an overall competitive advantage.

Stripped of its unsubstantiated claims, the Cramer/Krueger paper considered car service utilization rates in five cities but failed to present any of the actual data, made comparisons based on inconsistent utilization measures, and failed to demonstrate any link between their data and overall competitiveness or financial results. It seems highly improbable that *American Economic Review* would have accepted a paper using inconsistent measures to compare bus utilization rates in five cities.

Hall and Krueger's "Uber Drivers Earn More Than Taxi Drivers and Have Flexibility Benefits" Claim



An Analysis of the Labor Market for Uber's Driver-Partners in the United States

Jonathan V. Hall[1]
Alan B. Krueger[2]

January 22, 2015

The 2015 Hall/Krueger paper *An Analysis of the Labor Market for Uber's Driver-Partners in the United States* was written when one of the authors was an Uber's employee and the other, Krueger, an Uber consultant, raising the question whether it was commissioned for research purposes or as part of a PR campaign. What is certain is that Uber used its findings as a part of its strategy to address the PR crisis that developed after earlier Uber claims that its drivers earned on average $90,000 a year in New York and $75,000 in San Francisco had been exposed in the press as being entirely fabricated

Krueger, who had been a White House colleague of then Uber-PR chief David Plouffe, actively helped promote the paper's findings. Simplified versions of the Hall/Krueger conclusions were popularized through a variety of mainstream publications, thereby countering emerging

criticisms of Uber's business model. This normalized pro-Uber talking points, such as a Congressional testimony claiming that "A survey of Uber drivers showed that the vast majority are happy working for the company. They greatly value the flexibility in terms of when and how much to work. . . . They also seem happy with the pay."

The paper seriously overstates Uber drivers' earnings by using gross revenue instead of true take-home pay. The paper briefly mentioned that Uber drivers must bear the full vehicle expenses and financial risks while the taxi drivers they are being compared to do not and failed to analyze the impact of these additional expenses and risks on true driver earnings.

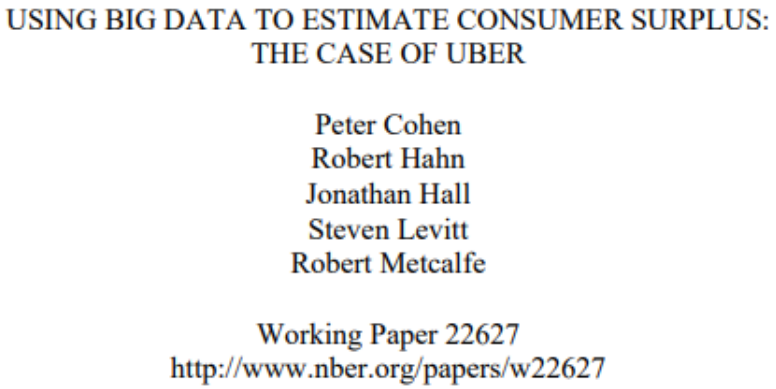
While claiming to be a labor market analysis, the paper can't explain labor market dynamics, since it only looks at data from a single firm at a single (highly unrepresentative) point in time. There is no data on driver wages, working hours or conditions or turnover rates, no analysis of how Uber's market entry changed the demand for drivers, or how the increased demand changed wages or working conditions.

The paper's claims about overall Uber driver job satisfaction and the value of driver flexibility are based on surveys fraught with serious methodological problems (very low response rate, loaded and deliberately misleading questions, sample bias, etc.) that later journal articles have documented in detail.

The authors repeatedly highlight the rapid growth of Uber driver numbers but failed to tell readers about Uber's huge subsidies and losses, which explains that growth and invalidates the paper's claim that they reflect a superior working experience. Comparing the driver economics of the viable (but marginal) traditional taxi industry with a new entrant that has lost billions is a meaningless exercise.

The paper serves to distract readers from Uber's awful economics by repeating the Uber narrative claim that "modern technology, like the Uber app, provides many advantages and lower prices for consumers compared with the traditional taxi cab dispatch system."

Hall/Levitt et al.'s "Uber Increased Consumer Welfare" Claim



USING BIG DATA TO ESTIMATE CONSUMER SURPLUS:
THE CASE OF UBER

Peter Cohen
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Working Paper 22627
http://www.nber.org/papers/w22627

The 2017 Cohen/Hahn/Hall/Levitt/Metcalfe paper *Using Big Data to Estimate Consumer Surplus: The Case of Uber* claimed Uber annually creates billions in consumer welfare benefits. It also allowed Uber supporters to trumpet over-simplified versions of that claim in non-academic mainstream media channels. Steven Levitt, through his *Freakanomics* media franchise, played a major role in this process. "It's not that we have to wonder whether demand curves exist or not, because we know they exist because we define them and they're there. But I wanted to touch one; I wanted to hold a demand curve, and I had never had a chance to do that until I took Uber and it suddenly occurred to me that here was a chance to hold a demand curve in my own hand"—this 2016 comment by Levitt explains very well why so many economists were bamboozled by Uber and its virtually infinite amount of new data to do research with.

Other outlets that uncritically presented simplified versions of the paper's claim included the *New York Times*, *Wall Street Journal*, *Forbes*, *Reuters*, and *Bloomberg*. The claims consistently went beyond anything supported by data and analysis in the paper. To cite one example, economist and *Bloomberg* columnist Tyler Cowen claimed the $6.8 billion represented the "social value" of Uber and claimed that this evidence of huge consumer benefits justified his view that current industry competition was "a fight between progress and protection."

The idea that a company that lost $2 billion with a negative 149 percent profit margin in 2015 (and has subsequently lost an additional $18 billion) and was openly pursuing a global monopoly can be said to have created $6.8 billion in sustainable consumer welfare gains in ridiculous. The paper withheld any mention of Uber's losses, made no attempt to explain what Uber had done to create these gains, and failed to tell readers that they depended on massive, unsustainable subsidies.

The paper did not present a serious welfare analysis, as it failed to present any before-and-after evidence showing the impact of Uber's entry on industry prices or service levels. The methodology, which had never been used in any previous academic analysis, claimed that one can derive the medium/long term welfare impacts of industry competitive changes from a small sample of one company's data about extremely short-term consumer purchase decisions. That sample was limited to frequent Uber users in four of the wealthiest cities in America who had already decided to order an Uber vehicle. Can one measure the impact of United Airlines on overall consumer welfare by extracting a sample of consumer reactions from its loyal frequent flyers to prices shown at its website at the point they urgently need to book a flight?

The paper was not measuring consumer welfare, it was measuring the very short-term price elasticity of a highly unrepresentative sample of customers. The willingness to pay 20 percent more when you need a car right now does not mean an across-the-board 20 percent price increase would leave demand unchanged. The study used very short-term elasticity estimates of wealthy, loyal customers in order to inflate their "consumer surplus" estimate which in turn inflated their $6.8 billion "consumer welfare" claim.

No one in the profession pointed out that the consumer welfare impact of Uber's market entry couldn't be calculated from very short-term, Uber-only price elasticity measures. Most of the summaries published by Uber supporters ignored these (rather significant) caveats and claimed that a demand curve based on inappropriate data was actually a great accomplishment.

Chen/Chevalier et al.'s "Uber Drivers Think Their Schedule Flexibility Is Worth As Much As 40 Percent Higher Cash Wages" Claim

The Value of Flexible Work: Evidence from Uber Drivers*

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The 2017 Chen/Chevalier/Rossi/Oehlsen paper *The Value of Flexible Work: Evidence from Uber Drivers* proved useful to Uber in countering growing criticisms of driver exploitation, and legal challenges to Uber's claims that its drivers were totally independent entrepreneurs who were not entitled to the same labor law protections employees are entitled to.

When the article was first published, Uber spread these claims through various mainstream articles. The paper's central claims—Uber drivers think their scheduling flexibility is as valuable as 40 percent higher pay, and that drivers would withdraw two-thirds of current supply if this flexibility was lost—helped Uber claim that opponents of its labor practices were trying to hurt drivers and reduce major economic welfare benefits that Uber created. Uber's need for this type of "evidence" on driver benefits recently increased given the threat of California's AB5 legislation, although there is nothing in that law that would limit the existing flexibility of Uber's drivers.

While purporting to analyze the "value of flexibility" and its "impact on driver welfare," the paper does not present any data about Uber drivers' compensation over time, or any data about the alternative wage/flexibility packages available in the market. As with other Uber-financed studies, it uses gross driver revenues instead of the true driver take-home pay Uber could have developed. Supply elasticities are based on inappropriately short-term data from a single point in time. The study fails to present any data on driver turnover rates or Uber's huge losses and subsidies. The paper doesn't consider Uber's massive, unilateral reductions in driver compensation (roughly 40 percent since 2015) or that drivers now earn much less than traditional taxi drivers did prior to Uber's market entry.

The paper claims that the alleged driver welfare benefits were created by "technology" and "[o]ur expectation is that technology will enable the growth of more Uber-style work arrangements." There is nothing in the paper substantiating any link to technological innovation or explaining why (after ten years of Uber operations) no other large company has profitably adopted Uber's work practices.

The paper's claim that the Uber operating model "impos[es] no constraints on labor supply flexibility" badly misrepresents actual driver flexibility. The paper does not mention that drivers locked-in to expensive vehicle obligations have very little "flexibility" to quit once they realize that Uber take-home pay is much less than promised, or if they discover other jobs with a better combination of pay and conditions. The paper also fails to mention that drivers' ability to decline work was seriously constrained by Uber's practice of unilaterally terminating drivers who failed to respond to given percentages of ride requests.

In addition to overstating the flexibility in the Uber model, the paper's conclusions are based on a strawman comparison with a fictitious alternative with the same wage uncertainty and financial risks but no flexibility to decline work. The real-world alternatives are low-wage jobs with more rigid schedule requirements but complete certainty about hourly wages and the total work available, and no requirement to provide capital assets.

The paper misrepresents a system designed for Uber's benefit as a system that significantly enhances driver welfare. Because Uber demand has major (but short) evening peaks, Uber's systems are designed to attract part-time drivers during these hours. There is nothing wrong with a system that tries to tie driver supply more tightly to Uber's revenue maximization opportunities, but this doesn't increase driver "flexibility." Drivers can't flexibly achieve similar earnings whenever they want or by driving as long as they want; they can only make money if they operate short shifts during the hours of greatest value to Uber. The study acknowledges that the "driver surpluses" that drive its headline benefit finding disappear once drivers want to work full time.

The ability to decline work on a given day undoubtedly has some value, but the paper implausibly claims the vast majority of its estimated driver welfare benefits are due to the ability of drivers already working to decline trips in real-time. These trip refusals are not because drivers exercise the "flexibility" to have coffee with a friend, but because the offered trips would have been uneconomical due to the low likelihood of return/onward rides. Thus, the paper's claim that drivers gain the equivalent of 40 percent higher pay from this "flexibility" is largely driven by situations where drivers would actually lose money.

The Four Papers' Problematic Conclusions

None of the previous papers actually analyzed their nominal subjects (comparative taxi operating productivity, the labor market for taxi drivers, changes in consumer welfare since Uber's entry, or factors affecting driver welfare). None of the papers provide readers with any of the relevant pricing, service, utilization or wage/working conditions data.

The four papers failed to mention anything about Uber's massive losses and subsidies, which invalidate all of the stated conclusions since data about a company that is billions away from breakeven cannot reflect sustainable productivity breakthroughs or permanent welfare enhancements.

Each paper makes broad claims that would require analysis of industry/market data over time, but the papers only look at very-short term Uber-only data from a single time period. Most of the Uber data used is inappropriate, including the use of gross driver revenue instead of data on true

driver take-home pay, and the use of extremely short-term data to measure longer-term supply or price elasticities.

All of the authors claim that the alleged improvements are all due to the superior economics of Uber's business model (e.g. innovative technology, scale effects) but the papers provide no objective evidence substantiating any of these claims. Several make pronouncements supportive of Uber claims totally unrelated to any of the data and analysis.

It is unclear why the journals that published these papers would not have identified many of these questions as part of their normal review process. It is especially unclear why those editors accepted papers presenting powerful conclusions about Uber's efficiency and welfare benefits, without requiring the authors to disclose Uber's losses and explain the industry's volatile competitive situation.