

Rethinking Taxi Regulations: The Case for Fundamental Reform

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ABSTRACT

New technology can disrupt an industry, vastly improving consumer welfare. It can also disrupt policy, vastly improving governance. The advent of “ride-sharing” platforms like Uber and Lyft has prompted regulators everywhere to rethink their approach to the vehicle-for-hire industry. When these technologies first appeared, many local regulators moved either to outlaw them or to achieve parity with taxicabs by regulating these new firms up to the same burdensome level as taxis. More recently, however, policymakers are taking a new approach; they are achieving regulatory parity between ridesharing platforms and taxis by deregulating taxis. Using the District of Columbia as a case study, we assess the current state of affairs in taxi regulation and suggest principles for reform. With the Department of For-Hire Vehicles currently contemplating the creation of a new “Xclass” service, we argue that now is an opportune time for fundamental reform of the entire regulatory regime in order to create a fair, open, and competitive transportation market.

JEL codes: H7, K2, L5, L9, R4, R5

Keywords: taxis, sharing economy, regulation, regulatory capture, asymmetric information, transactions costs, platform markets

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Using the District of Columbia as a case study, we assess the current state of affairs in taxi regulation and suggest principles for reform. With the Department of For-Hire Vehicles (DFHV) currently contemplating the creation of a new “Xclass” service, we argue that now is an opportune time for fundamental reform of the entire regulatory regime in order to create a fair, open, and competitive transportation market.²

THE CURRENT APPROACH TO REGULATING THE TAXICAB MARKET IN DC

The current approach to municipal taxicab regulations in the United States began in the 1930s. According to some analysts, these regulatory efforts were a response to perceived market failures, especially those due to “asymmetric information” problems.³ Simply put, it was said that passengers knew little

1. Matthew Mitchell and Michael Farren, “A Commonsense Solution to the Uber vs. Taxi Wars,” *Los Angeles Times*, November 19, 2015.

2. The DFHV was recently renamed from the District of Columbia Taxicab Commission.

3. George A. Akerlof, “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism,” *Quarterly Journal of Economics* 84, no. 3 (August 1970): 488–500; Mark W. Frankena and Paul A. Pautler,

“Today, those seeking to enter the taxicab industry in the District of Columbia face a thicket of regulatory burdens imposed at the driver, vehicle, and company levels.”

about the past performance of potential taxi drivers, the proper route and price for a desired trip, and other information that would help them decide from whom to accept rides. Moreover, because drivers typically found riders by cruising, riders were said to have little opportunity to compare alternative offerings, limiting both price and quality competition.⁴ The traditional solution, therefore, was to have the government precertify the taxicab company, its drivers, and its cars, and then govern—in minute detail—the day-to-day operations of the business.

The District of Columbia has historically taken a less intrusive approach to the regulation of the taxi market than have other major metropolitan areas.⁵ For example, unlike New York City, the District has never issued tradeable licenses known as taxi medallions. But even this comparatively lightly regulated taxi market is highly regulated compared to other industries in the United States. Moreover, legislative mandates and regulatory rules enacted over the past several decades have steadily increased both the burden and the complexity of taxi regulations in the District.⁶ In July of 2009, for example, then-Chairman Leon J. Swain Jr. of the DC Taxicab Commission (now the DFHV) issued a memorandum imposing a moratorium on

“An Economic Analysis of Taxicab Regulation” (Bureau of Economics Staff Report, Federal Trade Commission, Washington, DC, 1984), 56–57.

4. This argument was articulated by Chanoch Shreiber, “The Economic Reasons for Price and Entry Regulation of Taxicabs,” *Journal of Transport Economics and Policy* 9, no. 3 (1975): 268–79. For early critiques, see Richard B. Coffman, “The Economic Reasons for Price and Entry Regulation of Taxicabs (Comment and Rejoinder),” *Journal of Transport Economics and Policy* 11, no. 3 (1977): 288–304; David J. Williams, “The Economic Reasons for Price and Entry Regulation of Taxicabs: A Comment,” *Journal of Transport Economics and Policy* 14, no. 1 (1980): 105–12.

5. Many municipal governments impose more intrusive regulations. See Andrew Moylan and Zach Graves, “Ridescore 2015: Hired Driver Rules in US Cities” (R Street Institute, Washington, DC, December 2015); Samuel R. Staley and Benjamin Douglas, “Market Concentration and the Supply of Taxicabs in US Cities” (Working Paper, DeVoe L. Moore Center at Florida State University, Tallahassee, FL, April 2014).

6. See District of Columbia Taxicab Commission Establishment Act of 1985, D.C. Code §§ 50-301 et seq., amended by Vehicle-for-Hire Innovation Amendment Act of 2014; see also Transportation Reorganization Amendment Act of 2015, D.C. Mun. Regs. tit. 31, §§ 900–901, 905–907, 999.

new independent taxicab licenses for 120 days and later extended the moratorium “until further notice.”⁷ Today, those seeking to enter the taxicab industry in the District of Columbia face a thicket of regulatory burdens imposed at the driver, vehicle, and company levels. The following is a nonexhaustive list of the rules imposed by the DC DFHV.

Before they may legally operate, drivers must submit (1) an application form; (2) a medical history; (3) three letters of recommendation; (4) proof of residence; (5) proof of legal residence in the United States; (6) a criminal history request; (7) a driving record; (8) proof that all outstanding tickets have been paid; (9) a “DC Clean Hands” form; (10) a “DC Business Tax Registration” form; (11) \$274.50 in fees (the fee to drive a limo is \$299.50, and the fee to drive both is \$425.50); and (12) a set of fingerprints for an FBI background check.⁸ In addition, an aspiring taxi driver must (13) take a taxi-driver competency test, which is separate from the test required to obtain a standard driver’s license.⁹

Before they may be legally used as vehicles for hire, all taxicabs must (1) have an approved taximeter installed by an approved business (installation costs \$150);¹⁰ (2) have an approved dome light installed by an approved business (installation costs as high as \$700);¹¹ (3) have an approved “vehicle condition monitoring device” installed by an approved business in vehicles used after their mandated retirement age (installation costs between \$100 and \$169);¹² (4) comply with uniform requirements for taxicab coloring and markings (paint jobs cost between \$400 and \$600);¹³ (5) submit to annual vehicle inspections; (6) comply with vehicle retirement rules that limit the

7. Government of the District of Columbia Taxicab Commission, “The H-Tag Report: Final Report of the Panel on Industry: Findings and Recommendations on DCTC Policy on the Issuance of New Vehicle Licenses for Taxicabs,” August 28, 2015, n22.

8. Government of the District of Columbia Taxicab Commission, “Application Requirements License for NEW Taxicab, Limousine, Not Valid For-Hire Vehicles,” March 14, 2016.

9. *Ibid.*

10. Government of the District of Columbia Taxicab Commission, “Determination and Findings: District of Columbia Taxicab Commission: Modern Taximeter System and Proposed Rulemakings,” May 8, 2013.

11. Sarah Anne Hughes, “DC Taxi Drivers Are Now Supported by Teamsters,” *DCist*, October 24, 2013; see also “D.C. Taxi Modernization Frustrates Drivers,” *The Kojo Nnamdi Show*, WAMU 88.5 (Washington, DC), November 4, 2013.

12. This range of estimates was obtained by calling the three approved installers, listed at Government of the District of Columbia Taxicab Commission, “Vehicle Condition Monitoring Device,” November 25, 2015.

13. For a limited time, the DFHV offered \$200 vouchers for less than half of the DC cab population. Sarah Anne Hughes, “Cab Commission Offering \$200 Vouchers for Taxi Paint Jobs,” *DCist*, January 15, 2014.

age and mileage of vehicles; and (7) pay a vehicle licensing fee of \$275 per vehicle.¹⁴

Before they may enter into business, all taxicab companies must (1) obtain a certificate of operating authority, which requires a host of things, including a certification of occupancy for an office; (2) submit a copy of the organization's bylaws; (3) submit identification of the number of hybrid taxicabs, wheelchair-accessible taxicabs, and other specially equipped vehicles; and (4) submit descriptions and pictures of trade names and logos.¹⁵ Moreover, they must (5) pay a business licensing fee of \$475.¹⁶

Once in operation, taxicab operators must (1) charge only mandated rates and fees for rides originating from street hails; (2) comply with certain procedures for collecting and remitting surcharges; (3) offer passengers printed receipts containing specific information; (4) carry sufficient cash to make change for cash payments; (5) display taxi-related signs and identification; (6) maintain a manifest record of all trips; (7) carry the required level of insurance; and (8) follow certain requirements limiting how and where passengers can be picked up.¹⁷

Table 1 lists the monetary costs of these requirements. For a single driver hoping to start his own taxi service, this process can be daunting. In the aggregate, the number of regulatory procedures that we identify (33) and their associated costs—up to \$2,643 to drive a single car as a taxi—represent formidable barriers to entry. In some cases, drivers enter the business by renting taxis from established companies and are likely unaware that many of these costs are passed on to them in the form of higher rental prices. All these barriers are in addition to the standard regulatory hurdles that all small businesses must surmount (such as zoning ordinances to open the required office, incorporation rules, and tax compliance costs). This means that trying to open and compete as a taxi company in the District of Columbia requires more procedures than starting a small business in China (12), Venezuela (14), Mozambique (19), or Bolivia (20).¹⁸ These countries have become notorious for their excessive barriers to entry, and they are all ranked near the bottom of the World Bank's economy rankings on the ease of doing business.¹⁹

14. D.C. Mun. Regs. tit. 31, § 827 (accessed March 31, 2016).

15. D.C. Mun. Regs. tit. 31, § 501 (accessed March 31, 2016).

16. *Ibid.*

17. D.C. Mun. Regs. tit. 31, §§ 800 et seq., 905–908 (accessed March 31, 2016).

18. Simeon Djankov et al., "The Regulation of Entry," *Quarterly Journal of Economics* 117, no. 1 (2002): 1–37.

19. *Doing Business 2016: Measuring Regulatory Quality and Efficiency*, 13th ed. (Washington, DC: World Bank, 2016).

TABLE 1. FEES AND REGULATORY START-UP COSTS FOR A SINGLE CAB

	Low estimate	High estimate
Driver fee	\$274.50	\$274.50
Meter installation	\$150.00	\$150.00
Dome light installation	\$420.00	\$700.00
Vehicle condition monitoring device installation	\$0.00	\$169.00
Paint job	\$400.00	\$600.00
Vehicle fee	\$275.00	\$275.00
Business fee	\$475.00	\$475.00
Total cost	\$1,994.50	\$2,643.50

As we discuss below, these barriers to entry should be concerning for those interested in fostering competition, protecting consumers, or ensuring the viability of taxi markets.

CONSEQUENCES OF THE CURRENT REGULATORY APPROACH

The requirements outlined above typify the way urban taxi markets have been regulated throughout the United States over the past century. But this exhaustive and intrusive set of rules is antithetical to the basic principles of a free-enterprise or even a mixed economy. Such economies are generally characterized by four elements: (1) personal choice, (2) voluntary exchange through markets, (3) free and open entry, and (4) protection of persons and their property.²⁰ The first three of these conditions—personal choice, voluntary exchange, and free and open entry—are conspicuously absent from most US taxicab markets.

Although regulations are often defended on the grounds that they protect consumers, economists and other social scientists have long understood that regulatory restrictions on entry and exhaustive prescriptions for service delivery can be so anticompetitive that they can *undermine* consumer welfare. The idea that the regulatory process can be “captured” by the entrenched industry and made to serve its interests rather than those of consumers is supported by the research of progressive thinkers such as Gabriel Kolko, Ralph

20. Joshua C. Hall and Robert A. Lawson, “Economic Freedom of the World: An Accounting of the Literature,” *Contemporary Economic Policy* 32, no. 1 (January 2014): 1–19; Art Carden and Joshua C. Hall, “Why Are Some Places Rich While Others Are Poor? The Institutional Necessity of Economic Freedom,” *Economic Affairs* 30, no. 1 (March 2010): 48–54.

Nader, and Alfred Kahn.²¹ But it is also supported by public-choice economists such as Nobel laureate George Stigler, who analyzed the political market for regulation and noted that businesses tend to “demand” regulatory protection and that policymakers tend to “supply” it.²²

In general, the theoretical and empirical evidence for these interest-group theories of regulation is strong.²³ In the specific case of taxicab regulation, the evidence is so overwhelming²⁴ that it is actually used as a textbook example of regulatory failure. As a result, taxi regulation often produces results that are the exact opposite of what was intended.²⁵

- Economic theory and decades of empirical evidence suggest that the sorts of price controls imposed on taxis lead to problematic shortages or surpluses.²⁶ If the regulator sets prices too high, the result is wasteful nonprice competition and inefficient production. If prices are set too low, company owners won’t invest sufficiently in their businesses.²⁷ Because firms tend

21. Gabriel Kolko, *Railroads and Regulation, 1877–1916* (New York: W. W. Norton & Company, 1970); Mark Green and Ralph Nader, “Economic Regulation vs. Competition: Uncle Sam the Monopoly Man,” *Yale Law Journal* 82, no. 5 (April 1973): 871–89; Alfred Kahn, *The Economics of Regulation: Principles and Institutions* (Cambridge, MA: MIT Press, 1988).

22. George J. Stigler, “The Theory of Economic Regulation,” *Bell Journal of Economics and Management Science* 2, no. 1 (April 1971): 3–21. See also Richard A. Posner, “Theories of Economic Regulation,” *Bell Journal of Economics and Management Science* 5, no. 2 (October 1974): 335–58; Sam Peltzman, “Toward a More General Theory of Regulation,” *Journal of Law and Economics* 19, no. 2 (August 1976): 211–40.

23. Ernesto Dal Bó, “Regulatory Capture: A Review,” *Oxford Review of Economic Policy* 22, no. 2 (June 2006): 203–25; Patrick A. McLaughlin, Matthew Mitchell, and Ethan Roberts, “When Regulation Becomes Privilege” (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, forthcoming).

24. Edmund W. Kitch, Marc Isaacson, and Daniel Kasper, “The Regulation of Taxicabs in Chicago,” *Journal of Law and Economics* 14, no. 2 (October 1971): 285–350; Coffman, “The Economic Reasons for Price and Entry Regulation of Taxicabs (Comment and Rejoinder);” D. Wayne Taylor, “The Economic Effects of the Direct Regulation of the Taxicab Industry in Metropolitan Toronto,” *Logistics and Transportation Review* 25, no. 2 (June 1989): 169–82; Stefan Rometsch and Elmar Wolfstetter, “The Taxicab Market: An Elementary Model,” *Journal of Institutional and Theoretical Economics (JITE) / Zeitschrift für die gesamte Staatswissenschaft* 149, no. 3 (September 1993): 531–46; John Fingleton, John Evans, and Oliver Hogan, “The Dublin Taxi Market: Reregulate or Stay Queuing?,” *Studies in Public Policy* (Dublin: The Policy Institute, Trinity College, 1998); Sean D. Barrett, “Regulatory Capture, Property Rights, and Taxi Deregulation: A Case Study,” *Economic Affairs* 23, no. 4 (December 2003): 34–40; Adrian T. Moore and Ted Balaker, “Do Economists Reach a Conclusion on Taxi Deregulation?,” *Econ Journal Watch* 3, no. 1 (January 2006): 109–32; Staley and Douglas, “Market Concentration and the Supply of Taxicabs in US Cities.”

25. Kahn, *The Economics of Regulation: Principles and Institutions*; W. Kip Viscusi, John M. Vernon, and Joseph E. Harrington Jr., *Economics of Regulation and Antitrust*, 4th ed. (Cambridge, MA: MIT Press, 2005).

26. Christopher Coyne and Rachel Coyne, eds., *Flaws and Ceilings: Price Controls and the Damage They Cause* (Institute of Economic Affairs, 2015).

27. Viscusi, Vernon, and Harrington, *Economics of Regulation and Antitrust*, 586.

to enjoy informational and organizational advantages over consumers, they are likely to exert far more influence over regulators and the prices that they set.²⁸

- Steep licensing fees and other regulatory barriers to entry are widely understood to undermine competition.²⁹
- Requirements that taxicabs be materially altered with dome lights, bolted-on hardware, and mandated paint schemes create barriers to *exit* by reducing the value of these assets in alternative uses. Thus, these requirements lock taxi drivers into the job—and the lack of career flexibility deters entry in the first place.³⁰
- Mandated technologies such as certain credit card readers “lock in” antiquated and inefficient business models.³¹
- Mandated business practices such as specific types of background checks “anchor” the industry to particular approaches, discouraging innovations in consumer safety. Note, for example, that consumer-driven quality reviews and real-time monitoring through GPS devices were pioneered by less-regulated ridesharing firms.³²

“Taxicab regulation . . . is actually used as a textbook example of regulatory failure. As a result, taxi regulation often produces results that are the exact opposite of what was intended.”

28. Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Harvard University Press, 1965).

29. US Department of the Treasury Office of Economic Policy, the Council of Economic Advisers, and the US Department of Labor, “Occupational Licensing: A Framework for Policymakers” (Washington, DC, July 2015); Staley and Douglas, “Market Concentration and the Supply of Taxicabs in US Cities”; Kitch, Isaacson, and Kasper, “The Regulation of Taxicabs in Chicago.”

30. Daniel Shapiro and R. S. Khemani, “The Determinants of Entry and Exit Reconsidered,” *International Journal of Industrial Organization* 5, no. 1 (March 1987): 15–26; Philippe Aghion et al., “Barriers to Exit, Experimentation, and Comparative Advantage” (London School of Economics Working Paper No. 056, RICAPE2—Regional Comparative Advantage and Knowledge-Based Entrepreneurship, June 2008).

31. Adam Thierer, *Permissionless Innovation: The Continuing Case for Comprehensive Technological Freedom*, 2nd ed. (Arlington, VA: Mercatus Center at George Mason University, 2016).

32. Christopher Koopman, Matthew Mitchell, and Adam Thierer, “The Sharing Economy and Consumer-Protection Regulation: The Case for Policy Change,” *Journal of Business, Entrepreneurship & the Law* 8, no. 2 (September 2015): 529–45; Adam Thierer et al., “How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve

- Rules often have unintended consequences. Even the seemingly innocuous requirement that all taxis adopt uniform paint schemes and therefore look nearly alike undermines the incentive for firms to guard the reputation of their brand by vigorously maintaining quality.³³
- Because these regulations protect incumbent firms from competition, these firms are given a degree of monopoly power and are able to earn above normal profits for a time.³⁴ Economists call these amounts exceeding normal profits “economic rent,” which comes at the expense of both consumers and would-be competitors. In fact, when firms are protected from competition, economic theory tells us that consumers and would-be competitors lose *more* than protected firms gain, creating what is known as “deadweight loss.”³⁵
- Just as taxi regulation has become a textbook example of regulatory failure, it has also become a textbook example of what is known as “rent-seeking waste.”³⁶ When policy protects firms from competition, both protected and nonprotected firms undertake costly investments in an effort to influence policy. They expend time and money on political activities and alter their business models in an effort to curry favor with policymakers. Because these firms are seeking economic rent, these activities are known as rent-seeking.³⁷ From a society-wide perspective, rent-seeking is extremely costly.³⁸ It

the ‘Lemons Problem’” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, June 2015).

33. Ram Herstein and Eyal Gamliel, “The Role of Private Branding in Improving Service Quality,” *Managing Service Quality: An International Journal* 16, no. 3 (May 2006): 306–19.

34. Tullock showed that, over the long run, protected firms tend not to earn amounts exceeding normal profits. This is because they end up investing scarce resources to compete along other dimensions and because the value of the protection tends to be capitalized into the value of assets that are required to obtain the privilege. Gordon Tullock, “The Transitional Gains Trap,” *Bell Journal of Economics* 6, no. 2 (October 1975): 671–78.

35. James R. Hines Jr., “Three Sides of Harberger Triangles” (NBER Working Paper No. 6852, National Bureau of Economic Research, Cambridge, MA, December 1998).

36. Douglas McTaggart, Christopher Findlay, and Michael Parkin, *Economics*, 7th ed. (Frenchs Forest, New South Wales: Pearson Australia, 2015), 224.

37. Gordon Tullock, “The Welfare Costs of Tariffs, Monopolies, and Theft,” *Western Economic Journal* 5, no. 3 (June 1967): 224–32; Anne O. Krueger, “The Political Economy of the Rent-Seeking Society,” *American Economic Review* 64, no. 3 (June 1974): 291–303; Matthew Mitchell, *The Pathology of Privilege: The Economic Consequences of Government Favoritism* (Arlington, VA: Mercatus Center at George Mason University, July 9, 2012).

38. Kevin M. Murphy, Andrei Shleifer, and Robert W. Vishny, “Why Is Rent-Seeking So Costly to Growth?,” *American Economic Review* 83, no. 2 (1993): 409–14; Roger D. Congleton, Arye L. Hillman, and Kai A. Konrad, eds., “Forty Years of Research on Rent Seeking: An Overview,” in *40 Years of Research on Rent Seeking 1: Theory of Rent Seeking* (Springer, 2008), 1–9.

wastes resources and entrepreneurial ingenuity that would be better used to serve customers.

- Because protected firms are not disciplined by competition, they tend to pay less attention to operating costs, leading to inefficient production.³⁹ Furthermore, the protection from competitive pressure also allows companies to be less attentive to customers' desires.⁴⁰ The costs associated with inefficient production and inattention to customers' desires are over and above the rent-seeking and deadweight losses associated with regulatory privilege.
- Over time, regulatory protections reduce the rate of growth of an industry because they cause entrepreneurs to direct their energies toward finding new ways to obtain regulatory privilege and fighting off privileges offered to their competitors rather than finding new ways to create value for customers.⁴¹ As a result, rent-seeking also diminishes overall economic growth.⁴²

Meanwhile, tastes and technology have evolved. These changes have allowed ridesharing firms, which operate outside the jurisdiction of many taxicab regulators, an opportunity to serve customers while avoiding the encumbrances of antiquated taxicab regulations. As a result, ridesharing firms have rapidly taken market share from taxis. As late as the first quarter of 2014, only 8 percent of business travelers who filed vehicle expense reports through the expense-reporting firm Certify used ridesharing firms, while 37 percent used taxis and the rest rented cars. By the first quarter of 2016, however, fully 46 percent of business travelers used ridesharing firms, while just 14 percent used taxis.⁴³ As consumers have quickly adopted these new services, ridesharing firms have seen their valuations skyrocket. Uber is currently valued at over \$60 billion, making it more valuable than both Ford and GM.⁴⁴

39. Harvey Leibenstein, "Allocative Efficiency vs. 'X-Efficiency,'" *American Economic Review* 56, no. 3 (June 1, 1966): 392–415.

40. Mitchell, *Pathology of Privilege*.

41. William J. Baumol, "Entrepreneurship: Productive, Unproductive, and Destructive," *Journal of Political Economy* 98, no. 5 (October 1990): 893–921.

42. Kevin M. Murphy, Andrei Shleifer, and Robert W. Vishny, "The Allocation of Talent: Implications for Growth," *Quarterly Journal of Economics* 106, no. 2 (May 1991): 503–30.

43. "Market Share: Ridesharing vs. Cabs vs. Uber," *The Beat*, May 24, 2016.

44. Matt Rosoff, "Uber Is Now More Valuable Than Ford, GM, and a Bunch of Huge Public Companies," *Business Insider*, December 4, 2015.

Ridesharing has also expanded the overall market for transportation services. Studies of the vehicle-for-hire market in New York City and Portland, Oregon, have shown that even while taxis have lost some business to ridesharing, the total number of for-hire rides has vastly increased.⁴⁵ Meanwhile, areas of New York City that have not been previously well-served by taxis, especially poorer neighborhoods, have seen substantial growth in transportation services offered by ridesharing.⁴⁶

The dramatic ascendance and enormous valuation of ridesharing firms is partly owing to their ability to create value for customers and to better solve problems, such as asymmetric information, than taxi regulations.⁴⁷ The technology employed by these new firms has a number of advantages:

- It prompts all users to rate the service they have received and will often not allow users to use the application again until they have rated their last experience. This prevents some consumers from free riding on the monitoring efforts of other consumers, ensuring that the rating represents the experience of nearly every ride. This is a powerful means to ensure consistently high-quality service.
- Customer feedback is instantaneous and continuous, so problems with cleanliness, maintenance, safety, and driver behavior are quickly identified by the steady flow of customers and may be instantly addressed instead of having to wait for infrequent scheduled inspections by regulatory authorities.
- Ridesharing technology provides the customer with information, not just on the ridesharing company's service to past customers but on other riders' satisfaction with the *specific driver* offering the service. Branding and commercial reputation are important signals of quality to first-time customers, and most passengers don't know their taxi or ridesharing drivers before the ride. This signaling more fully solves a critical asymmetric-information problem that taxi regulations and taxi-driver licensing only partly address.
- Technology allows the ridesharing company, which serves as the regulator of the private market it has established and possesses real-time data on

45. City of New York Office of the Mayor, "For-Hire Vehicle Transportation Study," January 2016; Erik Siemers, "Uber, Lyft Boost Portland Ride Market En Route to Overtaking Taxis," *Portland Business Journal*, October 19, 2015.

46. Jared Meyer, "Uber-Positive: Rideshare Firm Expands Transportation Options in Low-Income New York" (Issue Brief, Manhattan Institute for Policy Research, New York, September 2015).

47. Koopman, Mitchell, and Thierer, "The Sharing Economy and Consumer-Protection Regulation."

driver performance and customer satisfaction, to warn, suspend, or expel bad service providers at a moment's notice.

- It empowers consumers, allowing them to shop in a competitive market by comparing prices and qualities across firms and drivers.⁴⁸ They may select specific attributes, such as the size of the car, and particular equipment, such as a child car seat.
- It allows customers to cancel rides before they begin if the customer is uncomfortable with a driver's low rating or unhappy with the vehicle or the time it will take the driver to arrive.
- It allows users to share their location and ride information with friends and family members for additional security. In some markets, ride-sharing platforms include a "panic button" to signal a need for police assistance.⁴⁹
- It allows for much easier access to transportation services. This increased access has been credited with reducing DUI rates and fatal car crashes.⁵⁰
- It permits cashless exchange, which protects both drivers and passengers from theft.
- It also allows drivers to rate passengers, incentivizing them to be on their best behavior (this can result in a better experience for the next passenger, too—for example, if it means they will step into a cleaner vehicle). This further improves safety for drivers, since taxi drivers are often the targets of theft and assault and are over 20 times more likely to be murdered on the job than other workers. Many of the features that increase passenger safety also benefit drivers in the same way.⁵¹
- It includes geolocation data so that riders can monitor the driver's path while in transit and see if it matches the computer-suggested route. This data is also saved so that it can be pulled up and investigated later should a problem arise.

48. Note that this fundamentally changes the "cruising" nature of the business, which had been identified as a market failure necessitating regulation. Shreiber, "The Economic Reasons for Price and Entry Regulation of Taxicabs."

49. "Uber 'Panic Button' to Be Available in Chicago," *Chicago Tribune*, February 13, 2015.

50. Angela K. Dills and Sean E. Mulholland, "Ride-Sharing, Fatal Crashes, and Crime" (Providence College Working Paper, Providence, RI, May 2016).

51. Occupational Safety and Health Administration, *Preventing Violence against Taxi and For-Hire Drivers*, April 2010.

“The primary role of the regulator is to protect consumer welfare and not the profits of the incumbent firms.”

- It generates an instant record of each ride so that if the rider later discovers a problem (a lost bag, for example), it can easily be rectified.

The astonishing estimated valuation of ridesharing companies also serves as a signal of the *lack* of competition in regulated taxi markets. Thus, it can be considered a measure of the potential value available to consumers if widespread taxi deregulation were to occur. Ridesharing firms are succeeding by increasing access to high-quality services in a market where supply and quality has long been restricted by regulations.⁵² Table 2 compares estimated UberX and street-hailed taxi fares for several common trips in the DC metropolitan area. For each service, the table shows both low- and high-end estimates based on traffic volume. Low taxi estimates are, on average, 80 percent more expensive than low UberX estimates, while high taxi estimates are, on average, 310 percent more expensive than high UberX estimates. In fact, in every case, the low taxi estimate exceeds the high UberX estimate.

This is clear evidence of a lightly regulated market providing better, cheaper, and more plentiful service than an industry directed by regulation. As the late economist and economic regulator Alfred Kahn so aptly put it, “Whenever competition is feasible, it is, for all its imperfections, superior to regulation as a means of serving the public interest.”⁵³

There is broad—essentially unanimous—consensus about this fact in the economics profession. In a recent survey, 100 percent of academic economists agreed or strongly agreed with the statement that “Letting car services such as Uber or Lyft compete with taxi firms on equal footing regarding genuine safety and insurance requirements, but without restrictions on prices or routes, raises consumer welfare.”⁵⁴ Responding to the growing consensus about the

52. Russ Roberts, “Michael Munger on the Sharing Economy,” *EconTalk*, podcast audio, July 7, 2014.

53. Richard Adams, “Alfred Kahn Obituary,” *Guardian*, January 12, 2011.

54. IGM Forum Economic Experts Panel, “Taxi Competition” (University of Chicago Booth School of Business, September 29, 2014).

TABLE 2. REGULATED VS. UNREGULATED TRANSPORTATION PRICES IN THE WASHINGTON, DC, AREA

	UberX estimate		Street-hailed taxi estimate	
	Low	High	Low	High
Dulles Airport to Capitol Hill	\$43.00	\$57.00	\$81.62	\$90.97
George Mason Law School to White House	\$8.00	\$11.00	\$15.23	\$39.79
BWI Airport to RFK Stadium	\$38.00	\$51.00	\$79.64	\$89.99
Union Station to Foggy Bottom	\$9.00	\$12.00	\$12.54	\$44.55
American University to Mr. Smith's of Georgetown	\$8.00	\$10.00	\$15.07	\$46.07

Note: Estimates are based on searches performed on a weekday at 12 p.m. on <https://www.uber.com/fare-estimate/> and <https://www.taxifarefinder.com>.

benefits and widespread popularity of sharing-platform models, many policymakers—including those in DC—have moved to legalize sharing-economy platforms. But the question remains: What should policymakers do with the existing taxicab regulatory regime?

PRINCIPLES FOR REFORM

Taxi firms and their drivers have invested considerable time, effort, and capital in complying with these rules. Understandably, many are quite resistant to the idea that newcomers should be allowed to enter without paying such a price. But the primary role of the regulator is to protect consumer welfare and not the profits of the incumbent firms.

Moreover, the disruptive technologies that have profoundly altered the industry are here to stay. Regulation, then, should be guided by the following six principles.⁵⁵

Start with a Blank Slate

Tastes, technology, and prices change. A healthy and dynamic economy will evolve with these changing conditions.⁵⁶ Indeed, by the very nature of the market process, entrepreneurs have a strong incentive to drive change by developing

55. These principles were derived in part from Jerry Ellig and Richard Williams, “Reforming Regulatory Analysis, Review, and Oversight: A Guide for the Perplexed” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, August 2014).

56. Israel M. Kirzner, “Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach,” *Journal of Economic Literature* 35, no. 1 (March 1997): 60–85.

new business models that correct previous market imperfections.⁵⁷ But when regulatory privileges protect incumbent firms from competition, this healthy process of change is retarded, stifling both technological progress and economic growth.⁵⁸ So regulators should constantly approach their task as if they are starting anew. If you were to design regulations today, what would they look like?

Define the Nature of the Problem

Begin by identifying a systemic market failure that the regulation is aiming to address.⁵⁹ First, this step requires a regulator to clearly explain how the normal process of market competition is not working. Next, it requires the regulator to assess the factual basis for this market failure. Wanting to improve a product or service is admirable but falls far short of justifying regulatory intervention. First, entrepreneurs in a competitive market already have an incentive to improve their offerings. Second, regulations that have not explicitly identified a systemic market failure necessitating correction are less effective than those that identify and address the fundamental problem.⁶⁰ Third, as we have noted, by undermining competition, regulations often make matters worse.

Identify Alternative Solutions

Once a systemic market failure has been identified, a number of alternative approaches to address it should be identified as well. Ultimately, there may be no need for regulatory intervention if other approaches resolve the problem better or more efficiently than regulation would.⁶¹ The list of potential alternatives should also include the alternatives of deregulation and of doing nothing, as well as an open-minded assessment of how the current set of public policies might be contributing to the problem.

57. Israel M. Kirzner, *Discovery and the Capitalist Process* (Chicago: University of Chicago Press, 1985); F. A. Hayek, "Competition as a Discovery Procedure," trans. Marcellus S. Snow, *Quarterly Journal of Austrian Economics* 5, no. 3 (Fall 2002): 9–23.

58. Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities* (New Haven, CT: Yale University Press, 1982); Baumol, "Entrepreneurship"; Stephen L. Parente and Edward C. Prescott, *Barriers to Riches* (2000; repr., Cambridge, MA: MIT Press, 2002).

59. Susan E. Dudley and Jerry Brito, *Regulation: A Primer*, 2nd ed. (Arlington, VA: Mercatus Center at George Mason University, 2012), 90–91.

60. *Ibid.*, 92.

61. *Ibid.*

Define the Costs of Each Solution

Once all the alternatives have been identified, it is important to understand what the projected costs of each approach will be, including the projected costs of doing nothing. In particular, what might regulated firms, taxpayers, and consumers have to give up under each potential alternative? These costs will include monetary expenditures—higher prices, taxes, and fees—and nonmonetary sacrifices such as loss of convenience or increased wait times. These costs also include the amount of time and money that firms waste in rent-seeking activity, as well as the productive inefficiencies that tend to arise when firms are protected from competition. Dynamic losses that accrue over time, such as an industry’s failure to adopt new technologies and entrepreneurs’ failures to improve their business models, must also be accounted for.

Define and Quantify the Expected Benefits of the Regulation

Once the costs of each alternative are understood, it is necessary to weigh them against the benefits of each approach. This evaluation can begin with questions about what regulators hope to accomplish—which systemic market failures they hope to diminish—and how each alternative might achieve these goals. Policymakers should remember that maintaining the profits of incumbent firms is not a legitimate goal because amounts exceeding normal profits come at the expense of both consumers and would-be competitors.

Measure Benefits and Costs

Ultimately, once a systemic market failure has been identified and alternative solutions have been put forward, it is not enough to simply posit a theory of how each approach might create costs and benefits. Both costs and benefits must be defined, measured, and quantified in a scientific, technical way. Whenever possible, an objective understanding of both the costs and benefits is necessary for ensuring that the best, most efficient approach is selected. When an objective understanding is impossible, regulators should acknowledge that certain judgments are subjective.

SUGGESTED REFORMS FOR THE DFHV

As we’ve previously noted, the strongest justification for regulating the market for traditional street-hailed taxis was that the market suffered from “asymmetric information” problems. Again, because passengers knew little about the past

performance of potential taxi drivers, the proper route and price for a desired trip, or other aspects that would help them decide from whom to accept rides, some might be reluctant to jump into an unknown cab. Some analysts worried that if these problems were systemic, they could lead to an underdeveloped market, which meant that both consumers and producers might be better off if there were a way to overcome these asymmetries.

These arguments are still used to justify the litany of taxi regulations implemented by the DFHV and other state and local taxi regulators around the country. But in some ways, these regulations have long ignored market mechanisms that mitigate the asymmetric information problem. For example, individual and company behavior is subject to tort law; companies post bonds—which can vary depending on each driver’s history and record—that will be forfeited in the event that they are found liable for harm; firms develop well-recognized brands whose reputations they are incentivized to vigorously protect; and firms have long sought certification from third parties such as the Better Business Bureau, Consumer Reports, and Angie’s List.

Beginning some 15 to 20 years ago, a new generation of consumer-driven technologies such as Yelp and Google Review empowered consumers to dramatically lessen the asymmetric information problem. And as we explained in the previous section, smartphone applications have enabled even better and more timely customer feedback, further mitigating many previous asymmetric information problems.⁶²

Because the basic structure of the regulatory approach is decades old, it ignores these technological innovations that have substantially solved the asymmetric information problem. As a result, policymakers need to radically reconsider current taxi regulations.

Suggested Solutions

As we’ve noted, the primary role of the regulator is to protect consumer welfare. If information asymmetries are the basic problem in the vehicle-for-hire industry, then the most logical responses are remedies aimed at filling those information gaps and empowering potential passengers and drivers to make better decisions.⁶³ As technology policy scholar Adam Thierer and his coauthors have noted, “Modern reputation tracking and feedback mechanisms, in

62. For more on reputation feedback mechanisms, see Thierer et al., “How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve the ‘Lemons Problem.’”

63. Ibid.

combination with the various online review sites and information services, accomplish this objective by disclosing more information to consumers, thus putting them in a position to make better decisions.”⁶⁴ They continue,

Moreover, these emergent market developments ultimately leverage the dispersed knowledge of each individual user, rather than relying on the information that a single regulator is able to collect. These information-sharing systems allow individuals to provide instant feedback regarding the quality of products and services, and they empower others to utilize this information in a way that traditional solutions never could.⁶⁵

Because of the development of Internet- and smartphone-based reputation-tracking and feedback mechanisms, coupled with the near ubiquity of smartphones in America,⁶⁶ it is becoming increasingly difficult to claim that information asymmetries exist in any market. As a result, the primary solution we suggest is a full repeal of taxi regulations. Barriers to entry at the firm, driver, and vehicle levels should be dramatically reduced if not altogether eliminated. Price mandates should be abolished. And there should be no exhaustive rules governing how businesses are to specifically operate or provide services to customers.

A number of local governments are beginning to adopt this approach. Florida may be the best example. There, localities such as Collier County and the cities of Sarasota, Gainesville, and Melbourne have adopted an approach that recognizes the alternative private-market solutions to information asymmetries.⁶⁷ With this policy change, regulators are making way for continued innovation and competition in information sharing as entrepreneurs find new and more efficient means of providing better information to those who seek it. These changes stand to bring the transportation-service industry in line with much of the rest of the economy.

64. *Ibid.*, 44.

65. *Ibid.*

66. Pew estimates that 72 percent of American adults own a smartphone. Jacob Poushter, “Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies: But Advanced Economies Still Have Higher Rates of Technology Use,” *Global Attitudes & Trends* (Pew Research Center, February 22, 2016).

67. Larger cities, such as Indianapolis, Indiana, managed to take major steps toward deregulating taxis nearly two decades ago. See, e.g., Adrian T. Moore, “Indianapolis’s Road to Regulatory Reform: A New Path in Licensing and Permits,” *Regulation* 21, no. 1 (Winter 1998): 50–56.

It is our judgment that technological advancements have largely overcome the asymmetric information problem in the taxicab industry. If policymakers disagree but nevertheless share our concern that the current approach is not working, then an alternative would be to devise simple regulations that clearly address the goal of mitigating asymmetric information problems but allow entrepreneurs to devise their *own* means of achieving this goal. For example, policymakers could impose the simple and open-ended requirement that firms offer their customers *some* way of prescreening for quality, safety, and price. It is impossible to know in advance what solutions will be optimal since the process of competition is a discovery procedure.⁶⁸ Indeed, it is unlikely that there is *one* optimal solution, since customers with different preferences and different financial means will find different solutions to their liking. Moreover, what appears to be the optimal solution today will likely change as consumer preferences, available technology, and other factors continue to evolve over time.

Consider the limitless ways in which vehicle-for-hire and ridesharing firms might allow customers to prescreen prices. Some might post their going rate in a large font on the side of their cars. Others might widely advertise their rates at popular locations such as airports. And still others might alert customers via text message, voice mail, or smartphone application. Or consider the range of strategies that firms might adopt to allow customers to prescreen for quality and safety:

- Some firms, of course, might adopt the sorts of FBI background checks that are currently required.
- But others might differentiate themselves with background checks that are *more* comprehensive than those offered by the FBI or by local police departments.
- Others might allow passengers to see, through their own smartphones or through a smartphone provided by the driver, the driver's average and maximum speeds or number of citations, or previous customers' reviews. This screening method could be much more informative than a one-off background check, and it could update in real time (note that some insurance companies already use similar technology to allow policyholders to prove that they are good drivers and thereby to get discounts).
- Other firms might differentiate themselves through creative incentives for good driving. For example, they might monitor drivers in real time through

68. Hayek, "Competition as a Discovery Procedure."

GPS technology and reward drivers for safe driving or punish them for speedy or reckless driving.

- Others could require drivers to post large bonds that would be surrendered to passengers or to the firm in the event that they violate certain rules.
- Still others could simply employ driverless vehicles, which would require no background check at all and provide a much safer ride than human drivers.⁶⁹

The range of options is vast, and we have no doubt that others will be able to come up with far better solutions than those we suggest here. The key, however, is to ensure an open-ended and competitive process that permits experimentation. That process can only be achieved by rules that specify the goals without anchoring firms to particular means of achieving those goals.

The Benefits and Costs of Regulatory Change and the Status Quo

It is important to explicitly consider the benefits and costs of each approach. In this section, we briefly review the benefits and costs of complete deregulation. Both theory and experience suggest that full deregulation will permit supply to increase and new business models to emerge. As the supply curve shifts to the right, prices will likely fall, and the quantity of rides taken will likely increase.⁷⁰

These changes will affect different market participants differently. When supply increases, consumers

“Both theory and experience suggest that full deregulation will permit supply to increase and new business models to emerge.”

69. Adam Thierer and Ryan Hagemann, “Removing Roadblocks to Intelligent Vehicles and Driverless Cars” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, September 2014).

70. This analysis assumes that the current regulated price is above that which would emerge in a competitive market. This assumption is supported by the empirical evidence for the interest-group theory of regulation and by the fact that the equilibrium price for (unregulated) ride-sharing firms is below the (regulated) taxi rate.

can be expected to benefit from lower prices, access to a larger quantity of vehicles, and a greater variety of services offered by providers. In economic terms, consumer surplus—the total value that all consumers obtain from the service in excess of the price that they pay—will likely increase.

The producer side is slightly more nuanced. Producer surplus—the total value that all producers obtain in excess of cost—will also likely increase. In fact, because both consumer and producer surplus are expected to increase, deregulation will likely increase the overall efficiency of the market. But among producers, some will benefit while others will not. In particular, firms and operators currently locked out of the market will clearly benefit from the opportunity to enter and serve customers. But some firms that are currently protected from competition by regulation will be harmed as new competition and the elimination of price floors cause the equilibrium price to fall.

For these individuals and firms, the sunk costs of regulatory compliance, such as investments in certain technologies and past years' fees, will remain “sunk” and unrecoverable.⁷¹ But deregulation is not expected to be all bad for incumbent firms and their drivers. For example, they will be relieved of certain marginal costs such as the cost of purchasing DFHV licenses, which will save each firm hundreds or even thousands of dollars per year. Similarly, deregulation will relieve them of the frustrations of the application and renewal processes. Onerous operating requirements will be gone, allowing drivers and companies to use whatever vehicles and technologies their customers desire. Furthermore, they will be spared the cost of investing in antiquated or inefficient equipment, which will allow existing taxi vehicles to be converted to alternate, more profitable uses. Finally, deregulation may prove especially rewarding to incumbent firms that take the opportunity to innovate and create new, more profitable business models that are currently forbidden.

It is important to note, however, that whatever losses incumbent firms may experience from deregulation will be more than offset by gains to consumers and other entrants as both consumer and producer surplus increase. Deregulation will also promote efficiency by permitting relative prices to adjust as tastes and technology change, directing resources to their highest-valued uses.⁷²

71. Firms profit from anticompetitive regulations in the short run. But over the long run, the value of these regulations tends to be capitalized into the price of certain assets that are necessary to gain access to protection. This means that protected firms tend not to outperform unprotected firms over the long run. Tullock, “Transitional Gains Trap.”

72. When firms enter or expand, other firms will see their prices fall. But such “pecuniary externalities” are efficient, and unlike “technological externalities,” they do not need correcting. Unfortunately, the political process often ignores this fact. A. C. Pigou, *The Economics of Welfare*, 2nd ed. (New York: Palgrave Macmillan, 1924); Tibor Scitovsky, “Two Concepts of External Economies,”

Deregulation will also have indirect benefits. For example, these changes will likely lead to an increase in the overall productivity of the region, since passengers will waste less time waiting for taxis. Although decreased wait times yield relatively small benefits per person, the summed magnitude can be surprisingly large. In addition, lower fares and increased provision of transportation services are likely to be especially beneficial to poorer people who struggle with access to transportation.

CONCLUSION

The current approach to taxicab regulation in the District of Columbia—as in most cities and states throughout the United States—is increasingly difficult to justify. Regulatory rules—and legislative acts mandating rules—that were intended to improve the customer experience by mitigating the problem of asymmetric information have backfired. These rules governing price, entry, and operation have shielded incumbent firms from competition and deprived customers of the benefits of price competition and quality improvement. They have locked in old business models and antiquated technologies, benefiting incumbent firms at the expense of consumers and would-be competitors.

Although the regulatory approach has changed little over the decades, tastes and technology have substantially evolved. Ridesharing firms operating outside taxi regulators' jurisdiction have responded to these changes with lower prices and innovative service offerings. In fact, many of these new service offerings, such as customer reviews and real-time geolocational tracking through smartphones, appear to address the market imperfection of asymmetric information better than the regulations that govern taxis.

Even as ridesharing expands the overall size of the transportation-services market, taxi companies that have long benefited from regulatory protections are losing market share to ridesharing firms. This market shift presents the question of what to do with the existing regulatory regime for taxis. In our analysis, the best option for those interested in maximizing consumer welfare, producer efficiency, and social well-being is to follow the lead of the above-mentioned localities in Florida and Indiana and completely deregulate the taxicab market. There should be no barriers to entry at the firm, vehicle, or driver levels. There should be no price mandates. And there should be no exhaustive rules governing business operations or service provision. The evidence is clear that these

Journal of Political Economy 62, no. 2 (April 1954): 143–51; Randall G. Holcombe and Russel S. Sobel, “Public Policy toward Pecuniary Externalities,” *Public Finance Review* 29, no. 4 (July 2001): 304–25.

changes will increase price and quality competition, which, as the regulatory expert Alfred Kahn explained, is “superior to regulation as a means of serving the public interest.”⁷³ These changes will move the industry closer to the competitive free-enterprise model that characterizes most other industries, in which quality and safety are regulated by the forces of competition, and bad behavior is limited by the accountability imposed by civil and criminal liability.

In short, competition and new technologies enabling better communication between drivers and riders address the asymmetric information problem more effectively than decades-old taxi regulations. For those policymakers who are unpersuaded by this evidence but nevertheless share our concern that the current regulatory regime undermines consumer welfare, we suggest replacing the existing regulations on entry, price, and operations with a simple “open-ended” regulation that requires firms to offer their customers some way to pre-screen for price, quality, and safety but allows firms to develop their own means of achieving this end.

73. Quoted in Adams, “Alfred Kahn Obituary.”

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