

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE HUDSON INSTITUTE**

“THE IMPORTANCE OF ECONOMIC ANALYSIS AT THE FCC”

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What an honor to be introduced by Harold Furchtgott-Roth for a speech about economic analysis at the FCC! A Stanford Ph.D. in economics *and* the only economist ever to serve as a Commissioner at the FCC? This is like Bruce Springsteen bringing a garage band onstage to cover “Born to Run.”

Thank you to the Hudson Institute for hosting me today. Thanks too for your valuable scholarship, which has helped to improve public policy and, in turn, the lives of the American people.

As you know, I’m here to discuss the role of economics at the FCC. This is a more academic topic and a more serious-minded audience than I’m used to addressing. So naturally, I’d like to begin by talking about sports.

This week marked Opening Day for baseball. America’s pastime has changed dramatically since we were growing up. The players are bigger, faster, stronger. The teams are smarter. And, believe it or not, the Chicago Cubs are World Series champions. These last two are related and highly relevant to today’s discussion. How is that? The answer, as with so much in life, can be traced back to Kansas.

In the 1970s at a pork-and-beans plant in Lawrence, Kansas, a boiler-room attendant named Bill James came up with a revolutionary idea: use statistical analysis to test if the conventional wisdom about baseball was correct. James ran his analyses while keeping an eye on the furnaces during the nightshift.

It turns out that a whole lot of that conventional wisdom was wrong. Baseball GMs and managers routinely made decisions that were provably unsound, such as valuing batting average over on-base-percentage.

For decades, James’ writings had a cult following. But they were largely ignored by major league teams. Finally, at the turn of the century, a new generation of James’ disciples started to get jobs running ball clubs. They used advanced analytics to give their teams a competitive advantage, and those teams began winning—a lot.

One of those executives was Theo Epstein, who read James’ book in fourth grade. At age 28, Epstein became General Manager of the Boston Red Sox, and actually hired James to work for the Sox. One year later, the team they built won Boston’s first World Series in 86 years. In 2016, Epstein helped the Cubs end its own 108-year drought.

Now, imagine if Theo Epstein said tomorrow that he was going to reduce the influence of the Cubs’ analytics unit. Imagine if Bill James said you didn’t need empirical data as long as you had enough anecdotal evidence. It would be unthinkable.

Yet I worry that’s the path we’ve essentially been following recently at the FCC.

Historically, the FCC had been a model for the use of economic analysis in federal policymaking. We hired and empowered a world-class economics staff. In turn, they’ve delivered policies that were a much bigger deal than a Cubs championship, unleashing hundreds of billions of dollars of consumer benefits.

But despite this rich legacy, staff economists are not guaranteed a seat at the policy-making table. Increasingly during FCC proceedings, their views have become an afterthought, not an initial thought.

Now is the time to restore the place of economic analysis at the FCC. Today, I'll make the case for why and how we should do so.

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If you were to read a textbook or academic paper on the use of economics to craft effective public policy, there's a decent chance you'll find the FCC's spectrum auctions offered as a prime example. Going back to the 1920s, when our agency was called the Federal Radio Commission, our government's method for allocating spectrum was comparative hearings. Over time, these became known as "beauty contests." Potential licensees would come into the Commission and try to persuade us that they should be awarded rights to frequencies. The Commission would then decide based on the case it found most appealing, and the winner would pay nothing but a small licensing fee in return. In the 1980s, we switched to lotteries, which had their own glaring flaws.

But while all of this was going on, an economist was coming up with a better way. In 1959, future Nobel laureate economist Ronald Coase published a seminal paper with the catchy title "The Federal Communications Commission." Coase argued that the government should treat spectrum like other property, and allow markets to determine who gets to use it. As he put it, based on basic principles of economics, "it is not clear why we should have to rely on the Federal Communications Commission rather than the ordinary pricing mechanism to determine whether a particular frequency should be used." This visionary proposal eventually would lead to auctions for spectrum licenses.

Like a lot of great ideas, it was initially met with skepticism—in industry, in Congress, in the Commission itself. At one point, two Commissioners said that the odds of spectrum license auctions being held were equal to "those on the Easter Bunny in the Preakness." But decades later, Coase finally carried the day. In 1993, Congress authorized competitive bidding for spectrum rights. The auctions that followed have raised more than \$100 billion for the U.S. Treasury. More important, they have facilitated the explosion of wireless services that have created millions of U.S. jobs and improved the American people's lives in countless ways.

Spectrum license auctions are the most notable example of good economics guiding good policy at the Commission, but hardly the only one.

As former FCC Chief Economist Gerald Faulhaber and Hal Singer noted in a 2016 paper, "Economic analysis arguably reached its apex at the Commission in the 1990s, with an embrace of auctions . . . as well as an embrace of antitrust principles to guide regulatory intervention in areas such as wireless telephony and the nascent Internet."

More recently, the Commission has adopted the use of reverse auctions to efficiently distribute universal service funds. This means that ratepayers who help finance broadband deployment get the most bang for their buck, and that funds are more likely to be available to close the digital divide.

Just last week, we concluded bidding in the world's first incentive auction, a two-sided auction that will reallocate 70 MHz of licensed spectrum from television broadcasters to wireless providers. Notably, this novel auction design was initially proposed by FCC staff economist Evan Kwerel, together with staff engineer John Williams, in a November 2002 White Paper. I should note that Evan also co-authored a 1985 white paper that provided the blueprint for the first spectrum auctions.

That brings me to the following point. As economists Faulhaber and Singer pointed out, "The economics staff at the FCC is of high-quality and no doubt the best in Washington in their understanding of the economics of telecommunications and the Internet."

I couldn't agree more. But here's the rub. The FCC's first-rate economists are not always used optimally. It's a serious opportunity cost for us and for the public.

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As I see it, there are four key problems.

First, economists are not systematically incorporated into policy work at the FCC. Instead, their expertise is typically applied in an ad hoc fashion, often late in the process. There is no consistent approach to their use.

Not only is there a lack of clarity about when and how they will be enlisted, there are no clear guiding principles for their work. To me, the FCC should always take economics seriously, because the alternative is regulation by anecdote. And as Susan Dudley, George W. Bush's regulatory czar once noted, "Anecdotes about outcomes we don't like do not indicate market failure, nor do they present a sufficient argument for government intervention." The FCC should have the economic experts it needs to identify market failures and study whether the benefits of Commission action would be warranted given the costs—in-house autarky, if you will. This is essential. Otherwise, well-intentioned but unsound policies can become unintended barriers to growth and innovation.

I would also note one additional indicator of the diminishing influence of economics at the Commission. Traditionally, FCC economists have crafted white papers that have been significant drivers of incredibly important policy innovations, such as the incentive auction. Since 1980, FCC experts have submitted nearly 90 papers. Since 2012, the number is zero. I want to create a culture of economics at the FCC that supports big-picture thinking once again.

The second big problem: economists work in siloes. This impedes their productivity and impairs agency efficiency. For example, at any given time, economists in one Bureau can be quite busy. But economists in another Bureau might not have much work. In a converged marketplace, economists with expertise in one context may be able to contribute significantly to addressing problems in another. There can be great benefit from this cross-fertilization of ideas. And our economists are capable of pinch-hitting if needed in areas outside their specialty. The FCC has many talented economists scattered across the agency, and I believe there is great benefit to creating a place where economists can work together on a greater variety of issues.

Now let's put the FCC's structure in context. Look across government at comparable agencies that handle competition and consumer protection issues. The FTC's Bureau of Economics has nearly 80 Ph.D.-level economists. The Justice Department's Antitrust Division employs an Economic Analysis group. The Securities and Exchange Commission has a Division of Economic and Risk Analysis. Each office is integrated into policy-making across their agencies or divisions. We don't do this at the FCC.

The third key problem I see with economic analysis at the FCC is that cost-benefit analysis is largely ignored. The public interest standard has become a free pass to adopt rules without a meaningful attempt to determine the net benefits. And the agency also hasn't taken seriously its duty to conduct a Regulatory Flexibility Analysis during rulemakings to consider how our rules might affect small businesses.

Again, some context is helpful. An invaluable resource on this issue is Cass Sunstein, President Obama's regulatory chief at the Office of Management and Budget (OMB) and, it so happens, my administrative law professor at the University of Chicago.

Sunstein has said, "It is not possible to do evidence-based, data-driven regulation without assessing both costs and benefits, and without being as quantitative as possible." Hence, it is the duty of regulators to "obtain a careful and objective analysis of the anticipated and actual effects of regulations, whether positive or negative. We need to look at evidence and data. We need careful assessments before rules are issued, and we need continuing scrutiny afterwards." I agree (and thanks for the A, Professor!).

Although the FCC is exempt from OMB guidelines as an independent agency, I think it's nonetheless helpful to look at the framework Sunstein developed for cost-benefit analysis and use that as a yardstick.

According to OMB guidance, “the best practice is to accompany all significant regulations with (1) a tabular presentation, placed prominently and offering a clear statement of qualitative and quantitative benefits and costs of the proposed or planned action, together with (2) a presentation of uncertainties, and (3) similar information for reasonable alternatives to the proposed or planned action.”

How does the FCC’s economic analysis stack up to these best practices? Unfortunately, not so well.

Here’s an example. In compliance with the Regulatory Right to Know Act, OMB submits an annual report to Congress detailing the benefits and costs of federal rules. According to OMB’s 2016 assessment, the FCC issued 11 major rules from 2006 to 2015. By their count, *not one* was accompanied by an estimate of benefits or costs. Zero.

Outside of major rules, the FCC performs cost-benefit analysis of proposed rules occasionally, not systematically. Seldom does it consider the distributional impact of these costs and benefits. For example, are the costs of a new rule simply too high to be borne by small firms that lack an army of attorneys and accountants to help with regulatory compliance? How will this impact competition or innovation in a market?

As our host today wrote in his new paper on economics at the FCC, “In the dozens of new rules that the FCC promulgates each year, one can find no precise statement that resembles an actual cost-benefit analysis, no projections of benefits or costs over time, no clear weighing of the risks associated with various regulatory outcomes, and no plan for reviewing performance over time.” This practice significantly raises the odds of policies that do more harm than good, actually producing net negative benefits.

A great example of this problem is the Commission’s *Title II Order*. The FCC’s Chief Economist at the time of the *Title II Order*’s adoption has joked that it was an “economics-free zone.” It certainly didn’t include a traditional cost-benefit analysis. He then clarified more seriously that “a fair amount of economics [in it] was wrong, unsupported, or irrelevant.”

It is worth noting, however, that the Trump Administration’s recently released Executive Order on regulatory reform specifically instructs teams to monitor compliance with cost-benefit guidelines established by both the Clinton and Obama Administrations. This suggests that serious cost-benefit analysis is a bipartisan tradition. And it raises my hope that elevating the importance of economic analysis at the FCC going forward will be a bipartisan cause.

The fourth big problem I see with economic analysis at the FCC involves a key to good economics: data. The FCC has often used data poorly. There’s a real opportunity to do better, both in how the data are collected, and how data are applied to make the best, most informed decisions possible.

On data collection, the FCC almost certainly collects too much information through reporting requirements that are duplicative or unnecessary. This imposes a high cost. In fact, according to OMB, the paperwork costs to comply with the FCC’s rules are approximately \$800 million per year—and that doesn’t include the 73 million hours each year that private sector employees spend filling out paperwork rather than building next-generation networks.

But no matter how much or how little information the FCC might collect, the real issue is what’s done with it. For example, the Commission has a tremendous amount of information at its disposal regarding the commercial wireless market, but in spite of the fact that this agency has now issued 19 official reports, a few years ago it stopped trying to determine if this market is “effectively competitive.”

The various industries regulated by the FCC make up a critical part of the Information Economy. It’s an incredibly complex market. There’s much the FCC arguably can and should know. Guided by economists and data experts, using data collected by the FCC and from other sources, the FCC can make well-informed, economically sound policy.

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The state of the FCC's economic analysis and data collection is not where it needs to be. So today, I'm launching a plan to fix it.

Specifically, I'm pleased to announce that I am beginning a process to establish an Office of Economics and Data, or OED. This Office will combine economists and other data professionals from around the Commission. I envision it providing economic analysis for rulemakings, transactions, and auctions; managing the Commission's data resources; and conducting longer-term research on ways to improve the Commission's policies.

To inform our thinking on the wisdom of this proposal, we are establishing a working group of economists at the FCC that will be charged with thinking about some basic questions. Who should be part of this office? Who should be on other teams? How should OED be structured and how should it fit with the rest of the Commission? What should be the powers and responsibilities of the office?

The working group will cast a wide net, seeking input from personnel at the FCC—including my colleagues, Commissioners Clyburn and O'Rielly—as well as stakeholders outside the agency.

Based on their findings, they will develop a plan of action by this summer. The Commission will then carefully consider that plan. My goal is to have the new office up and running by the end of the year.

While I look forward to detailed advice from the working group, I see the Office of Economics and Data playing the following roles—roles that traditionally have been assumed by economists and other experts scattered across the agency.

First, OED would give economists early input into the decision-making process. The FCC's rulemakings, transactional reviews, and auctions have direct and tangible impacts. It is therefore especially important that economics be incorporated at the beginning, not the end, of the deliberative process with respect to these functions.

We're starting to do that already. I've tried to lead by example; one of my first hires for my office was a Ph.D. economist. And more generally, this month's infrastructure and special access items have required careful economic analysis. I expect the working group will propose ways in which the Commission's rules should be modified and the office should be integrated into the Commission's work. That way, the FCC would be structurally and culturally inclined to incorporate economic thinking.

Second, OED would ensure better management of data, reports, and analyses. The FCC should use its economists and data experts—drawing upon best practices in data management and analytics—to ensure that well-informed decision-making is the norm, not just a box to check. I believe that the best way to do this is to put a single office in charge of making sure that happens. We have the Office of General Counsel to make sure that our legal reasoning is sound. We have the Office of Engineering and Technology to make sure that our work reflects sound engineering policies. And we should have an Office of Economics and Data to make sure that our choices are informed by sound economic principles and solid data.

The office should also take a careful look at paperwork filing requirements imposed by the Commission to make sure we aren't collecting information that's duplicative or unnecessary. Commissioner O'Rielly has called attention to the tremendous burden that these requirements place on the private sector, and this office will work to reduce them. The Consolidating Reporting Bill currently before Congress is a great example of how we could go about eliminating unnecessary reports. I stand ready to work with the Congress to implement the principles outlined in this, or similar legislation.

Third, OED would incorporate strategic, long-term thinking into the FCC's processes. There are a number of emerging challenges that we know we will have to grapple with in the future. For instance, what's the impact on FCC policies of the Internet of Things, with billions of new devices dotting the

landscape and operating at low power? What's the impact of the densification of wireless networks and higher demands for fiber backhaul on our long-range infrastructure rules?

And then there are persistent questions that we constantly need to examine and re-evaluate. What's the economic value of federal spectrum? What's the commercial value of unlicensed, and does it depend on the band? What's the impact of high-band spectrum on low-band spectrum policy, and on the mix of licensed and unlicensed spectrum?

In addition to the white papers I've already mentioned, which laid the groundwork for the Commission's first auctions and then later for the broadcast incentive auction, other white papers provided the economic arguments needed for the Commission to move from rate-of-return to price cap regulation for local exchange carriers. Still other work showed how the Commission could increase competition and lower rates for U.S. consumers in international telecommunications markets.

We intend to restore the tradition of staff economists spending time thinking about the future and publishing in the present influential white papers that keep us from being stuck in the past. We need bright people who can focus on big-picture, out-of-the-box thinking. The FCC's history shows how truly valuable this can be for the agency, and ultimately, for the American people.

Looking back, the list of contributions by economists is long. Looking forward, it's critical that the Commission's economists continue to contribute in this way, carefully considering the next set of difficult issues and how economic insights might help address them.

Finally, by establishing an organizational structure—and culture—in which economists contribute meaningfully to the Commission's work and are valued for doing so, we will continue to recruit quality talent to help us in our work on behalf of the American people.

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Ending where we started, sticking with the status quo for economics at the FCC would be akin to a major league baseball team in 2017 shunning analytics. Now, I can't help but note here that my favorite team, the Kansas City Royals, won the World Series in 2015. Since they still use sacrifice bunts and prefer batters with low strikeout-rates over high walk-rates, many people argued the Royals disproved the idea that you need to adhere to Bill James' theories to succeed in modern baseball. As the Columbia, Yale, Vanderbilt, and MIT grads in the Royals' analytics shop will tell you, those people don't know what they're talking about. The Royals spotted a market inefficiency in the valuing of elite defensive outfielders. They paired that with affordable fly-ball pitchers, a three-headed bullpen, and the fact that they play in a spacious pitchers' park. And they created an elite run-prevention unit that got them to the World Series two straight years.

The point is this: In baseball, as at the FCC, using analytics doesn't dictate what your choices will be. But *not* using it means your decisions are more likely to go wrong. As the nation celebrates Opening Day, I'm delighted and excited that the FCC is getting back into the game of economic analysis.

Thank you for letting me be a free rider on your hospitality today. I look forward to working with you on this organizational innovation in the time to come.