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Hearing on The 30,000 Foot View: Competition and Regulation in the U.S. Airline Industry

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Chairman Fitzgerald, Ranking Member Nadler, and distinguished Members of the Subcommittee, thank you for the opportunity to appear before you.

My name is Timothy M. Ravich. I am Senior Counsel with Tressler LLP, resident in Chicago, Illinois, where my law practice focuses on aviation, aerospace, airport, and commercial litigation matters. Earlier in my career, I served as General Counsel for an international unmanned aircraft systems company and helped lead the Federal Aviation Administration approval process that secured one of the earliest authorizations for commercial drone operations in North America. I am Board Certified in Aviation Law by The Florida Bar, one of a small number of attorneys in the United States to hold that certification.

For more than two decades, I have taught aviation and space law at the University of Miami School of Law and Florida International University College of Law, as well as at the University of Central Florida, where I chaired the Department of Legal Studies and created a law and technology concentration. I am the author of INTRODUCTION TO AVIATION LAW, now in its second edition, which is used in law schools and university aviation programs throughout the United States. I have also authored numerous law review articles and scholarly publications addressing aviation law, airport governance, emerging technologies, and transportation policy.

My practical work has focused extensively on airport governance and emerging aviation technologies. I served as Principal Investigator for the National Science Foundation investigating advanced air mobility and the integration of emerging transportation systems. I also served as Principal Investigator for the Airport Cooperative Research Program of the National Academies of Sciences, Engineering, and Medicine on research involving airport governance, federal grant assurances, and the legal framework governing publicly funded airports.

Last December, I completed my first solo flight and am presently completing the requirements for a private pilot certificate.

My testimony today is informed by these professional, academic, research, and practical experiences. The views expressed are my own.

I. AVIATION POLICY: COMPETITION AND REGULATION

The title of today's hearing, "The 30,000 Foot View: Competition and Regulation in the U.S. Airline Industry," aptly frames the central issues before the Subcommittee. Commercial aviation depends upon *both* competitive markets *and* public institutions. Airlines compete for passengers, routes, and market opportunities, but they do so within a system supported by public infrastructure, safety oversight, air traffic control services, international agreements, and substantial governmental investment.

The strength of the commercial aviation system in the United States is predicated upon complex public and private elements working together. An enduring question, and the one before this Subcommittee, is, first, whether, and then how, to design and implement laws and regulations that protect safety, consumers, and the public interest without unnecessarily impeding competition.

Numerous features of the commercial aviation ecosystem—from airspace management to privatization of air traffic control and airport security to gate access and slot allocation—present lawmakers, and specifically this Subcommittee, with both an opportunity and a need to assess and calibrate regulatory intervention against the benefits of free-market competition.

To be sure, competitive markets have encouraged entrepreneurship, investment, and the development of new business models. Regulation—and more specifically, *de*regulation—has provided the legal, operational, and institutional foundation upon which those markets function.

The Airline Deregulation Act of 1978 is one of the most significant developments in that evolution. Congress concluded that competitive markets were better positioned to determine airline routes, service levels, and fares. Deregulation transformed the structure of economic regulation, while preserving essential governmental responsibilities relating to safety, airport oversight, antitrust enforcement, international aviation, and the national airspace system. Nearly five decades later, the Airline Deregulation Act remains the foundation of modern commercial.

Competition questions confronting policymakers today arise within a very different aviation environment than the one Congress considered in 1978. Passenger volumes have increased dramatically. Airline networks have evolved. Airport infrastructure is increasingly constrained. Emerging technologies are creating new transportation opportunities. As a result, competition policy now extends well beyond questions of fares and routes. Specifically, much of the contemporary debate surrounding airline competition focuses on mergers, concentration levels, and market share. Also at issue are the legal and institutional structures that determine whether competitors can enter markets, expand service, and challenge incumbent firms. Access to airport infrastructure, gate availability, slot allocations, airspace capacity, and the regulatory treatment of emerging technologies increasingly shape the competitive landscape of aviation.

The central competition question in aviation today is whether the legal and physical infrastructure of the aviation system continues to create opportunities for competition, innovation, and new entry. Competition cannot flourish unless competitors are able to access the facilities, capacity, and regulatory pathways necessary to participate in the marketplace.

This testimony advances three principal observations:

- ***First***, the Airline Deregulation Act remains one of the most consequential legislative reforms in the history of American transportation and continues to provide the foundation for federal aviation policy.

- ***Second***, competition and regulation operate together and the effectiveness of each depends upon the design of the institutions through which they are implemented.

- ***Third***, many of the most significant competitive questions confronting aviation today involve airport access, infrastructure constraints, capacity limitations, and barriers to entry rather than traditional economic regulation of airline prices and routes.

II. THE AIRLINE DEREGULATION ACT OF 1978

The modern debate regarding competition and regulation centers on the legacy of the Airline Deregulation Act of 1978,[1] one of the most consequential transportation reforms in American history.

Prior to airline deregulation,[2] commercial aviation operated under a system of direct federal economic regulation administered by the Civil Aeronautics Board ("CAB").[3] Created by the Civil Aeronautics Act of 1938,[4] the CAB exercised extensive authority over airline market entry, routes, fares, mergers, acquisitions, and exits from existing markets. Airlines generally could not initiate service on new routes, abandon existing routes, or substantially alter fares without regulatory approval. The federal government played a significant role in determining where airlines could fly, what prices they could charge, and which carriers could enter particular markets.

This framework reflected the realities of a developing industry. Policymakers sought to promote stability, ensure reliable air service, and encourage investment in a transportation sector that remained in its formative stages. By the 1970s, however, a growing body of scholarship and policy analysis concluded that consumers would benefit from greater competition and reduced economic regulation. The movement toward deregulation drew support from an unusually diverse coalition of political leaders, academics, and regulators.[5] Among its most influential advocates was Alfred E. Kahn, who chaired the CAB during the Carter Administration and became a leading proponent of competitive market forces. U.S. Senator Edward Kennedy used a series of influential Judiciary Committee hearings to focus attention on the costs and inefficiencies associated with airline regulation. Then-Senate Judiciary Committee Special Counsel Stephen Breyer contributed influential scholarship and policy analysis examining whether traditional regulatory structures continued to justify their costs.

Congress ultimately concluded that competitive markets were better positioned than lawmakers and regulators in Washington, D.C. to determine airline routes, service levels, and fares. The Airline Deregulation Act reflected a belief that competition, innovation, and consumer choice would produce better outcomes than continued governmental control of prices and market entry.

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[1] Airline Deregulation Act of 1978, Pub. L. No. 95-504, 92 Stat. 1705. The law was passed by the Senate by a vote of 83-9, and by the U.S. House of Representatives by a vote of 363-8; President Jimmy Carter signed it into law on October 24, 1978.

[2] Congress did not begin deregulation with passenger airlines. Rather, it first liberalized the air cargo market through the Air Cargo Deregulation Act of 1977, which relaxed entry and rate controls for freight carriers and served as an early test of market-oriented aviation policy. *See* Air Cargo Deregulation Act of 1977, Pub. L. No. 95-163, 91 Stat. 1278. Following passenger-airline deregulation, policymakers increasingly focused on airline-controlled computer reservation systems ("CRSs"), which had become the primary distribution channel through which airlines communicated fares, schedules, and seat availability to consumers. Concerns arose that airline-owned CRSs could be used to disadvantage rival carriers through display bias, preferential access, and control over booking information. *See* Timothy M. Ravich, *Deregulation of the Airline Computer Reservation Systems (CRS) Industry*, 69 J. AIR L. & COM. 387, 392–94 (2004).

[3] *E.g.*, Frederick A. Ballard, *Federal Regulation of Aviation*, 60 HARV. L. REV. 1235, 1245-48 (1947).

[4] Civil Aeronautics Act of 1938, Pub. L. No. 75-706, 52 Stat. 973 (1938).

[5] *See*, *e.g.*, TIMOTHY M. RAVICH, INTRODUCTION TO AVIATION LAW 285-300 (WEST ACADEMIC 2020).

Nearly fifty years on, the record is mixed.[6]

Deregulation expanded access to air transportation on a scale that would have been difficult to imagine in 1978. Annual passenger traffic increased to more than 850 million before the COVID-19 pandemic from approximately 275 million enplanements in 1978. Real airfares declined, and air travel became accessible to a far broader segment of the American public. New business models emerged, including low-cost and ultra-low-cost carriers that expanded travel opportunities for millions of consumers and placed downward pressure on fares throughout the industry.

Deregulation also transformed the competitive landscape. Market competition replaced administrative decision-making and allowed airlines to compete through different business models, operational strategies, and service offerings[7]. Southwest Airlines expanded a low-fare, high-frequency model that fundamentally altered domestic air transportation. JetBlue Airways combined lower fares with service offerings that challenged conventional assumptions regarding budget travel. Spirit Airlines pioneered the ultra-low-cost model, generating substantial debate while exerting significant competitive pressure on fares. New entrants challenged established carriers. Some succeeded. Others failed. Braniff and People Express disappeared as did the iconic Eastern, Pan American, and TWA. The post-deregulation environment exposed carriers to competitive pressures that had been muted under the prior regulatory regime.

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[6] *Compare* Stephen G. Breyer, *Airline Deregulation, Revisited*, Bloomberg Business (Jan. 20, 2011) ("What does the industry's history tell us? Was the effort worthwhile? Certainly it shows that every major reform brings about new, sometimes unforeseen problems…. [b]ut how many now will vote to go back to the 'good old days' of paying high, regulated prices for better service?") *with* Hobart Rowan, *Airline Deregulation: A Bankrupt Policy*, WASH. POST, June 28, 1987, at H1 ("Transportation is not just an old business. Basically, it's a public utility, which has to be regulated in the public interest. It's time to re-regulate the airlines.").

Debates about the merits and drawbacks of regulation and deregulation are extensive, spanning back decades. *See*, *e.g.*, GEORGE WILLIAMS, AIRLINE COMPETITION: DEREGULATION'S MIXED LEGACY (ASHGATE 2002); KENNETH BUTTON & ROGER STOUGH, AIR TRANSPORT NETWORKS (2000); GEORGE WILLIAMS, THE AIRLINE INDUSTRY AND THE IMPACT OF DEREGULATION (1993); PAUL STEPHEN DEMPSEY & ANDREW R. GOETZ, AIRLINE DEREGULATION AND LAISSEZ-FAIRE MYTHOLOGY (1992); Laurence E. Gesell & Martin T. Farris, *Airline Deregulation: An Evaluation of Goals and Objectives*, 21 TRANSP. L.J. 105 (1992); Theodore P. Harris, *The Disaster of Deregulation*, 20 TRANSP. L.J. 87 (1991); Alfred E. Kahn, *Deregulation: Looking Backward and Looking Forward*, 7 YALE J. REG. 325 (1990); Andrew R. Goetz & Paul Stephen Dempsey, *Airline Deregulation Ten Years After: Something Foul in the Air*, 54 J. AIR L. & COM. 927 (1989); Melvin A. Brenner, *Airline Deregulation - A Case Study in Public Policy Failure*, 16 TRANSP. L.J. 179 (1988); Alfred E. Kahn, *Airline Deregulation - A Mixed Bag, But a Clear Success Nevertheless*, 16 TRANSP. L.J. 229 (1988); Thomas G. Moore, *U.S. Airline Deregulation: Its Effects on Passengers, Capital and Labor*, 29 J.L. & ECON. 1 (1986); Edward A. Morash, *Airline Deregulation: Another Look*, 50 J. AIR L. & COM. 253 (1985); Michael E. Levine, *Revisionism Revised? Airline Deregulation and the Public Interest*, 44 L. & CONTEMP. PROBS. 179 (1981); C. Vincent Olson & John M. Trapani, III, *Who Has Benefited from Regulation of the Airline Industry?*, 24 J.L. & ECON. 75 (1981); Symposium, *The Impact of Government Regulation on Air Transportation*, 9 AKRON L. REV. 629 (1976); Richard D. Gritta, *Profitability and Risk in Air Transport: A Case for Deregulation*, 7 TRANSP. L.J. 197 (1975); WILLIAM A. JORDAN, AIRLINE REGULATION IN AMERICA: EFFECTS AND IMPERFECTIONS (THE JOHNS HOPKINS PRESS 1970).

[7] Morales v. Trans World Airlines, Inc., 504 U.S. 374 (1992) (Scalia, J.) (recounting that Congress determined that "maximum reliance on competitive market forces" would best further "efficiency, innovation and low prices as well as variety and quality of air transportation services.")

Deregulation also produced new policy challenges. Intense competition, economic downturns, fuel-price volatility, and recurring financial distress contributed to a series of mergers and acquisitions that reshaped the industry. Delta merged with Northwest. United merged with Continental. Southwest acquired AirTran. American merged with US Airways. Competition policy increasingly focused on concentration, market power, and merger enforcement.

These developments collectively define the modern aviation marketplace. The airline industry today is more accessible, more innovative, more competitive, and more consolidated than the industry Congress deregulated in 1978.

The challenge for policymakers is to support opportunities for meaningful competition among existing market participants while maintaining the legal and institutional conditions that permit future competitors to emerge.

III. COMPETITION, ACCESS, AND INFRASTRUCTURE

As a practical matter, many of the most consequential competition decisions in aviation now occur at the airport level where competition is a function of access and infrastructure.

Decisions regarding gate assignments, lease structures, common-use facilities, terminal development, capital investment, and airport expansion directly influence whether new entrants can establish service and whether existing competitors can expand. Carriers cannot add flights without gates.[8] Nor can carriers establish services without terminal access. New entrants especially cannot effectively challenge incumbent competitors if the infrastructure necessary to support competition is unavailable.

These issues are especially important because competition in aviation depends upon infrastructure that is capital intensive, heavily regulated, physically constrained, and often developed over decades. Airport capacity is shaped by environmental requirements, airspace constraints, financing limitations, local land-use considerations, and long-term planning decisions. New capacity frequently requires substantial public investment and years of regulatory review.

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[8] *See*, *e.g.*, United States v. Am. Airlines Grp. Inc., 675 F. Supp. 65, 74 (D. Mass. 2023):

> American and JetBlue are two of the four largest carriers operating in New York, and two of the largest three in Boston. Delta Air Lines is the only other carrier with a large presence in Boston. Besides Delta and United Airlines, no other carrier matches or approaches in size the defendants' respective positions in New York. Challengers seeking to enter or expand in New York would first need to secure gates from which to operate, as well as schedule authorizations from federal regulators who control air traffic in one of the most congested markets in the world. Both the gates and the authorizations are exceedingly difficult to acquire. Challengers seeking to enter or expand in Boston would need to secure gates, which also are in scarce supply. Because of these significant barriers, the defendants' positions at or near the top of these constrained markets had proven relatively robust and durable over the decade or so preceding the onset of the COVID-19 pandemic.

Federal law has long recognized the relationship between airport access and competition. Airports receiving federal assistance are subject to "grant assurances" requiring that airport facilities be made available on reasonable terms and without unjust discrimination.[9] Federal law likewise prohibits the grant of exclusive rights and seeks to preserve opportunities for aeronautical access. These obligations reflect a longstanding federal policy that publicly funded airports should remain available to competing users.

Airports, however, must also operate as complex firms. They must honor existing lease commitments, maintain safe and efficient operations, finance capital improvements, manage scarce infrastructure, and remain financially self-sustaining.[10]

Airport operators therefore balance access considerations against operational, financial, and capacity constraints that are often substantial.

The takeaway for policymakers is that airport governance decisions determine whether competition can emerge, whether existing competitors can grow, and whether consumers ultimately benefit from additional service options. Airport access is therefore one of the central competition issues confronting the aviation industry today. Stated otherwise, while the focus of today's hearing is "The 30,000 Foot View," ironically, many of the most consequential competition decisions in commercial aviation occur on the ground not in the air.

IV. CONCENTRATION AND COMPETITION

Recent merger litigation involving a potential acquisition of Spirit Airlines by JetBlue Airways illustrates the challenges associated with measuring competition in the modern airline industry.[11] The case presented competing views regarding how to evaluate and protect competition. One view emphasized Spirit's role as an ultra-low-cost carrier whose presence exerted downward pressure on fares and expanded access to air transportation. Another emphasized the potential for a combined JetBlue-Spirit airline to compete more effectively against larger network carriers in an increasingly concentrated industry.

The federal district court deciding the case recognized both considerations. It observed that a combined airline would likely "place stronger competitive pressure on the larger airlines in the country," while also concluding that the transaction would eliminate an important source of low-cost competition. The court ultimately determined that preserving Spirit as an independent competitor better served competition and consumer welfare.

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[9] *See* 49 U.S.C. § 47104; 14 C.F.R. Pts. 13, 16. *See also* Fed. Aviation Admin. Order 5190.6C, Airport Compliance Manual (2026), https://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/order-5190-6c-compliance-complete.

[10] Southwest Airlines Co. v. City of San Antonio, Tx., 797 F. Supp.3d 709 (W.D. Tex. 2025) (evaluating challenge to allocation of new terminal gates and concluding that City's gate-allocation decision was a proprietary airport-management function not preempted by the Airline Deregulation Act).

[11] United States v. JetBlue Airways Corp., 713 F.Supp. 3d 109, 124 (D. Mass. 2024) ("At the same time, however, the consumers that rely on Spirit's unique, low-price model would likely be harmed … While it is understandable that JetBlue seeks inorganic growth through acquisition … the proposed acquisition, in this Court's attempt to predict the future in murky times, does violence to the core principle of antitrust law: to protect the United States' markets – and market participants – from anticompetitive harm.").

The litigation highlights a broader challenge confronting courts, regulators, and policymakers. Competition policy frequently requires predictions regarding future market conditions, future competitors, and future consumer welfare. As the court in *United States v. JetBlue Airways, Corp.* cautioned at the outset of its written decision, it is "tough to make predictions, especially about the future."[12] The subsequent financial difficulties experienced by Spirit underscore the uncertainty that often accompanies efforts to forecast competitive conditions years into the future.

Although the Spirit-JetBlue case speaks to the importance of market concentration, concentration alone does not fully answer questions about the competitiveness of the commercial airline industry.

The airline industry today is unquestionably more concentrated than it was immediately following deregulation. That reality warrants continued attention by antitrust regulators and policymakers. Competition, however, is ultimately reflected in the ability of firms to challenge one another and provide meaningful alternatives to consumers.

Competition in aviation is reflected in market share, but also in entry, expansion, innovation, consumer choice, and the ability of competitors to discipline incumbent firms. Four carriers may compete intensely in one market while six carriers compete weakly in another. A low-cost carrier may exert greater competitive pressure than several larger rivals combined. Market structure matters, but so do the conditions that permit competitors to enter markets, expand service, attract customers, and challenge established firms.

The experience of the past fifty years demonstrates that aviation competition is dynamic. Airlines grow, contract, merge, enter new markets, and exit others. New business models emerge. Established firms adapt. Consumers benefit when competitors are able to challenge one another through lower fares, improved service, innovation, and operational efficiency.

Consistent with the theme of today's hearing, in assessing competition and regulation in the U.S. airline industry with respect to market concentration, the central challenge is sustaining competition among existing carriers while preserving the legal, regulatory, and institutional conditions that enable future entrants to compete.

V. COMPETITION REQUIRES CAPACITY

Americans experience the consequences of capacity constraints every day. Delayed flights, congested airspace, crowded airports, and limited scheduling flexibility are often discussed as operational challenges. They are competition issues as well. Airlines cannot expand service, add frequencies, or enter new markets unless the aviation system has sufficient capacity to accommodate growth.

[12] *Id*. at 121.

For decades, policymakers have debated whether the current structure of the American air traffic control system remains the optimal mechanism for financing and managing increasingly complex aviation operations.[13] These discussions often focus on governance, modernization, and funding. They also influence the ability of the aviation system to accommodate future growth.

Many nations have adopted alternative approaches to air traffic management. Canada operates through NAV CANADA, a private, non-share capital corporation funded through user charges. The United Kingdom and numerous European states utilize corporatized air navigation service providers operating under varying governance models. At the continental level, EUROCONTROL coordinates air traffic management across much of Europe and employs route-based charging systems that allocate costs among users of the airspace system. While these systems differ significantly from the American approach, they reflect a common recognition that air traffic management directly affects system capacity and operational efficiency.

The United States has historically relied upon a combination of aviation excise taxes, trust-fund financing, and congressional appropriations to support air traffic services. Critics contend that this structure complicates long-term planning and modernization efforts. Supporters emphasize public accountability, congressional oversight, and broad access to the national airspace system. Each position raises legitimate considerations for policymakers.

Regardless of governance structure, technological modernization remains essential. Satellite-based navigation, performance-based procedures, digital communications, automation tools, artificial intelligence-assisted traffic management, and data-driven operational planning offer opportunities to improve efficiency and increase capacity throughout the system. The FAA's NextGen initiative represents one example of these efforts, although implementation has often proven more complex and time-consuming than originally anticipated.

Simply put, no carrier can compete with a flight it cannot schedule. Capacity constraints limit opportunities for growth, increase costs, reduce schedule reliability, and restrict the ability of airlines to respond to consumer demand. New entrants face similar challenges when congestion limits operational opportunities at key airports and within the airspace system.

The continued success of the American aviation system depends upon its ability to accommodate future growth. Capacity is as much an operational concern as it is a central component of aviation competition policy, therefore.

VI. CABOTAGE

Few aviation policies present a clearer illustration of the tension between competition and regulation than cabotage.[14] Federal law generally reserves domestic air transportation to U.S. air carriers that satisfy statutory citizenship requirements regarding ownership and control. As a result, airlines that are organized, owned, or controlled outside the United States generally may not transport passengers or cargo solely between two points within the United States.

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[13] *E.g.*, Bart Elias, Cong. Rsch. Serv., R43844, *Considerations Regarding the Corporatization of Air Traffic Control* (2015), https://www.airlines.org/wp-content/uploads/2016/02/CongResearchServiceReportR43844.pdf.

[14] *See generally* PABLO MENDES DE LEON, CABOTAGE IN AIR TRANSPORT REGULATION (1992).

To illustrate, Air France may transport passengers from Paris to New York, but it is not permitted to transport passengers solely between Chicago and New York. Domestic airline competition therefore occurs within a marketplace that is limited to U.S. carriers by operation of national law (as well as international law).

Cabotage restrictions long predate airline deregulation and reflect policy objectives extending beyond competition. Aviation has historically been viewed as an industry with strategic, national security, and defense implications. For example, domestic airlines participate in the Civil Reserve Air Fleet ("CRAF"), through which commercial aircraft may be committed to support military airlift requirements during national emergencies. Federal law also caps non-U.S. ownership and control of U.S. airlines. National sovereignty, national security, military readiness, labor interests, and the preservation of a domestic aviation industry have therefore long influenced American aviation policy.

Congress has consequently made a deliberate policy choice regarding the scope of competition permitted within the domestic airline industry.

Cabotage as a means of stimulating competition in the domestic marketplace is attractive on the surface, but it presents a more complicated competitive question than is sometimes acknowledged. The domestic aviation markets being compared are very different in scale and structure. The United States offers access to numerous major metropolitan markets spread across a continental transportation network. A foreign carrier permitted to operate domestically within the United States would gain access to a market far larger than the domestic markets available in many other nations.

The competitive landscape is further complicated by differences in how airlines are financed and supported. Some non-U.S. carriers operate with varying degrees of governmental ownership, state support, preferential financing arrangements, or other forms of public assistance. U.S. airlines compete within a different economic and regulatory framework. These differences have long influenced debates regarding reciprocity, competitive fairness, and the appropriate scope of market access.

Debates regarding cabotage have accompanied virtually every major discussion concerning aviation competition, liberalization, and international aviation policy over the past half-century. Proponents argue that additional competition could expand consumer choice, increase service options, and place downward pressure on fares. Opponents point to concerns involving national security, military readiness, labor standards, reciprocity, and the long-term viability of the domestic airline industry.[15]

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[15] *See generally* David P. Agnew, *U.S. Cabotage Policy*, 1298 Transp. Res. Rec. 14 (1991); Marc Scribner, *A Simple Way to Increase Competition and Reduce Airfares in the US*, Reason Found. (Aug. 30, 2022), https://reason.org/commentary/a-simple-way-to-increase-competition-and-reduce-airfares-in-the-us/.

Cabotage therefore presents policymakers with a classic tradeoff. Additional market entry may produce consumer benefits in some markets. Existing restrictions advance broader policy objectives that Congress has historically viewed as important to the national interest. Whether those restrictions should be maintained, modified, or reconsidered is ultimately a question for Congress. For present purposes, cabotage highlights the reality that, at least with respect to welcoming non-U.S. capital and competition, federal law imposes one of the most significant restrictions on market entry in the airline industry.

VII. COMPETITION IN THE DRONE AGE: PAST AS PROLOGUE

As policymakers evaluate competition in today's airline industry, the legal and regulatory framework should also anticipate developments that may influence how Americans travel, transport goods, and access aviation services in the decades ahead. Aviation has never been a static industry. New technologies, new aircraft, and new business models have repeatedly reshaped competitive conditions.

Future entrants may do the same.

Advanced Air Mobility ("AAM"), unmanned aircraft systems, autonomous operations, and other emerging aviation technologies have attracted substantial public and private investment.[16] New technologies create new transportation options, new methods of delivering services, and potentially new forms of competition.

The regulatory choices made today will influence whether future competitors can enter the marketplace tomorrow. Certification standards, operational rules, airspace integration, airport access, infrastructure development, and investment incentives all affect the ability of new entrants to develop, scale, and compete.[17]

Environmental policy will also play an increasingly important role in shaping the next generation of aviation competition. Noise standards, environmental review requirements, community compatibility concerns, emissions regulation, and local land-use considerations influence where and how new aviation technologies may operate. Thus, while advanced air mobility platforms, drone delivery networks, and other emerging systems promise new transportation opportunities, their deployment will often depend upon successfully addressing environmental and community concerns. Regulatory frameworks that provide clear, predictable pathways for evaluating these issues can facilitate innovation while continuing to protect other legitimate interests.

Importantly, too, institutions beyond those traditionally associated with aviation regulation will shape the next generation of aviation competition. For example, emerging technologies increasingly depend upon communications infrastructure, spectrum availability, data networks, and autonomous systems. As a result, agencies such as the Federal Communications Commission

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[16] Timothy M. Ravich (Principal Investigator), National Science Foundation Award No. 2232225, *Conference: Advanced Air Mobility: Will Law Lift or Ground a New Era of Human Transportation*? (2022)

[17] Timothy M. Ravich, *Grounding Innovation: How Ex-Ante Prohibitions and Ex-Post Allowances Impede Commercial Drone Use*, 2018 COLUMBIA BUS. L. REV. 495.

may influence competitive conditions through decisions involving spectrum allocation, communications policy, remote identification requirements, command-and-control systems, and other technologies necessary to support advanced aviation operations. Future competition may therefore be affected by regulatory decisions occurring well beyond the traditional boundaries of aviation law and the authority of bodies like the U.S. Department of Transportation and Federal Aviation Administration.

The United States has long benefited from a regulatory system capable of maintaining extraordinary levels of safety while accommodating technological change. That balance has been one of the great strengths of the American aviation system. Preserving it remains essential. Regulatory rigidity can discourage innovation and investment. Regulatory uncertainty can produce similar effects by increasing costs, delaying deployment, and complicating long-term planning.

The implications of today's hearing extend beyond the stratosphere. Today, commercial space transportation is transitioning from an experimental endeavor to a competitive industry. Private companies are conducting orbital launches with unprecedented frequency, developing reusable launch systems, transporting private citizens into space, constructing commercial space stations, and openly pursuing long-term objectives that include sustained human presence on the Moon and, ultimately, Mars. Without exaggeration, these developments raise the same questions discussed throughout this testimony. Access to infrastructure, allocation of scarce resources, market entry, competition policy, public-private partnerships, safety oversight, national security, and the proper scope of governmental regulation will shape the future of commercial space transportation just as they have shaped the development of commercial aviation nationally and internationally. The legal and institutional choices made today with respect to commercial aviation offer important lessons for the next frontier of transportation.

VIII. CONCLUSION

As we approach the 50-year anniversary of the Airline Deregulation Act, we can celebrate the fact that the United States possesses the most dynamic and safest aviation system in the world. Air travel is more accessible, passenger volumes have increased dramatically, and new business models have expanded opportunities for consumers.

Still, the competition questions confronting policymakers are valid, particularly as to airport access, infrastructure capacity, market concentration, cabotage, and emerging technologies.

Competitors must be able to access markets, expand service, challenge incumbent firms, and develop new business models. The continued strength of American aviation will depend upon preserving those opportunities while maintaining the safety, efficiency, and reliability upon which the public depends.

As this Subcommittee continues its important work in the area of commercial aviation regulation and competition, it is worth recognizing that not every market shortcoming necessarily requires a new regulatory intervention.

Regulation can provide substantial public benefits, but it also carries costs, and laws designed to address one concern can inadvertently affect competition, innovation, investment, or market entry in other areas. These are precisely the types of tradeoffs that make today's discussion both timely and important.

I look forward to answering the Subcommittee's questions.

Thank you.

Timothy M. Ravich