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FEDERAL TRADE COMMISSION  
  
COMPETITION AND CONSUMER PROTECTION  
  
IN THE 21ST CENTURY

Tuesday, October 16, 2018  
9:00 a.m.

Georgetown University Law Center  
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1 P R O C E E D I N G S

2 MR. KOBAYASHI: Okay, I think we're going to  
3 get started. It's great to be back at Antonin Scalia  
4 Law School. My name is Bruce Kobayashi, and I've been  
5 a faculty member here since 1992. I'm currently on  
6 leave and serving as the Director of the Bureau of  
7 Economics. And in that capacity, it's my honor and  
8 pleasure to be able to introduce our opening speaker  
9 for the two morning panels on antitrust and labor  
10 markets, Professor Alan Krueger.

11 Professor Krueger holds a joint appointment  
12 at the Department of Economics in the Woodrow Wilson  
13 School as the Bendheim Professor of Economics and  
14 Public Affairs at Princeton University. It's a  
15 particularly appropriate choice to open our labor  
16 market sessions, having published widely on the  
17 economics of education, unemployment, labor demand,  
18 income distribution, social insurance, and labor  
19 market regulation.

20 In addition to a long list of academic  
21 articles, he has published multiple books, including  
22 his coauthored book with David Card, *Myth and*  
23 *Measurement: The New Economics of the Minimum Wage*,  
24 and a book that I put on my reading list, *Rockonomics:*  
25 *How Music Explains Everything (about the Economy)*,

1 especially since I saw in the blurb that he  
2 interviewed the manager of the Red Hot Chili Peppers.

3 Professor Krueger has served in the  
4 Government. He was the Chairman of the Council of  
5 Economic Advisers and a member of President Barack  
6 Obama's cabinet from 2011 to 2013. Just prior to  
7 that, he served as Assistant Secretary for Economic  
8 Policy, and as a chief economist with the U.S.  
9 Department of Treasury from 2009-2010.

10 And way back in the day when we were all  
11 younger -- he's still younger than I am -- he was a  
12 chief economist at the U.S. Department of Labor. So  
13 Alan certainly knows a lot about labor and public  
14 policy. He has held high positions in the American  
15 Economic Association, served on the executive  
16 committee, won numerous awards, too lengthy to  
17 mention. Here's his resume. It's double-sided. But  
18 let's give a warm welcome to our opening speaker, Alan  
19 Krueger.

20 (Applause.)

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1 WELCOME AND OPENING ADDRESS

2 MR. KRUEGER: Thanks very much for that  
3 generous introduction, and especially for plugging my  
4 book, which will be out in May. But you may  
5 especially be interested in the book by Flea of the  
6 Red Hot Chili Peppers, which covers the first 18 years  
7 of his life, which will be out around the same time as  
8 mine. And I'm concerned there may be competition.

9 I want to thank the FTC for inviting me and  
10 for holding this set of hearings. It's a really  
11 impressive set of topics that are being discussed by a  
12 very impressive set of researchers and others. What I  
13 thought I would do is give an overview of how I see  
14 competition and lack of competition in the labor  
15 market.

16 I think this is a particularly appropriate  
17 time to have this discussion. Research in labor  
18 economics has been growing very quickly on  
19 noncompetitive practices and on the noncompetitive  
20 workings of labor markets. I think this is a topic  
21 which is very important. I think it's one in which  
22 the evidence is still evolving. We face similar kinds  
23 of challenges in the labor market, as industrial  
24 organization economists face in looking at product  
25 markets in terms of defining the scope of a market.

1 In fact, in many ways, I think it's more difficult in  
2 a labor market because every individual is unique.

3 That said, I think there's a growing body of  
4 evidence which suggests that the go-to model of the  
5 labor market, which has historically been one of  
6 perfect competition, is probably not the best model to  
7 use in many situations. In a perfectly competitive  
8 model of the labor market, bargaining power is  
9 completely irrelevant because wages are determined by  
10 the external forces of supply and demand. Firms just  
11 passively accept whatever the market wage is.

12 In many applications, I think it is more  
13 appropriate to model the labor market as imperfectly  
14 competitive, and Bob Topel arrived just in time,  
15 subject to monopsony-like effects, collusive behavior  
16 by firms, search frictions, and surpluses that are  
17 bargained over. As a result of these labor market  
18 features, I think it's often more appropriate to view  
19 firms as wage-setters or wage-bargainers rather than  
20 wage-takers.

21 This perspective can explain many well-  
22 documented phenomena in the labor market, such as the  
23 high variability in pay for workers with seemingly  
24 identical skills, who work in different industries or  
25 in different firms, the lack of evidence that minimum

1 wage increases reduce employment, and the reluctance  
2 of firms to raise wages despite facing vacancies.

3 Now, I've noticed that many economists are  
4 reluctant to accept the idea that markets are  
5 manipulable, that firms or traders have some power  
6 over prices and wages. When I worked at the U.S.  
7 Treasury Department in 2009 and 2010, and I had the  
8 opportunity to work with some of the best finance  
9 economists in the world, who were on leave to help  
10 during the financial crisis, my colleagues thought it  
11 was inconceivable that foreign exchange markets or  
12 LIBOR could be manipulated. After all, these are the  
13 largest and most liquid markets in the world.

14 Only later did we learn that several traders  
15 had been convicted of colluding on exchange rates and  
16 that LIBOR was totally rigged. Interestingly, the  
17 people who I worked with who came from the markets who  
18 actually had experience trading thought this was quite  
19 the norm.

20 Now, one economist who thought that labor  
21 markets are imperfect and subject to manipulation was  
22 Adam Smith. In *The Wealth of Nations*, Smith wrote,  
23 quote, "Employers are always and everywhere in a sort  
24 of tacit, but constant and uniform combination, not to  
25 raise the wages of labour above the actual rate. To

1 violate this combination is everywhere a most  
2 unpopular action, and a sort of reproach to a master  
3 among his neighbors and equals."

4 Smith ridiculed naysayers who doubted that  
5 employers colluded as "ignorant of the world as of the  
6 subject." And then in full conspiracy mode, he added,  
7 "We seldom, indeed, hear of this combination because  
8 it is the usual, and one may say the natural state of  
9 things, which nobody ever hears of."

10 Now, you don't have to look too far to find  
11 evidence of the conspiracy that Adam Smith warned  
12 about. In an ongoing FTC case involving physical  
13 therapists in Dallas and Fort Worth, the language  
14 rings very similar to what Adam Smith wrote about,  
15 only it's been more modernized with texting. The  
16 owner of one physical therapy company wrote another,  
17 "Yes, I agree, I'll do it with U." You was spelled U,  
18 not Y O U. And "do it" was referring to jointly  
19 agreeing to lower wages.

20 Now, I'll return to some other cases  
21 involving collusion in the job market. Broadly  
22 speaking, there are two varieties of economic models  
23 that give employers some discretion over wage-setting.  
24 The first, pioneered by Joan Robinson, is a static  
25 monopsony model, where there's a single employer who



1 faces an upward-sloping labor supply curve. This  
2 could be easily extended to a small number of  
3 employers, oligopsony. And it could be extended to  
4 Smith-like situations, where employers jointly collude  
5 to suppress pay below the competitive rate.

6 The second class of models, which were  
7 pioneered by Ken Burdett, Dale Mortensen, Chris  
8 Pissarides, Peter Diamond and extended recently by  
9 Alan Manning, rests on search frictions. And there  
10 were a variety of different types of search models,  
11 but basically it takes time and effort for workers to  
12 search for job openings and for firms to search for  
13 workers. As a consequence, the firm pays a little  
14 less than the going wage; it would not lose all of its  
15 workers or find it impossible to hire new ones.

16 In fact, there is no single going wage in  
17 these models but a range of plausible offers that  
18 firms could make, or bargains that firms and workers  
19 can strike. As a practical model -- a practical  
20 matter, both classes of models are equivalent to  
21 assuming that the labor supply curve to a firm is  
22 upward-sloping instead of infinitely elastic. Firms  
23 would operate with costly vacancies in these models,  
24 yet resist raising wages because pay would need to be  
25 increased for all workers, not just the incremental

1 hired worker. And the employers collude to hold wages  
2 to a fixed below-market rate, or monopsony power  
3 increases over time, then wages could remain  
4 stubbornly resistant to upward pressure, even at a  
5 time when the economy is booming.

6 So with this framework as background, I'd  
7 like to make four observations about the labor market  
8 that I think are particularly relevant at a time when  
9 we're seeing relatively weak wage growth despite 50-  
10 year low unemployment. First, average wage growth is  
11 weaker than one would expect from historical  
12 relationships between wage growth and the unemployment  
13 rate.

14 Janet Yellen alluded to this earlier this  
15 week and said that a leading explanation for the shift  
16 in the Phillips curve is that worker bargaining power  
17 is weaker than it used to be. Although nominal wage  
18 growth has been creeping up in this recovery, over the  
19 last 12 months, nominal wage growth has barely kept  
20 pace with inflation. And there are many explanations  
21 for why wage growth may be weaker than we would  
22 predict. Low productivity growth, I think, is an  
23 important factor, but low productivity growth can't  
24 account for the last year because productivity growth  
25 has picked up, yet wage growth -- real wage growth --

1 has actually weakened.

2           Based on the specification of the wage  
3 Phillips curve that I estimated 20 years ago in a  
4 Brookings paper, I would expect wages to be between 1  
5 and 1 and a half percent stronger today than they have  
6 been.

7           Second observation. There's growing  
8 evidence supporting an important role of monopsony  
9 power in the job market stemming from both employer  
10 concentration and dynamic labor market considerations.  
11 I won't go into too much detail on this work because  
12 one of the main contributors, Ioana Marinescu, is  
13 here, but basically this work finds that measures of  
14 employer concentration, even measured by concentration  
15 within an industry in a county or concentration -- of  
16 employment within an industry in a county in work by  
17 Benmelech and coauthors, or measured by job openings,  
18 posted online for occupations within a small commuting  
19 zone, show a relationship with wages which suggests  
20 that in more concentrated areas, wages are lower,  
21 other things being held equal.

22           There is also some evidence that  
23 concentration has increased, although again, I think  
24 it's important that we define the boundaries of the  
25 labor market carefully in that work. Other studies

1 have looked at monopsony power within specific  
2 industries. And here I think the most work has been  
3 done in the nursing industry. Dan Sullivan in 1989,  
4 Doug Staiger in 2010 and coauthors found substantial  
5 evidence that hospitals are able to use monopsony  
6 power in setting wages for nurses.

7 Then lastly, there's evidence on dynamic  
8 monopsony power. For example, Doug Webber has used  
9 the longitudinal employer household dynamics data  
10 set to estimate labor supply elasticities to firms.  
11 Specifically, he looked at how turnover relates to the  
12 generosity of compensation across firms, he found that  
13 the average labor supply elasticity to a firm was 1.1.  
14 And he also found considerable variability across  
15 firms, and the firms that had a more inelastic labor  
16 supply tended to pay lower wages, as one would expect  
17 if they take advantage of their monopsony position.

18 Third, monopsony power and search frictions  
19 have probably always existed in the labor market. But  
20 the forces that traditionally counterbalanced  
21 monopsony and boosted worker bargaining power have  
22 eroded in recent decades. The most obvious is labor  
23 unions. Union membership fell from 25 percent of the  
24 workforce in the U.S. in 1980 to 10.7 percent last  
25 year.

1           Collective bargaining used to be an  
2 effective counterweight to monopsony power. We used  
3 to write papers on the union threat effect, but in  
4 most industries, there's hardly any union threat  
5 effect, so the spillover effects where companies might  
6 raise wages to try to prevent having a union drive is  
7 weaker than it used to be. Another counterbalance to  
8 monopsony power that is weaker today is the minimum  
9 wage. The U.S. federal minimum wage is currently  
10 \$7.25 an hour. It had not been raised since July of  
11 2009. The real value of the minimum wage is down  
12 about 20 percent since 1979.

13           By contrast, in that period, both the U.K.  
14 and Germany enacted their first national minimum  
15 wages, and they currently stand at \$10 an hour at  
16 current exchange rates. The decline in unionization  
17 and the erosion of the real value of the minimum wage  
18 have been found to significantly contribute to higher  
19 income inequality and polarization in the U.S.  
20 workforce.

21           These shifts have also probably contributed  
22 to the downward trend in labor share in the U.S. since  
23 the 1990s after decades of stability. Now, one might  
24 argue that these changes to the labor market have made  
25 the labor market more competitive. But the fact that

1 the employment-to-population rate has trended down,  
2 especially for the workers who were covered by  
3 collective bargaining and affected by the minimum  
4 wage, and that regional shocks are now more  
5 persistent, the wages, employment, and labor force  
6 participation suggests that we have a less competitive  
7 labor market with weaker bargaining power and more  
8 monopsony power.

9           There's been a proliferation of practices  
10 that enhance monopsony power and weaken worker  
11 bargaining power. I'll highlight five of these  
12 practices. First, there's been increased reliance on  
13 temporary help agencies, staffing firms, and  
14 outsourcing. One implication of this practice is that  
15 firms can wage-discriminate. This can facilitate  
16 monopsony. If a hospital has persistently high  
17 vacancies for a nursing position, it can reach out to  
18 a staffing firm, hire a staff nurse from the firm, and  
19 pay a higher salary to that particular nurse than  
20 other nurses who are employed by the hospital.

21           Second, a quarter of American workers are  
22 bound by a noncompete restriction on their current job  
23 or from a previous job. These restrictions, which may  
24 be justified in a limited number of cases to protect  
25 returns to specific training or trade secrets, have

1 truly run amok. Even Jimmy John's used the practice  
2 for submarine sandwich makers until they were forced  
3 to drop it.

4 Just over one in five workers who earn less  
5 than the median wage are bound by a noncompete  
6 restriction on their current or previous job,  
7 according to work that Eric Posner and I have done,  
8 and I'm sure we'll hear more about noncompetes later  
9 from Evan Starr. Noncompete agreements lower --  
10 reduce workers' options and reduce mobility and  
11 bargaining power.

12 Third, a growing fraction of the workforce  
13 is covered by occupational licensing restrictions,  
14 typically imposed by state and local authorities.  
15 Morris Kleiner and I, for example, find that over a  
16 quarter of workers are required to obtain a license to  
17 perform their job. These restrictions may be  
18 justified in positions that require extraordinary  
19 skill or put the public at risk, but they also  
20 restrict job opportunities and mobility.

21 Occupational licensing has also run amok.  
22 It's particularly difficult for workers who want to  
23 change jurisdictions, change states. It is especially  
24 a burden on military spouses. Military families move  
25 around often. The most common jobs for military

1 spouse are nurses and teachers who often have to get  
2 licensed in the new state when they move, pay a  
3 licensing fee, and by the time they are permitted to  
4 work in those states, they often move again.

5 Fourth practice, my colleague, Orley  
6 Ashenfelter, and I have found that 58 percent of  
7 franchise companies have a no-poaching clause in their  
8 franchise contract that prevents one franchisee from  
9 hiring workers from another franchisee or from the  
10 franchise company itself if the company operates  
11 stores. This is up from 36 percent of franchise  
12 companies in 1996. The practice is particularly  
13 common in fast food chains. We found that 80 percent  
14 of the largest quick-service restaurant franchise  
15 chains had a no-poaching requirement.

16 Since the human capital that is being  
17 prohibited from moving around different outlets within  
18 the franchise would stay in the franchise company, it  
19 is awfully hard to see a business justification for  
20 this practice other than trying to suppress mobility  
21 and suppress workers' wages.

22 Washington State took action. The Attorney  
23 General in Washington State launched an investigation  
24 and managed to persuade 30 of the largest franchise  
25 chains to drop their no-poaching agreement in the U.S.



1 -- in Washington State and the U.S. Almost all of the  
2 major fast-food companies with the no-poaching  
3 agreement have dropped -- have dropped that from their  
4 contract, thanks to the work of Bob Ferguson, the  
5 Attorney General in Washington State, over the last  
6 couple of months.

7           Just yesterday he announced that he's  
8 bringing a lawsuit against Jersey Mike's, a franchise  
9 based in my state, New Jersey, which operates in  
10 Washington State and other states for continuing to  
11 use this practice.

12           I should add that in addition to restricting  
13 mobility and increasing monopsony power, these types  
14 of restrictions on mobility like noncompete clauses  
15 and no-poaching agreements, and the no-poaching  
16 agreement was just completely blind to the worker.  
17 Workers are not aware they're not party to these  
18 agreements. They reduce workers' opportunities for  
19 finding better job matches, improving their working  
20 conditions in other ways, and work by Bob Topel and  
21 Michael Ward back in 1992 found that about a third of  
22 the wage gains in the first ten years of young  
23 workers' careers were associated with job changes.

24           So apart from the effect of suppressing  
25 wages at the firm where these workers work, they also

1 reduce opportunities for the workers to move up the  
2 wage hierarchy. Now, no-poaching agreements would  
3 clearly be illegal if they occurred across unrelated  
4 firms. It's an unsettled area of the law as I  
5 understand it, if franchisees agree to these types of  
6 no-poaching agreements. But as I mentioned earlier,  
7 there are violations of the law outside of the  
8 franchise sector as Adam Smith had anticipated. I  
9 could go through many examples, but I think I'm  
10 running short on time, so I'll give you a few more.

11 In the famous case, Apple, Google, Adobe,  
12 Intel, and Intuit, Pixar, Lucas Films were found to  
13 have colluded on not hiring each others' workers,  
14 colluding on pay settings, and paid a half-billion-  
15 dollar settlement in 2015. There have been several  
16 cases in the hospital industry, addressing pay of  
17 nurses. Eight major hospitals in Detroit recently  
18 reached a \$90 million settlement in a suit alleging  
19 that the hospitals colluded to reduce nurses' pay.

20 Similar cases are in various stages in  
21 Albany, Memphis, San Antonio, and Arizona. A couple  
22 of months ago, I spoke with Jeff Suhre, who is a  
23 registered nurse and was the lead plaintiff in the  
24 Detroit nurses case. I wanted to understand from his  
25 perspective how he came to recognize that this was

1 taking place and what impact it had on his career and  
2 his work.

3 He said that he worked at the emergency room  
4 at St. John Providence Hospital in Warren, Michigan.  
5 He was hired in 1991. He later moved to the critical  
6 care unit, and he attended patients who were  
7 recovering from open heart surgery and other serious  
8 conditions. After working there for 12 or 13 years,  
9 Mr. Suhre said he got an inkling that the human  
10 resource department at his hospital was coordinating  
11 with other hospitals and setting nursing pay because  
12 he had an opportunity to see some emails where they  
13 were discussing trying to reduce mobility and  
14 coordinate on pay.

15 He said the hospitals -- the nurses at his  
16 hospital were nonunionized, and the hospitals in the  
17 area wanted to prevent nurses from jumping from one  
18 hospital to the another for better pay and better  
19 working conditions. The executives would often  
20 discuss these issues and exchange pay rates at  
21 conferences. One indication that the hospitals  
22 exploited their monopsony power that he told me about  
23 was that when they had vacancies, which was often, the  
24 hospital would reach out to a staffing firm. The  
25 staffing nurses were paid \$40 an hour, plus the firm

1 got administrative fees, while employee nurses were  
2 paid \$30 an hour.

3 A class action suit was filed on behalf of  
4 Mr. Suhre and thousands of other nurses in 2006. He  
5 gave a deposition in 2007. He said the hospital,  
6 "made my life hell for me after that," increased his  
7 patient load to a level he considered unsafe for the  
8 patients. He quit in 2008. Other hospitals were  
9 reluctant to hire him. He now works in home  
10 healthcare.

11 The antitrust suit was settled in 2010. Mr.  
12 Suhre did not receive any compensation until 2012, six  
13 years after the suit was filed. So I think this gives  
14 an indication of the challenges that workers face in  
15 this situation and the retaliation that they sometimes  
16 can face.

17 It's worth noting that collusion is easier  
18 when there are fewer firms in a market. The increase  
19 in employer concentration in the U.S. has probably  
20 facilitated collusion. And collusion doesn't have to  
21 be explicit. Employers could collude at a focal  
22 point. The minimum wage could be a focal point, for  
23 example. Round numbers could be a focal point. And  
24 there is evidence that this type of passive collusion  
25 occurs as well.

1           Now, a really tight labor market might make  
2     it possible for this collusion to break down. I  
3     suspect that's part of the reason for the historical  
4     Phillips curve to exist in the first place, so we may  
5     see some improvement if the economy continues to  
6     improve and the unemployment rate continues to stay  
7     low.

8           I want to conclude by saying I presented a  
9     similar set of remarks at Jackson Hole this summer at  
10    the Kansas City Fed annual conference on monetary  
11    policy. The reaction I got was quite encouraging. I  
12    think many of the monetary policy officials thought  
13    these issues are important, but probably beyond the  
14    reach of monetary policy. I think there was a  
15    consensus coming out of that meeting that these are  
16    very important issues for the Department of Justice  
17    and for the FTC to focus on.

18           I want to commend the FTC and the DOJ for  
19    issuing joint guidance in October of 2016 for human  
20    resource professionals clearly stating that wage-  
21    fixing and agreements not to poach other firms'  
22    workers are illegal. And I think this is an area that  
23    needs a greater intention and more vigilant  
24    enforcement, because from the evidence that is  
25    available, it seems that Adam Smith was right and

1    there are many instances of employers combining  
2    tacitly, sometimes explicitly, as in those emails that  
3    I read before, to try to suppress pay. Thank you.

4                    (Applause.)

5                    (Welcome and introductory remarks  
6    concluded.)

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1 PANEL 1: ECONOMIC EVIDENCE OF LABOR MARKET MONOPSONY

2 DR. SANDFORD: Thank you, Alan. And thank  
3 you to everyone for coming or watching on the web. My  
4 name is Jeremy Sandford. I'm an economist at the FTC,  
5 and I will be one of the moderators of this panel.  
6 The other will be Devesh Raval, who is also an  
7 economist at the FTC and is seated to my left.

8 We have a very strong panel to discuss the  
9 issue of labor market monopsony. We've already heard  
10 from Alan Krueger. The other panelists are Matthias  
11 Kehrig of Duke University, Ioana Marinescu of the  
12 University of Pennsylvania School of Social Policy and  
13 Practice, Nancy Rose of MIT, and Nancy recently served  
14 as the Deputy Assistant Attorney General for the  
15 Department of Justice, and Bob Topel of the Booth  
16 Business School at Chicago.

17 So Alan's already had a chance to give  
18 remarks. The other four panelists are now going to  
19 each have up to 12 minutes to give opening remarks.  
20 And the order will be first Matthias, then Ioana, then  
21 Nancy, and then Bob. And following that, we'll have a  
22 Q&A session in which Devesh and I ask questions of the  
23 panel.

24 So with that, I will hand it off to  
25 Matthias.

1           MR. KEHRIG: Okay. Thank you very much for  
2 the invitation to discuss here with other academics  
3 and policymakers, economists of the FTC, concentration  
4 and market imperfection in labor markets. I'm a  
5 macroeconomist. I work on productivity and firm  
6 dynamics and how firm -- high-productivity and low-  
7 productivity firms evolve over time, how they hire and  
8 what wages they pay.

9           So in principle, what I'm going to want to  
10 bring to this discussion is little bit the firm side,  
11 how do firms decide, how do they act in labor markets,  
12 how do they respond to market conditions in terms of  
13 their employment, in terms of their wages and so on.  
14 So the first important thing that I want to say is,  
15 when we talk about wages, wages are compensation for  
16 something that the worker produces for the firm, which  
17 is somehow value-added per worker or gross profits per  
18 worker.

19           So this is what I'm going to add to this,  
20 and I basically want to make four points here. The  
21 first point is I want to talk about how concentration  
22 evolved in markets. I'm going to talk about markets,  
23 I want to talk about, first of all, output markets,  
24 goods markets, and, secondly, input markets, labor  
25 markets. It turns out they're actually slightly



1 different, and that's important because when you think  
2 about how firms should typically respond to standard  
3 economic reasoning, they should be related, but they  
4 are not since the 1980s.

5           The second point I want to make is that  
6 overall the labor compensation and labor productivity  
7 per worker, they have diverged since the '80s. So on  
8 principle, you can think of this, this is the fact  
9 that the aggregate labor share in the economy, the  
10 share of GDP that is paid out as wages and  
11 compensation for workers, has gone down. And the  
12 interesting aspect is when you look at individual  
13 firm-level data, for the average firm, this is not the  
14 case. It is really a very small subset, a very few  
15 what we call hyper-profitable or superstar firms that  
16 have tremendous productivity growth and don't share  
17 with the workers.

18           The third point I want to say, it's like  
19 this productivity growth primarily stems from the  
20 output side of firms. So these firms, they make  
21 incredible profits by having high relative prices  
22 compared to their peers in the same product and market  
23 and so on. It is not so much that they pay  
24 particularly lower wages. It still could be going on  
25 that although wage level is suppressed because of

1 various factors that Alan Krueger mentioned --  
2 collusion, unionization and so on -- but when we  
3 single out these individual firms that have this  
4 tremendous productivity growth and no really wage  
5 payment, it is not because they undercut the wages,  
6 it's because they are at relatively high prices.

7           And the last point that I want to make is  
8 that there's remarkable turnover at this high price  
9 end of the market, that the firms are kind of in a  
10 mutual competition of overtaking each other, and that  
11 has become increasingly volatile, and that might be  
12 one reason also why they don't pay higher wages  
13 because on the output sides, they face a lot of demand  
14 pressure.

15           So first point, the concentration dynamics.  
16 So when we look at the concentration in goods markets,  
17 this is from a slide from some work from David Autor  
18 and others. The concentration in the goods market has  
19 been unambiguously going up. If you look at the share  
20 of sales accounted for by the top four or by the top  
21 20 firms, what you see is that has been increasing  
22 secularly. And that's true for many other  
23 concentration measures such as the Herfindahl index  
24 and others.

25           So these are -- this is based on census

1 data, and the census data in principle captures all  
2 the businesses there are. So they capture in  
3 principle all the sales. They also, of course, record  
4 employment, and that's what I want to show to you now,  
5 is when we look at the same idea of concentration  
6 measures in the labor market, the evidence is much  
7 more ambiguous. So there's some recent work by  
8 Claudia Macaluso, Brad Hershbein, and Chen Yeh, and  
9 also David Berger, Kyle Herkenhoff, and Simon Mongey,  
10 that they say actually if you look at the local  
11 concentration of employment in local labor markets  
12 that's been going down.

13 Now there's some other work and evidence on  
14 the concentration of -- among new vacancy posting of  
15 job openings. So that's slightly different. What I'm  
16 showing here is these people have worked on the  
17 concentration of the total employment. And, of  
18 course, when it comes to wage-setting, wages are  
19 typically set at the beginning of when a worker starts  
20 working for a firm, so when they're hired, when the  
21 vacancy is opened, and then there are some interview  
22 postings and then filled. So employed workers don't  
23 get as much wages, unless they're poached, unless  
24 they've alternate offers or they quit.

25 So the first -- the takeaway is that the

1 concentration dynamics don't exactly line up. Of  
2 course, there are many questions that are dicey here,  
3 about measurement, what exactly is a firm, what  
4 exactly is a local labor market? Should we look at  
5 overall employment, should we look at the net addition  
6 of employment. So I want to acknowledge that there  
7 are many measurement issues that we want to -- should  
8 be mindful of, but in principle what we see is output  
9 concentration and labor market concentration do not  
10 move in lockstep.

11 So, so far this is all data on the entire  
12 U.S. economy. Now I'm moving on to my own work based  
13 on micro-level data in the manufacturing sector. The  
14 reason why I'm doing this is because in manufacturing  
15 we have very good data on both input, output, and we  
16 can talk about productivity. We can precisely talk  
17 about what does the worker produce for the firm, what  
18 is value added per worker, and what is the wage of  
19 that worker.

20 So standard economic theory would say, well,  
21 if there is a very good -- quote, unquote -- firm that  
22 gets very large, sells a lot of products, then in  
23 principle that firm should draw resources, should  
24 poach workers from other firms, should grow, and that  
25 grows the economy. That reallocation of work is

1 essential for economic growth. This is standard  
2 thinking.

3           And when we actually ask ourselves if that's  
4 really the case, there has to be something changing in  
5 that relationship. What I'm now showing you is a  
6 simple plot about productivity shocks, a total effect  
7 of productivity shocks and how firms respond to them  
8 in terms of their hiring. So the question is do firms  
9 that have a high productivity that are very  
10 profitable, do they also expand in terms of  
11 employment. That would be the standard way our  
12 economic reasoning works.

13           So from this work here with Cosmin Ilut and  
14 Martin Schneider, what we saw is that on the right  
15 axis, to the right of the zero, you have the high  
16 profitable firms. They expand that hiring. The low  
17 profitability firms, they cut hiring. So that was the  
18 1960s, 1970s, up to the early 1980s. But when you  
19 start rolling this forward into the 1990s, 2000s,  
20 2010s, that relationship changes. In particular, it  
21 changes at the top end.

22           So this relationship becomes asymmetrical  
23 because the high-productivity firms don't hire  
24 anymore. Low-productivity firms still fire. So what  
25 we see is we have some of these -- quote, unquote --

1 superstars, they don't pass on their great  
2 profitability shocks into employment. Well, the  
3 obvious question, then, is do they at least pay high  
4 wages, though, because they are -- they should pay  
5 high wages for two reasons. A, they are very  
6 profitable, they get a high TFP shock. And, secondly,  
7 since they don't hire, the output per worker that  
8 remains is higher now.

9           So in other words, talking about wages is  
10 basically nothing else -- I want to mention that  
11 there's a similar relationship also about investment.  
12 So the question now is, when we think about do these  
13 firms pass on their high profitability into the wages,  
14 it's based on nothing else than the question, what is  
15 the labor share? The labor share, in principle, if  
16 you go to  $Y$ , which denotes here GDP, or output,  $L$  is  
17 workers, the amount of workers, and  $W$  is the wage  
18 rate. When labor productivity is high, if the market  
19 is perfectly competitive, if there are no frictions,  
20 if workers can move around and so on, then the wage  
21 also would go up because workers will compete for what  
22 they produce.

23           However we know that in the aggregate, the  
24 labor share, the aggregate labor share, the total wage  
25 flow,  $WL$  divided by GDP has been going down since the

1 '80s. So that has been documented by a bunch of  
2 papers. The interesting part is that downward trend  
3 in the aggregate labor share is actually driven by a  
4 very small set of firms. About 10 to 15 percent of  
5 the firms in the economy drive down the aggregate  
6 labor share. The other 80 to 85 percent tack on as  
7 always. Their labor share is stable but they remain  
8 smallish.

9 One way to see that is the following graph.  
10 On the left side, we have again like the 1960s. This  
11 is the first year when we have data and the right side  
12 is in 2012. What I plot on the X axis is the labor  
13 share, so how much -- across firms, now. This is  
14 firm-level analysis. So on the axis, you see some  
15 firms that have a labor share of close to zero. That  
16 means they generate a lot of value-added, and only  
17 very small fraction, like 0.2, would say only 20  
18 percent of that value added is paid out as a wage  
19 bill.

20 And you see the thin black line is the  
21 overall distribution, where firms are. You see that  
22 in the '60s, in the 2000s, most firms are actually  
23 middle-of-the-road-type of firms. What is changing is  
24 how big these firms are. These are the gray bars.  
25 The gray bars denote where in the spectrum of labor

1 shares is actually value-added economic activity  
2 taking place.

3           And you see by the end of the sample in 2012  
4 most of the economic activity, most of the output that  
5 is being produced is produced by these incredibly low  
6 labor share firms that have very, very high output,  
7 don't pay high wages, and they account for an  
8 incredible market share. So the question is where  
9 does that come from. Do these guys pay low wages, or  
10 do they just generate a lot of profits?

11           So the way we assess that is we look at the  
12 wage scale of these firms. Principally we go back to  
13 the distribution of labor shares and ask yourself, how  
14 does the wage scale look like across that spectrum of  
15 labor shares, do the low labor share firms, do the low  
16 labor share firms, do they undercut their competitors  
17 in terms of wages because they are very dominant,  
18 because they operate in very concentrated markets, and  
19 they pay low wages, or is it because they're just  
20 compared to the other firms relatively profitable but  
21 they pay the same wages as everybody else?

22           So when we look at the wage scale of that,  
23 this is the left graph here, you see that the wage  
24 scale, which is the light gray line, is basically  
25 almost the same across all the labor share firms. So



1 that means these few superstar firms at the low  
2 spectrum of the labor share that basically don't share  
3 with the workers, don't have a labor share because  
4 they screw all their workers because of wages. The  
5 way they differ is, and this is the darker gray line,  
6 is they're immensely profitable per worker. They  
7 don't share these profits with their worker. If the  
8 labor share was completely the same for all the firms,  
9 then these -- the light gray and the dark gray line  
10 would be on top of each other and they would be all at  
11 one labor share, but this is not the case.

12 What -- the primary difference of these  
13 firms is in their output side, is in the prices. So  
14 they generate these profits predominantly by going --  
15 by charging relatively high prices, not by being,  
16 like, fantastically physically more better; that they  
17 just have faced demand conditions that allow them to  
18 charge relatively high prices and you can see these  
19 differences are pretty soft, as I said. This is a log  
20 point difference here of like .4, .5, so that means  
21 exponent of that, that's something like close to twice  
22 the price for the same -- for the same product in the  
23 same market at a very fine definition, of course,  
24 there are many -- many measurement issues surrounding  
25 this.

1           And these firms generate extremely high  
2 profits which they don't share with workers, but they  
3 are high prices. The reason one can conjecture, which  
4 I want to throw in into the discussion, which is  
5 behind the -- what's happening on the wage side, is  
6 the reason why they might not share with the workers  
7 is these high prices for a given firm, if we follow  
8 them over time, are relatively transient. So if you  
9 look over time, what's going on, these low labor share  
10 firms -- please just look at the right graph, that's a  
11 bit more intuitive -- the firms that have a relatively  
12 low labor share in a given year, if we backtrack them  
13 and forward-track them in time, they have a low labor  
14 share for about, like, five to eight years, and then  
15 that's it.

16           Or because we know this is all driven by  
17 relative prices, they have a relatively good time in  
18 output markets for five to eight years, and then it's  
19 over, then they, quote, unquote, go back to normal.  
20 That might be part of the reason why they don't share  
21 with their workers because it's relatively temporary  
22 and they say, well, I could either expand, I could  
23 hire more workers, but then five years down the road I  
24 have to get rid of them again, and that's not that  
25 trivial.

1           I can also pay them higher wages now because  
2 they're very profitable for me, but in a couple of  
3 years I have to lower the wages again or I have to  
4 kick them out. And so that might be one reason why  
5 they don't share. Over time, these patterns have  
6 become much more pronounced so these relative  
7 differences of having, like, a couple of good years in  
8 the goods market have become, compared to the peers,  
9 relatively strong.

10           So to summarize, there is some more  
11 evidence, which I want -- we'll skip now, but the --  
12 to take away again, first of all, the concentration of  
13 outputs on labor markets are not the same. It's not  
14 exactly lockstep, and the reason is that they are  
15 high-profitability firms that don't respond to good  
16 profit conditions in terms of employment as they used  
17 to. They also don't pay higher -- the wages that  
18 these workers generate for them, and the reason why  
19 they may not do that is because these are relatively  
20 transient things.

21           The firms are engaged in a product market  
22 product competition where they are relatively good for  
23 a couple of years, then they are overtaken by someone  
24 else. We see that eventually they might come back 15  
25 years later, but there is this temporary oligopsony

1 power, which raises questions that we have to think of  
2 and how that translates into the labor market.

3 So these are the basic -- the four main  
4 points I wanted to raise and bring to the discussion.  
5 And on that, I want to hand off to Ioana, who will  
6 discuss more the labor market concentration.

7 (Applause.)

8 : Okay. Thank you, Matthias. We will hear  
9 from Ioana Marinescu.

10 MS. MARINESCU: Good morning, everyone, I am  
11 very happy to be here and talk to you about the  
12 economic evidence for labor market monopsony and what  
13 the role of antitrust is in all of this. And first of  
14 all, just most of you are aware here, but for some  
15 people who might be listening to us on the web, it's  
16 important to remind ourselves the role of context here  
17 for antitrust.

18 There is a legal significance of labor  
19 market concentration because the same  
20 Herfindahl/Hirschman threshold that is being used to  
21 assess, for example, mergers, applies to seller and  
22 buyer power. So one way to frame this is that for the  
23 purposes of antitrust, when we are looking at the  
24 labor market, we are looking at buyer power as one  
25 particular example of buyer power.

1           And so in my work, in my recent work, I have  
2    been calculating HHIs for the labor market. And as  
3    others have pointed out, this raises the interesting  
4    and difficult question of defining a market because  
5    when you want to calculate an HHI you want to know  
6    what the relevant market is.

7           So our working definition of labor market is  
8    a combination of occupation, which would define at the  
9    SOC-6, which is a fairly detailed occupational  
10   classification comprising 820 roughly occupations,  
11   commuting zone, and quarter. So for example, given  
12   that my data is going to be based on job vacancies,  
13   this would be, for example, job vacancies for  
14   registered nurses in Washington, DC in the first  
15   quarter of 2016.

16           And so briefly, why vacancies? Vacancies  
17    are highly relevant for unemployed job seekers, the  
18    point being that even though there might be employment  
19    in many companies, what is of highest relevance to the  
20    unemployed job seekers is what companies have openings  
21    or are recruiting right now, hence the relevance of  
22    vacancies to understand the degree of labor market  
23    competition as faced by unemployed job seekers.

24           So in this first paper that I'm talking  
25    about here, we are using data from Burning Glass

1 Technologies. This is coauthored work with Jose Azar,  
2 Marshall Steinbaum, and Bledi Taska, and this data set  
3 comprises all -- essentially all online vacancies in  
4 the U.S., which itself represents more than 80 percent  
5 of the actual job vacancies in the economy.

6 So using the definition of the labor market  
7 that I outlined before, which again reminds ourselves  
8 that's a commuting zone by quarter, by occupation, we  
9 can, for example, draw a map of the average  
10 concentration by commuting zone. And, you know, if  
11 you just look at every market, defined in this way in  
12 the U.S., you find that 60 percent of U.S. labor  
13 markets are highly concentrated, meaning that they  
14 have an HHI above 2,500 or the equivalent of four  
15 employers recruiting with equal shares.

16 On average, if you take the average, in  
17 fact, there's only about two employers recruiting with  
18 equal shares at any point in time. Now, this  
19 situation differs a lot with geography. So what this  
20 map shows you is that the levels of concentration are  
21 very high in less densely populated areas, mostly in  
22 the middle of the country, and if you look at where we  
23 are here on the East Coast, you see a big green band  
24 of low concentration because that's where some of the  
25 most densely populated areas are, and, therefore, on

1 average, you tend to see a lower concentration even  
2 though even there there is variation and some  
3 occupations can be highly concentrated.

4           So, therefore, because of this difference by  
5 population density, it is also the case that labor  
6 market concentration, even though 60 percent of U.S.  
7 labor markets are highly concentrated, this affects  
8 about 20 percent of workers who work in 60 percent of  
9 highly concentrated markets. Of course, for antitrust  
10 purposes, it is enough to find one market that is  
11 substantially affected, so I think the 60 percent is  
12 relevant but when we are trying to explain things like  
13 the labor share, then we ought to pay attention to how  
14 many workers are affected by this degree of  
15 concentration.

16           So the second headline finding is that  
17 higher concentration is associated with lower wages.  
18 So to look at this, we use a different data set which  
19 is from CareerBuilder.com. This is the largest online  
20 job search engine, together with Monster, captures  
21 about a third of U.S. vacancies. So using this data  
22 set, we find that a 10 percent higher HHI is  
23 associated with a 0.4 percent to 1.5 percent lower  
24 posted wages. So these are the wages that companies  
25 say they're willing to pay in their ads.

1           Furthermore, people have, you know, after we  
2 got this working paper out, it became, you know, a  
3 whole team of other people reached out and did similar  
4 research, and two independent studies with different  
5 data and different market definitions confirm a  
6 negative association between wages and concentration.  
7 One paper by Benmelech and another one by Rinz which  
8 just came out very recently, only a week ago or so.

9           So this is the broad picture of what's been  
10 found so far regarding the level of concentration and  
11 the association of concentration with wages. I want  
12 to raise some issues and talk to you about how I think  
13 we're at in terms of addressing those issues. The  
14 first one is, and that's a classic, how sure can we be  
15 that concentration decreases wages? Is it really that  
16 it's concentration, per se, that it is causing lower  
17 wages, or are there some other factors that the  
18 analysis hasn't accounted for that might lead to lower  
19 wages, even though concentration itself is not  
20 responsible for that?

21           And, you know, first of all, it's important  
22 to note that HHI is only a proxy for labor market  
23 power. Alan Krueger, you know, helped us see the  
24 bigger picture, and HHI can be correlated with other  
25 factors, potentially unrelated to market power, that



1 also lower wages.

2           So what can we do to, you know, assuage our  
3 concerns that these other factors might be driving the  
4 relationship? So the negative coefficient of HHI on  
5 wages is robust to a number of controls. So first of  
6 all, one concern is that maybe labor market  
7 concentration is high simply when there are few  
8 vacancies, so when the labor market is down, there's  
9 fewer vacancies, and that mechanically could lead to  
10 higher concentration.

11           So in our paper, we actually are able to  
12 control for the state of the labor market. With a  
13 time-varying measure, we control for labor market  
14 tightness, so the total number of vacancies in the  
15 market divided by the total number of applications.  
16 And this is a very, you know, good summary statistic  
17 for the state of the labor market as we learn from  
18 search and matching theory.

19           The second thing we do is we instrument  
20 labor market concentration essentially by the number  
21 of firms in other markets, and this other paper by  
22 Rinz also does that. The results survived there. In  
23 fact, the coefficient gets bigger. And, finally, you  
24 might also be concerned that as the correlation  
25 between concentration and firm productivity, so in

1 this other paper by Benmelech, they also controlled  
2 for firm productivity using firm data and they still  
3 find a negative association between HHI and wages.

4 So, overall, I would summarize this as  
5 saying that these are not perfect experiments. It is  
6 very hard to, you know, find a crystal-clear case of  
7 HHI being quasi-experimentally assigned, but the  
8 evidence is pretty consistent and robust to a number  
9 of concerns.

10 The second issue now I am moving on to the  
11 issue of market definition. So obviously this is a  
12 tough problem that we need to -- a tough nut we need  
13 to crack, what exactly is a labor market? How are we  
14 going to define it? So first, just note that even  
15 though the three studies I mentioned in the prior  
16 slide use different market definitions, some use like  
17 my own occupations, others use industries, some use  
18 counties, some use commuting zone, you find a  
19 consistent negative association between wages and HHI.

20 So the exact market definition doesn't  
21 really matter in terms of the general pattern of  
22 finding a negative association between wages and HHI.  
23 Of course, the definition will matter for the level of  
24 HHI. So if you're going to use HHI thresholds, now it  
25 really matters how you define your market because the

1 level of HHI could be very different. So to do that,  
2 and the reason why we chose our definition, is we used  
3 a labor market version of the SSNIP test. So the  
4 intention for this is that if the elasticity of labor  
5 supply is below some critical elasticity, the market  
6 is well defined, and otherwise it's too broad.

7           And really the intuition for this is to say  
8 that if labor supply elasticity is really low, then  
9 firms are able to suppress wages without losing many  
10 employees, and thereby it can be profitable to do so,  
11 whereas if labor elasticity is very high, it is not  
12 profitable to suppress wages because you would lose  
13 too many employees. And, so we do have very good  
14 evidence, actually, on the labor supply elasticity to  
15 the individual firm.

16           It's typically below two, and a very recent  
17 experiment in online environments, where you would  
18 think that there are essentially zero frictions, it's  
19 super easy to find another job. Even there, the  
20 elasticity is only 0.1 for an online job, right? So  
21 there are no moving costs. In principle, you can look  
22 for a job, and even there, there is very little  
23 reaction of workers to differences in wages.

24           So basically, low labor supply elasticity is  
25 strong evidence for imperfect competition or monopsony

1 as Alan Krueger pointed out in his introductory  
2 remarks. And so if we have such a low labor supply  
3 elasticity to the individual firm, this suggests that  
4 even the individual firm in some cases can be  
5 considered a market in itself. It already has enough  
6 market power by itself to be a market. So, therefore,  
7 an SOC-6 by commuting zone by quarter is likely to be  
8 too conservative from that perspective.

9 And so, finally, the last point is how does  
10 that apply to merger analysis in particular? So the  
11 FTC already has a policy to analyze mergers based,  
12 among other things, on product market concentration,  
13 so HHI in the product market. So the question is, do  
14 we even need to worry about the labor market? Maybe  
15 these are perfectly correlated, and so if we worry  
16 about the product market, the labor market will take  
17 care of itself.

18 But the point is, a separate labor market  
19 analysis, we think, is needed because a firm, for  
20 example, that sells in the national market can have  
21 little product market power but a lot of labor market  
22 power in local areas right where it hires most  
23 workers. So in the meantime, I've done some quick  
24 calculations to get you some examples.

25 So I have looked at manufacturing industries

1 with more than a \$100 million in sales annually, so  
2 very big industries. And so an example is on the one  
3 end you have the car industry. There, it's relatively  
4 highly concentrated in the product market at the  
5 national level, but relative toward the industries,  
6 it's pretty low concentrated for workers.

7 On the other end of the spectrum, another  
8 example is iron and steel. Iron and steel has very  
9 low concentration as per HHI sales at a national  
10 level, but extremely high concentration compared to  
11 other industries in terms of the labor market  
12 situations that workers are facing in those different  
13 markets where I define markets as before by  
14 occupation, CZ, quarter, et cetera.

15 So I am running out of time, so just to tell  
16 you that in my paper with Herb Hovenkamp, we discuss  
17 how labor market affects can be incorporated in the  
18 merger review using the HHI thresholds, and we also  
19 discuss the significance of anti-poaching and  
20 noncompetition agreements that Alan talked about.

21 So just last point about anti-poaching,  
22 anti-poaching agreements are very interesting because  
23 the existence of an anti-poaching agreement  
24 establishes that, one, firms are competing in the same  
25 labor market, otherwise what's the point of agreeing

1 not to poach? And, two, that collusion is profitable,  
2 because, you know, if it weren't then, again, what's  
3 the point to poach since other firms in the market,  
4 you know, would take workers away from us anyway. So  
5 that can be a good way of going at it if we don't know  
6 what the market is, but we have evidence that there is  
7 an anti-poaching agreement. That's a good argument to  
8 use in that context.

9 So in conclusion, we found that the majority  
10 of U.S. labor markets according to our favorite  
11 definition of highly concentrated, although as others  
12 have said I think more work is needed in refining the  
13 definition of a labor market, we and others have found  
14 that labor market concentration is associated with  
15 lower wages, and antitrust enforcement can use this  
16 evidence and readily take into account these  
17 anticompetitive effects on the labor market by  
18 adapting existing tools that have been used for a long  
19 time for the product market. Thank you.

20 (Applause.)

21 DR. SANDFORD: Thank you, Ioana. And let me  
22 take this opportunity to remind people in the room you  
23 will have a chance to ask questions of the panelists  
24 if you wish to do so. We will have FTC staffers  
25 walking around with comment cards, so just flag one of

1    them down and write your question on it. We'll get it  
2    passed up to Devesh and I, and we'll see if we can ask  
3    it.

4                    Okay, with that, we'll now hear from Nancy  
5    Rose.

6                    MS. ROSE: I want to thank you for the  
7    invitation to participate in these hearings, and I am  
8    delighted that the FTC is focusing attention on  
9    upstream harm, whether that is from buy-side mergers  
10   or anticompetitive actions of buyers, something that I  
11   worked on during my service in the DOJ Antitrust  
12   Division. I am proud to have been involved in the  
13   challenge to the Anthem-Cigna merger, in which DOJ  
14   included an allegation of upstream harm to healthcare  
15   providers, resulting from the elimination of  
16   competition between Anthem and Cigna as buyers of  
17   healthcare services.

18                   I met with others across the administration  
19   to discuss labor market competition and its crucial  
20   role in the welfare of workers and economic growth.  
21   And I was privileged to work with both economists and  
22   lawyers at the DOJ Antitrust Division and the FTC in  
23   drafting and issuing the October 2016 antitrust  
24   guidance for human resource professionals that Alan  
25   alluded to earlier, which emphasized not just the

1    illegality of wage-fixing.  There had been already  
2    government enforcement actions in that space prior to  
3    this against colluders, but more significantly  
4    announced DOJ's intent to pursue criminal action  
5    against naked wage price -- wage-fixing or no-poach  
6    agreements.

7                   Those experiences motivated my contribution  
8    to the analysis that Scott Hemphill and I developed on  
9    mergers that harmed sellers, which Scott testified so  
10   eloquently on during the hearing on monopsony and  
11   buyer power last month.  And I thought that was an  
12   extraordinarily interesting session, and I look  
13   forward to the rest of today's discussion, which  
14   focuses on one particular group of buyers, mainly  
15   workers -- I'm sorry, one particular group of sellers,  
16   namely workers.

17                   I know my time management skills could use  
18   some improvement, so I'm going to start with my  
19   bottom-line conclusions so that I get those, get to  
20   those by the end.  And those are two.  First, I would  
21   sound a cautionary note on the conclusions that we can  
22   draw at this point from the wealth of aggregate  
23   studies of labor market outcomes.  I think it's  
24   terrific that empirical economists are focusing their  
25   attention on these issues, both energizing and



1 informing the policy debate, but despite a wave of  
2 academic research that shows aggregate declines in  
3 labor share across the economy, growing wage  
4 productivity gaps, and correlations between low wages  
5 and measures of employer concentration either for a  
6 given occupation code or within a given industry, I  
7 think we're still a ways from being able to establish  
8 a credible causal connection between low wages and  
9 employer concentration, let alone a causal connection  
10 between low wages and anticompetitive mergers.

11 Remember that the antitrust laws do not  
12 reach the concentration, per se. They reached a  
13 concentration that is accomplished either by an  
14 anticompetitive merger or by anticompetitive what are  
15 sometimes called monopolization or in this case  
16 monopsonization practices. So at least for most  
17 workers in most settings, we're still a ways from  
18 understanding what the cause of the correlation might  
19 be, and I would just urge us to recognize that without  
20 a cause we have a lot of trouble discerning the  
21 appropriate solution.

22 Second, so not to end on a totally bleak  
23 note, I'm encouraged by a recent empirical study by  
24 Elena Prager and Matt Schmidt on hospital mergers that  
25 suggest that there may be at least modest adverse wage

1 effects for specialized occupations -- think nurses,  
2 for example -- and skilled workers within that sector  
3 who are affected by a merger that substantially  
4 increases concentration.

5 I don't think we can yet be certain that the  
6 impact they uncover occurs from a reduction in labor  
7 market competition as opposed to a reduction in labor  
8 demand -- I'll say more about that in just a moment --  
9 that reduction in labor demand could result from  
10 output restrictions due to greater market power by the  
11 hospitals, pulling back their output and therefore  
12 marching down a labor supply curve. Or it could be --  
13 arise from more efficient operations post-merger,  
14 again, marching backward on the labor supply curve.

15 Those have very different implications for  
16 policy and antitrust enforcement, but I think that  
17 this study is a compelling call not only for further  
18 academic research in this spirit, what I might call  
19 hand-to-hand combat as opposed to aerial strafing over  
20 this landscape, but also for greater consideration in  
21 select merger investigations where there may be  
22 significant specialized occupations that are dependent  
23 upon labor market competition between the merging  
24 firms.

25 So why the caution in interpreting the

1 empirical labor economics evidence? The first thing I  
2 would highlight is that monopsony may not be what you  
3 think it is, particularly if you are coming to this  
4 from a non-labor-economics background. I learned this  
5 lesson the hard way, through talking past a group of  
6 labor economists when they talked about monopsony and  
7 I said no, no, no, that's not monopsony.

8 As Alan highlighted and I think quite  
9 eloquently explained in his remarks, monopsony, as  
10 frequently used in labor economics, is not necessarily  
11 the mirror image of monopoly or oligopoly. Monopsony  
12 may be used for many deviations from a perfectly  
13 competitive outcome in labor market, not just those  
14 that arise from having too few employers competing for  
15 workers. That's quite different than the way  
16 industrial organization economists and antitrust  
17 enforcers tend to use the word "monopoly."

18 While monopsony could be a failure of  
19 competition due to too few employers, it could also  
20 reflect or instead reflect a wide range of frictions,  
21 including information failures, search costs,  
22 transaction costs, unwillingness to relocate,  
23 idiosyncratic match quality, and so forth. And even  
24 when monopsony may be due to too few employers bidding  
25 for a set of potential workers, that situation may not

1 arise from any anticompetitive action by employers,  
2 either mergers, which are actionable under the Clayton  
3 Section 7; collusion, which is actionable under  
4 Sherman Section 1; or attempted monopsony behavior  
5 actionable under Sherman Section 2.

6           What that means is that antitrust  
7 enforcement is going to be neither an effective nor an  
8 appropriate tool to address most of those frictions.  
9 Moreover, some of those work against the existence of  
10 and certainly against the argument of monopsony power  
11 in what I'll call the classic IO sense of monopsony,  
12 too few employers, because if wages are customized to  
13 individuals, for example, then there is no effect of a  
14 merger. If each firm is a monopsonist to the workers  
15 it employs, mergers don't have any further  
16 anticompetitive effect. So I think we really need to  
17 think very carefully about how these different pieces  
18 fit together.

19           But as I said, one of my big concerns is  
20 that we don't even know from the empirical evidence  
21 yet whether the correlations between wages and  
22 measures of employer concentration, what the  
23 implications of those are or whether they are causally  
24 related to competition. And to explain that, I  
25 thought it might be useful to take a look at a graph

1 of supply and demand in a labor market, so if you  
2 could just -- I don't have the clicker -- just flip to  
3 the next one, that would be great.

4 All right, so this is a little bit messy,  
5 apologies to those of you who aren't economists or  
6 even to those of you who are. But suppose we have  
7 upward-sloping labor supply curve. That's the red  
8 curve that slopes upward, and that seems plausible.  
9 In most cases, we would think that higher wages are  
10 going to elicit more workers willing to work. With  
11 high labor demand, that's, for example, the downward-  
12 sloping blue curve on this graph, wages are higher  
13 than they will be with low labor demand, the red  
14 downward-sloping curve on this graph.

15 That's true whether markets are competitive  
16 and wages are just determined by the employment level  
17 where labor supply intersects with labor demand, the  
18 label "competitive" shows low labor demand in  
19 intersecting with the labor supply curve, but it's  
20 also true if employers are behaving monopsonistically,  
21 which I'm representing by the blue upward-sloping  
22 curve.

23 So in either case, higher labor demand is  
24 going to be associated with higher wages, lower labor  
25 demand with lower wages. Now, why does that matter?

1 It matters because we can't just tell, I think, from a  
2 correlation between the number of employers or an HHI  
3 of employers and the wage rate what's going on.  
4 Suppose that we are in a market where a new employer  
5 moves into the area, shifting out labor demand, so  
6 moving from low to high. Wages go up and measured  
7 concentration goes down. That's the concentration is  
8 coincidental with the wage change. What's changing  
9 the wages is an increase in labor demand. Or suppose  
10 a firm shuts down a factory. Labor demand and wages  
11 will both fall, as will employment; employer  
12 concentration will rise.

13 We can't tell from these sets of facts or  
14 these correlations whether each employer is moving  
15 along that red labor supply curve or they are moving  
16 along a monopsonistic labor -- what I call marginal  
17 labor cost monopsony curve. And I think that problem,  
18 that identification problem, which is very similar to  
19 what Steve Berry talked about in the first session  
20 with respect to concentration studies in general, I  
21 think that that's a fundamental problem. It's not  
22 solved by instrumenting for HHI, with the inverse of  
23 the number of firms.

24 In the example I just gave you, it's a  
25 change in the number of firms that's changing wages

1 and changing labor demand and changing concentration.  
2 It's not going to be solved by controlling for  
3 tightness of the labor market, because if you are on  
4 the labor supply curve, you don't have excess supply  
5 of labor. You have as many people willing to work at  
6 the going wage as is consistent with equilibrium. You  
7 just don't know how you got to that equilibrium,  
8 competition or monopsony. And it's probably not going  
9 to be solved for by a control for firm productivity.

10 I don't want to be too harsh. IO economists  
11 ran regressions like this for years, maybe decades,  
12 making the same type of inferences from the results.  
13 And it wasn't until the late 1970s and early '80s that  
14 we began to recognize there was a fundamental  
15 identification problem confronting these types of  
16 analyses and have adapted now to different methods to  
17 try and understand market power. But I think that's  
18 important to recognize.

19 However, as I told you in my second  
20 conclusion, I don't think this means that we should  
21 just sit back and say we don't need to worry about  
22 labor markets, far from it. The Prager and Schmidt  
23 paper on hospital mergers exemplifies, I think, a  
24 fruitful direction for scholars that are interested in  
25 exploring the evidentiary foundation for employment-

1 based upstream challenges, and it suggests that  
2 mergers that substantially increase concentration may  
3 have wage effects, on the order of one to one and a  
4 half percent lower wage growth per year for some  
5 classes of workers.

6 And I think that this study might also point  
7 at a kind of bridge to antitrust enforcement, which  
8 is, they show those effects are -- appear for workers  
9 in specialized occupations, so in the case of these  
10 hospitals, think of nurses or physician's assistants  
11 or radiologists, others that are specialized to  
12 hospital settings, as well as skilled workers, and  
13 they appear only for the most significantly  
14 concentrating mergers, changes in the HHI of 3,000 or  
15 more.

16 Now, I think that suggests that we probably  
17 haven't missed anything in the hospital setting  
18 because a delta HHI of 3,000 is going to get the FTC's  
19 attention on the product market side. And we don't  
20 need to allege labor market harm if we're blocking a  
21 merger because of product market harm, which courts  
22 are much more familiar with. I suspect the reason  
23 they've got observations in their study is most of  
24 those seem to be very small communities during the  
25 period when the FTC was having trouble getting courts



1 to agree with its challenges to hospital mergers,  
2 which, thankfully, seems to be largely behind us at  
3 this point.

4 But I guess I would just close by saying  
5 it's important for us to identify where we might want  
6 to add labor market analyses, so where there might be  
7 -- where both firms in a merger are significant  
8 employers of the same type of specialized labor, but  
9 whose products may not be sell-side substitutes, as  
10 Ioana mentioned in her remarks, or where those  
11 products may not overlap enough to hit the horizontal  
12 merger concentration threshold on the product side.

13 These could be even potential competition or  
14 what we sometimes called complementary product  
15 mergers, where you might think what the firms are  
16 doing is similar enough that the employment pools  
17 might be similar, but there wouldn't typically be an  
18 immediate trigger on the product side. The reason I  
19 think this is important is that agency enforcement  
20 resources, as those at the FTC and the DOJ know well,  
21 are quite limited, and if we tell agencies to add  
22 extensive labor market analysis to most merger  
23 investigations, we should recognize that we are  
24 telling them to investigate and challenge fewer  
25 mergers overall. In my mind, that tradeoff is not an

1 obvious improvement for workers, for consumers, or for  
2 our overall society.

3 So the question is, how to target resources  
4 most effectively so we are not missing anticompetitive  
5 upstream harm mergers but without adding an entire  
6 layer of complexity and additional analysis to all the  
7 investigations that we decide to pursue or that  
8 agencies decide to pursue.

9 DR. SANDFORD: Thank you, Nancy.  
10 (Applause.)

11 DR. SANDFORD: Finally we will hear from Bob  
12 Topel.

13 MR. TOPEL: Thanks for inviting me. You  
14 know, I got to listen to everyone's comments, and I  
15 can cross out a lot of things. I agree with Nancy, so  
16 there's my overall comment. Alan and I have been  
17 going to conferences like this for 35 years or so, and  
18 Alan has a tendency to, whenever he sees a market  
19 outcome, he can think of a way to fix it. And I guess  
20 I've had a reputation for thinking that market  
21 outcomes are sort of intrinsically less fixable.

22 Now, part of the reason I am probably here  
23 is that I have some experience with some of the cases  
24 that have been referred to. I worked on a little bit  
25 the high-tech case and without really revealing too

1 much about it, as Alan pointed out, the CEO of one  
2 high-tech company called up and said let's not poach  
3 the engineers of -- from each other.

4 Now, when you're teaching classes, you tell  
5 your students, don't make that phone call. Just don't  
6 do that, because even if you think it has some  
7 procompetitive justification under Section 1, you're  
8 likely to be in big trouble. The real question then  
9 came down to -- in that kind of matter comes down to,  
10 well, how much of an impact did that -- is that likely  
11 to have in practice?

12 And it turns out instead of, you know, if  
13 you're trying to define market in which people  
14 competed, the diversion ratio, if you will, for FTC  
15 and DOJ types of where people came from and where they  
16 went, if they left these firms, was extremely diverse,  
17 that people came from everywhere, there wasn't that  
18 much -- before the challenge acts -- wasn't all that  
19 much mobility between these employers. They were  
20 coming from everywhere.

21 So it would appear that the consequences of  
22 that action were pretty doggone small. But having  
23 said that, you want to tell them, don't do that  
24 because you're going to end up with a settlement of  
25 the size that Alan referred to.

1           So are there antitrust issues in labor  
2 markets? Well, of course, and you would think that  
3 they would be -- they would be actionable under the  
4 usual -- under the usual criteria of collusion or  
5 unilateral conduct. I'll come back to those kinds of  
6 things in a minute.

7           And so, yes to that question, and then the  
8 second question you might ask is, does rising  
9 monopsony power explain the evolution of relative  
10 wages and the relative lack of success, in particular,  
11 of less skilled individuals. I think the answer to  
12 that is likely to be no. So I am going to differ with  
13 Alan on that quite a bit.

14           So in my view, the evidence for substantive  
15 monopsony power that may be of antitrust concern is  
16 pretty thin, both as an empirical matter and for --  
17 and for the reasons that Nancy stated. Though I am  
18 pretty skeptical of Ioana's evidence, and I'm going to  
19 come back to that in a minute, suppose for the sake of  
20 argument that she's right, that in all of those red  
21 places on the map, they're kind of red politically and  
22 they're red in her map because they're highly  
23 concentrated. In these narrow occupations, employers  
24 possess some monopsony power. Then you have to -- the  
25 operative question is, well, what do you want to do

1 about that? How should the FTC or the DOJ concentrate  
2 -- or use their resources in these cases?

3           And it's true that you might want to be  
4 alert to the possibility of anticompetitive conduct in  
5 there, but as Nancy pointed out, merely the possession  
6 of some market power, which would here be a small  
7 elasticity of labor supply to an individual employer  
8 or group of employers, is not actionable in and of  
9 itself. The possession of market power is not an  
10 antitrust violation. There has to be some  
11 anticompetitive conduct that goes along with it.

12           So you treat it much the way you would treat  
13 any other case that -- it's just kind of Stigler's  
14 theory of oligopoly applied to labor markets. There  
15 are some plus factors, and if you've got scarce  
16 resources, you might want to devote them to places  
17 where you think anticompetitive conduct might arise.

18           Now, Alan might argue that the putative  
19 existence of monopsony power in those red places is a  
20 reason for offsetting monopoly power in the form of  
21 unions, and I don't think that's really -- it's  
22 certainly not an antitrust concern. And the other  
23 thing to note, though, is that unions have typically  
24 been less powerful in exactly those places. And so,  
25 and if it was a no monopsony -- and those patterns

1 have existed forever -- if it was really a monopsony,  
2 you would expect that those would be the places where  
3 unions would be most successful.

4 Now, Alan makes much of the existence of  
5 franchise agreements and restrictions within franchise  
6 agreements, and I got to read your paper yesterday so  
7 I can -- I am going to comment a little bit on that,  
8 and some of your comments sort of indicated that,  
9 well, I can't think of a really procompetitive reason  
10 for doing this. Now, if I had -- if I started Bob's  
11 Excellent Hamburgers and I had two franchises, I would  
12 probably tell my franchises, I don't want you  
13 recruiting from each other. You know, you're  
14 competing in the labor market.

15 Well, why do I want to do that? Because  
16 brand name matters a lot, and I am going to have all  
17 kinds of vertical restrictions on what people can do  
18 and how they can fix the hamburgers and how the store  
19 is going to look. And one of the things I want my  
20 employers to do is go out and find people, and going  
21 out and finding people is hard, especially in a  
22 business like that.

23 I used to work in a grocery store, and one  
24 of the things I learned is that 90 percent -- this  
25 applies to a lot of things, 90 percent of success is

1 just showing up. And you want to find the people that  
2 are just going to show up. That's an investment in  
3 individuals. And if I -- if I allow my people to raid  
4 each other, my franchisees to raid each other, there's  
5 going to be a lot less incentive to invest in that  
6 form of human capital. It's not the type of specific  
7 human capital we usually think about, but it's really  
8 important. Does it have much anticompetitive impact?  
9 No.

10 And I read Alan's evidence that a lot of  
11 franchises do this as more evidence that this has got  
12 to have a good procompetitive reason. Small firms do  
13 it, small franchises do it, large franchises do it.  
14 Now, can it have some anticompetitive impact? If you  
15 can prove that McDonald's is a valid labor market for  
16 antitrust purposes, then it might, so you've got to  
17 weigh, as always, the anticompetitive effects against  
18 the procompetitive effects when you're talking about  
19 unilateral conduct.

20 Now, let me come to a little -- just discuss  
21 briefly some of Ioana's evidence that -- sorry, Ioana,  
22 I'm not buying. And let me find my notes here. So if  
23 you'll recall her map, we don't need to put it back  
24 up, we had red states and green states. And one of  
25 the examples I used to give back when we were talking

1 about efficiency wages and people saying, well, you  
2 know, some firms pay much more than others, is if you  
3 think about -- think about the market for economists.  
4 And there's -- out in Lincoln, Nebraska, which would  
5 be a commuting zone, there's basically one place where  
6 a professional economist can work, and the Herfindahl  
7 is going to be really doggone high, and if you go off  
8 to Boston, it's going to be really low.

9 Well, the average productivity of the  
10 economist in Boston is substantially higher than the  
11 ones in Lincoln, Nebraska. And so you're going to  
12 expect wages to differ in that regard. So my point is  
13 that a lot of the differences that you see simply have  
14 to do with the composition, even within the skill  
15 composition even within these groups.

16 Now, in reality, that picture doesn't have  
17 any impact on Ioana's real evidence. She has that  
18 picture that shows that those markets are more  
19 concentrated, the red ones out in the Midwest. Or out  
20 on the plains. They're more concentrated. And the  
21 ones in Chicago and Boston, in and around San  
22 Francisco, you kind of expect that.

23 And then she's got a graph showing that  
24 wages go down as concentration goes up, using that  
25 cross-sectional evidence, but the evidence you really



1 use is within, changes within. And it is worthwhile  
2 keeping in mind that she's got data from 2010 to 2013,  
3 which is a very short period of time, and she runs her  
4 regression because it's got fixed effects.

5           You're only using the within -- the within  
6 commuting zone variation, and what she finds is that  
7 for OLS, changes in that concentration have a small  
8 impact on wages, about 3 percent. And as Nancy  
9 pointed out, a lot of that can come from the fact that  
10 when another firm enters you've got greater labor  
11 demand and wages may rise, especially because this is  
12 a short run elasticity.

13           And then she -- now, oh, and by the way, how  
14 big is that 3 percent? Well, the mean HHI in her data  
15 is about 3,300 or 3,200, something like that, and a  
16 change in the log of one is going to be 2.7 times  
17 that, it takes you up to almost pure monopsony. So  
18 that would be a huge change, and it gives you 3  
19 percent. If that were the impact, it would not be  
20 worth the attention of the antitrust authorities to go  
21 chasing that.

22           On the other hand, she has an instrumental  
23 variables regression where the impact of a unit change  
24 in the log of the HHI is on the order of 11 to 14  
25 percent. Now we're talking about something that might

1 matter. On the other hand, what is that instrumental  
2 variable picking up? It's the instrumental variable  
3 is itself the change in the number of firms and a lot  
4 of other places, and so the regression that she runs  
5 is how much of the within this place -- within this  
6 area change in the HHI is explainable by changes in  
7 the number of firms being created in other places,  
8 which is to say you're picking up aggregate demand  
9 effects, and those are much likely to be much larger.

10 So the argument that these findings are due  
11 to monopsony power strikes me as pretty doggone weak.  
12 So I am going to leave my comments there. And I look  
13 forward to our discussion.

14 DR. SANDFORD: Thank you, Bob.

15 (Applause.)

16 DR. SANDFORD: Okay. We'll now move on to  
17 the Q&A portion of our panel, and once again, let me  
18 remind those of you in the room that there will be FTC  
19 staffers walking up and down the aisles to collect any  
20 questions we may have from the audience.

21 Okay, I'd like the first question to go to  
22 Ioana. Ioana, Nancy, and Bob both expressed some  
23 skepticism of the current state of research, including  
24 your own papers, of course. Nancy sounded a  
25 cautionary note that we may not be there yet in terms

1 of having a causal connection between concentration  
2 and wage, suggested that concentration is not  
3 necessarily of direct relevance to antitrust, given  
4 what we have control over and what we don't.

5 Bob suggested a variation between Lincoln,  
6 Nebraska and Boston, Massachusetts might be explaining  
7 some of the results that you find. Would you like to  
8 respond to any of this?

9 MS. MARINESCU: Yes, I'd love to. Thanks so  
10 much for your thoughtful comments, both of you. So  
11 let me start with Bob's points. As Bob accurately  
12 pointed out, our regression does not rely on comparing  
13 Nebraska with Boston or, you know, Chicago, but relies  
14 on changes over time in the HHI within a given market,  
15 namely, an occupation by commuting zone. So that's  
16 the variation.

17 Now, it's true that this could still be  
18 driven by labor demand as both Nancy and Bob have  
19 pointed out, and what we do is control for labor  
20 market tightness, and that, I understand Nancy's  
21 point. I think in the end what you should control for  
22 and how to interpret it depends on your specific  
23 model, so, for example, under perfect, you know,  
24 competition, workers indeed will also be less likely  
25 to apply if wages are lower, but we've seen that the

1 elasticity of labor supply is very low. So if that's  
2 the case, you know, tightness would not react much on  
3 the worker side. It might react on the firm side.

4 But this is something that in any case needs  
5 more investigation, and that's why I have started --  
6 you know, Steve Berry, in the same hearings, made a  
7 similar comment, and we reached out to him and  
8 actually we are starting a paper together, you know,  
9 trying to do better on that front by using some of the  
10 tools that IO has developed in the meantime to address  
11 precisely some of these issues. So stay tuned.  
12 Hopefully we can do better there.

13 Now, there is another evidence that -- there  
14 is another point that Bob made, which is regarding the  
15 IV, so it is true that it could be correlated with,  
16 again, labor demand at the national level. One thing  
17 we do is that we, in our OLS, we can control for  
18 occupation by time fixed effect, thereby absorbing  
19 some of the national changes in labor demand for each  
20 occupation.

21 And that doesn't affect at all the effect of  
22 our concentration in the OLS, so it's just one  
23 particular way of controlling for time-varying changes  
24 in demand in the occupation level. So this is  
25 reassuring, but granted, you know, it's the usual

1 discussion of omitted variable bias. You know, it's a  
2 little bit hard to be foolproof there.

3 MR. TOPEL: Ioana, let me just clarify  
4 something about that.

5 MS. MARINESCU: Yeah.

6 MR. TOPEL: In the IO estimates, you're  
7 using the portion of the within region or within  
8 commuting zone variation that's predictable by the  
9 national changes. So that says that this part is  
10 predictable by what's happening everywhere else. So  
11 you'd expect -- what you'd expect to find is that the  
12 idiosyncratic parts that allow people to move across  
13 areas is going to have a small impact on wages because  
14 people are mobile. On the other hand, if everybody is  
15 moving together, you'd expect a larger wage impact,  
16 and that's exactly what you get.

17 MS. MARINESCU: Right. And so in the new  
18 version of the paper, we do a bounding exercise, which  
19 I am not going to bore you with, but, you know, if the  
20 variable instrument is partially endogenous, there is  
21 a way to give bounds, and, you know, we find that even  
22 if it's quite endogenous we still find the negative  
23 effect. Of course, the magnitudes change.

24 Now, what we can bring to the analysis is  
25 rely on the new analysis by Prager and Schmidt, which

1 I think is fascinating on the mergers in the  
2 healthcare industry. And there, the nice thing about  
3 their work is that, well, you know, as Nancy pointed  
4 out, we are using these HHIs everywhere, which is kind  
5 of nice in a way because we're capturing everything.  
6 But the big downside is that we don't really -- we  
7 can't really account for what's truly going on.

8 Why is HHI changing in a given market? Who  
9 knows, right? So that's a problem, and in the study  
10 of healthcare mergers, like the one by Prager and  
11 Schmidt, at least we can have a better handle on  
12 what's really going on, what's causing these changes  
13 in HHI.

14 And I think their study is quite nice  
15 because it's able to do a good job, I think, of  
16 accounting for some of these demand effects. For  
17 example, they look at whether there are pre-trends in  
18 wages before the merger happens, which might happen if  
19 there was a demand shock that occurred prior to the  
20 merger, and they don't find any evidence of that.

21 They also looked at the effects on wages of  
22 out-of-market mergers, so mergers between companies  
23 that don't, you know, happen to overlap in markets.  
24 Those mergers don't have an effect on wages. Or the  
25 effect of mergers that were blocked, also no effect on

1 wages. So I think this is somewhat reassuring that it  
2 is not some, you know, labor demand shock that is  
3 driving the effects that they are talking about. So I  
4 think that is about it. Thank you.

5 MR. RAVAL: So this is to Alan and Bob.  
6 So imagine you have a policymaker that's concerned  
7 about either the falling labor share or the stagnating  
8 wage. How would you rank the different policy tools  
9 that might affect these, and where would antitrust  
10 enforcement, either on conduct or mergers, rank in the  
11 list?

12 MS. MARINESCU: Bob. Do you want to go  
13 first?

14 MR. TOPEL: The question was for Alan and  
15 me?

16 MR. RAVAL: Yeah, but --

17 MR. TOPEL: And the question was what  
18 policies would affect labor share?

19 MR. KRUEGER: And wages.

20 MR. TOPEL: And wages? First of all, I'm  
21 not convinced that labor share is the thing we ought  
22 to be looking at. I mean, there's often been a lot of  
23 confusion about the decline in labor share and the  
24 changing welfare of workers. If, for example, the  
25 price of capital declines, that there is some evidence

1 for or at least prices of certain types of capital  
2 declines, or if there is capital bias technological  
3 change which is equivalent, and if the elasticity of  
4 substitution is a little bit above one, you get a --  
5 you'll get a decline in labor share of national  
6 income, but there is more capital, and all -- and the  
7 workers get more capital to work with.

8 So the marginal product of labor is going to  
9 rise. Now, it's true, that might take a few years to  
10 play out, but simply a decline in labor share of  
11 national income is not an indicator of welfare or  
12 monopsony power or anything like that. So would I  
13 want policies that are targeted at labor share? No.

14 MR. KRUEGER: How about wages?

15 MR. TOPEL: Are there policies that could  
16 affect wages? Sure.

17 MR. KRUEGER: That was the question.

18 MR. TOPEL: Okay. Yeah, what would  
19 happen to the wage -- people say at the bottom of  
20 the wage distribution. Well, in my view, a lot of  
21 what's happened is that -- is due to skill-biased,  
22 technological changes. It's been very disadvantaged  
23 -- disadvantageous to people at the bottom of the wage  
24 distribution. Interventions there are likely to make  
25 human capital even more scarce than it was before.



1           One solution would be an immigration policy  
2 that put more emphasis on changing the skill ratio  
3 itself because that's been a big disadvantage to less  
4 skilled people.

5           MR. KRUEGER: Why don't I respond a little  
6 more generally to what Bob said earlier as well as  
7 answering the questions. I agree with Bob on labor  
8 share. I think if we focus on policies to raise wages  
9 that will probably end up raising labor share. In the  
10 short run, having a strong macroeconomy seems to be  
11 the best advice. Of course, you don't want to  
12 overheat the economy and have another crisis like we  
13 had ten years ago. But since the work of Arthur Okun  
14 on a high-pressure economy, that seems to help people  
15 particularly at the bottom over the long run. I agree  
16 on human capital investment, preschool, help for post-  
17 secondary education and so on.

18           I think there is a lot of common ground  
19 between Bob and me in that we both would like to see a  
20 competitive labor market. I think the difference is I  
21 have my doubts about how competitive it is to begin  
22 with. In fact, the graph that Nancy showed with the  
23 upward-sloping supply curve, to labor economists,  
24 that's actually quite controversial in that the  
25 explanation for industry wage differences is that

1 there are different supply conditions to different  
2 industries.

3 We don't have the law of one price, and the  
4 model that you graphed, you've got, you know, very  
5 different markets for homogeneous labor. That's the  
6 way I was reading what you showed. Or in any event,  
7 you know, labor economists will call anything where  
8 there is an upward-sloping labor supply curve  
9 monopsony. It doesn't matter to us how we got there  
10 because you get monopsony-like effects, which is why  
11 Alan called his book Dynamic -- or Monopsony in Motion  
12 because the search frictions give individual firms an  
13 upward-sloping supply curve.

14 And in that kind of an environment, the  
15 existence of noncompete agreements and no-poaching  
16 agreements can have an effect on wages, whereas if you  
17 start from a model where you've got an infinitely  
18 elastic labor supply curve, which is the competitive  
19 model, those agreements wouldn't really matter because  
20 workers are just paid the same wherever -- wherever  
21 they're working.

22 Bob, I think unfairly, said that I look for  
23 government interventions to solve these problems.  
24 Some are no doubt beyond the reach of antitrust  
25 policy. I haven't been an expert in any of these

1 cases, so I don't have the insights that an expert  
2 might have. I also don't have the potential conflicts  
3 that an expert might have.

4 MR. TOPEL: I was teasing you, Alan.

5 MR. KRUEGER: I wasn't referring to you, per  
6 se.

7 MR. TOPEL: You said unfairly. I was  
8 teasing you.

9 MR. KRUEGER: Oh, okay. Anyhow, you know,  
10 in some of these cases, it's pretty clear what the  
11 loss is to the workers. If a hospital reaches out  
12 because they have vacancies because they have colluded  
13 with other hospitals about hiring, and they pay \$40 to  
14 temporary nurses and the staff nurses are paid \$30,  
15 that suggests that the marginal product of the nurses  
16 is at least \$10 higher.

17 I agree that in some situations having  
18 bilateral monopoly would be a better solution, you  
19 know, having more labor unions. I agree with what  
20 Nancy said about antitrust having to think about how  
21 to use its limited resources.

22 I also wonder, and I don't know how common  
23 this is, since this is not my field, if you have a  
24 case which is on the margin on the product market  
25 side, if the labor market side could put that over the

1 top, that if you take labor market side in addition to  
2 the product market side into account, so it could  
3 potentially end up blocking more mergers that are  
4 harmful to workers and to consumers if the labor  
5 market side is added to the equation as opposed to  
6 focusing exclusively on the product market side.

7           And I am a bit confused about Bob's argument  
8 on Steve Jobs who told Google if you hire any of my  
9 workers this means war, that Bob would recommend that  
10 that's not a good thing to say and it's not a good  
11 practice to put in place. But then when it comes to  
12 no-poaching agreements, he said they're fine, they  
13 could be in contracts.

14           And the argument that Bob gave about the  
15 brand value, I think, is an argument based on  
16 anticompetitive rationale. You want the franchisees  
17 to hire good workers, and you want to pay them less  
18 than they could get elsewhere, and you say to them,  
19 you may add value to our brand, but the only place you  
20 could go is outside our brand, we're not going to let  
21 you go to another establishment within our brand.

22           So, again, I'm not an expert in these cases  
23 but I would think that that's an argument that this is  
24 an anticompetitive practice, rather than a business  
25 justification that would pass muster under the law.

1 MR. TOPEL: I'll just say that you were  
2 unfair there, but let's keep going.

3 DR. SANDFORD: Okay, next question.

4 MS. ROSE: Could I -- since I'm implicated  
5 in Alan's remarks, do you mind if I weigh in on that?

6 DR. SANDFORD: Sure.

7 MS. ROSE: So two things I wanted to say.  
8 So first, working in reverse order, two weak antitrust  
9 cases do not a successful challenge make. So I think  
10 if the question was, is there a strong labor market  
11 case and a product market case that might not be as  
12 strong, and that was why I gave it the -- touched at  
13 the end about maybe a potential competition or a  
14 complementary product merger, where it's very hard, as  
15 the FTC knows well, to successfully challenge on  
16 potential competition grounds. If there were a strong  
17 labor market case, you might bring that challenge and  
18 bring it successfully.

19 We don't know because courts have not yet  
20 decided a merger, even on a buy-side, a litigated  
21 merger, even on a buy-side harm that doesn't involve  
22 labor market but other suppliers, we don't know how  
23 they'd respond to labor market. It would be a  
24 challenge, but it's probably one that's worth  
25 exploring and testing and developing.

1           But to say, you know, the product market's  
2     at the margin and the labor market's at the margin, I  
3     don't think you bring that case because you have the  
4     potential not only to go down but for bad law to be  
5     made as well.

6           DR. SANDFORD: Okay, next question. So Bob  
7     just said that in his view the labor share doesn't  
8     really matter, it should not be a concern of  
9     policymakers directly. Yet, Ioana's work, the  
10    Benmelich paper and the 2016 CEA report on labor  
11    monopsony all cite the declining labor share as a  
12    motivating fact.

13           So let me read from Marinescu and Hovenkamp,  
14    "The share of GDP going to labor has been declining at  
15    an alarming rate. This may result from several  
16    things, including suppression of unions and increasing  
17    concentration in product markets, but lax antitrust  
18    enforcement could be a major source as well."

19           So the first question is, should we care  
20    about the declining labor share; and the second  
21    question is, well, while Matthias just presented  
22    results that suggest a decline in labor share is due  
23    primarily to a reallocation of production to superstar  
24    firms, and that's -- that seems to me to be an  
25    explanation that is perhaps orthogonal to antitrust,

1 would you agree with that characterization, and do  
2 Matthias' results cause you to update any priors about  
3 how concerned we should be about labor market  
4 monopsony. So let me ask Ioana that question first,  
5 and then anyone else that wants to weigh in can do so.

6 MS. MARINESCU: Right. So this evidence has  
7 been coming up. Between when I wrote this and now,  
8 we've had more evidence, for example, about trends in  
9 labor market concentration, which we didn't have at  
10 the time, and with my vacancy data it wouldn't make  
11 sense to look at long-run trends because the vacancy  
12 data has changed so much over time.

13 So, you know, I still think that this needs  
14 more research, but it is fair to say that right now,  
15 with the kinds of data that people have just based on  
16 employment concentration and typically at the industry  
17 level, there has been a decline in labor market  
18 concentration, and, therefore, it is not as clear how  
19 exactly this plays in the trends. So, you know, to  
20 what extent labor market concentration trends, not  
21 levels, I think I want to make a distinction between  
22 that, explains wage stagnation.

23 So, but, you know, here are some interesting  
24 avenues I think for future research. So first of all,  
25 again, labor market definition is critical, and one

1 issue when you compare over time is to ask yourself is  
2 the definition of the labor market -- should it stay  
3 the same over time? And that is a critical question,  
4 because for example, we have done some preliminary  
5 analysis looking at the impact of population density  
6 on the scope of geographic search of workers, so  
7 basically, in more densely populated areas, commuting  
8 times are longer, there is more congestion and people  
9 tend to search closer to, you know, where they live,  
10 for example, and that is changing over time,  
11 differentially over different zones.

12 And, so after you adjust for that, for  
13 example, the decline in HHI doesn't seem to be as  
14 strong. Just as one example of an issue that needs to  
15 be addressed in terms of thinking about the definition  
16 of the labor market. Other things that, you know,  
17 might be interesting to think of are things like  
18 multimarket contact or changes in common ownership,  
19 so, you know, I believe that we need to learn more  
20 about the trends and how the whole, you know, story  
21 fits in.

22 I feel more confident about the general  
23 relationship between concentration and wage -- you  
24 know, even to be less controversial, market power  
25 because I think the labor supply elasticity evidence



1 is much stronger, better identified than the  
2 concentration evidence. So I think there is an issue  
3 of market power and that it's very clear that there is  
4 such an issue of market power and power in the labor  
5 market. But exactly how the trends have played out, I  
6 think at this point is less clear, and we have to, you  
7 know, further investigate to learn more about that.

8 DR. SANDFORD: So does anyone else want to  
9 comment on whether we should care about declining  
10 labor share? Matthias?

11 MR. KEHRIG: Sure. Happy to talk about  
12 this. On principle, when we talk here about wages,  
13 this is not the point that we -- it's not about wages,  
14 it's about welfare. And when we think about welfare,  
15 we have to think about, what is your wage and what is  
16 the price level. So it's really about real local  
17 wages that we should be concerned about. The labor  
18 share gets it a little bit closer to that because it  
19 relates the wage to the nominal output by the share of  
20 that stuff.

21 When we started our research on the labor  
22 share, we tried to come up with for reasons for why  
23 the labor share went down. We explored about half a  
24 dozen avenues related to labor market factors in the  
25 hope that there was an explanation. So we looked at

1 states that become right to work, is it that now there  
2 is lower bargaining power that we see actually the  
3 labor share declining in those states, and the  
4 evidence is basically very muted.

5 And we also looked at -- we looked at  
6 regions where unionization has been going down a lot,  
7 basically manufacturing has been exodus from the Rust  
8 Belt, the Midwest, down south where wages generally  
9 are lower, the regulations are lower, they have much  
10 more free reign. Boeing is shifting production from  
11 Washington to South Carolina. All car manufacturers  
12 have plants in Tennessee, South Carolina, Alabama. We  
13 don't see a big impact on the labor share.

14 We also looked at concentration to see  
15 basically Walmart comes to the county, does that lower  
16 the wages a lot in that county? And the evidence  
17 again was pretty muted. So the labor share -- we have  
18 basically a paper where there's a big graveyard  
19 section at the end, where it's like all these  
20 unsuccessful hypotheses that empirically don't really  
21 hold up.

22 It took us two years of testing to find out,  
23 like, that actually the main action is at the output  
24 side, at the price side. So this is in terms of labor  
25 share the one thing that we have to understand in

1 terms of when we think about this in the context of  
2 the labor market. We have to think, what does it mean  
3 for the consumers, for your real purchasing power? Of  
4 the wage that you have?

5           And that is one -- one thing that I wanted  
6 to add to the discussion about local concentrations,  
7 so there are two things. Labor markets are regional,  
8 they tend to be regional. You have a certain set -- a  
9 pool of people that live there and a certain pool of  
10 employers that hire there, and that's it. Goods  
11 markets are not. So when you consider antitrust cases  
12 and you consider the labor market consequences, that  
13 is very hard to assess because we have to have --  
14 basically keep in mind that the firm's action -- they  
15 are active nationwide. And -- but they -- in the  
16 local market, they act locally. So that's one aspect.

17           The second aspect I want to say is, what is  
18 the difference between concentration at the local  
19 level and at the global level? So locally it might  
20 well be that concentration is going down because a new  
21 employer moved to town. But if basically we know that  
22 at the product level side, there has been a lot of  
23 consolidation, so if it is the case that basically if  
24 you live in County A or Commuting Zone A, and your  
25 options are work for Walmart, become a Starbucks

1 barista or something else, in the old days, you used  
2 to have the option to pack up and move elsewhere and  
3 you would face different employers, different firms.

4 Today, you again have Walmart, Starbucks,  
5 and some other local firms. So basically these firms,  
6 when they set their wages locally, they keep in mind,  
7 they set a whole menu of wages, not only just in that  
8 one commuting zone, but also in the neighboring -- in  
9 the neighboring regions. So that's important to keep  
10 in mind to assess the whole situation about local  
11 concentration, what are the neighboring, what are the  
12 other options for the workers to go elsewhere, and  
13 what are the local prices.

14 Oh, and to add also the last thing about the  
15 labor share, what Bob Topel said earlier, there's the  
16 story that capital deepening is behind the labor share  
17 decline. This is also not the case.

18 MR. KRUEGER: I would have described labor  
19 share as a symptom rather than the cause. And  
20 Matthias showed before that there seems to be less  
21 profit-sharing, less rent-sharing or less sharing of  
22 the gains in productivity at the superstar firms.

23 And another development which is consistent  
24 with that is that firm size premium is smaller than it  
25 used to be, so larger companies used to pay higher

1 wages, and that gap is much smaller, which is  
2 consistent with weakening of worker bargaining power,  
3 the places where there are rents where workers could  
4 get a bigger share of the pie, they're not able to for  
5 whatever reason.

6 Some of those reasons are beyond -- well  
7 beyond the reach of antitrust policy. Some antitrust  
8 policy may be able to have a significant effect if the  
9 October 2016 guidelines are enforced and so forth.  
10 I'm not aware of any criminal cases. That could send,  
11 I think, a very strong signal across many different  
12 employers.

13 So I think of it more as a symptom, and one  
14 of the causes may have been weakening bargaining power  
15 related to anticompetitive practices.

16 MS. ROSE: So I want to echo that, but,  
17 Alan, I don't know why you are going to  
18 anticompetitive practices because it seems to me  
19 having in my youth worked on rent-sharing and hearing  
20 some of the discussion that you've had here today,  
21 that weakened worker bargaining power may be due to a  
22 whole set of institutions on the labor market side  
23 that really have nothing to do with competition among  
24 employers or with antitrust.

25 And I would have thought if we were trying

1 to choose an answer that required kind of the least  
2 steps of logic to get there, that would be the place  
3 to begin. I mean, we certainly have, as your earlier  
4 remarks indicated, a lot of evidence that there's been  
5 a decline, say, in not just unionization rates but  
6 union bargaining power as a consequence of that more  
7 difficulty in unionizing firms and so forth.

8 And I think -- I think this discussion of  
9 worker rent-sharing also weighs into that. What we're  
10 asking for, if we think rent-sharing created a kind of  
11 golden age where workers were paid more, I am not  
12 saying this as a former antitrust enforcer, but we  
13 want less competition, not more, to get those rents  
14 created and then shared with workers.

15 And so I do feel we're chasing after a bunch  
16 of symptoms that make us concerned, and somehow for  
17 some reason we have glommed onto antitrust, but it is  
18 neither, as I said before, the most effective nor  
19 appropriate nor probably legally available tool for a  
20 lot of what we're concerned about.

21 MR. TOPEL: Let me respond a little bit. I  
22 think that raises a very important point. I don't  
23 think they're independent. I think the decline in  
24 unions helped to lead to some of the anticompetitive  
25 practices, that it's harder for employers to have --

1 require noncompete agreements if there is a labor  
2 union which is negotiating a contract and says we  
3 don't want a noncompete agreement. It's harder for  
4 companies to have anti-poaching arrangements if  
5 franchises are unionized, so I don't think that  
6 they're independent.

7           And I don't want to argue that the  
8 significant changes we have had in the labor  
9 market have developed because of an increase in  
10 anticompetitive practices I think that's a  
11 contributing factor. I think there are others which  
12 way may well be more important. So I don't want to  
13 be -- I don't want to mischaracterize myself in  
14 saying, you know, this is the instrument that we  
15 should use because this is the problem.

16           On the other hand, there are very few  
17 instruments that are available currently. So if you  
18 say what are the tools that we could use, especially  
19 if they've been underutilized, which I think has been  
20 the case, that, you know, the franchise contracts have  
21 been allowed to have no-poaching agreements for  
22 decades. It's only recently because of the actions of  
23 the Attorney General in Washington State that 30  
24 franchises have dropped it, affecting hundreds of  
25 thousands of workers.

1           So I think these are tools that were in our  
2     toolkit that were underutilized, but I don't -- and  
3     they're available, but I don't think they are -- I  
4     wouldn't necessarily -- I think we don't know enough  
5     to say that anticompetitive practices are the main  
6     reason, and I suspect it's probably not the case.

7           MR. RAVAL: That's essentially a nice segue  
8     to my next question. So this is about the definition  
9     of monopsony. So maybe one of the classical  
10    definitions of monopsony would be you restrict the  
11    amount of labor hired into the amount of output  
12    generated, and then there's going to be a welfare loss  
13    of dead weight loss in the output market.

14           But you could also think about things like  
15    a change in bargaining power between labor and  
16    management, and workers are now getting a smaller part  
17    of the joint surplus from their employment. So should  
18    this be considered with -- should we be -- as  
19    antitrust enforcers be worried about changes in  
20    bargaining power? Is that an interest or concern or  
21    not?

22           MS. ROSE: So I'll say yes. I've got a Yale  
23    Law Review paper with Scott Hemphill that says  
24    absolutely yes. I think the antitrust law requires us  
25    to focus on actions that reduce competition, and if we



1 are reducing competition and that's what's leading to  
2 sort of reduced -- or increased employer bargaining  
3 power, say, and an ability to suppress wages, we  
4 should worry about that if it's coming from a merger,  
5 say.

6           If it's reduced bargaining power by workers  
7 because we have become more hostile as a country to  
8 unions, that's not an antitrust -- that's not an  
9 anticompetitive effect that's coming through the  
10 action of the firms. And that is probably not  
11 something that we can reach. But I think -- I think  
12 the notion that we need an output reduction as opposed  
13 to a transfer of wealth is very misleading. We don't  
14 do that on the product market side, typically, and so  
15 I don't think we should be doing it on the input  
16 market side either.  
17 Bob may disagree.

18           MR. TOPEL: No, I agree with what you said.  
19 If it's due to a reduction in real competition, then  
20 it is an actionable thing. It's within the purview of  
21 antitrust policy. If it's due to other phenomena, you  
22 referred to hostility, but there's a lot of reasons of  
23 the decline in the fraction of labor force belongs to  
24 unions. I'm not suggesting --

25           MS. ROSE: Right, right, it could be

1 anything, but right.

2 MR. TOPEL: -- that you're -- it could be  
3 anything, but none of those really fall within the  
4 purview of antitrust policy.

5 DR. SANDFORD: Okay, next question. So  
6 speaking as an antitrust enforcer, I mean, to a first  
7 approximation, we block mergers if we think the price  
8 is going to go up. A merger that might increase  
9 employer concentration is going to, we would think,  
10 cause wage to go down. Wages go down, the price of  
11 the product purchased by consumers may go down as  
12 well.

13 And so, one, is it clear that -- what is  
14 the path to address concern about labor market  
15 consolidation from a merger if it would cause the  
16 product market price to go down? And, two, how would  
17 we balance a merger that might increase labor market  
18 consolidation but have other efficiencies that would  
19 cause the product market price to go down? And so  
20 that's probably most appropriate for the antitrust --  
21 people with antitrust experience. We can start with  
22 Nancy.

23 MS. ROSE: Sure. I'd love to weigh in on  
24 that. So I think the first and most important thing  
25 to keep clear, and I am not saying that you weren't

1 recognizing this, but I think in these discussions,  
2 particularly among antitrust practitioners, if it's a  
3 classical monopsony case where the firm is withholding  
4 employment to drive the wage down, the firm does not  
5 perceive that lower wage to come with a lower cost of  
6 hiring a worker. If you go back to that curve that I  
7 showed you, the firm is perceiving the marginal cost  
8 of hiring another worker to be very high because it  
9 has to pay a higher wage to everyone.

10 So in a classical monopsony case, there's  
11 just an output restriction by the firm that's  
12 exercising monopsony power. There's no lower cost to  
13 pass on. In the bargaining case, that might not be as  
14 apparent or might not be true. There might be no  
15 employment effects, no output effects, just a transfer  
16 of rent -- just, but a transfer of rents from workers  
17 to the firm due to, say, an anticompetitive merger.  
18 And as I said before, our merger law requires us to  
19 challenge mergers that may substantially reduce  
20 competition.

21 I think it's misleading to say how should we  
22 balance. It's like saying there is a merger in the  
23 product market that has product market benefits for  
24 some set of consumers or some set of products or  
25 purchasers, and it has harms in other product markets.

1 Should we say, well, let's add them all up and say if  
2 the total is that the group that wins, wins by more  
3 than the group that loses, loses, we just let it go.

4 And I don't think we typically do that. I  
5 think if we see that there are -- and, of course,  
6 there's always prosecutorial discretion, but if we see  
7 that there are a group of consumers that are harmed by  
8 an anticompetitive merger, we challenge. It might be  
9 that if the mergers got mostly benefits and there is  
10 one small group that's harmed, we accept some kind of  
11 remedy that solves the competitive harm and preserves  
12 the benefits. But I don't think we tend to agonize  
13 over that balancing in the product market side, and I  
14 don't think we should agonize over that balancing when  
15 the harm is going to workers.

16 MS. MARINESCU: Yes, and actually in my  
17 paper with Herb Hovenkamp we discussed this point and  
18 come down to the same conclusion based on case law.

19 MR. RAVAL: So the next question, so for  
20 better or worse, whenever we're doing an antitrust  
21 case, one of the basic things we need to do, and which  
22 is often kind of the biggest part of the legal case,  
23 is introduce market definition. So in terms of labor  
24 markets, how should we approach geographic and product  
25 market definition?

1           And in particular, this is a point that Bob  
2     picked up, you know, if you think about the market for  
3     university professors, Lincoln, Nebraska is probably  
4     not -- Lincoln, Nebraska is probably not a market.  
5     The market should be maybe more broad or more  
6     national. So how much labor mobility do we need in  
7     order to define a broad market versus a narrow market?

8           MS. MARINESCU: And over what period of  
9     time? Does mobility have to -- or that elasticity  
10    have to occur? I think that's really -- really an  
11    important question. So as I was outlining in my  
12    presentation briefly, one of the tools you can use is  
13    a critical labor supply elasticity, and this can vary  
14    by occupation. Right? So I think that's what you're  
15    getting at, that different types of workers might be  
16    more or less mobile, and this is something that we  
17    actually are able to get data on for various sources,  
18    including, for example, transition, say from the  
19    current population survey, across geography for  
20    different occupations.

21           In my current work in progress, with Jose  
22    Azar and Steve Berry, we're using a very detailed  
23    microdata set of applications from workers, two jobs  
24    where we have every occupation under the sun, and we  
25    see the distribution of applications, which kind of

1 allows us, by occupation, to see the variety of  
2 geographies and other types of jobs that people are  
3 applying to.

4 So there definitely exists ways of getting  
5 at that, if we're interested in estimating those  
6 elasticities. And this is something that we are  
7 actively working on.

8 MR. KRUEGER: Just to add as a practical  
9 matter, labor markets tend to be more regional for  
10 less skilled workers, more national for highly  
11 educated workers. It's going to vary a bit by  
12 occupation, but that's what one generally finds. And  
13 we do have data available to do the kind of analysis  
14 that Ioana was mentioning to look at where workers are  
15 moving, how are they defining the markets and use that  
16 as an input, I think.

17 DR. SANDFORD: So are mergers that lead to  
18 worse outcomes in the labor markets more likely to  
19 involve high skilled workers or low skilled workers?  
20 I mean, it seems to me like low skilled workers have  
21 many maybe different occupations that they could --  
22 it would be easier to shift occupations if you are  
23 low skill, but if you're high skill, you're likely to  
24 be -- you know, when I was a professor at University  
25 of Kentucky, the nearest comparable employer was like

1 75 miles away, and I couldn't really go anywhere. So  
2 it seemed like I was more locked in as a high skilled  
3 worker there than low skilled worker.

4 Maybe I'll pose that to Nancy.

5 MS. ROSE: So I wanted to weigh in. When I  
6 was thinking about what mergers we might have missed,  
7 and I have a candidate, the candidate popped at first  
8 because the second most highly concentrated occupation  
9 in Ioana's work was -- in one of her papers was  
10 railcar repairers, and that called to mind an April  
11 2018 DOJ no-poach action against rail equipment  
12 manufacturers, in Knorr-Bremse and Wabtec, that  
13 alleged that the companies had "for years maintained  
14 unlawful agreements not to compete for each other's  
15 employees" and moreover had a similar no-poach  
16 agreement with Faiveley Transport before Faiveley was  
17 acquired by Wabtec in November of 2016.

18 What this no-poach complaint said was that  
19 they'd entered into what they called pervasive no-  
20 poach agreements that spanned multiple business units  
21 and jurisdictions involving typically -- it said  
22 primarily affecting recruiting for project management,  
23 engineering, sales, and corporate officer roles.

24 So I wonder if sometimes we have some  
25 indication of what these labor markets might look like

1 by the extent, when we uncover a collusive agreement  
2 by the extent or the incidence of where the no-poach  
3 agreements are being pursued, and that does suggest a  
4 more high skilled occupation mix, maybe not, maybe not  
5 as specialized as I would have expected it to be, but  
6 it doesn't sound like they were entering into no-poach  
7 for the janitorial staff or even the low-level factory  
8 workers, suggesting that maybe we worry more about  
9 that typically. Again, not always. We'd have to look  
10 at facts and circumstances, but maybe more with the  
11 higher skilled and more specialized workers, and  
12 that's certainly consistent with what that hospital  
13 mergers paper found.

14 MS. MARINESCU: And, you know, that just  
15 gives you the easy way out in the sense that if there  
16 is the no-poach agreement, that's a very good piece of  
17 evidence to use. You don't necessarily need to --  
18 and, you know, at least the further evidence would be  
19 confirmatory instead of having to dig deep into the  
20 elasticity of labor supply for that particular, you  
21 know, kind of occupation.

22 MS. ROSE: Well, let's be clear if you were  
23 going to challenge the merger, this might be a useful  
24 screen. You're not going to win a merger case by just  
25 saying, look, it must be a labor market, they had this



1 agreement here. I think anybody who's been involved  
2 in litigation would be leary to go to court with just  
3 that argument.

4 MR. TOPEL: Putting aside collusive conduct,  
5 do we have good examples of, like, in the realm of  
6 mergers, we have all kinds of examples of possibly  
7 mergers for monopoly that can be challenged because  
8 it's going to affect prices in the output market. Do  
9 we have any examples of merger for monopsony where the  
10 purpose was to reduce wages in the labor market? Or  
11 are we chasing unicorns here?

12 MR. KRUEGER: You know, it's interesting.  
13 I'm not sure there's an answer to that, and on the  
14 chasing unicorns, when the October 2016 guidance was  
15 discussed, that very same question came up about,  
16 well, how common are these no-poaching agreements,  
17 wage-fixing agreements --

18 MR. TOPEL: But that's the collusive --

19 MR. KRUEGER: Let me finish, Bob.

20 MR. TOPEL: -- side, yeah.

21 MR. KRUEGER: And the assistant attorney  
22 general, Makan Delrahim said he's been shocked by how  
23 many cases there are. And part of the guidance set up  
24 a hotline for people to call in. So I think, you  
25 know, I started my remarks by saying this is an area

1 where I think we are learning a lot, where there has  
2 been a lot of active research. I don't think we know  
3 the answer to that, but in some areas it looks like  
4 the anticompetitive practices are more common than was  
5 widely understood.

6 MS. ROSE: So I think it's harder to get  
7 that information on the labor side, but it's not  
8 impossible, right? So when you start a merger  
9 investigation, you're calling and talking to people in  
10 the industry, and you're often getting inbounds, and  
11 so I think if there was a merger primarily motivated  
12 by an effort to push down wages by the two merging  
13 parties, and I'm not saying for sure we'd hear about  
14 it if it really affected kind of lower level workers,  
15 but if higher level workers thought, you know, this  
16 makes no sense except that it's going to really  
17 eliminate the only people competing for my talent, I  
18 would have thought we'd hear some about it.

19 I suspect it's not the main or only  
20 motivation, but there could be mergers where -- so  
21 like in this rail equipment one where maybe the labor  
22 market overlap is more significant than the product  
23 market overlap was.

24 MR. TOPEL: Well, you can envision a lot of  
25 mergers, let us say for efficiencies, that end up

1 being labor-saving that because of at least for the  
2 short-run elasticity of supply that Ioana refers to  
3 there's going to be a large impact on people who've  
4 got specific skills with the firm and stuff like that,  
5 so that labor costs might decline a lot, and it might  
6 not just decline because of a head count but because  
7 you have to pay these people less to retain them, so  
8 then you've got to balance anticompetitive impact  
9 against procompetitive benefits.

10 But I'm asking about one that would be  
11 specifically like, look, we're not going to be more  
12 efficient, we just, in terms of the diversion ratio,  
13 we've brought this other unit inside and now we can  
14 control the price better than we did before, but the  
15 price we're controlling is on the labor market side.

16 MS. MARINESCU: So, Bob, would it be  
17 anecdotally thinking about the high-tech sector? We  
18 hear about companies buying another company in order  
19 to get their software engineers so, you know, that's  
20 only anecdotal. I don't know, you know, how much  
21 evidence we have on that, but at least you hear those  
22 stories regarding, you know, buying the pool of --

23 MR. TOPEL: Well, that comes back to high-  
24 tech, you know, I want to hire the software engineers  
25 from the guy across the street because they know a lot

1 of good stuff that my folks don't know. So that's  
2 more like proprietary information I'd like to get my  
3 hands on.

4 MR. KRUEGER: Another example was the film  
5 animators, Lucas Film and Disney, which had a big  
6 settlement for no poaching, and then they merged. And  
7 it's a little hard to say that they did it to get, you  
8 know, the human capital before they agreed not to  
9 poach from each other.

10 MS. ROSE: Right, although there you would  
11 want to investigate sort of what the labor market  
12 looked like, right? Was there something about these  
13 two firms reaching an agreement but that were lots of  
14 other competing employers or not.

15 MR. KRUEGER: I don't think there were.

16 MS. ROSE: I see. I mean, that's -- I think  
17 that's the kind of thing that antitrust enforcers know  
18 how to do. I think what's great about this literature  
19 and this discussion and these hearings is that it's  
20 maybe encouraging us to think, to ask some of these  
21 questions early on in an investigation to determine  
22 whether this might be one of -- you know, maybe it's  
23 not a unicorn, but maybe it's one of the rare ones  
24 where labor market issues might come to the front.

25 MR. RAVAL: So if you look at the research,

1 we talked about a lot of research today, and if we  
2 look at the dates of those research papers, they're  
3 2017, 2018. So this is a very new field, and so what  
4 kind of evidence would you like to see developed on  
5 the antitrust relevance of labor market monopsony?  
6 You know, is there a good way to try to get cause of  
7 variation of monopsony power and kind of what research  
8 needs to be done that hasn't been done yet?

9 MR. KRUEGER: You know, it's interesting. I  
10 think I think about this totally different than IO  
11 economists. So what I think we need are good demand  
12 tracks to firms so we can estimate through a labor  
13 supply curve.

14 And Ioana cited, you know, the Manning  
15 estimate of the labor supply elasticity, and I cited  
16 one by Webber, but that's one where I think we could  
17 probably use more compelling evidence. Now, to us,  
18 it's news. To labor economists, I think it is news  
19 that firms face upward-sloping supply curves because  
20 that's not the standard model that we use. The  
21 standard model that we use is law of one price,  
22 infinitely elastic supply.

23 So that may be of no interest to antitrust  
24 or IO economists but, to me, that, I think, is a  
25 priority for research.

1 MS. ROSE: Right, but for antitrust, it's  
2 not just --

3 MR. KRUEGER: Oh, it's not for antitrust.

4 MS. ROSE: Right.

5 MR. KRUEGER: You know, one of the -- I'm  
6 unburdened by not having been a witness and not being  
7 -- not being an expert and not being an IO economist.  
8 I think for understanding the way the labor market  
9 works, which sets kind of a milieu for thinking about  
10 where anticompetitive practices can occur, I think  
11 that's a really important first step for us, that the  
12 mindset is still one, largely, although it's beginning  
13 to change, where it doesn't matter if employers  
14 collude because they can't affect anything. The  
15 market is so competitive. The practice is not going  
16 to affect wages.

17 MS. ROSE: And how does that get squared  
18 with all of the work that, for instance, you did in  
19 your youth on interindustry wage differentials and  
20 rent-sharing and all of that?

21 MR. KRUEGER: Well, that's why I think it's  
22 a much better way to think about the labor market.  
23 But I think we're kind of at a turning point now where  
24 there is a lot of movement in that direction. But I  
25 think it's a turning point rather than a new day.

1           MR. TOPEL: Can I say something? Alan, you  
2 are actually thinking like an IO economist because the  
3 first thing on the list when people start thinking,  
4 well, what's the likelihood that a collusive agreement  
5 might succeed is that demand is inelastic at the  
6 competitive price. And so you want to know something  
7 about people's ability to substitute, you want to know  
8 about the elasticity of demand. All you're saying is  
9 I want some movements along a supply curve so I can  
10 figure out --

11           MR. KRUEGER: Right.

12           MR. TOPEL: -- what the elasticity of supply  
13 is. So is -- and the operative word that you just  
14 mentioned is potential.

15           MR. KRUEGER: Right.

16           MR. TOPEL: That if demand was huge -- if  
17 supply was hugely elastic, you'd say, look, attempted  
18 collusion here is attempted murder with a wet noodle,  
19 and you'd just -- you just wouldn't go after it. But  
20 I don't think that the steps you'd go through are any  
21 different on the supply side than they are on the  
22 demand side. And it has nothing to do with labor  
23 either. It could be any input you want to be using.

24           MS. ROSE: How do you square that with, say,  
25 the vitamin cartel or other commodity cartels?

1 MR. TOPEL: I don't see the contradiction.  
2 I'm saying --

3 MS. ROSE: Well --

4 MR. TOPEL: -- oh, you mean --

5 MS. ROSE: -- where, I would have thought  
6 the demand was -- for a firm was pretty darn elastic,  
7 but we saw collusion. I'm just --

8 MR. TOPEL: No, but the question is, no, no,  
9 no, it's whether the market price is inelastic at the  
10 competitive price, which means that -- which means  
11 that there is a big return to restricting output and  
12 raising price to everybody. And that's the first  
13 thing on the list when you start thinking about these  
14 so-called plus factors. And it would be exactly the  
15 same thing on the labor market side.

16 MR. KEHRIG: Just to weigh in on the --  
17 what type of research do we need for this, I think  
18 typically people either use worker-level data or firm-  
19 level data. But I think it's actually important not  
20 just to look at the wage level but also at worker  
21 flows and who works for whom and how long and where do  
22 you go. That means you have to work with matched data  
23 on -- where workers and firms show up in the same data  
24 set. And that's something that at least in the U.S. I  
25 find quite limited.



1           There are some other countries that have  
2 much, much better access to match data where we know  
3 much more about these worker flows and the incidence  
4 of different shocks, the incidence of mergers and so  
5 on, and what happens when wages go down here, what do  
6 workers do. And in the U.S., we don't know that so  
7 well because the worker side of the information  
8 typically comes from state unemployment records, and  
9 some states are extremely, extremely reluctant to  
10 allow the federal agencies to use those data. And if  
11 there's any way maybe to remedy this, then we wouldn't  
12 know much more about that. Incidentally this happened  
13 to be the states which are more red on the map, either  
14 map.

15           DR. SANDFORD: Okay, I have a question for  
16 Nancy from the audience. I think it might be from an  
17 attorney.

18           MS. ROSE: Oh, no.

19           DR. SANDFORD: So you made a comment earlier  
20 that if you have a huge, you know, delta HHI, there's  
21 no point in pursuing a labor market harm. And the  
22 question is, when you have a winnable product market  
23 harm that is precisely when you should add a labor  
24 market claim, if applicable, to build up the case law  
25 rather than to wait for a weaker overall case.

1 MS. ROSE: Absolutely. Could not agree  
2 more. I don't want to say that's what happened in  
3 Anthem-Cigna but certainly we included a buy-side  
4 claim in that challenge. I didn't -- I may be -- so  
5 there is an advance in the case law motive and there's  
6 a winning your current case and there is a balance.  
7 And so if you think you've got a very strong labor  
8 market harm and a strong product market case, maybe  
9 that is a great one to bring both of them forward on.

10 If you think you've got a really strong  
11 product market case and you're a little worried about  
12 the labor market case, maybe you want to wait for a  
13 better opportunity is all, just given the vagaries of  
14 trying to convince a judge to make that new case law.  
15 Judges, I have discovered, seem not to like that, and  
16 attorneys maybe are anticipating that and also kind of  
17 averse to getting too far out ahead of the headlights.

18 But, yeah, I think that would be a great --  
19 look for those. I think that would be awesome.

20 MR. RAVAL: So I think we have time for one  
21 last question. So this is kind of the money question.  
22 So given limited enforcement resources, should the  
23 agencies be shifting resources from mergers with a  
24 product market overlap to mergers with labor market  
25 overlap, and, roughly speaking, do you think those

1 will require more or less resources than our normal  
2 work?

3 MS. ROSE: I'll weigh in and let others. I  
4 think we need to be strategic -- we, the agencies -- I  
5 can't escape this. I think the agencies need to be  
6 strategic in thinking about where to look for this,  
7 but I think there is enough concern about what's going  
8 on, and we're not sure exactly how important the  
9 anticompetitive practices are in the labor or the  
10 anticompetitive effects of mergers, say, are in the  
11 labor market that we should be looking for it. We  
12 should think about, is this an industry where the two  
13 firms merging are hiring from a similar pool of, say,  
14 specialized workers?

15 Maybe that's where we start, and add a few  
16 questions to the screening to see, is this something  
17 we should dig more into. And then if that -- it comes  
18 back with yes, it looks like there's a group that  
19 could be harmed by this, we probably ought to think  
20 about working that up. As I said, I don't want this  
21 to be an open -- I don't think you should shift  
22 entirely over to this setting because I am not  
23 convinced that we yet have a reason to think there is  
24 a big return to it, and it will be very costly as we  
25 are developing the tools and particularly as you are

1 developing the case law.

2 But I don't think we want to have agencies  
3 bury their heads in the sand and not worry about the  
4 potential harm upstream.

5 MR. KRUEGER: Could I add? You know, I  
6 think one place where DOJ and FTC could have a lot of  
7 leverage in the no-poaching and the naked wage-fixing  
8 is that one very strong case will send a very strong  
9 signal to 6 million employers who, from what I can  
10 tell, think there are no penalties because so far  
11 there have been no penalties for no-poaching  
12 agreements. The penalty has been stop doing this  
13 rather than -- as far as I know, rather than paying  
14 fines.

15 And in the Detroit case, my understanding  
16 was the human resource people thought this was kind of  
17 the right practice to do. They -- the right practice  
18 in the sense they knew it was technically illegal, but  
19 they thought that's kind of the normal business  
20 practice. And I think a strong case where there are  
21 actual penalties as opposed to just cease and desist  
22 will send a signal and potentially have a significant  
23 effect, much more than enforcement actions, because it  
24 will -- you don't have the resource -- I suspect given  
25 the prevalence of anticompetitive practices you don't

1 have the enforcement resources to go after all of  
2 them. But significant penalties could reduce the  
3 practice.

4 MS. ROSE: I think that's what the assistant  
5 attorney general is signaling.

6 MR. KRUEGER: He's signaling but there had  
7 been no announcement yet.

8 MS. ROSE: No, no -- Alan, so I will say  
9 from my two and a half years there, developing a  
10 criminal case, you're going to send somebody to jail,  
11 takes some time.

12 MR. KRUEGER: Right.

13 MS. ROSE: So I at least think now, given  
14 they seem to be suggesting that they're working on  
15 this, we should take them at face value and say -- and  
16 think they're looking for a good case to bring, but --

17 MR. KRUEGER: I certainly hope you're right,  
18 but he suggested it a year ago --

19 MS. ROSE: I understand. There are  
20 different styles. My boss, when I was there, never  
21 wanted to promise; he just wanted to deliver. I will  
22 say when that guidance was released, there was a lot  
23 of attention by human resource professionals to it.  
24 So I suspect it has already had an effect. I think  
25 your examples of the franchise no-poaches are

1 different because those probably go through some type  
2 of rule of reason analysis even if there is an  
3 enforcement action against them, but just the naked  
4 no-poach or wage-fixing I think people are on notice.

5 MR. TOPEL: I was going to make the same  
6 point. I think it's important to draw a distinction  
7 between no-poach agreements between separate firms and  
8 separate organizations and policies within an  
9 organization that are vertical restrictions. And the  
10 latter has to be judged by a rule of reason. It's  
11 hard -- it's hard to find good positive procompetitive  
12 reasons for horizontal conduct between ostensibly  
13 competing firms, so Section 1 comes into play.

14 And I don't think you should make a  
15 distinction between the product market and the labor  
16 market.

17 MR. KRUEGER: But, Bob, those same contracts  
18 say that we're not a joint employer.

19 MR. TOPEL: Yes, I know.

20 MR. KRUEGER: Which strikes me as --

21 MR. TOPEL: But it's a joint brand name.

22 MR. KRUEGER: -- contradictory.

23 MR. TOPEL: It's a joint brand name, and I  
24 disagree with you on whether it's contradictory.

25 MR. KRUEGER: And as far as knowledge about

1 it, I mean, FTC has brought a case against physical  
2 therapists where the text messages are pretty clear.  
3 So, I mean, we don't know how much of this goes on,  
4 but there is evidence that some of it is going on.

5 DR. SANDFORD: Okay, we are out of time,  
6 unfortunately, but this was a great panel, so please  
7 join me in thanking them.

8 (Applause.)

9 (Panel 1 concluded.)

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1           PANEL 2: LABOR MARKETS AND ANTITRUST POLICY

2           MR. MOORE: Good morning. We're going to go  
3 ahead and start the second panel on Labor Markets and  
4 Antitrust Policy, hopefully building on what we heard  
5 during the first panel. My name is Derek Moore. I'm  
6 an attorney advisor in the Office of Policy Planning,  
7 and I will be moderating this very distinguished panel  
8 that we have.

9           To my immediate right is Marty Gaynor, who  
10 is a professor of economics and public policy at  
11 Carnegie Mellon University. To his right, we have  
12 Renata Hesse, who is a partner at Sullivan & Cromwell.  
13 And both Marty and Renata held senior positions at the  
14 FTC and DOJ, respectively, prior in their careers.

15           Jon Jacobson, to Renata's right, is a  
16 partner at Wilson Sonsini, in the New York office. To  
17 Jon's right is Eric Posner, who is a law professor at  
18 the University of Chicago School of Law and a counsel  
19 at MoloLamken. And to Eric's right is Evan Starr, who  
20 is an assistant professor of management and  
21 organization at the Smith School of Business at the  
22 University of Maryland. You can read more about each  
23 of these panelists in the bio documents that we've  
24 passed out, but without further ado, I will pass it on  
25 to Marty.



1           MR. GAYNOR: Well, first, just let me thank  
2 Chairman Simons and all of the Commissioners for  
3 putting on these hearings. I think they're really  
4 tremendously beneficial to the agencies obviously, but  
5 to the country as a whole and really a credit to both  
6 the FTC and Antitrust Division for taking on a bunch  
7 of really tough and challenging issues and hearing  
8 from a lot of people with very diverse backgrounds and  
9 viewpoints on this.

10           So I have just a few remarks about labor  
11 markets and antitrust policies. And the first panel,  
12 by the way, for those who were here, was absolutely  
13 excellent. We just had a bunch of topnotch and very,  
14 very knowledgeable people discussing these issues.

15           So one thing you heard is there's a lot of  
16 concern about wages and wage growth and worker  
17 earnings in the U.S., particularly for low-wage  
18 workers. And I think one thing that people also gave  
19 over well is that the causes for this are not  
20 particularly well understood. One possibility that  
21 may have something to do -- and it might be important  
22 -- is the possibility of growing monopsony power in  
23 our economy.

24           There is some evidence of monopsony power in  
25 U.S. labor markets. I think aggregate studies of

1 labor market concentration wages don't provide much  
2 evidence on this, one way or another. And I want to  
3 be clear about two things there. I think these  
4 studies do make an important contribution because they  
5 document what's happening with certain measures of  
6 concentration and certain measures of wages. As far  
7 as telling us exactly what's going on beyond that, as  
8 the previous panel made clear, I don't think they're  
9 at the point yet where they're telling us what we  
10 really want to know. But there still is an important  
11 contribution.

12 The second point about this is as I think  
13 Joe Farrell, when he was a BE Director in the past,  
14 was fond to say, absence of evidence is not evidence  
15 of absence. Just because these studies don't  
16 necessarily show that there's something going on  
17 doesn't mean there's not. And I think actually there  
18 is quite a bit of other evidence that leads me to  
19 think that there are some nontrivial issues with  
20 monopsony power.

21 There's evidence from fast food workers that  
22 Dave Card and Alan Krueger did a number of years ago,  
23 nurses, up to the recent study that was just  
24 discussed, teachers, et cetera. Lots of recent  
25 evidence of the use of no-poach agreements, in some

1 industries wage-fixing, noncompetes.

2 In addition, we've heard about declining  
3 labor market dynamism and unionization, and while  
4 those things are not necessarily declines in  
5 competition, per se, or antitrust, they can magnify  
6 anticompetitive effects or have impacts on the  
7 workings of these markets in ways that interact with  
8 competition.

9 So as I said, we don't have a lot of  
10 evidence at this point, to my mind, on whether  
11 monopsony power is growing. And in particular we  
12 don't have evidence on whether monopsony power is an  
13 antitrust problem in the aggregate. Even if it's  
14 pervasive, we don't know what led to it, and we don't  
15 know whether if firms do possess monopsony powers  
16 acquired by these firms, say, succeeding in some  
17 natural way, which is perfectly legal, or via mergers  
18 that harm competition in the labor market or practices  
19 that harm competition in that market.

20 The recent evidence from the Ellie Prager  
21 and Matt Schmidt study, I think, does point us a bit  
22 in that direction, that certain kinds of mergers can  
23 harm workers in certain labor markets. And it's  
24 important to make clear that antitrust is not the only  
25 policy lever to address issues in labor markets.

1           One of the things the antitrust agencies in  
2 my opinion should consider doing, and resource  
3 constraints have to be taken into account, but  
4 nonetheless, I think there are some things to be  
5 thinking about. So one set of things that's within  
6 the power of the agency are retrospectives on mergers,  
7 how might that provide information. Well, did sell-  
8 side concerns address the buy side as well? To what  
9 extent did they not?

10           There are some cases where there have been  
11 sell-side concerns, but -- I'm sorry, buy-side  
12 concerns, but there were not actually sell-side  
13 concerns. Are there changes over time? Does labor  
14 market monopsony via merger appear to be more of an  
15 issue now than it has been in the past? And has  
16 antitrust been underenforced against mergers based on  
17 labor market issues? Right now, I would say we  
18 actually just don't know about these things. And some  
19 efforts to inform ourselves better about this, I  
20 think, are sort of resources well used.

21           Another way to do this would be to do things  
22 prospectively. As mergers are reviewed, take a set of  
23 those mergers and add a labor market analysis to those  
24 mergers to try and get answers to these questions  
25 going forward. What proportion of these things raise

1 labor market issues? The proportion of these things  
2 that raise labor market issues that would not have  
3 been addressed by product market issues?

4 Labor market studies, I think that rather  
5 than trying to do more aggregate-level work, I think  
6 we do in-depth, careful study at the level of  
7 individual markets analogous to industry studies on  
8 the sell side, and there are a whole bunch of issues  
9 that could be addressed this way. I'm not going to  
10 read everything off the slide. The slides will be  
11 posted online at some point.

12 What about enforcement? So here, I think,  
13 one key thing is that monopsony by definition causes  
14 harm to competition. And my view is that's the  
15 antitrust standard, harm to competition. Scott  
16 Hemphill and Nancy Rose and some others have called  
17 this a trading partner welfare standard. I think this  
18 is one of the many consumer welfare standards going  
19 around. There seemed to be at least as many consumer  
20 welfare standards -- I think actually there are more  
21 welfare standards than there are antitrust people, but  
22 I think this is just very straightforward and common  
23 sense. There's harm to competition in this market;  
24 it's an antitrust issue.

25 What are some low-hanging fruit or no-

1     brainers? Collusion, wage-fixing. So Alan Krueger  
2     referred to this, Your Therapy Source, where there was  
3     an invitation to collude via text message. This is  
4     the modern era. No-poaching agreements across firms.  
5     Agencies are already taking actions in these areas,  
6     but these are certainly areas where if there are  
7     violations, they are problematic. They can be  
8     pursued.

9             Some things that I think are not as  
10    straightforward, but still not -- should be considered  
11    are nonbeneficial noncompetes. I think there's pretty  
12    much agreement that for low-wage workers, noncompetes  
13    have virtually no efficiency benefits, if any at all.  
14    But, of course, in matters like this, one does have to  
15    show harm, so thinking about that.

16            With regard to mergers, it might be  
17    productive to consider revisiting the Horizontal  
18    Merger Guidelines with regard to monopsony power,  
19    thinking about analysis of labor market impacts and  
20    sort of what that would constitute. Considering  
21    whether there may be some shortcuts or quicker  
22    analyses that would allow one to make conclusions  
23    about whether something should go forward just as  
24    there are some on the sell side, and thinking about  
25    that.

1           So and last but not least, concerning  
2     whether rulemaking authority, which the FTC does have,  
3     might be productively applied in this area. So there  
4     are a bunch of things to consider, and I think the FTC  
5     and the Antitrust Division can't and shouldn't try to  
6     do everything, but I think they should be considering  
7     what sorts of things they could do that have a high  
8     benefit relative to the cost. And I think there are  
9     some things in here that would meet that criteria.

10           Let me briefly say that antitrust is part of  
11    what I'll call a constellation of policy actors and  
12    policies. That makes it sound like everything fits  
13    neatly together, which in some sense it doesn't, but  
14    the antitrust enforcement agencies play a very -- a  
15    very important role. Federal agencies play an  
16    important role. Various parts of other parts of the  
17    Federal Government, state governments play a very  
18    important role.

19           And the key thing here is that communication  
20    and coordination are absolutely critical, and this is  
21    true for -- pick any kind of area in the economy. If  
22    it's a product side, say transportation,  
23    communications, healthcare, there are always other  
24    actors that have big impacts on what happens in  
25    markets and how well competition functions. And it's

1 important for the agencies to communicate and  
2 coordinate with those, and I do want to be clear that  
3 the agencies do a lot of that already.

4 But the other thing again is there's no one  
5 actor here, and one should not be considering actions,  
6 policies by one actor, in isolation, but be  
7 considering how these things fit together.

8 So very briefly in summary, in my view there  
9 are undoubtedly issues with monopsony in labor markets  
10 in our economy. We don't know how extensive these are  
11 and whether they've been growing, getting worse.  
12 That's really not clear. I think that what we need is  
13 more evidence. And I think there are some structured  
14 ways that one could -- one could pursue that. Some of  
15 that can be done by the agencies, whether internally  
16 or by commissioning outsiders to do the work. Some of  
17 that can get done simply by outsiders -- academics or  
18 other researchers.

19 As far as enforcement, there are some things  
20 that are obviously bad and the agencies can go after  
21 them. And they've signaled that they -- indeed they  
22 are going to do that. And then I think trying to  
23 examine and learn about things where it's not quite so  
24 clear is an investment well worth making.

25 And, last, I'll just conclude by reiterating



1 that policy towards labor markets more broadly,  
2 antitrust is a piece of the puzzle. In the past, it  
3 has not been a terribly prominent piece of the puzzle,  
4 and it may be that it should assume a larger role, but  
5 it should not be considered in isolation. It does  
6 need to be considered in concert with everything else  
7 that goes on and everything else that determines  
8 competition and the function of labor markets. Thank  
9 you very much.

10 (Applause.)

11 MR. MOORE: Thanks, Marty.

12 All right. Jon?

13 MR. JACOBSON: And I, too, want to thank Joe  
14 and Bilal and Derek and the rest of the Commission for  
15 having these sessions. Really informative and  
16 important, and thank you for this.

17 So I'm going to start with just sort of the  
18 textbook model of monopsony. It requires an upward-  
19 sloping supply curve because only with the upward-  
20 sloping supply curve will a reduction of output  
21 generate lower prices. So the monopsonist looks at  
22 its marginal input curve, which the closer it is to a  
23 full monopsony will kind of merge with the supply  
24 curve, and profits by reducing its purchases to reduce  
25 its cost. This is the standard model.

1           In nonlabor markets, one of the things we  
2 observe is that in markets with significant economies  
3 of scale, the supply curve does not necessarily slope  
4 upwards. Certainly at the relevant output levels that  
5 we're looking at in cases, often you see a flat supply  
6 curve. Theoretically, you can see a downward-sloping  
7 supply if scale economies are substantial enough.  
8 What that means is that in these markets, traditional  
9 textbook monopsony does not work because reducing  
10 prices -- reducing purchases does not have an effect  
11 on price.

12           Now, what's happening in labor? Labor is  
13 traditionally considered the textbook example of the  
14 upward-sloping supply curve. For years, most  
15 introductory economics textbooks have taught monopsony  
16 by referring to the one-company town and other labor  
17 market considerations. But the data that we have seen  
18 over the last couple years suggests strongly that  
19 wages are down but the economy is doing well.

20           So looking at it on a total macro basis,  
21 wages are down, but total industry output, GNP, if  
22 you will, is not down. It's up and it's been up  
23 significantly. So how do we square increased output  
24 with reduced wages in a competition context? And I  
25 don't have an answer to that because I think it's a

1 difficult problem. There are a number of analyses,  
2 and I'm looking at Ioana, and hers is probably the  
3 most prominent, that associate increased concentration  
4 in labor markets with lower wages.

5 I am very skeptical. The data come from a  
6 single source, CareerBuilders.com, on wages. And I  
7 don't know that that captures a lot of the superstar  
8 wage firms that recruit without using that website.  
9 And one of the things that we observe just anecdotally  
10 is that the industries that are being attacked as  
11 leading the march to increased concentration, these  
12 are largely the FANG companies. Those are the  
13 companies that pay the highest wages.

14 One of the reasons you saw no-poach  
15 agreements in high tech is that the wages are, in  
16 fact, so high, not so low. You don't need to have a  
17 no-poach agreement if wages are low. You tend to be  
18 more indifferent unless it's a really unique talent,  
19 which actually explains some of the cases that were  
20 brought. And so we have -- we have Fox is suing  
21 Netflix for poaching employees. Amazon increased its  
22 minimum wage to \$15 an hour.

23 All of this suggests to us that these  
24 studies are very preliminary, and it's hard to draw  
25 really robust conclusions from any of them. There is

1 just too much that we don't know, and we need to do a  
2 lot more study before making significant policy  
3 conclusions.

4 Now, where labor monopsony is a problem,  
5 it's not clear that the consumer welfare standard is  
6 the best way to address it. Consumer welfare -- and  
7 we're seeing many varieties of it, but it  
8 traditionally comes down to lower prices for  
9 consumers. Now, if a labor monopsonist reduces output  
10 in terms of the purchases of labor, that may, in fact,  
11 reduce output and lead to higher prices at the  
12 consumer end. In fact, that's the standard textbook  
13 model.

14 But life does not always conform to models,  
15 and most firms with significant bargaining power over  
16 laborers will tend to reduce the amounts that they pay  
17 or more realistically not give raises but not reduce  
18 the output that they produced. And that seems  
19 consistent with the national trend towards greater  
20 output and comparatively lower wages.

21 One of the things that folks have commented  
22 on is that labor's share of GNP has declined over  
23 years. To me, that is not a particularly important  
24 data point because we are in what the Samuelson  
25 economics books that I used as a kid and many of you

1 used -- none of you is as old as me -- but many of you  
2 studied Samuelson's textbook. And he talked about a  
3 post-industrial age where technology was more  
4 important to productivity than labor.

5           And we are seeing that. We are in the  
6 beginnings of the post-industrial age. And one of the  
7 consequences of a post-industrial age is that labor's  
8 share of GNP is going to decline. That doesn't  
9 necessarily associate it with increased bargaining  
10 power for employers or traditional monopsony power.  
11 It's just an issue.

12           So getting back to consumer welfare, if in a  
13 lot of these cases the result of paying less in terms  
14 of wages is going to be to reduce the firm's costs and  
15 therefore reduce the prices that it's charged, I'm not  
16 saying this is the normal case or even the standard  
17 case, but it happens in enough cases that you have to  
18 question whether to apply consumer welfare as the  
19 appropriate standard.

20           And the standard that I think captures the  
21 benefits of the consumer welfare standard without at  
22 least that particular potential flaw is an output  
23 standard. And let's look, is this practice decreasing  
24 market output? Is it neutral? Is it increasing  
25 market output? And I think you can apply that to

1 labor markets in the same way that you can apply to  
2 traditional industrial markets.

3           And if we do that, I think we generate  
4 better outcomes in a larger percentage of cases than  
5 with the "low prices for consumers is all that  
6 matters" standard. So I would urge the Commission to  
7 consider output as a -- if not a substitute at least a  
8 relevant consideration in terms of determining whether  
9 a practice is unlawful or not.

10           Now, what is the consequence of this? What  
11 should the Commission do? That's why we're here. I  
12 think clearly the no-poach cases are ones that are  
13 valid. Other activities involving collusion should  
14 also be policed. I also agree that it should have  
15 more prominent consideration in merger reviews. I'm  
16 not sure I would add a labor specification to the  
17 second request. That's going to increase costs.

18           But I think the staff lawyers at the  
19 Commission are savvy enough to understand or receive  
20 complaints on whether a merger may have a negative  
21 effect in a labor market. And when that's the case,  
22 that should be pursued. In most cases, and we heard  
23 about this from the first panel, taking care of the  
24 merger from the sell side is also going to address the  
25 labor issues, but that's not always true, and I think

1 that if the staff is simply more sensitive to these  
2 issues, that that will be a plus.

3 But at the end of the day, at the end of the  
4 day, labor wages is really not solvable through  
5 competition solutions. There need to be additional  
6 solutions. Now, one that the FTC could consider --  
7 and this would surely be challenged in court, but I  
8 believe it would be upheld -- is simply a rule banning  
9 noncompetes or no-poach agreements for low-wage  
10 professions. And I think the FTC could do that.

11 There would be terrific procompetition  
12 effects from that. And after the five-year court  
13 battle is resolved and the rule is upheld, I think  
14 there will be great effects for the economy.

15 The Commission could also consider rules  
16 having greater wage transparency, maybe something  
17 together with the Labor Department. But at the end of  
18 the day, low wages is an important social problem.  
19 Whether it's an antitrust problem, there's significant  
20 reason for doubt, but there are tools that the FTC has  
21 and that other agencies of government have to address  
22 the problem. Thanks.

23 (Applause.)

24 MR. MOORE: Thank you, Jon.

25 Eric, you're up.

1 MR. POSNER: Thanks very much. Okay, so  
2 six, seven minutes, is that the --

3 MR. MOORE: Yes.

4 MR. POSNER: So I guess to draw a contrast  
5 with the previous speakers, I'm going to urge the FTC  
6 not to be cautious but to recklessly forge ahead to  
7 deal with this problem, which I think is much more  
8 significant than many people are suggesting. I'm  
9 going to make a few arguments, but the theme of my  
10 argument is the contrast between labor markets and  
11 product markets and the obvious contrast between the  
12 amount of attention that product markets have gotten  
13 by the FTC and the DOJ and everybody else and how  
14 little attention labor markets have gotten  
15 historically as well as recently.

16 I also want to put aside two red herrings  
17 that we've heard. One is that wage suppression or  
18 wage stagnation is not simply the result of  
19 concentration or other anticompetitive actions. I  
20 agree with that. But at least some of it clearly is  
21 the result of anticompetitive actions, and that's why  
22 the FTC has a role here.

23 The other related point is that antitrust  
24 law can't do everything, and I agree with that as  
25 well, that a lot of the wage suppression or income



1 stagnation has resulted from other factors, but  
2 nonetheless, there's a role for antitrust law to deal  
3 with the increment that is attributable to  
4 anticompetitive behavior.

5 Now, I don't want to go over the evidence  
6 again. That was discussed in the first panel. So I  
7 will just put it aside. And I actually want to  
8 provide some theoretical considerations and some legal  
9 considerations for people to think about.

10 So the first point is simply that firms have  
11 just as much incentive to suppress wages as they do to  
12 raise prices. It has the same effect. Both actions  
13 generate profits. And if they can raise prices  
14 through anticompetitive behavior and they can cut  
15 wages through anticompetitive behavior, they're, you  
16 know, roughly going to be indifferent between doing  
17 either one of those.

18 But the fact is that historically there's  
19 been much more enforcement on the product market side,  
20 as I said earlier. And so any rational profit-  
21 maximizing firm is going to look at possible  
22 anticompetitive actions on the product market and be a  
23 little bit worried that the FTC or private plaintiffs  
24 or the DOJ will go after it.

25 On the other hand, if they look at the labor

1 market side and they see ways that they can reduce  
2 labor costs through anticompetitive action, well,  
3 until recently, they wouldn't have worried at all  
4 about the Government getting involved. The same point  
5 can be made about mergers, which was discussed  
6 earlier. If two firms are merging, they really do  
7 have to pay attention to the product market side.

8           They know the Justice Department and the FTC  
9 are going to review the merger to see whether it will  
10 raise prices for goods. They also know that the  
11 Justice Department and the FTC will not review the  
12 merger to see if it has any effect on wages, so they  
13 don't have to worry about that. And you'd think, if  
14 they're rational and they want to make money, that  
15 that's where they would focus their efforts.

16           There's a somewhat subtler point, which is  
17 that for reasons that were discussed in the previous  
18 panel, labor markets can be very thin. A big source  
19 of labor market monopsony, as I gather labor  
20 economists use the term, is the result of search costs  
21 and job differentiation. You might think of matching  
22 problems as a source of thinness in labor markets as  
23 well. And these problems are less significant in  
24 product markets.

25           And I would think, then, that we would be

1 more worried, given a certain HHI for a labor market  
2 and a product market, with the labor market, right?  
3 So for a given HHI, you might think that the effect on  
4 wages will be much more significant than the effect on  
5 prices because of these problems that seem to be  
6 characteristic of labor markets.

7 Another point to keep in mind is that  
8 although I realize the FTC isn't really, you know, a  
9 welfare-maximizing institution, that it has a narrower  
10 mission, it seems very likely that labor market  
11 monopsony causes more harm than product market  
12 monopoly because workers tend to be -- you know, the  
13 workers who may tend to be the victims of monopsonist  
14 conduct will see their wages go down, whereas when  
15 prices go up, these are goods that may very well be  
16 bought by all kinds of people, wealthy and poor. So I  
17 suspect you'll see a greater impact on workers from  
18 anticompetitive behavior in the labor market than for  
19 consumers generally in terms of welfare.

20 Okay. The last thing I want to talk about,  
21 some legal considerations, which I don't think have  
22 been brought up yet and I think are interesting. So  
23 we know from people's work, including Evan and Alan,  
24 that there's a lot more anticompetitive behavior going  
25 on than people believed. The question is, why isn't

1 there more litigation?

2 Well, and if you read the cases, the first  
3 thing that you can just type in, "labor market  
4 monopsony," or words to that effect in a database of  
5 cases, and you'll get a small number of hits, whereas  
6 if you do searches for any type of product market  
7 monopoly case, you get millions. Okay, so why that  
8 difference? Why if there is anticompetitive behavior  
9 in labor markets and that it's rational for employers  
10 to do it, why are there so few cases?

11 Now, of course, one possibility suggested in  
12 the previous panel is, well, maybe there isn't that  
13 much labor market anticompetitive behavior so there  
14 aren't cases for that reason, and that's possible.  
15 But there are barriers -- there are legal barriers on  
16 the product market side that are not as severe --  
17 sorry. There are legal barriers on the labor market  
18 side that are not as severe as the legal barriers on  
19 the product market side.

20 So, for example, labor class actions are a  
21 lot harder than consumer class actions. Workers are  
22 much more diverse. That means that it's harder to put  
23 together a class that reflects a kind of commonality  
24 among the victims than in the case of product markets  
25 where the products are often just commodities and the

1 effects on people from a higher price are much easier  
2 to calculate.

3 Labor class actions are also more difficult  
4 because wage data is more frequently secret, harder to  
5 get than in the case of product markets, which is  
6 probably why you see less economic research until  
7 recently in labor markets that show anticompetitive  
8 behavior. Product markets also tend to be national,  
9 whereas labor markets are almost always local. Okay,  
10 so if you're a plaintiff's lawyer and you need to, you  
11 know, make enough money to finance the costs and the  
12 risks of litigation, it's going to be much more  
13 attractive to use a national market than a small  
14 regional market.

15 And then the almost final point is that in  
16 the product market case, there are often natural  
17 corporate plaintiffs, and I believe they're the most  
18 frequent types of plaintiffs. So often the victim of  
19 a monopolist is another big company that can afford to  
20 bring a lawsuit. Consumers might be victims as well,  
21 but it's much easier for just a private company to  
22 bring a lawsuit.

23 But there are no private companies that are  
24 natural victims of labor market monopsony. The  
25 victims are just ordinary people who often don't even

1 know that they're victims, who have no idea. And so  
2 they're not going to bring a lawsuit; they're not  
3 going to consult a lawyer.

4 And then my final point is that because  
5 there are so few labor market cases, there's very  
6 little demand for experts, and there's very little  
7 demand for academic work that looks into them. And  
8 there's a, you know, circularity here. As a result of  
9 that, less information comes out and people never  
10 learn that this problem is as pervasive as it appears  
11 to be.

12 By contrast, if you look at what the experts  
13 are doing and what most of the economic research is  
14 about, it's all on the product market side, and that  
15 has this reinforcing quality, which probably accounts  
16 for why there's so much more product market litigation  
17 than labor market litigation. And with that, I will  
18 stop. Thank you.

19 (Applause.)

20 MR. MOORE: Thank you, Eric.

21 Renata?

22 MS. HESSE: So I thought I'd take us --  
23 well, actually, first, thank you. Thanks for having  
24 me, Bilal and Chairman Simons and Derek, thanks for  
25 organizing us.

1           I thought I'd start first with a little bit  
2 of history, and I promise I won't go on long, which is  
3 to say how did we at DOJ and the FTC come to thinking  
4 about these issues and then issuing the guidance that  
5 we issued at the end of 2016, which I think has been,  
6 you know, picked up by the new administration and at  
7 least carried forward in the sense that the Assistant  
8 Attorney General at the Antitrust Division has said  
9 that he is going to, in fact, investigate and  
10 prosecute some of this conduct criminally.

11           So, you know, the natural starting point for  
12 people in positions of leadership in the antitrust  
13 agencies is not one of humility and self-reflection.  
14 It tends to be more defensive. And so I confess that  
15 when Alan's paper and some other papers came out  
16 citing that the antitrust agencies had missed the ball  
17 in this area, that the natural reaction internally was  
18 to say, well, of course we haven't missed the ball.

19           The next thing was to do a little bit of a  
20 step back and do -- be a little more humble and do a  
21 little bit more self-reflection and ask the question  
22 whether there were things that we were, in fact,  
23 missing. We knew that we had brought some cases, we  
24 knew that we saw these issues arise in certain highly  
25 specialized markets, I would say -- nurses, tech

1 markets -- but we really didn't know if we had missed  
2 a bunch of cases somewhere.

3           So one of the things that we thought we  
4 would do was work to create some guidance to put out  
5 and just to raise the profile of these issues, because  
6 one way that you learn about cases is if you hear from  
7 people who have been the subject of anticompetitive  
8 conduct or otherwise they come to you with their  
9 cases.

10           And we set up a hotline and all sorts of  
11 ways for people to get into contact with us as a way  
12 of trying to check to see whether there was a lot that  
13 we were missing. I will say that we did see an uptick  
14 in behavior that seemed to be translating from more  
15 classic civil conduct to things that looked more  
16 criminal. So behavior that looked more like wage  
17 fixing, for example.

18           And that was a big component in the thinking  
19 that we had about saying that we were going to start  
20 these investigations going forward criminally rather  
21 than civilly, because the conduct appeared to be less  
22 rule of reason in nature and more just straight up  
23 cartel-like.

24           So where does that take us? So I think the  
25 guidance itself is, I think, quite clear, and I think



1 it has been helpful in terms of raising the profile of  
2 these issues. I know that in a number of meetings  
3 with clients that I've had, these are issues that  
4 people are talking about and asking lots of questions.  
5 We do a fair amount of counseling around these issues  
6 now, whereas I think before they did not get a  
7 particularly high profile.

8 But I think there is still a lot of work to  
9 be done here. I tend to agree with -- I think I  
10 always feel like I'm charting the middle course in  
11 things. I tend to agree with Jon and Marty that I  
12 don't think antitrust -- and even Eric said this, too  
13 -- antitrust is not the be-all and end-all in this  
14 area. There are a lot of issues that this country  
15 faces in terms of income inequality and wage  
16 stagnation that should be a very high priority for our  
17 legislators and otherwise to try to handle.

18 I think antitrust is one piece of that, but  
19 I certainly don't think it's the biggest piece, and I  
20 encourage those of us -- those of you who are making  
21 laws and thinking about legislation to really focus on  
22 other ways that we could address some of these issues.  
23 There's no question that the power of labor, vis-a-vis  
24 employers, has changed in the United States. And I  
25 think that's had an impact on wages.

1           The other thing, though, that I think has --  
2 was sort of -- has gotten a little bit lost is that I  
3 don't actually think the agencies have ignored this  
4 issue. It's just that it's been looked at as a pro in  
5 mergers and not as a negative. So one thing that I  
6 think as people think about lower wages, fewer jobs,  
7 all of these things, that typically that has been  
8 characterized as an efficiency. And the agencies have  
9 analyzed it as an efficiency and they've looked at it  
10 as a positive that can come from combinations because  
11 it reduces the costs that the companies have and it  
12 therefore makes them more efficient and makes lower  
13 prices available to consumers.

14           And I think we will need to really rethink  
15 how we think about efficiencies if we are going to say  
16 that that kind of cost saving is now a harm and not a  
17 good. So I will leave it there. We have lots of  
18 things to talk about.

19           (Applause.)

20           MR. MOORE: Thank you, Renata. And now on  
21 to Evan.

22           MR. STARR: All right. Thanks, everyone,  
23 for having me. And rather than taking a big-picture  
24 approach in the discussion of labor market  
25 competition, I'd rather take you guys on a deep dive

1 into noncompete agreements which explicitly prohibit  
2 workers from working at competitors. And so this is  
3 an emerging area of research, and there's a lot to  
4 say, but I want to give you guys kind of the broad  
5 overview so you have an understanding of what we're  
6 seeing.

7           If you've never had the joy of signing one  
8 of these agreements, let me just read one for you.  
9 This is from an Amazon packer in 2015 that the  
10 contract says, "During employment and for 18 months  
11 after the separation date, the employee will not  
12 engage in or support the development, manufacture,  
13 marketing, or sale of any product or service that  
14 competes or is intended to compete with any product or  
15 service sold, offered, or otherwise provided by Amazon  
16 that the employee worked on or supported." Okay.

17           Now, I mean, although noncompetes have been  
18 around since the 1400s, the public interest in them  
19 has really only increased after the Jimmy Johns case  
20 where minimum wage sandwich-makers were prohibited  
21 from working within three miles of any Jimmy Johns  
22 establishment, which basically nips the whole city of  
23 Chicago.

24           And after that, policymakers began to  
25 question why firms were using these things, how they

1 were being used. And their interest was pretty clear  
2 that firms could use them unscrupulously with low-wage  
3 workers even simply to restrict turnover and reduce  
4 wages, and just like firms did in the kind of Silicon  
5 Valley no-poaching case. But unlike those no-poaching  
6 agreements which are per se illegal and invisible to  
7 the worker, noncompete agreements are generally not  
8 per se illegal because there's a presumption that  
9 workers voluntarily agree to them and that there's a  
10 clear efficiency motive, which is that firms have an  
11 incentive to invest in information and share that  
12 information with workers that could make them more  
13 productive.

14           If the firm could not use the noncompete,  
15 then competitors could hire that worker away and  
16 experience the benefits of the information they  
17 provided to him. So because of the efficiency motive,  
18 the result is that most states enforce noncompetes  
19 according to a rule of reason except for a few states  
20 like California and North Dakota and Oklahoma, where  
21 they're banned.

22           So how should you think about noncompetes?  
23 Well, I think you should think about them in the same  
24 way that you would think about labor market  
25 competition, and what I mean is this. Consider the

1 following example of a worker who is -- just accepted  
2 a job offer, and he didn't know about any of these  
3 noncompetes, and he walks into the office on the first  
4 day, and the HR guy is running through the paperwork,  
5 and they ask him to sign his employment contract.

6 Maybe it's a document that he has to flip  
7 through, and maybe it's on a computer screen where  
8 he's got to click through and then electronically  
9 sign. And he stumbles upon this contract like the  
10 Amazon worker that says you can't work for two years  
11 in your chosen industry.

12 And so if you think labor markets are  
13 competitive, if you think that the worker can quickly  
14 and easily get another job offer, if you think that he  
15 can go and credibly threaten to quit and earn the same  
16 elsewhere, then the worker is only going to agree to  
17 that provision if he's better off, right, if he gets  
18 some of compensated differential.

19 But if you think that the labor market is  
20 not competitive, then the worker might just sign that  
21 contract because maybe he doesn't have another offer  
22 and he's got to put food on the table tomorrow, okay?  
23 And so the point that I really am trying to  
24 crystallize here is that noncompetes are a source of  
25 monopsony power and that they increase the expected

1 moving cost to competitors, but the price that firms  
2 pay for that monopsony power depends upon the  
3 competitiveness of the labor market.

4 And, in particular, if labor markets are  
5 perfectly competitive, workers are going to get that  
6 compensating differential where the future monopsony  
7 power is transferred back to them. But if the labor  
8 market is not perfectly competitive, then firms can  
9 retain that monopsony power.

10 Okay, so with this backdrop, I want to  
11 summarize some of the research that we're seeing, and  
12 I want to emphasize that this research is really still  
13 in its infancy in large part because the use of  
14 noncompetes is not -- the data on use of noncompetes  
15 is not really available. In 2014, along with J.J.  
16 Prescott and Norman Bishara, I wrote and implemented  
17 kind of the largest survey of noncompetes across the  
18 U.S. labor force. And until then, we only really had  
19 studies of CEOs in a select few occupations like  
20 physicians and engineers. And there's a recent study  
21 of hairstylists as well.

22 So here are just a few takeaways from this  
23 kind of emerging stream of research. The first one is  
24 that noncompetes are pretty pervasive. Let me just  
25 give you some of the numbers. Recent studies suggest

1 that nearly one in every five U.S. labor force  
2 participants is bound by a noncompete and that roughly  
3 40 percent have signed one at some point in their  
4 career. Noncompetes are more prevalent among high-  
5 skilled workers -- 80 percent of CEOs, 46 percent of  
6 physicians, 40 percent of engineers -- are bound by  
7 them. But they're also found in low-wage jobs as the  
8 recent publicity suggests. Twenty-one percent of  
9 those earning less than the median wage signed one at  
10 some point, as Alan and Eric found, and 30 percent of  
11 hairstylists are bound.

12 But noncompetes are also found in states  
13 that don't even enforce them like California.  
14 Nineteen percent of Californians are bound by  
15 noncompete agreements, including 62 percent of CEOs in  
16 California. And so sometimes the California model is  
17 trumpeted, but we also find that noncompetes are being  
18 used there as well.

19 And to give you an example, just to show you  
20 that I'm not crazy, this is a noncompete from a  
21 Silicon Valley-based nonprofit that hires volunteer  
22 coaches to take grade-school girls on runs after  
23 school. And this is the noncompete. It says, "As a  
24 coach and volunteer with Girls on the Run of Silicon  
25 Valley, I may not create or help develop a program

1 that has similar goals and structure to that of Girls  
2 on the Run International within a two-year period of  
3 my involvement of Girls on the Run." Okay, so this is  
4 a volunteer coach in a nonprofit in Silicon Valley.

5 Okay, so second, when workers are asked to  
6 sign one of these provisions, 82 percent of them  
7 indicate that they simply read it and sign it. And  
8 some actually admit that they don't even read it.  
9 Only 10 percent of workers attempt to negotiate over  
10 these types of provisions when they're asked to sign  
11 them. And one-third of them actually come after the  
12 worker has accepted the job offer already. More  
13 importantly, 86 percent of workers indicate that they  
14 weren't promised or they don't perceive that they were  
15 promised anything in exchange for agreeing to these  
16 types of provisions.

17 Among the existing studies, two of them do  
18 find that the use of noncompetes is associated with  
19 higher wages and longer tenure, so there is some  
20 evidence of these compensating differentials.  
21 Although, one of the studies that I wrote with J.J.  
22 and Norm suggests that the timing issue is really  
23 important, that if you surprise workers with these  
24 provisions, then workers don't see any of these  
25 benefits. They stay longer in their jobs, about a



1 year longer, and they're less satisfied.

2 Most of this literature doesn't involve data  
3 on the actual use of noncompetes. Instead, it  
4 exploits differences in state policies. And there's  
5 significant heterogeneity across the U.S. In some  
6 states, like Florida, noncompetes can be enforced even  
7 if you're fired from your job. And if you are in  
8 California, of course, they wouldn't be enforceable if  
9 you got to court.

10 So what this literature generally finds is  
11 that the vigorous enforceability of noncompetes is  
12 associated with slower moving, less dynamic labor  
13 markets with reduced wages. And just to cite one  
14 study that I coauthored recently, we found that -- we  
15 followed workers for eight years, and we found that  
16 just starting your career in a state with average  
17 enforceability, after eight years, you experience 5  
18 percent lower cumulative earnings and you had 8  
19 percent fewer jobs relative to an equivalent worker in  
20 a nonenforcement state. And, so that's kind of the  
21 state of the evidence.

22 I have two more things I want to say and  
23 then we'll move on. So one -- another study that I  
24 recently wrote looks at -- if you just look at labor  
25 markets where the use of noncompetes is high and the

1 enforceability is high, what do those labor markets  
2 look like? And what we find is that those labor  
3 markets are also slower moving, including those not  
4 even bound by these kinds of provisions.

5 In fact, there appear to be spillovers that  
6 reduce the rate of job offers and the mobility and the  
7 wages of those who are not even bound by them but  
8 happen to be in a labor market where they're used  
9 prominently and enforced regularly.

10 Okay. And the last thing I want to say is  
11 that noncompetes chill employee mobility -- appear to  
12 chill employee mobility, even when they're totally  
13 unenforceable. In one study, we found that in states  
14 where noncompetes are not enforceable, 40 percent of  
15 workers who turned down job offers from competitors  
16 said their noncompete was a key factor in that choice.  
17 And this research, it goes on to say that it's  
18 workers' beliefs about -- beliefs about whether the  
19 firm is going to go after them or whether the firm has  
20 reminded them of their obligations that causes them to  
21 turn down these job offers, not actual enforceability.

22 And when you ask workers what do you know  
23 about these laws, you may or may not be surprised to  
24 know that workers don't know very much. In fact, they  
25 -- even in California, workers don't really know that

1 noncompetes are not enforceable. Of course, there  
2 could be differences in a few sectors.

3 Okay, so to summarize, you know, even though  
4 sometimes the evidence points to compensating wage  
5 differentials here, overall the key theme in my  
6 opinion is that the use of these provisions and the  
7 enforceability of these provisions tends to reduce the  
8 dynamism of labor markets and reduce the wages that  
9 the workers receive.

10 And I just want to end on two notes. First,  
11 I'd just like to note that noncompetes also belong in  
12 a conversation about final product markets because  
13 they're also constraints to entrepreneurship, and they  
14 prevent workers not only from moving to a competitor  
15 but also starting a competitor.

16 And the second is that noncompetes are just  
17 one constraint within a whole bundle of other  
18 provisions, including nonsolicitation agreements,  
19 nonpoaching agreements, arbitration agreements,  
20 intellectual property assignment agreements, class  
21 action waivers, nondisclosure agreements. And I think  
22 what's important to recognize here is that noncompetes  
23 are very blunt instruments because they literally tell  
24 workers you cannot go work in this industry.

25 And it's possible that that protects

1 legitimate business interests, but once you account  
2 for all these other less restrictive provisions, it's  
3 unclear what legitimate business interests actually  
4 remain. And so it could be that noncompetes only  
5 serve monopsonistic ends once you account for all  
6 those other complementary constraints. And we don't  
7 know much about those. So I'll end there.

8 (Applause.)

9 MR. MOORE: Thank you, Evan. We are now  
10 moving on to the Q&A portion of our panel. And I'd  
11 like to remind everybody that staff from the FTC is  
12 going up and down the aisles passing out notecards.  
13 If you have a question you'd like to ask, please write  
14 it down on a notecard and it will be passed up to me.

15 So the first question I'd like to ask  
16 relates to welfare standards. Marty mentioned that  
17 there may be more welfare standards than there are  
18 antitrust commentators, which might be true. But I'd  
19 like to talk a little bit about some of the problems  
20 that Jon identified with applying the consumer welfare  
21 standard to monopsony issues in labor markets.

22 And specifically I'll point this to Renata  
23 and Eric. Do you think that the consumer welfare  
24 standard as defined by the courts is flexible enough  
25 to address concerns about monopsony power in labor

1 markets, or does there need to be some sort of sea  
2 change in how the courts interpret the consumer  
3 welfare standard?

4 MS. HESSE: All right, I'll start by giving  
5 the not surprising response that I actually think the  
6 consumer welfare standard is, in fact, flexible enough  
7 to address these issues. I mean, I read what Jon  
8 said, and I was not sure why, if you're thinking about  
9 an anticompetitive conduct that harms labor or  
10 laborers, why you necessarily need to think very much  
11 about what the impact of that would be on the end  
12 price of the product that the consumer buys. I'm not  
13 -- it's not clear to me that you need to go all the  
14 way downstream in order to think about where the harm  
15 is.

16 This is a debate that has happened many,  
17 many times between lawyers and economists, I will say,  
18 but it strikes me that the harm is being felt at the  
19 employee's level and that the consumer welfare  
20 standard is perfectly adept at thinking about that and  
21 addressing it.

22 MR. POSNER: I agree. I've read as many  
23 labor monopsony cases that I can, and I didn't find a  
24 single one where a court even brought up the consumer  
25 welfare standard or thought that it might block an

1 otherwise plausible claim. In the merger context, I  
2 mean, you know, if the worker -- the relevant issue  
3 here will be when you look at a merger, the effects on  
4 everybody, consumers and workers. If the workers'  
5 welfare goes down as a result of the merger, I think,  
6 you know, anybody can understand that that's  
7 anticompetitive under the Sherman Act, and that's  
8 relative -- that's relevant, even though they're  
9 called workers rather than consumers.

10 There could be other aspects of the merger  
11 that are positive, but as Nancy mentioned in the  
12 earlier panel, a merger that has monopsonist effects  
13 will tend to raise prices, not lower prices for  
14 consumers, so that's not an issue for the consumer  
15 welfare standard.

16 MR. JACOBSON: Can I get ten seconds of  
17 response here?

18 MR. MOORE: Sure.

19 MR. JACOBSON: So the problem is the one  
20 that you identified earlier, which is that people  
21 have been using lower wages and firing people as  
22 efficiencies because, they argue, lower prices to  
23 consumers will result. So, you know, I do think  
24 there's a tension here. Yes, strict textbook  
25 monopsony will lower product output and will therefore

1 raise price, but the world is not a perfect monopsony  
2 model, and we do see a lot of bargaining contexts  
3 where wages are lower or fewer people are hired. And  
4 under the traditional consumer welfare standard,  
5 that's a plus, not a minus. And that's why I think  
6 it's not a perfect standard.

7 MS. HESSE: Yeah, I mean, I guess to me, the  
8 issue is whether you're thinking about it in the -- in  
9 isolation or whether you're thinking about it as part  
10 of a transaction where somebody's saying we're going  
11 to identify this as an efficiency and we want you, the  
12 Government, to give us credit for this efficiency and  
13 balance it against the harms that may or may not occur  
14 on the product market side.

15 I think if you think about these issues in  
16 isolation as a monopsonistic conduct that harms labor,  
17 then the consumer welfare standard does its job.

18 MR. POSNER: Yeah, and I just want to add, I  
19 mean, I was surprised when you said that earlier. If  
20 it was really the case that, you know, the merging  
21 parties would say, well, we're going to be able to  
22 lower wages, and the Government said, well, that's  
23 terrific, you know, go ahead, I mean, that's a  
24 disaster. All that should be relevant is that they're  
25 lowering prices.

1           Now, it may be -- you know, there could be  
2 reasons why -- there could be all kinds of reasons why  
3 prices could go down that are not objectionable, that  
4 are not the result of monopsonistic behavior, but  
5 that's what you want to figure out. The mere fact  
6 that wages could go down, I don't see how that could  
7 be a reason for approving a merger.

8           MR. MOORE: Go ahead, Marty.

9           MR. GAYNOR: Yeah, if I may, just let me  
10 echo that point. And this is where this issue comes  
11 up, and it's very important, it's really critical to  
12 distinguish between those two forces. So if a merger  
13 enables the parties to do something like invest in  
14 technology, that leads them to, say, using different  
15 kinds of labor and that results in cost savings, then  
16 that's fine. That's an efficiency. That's savings.

17           But if the merger enables them to be less  
18 competitive in the labor market, in that market,  
19 reduces wages, that's a harm. You don't get to call  
20 that an efficiency. You don't get to count those ill-  
21 gotten gains in the plus column.

22           MS. HESSE: No, but you do get to count  
23 firing employees as an efficiency.

24           MR. GAYNOR: Well, I think, again, it --

25           MS. HESSE: And that's what I'm talking



1 about.

2 MR. GAYNOR: -- depends on the source -- I  
3 would say if it's from harm to competition, I would  
4 say, no, you don't get to count that.

5 MR. JACOBSON: I understand, but for the  
6 last 20 years, the main argument that people have made  
7 to bless mergers is how many people are going to be  
8 fired. Now, it's not -- it's absolutely true, no  
9 one's used lower wages --

10 MR. POSNER: It's rather troubling, I would  
11 say.

12 MS. HESSE: Right.

13 MR. JACOBSON: It is troubling, but it also  
14 goes to the heart of the issue that we're talking  
15 about here, whether the consumer welfare standard is  
16 really the be-all and end-all for this kind of  
17 problem. And --

18 MR. POSNER: But it doesn't help consumers  
19 if the firing is the result of increased monopsony,  
20 right? That's the -- if that's --

21 MR. JACOBSON: Well, that's assuming the  
22 answer.

23 MR. POSNER: So I --

24 MR. JACOBSON: But the firing --

25 MR. POSNER: -- but that -- but it would

1 seem -- it would seem to me that when the FTC  
2 evaluates a merger, it's got to figure out why people  
3 are being fired and why wages are going down, right?  
4 That has to be part of the analysis.

5 MR. JACOBSON: That, I agree.

6 MS. HESSE: I agree with that, too. But  
7 typically the claim is we have tons of duplicative  
8 laborers and we're going to lay off half of them  
9 because we don't need two headquarters and we don't  
10 need two, you know, stores in the same -- that's the  
11 kind of firing that we're talking about. And that has  
12 typically been considered to be an efficiency, or at  
13 least it's been -- actually, it has been considered  
14 and it's been, I think, accepted.

15 I mean, it's not -- when the agencies -- to  
16 Marty's point, I think, you know, when I'm  
17 representing a client at the agency, in terms of  
18 efficiencies, what you're trying to look for are  
19 things like, well, this is going to allow us to build  
20 better products, or it's going to allow us to do  
21 things faster. There are all sorts of procompetitive  
22 benefits that you can highlight and that you want to  
23 highlight.

24 But there's no question that in the  
25 synergies column, reducing labor costs is one of them.

1           MR. POSNER: But I have to add here, because  
2 I didn't know this, I mean, what a striking comment  
3 that is because people in the earlier panel were  
4 saying, well, you know, if we ask agencies to look at  
5 labor markets, they're not going to have enough  
6 resources to challenge as many mergers, and that would  
7 be a terrible thing. But it sounds like the agencies  
8 are already looking at labor markets and are doing it  
9 badly. So they shouldn't, you know, look at labor  
10 markets --

11           MS. HESSE: I think -- I don't think that's  
12 an accurate characterization at all.

13           MR. JACOBSON: They're looking at the  
14 ultimate product price to the consumer, which is the  
15 textbook consumer welfare standard, and that's what  
16 I'm saying is -- you know, works in 98 percent of the  
17 cases. But in these labor cases --

18           MR. POSNER: We don't know that.

19           MR. GAYNOR: I think there's perhaps a  
20 little bit of confusion here. So, one, just coming  
21 back to this, look, the agency should look critically  
22 at efficiencies claims, and everybody knows they do.  
23 On this one, perhaps this is an area where a bit more  
24 attention is in order. That's not necessarily the  
25 same thing as a full-blown monopsony analysis. So I

1 don't think that's what people were talking about on  
2 the first panel.

3           And, again, I don't think that in my view  
4 that one has to show that prices get passed all the  
5 way through to final consumers. And that's not what  
6 happens. Look at the Sysco case which I worked on  
7 when I was at the FTC. Those are intermediate product  
8 sellers, right. We didn't look at whether consumers  
9 paid more for packets of crackers at the end of the  
10 day. The question there was whether the merger of  
11 these two huge food suppliers would affect the  
12 purchasers, which were retailers, institutions, a  
13 whole bunch of things.

14           Pick any healthcare case, almost always  
15 involving a hospital named St. Luke's because St.  
16 Luke's apparently is the patron saint of monopolists.  
17 And all of those cases have that same characteristic.  
18 It is not required by the courts to show that the  
19 final consumers, the patients who were getting care,  
20 are facing higher prices. So I don't think that's  
21 really at issue here.

22           MR. JACOBSON: Although the American Express  
23 case makes what you just said a little more  
24 complicated.

25           MR. GAYNOR: Well, that would be and I'm

1 sure is entirely another panel.

2 MR. MOORE: Let's stay away the American  
3 Express for this panel.

4 MR. GAYNOR: So the Supreme Court blew that  
5 one big time in my view.

6 MR. MOORE: We spent quite a bit of time on  
7 AmEx yesterday, and we will tomorrow, so I think this  
8 is probably not the panel for AmEx.

9 I'd like to talk a little bit about  
10 noncompetes because we are running out of time. So  
11 this is broadly a question about rules versus  
12 standards and in thinking about standards, how we  
13 might apply them in the context of litigation. So  
14 Evan described how noncompete agreements can be  
15 harmful or beneficial depending upon the  
16 circumstances. One way to address that would be  
17 through a rule or a piece of legislation banning  
18 noncompete agreements in totality, like they do in  
19 California.

20 Another approach would be similar to what  
21 Marty suggested, which would be an FTC rulemaking  
22 procedure to ban noncompete agreements for certain  
23 classes of workers. Yet another approach -- this is  
24 what I would call the standard approach -- would be to  
25 attack noncompete agreements through antitrust

1 litigation.

2           And you might think of a noncompete  
3 agreement, which is between an employee and employer,  
4 as a vertical agreement. And typically vertical  
5 agreements are governed by the rule of reason. So in  
6 such cases, it's quite difficult to win those cases  
7 because you have to prove market-wide harm and you  
8 have to define a relevant market and you have to show  
9 market power. And when we are talking about companies  
10 like Jimmy Johns, it might be difficult to establish  
11 that Jimmy Johns has market power in a relevant labor  
12 market.

13           So it's a three-part question. Rules versus  
14 standards in trying to prevent the bad noncompetes  
15 while retaining the possibility for good noncompetes  
16 to occur, and then what sort of things might the FTC  
17 think about if we were to pursue the litigation  
18 approach. And I will -- I'll throw this out to  
19 anybody on the panel. We can start with Evan.

20           MR. STARR: I mean, I have a cajillion  
21 thoughts on that. So let me just say a few things, I  
22 guess. So, you know, in the past few years in terms  
23 of the rules and the role of states and standards, you  
24 know, we have seen kind of an unprecedented amount of  
25 enforcement actions by the state AG's offices, and

1 especially in Illinois and New York.

2 And when you talk to or you listen to those  
3 AGs, many of them open a hotline, and especially the  
4 Illinois AG told me that they got an unprecedented  
5 number of calls and hits on that hotline about what's  
6 going on, and numerous situations where workers were  
7 being threatened with noncompetes but they couldn't  
8 make it to court. And they've had a number of high-  
9 profile investigations.

10 And so I think that the FTC could do  
11 something very similar where you open some of -- a  
12 call line just to learn more information. And I think  
13 that's a key here, which is that it's 2014 and we're  
14 just discovering how prevalent these things are? And  
15 I think that that's a tragedy because workers don't  
16 know what they get into -- what they're getting into  
17 when they get into a job.

18 And I think that in general there is a lack  
19 of transparency and information about the use of all  
20 these sorts of provisions. And so I think a  
21 combination of clear policies, whether it's the state  
22 or the FTC making the policy and public information,  
23 along with lines where workers can call and report  
24 abuses that can then be investigated, is a natural  
25 step forward.

1           MR. POSNER: Yeah, let me add a couple  
2 thoughts. I think it might make sense -- it would be  
3 sensible, as some states have done, to just flatly ban  
4 covenants not to compete for lower income workers.  
5 Illinois just did that, for example. What I think is  
6 interesting, though, is that the lawyers are  
7 accustomed to thinking of covenants not to compete  
8 from the common law standpoint, and you alluded to  
9 that.

10           I think that Amazon's covenant not to  
11 compete certainly would not be enforced in virtually  
12 any state. It's absurd. And states tend to be  
13 actually pretty strict. You can read a lot of these  
14 cases. The judges are pretty tough about forcing the  
15 employer to identify the interest and then seeing  
16 whether the restrictions are, you know, tailored to  
17 that interest.

18           But nobody -- but common law judges don't  
19 look at covenants not to compete from a real antitrust  
20 perspective, and as a result, you know, one result, of  
21 course, is that there's no real remedy. So a regular  
22 worker has very weak incentive to bring a case. The  
23 only remedy is that the covenant not to compete is not  
24 enforced. You don't get damages or anything like  
25 that. And so most workers don't bring these cases in



1 the first place. Only highly paid workers do who have  
2 some, you know, new opportunity.

3 The other thing, and Evan alluded to this as  
4 well, is I don't think people realize how covenants  
5 not to noncompete may be used on the product market  
6 side. And so there are these cases where a business  
7 has kind of tied up all the relevant workers, let's  
8 say nurses or doctors or technicians of some sort,  
9 people who do have skills. And what that means is  
10 that when some other firm tries to enter the market,  
11 maybe it's an established firm out of state and it  
12 wants to come into this market, it can't hire people.

13 And the workers themselves may not even be  
14 aware that they're constrained in any serious way.  
15 You know, they don't know about the not yet existing  
16 competitor who hasn't entered into the market. And so  
17 they don't object; they don't demand a compensating  
18 differential. I think this is actually quite a  
19 serious problem. And more so once, you know, we get  
20 Evan's data suggesting how -- that these covenants not  
21 to compete are ubiquitous. I suspect a lot of firms  
22 have realized that these clauses are really an  
23 effective way to extend one's market power in product  
24 markets.

25 MR. GAYNOR: I'd just like to actually

1 amplify a little bit what Eric said. So we tend to  
2 think that for low-wage workers, again, we think,  
3 yeah, little to nothing by way of efficiencies. But  
4 for highly skilled people like, say, doctors,  
5 engineers, whatever, we think, well, there may be some  
6 real efficiencies, but this is where your point  
7 actually comes home.

8           So a hospital acquires a bunch of physician  
9 practices and they make some investments in them. And  
10 we say, hey, you know, kind of looks like a noncompetitor  
11 might actually facilitate that. But then those  
12 doctors, who are key inputs, are foreclosed from a  
13 potential competitor coming in, and that can harm  
14 things substantially in a downstream market. And I  
15 think that's something that we do need to be thinking  
16 more seriously about.

17           MR. JACOBSON: Yeah, so in terms of whether  
18 the FTC should file litigation against noncompetes,  
19 it's hard to imagine a case broad enough where the  
20 impact on a relevant market would be significant so  
21 that you would prevail in Section 1-type case. And  
22 the other cases are going to be so narrow that it's  
23 not really worth a huge use of resources. And that's  
24 why I suggest a rule.

25           And, you know, rulemaking is always

1 difficult. Here, you know, a line would have to be  
2 drawn between the lower wage earners for which there's  
3 no efficiency in this or very little and the CEOs who  
4 are inherently in position of trade secrets that are  
5 difficult to protect once the CEO leaves the company.  
6 But I do think hearings and a rule from the FTC,  
7 albeit it would be challenged in court, I think it  
8 would hold up, and I think it would solve these  
9 problems without a lot of lost litigations in the  
10 meantime.

11 MR. MOORE: So I'd like to move on to talk  
12 about mergers again. So an example of a merger that  
13 would substantially lessen competition among employers  
14 as buyers in labor markets is the merger of the only  
15 two hospitals in a particular geographic area. This  
16 is an area where the FTC is quite active on the output  
17 side. One relevant policy issue for our purposes is  
18 how to handle mergers that have labor market effects  
19 but do not also have output market effects.

20 So the question is, what do you think is the  
21 incidence of such mergers? And do you have any  
22 examples of mergers that might present such a narrow  
23 labor market question? We spoke a little bit about  
24 this in the first panel, but I'm wondering if any of  
25 you can think of any questions. And I'll throw that

1 out to the panel.

2 MR. GAYNOR: Yeah, so I think that -- as I  
3 said in my remarks, I don't think we know the extent  
4 of those things, and I think that's actually an  
5 important thing that the agencies should strongly  
6 consider doing, is trying to inform themselves better  
7 about how extensive those things are. But, so, a  
8 classic example of a product market merger that would  
9 not create concerns on the sell side but create  
10 concerns on the buy side, let's say you have two coal  
11 mines -- independent coal mines in a relatively small  
12 town in West Virginia, pretty close to where I live.  
13 And the coal is sold in a global market. So there's  
14 no sale-side concerns with that merger, but there very  
15 well may be substantial impacts on the labor market.  
16 And that is a classic example.

17 There also could be similar kinds of things  
18 where there's not a substantial product market overlap  
19 on the sale side. Let's say nursing homes or long-  
20 term care facilities and hospitals or doctor's  
21 offices. If a nursing home merges with a hospital,  
22 you'd look at it carefully, but it doesn't seem to me  
23 terribly likely you see a lot of overlap on the  
24 product market side, and that probably would not  
25 likely raise concerns, but there very well may be real

1 impacts on the labor market side.

2 MR. POSNER: I can think of a couple real-  
3 world examples. One would be there was a wave of  
4 mergers involving chicken processing, meat processing  
5 companies a number of years ago. These plants are  
6 typically in rural areas where the labor markets are  
7 thin. That would -- those would be a good example.  
8 I mean, it was a while ago.

9 One that was somewhat more recently because  
10 I've been looking for these myself, there were two oil  
11 companies that merged. BP was one of them and then, I  
12 guess, some smaller oil company. And they -- and then  
13 you might think this is complicated, but they had  
14 operations in the Gulf. Was that a labor market that  
15 may have been consolidated as a result of the merger?  
16 So those are a couple possible examples.

17 MS. HESSE: I'll just say, I'm confident  
18 that you could come up with an example of a merger  
19 where you have harm in a labor market but not in a  
20 product market. I do think, and I will just  
21 reiterate what I said before, that this -- if you  
22 begin to think about transactions from that  
23 perspective, I think people need to step back  
24 before they start doing that and really reassess  
25 how we are thinking about merger enforcement and

1 what we are thinking about consolidation and how  
2 we measure harmful consolidation.

3           Because I think if you're -- in order to  
4 find harm in those markets is actionable, you do have  
5 to revisit whether the kind of classic Chicago School  
6 way of looking at transactions is the right way to do  
7 it, because I think you're going to find that in many  
8 of those situations, what the argument is on the buy  
9 side, I guess it is, is that this is making the  
10 company more efficient and, in your coal example, able  
11 to compete better in a global coal market.

12           And I'm not taking a position on whether  
13 that's a good or bad thing, but I do think you have to  
14 recognize that that will be a change in how people are  
15 thinking about transactions, and it will be a step  
16 away from the Chicago School.

17           MR. MOORE: So we are limited in the amount  
18 of time that we have. I'd like to do some rapid-fire  
19 policy questions and just run down the line. So the  
20 first question, the FTC operates in a world of budget  
21 constraints. So let's stipulate that in the near term  
22 those budget constraints are fixed so we're not  
23 getting any more money. And we can also stipulate  
24 that the agency spends a much higher percentage of its  
25 competition-oriented budget on addressing concerns in

1 output markets and not on addressing concerns in labor  
2 markets.

3           Given what we've heard this morning and what  
4 we've been discussing on this panel, if you were in  
5 charge of allocating resources at the FTC. Would you  
6 divert resources from the output side to the labor  
7 side by a little, by a lot, by none at all and why?  
8 So let's start with Marty.

9           MR. GAYNOR: So I think as I indicated in my  
10 remarks, I would find some targeted places to make  
11 some investments in generating more knowledge and then  
12 proceed from there. So I'd start with a little but in  
13 a very targeted way and think of these as investments.

14           MS. HESSE: So I'll give the classic lawyer  
15 answer, which is it depends. And I think part of what  
16 it depends on is what else is going on at the agency  
17 and where the other resources would be deployed. I  
18 certainly think diverting a little bit of resources to  
19 these issues and thinking harder about them and trying  
20 to understand better about how to take enforcement  
21 actions if they're warranted is worth it.

22           But I know from my time at the Antitrust  
23 Division there were many, many, many very challenging,  
24 very significant output market consolidations going on  
25 that required a lot of resources, and there weren't

1 many to spare to look at some of these other issues.

2 MR. JACOBSON: Yeah, so as I said, I would  
3 spend the money on rulemaking. I think a  
4 retrospective or two focused on labor markets would be  
5 good bang for the buck as well.

6 MR. POSNER: I would divert substantial  
7 resources, as I was arguing earlier, to labor market  
8 anticompetitive behavior, product market  
9 anticompetitive behavior, they're just, you know,  
10 substitutes for the firm. And so just think of, like,  
11 the police force trying to catch drunk drivers. You  
12 know, if you've got all of your resources on Highway 1  
13 and Highway 2 goes the same place, your drivers are  
14 just going to take Highway 2.

15 What you have to do is you put some  
16 resources on Highway 1 and some resources on Highway  
17 2, and I think the same thing has to be done here.

18 MR. GAYNOR: If I could convince Congress  
19 that the FTC does not need to continually monitor  
20 gasoline markets, then I think that would free up some  
21 resources that could be better spent in a lot of other  
22 ways, this among them.

23 MR. STARR: I definitely think that a  
24 moderate amount of resources should be spent on  
25 understanding more about labor markets, and in



1 particular I feel like it would be straightforward to  
2 develop some screeners that would indicate at least  
3 the use of these nonpoaching agreements, noncompete  
4 agreements, and understanding what's happening at the  
5 -- within those firms that are merging. That seems  
6 like pretty low-cost and easy to do. And, yeah.

7 MR. MOORE: So the second question is going  
8 to relax one of stipulations from the first question.  
9 And let's suppose that Congress has appropriated funds  
10 to the FTC earmarked specifically for addressing  
11 concerns about monopsony power in labor markets. And  
12 this is on top of the budget that we already have.

13 So you have a pile of money to spend on  
14 addressing labor market issues. How do you spend that  
15 pile of money? What -- Marty mentioned some of this  
16 in his opening talk, but what are the first places or  
17 where are the first places that you'll go to address  
18 concerns about monopsony in labor markets?

19 MR. GAYNOR: So I'll just reiterate what I  
20 said, go after the stuff that's obviously bad and do  
21 it now and don't let it sit. Think about crafting  
22 rules on noncompetes as have been discussed, and put  
23 some resources into really understanding better what  
24 happens on the merger side where I think that it's  
25 potentially highly important and significant, but we

1 have a pretty big gap in knowledge.

2 MS. HESSE: I think I would invest the  
3 resources in doing a more broad-scale investigation of  
4 the question of whether or not you can correlate  
5 growing concentration to wage inequality and wage  
6 stagnation. I think if we could actually find studies  
7 that people won't always agree on everything, but  
8 where, you know, there was some sense amongst a core  
9 group of smart antitrust economists and lawyers that  
10 there was really a correlation between those two  
11 things, that would go a long way.

12 MR. JACOBSON: Of course, there was such a  
13 correlation with the SCP paradigm back in the '60s and  
14 look where they got us, but -- so I'd spend the same  
15 money on retrospectives and rulemaking. Sorry to be  
16 simple.

17 MR. MOORE: Okay.

18 MR. POSNER: I would spend it on merger  
19 analysis. I think one way to think about this is that  
20 there's been an immense amount of consolidation in  
21 this country going back decades with the FTC and the  
22 DOJ looking at the product market. I think probably a  
23 lot of what was going on is they were saying, well,  
24 there's a national market, there's an international  
25 market, this is fine, we can let these mergers go

1 through.

2 And all through these mergers, they ignored  
3 the labor market effects, which are local and regional  
4 and were probably -- I mean, we don't know, but could  
5 very well have been very big. So I think there's a  
6 big, you know, chunk of missing social welfare and the  
7 Government has to catch up.

8 MR. STARR: I agree with Eric on the merger  
9 review, and in particular I think that resources  
10 should be spent on understanding actual concentration  
11 for workers, and in particular because labor markets  
12 are two-sided markets. And I think that poses some  
13 unique matching difficulties that search costs are  
14 really high, and I don't know if we have a good way to  
15 generalize that across studies, and I feel like it  
16 would be valuable to put some resources there.

17 MR. MOORE: Any last comments in the 35  
18 seconds that we have before lunch?

19 MR. GAYNOR: So I totally agree that I think  
20 understanding what happens is important, and I think  
21 more research is. I would not do -- spend more time  
22 on looking at concentration. For reasons given on the  
23 previous panel and actually on other sessions here, I  
24 don't think that's a productive activity. I don't  
25 think that's going to yield useful research evidence,

1 but I do think that we need to do more about this and  
2 we think when you do this and focus studies on  
3 specific markets analogous to the study that was  
4 mentioned about the effect of hospital mergers on  
5 certain nursing markets, that's where I think the  
6 effort should go.

7 MR. MOORE: So please join me in thanking  
8 all of the panelists.

9 (Applause.)

10 MR. MOORE: And now we have a lunch break.

11 (Panel 2 concluded.)

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1           PANEL 3: WHAT CAN U.S. v. MICROSOFT TEACH ABOUT  
2                    ANTITRUST AND MULTI-SIDED PLATFORMS

3           MR. ADKINSON: Thank you for coming to  
4 today's session. If you could take your seats,  
5 please. My name is Bill Adkinson. I'm an Attorney  
6 Advisor in the Office of Policy Planning at the  
7 Federal Trade Commission. It's my pleasure and  
8 privilege to introduce the panel on What Can U.S. v.  
9 Microsoft Teach about Antitrust and Two-sided  
10 Platforms.

11           We will have people collecting cards. If  
12 you have questions you want the panelists to consider,  
13 please write them out on the cards and pass them to  
14 the folks in the aisle who are collecting them.

15           So 20 years ago this past May, the  
16 Department of Justice brought its seminal antitrust  
17 case against Microsoft, which culminated in a 2001  
18 opinion by the DC Circuit and a subsequent consent  
19 decree. The case was groundbreaking in many respects.  
20 It was the prototype for applying antitrust in  
21 dynamic innovation-intensive industries. It raised  
22 challenges regarding how antitrust can protect  
23 competition and promote incentives for innovation  
24 both by dominant platforms and edge players in the  
25 tech sector.

1           Of particular relevance to these hearings,  
2 Microsoft's dominant position was the product of  
3 indirect effects. The Windows operating system was a  
4 two-sided platform serving applications, developers,  
5 and computer users. However, the economic literature  
6 on the network effects was in its infancy, as David  
7 Evans reported yesterday. Similar antitrust issues  
8 are currently arising in the context of a new set of  
9 tech-sector platforms, such as Facebook, Google,  
10 Amazon, and Apple.

11           As we heard during yesterday's panels, these  
12 platforms also post challenges in applying antitrust  
13 in dynamic, rapidly changing industries. Enforcers  
14 and courts strive to protect innovation incentives of  
15 both platforms and platform participants and evaluate  
16 conduct by two-sided platforms and the impact of  
17 network effects.

18           This afternoon's extraordinarily  
19 distinguished panel will discuss how the benefit of  
20 greater economic learning and hindsight can help us  
21 better understand aspects of the Microsoft case and,  
22 more importantly, how the experience and understanding  
23 from the Microsoft case can inform and guide proper  
24 antitrust enforcement in this area today.

25           The panelists will each give opening

1 statements of approximately five minutes each. They  
2 are, starting from my right, Professor Daniel  
3 Rubinfeld, New York University School of Law and  
4 University of California at Berkeley School of Law;  
5 Professor Douglas Melamed, Stanford University School  
6 of Law; Susan Creighton, a partner at Wilson Sonsini  
7 Goodrich & Rosati; Professor Randy Picker, University  
8 of Chicago Law School; Leah Brannon, a partner at  
9 Cleary Gottlieb Steen & Hamilton; and Professor  
10 Timothy Wu, Columbia University Law School.

11 Dan?

12 MR. RUBINFELD: Thanks very much, Bill,  
13 appreciate the introduction. During the time of the  
14 Microsoft case, I was the deputy at the Department of  
15 Justice in charge of economics, and I spent a good  
16 deal of my time, along with a lot of help from a team  
17 of lawyers and economists, thinking about the  
18 Microsoft case. And I want to try to describe a  
19 couple of important elements that I think are worth  
20 reviewing.

21 First, of course, we were not talking about  
22 the world of two-sided markets in those days. We were  
23 talking about platform competition, however. The  
24 Microsoft case is about a two-sided market. There are  
25 customers both on the side of users of the Office

1 suite and users of the operating system, as well as  
2 developers for apps. But the two-sided market doesn't  
3 have anything like the characteristics of the two-  
4 sided market we see with transactions because there  
5 aren't single transactions that affect both sides of  
6 the markets at the same time. There are network  
7 effects, there are externalities, and there's a kind  
8 of feedback loop, but it's not one that has any direct  
9 impact.

10 And as I will explain, what I think is  
11 important, you'll see that nothing I'm going to say  
12 depends on the fact there is or there is not a  
13 characterization of a two-sided market. I think  
14 that's largely a misleading characterization for  
15 purposes of looking at the Microsoft case.

16 What was important to me was network  
17 effects. And at the time that I was doing work on  
18 this case, along with the staff, there was a  
19 significant literature in the economics world on  
20 network effects. People like my colleagues Carl  
21 Shapiro, Mike Katz, Stanford's Garth Saloner, NYU's  
22 Nick Economides, and a lot of other people were  
23 writing about network effects, but it was new and it  
24 was controversial.

25 That was an important point to develop, and



1 network effects turned out to be an important part of  
2 the case. They helped to describe the way in which  
3 Microsoft maintained its market power in its operating  
4 system. And it was in a way the key to the case. And  
5 it was the key to the case because the Government  
6 believed and developed the argument that network  
7 effects could generate substantial monopoly power and  
8 could lead and support practices that would allow  
9 Microsoft to maintain its market power and monopoly  
10 power in the operating system market.

11 So the key to the case was to develop  
12 network effects. And the other thing that was  
13 important and essential was to show how network  
14 effects drove the important barrier to entry. And  
15 the barrier to entry, as most of you would know, was  
16 that in order to compete in the operating system  
17 market, you had to actually have useful important  
18 applications, so entry really occurred in two steps.  
19 You had to generate an application and an operating  
20 system.

21 And that applications barrier to entry  
22 became the term that was the norm of the case for us.  
23 As far as I know, it was a term never used before the  
24 case was filed, and I can tell you by the end of the  
25 trial, Microsoft, as well as the Government, was using

1 the term every day in the trial. And I think that was  
2 really a significant part of the case.

3           There was a platform argument made in the  
4 case, and it is true, I think, that the operating  
5 system and the apps upon it can be described as a  
6 platform. But the two-sided nature is really not  
7 important. What was important was that the platform  
8 really supported this monopoly power. Interestingly  
9 enough to me, the issues about platforms that came up  
10 during the case were issues -- relevant issues as to  
11 whether this market power, substantial market power,  
12 really was sustainable and significant. And the  
13 argument was raised by Microsoft in the case that that  
14 monopoly power could be overcome. There would be  
15 competition for the market that would be powerful.

16           But what's striking to me, and it turned out  
17 to be important in the case as the facts developed,  
18 was that it was very hard for Microsoft to specify  
19 what that competition was. And for me, one of the  
20 really striking exhibits in the case was a Microsoft  
21 exhibit saying we face substantial competition from  
22 known and unknown sources. And my view is when you  
23 have to rely on unknown, unnameable sources to defeat  
24 monopoly power, you really have a weak case. And that  
25 really struck the tone for me. And I will stop and

1 pass to Doug.

2 MR. MELAMED: I'm going to focus on what I  
3 think of as the legal implications of the case. The  
4 theory was conventional and straightforward -- well,  
5 it wasn't conventional in the sense that Section 2 had  
6 been pretty moribund at that point, but it was  
7 conventional in the sense that it was entirely  
8 consistent with longstanding Section 2 principles.

9 The theory was basically this. Microsoft  
10 had monopoly power in operating systems -- PC  
11 operating systems. That monopoly power was protected  
12 by substantial entry barriers, specifically the  
13 indirect network effects and the so-called  
14 applications barrier to entry. The point is you need  
15 lots of applications in order to have people buy your  
16 operating system. You won't have applications until  
17 lots of people buy -- have already bought the  
18 operating system in particular, a problem that was an  
19 entry barrier.

20 Okay, Microsoft, therefore, has a monopoly  
21 protected by entry barriers and it engaged in conduct  
22 that increased the entry barriers compared to the but-  
23 for world. The important point here, the premise of  
24 the Government's case was not that the entry barrier  
25 was impregnable, not that Microsoft would have a

1 monopoly forever, rather that it had -- there were  
2 entry barriers, and it was a question of raising  
3 the entry barriers compared to the rest of the  
4 world.

5           Okay, how did Microsoft raise the entry  
6 barriers? With Netscape and Java which were two  
7 uniquely important potential platforms, application  
8 platforms and thus potential facilitators of new  
9 operating system entry. The conduct was the kind of  
10 conduct that would pass any ordinary test for  
11 anticompetitive conduct under the antitrust laws, and  
12 it was to serve no efficiency enhancement purpose at  
13 all. There are one or two footnotes I'm not going to  
14 bother with, and thus the conduct made no sense except  
15 as a device to increase entry barriers. Plaintiff  
16 wins. Perfectly straightforward.

17           So what was the controversy about other than  
18 the sort of importance of going after this exciting  
19 new company and the world's youngest \$40 billion  
20 person and so forth? And I think it was because the  
21 case entailed the application of these very  
22 traditional principles in a very new context that had  
23 not previously been the subject of antitrust scrutiny.  
24 So there was the issue of network effects, as Dan  
25 said, widely discussed among some economists in the

1 literature, hotly contested in the litigation and in  
2 the public controversy about it.

3           People actually wrote articles taking issue  
4 with the story -- one of the fables about -- that was  
5 used to tell the story of network effects was the  
6 QWERTY typewriter keyboard. The notion was it was  
7 really inefficient and it was just first mover  
8 advantage that the original developer of the keyboard  
9 that was developed for a very different purpose game.  
10 And there were people who went in and said, well,  
11 that's not true, that's really not the story of the  
12 keyboard, as if that had anything to do with the  
13 vitality and importance of the theory.

14           So that was contested and now it's a part of  
15 everybody's everyday vocabulary. The notion that  
16 antitrust laws maybe shouldn't apply to dynamic, high-  
17 tech industries -- Schumpeterian competition, winner  
18 take all. Hotly contested. The court resolved that  
19 and now we don't argue about that.

20           Is intellectual property a trump card  
21 because they are protecting their intellectual  
22 property rights? Well, the DC Circuit said that  
23 boarded on the frivolous so people don't make those  
24 arguments anymore. Product design, part of -- an  
25 important part of the case was the court's finding

1 that a critical part of the design of the operating  
2 system, mainly the commingling of operating system  
3 and browser code, was anticompetitive. There had  
4 been a tremendous argument in some precursors in the  
5 law suggesting that product design is sort of safe  
6 harbor from an antitrust point of view -- points of  
7 view.

8 The most important significance, I think, of  
9 the case beyond the specific findings of that type are  
10 basically this. The court analyzed the facts at a  
11 very fine level of granularity. It did not say this  
12 is a case about product design; this is a case about  
13 intellectual property. This is a case about putting  
14 the -- having the browser packaged with the operating  
15 system. It got down to very fine details. It had to  
16 do with moving the browser from the add/remove  
17 utility, thus making it harder for OEMs to distribute  
18 other person's browsers. At that level of  
19 granularity.

20 It is about principles rather than rules.  
21 And every point that a party argued that there was a  
22 rule of thumb that should decide the case, whether it  
23 was the Government arguing for a per se tying rule in  
24 one of its theories or defendants arguing exclusive  
25 dealing can't be regarded as anticompetitive unless it

1 entails a 30 or 40 percent foreclosure, the court  
2 said, no, we are not interested in legal rules like  
3 that, in effect.

4 A key sentence in the opinion, which I  
5 happened to read over the weekend when I was preparing  
6 for this, is the following. The court said in this  
7 quote, "It is difficult to formulate categorical  
8 antitrust rules absent a particularized analysis of a  
9 given market," a caution that I wish the Supreme Court  
10 in the AmEx case had borne in mind.

11 Okay, just two other things and I'll end  
12 quickly. Causation. Hugely important causation  
13 theory. It's interesting that Dan said the unknown,  
14 it was a kind of a laughable position for Microsoft to  
15 point to. But a lot of people used that very argument  
16 against the Government and said what's your story?  
17 What difference would it have made? It's all  
18 speculation, doing in Netscape, this is just  
19 theorizing. Why do we think it's actually going to  
20 matter?

21 And the Government, of course, didn't have  
22 the answer because one never knows what innovations  
23 would take place in the but-for world. But the  
24 Government's theory was quite different than that. It  
25 was that by eliminating these potential facilitators

1 of new entry, they were raising the entry barriers and  
2 in a probabilistic sense, reducing the likelihood of  
3 new competition.

4 It was a theory available only in a monopoly  
5 maintenance case, it wouldn't suffice in a creation of  
6 monopoly case. And it was a theory that by its very  
7 terms embraced and depended on concepts of  
8 Schumpeterian competition.

9 So the big lesson in my view from the  
10 Microsoft case. It's not about its particular  
11 holdings. It is about the proposition that I -- we  
12 were all taught the first day of law school right?  
13 It's all about the facts. The antitrust principles  
14 were proven to be robust in that case in part because  
15 the court didn't get hung up on last year's rule of  
16 thumb developed in a different factual context for  
17 different problems, and rather applied the principles  
18 to a careful analysis of the facts.

19 MR. ADKINSON: Thanks Doug. And I neglected  
20 to ask the panelists to move the microphone so they  
21 can speak directly into it, please. Thank you.

22 MS. CREIGHTON: So my name is Susan  
23 Creighton. I wanted to thank the FTC for the  
24 privilege of getting to appear on this panel today.  
25 So unlike Dan and Doug, who are kind of authoritative



1 about what does the Microsoft case mean and they were  
2 critical in formulating the case, I was only -- I was  
3 involved in the case in sort of the input phase. I  
4 was representing Netscape, which was one of the  
5 complainants at the time.

6 So in five minutes, it's hard to cover all  
7 the things that the Department got right. Doug and  
8 Dan have mentioned some of them. Some of the points I  
9 was going to highlight overlap with some of the points  
10 they did make, but Doug and I did not actually  
11 coordinate but I wanted -- the meta thing I thought  
12 that you guys got most right and drives a lot of the  
13 rest of the analysis is clearly the Department took  
14 the time to actually look at what the evidence was  
15 showing regarding the nature of competition in the  
16 operating system market.

17 And what it showed, I think, was that while  
18 browsers were a complement to Windows for users, they  
19 were a potential threat to Windows for application  
20 developers. So the browser was a potential competitor  
21 as an applications platform. And then trying to --  
22 rather than take that simple fact pattern and then try  
23 to jam it into some preexisting set of boxes like  
24 leveraging, the Department actually followed the  
25 evidence where it led and reached a number of

1 conclusions that I think have remained foundational  
2 for how we should think about platforms 20 years  
3 later.

4 Let me highlight just four. First, DOJ  
5 recognized that products may have the potential to  
6 compete even if they don't look like each other. I  
7 think that's really important because even to this  
8 day, regulators can find it a challenge to recognize  
9 the company as maybe actual or potential competitors  
10 even if they look different or if in some respects  
11 they are complements. That tendency to narrow the set  
12 of competitors only to those that just look the same  
13 can result in under-enforcement, or over-enforcement,  
14 Microsoft itself being a great example of how if you  
15 had just looked at saying do browsers compete with  
16 operating systems, the answer is obviously no, end of  
17 case.

18 Second, as both Dan and Doug, I think, have  
19 mentioned, the Department recognized that the key to  
20 the operating system competition was the indirect  
21 network effects between users and app developers so  
22 the OEMs and ISPs were important distribution  
23 channels, but the key dynamic by which operating  
24 system platforms competed was by the number of  
25 applications written for the OS, which in turn

1 depended on attracting users on one side and app  
2 developers on the other.

3           The third feature I think that was really  
4 critical was that they focused on platform competition  
5 as a horizontal rather than vertical problem. So  
6 internet browsers were a threat not because they were  
7 a profitable complement. They were very simple pieces  
8 of software that eventually everyone gave away for  
9 free. Rather, Microsoft itself recognized the  
10 browsers in Java threatened to make it much easier for  
11 app developers to write across platforms than having  
12 to engage in the cumbersome ports from one OS to  
13 another that were characteristic then.

14           And that multiplatform access in turn would  
15 make it much easier for users to switch devices and  
16 thus operating systems. Think about how much easier  
17 it is to switch devices, for example, if you're  
18 streaming music rather than trying to port your music  
19 downloads from one device to another.

20           Finally, the DOJ recognized the platforms  
21 were dynamic, as Doug mentioned, so they needed to  
22 understand which business practices were problematic  
23 without chilling those that were not. In the process,  
24 they advocated for a test that asked whether  
25 Microsoft's conduct would make business sense but for

1 its tendency to exclude rivals. Although I'm not sure  
2 that this test is always and everywhere the best one,  
3 it works well in distinguishing between procompetitive  
4 innovation and anticompetitive conduct when dealing  
5 with dynamic, innovative markets.

6 It thus enabled the Government and  
7 ultimately the court to distinguish, for example,  
8 between bundling IE with Windows at no charge, which  
9 was permissible, versus implementing restrictions that  
10 had no possible benefit to any platform participant  
11 and served only to make it difficult to load rival  
12 software on the machine and hence for users to  
13 multihome.

14 Now, the court did not agree with the  
15 department on all things, but the department's  
16 analysis laid the basis for it to be affirmed on all  
17 of its key points. First, the court didn't adopt the  
18 Department's no-business-sense test, but it did strike  
19 down product design changes that served no legitimate  
20 purpose, and which Microsoft did not show a plausible  
21 competitive justification.

22 On the other hand it permitted those for  
23 which Microsoft did offer a legitimate benefit. The  
24 court took the Department one better in its horizontal  
25 analysis by rejecting a Section 1 tying approach to

1 product integration given the ubiquity of bundling on  
2 software platforms and the plausible procompetitive  
3 benefits of such integration.

4 And, finally, the court affirmed the  
5 department's key insights regarding the nature of OS  
6 platform competition for users and developers and a  
7 threat to cross-platform switching posed to  
8 Microsoft's market power. Thank you.

9 MR. PICKER: Hi, thank you. Thanks for  
10 having me here. I'm Randy Picker, a professor at the  
11 Chicago Law School. So I'll note as everyone, I would  
12 assume, saw that Paul Allen died yesterday. The  
13 Microsoft story is a great story, and Paul Allen was  
14 so central to it, so I'm sorry to see him gone.

15 When I teach the Microsoft case in my  
16 antitrust class, I start with the Internet Tidal Wave  
17 memo, which is the memo -- it was Government Exhibit  
18 20 in the case. It's really Gates at his best in the  
19 sense that he is looking forward in the industry,  
20 seeing where it is right now and where he thinks it's  
21 going to go. And I think he makes two critical points  
22 there.

23 So I thought what Dan said about, you know,  
24 we don't need to talk about two-sided markets. That  
25 may be fine. Gates obviously understood powerfully

1 the interaction between what was going on on the  
2 developer side and what that meant for the consumer  
3 side. So his first point is he says, look, Netscape's  
4 got a 70 percent usage share and what they are doing  
5 is, as he puts it, is they are moving Key API, the  
6 application's programming interface, into this  
7 middleware layer, and the great risk to Microsoft  
8 there is is that that will commoditize -- his word --  
9 the underlying operating system, and no one will care  
10 what operating system they're using.

11 The question I always ask in class is what  
12 brand of plumbing do you have in your house? Not  
13 faucets, we Americans have a peculiar fascination with  
14 faucets. I mean actually the plumbing, and no one  
15 ever knows. It's not that plumbing's unimportant,  
16 right, but it's a commodity, okay. So Gates saw that  
17 Netscape posed this risk of changing where competition  
18 was taking place with regard to developers and the way  
19 in which this browser, sort of this adjacent market,  
20 was going to maybe then or in future generations going  
21 to directly compete with Microsoft in the OS market.  
22 That's the story the Government told.

23 I think that was exactly the right story but  
24 that's what Gates saw as well. The second thing he  
25 says is, and this is where Dan talks about these

1 unknowns, Gates says, oh, some people are talking  
2 about this really frightening -- that's his word --  
3 possibility where someone will come up with a kind of  
4 device that you can use to browse the internet, and it  
5 will be a lot cheaper than a PC, and you won't need  
6 the Microsoft operating system. It is really hard to  
7 imagine what that world might look like, right, so  
8 other than today, right?

9           So Gates understood exactly what was going  
10 to happen and saw that and the threat that that posed.  
11 It's not that I think -- I don't know what Microsoft's  
12 current market share is on PCs, I suspect it's pretty  
13 high still. What's happened to Microsoft is not that  
14 somehow their position has been lost in PCs, but  
15 rather this whole other world of computing devices has  
16 exploded and the PC is just, you know, a piece of it  
17 but not the dominant position it was.

18           So Gates saw all that and responded to  
19 Netscape in a powerful way because of that. The  
20 Government's case, I mean, we've talked about the  
21 success of it. I want to hear more about some of the  
22 failures. So there was an attempted monopolization  
23 claim of the browser market, that died. How we think  
24 about what an incumbent -- a dominant incumbent does  
25 with regard to new adjacent markets, I think that's a

1 really important platform issue, and the attempted  
2 monopolization claim was in that spirit.

3           So I'd love to hear more from -- what did  
4 you say they were, that they were the definitive  
5 sources -- on that. And then obviously the tying  
6 claim, which again relates to this question of to what  
7 extent are we going to constrain an incumbent into  
8 moving into these adjacent markets. That issue  
9 dropped on remand, and I thought that was exactly the  
10 right strategic choice, but from a standpoint of  
11 knowing what the law is, that remains a little  
12 frustrating.

13           I think the question we should ask today is  
14 now with the benefit of all this development of two-  
15 sided markets is to ask, well, if we bring that  
16 analysis to bear on the Microsoft case, do we get any  
17 different insights into the behavior that we saw  
18 there, right? So when you teach two-sided markets in  
19 class, I have this very simple sort of example of why  
20 pricing below marginal cost might be very sensible in  
21 two-sided markets. We don't usually allow that in  
22 one-sided markets. You build it up, and what you're  
23 trying to convey to students is, is that you can't  
24 just apply your single-market intuitions to two-sided  
25 markets. You've got to be more sophisticated.



1           So go back and ask the questions. If we  
2 look at what Microsoft did through a two-sided market  
3 lens, does it look any different? I think the answer  
4 to that is sort of no. I thought what Doug said was  
5 right, which is the granularity with which the case  
6 was presented and which the DC Circuit found  
7 compelling, I talk about add/remove in class, too, you  
8 know, the commingling of code, the embedding of the IE  
9 icon.

10           Microsoft didn't offer a procompetitive  
11 justification for any of those. And I think even in a  
12 world of two-sided markets it would struggle to do  
13 that now. Oh, I'm out of time, so I should stop.

14           I do think, you know, the bolder story would  
15 be to argue if you're Microsoft back then as to why  
16 fragmentation in these markets would be bad, that's  
17 what Google has tried to do unsuccessfully in Android.  
18 And I think if you made those arguments in a two-sided  
19 market maybe you'd be able to try to bolster their  
20 position. I think ultimately those are losers, but  
21 that's the direction I would want to go, I think.

22           But I do think it's interesting to relook at  
23 what they did, ask what could they have done had they  
24 simply tied and not engaged in all these other silly  
25 behaviors, what would the case have looked like and

1 how would we see that through a two-sided framework.

2 MS. BRANNON: Hi, I'm Leah Brannon. I want  
3 to thank Bill and the FTC for inviting me to join on  
4 this panel. At the time of the case, I clerked for  
5 Judge Ginsburg on the DC Circuit. So I'm really  
6 excited that we're talking about the case 17 years  
7 later, that it's held up pretty well over time. It's  
8 been cited -- I checked in Westlaw the other day --  
9 it's been cited more than 1,500 times in cases and law  
10 review articles, including twice by the Supreme Court  
11 in Trinko and linkLine, more than 100 times by the  
12 Federal Courts of Appeals, around 300 times by the  
13 District Courts, and 1,200 law review articles. So  
14 it's been cited many times. I like to think that's  
15 because it was groundbreaking, but it's probably also  
16 because it was just a really long opinion and it  
17 covered a lot of topics.

18 So as you probably all know, the opinion  
19 touched on monopoly power, the standard for  
20 monopolization, licensing restrictions as an act of  
21 monopolization, predatory product design, exclusive  
22 dealing, deception, attempted monopolization, tying,  
23 course of conduct, causation, and that's just the  
24 antitrust discussion. It actually gets cited -- a lot  
25 of those citations are for the judicial misconduct

1 section, which was an odd sideshow part of the case.

2 I think, you know, my opinion is that one of  
3 the most important contributions of the case was the  
4 court's decision to apply the rule of reason, just the  
5 basic rule of reason, to monopolization claims. There  
6 were other standards. I think Susan touched on this,  
7 and Doug. There were other standards floating around  
8 at the time. Even in connection with Microsoft, a  
9 couple of years earlier, Judge Williams in the consent  
10 decree case, had written an opinion basically  
11 indicating that if the defendant has any  
12 procompetitive effect for its conduct, no matter how  
13 small, that immunizes all of its conduct. That was  
14 one possible standard.

15 There was also the test the Government was  
16 pushing that Susan called the business sense, you  
17 know, does something -- does conduct make no economic  
18 sense but for a tendency to monopolize. So there were  
19 a lot of other standards, and the court adopted and  
20 applied the rule of reason. So I'll turn it over to  
21 Tim.

22 MR. WU: Thank you very much. Tim Wu, and I  
23 want to thank Bill and also the FTC. It's a pleasure  
24 to be here. My involvement in the actual Microsoft  
25 case was somewhat tangential. I was a research

1 assistant for Larry Lessig right when he became the  
2 special master and then later was a clerk for Dick  
3 Posner, right about when he -- so if anyone remembers  
4 the strange chapter when all these guys got involved,  
5 but, of course, that all amounted to nothing and so  
6 that was that.

7 I have studied -- actually maybe more  
8 important is I was working in Silicon Valley when the  
9 decision came down. And that's what I think is -- and  
10 felt some of the after-effects. And that's what I  
11 want to focus on in my comments here. I think -- you  
12 know, I think there are many lessons from Microsoft.  
13 But I think it teaches us something very important  
14 about enforcement policy in particular. And the --  
15 essentially the courage and the determination and the  
16 -- as was already described, the great care with which  
17 the Government brought its case is I think an  
18 important model for the agency, for FTC, for the  
19 Justice Department, for anyone who is serious about  
20 enforcement of the antitrust laws.

21 You know, to make the point obvious, the  
22 antitrust laws don't have any effect unless they're  
23 enforced, and they go through periods of great quiet  
24 and calm when enforcement doesn't happen. You know,  
25 in the very beginning of the law's passage, it wasn't

1 seriously enforced for almost a decade. And so it  
2 always takes, you know, a certain, I'd say, courage to  
3 bring these cases.

4 I think it's worth remembering that the  
5 Microsoft case, I happen to think it was antitrust at  
6 one of its finest hours, maybe along with AT&T, and I  
7 think other people have said that. But at the time,  
8 there was enormous resistance to the idea of bringing  
9 this case. Doug already highlighted some of the  
10 reasons. People said it's a new and dynamic industry,  
11 you know, someone else will come along and swallow  
12 Microsoft in ten minutes.

13 There was also -- and I want to emphasize  
14 this -- no really clear price effects for what they  
15 were doing. Explorer was being given away for free.  
16 You know, Microsoft was like a charity, giving this  
17 new product to everybody. You know, so why would  
18 anyone argue with that? Bill Gates was kind of a  
19 darling at the time, a symbol of American  
20 entrepreneurship. And so it required sailing into the  
21 headwinds to some degree to bring this case.

22 And I think that was an act of courage, and  
23 I think the lesson for today's enforcers is that they  
24 need to have the courage and also have the -- let me  
25 make three particular points about this -- have the

1 courage to take cases in these kind of situations. So  
2 here are the three things I think are particularly  
3 important.

4 One is the fact that Microsoft was brought  
5 without clear, at least as far as I know, clear  
6 evidence of price effects. So, you know, it wasn't  
7 obvious that the campaign against Netscape was  
8 actually inflating prices to consumers. And,  
9 therefore, the case was brought -- you know, had to  
10 be brought in this more complex theory that, in fact,  
11 that it was affecting competition for the platform  
12 and was monopoly maintenance.

13 And, so, you know, that took a certain -- I  
14 think we've in subsequent years sometimes been too  
15 nervous, unwilling to bring cases when we don't have a  
16 clear price effect, and it's worth going back to  
17 Microsoft to notice, even if the product is given away  
18 for free, that doesn't necessarily tell us the whole  
19 story.

20 Second and related to that is the  
21 observation -- and everyone knows this -- is that the  
22 greatest benefits for successful antitrust enforcement  
23 have to do with dynamic benefits, with innovation  
24 effects, for example. And that means the  
25 beneficiaries may be unknown, in fact, and not

1 obvious. This is my second point. So when you look  
2 at the aftermath of Microsoft -- actually it didn't  
3 really help out Netscape very well. Netscape plunged  
4 in market share, Explorer did, in fact, gain a  
5 monopoly. It was at something like 95 percent in 2002  
6 or so. So, you know, it wasn't -- I mean, Netscape  
7 became Mozilla and so forth, but it didn't actually  
8 save that company.

9           The real beneficiaries at the time when you  
10 look back were the companies that were beginning and  
11 starting to make -- to view the web as a development  
12 platform to try to make their fortunes on top of the  
13 HTML protocol and on the internet. In other words,  
14 the great beneficiaries are really Google, Facebook,  
15 Amazon, and some other companies who might have been  
16 in a very different situation with an unpoliced  
17 browser.

18           And I think -- you know, I don't think,  
19 maybe -- I think people were thinking about that in  
20 abstract terms, but Google was a college project when  
21 the -- or grad school project when the case was begun.  
22 So it was impossible to realize some of the value that  
23 might be created but required the sort of faith and  
24 not just faith but some ability to realize that the  
25 dynamic benefits might be lost.

1           I realize I'm out of time, so I'll just say  
2 my third point. The last lesson, I think, for  
3 enforcers or, frankly, innovation policy from  
4 Microsoft, I think, is taking a careful effect -- a  
5 careful look at the effect of what I call the  
6 policeman at the elbow for the conduct of a  
7 monopolist. Many people have noticed, sometimes  
8 said, well, you know, no one -- they didn't break  
9 up Microsoft. It kept a monopoly.

10           But one of the most -- I really think the  
11 most important effects, as I've suggested, was the  
12 fact that Microsoft after the suit was chastened and  
13 operated with a policeman at the elbow and therefore  
14 never did some of the most obvious moves they could  
15 have on an unregulated browser, such as making sure,  
16 for example, that their search engine was a default  
17 and was impossible to remove or any of the other  
18 things you might have done with a completely  
19 unsupervised browser.

20           So I've used up my five minutes but those  
21 were some of the things I thought.

22           MR. ADKINSON: I want to thank the panelists  
23 for keeping it on time. That was a great job. I also  
24 want to thank my colleague, Derek Moore, for having  
25 thought of this topic for a panel. He deserves a lot



1 of credit for that.

2 I'm going to set various groups of questions  
3 and in the hope that I'll elicit responses. The first  
4 set will broadly cover issues surrounding liability  
5 under Section 2, exclusionary conduct, incentives to  
6 innovate, and harm to competition.

7 The Microsoft court identified the  
8 applications barrier to entry as the central source of  
9 Microsoft's market power. And the Government asserted  
10 that Microsoft illegally maintained the operating  
11 system monopoly by protecting this barrier from  
12 nascent competition from the Netscape browser. Among  
13 other things, the Government alleged that Microsoft  
14 undermined the competitive threat posed by Netscape by  
15 technologically tying its browser to Windows and by  
16 placing restrictions on distribution of competing  
17 browsers.

18 The Court of Appeals upheld the District  
19 Court's finding that Microsoft's conduct illegally  
20 maintained its Windows monopoly, while noting the  
21 difficulty of assessing the extent to which that  
22 monopoly would have been eroded absent Microsoft's  
23 exclusionary conduct. The Government also claimed  
24 that this conduct constituted an illegal attempt to  
25 monopolize the browser market, but the Court of

1 Appeals overturned the District Court's finding of  
2 such a violation.

3 And with that background, let's first talk  
4 about innovation incentives. How important to the  
5 Government's case were concerns that Microsoft's  
6 exclusionary conduct, particularly towards browsers,  
7 would reduce incentives by small industry players to  
8 innovate? What light does Microsoft shed on the  
9 current concerns that incentives to innovate at the  
10 edge are undermined by fears that a dominant platform  
11 can use its position to discriminate against or  
12 otherwise exclude competitors in related markets?

13 And, Dan and Tim, you can start us off  
14 please.

15 MR. RUBINFELD: Sure, thanks. It's a great  
16 question. So, for me, the characterization of the  
17 case as an innovation case would be accurate. What  
18 motivated me and I believe the decision to bring the  
19 case was the concern that absent some of the practices  
20 that we've been talking about, there would have been a  
21 substantial innovation. But as Doug pointed out, it's  
22 very hard to say exactly what the future will be in a  
23 highly rapidly changing world.

24 So the innovation case was pushed through by  
25 talking really in an ex ante point of view about the

1 likelihood or probabilities of various things  
2 occurring. And for me -- for me, the story we would  
3 tell about innovation was to say suppose we're in a  
4 world where Java was successful, Java carried by --  
5 Java software carried by Netscape and maybe other  
6 browsers at a different point in time -- would allow  
7 competitors to compete, both by finding alternative  
8 operating systems that were not Windows-based and the  
9 apps to support it.

10           Now, why is this harmful to innovation?  
11 Well, we know from an economics point of view that if  
12 you've got a large installed base it makes good sense  
13 when you're innovating, to innovate to protect that  
14 installed base. And the installed base was generating  
15 billions of dollars of revenue for Microsoft and it  
16 was pretty clear that much of the innovation was  
17 directed in that direction. So it's not that  
18 Microsoft wasn't innovating and, in fact, continued to  
19 improve Internet Explorer during the period we were  
20 looking at, but the innovations were directed to  
21 protect rather than to grow and take on these new  
22 unknown sources that I talked about earlier. And that  
23 is a problem.

24           Now, the reason why the problem for me  
25 became really striking was that during the

1 investigation period, at the behest of my boss, Joel  
2 Klein, I made a number of trips, mostly to Silicon  
3 Valley, in which I both publicly gave rather innocuous  
4 speeches and privately met secretly with many of the  
5 players in the market. And during those secret  
6 meetings, which were spy-like, by the way, I had to  
7 travel incognito and meet in hotels and things of that  
8 sort, I never thought when I went to DOJ that I would  
9 be going through that process.

10 But what was striking about the meetings was  
11 not that everything I heard was true. There were many  
12 claims that I decided and we decided were invalid.  
13 But what was striking was that they were secret. The  
14 firms that thought they wanted to enter into the  
15 market to compete with some of the products, either  
16 direct products that Microsoft generated or ones that  
17 they might be in markets where they would be  
18 competing, those firms were afraid to publicly even  
19 talk about their concern.

20 I think there's a strong indication -- to  
21 me, there was to me, that the fact that firms that  
22 were likely to be entering, small innovative  
23 companies, were afraid to talk and, B, were likely to  
24 move their innovations in different directions  
25 suggested there was a strong problem. And many of

1 those firms later, with a little pulling and tugging,  
2 testified at the trial. But I can tell you it took a  
3 long effort to get those witnesses to become public.  
4 And, for me, that served as a strong motivation to try  
5 to develop the argument that, ex ante, there was a  
6 strong probability that many of these firms would be  
7 innovating and we would see a different world had we  
8 not acted.

9 MR. WU: Well, it turned out you were right,  
10 I think. And, you know, I think what we learn about  
11 the -- from the case particularly in this area is how  
12 sensitive, and I think that the methods to go and  
13 interview people are a good one of understanding the  
14 process of innovation on platforms and the effects --  
15 and the particular techniques of exclusion that you  
16 tend to see on platforms. You know, I'm interested in  
17 the history of major platforms -- major tech  
18 platforms.

19 And when you look at the history of  
20 Microsoft a little bit over a longer period, you see  
21 they had sort of developed a pattern, which is to say  
22 that they, you know, sought to control the platform.  
23 Bill Gates, I think, did have the genius that Randy  
24 described. He had this incredible ability to see the  
25 future and the ambition to want to control it.

1           So he, you know, always sought -- since the  
2 early dealings with IBM, saw the platform as all-  
3 important and invited the developers to the platform,  
4 but then had the pattern of then copying the most  
5 successful of the -- copying the most successful of  
6 those who developed on their platform and then one way  
7 or another ensuring that the Microsoft version of it  
8 won.

9           Now, that wasn't what the Microsoft case  
10 ended up being based upon. And I'm not talking about  
11 the antitrust theory, but I am talking about the  
12 industry effects. So after a while, the industry, I  
13 believe, began to think of Windows as a place where  
14 you were invited for dinner and ended up being dinner.  
15 You know, it wasn't a safe place to innovate and which  
16 is why everybody was jumping over to the web as an  
17 opportunity to develop freely without Microsoft  
18 interference.

19           And so then you had this -- you know,  
20 whether -- I think the Justice Department did realize  
21 it, but there's this crucial moment where Microsoft  
22 might have just repeated the pattern which it had  
23 repeated on several occasions, gain control of the  
24 major platform, which by then would be the browser,  
25 and use that control to see which -- first of all,

1 understand which applications were the most successful  
2 and then copy them and make sure it became dominant,  
3 in which case, we'd have a future where, you know,  
4 Bing would operate the general search engine, maybe  
5 there'd be some version of Facebook browser, but it  
6 would all be Microsoft all the way through.

7           And I submit that would be a less -- that  
8 would have been worse for the environment and worse  
9 for innovation. So I only bring this up to say that  
10 maybe, and since this is the hearing, we're talking  
11 about ongoing cases, that's a pattern that we should  
12 pay attention to and look for. You know, are there  
13 currently firms that are trying to control, you know,  
14 a major platform, that major platform, and are they  
15 taking some of the Microsoft-like moves to try to make  
16 -- to open themselves up and then -- to open up the  
17 platform but then ensure that they control the most  
18 valuable sources of profit on that platform.

19           MR. ADKINSON: Susan, did you want to say --

20           MS. CREIGHTON: Yeah, sure. Thank you. So  
21 just on the anonymity point, Dan, you brought to mind  
22 that I actually in connection with the first Microsoft  
23 case, the one that led to the consent order, ended up  
24 filing a brief on behalf of three anonymous amici,  
25 which I think is -- one would have to look at whether

1 or not there's ever been anonymous commenters to a  
2 Tunney Act proceeding before or after. It seemed very  
3 amusing to everybody in DC; was not so funny to people  
4 in Silicon Valley.

5 And having represented companies down in  
6 Silicon Valley for about 30 years, my general  
7 experience has been that if people are lining up  
8 around the door to complain about you, you're probably  
9 not the ones you want to worry about. It's the people  
10 putting their bags over their heads that are the  
11 scarier ones.

12 I did want to pick up on a point, Bill, that  
13 was, I thought, implicit in your question, which was I  
14 don't actually think -- maybe the Department was, but  
15 I don't think the court was concerned about  
16 intraplatform competition, per se. You mentioned edge  
17 competitors, if that was what you were referring to.  
18 Or at least it seemed to me that what the court was  
19 really focused on was preserving interplatform  
20 competition, the horizontal point I made earlier, in  
21 the notion that what would preserve competition on top  
22 of the platform was that kind of interplatform  
23 competition.

24 And I think that's certainly what we see  
25 today if you consider, you know, sort of for those of



1 you who were here when Catherine Tucker spoke  
2 yesterday, she was talking about the competition  
3 between Uber and Lyft, for example. That's the  
4 competition that's taking place on top of the  
5 platforms, and you see intense competition on both the  
6 driver side and the user side, which she had pointed  
7 out, and that intense competition, in turn, is  
8 facilitated by the fact that it's so easy to switch  
9 and multihome. And why is it so easy to switch and  
10 multihome, it's because on both sides of that app  
11 platform or app, you know, service, they run across so  
12 many different devices that no device maker or  
13 operating system platform really could try to lock  
14 them down on either side.

15 So I think that that -- it's the  
16 interplatform competition that gives us that freedom  
17 for just sort of results in that vigorous, you know,  
18 sort of competition on top of the platform as well.  
19 But, you know, a further point, and I mentioned this  
20 in my opening remarks but wanted to emphasize it, was  
21 I think for you to get that kind of robust  
22 interplatform competition, platforms do have to be  
23 able to innovate, and that that innovation  
24 historically has taken the form of integrating  
25 previously separate functions.

1           So, you know, as I mentioned in my opening  
2 remarks, the DC Circuit expressly rejected the  
3 application of per se tying rules to software platform  
4 markets on the ground that productive integration was  
5 a common feature in competitive software markets and  
6 companies often competed by gaining a first-mover  
7 advantage by being the first to integrate what had  
8 been previously two separate functions.

9           So the court concluded that "This ubiquity  
10 of bundling in competitive platform software markets  
11 should give courts reason to pause before condemning  
12 such behavior even in less competitive markets such as  
13 desktop OSs." So I think that the court was exactly  
14 right in its focus, and if we're going to play kind of  
15 "what the world might have looked like if the court  
16 reached a different conclusion," let's say they had  
17 not ruled that way, people sometimes can forget that  
18 what happened after browsers is there actually  
19 was -- then the next sort of round of vigorous  
20 competition that was taking place, really right as the  
21 Court of Appeals decision came down, was between  
22 online portals. Right?

23           So there was vigorous competition amongst  
24 AOL, which was perceived as dominant, MSN, and Yahoo!,  
25 really kind of from -- really late 1990s up through

1 the mid 2000s. And all during that time, they were  
2 vigorously integrating new features. They were adding  
3 travel, messaging, search. If the DC Circuit's  
4 decision had come out differently, might those  
5 platforms have been sued for unlawful leveraging into  
6 edge services? And in making that assessment, how  
7 would we know where true portal services left off and  
8 vertical services began? So we know in retrospect  
9 that platform -- various platform competition amongst  
10 the portals actually ended up greatly accelerating  
11 competition in edge services.

12 So Expedia was founded as part of MSN and it  
13 was spun off separately. You know, I think Tim  
14 mentioned, you know, Google, Facebook. A lot of those  
15 companies got started as point providers in providing  
16 apps, if you wanted to call it that, where clearly the  
17 consumer demand had been surfaced by this  
18 interplatform competition among the portals. So I  
19 think the DC Circuit was right to let that portal  
20 competition thrive. The evidence was that that, in  
21 turn, was what really enabled competition to take off  
22 from there.

23 MR. ADKINSON: Doug?

24 MR. MELAMED: Yeah, let me just add a brief  
25 thought. I agree with everything that Susan said. I

1 just want to add this, in the spirit of let's not  
2 forget the lessons we learned in the Microsoft case.  
3 So at the time of the Microsoft case, there was a  
4 tremendous kind of chorus of people who were concerned  
5 about the case, thought it was misguided or paid to  
6 say that, I'm not sure which, who were saying, oh,  
7 gee, if you do this, you're going to interfere with  
8 the ability of Microsoft and firms like Microsoft to  
9 innovate. You're second guessing their product  
10 design. You're second guessing their innovation path,  
11 and so forth. A legitimate concern, to be sure.

12 What was striking is that the Government  
13 responded quite explicitly by saying the issue is not  
14 what set of rules will enable Microsoft to maximize  
15 its innovation but what set of rules will enable the  
16 market to be most likely to innovate. We were  
17 concerned with maximizing market-wide innovation. And  
18 I think the court got it right for all the reasons  
19 that Susan said.

20 And I know I'm sounding like a Johnny One-  
21 note here, but by contrast to the AmEx case, where the  
22 alleged victims of the wrongdoing -- Discover, Visa.  
23 and Mastercard -- didn't pay much -- the court didn't  
24 pay any attention to them. The court just focused on  
25 the defendant.

1 MR. ADKINSON: Thanks. Let me just have one  
2 followup. Susan correctly distinguished between the  
3 competition among platforms as opposed to competition  
4 with edge players on a platform. We did -- we haven't  
5 heard a fair amount of complaints, something like the  
6 fury you're talking about about Microsoft back during  
7 the building up of the case.

8 There's fear expressed by edge players that  
9 they will not be able to innovate in certain areas,  
10 but it is a different circumstance. So I wanted to  
11 ask if people wanted to comment directly on those  
12 sorts of concerns. We heard it in the panel on  
13 platforms in action yesterday, for example.

14 MR. PICKER: Yeah, I'd be happy to. So and  
15 I think part of that goes to what Susan was saying  
16 about integration. So when we see a dominant firm  
17 entering a space where you see someone on the edge  
18 who's come in, I think the questions you have to ask  
19 is, is this a failure of antitrust policy, is this a  
20 failure of IP policy or not a failure at all. So  
21 software patents emerge in the 1960s, precisely  
22 because IBM at that time was selling everything on a  
23 bundled basis.

24 You got the mainframe, you got the services,  
25 and you got software. And people who wanted to enter

1 the software business didn't see a good way for them  
2 to "propertize" their innovations. IBM would imitate  
3 it immediately. Antitrust failure, IP failure. The  
4 software patent emerges in response to that.

5 And so I think when we see people who say  
6 we're not seeing this innovation, one possibility  
7 is is the incumbent's actually incredibly well  
8 situated to go into the market, and keeping them  
9 out of the market would be a mistake. That's one  
10 characterization of the 1956 AT&T final judgment  
11 where we blocked AT&T from going into computers.

12 The other is is the people who run the IP  
13 regime have said, actually, we want competition to  
14 take place there and you don't get a property right  
15 there. And then the question is what's antitrust  
16 supposed to do about that, if anything?

17 MR. WU: I come back and I, you know, on  
18 just on this particular edge, on this edge issue. I  
19 wouldn't disagree with Susan at all that interplatform  
20 competition is very important. I'm just nervous, I  
21 think, sometimes that it becomes the only concern when  
22 we talk about policing of innovation platforms. You  
23 know, in some ways, it was an unusual setup,  
24 Microsoft, in the sense that you had a platform that  
25 had an application that itself could become a

1 platform.

2           And if that's the only -- if we just look  
3 for that particular, I don't know, four-leaf clover,  
4 we may overlook problems, other types of problems.  
5 Microsoft also included a second count, or I don't  
6 know which count it was, but the attempted  
7 monopolization count as well. And that was not, I  
8 don't think, necessarily based on a purely inter -- so  
9 I just think we should not overlook the challenge of  
10 policing where innovation actually happens and the  
11 conditions of innovation.

12           I would accept the fact that you do have to  
13 be very careful about whether integration is actually  
14 procompetitive or not. But to say we're only going to  
15 look at intercompetitive platform cases, I think,  
16 would draw the wrong lesson from Microsoft.

17           MS. CREIGHTON: I guess I would just add  
18 maybe one other thought for people is though when you  
19 first had announced sort of multisided platforms and  
20 stuff, I was actually thinking this was going to cover  
21 hardware as well as software, because actually, you  
22 know, going back to the IBM peripherals cases, the  
23 problem of product integration is actually at least as  
24 intense in hardware as it is in software.

25           And those cases, as many of you know, I'm

1 sure, involved stuff like, well, you know, if IBM  
2 integrates, you know, sort of the disk drive with the  
3 CPU and the interface disappears, how are you possibly  
4 supposed to compete as a separate disk drive  
5 manufacturer?

6 You know, and that's a tough spot to be in  
7 if you're a competing disk drive manufacturer, but,  
8 you know, most people are not lugging around separate  
9 keyboards and disk drives. And, you know, so -- and I  
10 actually think probably the point I'm going to make in  
11 a few minutes, I actually think the problems with  
12 stickiness and lack of multihoming and so forth are  
13 actually much harder in hardware than software.

14 And so I think we need to be careful in  
15 thinking about, as we're concerned about, well, gee,  
16 we need to preserve the importance of complementarity.  
17 How would that world look like if we're talking, for  
18 example, about integrating in hardware as well as  
19 software, because it's hard for me to explain why you  
20 would have one rule for one and not for the other.

21 MR. PICKER: And IBM eventually won those  
22 cases.

23 MS. CREIGHTON: Yeah.

24 MR. PICKER: I mean, they've lost sometimes  
25 below, but they won on appeal.



1 MR. ADKINSON: On the facts.

2 MR. PICKER: On the facts. Absolutely.

3 MR. ADKINSON: It was just to try to put  
4 together another panel for those cases.

5 (Laughter.)

6 MR. ADKINSON: And now I'd like to ask us to  
7 consider aspects of the Microsoft case in hindsight.  
8 First, how might the legal learning in the recent AmEx  
9 decision have influenced the Court of Appeals if that  
10 case had been decided before Microsoft? And, Doug, it  
11 sounds like you might be interested in that one.

12 MR. MELAMED: Well, the alternatives would  
13 be not at all or badly.

14 (Laughter.)

15 MR. MELAMED: Well, AmEx is not literally  
16 applicable, I suppose, because it purported to be  
17 addressing the rules that would apply to what they  
18 called a two-sided transaction platform, which is one  
19 that involves simultaneous transactions between  
20 parties on both sides. And I don't think anybody  
21 would have said back then or today that Microsoft is  
22 facilitating simultaneous transactions between  
23 purchasers of the operating system on the one hand and  
24 apps developers on the other. So one, I suppose,  
25 facile answer is to say it's not applicable.

1           I do think, though, or I worry, though, at  
2     least, that the decision could have perversely  
3     affected the case if it had kind of induced the court  
4     to get all tangled up in the question of is two-  
5     sidedness something that requires a different body of  
6     law, a whole different conceptual apparatus. How do  
7     we think about this? You know, Lorain Journal  
8     involved a two-sided platform as well, but I think we  
9     all agree that the court got it right there without  
10    getting too bogged down, because these things really  
11    have to turn ultimately on the factual inquiry as to  
12    whether two-sidedness does or does not matter.

13           Now, in the Microsoft case, Microsoft  
14    actually made a two-sided defense. It made one  
15    specific one. It said, we need to integrate the  
16    browser into the operating system in the way that we  
17    did and the way the court ultimately found to be  
18    anticompetitive because that will enable us to  
19    establish a uniform stable platform which will benefit  
20    app suppliers on the other side of the platform. The  
21    court rejected that on the facts.

22           Now, if Microsoft were right that its  
23    platform was more efficient, in a technological sense  
24    for apps writers, then it would have legitimately  
25    brought two-sidedness into the conversation, and it

1 might be, you know, a very difficult factual question  
2 of how you resolve it. They lost it on the facts.  
3 But the broader argument that was implicit in what  
4 Microsoft was saying went something like this: I need  
5 to strong arm OEMs and others to exclude rivals by  
6 conduct that is not otherwise efficient so that I can  
7 increase network effects benefits available to writers  
8 of apps.

9 That should fail, it seems to me, as a  
10 matter of law. Without any worry about two-sided  
11 jargons and platforms, any fancy hand-waving for the  
12 simple reason you can't justify anticompetitive  
13 conduct on account of the fact it's going to lead to  
14 realized scale benefits. That's kind of -- pretty  
15 implicit in the National Society of Professional  
16 Engineers. The market is supposed to decide the  
17 tradeoff between scale benefits on the one hand and  
18 heterogeneity of suppliers on the other hand.

19 So I guess what I'm saying is AmEx could be  
20 dangerous if it unleashed a series of arguments that  
21 would say, well, what I'm doing benefits the other  
22 side. It is not literally applicable, but at the same  
23 time, I think we all have to recognize, just the way  
24 we recognize the significance of network effects, that  
25 two-sidedness can matter on the facts as a way of

1 explaining in a very genuine way whether the conduct  
2 was anticompetitive because inefficient or whether it  
3 really was efficiency enhancement.

4 MR. ADKINSON: Leah.

5 MS. BRANNON: Yeah, I'm actually not sure if  
6 it's not literally applicable. I think it will be  
7 interesting to see how the courts interpret AmEx. The  
8 Supreme Court obviously did talk about transaction  
9 platforms, but it also said that a court needs to  
10 consider both sides of a market, except when indirect  
11 network effects are minor.

12 So I'm not really sure where you come out on  
13 it. It will be interesting to see what happens with  
14 AmEx. But I think setting that aside, I think the  
15 conduct would be viewed the same way by the DC  
16 Circuit, even if AmEx had been handed down.  
17 Obviously, AmEx applied a rule of reason; the DC  
18 Circuit was, you know, very aggressive in applying the  
19 rule of reason.

20 As Doug mentioned, Microsoft did have some  
21 justifications that it threw out that took into  
22 account effects on both sides of the market. So one  
23 of them was for the license restrictions that  
24 prevented OEMs from altering Windows. And one of the  
25 things that the OEMs couldn't do was have, you know,

1 another browser icon or present another browser to the  
2 user in the boot sequence. And Microsoft argued that  
3 that would undermine the principal value of Windows as  
4 a stable and consistent platform that supports a broad  
5 range of applications and is familiar to users.

6 So their justification is pointing at both  
7 value to apps developers and to consumers, and the DC  
8 Circuit was open to that. It considered that  
9 argument, and like Doug said, it failed on the facts.  
10 The court noted that Microsoft had not substantiated  
11 that claim at all. It also noted in passing that --  
12 it was a little bit hard to believe that adding a  
13 desktop icon was critical because that doesn't affect  
14 the code already in the product and does not self-  
15 evidently affect either the stability or consistency  
16 of the platform. But Microsoft really hadn't  
17 attempted to back up that justification.

18 Interestingly, Microsoft also put out a  
19 justification for one of its -- Microsoft had designed  
20 Windows to override the user's default browser choice  
21 in certain scenarios. And one of those was when the  
22 user moved to the internet through the My Computer or  
23 Windows Explorer panes. And Microsoft argued that  
24 while that might be bad for browser competitors, it  
25 was good for users because it helped them move

1 seamlessly from local storage devices to the web in  
2 the same browsing window. So they were making a  
3 consumer-focused argument. And the DOJ didn't rebut  
4 that argument, so Microsoft's argument was  
5 determinative.

6 So I think because of the way the court  
7 looked at it, it was taking those types of arguments  
8 into account. There was also obviously the tying  
9 discussion, which we have touched on, where the court  
10 very explicitly said it wasn't inclined to apply a per  
11 se condemnation of tying because courts should only do  
12 that after considerable experience with a particular  
13 type of conduct.

14 And Microsoft's technological tying and what  
15 it was doing in this case was new, and the court noted  
16 that it could have important efficiencies both for  
17 third-party developers and for consumers. And because  
18 of that, it was not appropriate to use the per se  
19 rule. The court remanded for the lower court to look  
20 at the actual effects of Microsoft's tie. And  
21 unfortunately for, I guess, the rest of us, the case  
22 settled and the lower court never got a chance to  
23 grapple with that.

24 MR. ADKINSON: Daniel.

25 MR. RUBINFELD: Sure. I've said previously

1 that I didn't think that things would look very  
2 different had we seen the AmEx decision before we were  
3 investigating Microsoft, and I think that's the case.  
4 But I suspect that if we look to the private side, the  
5 story would be different, because one of the areas of  
6 concern in private litigation, of course, is what the  
7 but-for world would look like in terms of pricing.  
8 And so it would be natural to ask yourself, how did  
9 pricing of the various licenses for the operating  
10 system relate, if at all, to what the developers had  
11 to pay to get access to the tools to develop their  
12 software for operating system.

13 And what strikes me about that is, even 20  
14 years later, I still dream parts of this case, and I  
15 remember the exhibit numbers, Randy, and I can cite to  
16 you various footnote quotes from Jim Allchin, the head  
17 of Windows, and so on. I have no idea exactly what  
18 fee was paid by developers to get access to the tools  
19 to develop apps because that was really irrelevant.  
20 I'm sure there was a very small modest fee, so that  
21 would not -- that certainly did not affect my thinking  
22 in looking at the case.

23 But I could imagine now that in the result  
24 of the opinion in AmEx being unclear as to how focused  
25 it is on transaction markets may lead to a lot of

1 discussion about pricing, a good portion of which may  
2 turn out to be not very useful.

3 MR. ADKINSON: Thanks. I'd like to move to  
4 the next group of questions that are related,  
5 basically questions about the extent to which new  
6 economic learning may make us view the Microsoft case  
7 differently or whether it reinforces our view, has  
8 literature -- the new literature on two-sided network  
9 effects that confirmed or contradicted the analysis of  
10 the applications barrier to entry in Microsoft? What  
11 about the assessment of switching costs and  
12 multihoming? Was it consistent with what we look at  
13 in the contemporaneous analysis?

14 What does it suggest about the importance of  
15 indirect network effects as a possible source of  
16 market power? And whether -- in assessing whether a  
17 dominant platform has violated Section 2, how do we  
18 assess whether a nascent competitor could or might  
19 have significantly eroded the platform's dominant  
20 position?

21 And I guess the only thing I'd add to that  
22 is how has technology changed and how have changes in  
23 technology assessed that assessment as well? And,  
24 Susan, did you want to speak to that?

25 MS. CREIGHTON: Sure. I can get us started,



1 at least. Yes, so I think -- I'm not an economist.  
2 Dan would have to correct me, but, I mean, that the  
3 subsequent economic literature certainly has confirmed  
4 the importance of indirect network effects. What I  
5 think maybe is a little bit new or at least from what  
6 I remember of what was understood at the time, is  
7 there was an element in the Microsoft executives'  
8 thinking -- actually Randy mentioned it -- sort of  
9 like in the Internet Tidal Wave, there was a real key  
10 fear about the internet and browsers kind of accessing  
11 to the internet that made it sort of qualitatively  
12 different from, like, just another OS platform.

13 They weren't concerned about it the way they  
14 would have been concerned about Apple, even if Apple  
15 had been more robust or something. And I think it was  
16 -- their intuition was, and Randy's probably read the  
17 Internet Tidal Wave memo more recently than I have,  
18 but that you're going to detach -- you know, I  
19 mentioned about sort of hardware, software, this  
20 notion that you were going to detach the software from  
21 the hardware.

22 MR. PICKER: Absolutely.

23 MS. CREIGHTON: And that that was really  
24 going to be profound. And I don't remember seeing  
25 that being kind of in the economic literature, until I

1 guess more recently, like I just, you know, was  
2 reading Professor Catherine Tucker's work, for example  
3 recently. And she was talking about, I think, that  
4 something that she's been emphasizing in her work  
5 more, has been sort of that the really key component  
6 to how effective indirect network effects are, is how  
7 much they're tied to localized hardware.

8 Like, so she gives the example I think I  
9 mentioned earlier about, like, the iTunes Store, but  
10 she said, you know, when she was teaching, she always  
11 used to give as like the classic example of, you know,  
12 nobody's ever going to move out of iTunes Store,  
13 because they have all these, you know, downloads. And  
14 then along comes music streaming, and who cares?

15 So, you know, so I think the reason that  
16 sort of often business executives intuit to things, it  
17 takes us a little bit longer to kind of articulate  
18 what was that core fear. I mean, I think if you  
19 compare -- I mentioned Uber and Lyft, for example, you  
20 know, so it's been interesting the last 18 months.  
21 Obviously, Uber has had some PR issues, but despite  
22 that, you know, 18 months ago they had like 80/20  
23 market share relative to Lyft. And, you know, I was  
24 just looking last week, and now it's more like Lyft  
25 is, like, at 35 percent, going -- trending towards 40

1 percent. You know, that's a big shift in a market  
2 that you think of as having a lot of indirect network  
3 effects in 18 months.

4           You know, and I think it's that -- I think  
5 this is what Professor Tucker was talking about about,  
6 you know, in a purely virtual world. I don't know if  
7 we realized -- or I don't know that it's widely  
8 recognized, but it seemed interesting to me that if  
9 you're completely detached in this virtual environment  
10 that indirect network effects may be less locked in  
11 than if you have kind of that localization to hardware  
12 that Microsoft enjoyed.

13           MR. ADKINSON: Doug?

14           MR. MELAMED: So I just want to pick up on  
15 something that Susan said which I thought was  
16 interesting. She made the observation, which I think  
17 is clearly correct, that sometimes the intuition of  
18 business folks is ahead of the conceptual abilities or  
19 experience of the economic observers. I think that's  
20 a really important insight in this particular context.

21           The literature, as I understand it, on two-  
22 sided markets has been extremely illuminating. And it  
23 ha given us a vocabulary and a contextual way of  
24 thinking about the feedback effects between people on  
25 both sides or entities on both sides of the platform.

1 But that's just another way of talking about what was  
2 called the chicken and egg problem in the Microsoft  
3 case, indirect network.

4 I'm not saying there's nothing new.  
5 Catherine Tucker's work which certainly suggested it's  
6 not just the size of the network but it's also sunk  
7 costs, switching costs, and maybe market penetration  
8 that affect the stickiness of those networks. Those  
9 were all the important insights that helped people  
10 understand the next case involving a platform and  
11 helped them decide, among other things, whether two-  
12 sidedness is material to the analysis of the conduct  
13 at issue.

14 But I don't think they -- they presented us  
15 with a whole new conceptual framework that says, gee,  
16 let's just tear up the Microsoft decision and start  
17 over because we now understood the world doesn't work  
18 the way we thought it would. I think what's happened  
19 instead is that the lights that we had to illuminate  
20 the world are a little brighter than they used to be.

21 MR. ADKINSON: Tim.

22 MR. WU: Sure. I'm going to echo something  
23 Doug said, which I think you can as well as going  
24 forward go backwards in the way you think about  
25 things, and I think there might be some evidence of

1 that happening. You know, to the credit of the  
2 Microsoft era on the enforcement side, and some of  
3 this was already emphasized, people are very serious  
4 about interplatform competition, very serious about  
5 thinking about the competition in the entire market or  
6 even the entire industry, and as part of that thought  
7 carefully about the potential of Netscape as  
8 essentially a potential competitor, though we didn't  
9 use that -- you didn't use that language, but in some  
10 ways were thinking hard about the fact that Netscape  
11 might emerge as a competitor on the platform to the  
12 Microsoft operating browser.

13 In recent -- and I think I want to contrast  
14 that with some of the -- not all this thinking is  
15 public, but some of it is -- the thinking surrounding  
16 some of the mergers over the last ten years in the  
17 tech industry. I'll focus on Facebook's acquisition  
18 of Instagram, for instance. If you think about  
19 Facebook acquiring Instagram, in fact, it has some  
20 similarities in the sense that Instagram was maybe not  
21 an active competitor, at least a potential platform  
22 competitor, to Facebook. But they -- it clearly was a  
23 situation where you would have interplatform  
24 competition. But if I'm not mistaken, the FTC did a  
25 second request but approved the merger with no

1 conditions.

2 The analysis of that merger by the British  
3 Office of -- I can't remember what they were called,  
4 Office of Fair Competition.

5 MR. PICKER: Fair Trading, I think.

6 MR. WU: Fair Trading or something, is  
7 public. And if you look at it, it actually shows how  
8 two-sided market analysis can work against you and, in  
9 fact, act as a kind of a cage. So the agency looked  
10 to -- or the Office looked at the Facebook-Instagram  
11 merger. They concluded that on one side of the market  
12 because -- on the advertising side of the market,  
13 because Instagram had not yet started selling  
14 advertising, it was not competing with Facebook at  
15 all.

16 And on the other side of the market, they  
17 decided that Facebook's photo app was not yet  
18 important enough to be a constraint on Instagram. And  
19 so they concluded that Facebook and Instagram were not  
20 actually competitors at all. Now, if you had that  
21 kind of thinking in Microsoft case, I think, you know,  
22 it would have been an entire -- so in some ways, you  
23 can go backwards. You can get misled by, in my view,  
24 I think it was a mistake to not take a more serious  
25 look at that merger.

1           And in some ways, I think we can too eagerly  
2     embrace new tools and get away from the bigger  
3     questions, which I think we were properly looking at  
4     in the Microsoft era.

5           MR. ADKINSON: Thanks very much. One last  
6     question on liability. It's the chicken and egg  
7     problem that Doug brought up. To what extent did  
8     Microsoft, by introducing DOS and Windows, solve that  
9     problem for program developers and computer users, and  
10    did any of its alleged exclusionary conduct arguably  
11    serve those sorts of objectives?

12           And then how, if at all, does the Microsoft  
13    experience inform the assessment of claims by current  
14    platforms that their potentially exclusionary conduct  
15    is, in fact, needed to attract participants to one or  
16    the other side of the platform?

17           MR. RUBINFELD: Well, I'll just say quickly  
18    that I spent a lot of time talking about -- thinking  
19    about chicken and eggs. And just as a side light, if  
20    you were to read my econometrics textbook, I have an  
21    empirical example of which came first, the chicken or  
22    the eggs. And I used relatively sophisticated time  
23    series methods to conclude that we don't know the  
24    answer.

25           (Laughter.)

1           MR. RUBINFELD: And so my comments here will  
2 be similar in the sense that we were worried deeply  
3 about the chicken and egg problem. And I agree with  
4 Doug, it was really thinking about two-sided markets,  
5 but I certainly didn't have enough sense to realize  
6 that I should be developing the theory much more  
7 deeply and trying to sort out the two sides and  
8 understanding the nature of the feedback effects  
9 between what's happening on the developer side and  
10 what was happening on the user side, was the key to  
11 the case because the nature of that feedback effect is  
12 what was motivating Microsoft in its behavior.

13           And I just want to say the facts that we  
14 focused on really were facts that really got at the  
15 issue of how important that chicken and egg problem  
16 was. And it wasn't until we really looked deeply at  
17 the facts that we understood that there was a two-  
18 level entry problem here and that created a really  
19 huge barrier to entry. I think that would typify why  
20 the network effects in the Microsoft case were quite  
21 different than some of the network effects we see in  
22 other markets which are more localized.

23           MR. ADKINSON: Susan, did you want to --

24           MS. CREIGHTON: Sure. So I don't know who  
25 came first, the chicken or the egg, or Windows or app



1 developers. But sort of more generally I think it's  
2 awfully important, as the chicken and egg problem  
3 suggests, to be -- when you're trying to figure out  
4 kind of what are the business executives up to, to be  
5 looking at sort of business practices in light of  
6 their effects on both sides of the platform. And I  
7 think sometimes that gets misunderstood as sounding  
8 like it's sort of a defense move. But I actually  
9 think it's -- it's just as likely to cause you to miss  
10 things sort of for under-enforcement as for over-  
11 enforcement.

12           So just like as on an under-enforcement  
13 example, so David Evans, who spoke here yesterday,  
14 and I worked on behalf of Netflix on the Time-  
15 Warner/Comcast proposed acquisition. And people were  
16 tending -- you know, sort of the justification for the  
17 deal was that since the companies operated as local  
18 cable systems, but never in the same zip code, there  
19 was -- on the user side, there was no overlap, so how  
20 could there possibly be a problem?

21           But if you actually -- but if you looked at  
22 it as a two-sided market since those same cable  
23 systems also provide -- were multichannel video  
24 distribution providers, they connected households with  
25 video programming providers like, for example,

1 Netflix. And so if you focused just on, well, gee,  
2 we're just, you know, gaining scale on the user side,  
3 you would have missed what would have been a  
4 hypothetical, you know, sort of a hypothesized  
5 competitive harm from the deal that this was actually  
6 bad, increasing the merging parties' ability to  
7 extract more market power over the other half, other  
8 side of the platform like video providers, which I  
9 think is, in fact, what DOJ and the FCC ended up  
10 concluding when they challenged the deal.

11 So conversely, I think, a failure to  
12 recognize sort of that how business practices may be  
13 needed for sort of chicken and egg issues, there's a  
14 prominent example in the recent Microsoft Android  
15 decision about, that I think that the E.C. missed. So  
16 at issue in that case was a restriction that  
17 prohibited OEMs from introducing incompatibilities  
18 that would cause fragmentation and drive app  
19 developers off the platform.

20 Now, I think if you bring a Microsoft  
21 analysis to bear and say, well, gee, why would a  
22 platform provider want to, you know, sort of prevent  
23 practices that would drive app developers off the  
24 platform, it's not very hard to think about why that  
25 might be a legitimate concern by a platform operator.

1 But since the E.C. basically defined the relevant  
2 market as -- being instead of in sort of the chicken  
3 and egg end-users and app developers, they defined the  
4 relevant customers as being OEMs. And so effectively,  
5 app developers kind of disappeared entirely from the  
6 analysis.

7 So I think if you -- so getting those  
8 dynamics right and understanding sort of how business  
9 practices might be interrelating, can help you both  
10 understand kind of when you should and when you  
11 shouldn't be challenging particular practices.

12 MR. ADKINSON: I think we have, like, two to  
13 three minutes more on this subject, Randy.

14 MR. PICKER: So the answer to which came  
15 first, the chicken or the egg, the answer is IBM came  
16 first. So -- and what I mean by that is, is recall  
17 how the IBM PC is released and what that means for  
18 Microsoft. IBM decides they're going to build a PC.  
19 They don't have a chip. They don't have an operating  
20 system. They don't have languages. IBM goes to  
21 Microsoft and says, can you give us the languages you  
22 have? Microsoft says yes.

23 IBM then turns to them and says, can you  
24 give us an operating system. And Microsoft says, oh,  
25 you should go down the road and talk to Gary Kildall,

1 we don't have one of those. So at the point where  
2 Microsoft is being offered a key to the future kingdom  
3 of the PC, they say no. And when the IBM PC is  
4 released, it's released with three operating systems,  
5 not one.

6 So I don't know that Microsoft solved  
7 anything. I think Gates and Allen did a great job of  
8 getting into languages at the right time. And when  
9 the language deal was going to die, then they  
10 scrambled to sort of buy an operating system from  
11 somebody, and that's what happened.

12 Don't also forget the competition as we  
13 moved from DOS to the world of the GUI. There is  
14 robust, interesting competition there. IBM has  
15 TopView and eventually PS/2 and OS/2, the first time  
16 they're sort of released to build the system they want  
17 to build. They built the 1981 machine with the  
18 pending 1969 antitrust suit, and that clearly  
19 influenced what they did there. So I don't want to  
20 overstate what Microsoft did.

21 MR. ADKINSON: Leah or Tim?

22 MS. BRANNON: I was thinking about lessons  
23 from Microsoft in light of this panel and what I would  
24 draw from it. I don't want to insult anyone who was  
25 with the DOJ at the time or Microsoft or the court,

1 but I think, you know, one lesson that I took from it  
2 is the importance of thinking everything through  
3 carefully, all of the elements of the claim. And it  
4 was a marathon. I mean, it was such a large case with  
5 so many different pieces.

6 And, you know, from my perspective, it  
7 seemed like at some point everyone ran out of steam.  
8 And maybe that's inevitable. But, you know, on the  
9 attempted monopolization, the DOJ's failure to allege  
10 a browser market or Microsoft offering justifications  
11 for its conduct that it didn't substantiate at all.  
12 Or where they did substantiate certain things, the  
13 Government failing to come back and say, that's  
14 ridiculous, that's pretextual, you know. It was a  
15 really big case, a massive record. And I think, you  
16 know, a lot of litigators did an excellent job on it,  
17 but there are so many pieces, it just seemed like  
18 important elements of claims got lost in the shuffle.

19 And I think by the time they got to the  
20 remedy phase everybody, including the court, was just  
21 completely out of energy. So it's something to think  
22 about, I think, in these big cases.

23 MR. WU: One more minute? I think also why  
24 this is almost the exact opposite perspective, when  
25 you look at the individual moves that made the

1 Microsoft case, it's always -- also very important to  
2 look at Microsoft in the context of a big trilogy of  
3 cases, IBM, AT&T, and Microsoft, which effectively,  
4 were the United States' tech policy for almost 20 or  
5 30 years and had, I think, really substantial effects.  
6 And this stuff is very hard to -- you know, it's all  
7 anecdote, how do we prove that how much of, you know,  
8 the big boom in tech and the return to American  
9 dominance had to do with these three antitrust cases.  
10 Well, they didn't stop it, I could put it that way.

11 And, you know, in each of them -- I mean,  
12 each of those cases, you know, there was a policy  
13 which, you know, was really the policy of the Sherman  
14 Act, which is we're concerned that monopoly can act as  
15 a narcotic. We're concerned with stagnant markets.  
16 We're interested in the overarching question of  
17 innovation in these industries.

18 Now, those aren't legal tests, but they're  
19 policy. And I think it's -- as we examine this, it's  
20 very important not only to look at the 5,000- but also  
21 the 100,000-foot view of what is the U.S. doing in  
22 antitrust, doing in tech policy, and also to contrast  
23 that and ask what are we doing now.

24 MR. ADKINSON: I'd like to now move to a few  
25 remedy questions we had, both the specifics of the

1 remedy and also the overall effect of the Government  
2 case. So looking first at the remedy orders, there  
3 was both the structural remedy that the District Court  
4 imposed and was then reversed by the Court of Appeals,  
5 and then there was a settlement adopted on remand.

6 How effective and appropriate were the  
7 various proposed remedies such as the structural  
8 separation of Windows, Office and -- of Microsoft  
9 Office and Windows and the consent decree? Was  
10 designing relief complicated by the difficulty of  
11 predicting the extent to which Microsoft's market  
12 power would have been undermined, absent its  
13 exclusionary conduct?

14 And in light of the experience of Microsoft,  
15 how would courts approach designing injunctive relief  
16 to remedy concerns that a dominant platform has  
17 enhanced its market power by illegally excluding a  
18 nascent competitor?

19 Randy, you want to start us off?

20 MR. PICKER: Sure. You know, I think -- and  
21 I know there's going to be a panel on E.U. and the  
22 U.S. I do think when you think of remedy in the  
23 Microsoft situation, you should look at sort of the  
24 two iterations of the U.S. remedy and then the two  
25 remedies we saw in the E.U. with regard to Windows

1 Media Player, and then the browser choice or browser  
2 ballot with regard to Internet Explorer.

3 On the U.S. side, I think the conceptual  
4 question you want to ask is -- I think you always want  
5 to ask this in an antitrust case or in a class -- is  
6 had we implemented the remedy at the beginning, would  
7 it have prevented the behavior from happening, right?  
8 So if that's what the structural remedy is supposed to  
9 do, would it have worked in that but-for world? And  
10 if you'd split Microsoft into an OS company and an  
11 Office company, let's say, I think the OS company  
12 would have still had the same incentives to protect  
13 its monopoly, vis-a-vis Netscape. So in that sense, I  
14 think that's a conceptual remedy that doesn't seem to  
15 work.

16 I'm completely with Leah in her sense that  
17 people got tired and that you get this remedy. Now, I  
18 can't tell if the remedy in the U.S. was effective for  
19 the reasons Tim gave earlier, which is this policeman  
20 thing. Maybe that is, right? Why did Microsoft not  
21 go after Google in a powerful way? That's a really,  
22 really important question. I think we're sort of all  
23 guessing in the dark on that.

24 On the two E.U. remedies, if I could just  
25 mention those briefly, as you'll recall what happens



1 there with regard to Windows Media Player, the E.C. is  
2 willing to say to Microsoft, you have to create  
3 versions of Windows with and without the Media Player,  
4 but you don't have to charge different prices for  
5 those. And I wrote a paper before they did that  
6 saying I thought that was a sensible remedy. It has  
7 to be seen, I think, in many ways based on what we  
8 know from a public standpoint as a complete failure.  
9 They sell 35 million copies of XP with and 1,787  
10 without.

11 And then on the browser ballot issues,  
12 you'll recall what happens there is is Microsoft is  
13 rolling out Windows 7, the E.U. jumps in and says, oh,  
14 we don't want you to tie Internet Explorer to Windows.  
15 Microsoft cuts a deal, where in Europe, when you  
16 turned on a computer the first time, you would be  
17 presented with a choice of 14 different browsers.

18 And given that the U.S. case was litigated  
19 on the premise that having two buttons was confusing,  
20 both Internet Explorer and Navigator, I think the only  
21 conclusion from that is the Europeans are just a lot  
22 smarter than United States citizens, so -- or maybe  
23 the market had evolved or something, but that remedy  
24 was something of a failure as well in the sense that  
25 Microsoft breaks the browser ballot when they release

1 Service Pack 1 for Windows 7 and no one seems to  
2 notice for 17 months.

3 MR. ADKINSON: Doug.

4 MR. MELAMED: I just want to comment on one  
5 aspect of what Randy said, which was the conceptual  
6 basis for the proposed divestiture remedy in the  
7 Microsoft case. So let's back up. Microsoft is about  
8 protecting markets for competition so we don't have to  
9 have regulation, we can allow competitors to  
10 discipline firms in the market. So in that context,  
11 it seems to be structural remedies are at least  
12 presumptively superior to conduct remedies. Okay.

13 There are four purposes for a remedy in  
14 antitrust. One is compensation, rarely used for  
15 equitable remedies although you can have restitution  
16 or something. One is to stop the illegal conduct.  
17 That's fairly straightforward. The third is to  
18 prevent the recurrence of the illegal conduct, and  
19 that raises often a very difficult question of the  
20 level of generality of abstraction at which you want  
21 to describe the wrongdoing.

22 So was the wrongdoing in Microsoft doing in  
23 competing browsers? Was it doing in middleware  
24 alternatives? Was it doing away with any kind of  
25 platform software with APIs, or any operating system

1 complements, any of which could by some, you know,  
2 logic have been seen as facilitators of competing  
3 operating systems?

4           So that was a difficult issue, if the  
5 Government had gone in that way in its initial  
6 proposal. The guts of the initial proposal, however,  
7 was addressed to a different remedial purpose, which  
8 is restoring competition that was damaged by the  
9 conduct found to be legal. So the theory of the  
10 divestiture remedy was not that the operating systems'  
11 motives or incentives would be different if there were  
12 a divestiture but that the owner of Office would have  
13 a different incentive to license and port Office to  
14 competing operating systems rather than refrain from  
15 doing so for fear that those operating systems would  
16 grow into competitive threats to Microsoft.

17           So I think it was conceptually a coherent  
18 and sensible remedy addressed to the idea that entry  
19 barriers had been raised by Microsoft and we were now  
20 looking for a strategy to lower them. The problem is  
21 that no one knew the facts. We didn't know what would  
22 happen if there were a divestiture, and we didn't have  
23 any clue about the costs of breaking up Microsoft in  
24 that way.

25           We had some outside experts who opined, but

1 what we didn't have was discovery. And, frankly, I  
2 think the judge -- and maybe Leah's right -- was just  
3 tired at the end of all this. The judge's peremptory  
4 decision to enter the order and order divestiture  
5 without discovery, without any kind of process was  
6 just an outrage in my view, completely inexcusable.  
7 But I don't think we should lose sight of the fact  
8 that there was a conceptually coherent remedy story in  
9 that proposed divestiture.

10 MR. WU: Go ahead.

11 MR. RUBINFELD: I just want to add, I agree  
12 with everything Doug said, perhaps not surprisingly.  
13 I just want to add a couple other things to that.  
14 First of all, I actually do think there is a role for  
15 conduct remedies in general. And there was a small  
16 role here, but this is one case where, in my view, a  
17 structural remedy was essential for some of the  
18 reasons Doug described.

19 And I spent a lot of time 20 years ago  
20 thinking along with quite a few others about exactly  
21 what would happen if we imposed this aggressive  
22 structural remedy, and I came to the belief that we  
23 would see, as Doug suggested, the apps folks who had a  
24 strong Office suite looking to contract with other  
25 operating systems. It's not all that hard to generate

1 an operating system. The hard part is finding the  
2 apps that would support it. So I actually felt  
3 strongly at the time we would see new competition, and  
4 the remedy had some appeal.

5 Like Doug, I was disappointed actually and  
6 regret perhaps not being more outspoken about the need  
7 to ask Judge Jackson to listen to our plan for  
8 extensive discovery on the remedies. We did have  
9 several experts. There were two economists, one of  
10 whom just won a Nobel prize, who were prepared to  
11 testify about exactly what would happen in that world.

12 And I believe that the concern about having  
13 complementary assets -- the advantage of having  
14 complementary assets within a single firm would not be  
15 lost with the remedy that had the firm broken up. I  
16 thought there were contractual solutions to that which  
17 would work quite effectively. But we never got to  
18 hear that discovery and I think that was unfortunate.

19 MR. ADKINSON: Leah and Tim?

20 MS. BRANNON: Sure, I just figured I'd touch  
21 on the consent decree briefly since that's the remedy  
22 we all got stuck with. It was a really weak, bad  
23 decree, but I think it was important, and maybe it  
24 goes to Tim's point about the policeman. But I think  
25 it also -- it meant Microsoft had -- it had violated

1 the antitrust laws. It had a track record. So this  
2 was -- the consent decree was no longer the baseline  
3 antitrust laws. It was an additional layer on top of  
4 that, taking into account the fact that Microsoft had  
5 cut off the air supply of its competitors, it had  
6 affirmatively misled Java developers in order to  
7 maintain its monopoly, and so it got the DOJ, the  
8 states, the technical committee all looking over it,  
9 and also, of course, the European Commission.

10 But I do think the decree played an  
11 important role in the growth of a new generation of  
12 platforms. I think, you know, the new generation of  
13 companies read the case, they read the Microsoft case,  
14 and, you know, they read the decree to understand what  
15 protections they had, but I think they also read it,  
16 you know, to understand where the rules of competition  
17 are. I think the case showed the importance of  
18 focusing on building better products and different  
19 companies really focused on the user and delivering a  
20 better experience. That is competition on the merits,  
21 and that should come through.

22 So I think it created guidelines for a whole  
23 new group of companies and it also meant that  
24 Microsoft could not go back to using the same tactics  
25 that it had been using. So as badly written as that

1 decree was, I think the whole process was meaningful.

2 MR. WU: Yes. So let me speak a little bit  
3 about the policeman at the elbow theory because I  
4 think it's sort of overlooked sometimes because it's  
5 so informal. But I do think if you look at the --  
6 carefully at the history after Microsoft and some --  
7 also some of what happened during the IBM case, you  
8 know, you have remedies that were not what we would  
9 usually call -- I mean, they were conduct remedies in  
10 a way, but I think the most important factor was that  
11 they offered a credible threat of the antitrust  
12 litigation starting again, or the idea that you were  
13 being watched, on parole, as you put it.

14 And I think that the fact that Microsoft  
15 changed its conduct and didn't engage in some of what  
16 would be the most obvious uses of its Explorer  
17 monopoly is important. You know, it had -- as I said  
18 earlier, it managed to gain -- it wasn't -- it  
19 succeeded in monopolizing the browser market and from  
20 that vantage point had all sorts of opportunities to  
21 do what had been its previous business practices, but  
22 it didn't, for various reasons. But mainly I think --  
23 I think that maybe it's not the only explanation, but  
24 I think the most straightforward explanation is that  
25 it was afraid of restarting antitrust.

1           So I think everyone, you know, in terms of  
2 lessons from Microsoft, should be thinking about how  
3 you create that policeman at the elbow effect, if you  
4 have a convicted lawbreaker, like Microsoft was. I  
5 like the separation -- sorry, the structural remedy  
6 and the divestiture remedy for slightly different  
7 reasons, maybe a little disconnected from antitrust  
8 but having to do with innovation policy. You know,  
9 I've said earlier, stressed earlier, that the history  
10 of innovation in the United States is often in the  
11 tech industries. It's centered on platforms and  
12 successful platforms. I don't deny that sometimes  
13 integration can be part of that.

14           But one thing I think you saw after  
15 Microsoft, sort of the failure of the Microsoft case,  
16 is you continued with the situation where the  
17 operating system was basically in the view of industry  
18 and in the view of investors and entrepreneurs, a  
19 hopeless place to innovate, a dangerous place. And so  
20 you never really had until much, much later the birth  
21 of serious competitors to the office suite and even  
22 much, much later serious competitors to Explorer.

23           Now they showed up eventually, I think  
24 thanks to the good work of the Microsoft case, in  
25 making the browser itself an important platform that



1 people innovated on. But you did have this -- I don't  
2 know whether you call it dead weight or lost years  
3 where we were all presented with Word as the only  
4 option for a very long, long time. And I realize that  
5 didn't necessarily connect exactly to the reason for  
6 bringing the Microsoft case but I think ended up being  
7 important.

8 MR. ADKINSON: Thanks. I want to pose one  
9 last question for a quick response, and it's one about  
10 more broadly the impact of the Microsoft case, and  
11 Tim's discussion of the elbow effect is certainly one  
12 striking example of it.

13 To what extent did the Government action  
14 apart from the relief awarded inhibit Microsoft from  
15 using its market power? To what extent did the case  
16 advance Section 2 law in ways help deter exclusionary  
17 conduct by dominant IT firms in the future? And did  
18 the case compare or complement the legal actions  
19 either by the E.U. or by the private lawsuits? And  
20 how has this affected subsequent developments in the  
21 IT industry.

22 Doug, do you want to --

23 MR. MELAMED: Well, okay. It seemed to me  
24 that there were two problems the case was addressing.  
25 One was the Microsoft problem. What do you do about

1 desktop operating system competition, and I think a  
2 lot of people bought that that train pretty much left  
3 the station in terms of at least the browser as the  
4 facilitator.

5           And the other was the antitrust problem,  
6 which is what are we going do to make the antitrust  
7 laws effective as a policeman, if not at the elbow, at  
8 least, you know, up in the sky watching Microsoft and  
9 other big firms. And I thought at the time and  
10 continue to think that the most important contribution  
11 of the Microsoft case was on the latter point as a law  
12 clarification and law revitalization success.

13           And I leave it to those who know more about  
14 the tech industry than I to argue whether the remedy  
15 actually was material to subsequent developments in  
16 technical competition.

17           MR. ADKINSON: Thanks. We have about a  
18 minute more if other people want to --

19           MS. CREIGHTON: Just I wanted to agree with  
20 Doug and Leah about the importance of the decision as  
21 a precedential guide. I think that was really quite  
22 important because it can be lost that it's important  
23 to be able to give practicing lawyers a clear roadmap  
24 about what works and what doesn't work when they're  
25 advising companies.

1           And I thought an important part of  
2 Microsoft's success was doing that, that's it's been a  
3 clear benchmark for us.

4           MR. RUBINFELD: I was just going to add one  
5 thing. For me, there was an important lesson for  
6 people who do get involved in these investigations.  
7 The economists and the lawyers worked together from  
8 beginning to end, and we all agreed that economic  
9 theory, wonderful as it is, only gets you halfway  
10 there. You really need to apply the theory to the  
11 facts of the case from day one, and that's what we  
12 did.

13           MR. ADKINSON: Thanks very much. We now  
14 have, I think, maybe a minute and a half left for our  
15 closing statements. I think Tim and Leah may have  
16 started theirs based on what I earlier said, but I  
17 would ask each panelist to keep the closing remarks  
18 short, please, and starting with Tim.

19           MR. WU: Oh, starting with me. So I think I  
20 did actually start on it, which is I do believe that  
21 it's important to take the 100,000-foot view and think  
22 about these big cases as broader parts of frankly  
23 American tech and innovation policy. And, you know, I  
24 think Microsoft was the third of what ultimately --  
25 although people disputed it at the time, ended up

1 being a very successful trilogy of big cases.

2 And I hope the lesson that the FTC takes,  
3 and other antitrust enforcers take, is one that does  
4 prioritize the big view, that thinks of innovation  
5 as working in long cycles, and thinks hard about  
6 what it takes to provide those nudges or effective  
7 supervision, policeman at the elbow, and other effects  
8 that have meant so much for the health of the American  
9 economy.

10 MS. BRANNON: I'll just add that I think a  
11 really important part of the case was the focus on  
12 effect on competition and the fact that the plaintiff  
13 needs to meet a burden of showing harm to competition  
14 at the outset. The court emphasized that Section 2 is  
15 not about intent. Microsoft clearly had the intent to  
16 crush its competitors, but what the court really  
17 looked at was the effect of that conduct and some of  
18 the conduct also had that effect. So I think that  
19 legacy with a focus on competitive effects is  
20 important.

21 MR. PICKER: So I guess I want to echo what  
22 Dan and Doug just said. I mean, I think that these  
23 kinds of situations are incredibly complex and tricky,  
24 and it means that there needs to be repeated iteration  
25 between economics, law, and the facts. And I think

1 Microsoft's an incredibly successful example of that.

2 I do think that means that it's less about  
3 grand theories of antitrust. So we're sort of in the  
4 midst of a discussion about that, is consumer welfare  
5 good, bad. I can answer -- I can decide the Microsoft  
6 case without reaching that level. And I think that's  
7 probably the right way to go on that.

8 MS. CREIGHTON: Yeah, so I was going to go  
9 to the 100,000-foot level, too, but maybe somewhat  
10 different from Tim, which is I think if you look over  
11 the big benchmarks for people advising tech companies  
12 and the tech industry, there was the Microsoft case,  
13 which I've indicated obviously I think provided a  
14 balance and coherent analytical framework, and  
15 conversely, there were the IBM peripherals cases,  
16 which, you know, as Randy indicated, IBM won every  
17 single one of those.

18 And so I think between the two of them, that  
19 has provided American technology with really a nice  
20 framework about kind of what is permissible and what  
21 isn't. And, you know, if you step back, kind of how  
22 is American competition doing globally today, I'd say  
23 you see a lot of American companies competing  
24 intensely amongst each other, with a lot of other  
25 innovative companies, particularly in China. You

1 know, there are certainly sectors where American  
2 companies are not in the lead. I think in China,  
3 they're probably leading artificial intelligence, for  
4 example, but American companies are probably in the  
5 lead on things like 5G.

6 So, you know, having been in the industry  
7 for a long time, now, where do I see the kind of  
8 sleepy complacency or bags over the head that I saw at  
9 the time of the Wintel duopoly, and just, you know, by  
10 contrast, maybe somewhat differing and disagreeing  
11 with Tim a little bit here, you know, I think during  
12 that same 40-year period we've seen a lot more  
13 intervention from Europe consistently and that, you  
14 know, sort of the interventionist trend has only  
15 increased, I'd say, in recent years.

16 And during that same period, we've also seen  
17 sort of a receding rather than increasing of the role  
18 of European technology companies generally. So for  
19 those, I think, who'd be saying sort of that more is  
20 necessarily better, I think we'd need to -- you know,  
21 sort of we should be having a more European style of  
22 protecting edge companies, for example, even at the  
23 cost of weakening productive integration of platform  
24 competition.

25 I think it would seem to me that the burden

1 should be on those advocating for that kind of change  
2 to show it's not reasonable to expect that in the  
3 event they're successful we'd see an accompanying  
4 diminution in American competitiveness as well.

5 MR. MELAMED: I'm struck by how often in  
6 this conversation we have referred to the unmeasurable  
7 and the unobservable. No one knows what the price  
8 effects were over the time that we've been talking  
9 about. We talked about innovation, but no one really  
10 knows what innovation would have taken place but for  
11 the wrongful conduct.

12 We talked about entry barriers, but no one  
13 knows what the entry would have been. We talked about  
14 the unknown and so forth, the unknown competitors.  
15 What's striking to me is that those who say antitrust  
16 law can deal only with bread-and-butter price cases  
17 where we have readily observable and measurable  
18 variables, I think are wrong. Microsoft demonstrates  
19 that the basic principles of antitrust, is it a  
20 conduct-efficiency-based or not, did it intend to  
21 reduce the discipline of rivals in the future, are  
22 robust enough to deal with facts, even where we don't  
23 have some of the traditional observable variables.

24 MR. RUBINFELD: I'll just say I agree with  
25 Doug absolutely. And thanks to Bill for doing a great

1 job moderating all of us. It wasn't easy.

2 MR. ADKINSON: Well, thanks. This was a  
3 privilege, and please join me in thanking our panel.

4 (Applause.)

5 (End of Panel 3.)

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1 PANEL 4: DO THE U.S. AND EUROPE TREAT COMPETITION  
2 CASES INVOLVING PLATFORMS DIFFERENTLY?

3 MS. COPPOLA: Okay, everybody, I think we're  
4 going to go ahead and get started. My name is Maria  
5 Coppola. I am from the FTC. And this afternoon's  
6 panel will look at the differences and similarities in  
7 approach between the U.S. and the E.C. with respect to  
8 platforms. It's a great pleasure to be here and to  
9 have such tremendous panelists. I'm only moderating,  
10 but to the extent that I express views, they are my  
11 own.

12 I'm going to very, very briefly introduce  
13 the speakers. Cristina Caffarra, to my right, is the  
14 head of competition -- European competition for  
15 Charles River Associates. Simon Constantine is the  
16 Director of Policy and International at the U.K.  
17 Competition and Markets Authority. Nick Economides is  
18 a professor at NYU Stern School of Business. Nicolas  
19 Petit is a professor at University of Liege. And I  
20 think many of you know Josh Wright, who is a  
21 university professor here.

22 I'm being told to advance slides. These  
23 are the complicated things I can never figure out.

24 So throughout the hearings we are thinking  
25 about international issues. We're talking to our

1 counterparts in foreign authorities. We are clearly  
2 engaging and consulting with experts from around the  
3 globe, but this is the only panel, at least so far,  
4 that's really dedicated to comparative analysis. And  
5 I think that reflects a little bit the fact that it's  
6 awfully hard to have a conversation about platforms  
7 these days, and in particular, I think, digital  
8 platforms without Europe coming into the equation in  
9 some way.

10 So we today will try very hard to go beyond  
11 the headline that Europe is the only active enforcer  
12 or Europe is overly aggressive and try to really think  
13 about how Europe approaches these issues differently  
14 from the U.S. and what we, at the FTC, might learn  
15 from that as we go through a reflection process of our  
16 own approach and tools.

17 I ask for a little bit of tolerance because  
18 we are covering, in one session, what will be covered  
19 in six or more sessions for the U.S. So we're going  
20 to try to cover cases and look at things like market  
21 definition, burden of proof, effects, et cetera, and  
22 we're also going to try and think about how Europe is  
23 reacting to the public disquiet around platforms --  
24 digital platforms. So we're going to really try to  
25 address a broad swath of issues.

1           The format will be like you've seen before.  
2 Each speaker will make some initial remarks, and then  
3 we'll have Q&A. My colleagues are collecting cards  
4 with questions. Please start now. We welcome them,  
5 and will turn to them shortly after the opening  
6 presentations.

7           To kick off the platform discussion, I  
8 started with maybe a somewhat controversial idea,  
9 which is that Europe tends to protect competition in  
10 platforms, by keeping pathways open for new  
11 competitors, new business models, et cetera. And so  
12 I've asked each of the speakers to react to sort of  
13 that premise and their views on it and the pluses and  
14 minuses. And I'm going to start with Simon  
15 Constantine.

16           MR. CONSTANTINE: Thank you, Maria and thank  
17 you to the FTC for inviting me here today. I guess  
18 I'm going to start by sort of taking my position as  
19 the regulator on the table to try and challenge some  
20 of the views or at least the cliched statements that  
21 are sometimes heard around the debate on these issues.

22           That said, I'll start with a bit of a cliché  
23 of my own, and the reason I use it is because it has  
24 the benefit of being true, and that's, you know, as  
25 regulators, we believe that the large platforms, you

1 know, they provide a huge amount of consumer benefit;  
2 they provide benefits for businesses. And I think  
3 you'd struggle to find a regulator that would say  
4 differently. And while that may sound like a  
5 statement of the obvious, I think it's something that  
6 does occasionally get lost when we get into debates  
7 about levels of intervention.

8           Coming then to the cliches, I suppose, is  
9 the first is this idea of an E.U. approach and a  
10 wholly different U.S. approach. While I think there  
11 are differences on both sides of the Channel, I  
12 think there's a multiplicity of views within Europe  
13 and within the U.S. And I think actually there's  
14 really -- when you look at the headlines, quite a lot  
15 that -- quite a lot of commonality really amongst some  
16 of the -- about some of the general principles. So  
17 that's sort of the first.

18           And the second is what Maria just touched  
19 on, which is the idea of protecting competition  
20 rather than consumers. Again, I think that sort of  
21 accusation is rather misplaced. While it's true to  
22 say that under E.U. law, for example, a company in a  
23 dominant position has a responsibility not to distort  
24 open competition, that idea of keeping open  
25 competition is quite different from somehow seeking to

1 prop up inefficient and all the more so European  
2 rivals. The effect on the consumer is really,  
3 personally I think, at the heart of everything we do.

4 If companies seek to distort that  
5 competitive process by excluding rivals, then that is  
6 depriving effectively consumers of the choice to  
7 choose between the models that best serve their needs.  
8 So, you know, this sort of totem of competitors and  
9 not consumers, I think, again, is rather too broad.

10 And, finally, sometimes that same argument  
11 finds another form, which is the idea that this is  
12 some kind of anti-Americanism. Now, I can only speak  
13 for what I see and observe, and within all my dealings  
14 with people at the European Commission and elsewhere,  
15 I don't see any evidence of this. I mean, certainly  
16 the large platforms that people are looking at, you  
17 know, they are largely American, but, I mean, I think  
18 to turn this into a debate about the nationality of  
19 any particular company rather ignores the sort of  
20 genuine questions that are being asked throughout the  
21 world and, you know, publicly as well as in antitrust  
22 circles about, you know, for all their benefits, what  
23 are the longer term effects and implications on  
24 consumers of some of these large platforms.

25 Those discussions, which we're having now

1 about platforms, we equally have about our energy  
2 companies, our banks, grocery stores, none of whom, in  
3 the U.K. at least, are American. Really, these are  
4 all E.U. and U.K. businesses. So I think to bring it  
5 down to some principle of nationality is a bit  
6 simplistic.

7           So, then, as Maria said, sort of broadening  
8 it out a bit and sort of thinking about, you know,  
9 what's the role for antitrust, then, in these areas, I  
10 think it's right to say that antitrust shouldn't make  
11 up for failings in other laws. So whether it be data  
12 protection law or consumer protection law, if there  
13 are issues with those laws, then I think your starting  
14 point should be to address those issues rather than  
15 somehow seeking to extend antitrust law to areas where  
16 it shouldn't really tread, as it were.

17           But I don't think that's the same as sort of  
18 saying somehow that antitrust should just step back  
19 entirely or that when you're looking at issues of data  
20 and privacy that antitrust law is somehow completely  
21 irrelevant, competition issues aren't relevant. I  
22 mean, on the one hand, it's quite possible and indeed  
23 one might hope that the level of privacy protection  
24 that a company offers might be a metric on which it  
25 seeks to compete.

1           Similarly, you can envisage a situation in  
2           which a company might use its acquired data or the  
3           data it gathers from consumers to either increase  
4           barriers to entry or to potentially exploit consumers  
5           who are less able to switch than others, for example.  
6           And to me, it seems like these are absolutely the  
7           areas for antitrust to be considering.

8           So then you come on to the question of,  
9           well, are the laws right for dealing with the problem  
10          if there is an antitrust question here. I think we  
11          heard it earlier from Randy who was saying, you know,  
12          at heart, the broad principles when you apply them to  
13          the fact, are very robust and flexible. I think  
14          that's quite different from saying that we shouldn't  
15          ask ourselves some pretty tough questions about  
16          whether laws are in need of some kind of refresh here.  
17          But I do think that the underlying principles have  
18          proven to be quite successful.

19          And then you come on to the final part, and  
20          I'll just touch on this briefly before wrapping up, is  
21          looking at what the role of regulation is here. I and  
22          my colleagues, I think, we remain of the view that  
23          competition generally remains the best way of driving  
24          beneficial long-term outcomes for consumers. But I  
25          think when you look at regulation, and to borrow the

1 terminology of our chief executive, I think we have to  
2 be -- we have taken more of an agnostic approach, I  
3 think, to whether regulation may in certain  
4 circumstances actually drive better outcomes for  
5 consumers done at post-enforcement.

6           There may be areas where traditional  
7 competition or open competition in a market may not  
8 drive really well-functioning markets or may not --  
9 the law may not stretch and extend so well. One might  
10 look, for example, at asymmetries in bargaining power  
11 between companies, circumstances which if it were  
12 between a consumer and a business might be considered  
13 unfair between a large platform and a small to medium  
14 business. Do we need laws to cover those?

15           Now, the antitrust laws themselves don't  
16 necessarily go there. You might on occasion need  
17 regulation in the U.K. For example, in the grocery  
18 sector, we've seen specific regulation to address that  
19 market failure. So I think that while obviously any  
20 regulation should be targeted, proportionate,  
21 especially designed to ensure that it doesn't somehow  
22 sort of fossilize incumbency or impose excessive  
23 burdens on small players rather than large ones, I  
24 think that even with those caveats one can definitely  
25 see here that it may be through a blended approach of



1 both regulation and effective enforcement of the  
2 antitrust laws we might get the best outcome for the  
3 consumers.

4 MS. COPPOLA: Thanks, Simon, including to  
5 remind us about all we do have in common, and I think  
6 I may have focused a little bit more on the  
7 differences, forgetting that the vast majority of  
8 areas we are very much aligned.

9 I'd like to hear from Nicolas.

10 MR. PETIT: Thank you, Maria. And thanks to  
11 the FTC for the invitation and more generally for  
12 reaching out to the global antitrust community and  
13 beyond to talk about this hugely important issue.

14 So I really want to make three points. The  
15 first one is that it is wrong to search guidance in  
16 European competition policy for sort of antitrust  
17 hipster or new brandized counterrevolution. So some  
18 in the U.S. talk a lot about structural dominance or  
19 they suggest when they talk about that that, you know,  
20 we have a sort of tradition of ordo-liberalism that  
21 can provide guidance. This is not serious.

22 In unilateral conduct cases, we have some  
23 case law which suggests that indeed dominant firms  
24 have a special responsibility not to impede  
25 competition. That case law subjects dominant firms to

1 very strict constraints, asymmetrical behavioral  
2 obligations. But the problem is that this case law  
3 has sort of been recast by the European courts of  
4 justice last year in the judgment in Intel where it  
5 explicitly said that an empirical assessment of  
6 economic effects should guide the analysis of  
7 anticompetitive conduct.

8           So that's really sort of, you know, the  
9 first cliché that I wanted to debunk here, which is  
10 that there is no such thing as sort of ordo-liberal  
11 thinking in European competition policy, and there's  
12 nothing to see there if you want to think about the  
13 future of U.S. antitrust.

14           The second point that I really want to make  
15 is that European competition policy can be better  
16 described as sort of experimentalist policy rather  
17 than a structuralist policy in the tech sector and the  
18 high-level idea that European competition law is less  
19 risk-averse in situations of uncertainty. So  
20 antitrust cases can be started in situations of  
21 imperfect information, emergent behavior and in clear  
22 judicial precedence.

23           This sometimes leads the European Commission  
24 to adopt a precautionary approach to antitrust policy,  
25 especially in abuse of dominance cases. A member on

1 another panel, Doug Melamed, talked about a more  
2 probabilistic approach to antitrust enforcement, and  
3 we really can see that. And that actually owes itself  
4 to a range of sort of endogenous European  
5 idiosyncrasies.

6 Just to run you through a few of them, the  
7 standards of evidence that we have in conduct cases  
8 are quite flexible. The case law does not require  
9 proof of actual anticompetitive effects. There's  
10 less reliance on quantifiable estimation of harm.  
11 Plaintiffs must generally show capability of  
12 anticompetitive effects. The standard that we apply  
13 is a totality of the circumstances standard to  
14 evidence.

15 Another factor which, you know, could sort  
16 of mislead external observers into thinking about  
17 European competition policy is that there is probably  
18 less belief in Europe in the tendency of markets to  
19 self-correct and probably more trust in government and  
20 in the ability of government to correct and improve  
21 market outcomes. That means that the agencies are  
22 actually looking at type one and type two errors maybe  
23 in a more balanced way than the agencies or plaintiffs  
24 look at them here in the U.S.

25 Judicial review is less intensive over

1 economic assessments. We have sort of -- well, maybe  
2 I'm just mischaracterizing U.S. law, but we have sort  
3 of Chevron deference in the area of antitrust in the  
4 E.U., and that also has a lot of impact on how the  
5 agencies can feel confident or not in bringing those  
6 complicated cases against large corporations.

7           And maybe last but not least, distributional  
8 choices are more legitimate or easy to sort of think  
9 about in antitrust in Europe. Remember that Article  
10 102, our equivalent to Section 2, talks about the  
11 ability of dominant firms to unlawfully charge  
12 excessive prices on buyers. So we have all those  
13 features in the design of our system which make it  
14 that maybe our antitrust policy is more experimental  
15 and maybe more confident in going after cases in which  
16 there is a lot of uncertainty.

17           So now to your -- really to the core of your  
18 question about, you know, trying to characterize the  
19 European tech policy in the platforms world, I think  
20 there's really three, say four, important policy  
21 messages to extract. And, again, that's really sort  
22 of a bird's-eye view because there's no sort of clear  
23 and formulated message in policy talking.

24           Message number one, tech policy is  
25 essentially to be addressed through ex ante

1 regulation. GDPR is the obvious case, but that's not  
2 all. I mean, platform cases in Europe, they are often  
3 followed or seconded by regulatory propositions, and  
4 they seem to sort of position antitrust enforcement as  
5 a fact-finding exercise or as a regulatory  
6 kickstarter, like, you know, putting pressure on  
7 regulators to think about bigger solutions.

8           So you can think about illustrations. I  
9 mean, you know, proposals to introduce a general  
10 platform regulation in tech to ensure sort of, you  
11 know, rights of redress to developers and trust and  
12 transparency, the tax on revenues from digital  
13 activities, initiatives taken in the area of  
14 copyright. So all those things sort of show that  
15 there's a sort of, you know, big regulatory campaign  
16 in the area of tech and we should not surely miss  
17 that.

18           Message number two, the long game of the  
19 European tech policy seems to be -- so, again, this is  
20 not really explicit -- but it seems to be to protect  
21 players active in the content development segments of  
22 the markets. I'm thinking here about artists,  
23 publishers, developers, vendors and so on and so  
24 forth. And, again, this can be seen if you combine  
25 platform-adverse antitrust enforcement initiatives

1 together with all sorts of regulatory proposals, you  
2 know, net neutrality, copyright reform, online  
3 platform regulation.

4           You can tie this to sort of political  
5 economy considerations. Remember, you know, we hear a  
6 lot when in the U.S. that Europe has no tech  
7 companies. The two main tech power players in Europe  
8 are more in the content segment of the market, you're  
9 talking about Spotify and Deezer. The publishing  
10 industry has a lot of clout in Brussels, so, you know,  
11 if you think about tech policy, I'd say think about  
12 content. That's probably where there is a lot of  
13 faction.

14           Message number three, trust matters. Tech  
15 platforms must honor the trust placed by third parties  
16 placed in them, and, if not, they might risk antitrust  
17 exposure. The two Google cases, Shopping and Android,  
18 that we have seen in the past three years really show  
19 that -- or sort of stand to imply that it's bad for,  
20 you know, Google to rig internet search results and  
21 not provide search results that users are expecting to  
22 have been based on relevance only. And Google Android  
23 has a bit of that spin as well, where policy messages  
24 have been made that, you know, Google was not really  
25 selling an open-source operating system and that was

1 wrong.

2           So the fourth message, and I'll close here,  
3 and that ties to the previous discussion in the  
4 previous panel, it seems fair to say that the European  
5 Commission puts emphasis on intraplatform competition  
6 maybe more than interplatform competition. And so  
7 this is very clear in the Shopping case. It's really  
8 about protecting comparison shopping websites. It's a  
9 little less clear in the Android case because there is  
10 some saying in the press release that the European  
11 Commission is also trying to protect competition  
12 search engines. Not too sure about that, but clearly  
13 an emphasis on intraplatform competition. Thank you.

14           MS. COPPOLA: Thanks very much, Nicolas. I  
15 note that there's a lot of different interpretations  
16 of Intel, and I applaud yours but note that it's one  
17 of many and has been a source of controversy -- at  
18 least it seems so -- among the enforcers.

19           I'm also glad that you referenced the  
20 previous panel. I don't know about others, but when I  
21 was listening, it sounded very much like they were  
22 talking about European competition law today when they  
23 were talking about Microsoft. And that was a really  
24 kind of interesting perspective.

25           And, finally, on the point of ex ante

1 regulation, I hope you and others will weigh in a  
2 little bit today on the proposed platform regulation  
3 in Europe.

4 Okay, so now we have Nick, who I think is  
5 going to do a deep dive into a recent case.

6 MR. ECONOMIDES: Thank you very much. Okay,  
7 so I'll talk about dominance and tying in the Android  
8 case in the European Union. Just to be sure that we  
9 are on the same page, the Android operating system is  
10 an off-the-shelf operating system that an OEM can  
11 freely install on a cell phone or other computing  
12 devices.

13 And Google Mobile Services is a collection  
14 or a bundle of applications including Google Play,  
15 Google Search, Google Chrome and others. And all  
16 these applications, of course, are complementary to  
17 the Android. And there are a number of third-party  
18 apps competing with the apps of GMS. Google Play is a  
19 crucial application, very desirable to manufacturers  
20 because it's an application that allows search,  
21 purchase, download, update, and so on.

22 Essentially, what Google offered to the OEMs  
23 is to choose whether or not to install the whole  
24 collection of GMS. So if the OEM installs GMS,  
25 Google's contract obligates the OEM to preinstall all



1 the apps in the GMS bundle; therefore, Google Play is  
2 contractually tied to other apps in GMS, including  
3 Google Search and Chrome.

4           Additionally, Google wants the OEM to  
5 preinstall Google Search as a default search engine  
6 if it accepts GMS and also to preinstall Chrome.  
7 Additionally, an additional requirement is not to  
8 preinstall apps that compete with GMS apps in any  
9 other device. So if I'm Samsung and I make 25 devices  
10 and I accept the GMS in one, I have to accept it in  
11 all and not install competing apps to GMS in any of  
12 the 25 devices.

13           So the European Union complaint came in  
14 April '16. It's what Americans would call abuse of  
15 dominance. There was a similar complaint in Russia,  
16 and among other facts there besides the very big  
17 market share, so Google Play, Google Search and GMS,  
18 is the fact that Google paid the OEMs to exclusively  
19 preinstall Google Search under the condition that no  
20 third-party search will be -- other third-party search  
21 could be preinstalled.

22           Okay. So it appears that Google's strategy  
23 is to protect and strengthen Google's dominant  
24 position in the general internet search and adversely  
25 affect competition in the market for mobile browsers.

1 The European Union wrote in the complaint that in  
2 their opinion the antifrAGMENTATION agreement, which  
3 was to not preinstall apps that compete with GMS apps,  
4 is not objectively justified. And there is some  
5 outside research that says that Google pays \$12.85 per  
6 phone to Apple to make it the -- to make Google the  
7 search default.

8 Now, is there harm? What are the  
9 allegations of harm? First that consumers are harmed  
10 because they have less choice in browsers and search  
11 in general; that there is going to be less third-party  
12 entry into apps so that innovation is harmed; that  
13 competition is harmed because of fewer third-party  
14 apps; and, again, in American terms, we would be  
15 saying something very similar to the allegation  
16 against Microsoft, that the bundling GMS strategy  
17 preserves and enhances the dominance of Google Search.

18 Okay, so what were the theories of harm that  
19 were proposed by the European Union? Theory one, that  
20 Google is better off and search rivals are worse off  
21 under tying. Consumers and competitions are harmed  
22 through tying. Theory two, consumers are harmed  
23 because tying left them with less choice. Theory  
24 three, innovation was harmed since fewer third-party  
25 apps were developed. Theory four, tying of Google

1 Search with the very desirable, as we said before,  
2 Google Play is used to enhance and preserve the  
3 monopoly of Google Search.

4 So in some way, this case is similar to  
5 Microsoft. The dominant company, Google, forces  
6 acceptance of Google Search through tying with Google  
7 Play, similar to Microsoft tying Media Player with the  
8 operating system in Europe. Additionally, dominant  
9 company Google enhances and preserves the monopoly in  
10 search through tying, very similar to the Microsoft  
11 case of Internet Explorer tied with the operating  
12 system.

13 What has Google -- what have been Google's  
14 defenses? One, that consumers can easily download  
15 other browsers, so the default doesn't have a lasting  
16 effect. This is, in my opinion, a factual or  
17 empirically testable hypothesis that can be proven or  
18 disproven.

19 The second defense of Google has been that  
20 the present world is the only way to make money in  
21 this ecosystem. Again, this is testable, in my  
22 opinion unlikely, because Google has been very  
23 successful in PCs, in search, without tying to  
24 anything.

25 The third defense is that the OEM has the

1 option not to install GMS, which is true, but not  
2 relevant because the tying happens once GMS is  
3 installed and, therefore, you know, what happens when  
4 GMS is not installed is totally irrelevant.

5           Okay. So what happened in the case, the  
6 European Commission fines Google 4.3 billion Euros in  
7 July '18, and the main three points that the European  
8 Union underlined in its press release -- and we have  
9 not, unfortunately, seen publicly the whole decision.  
10 The three points were, one, that Google has required  
11 manufacturers to preinstall Google Search, App, and  
12 Browser (Chrome) as a condition for licensing Google  
13 App Store, the so-called Play Store, one.

14           Two, it made payments to large manufacturers  
15 of mobile networks to condition and exclusively  
16 preinstall Google Search to -- in their devices. And  
17 number three, it prevented manufacturers wishing to  
18 preinstall Google Apps from selling even a single  
19 smart mobile device running an alternative version of  
20 Android that was not approved by Google, so-called  
21 Android forks.

22           Okay. So remedies. The most likely minimum  
23 remedies are going to be that Google will have to  
24 untie the Play from Google Search and the Chrome  
25 browser. Second, that Google has to stop paying OEMs

1 for exclusivity, and there is some evidence that  
2 Google has already stopped doing that. And, three,  
3 Google cannot stop an OEM from selling devices with  
4 Android forks, even if the OEM uses Play in some  
5 devices.

6 So this is more or less where we are.  
7 Today, Google has also announced that it will -- it  
8 has announced remedies like the ones I just mentioned.  
9 And it has said that it will start charging for use of  
10 Google Play. So at the end of this picture, after  
11 looking at this, one gets the feeling that Google has  
12 snookered the regulators, especially the U.S.  
13 regulators. The U.S. seem to have dropped the ball on  
14 this issue.

15 Essentially, Google used an illegal tying  
16 tactic to increase its market share to the detriment  
17 of consumers and rivals for many years. It's very  
18 possible that this will have lasting effects on  
19 search, and the remedies that I have discussed before  
20 do not take care of that. And it's kind of an open  
21 question whether there should be additional remedies.  
22 Thank you.

23 MS. COPPOLA: Thank you, Nick. And I'm glad  
24 that you had a chance to have a quick look at the  
25 remedies that just came out today.

1                   Next we'll hear from Josh Wright. Josh?

2                   MR. WRIGHT: Thank you. And I wanted to  
3                   cosign with my colleagues who have thanked the FTC for  
4                   putting this on, and I'm especially grateful that it  
5                   is here at George Mason. And I know I speak for the  
6                   law school and the GAI in saying we're pleased to be  
7                   participating in this debate.

8                   So platforms, for a variety of reasons, and  
9                   I think spelled out by my colleagues on the panel, are  
10                  a fun and hot and even maybe for antitrust terms  
11                  anyway a sexy topic in antitrust. My job for the next  
12                  seven and a half minutes, I think, is going to be to  
13                  make the point that the differences that we really see  
14                  in U.S. and European antitrust treatment and Article  
15                  102 and Section 2 have little, if anything, to do with  
16                  platforminess, which I think was a word frequently  
17                  invoked yesterday. I really don't think the panels  
18                  have much to do with specific differences about  
19                  platforms.

20                  So in some ways, my goal for the next six  
21                  minutes is to make the topic far less sexy than it  
22                  sounds, but I think I probably can get the job done.  
23                  I do think, and I'm glad that Simon started with the  
24                  proposition that there really are much more in the way  
25                  of similarities here than differences. I think that's

1 an important place to start, whether it is  
2 methodologically on basic principles of market  
3 definition or at least a statement that we are all  
4 doing the consumer welfare standard.

5 I think now more or less everybody says  
6 that, but I think sort of a layer beneath the  
7 observation that we're sort of interested in harm to  
8 competition and effects in doing consumer welfare,  
9 there are some important -- I think I'll use the term  
10 "methodological differences" that one can see sort of  
11 stylized empirical regularities and decisions  
12 involving single-firm conduct that come out of the  
13 E.U. and the U.S. that I think are interesting and  
14 important for discussion. Some have already been  
15 raised.

16 Nicolas raised the sort of emphasis on  
17 intra- versus interplatform. I think that idea, the  
18 importance of the role of judicial review as an  
19 institution in single-firm conduct cases is obviously,  
20 I think, incredibly important to determining how  
21 regulators and courts behave sort of in the first  
22 instance. But I think those subtle distinctions in  
23 the way we talk about how to analyze single-firm  
24 conduct cases are tremendously important. I just  
25 don't think they come from platforms.

1           And it is true that there are unique  
2 features of platforms that end up being important in  
3 cases, right? We get -- and we have that in U.S. law  
4 and some places whether one reads AmEx that way or the  
5 DC Circuit's interpretation of Jefferson Parish as a  
6 tying test for sort of integration of what would be  
7 separate parts.

8           So this is not to say that platforms don't  
9 have some fun, unique special features for antitrust  
10 analysis, but I think the difference is that we  
11 observe in the types of cases that people are  
12 mentioning, so whether it's Google or Intel or what  
13 have you, are really the same fundamental Section 2.  
14 I remember way back when it was the Section 2/Article  
15 82 debate over divergence between the U.S. and E.U. on  
16 single-firm conduct.

17           And there are a whole host of possible  
18 explanations for those differences. I think Nicolas  
19 mentioned some of these in his talk. These are sort  
20 of the standard menu of items for possible differences  
21 -- different priors with respect to how frequently  
22 tying or vertical integration or exclusive dealing is  
23 anticompetitive. Those are topics upon which  
24 economists, I think, have quite a bit to say.

25           Differences, whether ideological or cultural



1 or political or economic, on how one weights type one  
2 versus type two errors, I think all of those are  
3 important, and we'll focus just on one difference that  
4 I think is important to invoke in these sorts of  
5 conversations.

6 And that is sort of a fundamental question  
7 on when it is appropriate or optimal in the design of  
8 antitrust standards, keeping open the idea that the  
9 optimal standard might be different in different  
10 countries and different settings, but when it makes  
11 sense to infer harm to competition from harm to a  
12 rival. That is in large part my read of European  
13 decisions that there is a greater propensity to infer  
14 harm to competition from harm to a rival than has a  
15 place in U.S. law and sort of U.S. agency  
16 jurisprudence as well. It's sort of more and more  
17 likely U.S. agencies and courts are to demand evidence  
18 of actual effects as opposed to inferring likely  
19 effects from harm that can be demonstrated to a rival.

20 I think I've got two minutes to go, maybe  
21 two and a half. So I will -- I did not plan on doing  
22 this, but Nicholas said "snookered," and it got my  
23 attention. So I left the FTC. I did not participate  
24 in the Google case. I came a couple days after it  
25 closed, maybe coincidentally. But I do object. I

1 think we said we would sort of make an effort to  
2 escape from cliched treatment of cases, and I think  
3 the idea that the FTC got snookered or captured or  
4 some such is a cliché that deserves to be abandoned.

5 At the agency, I think I set the record for  
6 dissent over a seven-year term in three years. I can  
7 tell you it's really hard to get five-nothing  
8 decisions. I tried to ruin lots of five-nothing  
9 decisions. And it's very difficult to do. That is a  
10 five-nothing decision, and I think the agency  
11 statement, which talks in part about why is not  
12 enough; I sure wish -- you know, this is the case  
13 where the agency accidentally released a every other  
14 page of the Bureau of Competition memo, you know, and  
15 I've said this in public before, the Bureau of  
16 Economics memo that actually shows the work that the  
17 agency did.

18 I think John Ewing is not in the room, but  
19 my colleague here, John Ewing, who was the staff  
20 economist on that case, has a paper, it's up on SSRN.

21 Obviously can't talk about what the staff  
22 did in that paper because the data are confidential,  
23 but for those actually interested in what the agency  
24 did in the case, I think it starts with reading that  
25 paper and the FTC's closing statement. And the FTC

1 makes clear that what they relied on was they took the  
2 theories of harm seriously, they tested them against  
3 data and looked for actual effects, and they found the  
4 evidence lacking using real economic evidence.

5 Now, it could be the answer is you get a  
6 different result in Europe than the U.S. I'm sort of  
7 open to that. You could very well run sophisticated  
8 analyses in both places and come to different answers.  
9 I think that's a possibility. But I think we ought to  
10 take the agency for its word in what it describes,  
11 sort of what it did in those cases. So, that, I  
12 think, gets us a little bit closer actually talking  
13 about what the standard of competitive harm is, what  
14 evidence is sufficient to substantiate claims that  
15 there is harm to competition, when is harm to a rival  
16 without showing an effect on competition sufficient to  
17 substantiate such a claim.

18 There are lots of different views there,  
19 some which I think can be resolved, some that can't.  
20 But I think talking about the work that the agency  
21 actually did rather than talking about whether or not  
22 it was snookered is probably a more fruitful avenue.

23 MS. COPPOLA: Thanks, Josh, and thanks for  
24 reminding us, too, that we want to be thinking, to the  
25 extent that we can, about platforms as opposed to

1 simply single-firm conduct.

2 I think now I'll turn to Cristina.

3 MS. CAFFARA: Thank you. And, again, my  
4 thanks to you and to the FTC for the privilege of  
5 being here today. I will touch inevitably on the  
6 multiple themes that have been already touched upon by  
7 other panelists. I'd like to give you a sense for  
8 really what it is that may be different in Europe at  
9 the moment, where the narrative is and where the  
10 conversation is going, with the proviso I agree with  
11 Josh and others that we have a lot in common and any  
12 differences is not specific to -- particularly to  
13 digital platforms.

14 It is also true, though, that in the current  
15 debate about enforcement around digital platforms is  
16 these differences are becoming amplified in the  
17 discussion, inevitably turns, also, around them quite  
18 a lot. In the spirit of disclosure, I work, of course  
19 with Charles River. I have, in the past, advised  
20 third parties in the Microsoft case in Europe. I have  
21 been involved for third parties also in the Google  
22 Shopping and Android case, but, of course, what I'm  
23 going to say here is entirely my view and does not in  
24 any way represent that of other CRA colleagues. I  
25 need to say that.

1 I also need to say that although when we  
2 talk about Europe, this is obviously a shortcut.  
3 Inevitably when we talk about Europe, digital  
4 competition and European Commission are the center  
5 stage, but it is important to sort of bear in mind  
6 that there is a very diverse and, in my view, broader  
7 environment of agencies at the national level that are  
8 very active in the space.

9 Simon represents the U.K., we have the  
10 French authority, the German authority, very  
11 influential, the Italians. So there is, in fact, a  
12 broader narrative and a broader picture out there  
13 which will collapse a little bit into simplification  
14 when we talk about Europe as a single entity.

15 Now, with that said, I think I would also  
16 like to start with perhaps what is not necessarily a  
17 caricature but it is a description of what the  
18 European position in these kind of cases is often  
19 described in conferences and in debates around policy.  
20 There is a sort of a description that essentially  
21 goes, Europe is mainly protecting competitors rather  
22 than competition, you know, that is the goal of  
23 competition enforcement but protecting competitors  
24 rather than anything else rather than consumer  
25 welfare. We are pursuing fairness as an enforcement

1 goal as opposed to a more legitimate one of consumer  
2 welfare again, and we have a host of other policy  
3 objectives, like digital single market. Nicolas  
4 hinted at some sort of support for local content,  
5 which may be bundled up in some of the antitrust  
6 cases.

7           And, finally, there is also this driving  
8 sentiment that there is tech envy in Europe. We don't  
9 have our own Google, we don't have our own Silicon  
10 Valley, we don't really produce these type giants for  
11 a host of reasons. There was an interesting article  
12 in The Economist last week that explained the history.  
13 We don't have unicorns in Continental Europe at the  
14 moment. There are a couple in the U.K. but nothing to  
15 challenge the U.S./Chinese sort of supremacy.

16           So all of that is the kind of narrative that  
17 is often sort of put forward in these kind of  
18 discussions. I want to pick up on a couple of  
19 misconceptions, and this is my first one. The first  
20 one is really this notion that somehow Europe is  
21 pursuing some other goal, some protection of  
22 competitors as opposed to consumer welfare. I think  
23 that is simply not true, nor is it true that in cases  
24 like Google or Android there has been a protection of  
25 competitors in preference of the notion of consumer

1 welfare.

2           It has been mentioned before, there is no  
3 question that in Europe we have a special  
4 responsibility, which is allocated in a dominant  
5 company to not undermine competition. But the notion  
6 of consumer welfare is very central to what Europeans  
7 do and how they think about it. It's only a notion of  
8 consumer welfare which is not narrowly focused on  
9 output and price, and the discussion about the  
10 boundaries of consumer welfare that sometimes one sort  
11 of sees here seems puzzling to us because, for us,  
12 consumer welfare is very centrally price, output,  
13 choice and innovation.

14           And I hear Josh when he says it is very  
15 difficult to infer consumer harm from harm to a rival,  
16 I realize this is a discussion which is the core of  
17 this, but if I think about what the previous panel  
18 discussed, I mean, Doug Melamed talked about the  
19 Microsoft case and very clearly said we took the view  
20 that in a probabilistic sense, markets in which you  
21 have more competition, more active competition, tend  
22 to favor more innovation rather than markets where we  
23 just sat around a very strong monopoly and a dominant  
24 firm.

25           And this is not a novel view. This is -- we

1 have absolutely pursued this back in Europe at the  
2 time of the Microsoft case, there was a big debate at  
3 the time from Microsoft, and I'm talking about the  
4 server case, about being expropriated by intervention.  
5 Our intellectual property is being expropriated.  
6 There will be a reduction in our incentive to  
7 innovate, which was the response what about the  
8 overall incentive to innovate, what about implications  
9 for competition and the overall effect on innovation  
10 in its totality.

11 So I think that it is fair to say that we do  
12 not see any abuse around introduction of innovation.  
13 There is no notion of an exclusionary innovation.  
14 There is a notion that what is problematic is conduct  
15 around innovation that may be tilting the playing  
16 field. And certainly in Google Shopping the concern  
17 was the discriminatory sort of way in which some of  
18 the new features of the product appeared to have been  
19 introduced is the objection that really carried weight  
20 in Europe.

21 So this is the first, I think, misconception  
22 that needs to be cleared up. We certainly pursue  
23 consumer welfare, and we see innovation as being  
24 central to that.

25 The second misconception is that somehow we



1 don't know our economics in Europe. We're a little  
2 bit fluffy, we do these kind of theories of harm that  
3 are a little fluffy, and we don't really do them in a  
4 tight way. We need to go back to school. Well, this  
5 is an insult, because, you know, although there may be  
6 some question around some of these theories, I think  
7 that it is absolutely clear that any one of the  
8 concerns that have been pursued in these cases as  
9 being -- and can be expressed in a very standard,  
10 Chicago-type model, dotting all the Is and crossing  
11 all the Ts.

12           There's has been a lot of academic work  
13 supporting, for example in the Android case, notions  
14 of dynamic exclusion, dynamic foreclosure. There are  
15 models that show static foreclosure. So I think this  
16 is also sort of some notion that we do things because  
17 we like strange ideas like self-preferencing is a  
18 caricature of how things are really.

19           The next point, and I'll try and be brief,  
20 is, of course, this doesn't mean that the tool that  
21 we use has no limitations. There are significant  
22 limitations, particularly in thinking about Article  
23 102 to pursue -- to pursue conduct in the case of  
24 dominant firm. One -- and it will appear surprising  
25 to some of you perhaps in light of the previous

1 discussion on the Microsoft case, is, in fact, the  
2 Microsoft legacy in Europe.

3           And when I say that, it is very much the  
4 Microsoft server case that I'm talking about. The  
5 reason is that good as that case absolutely was, it  
6 has embedded and established a precedent which is the  
7 one that everyone in Europe, but certainly the  
8 European Commission, is very favorable to, the notion  
9 that you build an anticompetitive story around  
10 leveraging and around tying. And so every single one  
11 of these stories ends up being fashioned as a tying  
12 story.

13           And, now, this may well have merit in the  
14 case of Android, I think it does. In the case of  
15 shopping, I think it's a bit of forcing the discussion  
16 to describe that as a tie and see that there's a tie,  
17 this type of vertical foreclosure case. But, you  
18 know, what it means is that it may be a bit of a  
19 straightjacket when we think about cases, because it  
20 means that everything needs to be fashioned in that  
21 way, things couldn't get off the ground if they don't  
22 have that structure. And that doesn't capture the  
23 totality of the cases that we may be worried about or  
24 tied to the circumstances that we maybe sort of faced.

25           Second limitation, which I think is very,

1 very clear, is the nature of remedies. In these  
2 cases, we pursue a theory of harm, but how effective  
3 are really the remedies that we're able to put in  
4 place? And there is a variety of reasons why these  
5 remedies don't seem to be doing very well. I mean,  
6 effectively, you say to a dominant company, off you  
7 go, cease and desist, and come up with something  
8 better.

9           And, in part, it is the asymmetry of  
10 information between the regulator and the company.  
11 There is very little ability to really drive what is  
12 going to be adopted. So I don't think it's a surprise  
13 that the Shopping case is delivering absolutely  
14 nothing. It has generated a sort of emotional-type  
15 mechanism, with all good intention, but no one --  
16 there is a monitoring process going on, but I think  
17 there is great skepticism that this is doing anything  
18 particularly worthwhile. And I think it's a  
19 recognition on all sides.

20           So what is the purpose of these cases once  
21 we find a theory of harm if we really cannot put in  
22 place a solution that makes a great deal of sense?  
23 And I have to say we will see how it will play out,  
24 but, of course, there is a possibility that Android  
25 will also sort of remain in that kind of space. Do I

1 have another couple of minutes?

2 MS. COPPOLA: Yes.

3 MS. CAFFARA: Okay. So the third point I'd  
4 like to make is that, okay, so these are the  
5 limitations of the tool and we know them and we  
6 understand them. At the same time, I think it's very  
7 important to understand also the kind of observation  
8 that Europeans are making -- European regulators and  
9 European observers. What is clear or what appears to  
10 us is that all this kind of awesome digital world that  
11 we were expecting was going to unfold sort of before  
12 us in which, you know, there was going to be  
13 leapfrogging every five minutes, people were  
14 multihoming, people are just totally downloading  
15 frictionlessly without any problem, it's not kind of  
16 happening.

17 And there is a great deal of concentration  
18 in terms of bottlenecks and channels, often tension  
19 with a limited number of very big, very big giants,  
20 and that is a question that we are putting ourselves:  
21 Why do we observe this? Why are we observing these  
22 kind of much multifarious, multiwonderful world of  
23 changes? So that's -- that's an open question.

24 Another question is the fact that we observe  
25 acquisitions going on all the time, buying other small

1 companies, and that may well be very legitimate, but  
2 there is also this question, are these killer  
3 acquisitions. There's papers all around looking at  
4 this. There is the question of extending the position  
5 in multiple adjacent markets, which is absolutely the  
6 heart of the digital economy. Combining complements  
7 is the thing. But, you know, what's the line between  
8 that and some form of occupying a space or  
9 foreclosure. Dual monopoly profit theory doesn't  
10 necessarily work that well when you have a zero price  
11 constraint.

12           And the big question, and I'll end on that,  
13 is really what do we know about the effects of all of  
14 this on the rate of innovation? This is the question  
15 that empirically we don't have a good handle on, and  
16 it is to me at the absolute core of all of this. Do  
17 we know whether in all of this we see innovation sort  
18 of thriving on the shoulders of giants, or do we see  
19 it wilting in the shadow of giants?

20           There is very little that is actually done  
21 in this. I have seen Ian Hathaway's studies that he's  
22 -- something we shall see recently that sort of looks  
23 at the rate of VC investment in startups and looks at  
24 a specific segment, so internet retailing, internet  
25 search, and social networks, and would appear to

1 suggest that this sort of -- the startup VC investment  
2 in new companies in these segments is going down every  
3 single year.

4           If you take that literally, that would  
5 appear to suggest that there is perhaps not so much  
6 benefit to small companies innovating in the shadow of  
7 giants because there is not much funding, and whether  
8 that is because there is a fear of expropriation is  
9 unclear. But, of course, we need to look at funding  
10 for complements as well as substitutes.

11           So to say this is absolutely the core  
12 question, which should be, of course, more research is  
13 needed, but it is one that we should absolutely pursue  
14 if we are going to be shaping the tools -- and I'll go  
15 to the tools later -- in a way that is meaningful in  
16 the future.

17           MS. COPPOLA: Thank you, Cristina. I have  
18 about a hundred questions, but before I start, and I  
19 have a few from the audience as well, did any of the  
20 panelists want to comment on any of the opening  
21 presentations?

22           No. Okay, well, I suppose I have one very  
23 quick question and then a series of longer questions.  
24 The first one is I think, you know, a lot of what  
25 we're talking about here is harm and what do we mean

1 by harm and, you know, the link to the consumer  
2 welfare standard.

3 Cristina, you talked about something that  
4 was a little intriguing. You said conduct that  
5 doesn't -- that's harmful but it doesn't neatly fit  
6 into the Microsoft tying or bundling, just briefly,  
7 what type of thing did you have in mind?

8 MS. CAFFARA: Well, I'm just saying that if  
9 you think -- I mean, it's important that we think  
10 about the concerns that we might have, what are we  
11 seeing and how that may look like a competition  
12 problem. In Europe, the problem is that you are,  
13 then, having to try and fit that into the boxes of  
14 tying, and not everything is a tie. That's the point.

15 So if you think about -- if you think about  
16 the concerns of, for example, publishers that Nicolas  
17 mentioned, there isn't a tie. There is a concern  
18 about traffic allocation and that might drive the  
19 choice of business model in a way that perhaps doesn't  
20 fit in the underlying preferences of consumers but  
21 reflect the preferences of the allocator. So how do  
22 you fashion that into a theory of harm? It's not a  
23 tie. No one is tying anything with anything. So I'm  
24 saying that, you know, that's one limitation that I  
25 see in Europe in the ability to actually be effective

1 in designing a theory of harm that will get traction.

2 MS. COPPOLA: And we can think about whether  
3 some of these issues are better addressed by  
4 regulation in a minute. I just wanted to turn to  
5 Josh, actually. Cristina had suggested that the  
6 Europeans think about consumer welfare, but they  
7 include not just price and output but also choice and  
8 innovation.

9 I suppose there was sort of a subtext there  
10 that maybe the U.S. antitrust authorities aren't  
11 thinking as much about those. Did you want to reply  
12 to that?

13 MR. WRIGHT: Sure. And not so much as a  
14 reply to Cristina. I will defer to her description of  
15 the European approach, for sure. It is sometimes  
16 raised, and I do think -- I think Cristina referred to  
17 it as a caricature of the claim that Europe is not  
18 doing consumer welfare. I think that's right. They  
19 obviously are, and there are sometimes subtle  
20 differences in the way that we sort of weight  
21 different types of evidence or different types of  
22 theories. You will sometimes hear as part of that  
23 discussion, well, the U.S. approach only does price  
24 and output and we're somehow, you know, sort of  
25 blinded to innovation cases.



1           I don't think that's right either. I can  
2 think of a number of innovation cases, both in the  
3 merger context and the unilateral context, for sure,  
4 that the FTC has brought. So I don't -- I don't think  
5 that there is anything in either approach to consumer  
6 welfare that would prohibit either set of institutions  
7 in the E.U. or U.S. from going after cases that  
8 involve theories of harm to innovation.

9           Again, I think there the differences are  
10 more methodological than conceptual. The proof is in  
11 the actual application of the concept to the evidence.  
12 What evidence substantiates some theory of harm, we  
13 all read the same math models and can sketch out a  
14 theory of dynamic foreclosure or harm to innovation or  
15 harm to an edge provider or whatever else. We sort of  
16 all can do the same models.

17           I think the question has much more to do  
18 with what evidence is sufficient to substantiate those  
19 claims. And there, I do think there is some  
20 difference. I think there is more reticence in the  
21 U.S., and we can talk about whether this is a good or  
22 bad thing, but some reticence to use models that are  
23 commonly invoked in the theoretical IO literature but  
24 sort of less often substantiated with empirical  
25 evidence.

1           I think there is more reluctance. I think  
2 there is certainly -- and Nicolas' comments to start  
3 with emphasized this -- I think there is certainly  
4 more of a requirement in the U.S. to show actual  
5 effects and a little bit more of a suspicion, over  
6 likelihood effects -- over likely effects. That may  
7 be a function of judicial review in some places; it  
8 may not be. So that will be sort of one big  
9 endogenous bundle.

10           But I think the way to think about which of  
11 those approaches is superior almost has to get at  
12 outcomes, right? It has to get at trying to measure  
13 performance in the actual marketplace, and that is a  
14 place where I think the FTC has some comparative  
15 advantage in trying to -- these are really hard  
16 questions, and we all have our favorite cases or  
17 favorite examples of type one or type two error to  
18 tell, but I think these are really hard, thorny  
19 questions that require a lot more empirical evidence  
20 than they do theory.

21           MS. COPPOLA: Thanks, Josh. And I would  
22 just add to the evidence -- the evidentiary standards  
23 are slightly different and also the burdens with the  
24 agencies, where the burden lies, burden of proof.

25           Nicolas, you wanted to say something, I saw

1 you --

2 MR. PETIT: Yeah, so I think there's -- I  
3 mean, there's probably not so much, you know, support  
4 to the notion that you really need to bring a  
5 categorized theory of liability to win in an antitrust  
6 case in Europe. And, actually, the decision of the  
7 European Commission in Shopping is very long. It's  
8 220 pages shows that the defendants said, Google said,  
9 well, you have not shown me an essential facilities  
10 theory of liability, you have not shown me a sort of  
11 duty to deal kind of story here, Commission, so you  
12 have no case.

13 And the Commission said, and, you know,  
14 rightly so on the -- precedence the Commission said,  
15 and, you know, rightly so on the basis of judicial  
16 precedence, the Commission said, well, you know,  
17 there's no laundry list of theories of liability on  
18 which I have to rely once -- you know, pick one to run  
19 a case. This is open-ended. This is fluid.

20 You know, views depend primarily on  
21 anticompetitive effects. So then the question is, you  
22 know, what Josh mentioned earlier, what kind of degree  
23 of -- anticompetitive nature of anticompetitive  
24 effects you can rely upon to bring Section 2/Article  
25 102 case. And in Europe, the feeling seems to be,

1 well, you know, capable is enough, and uncertainty is  
2 less of an obstacle to antitrust enforcement.

3 MS. COPPOLA: Thank you, Nicolas.

4 We have some questions from the audience  
5 that I think are relevant, in particular for Nick, but  
6 others should feel free to weigh in. And one is, how  
7 serious of a consumer harm is it when the consumer  
8 simply has to download a different search engine?  
9 They have the benefit of preinstalled and they can  
10 still choose a different one.

11 So this is getting at some aspects of the  
12 Android case, obviously, not the entire case, but a  
13 piece of it. So maybe, Nick, if you'd like to respond  
14 to that.

15 MR. ECONOMIDES: Sure.

16 MS. COPPOLA: And maybe I'll ask the other  
17 panelists to think a little bit about remedial  
18 challenges in some of these digital platform cases and  
19 we can have a discussion about that.

20 MR. ECONOMIDES: Sure. Well, first of all,  
21 I should have said it from the beginning that I don't  
22 have any particular company or entity that I work for  
23 except NYU, and these are the only people who are  
24 paying me to do this research.

25 The second thing I was going to say is that

1 I said the word "snookered" about the FTC. I didn't  
2 say the word "captured." That's something that I  
3 don't want to say. This is more onerous implications  
4 which I don't want to get involved with, and I don't  
5 really believe it.

6 Coming down to this question, I am old  
7 enough to remember exactly the same defense by  
8 Microsoft when there was the issue that Internet  
9 Explorer was inside Windows and, you know, was that an  
10 advantage to Microsoft or not. And Microsoft would  
11 say, look, I mean, it takes one minute to download  
12 Netscape and anybody can download it.

13 Whether it's as easy as people say, it's an  
14 empirical question, and I think at least my feeling,  
15 maybe I'm too old for cell phones, but my feeling is  
16 that it's much harder to download a new browser on a  
17 cell phone than it was to download a new browser under  
18 Windows, or is under Windows. So it's an empirical  
19 question.

20 I don't want to presume the full answer.  
21 This is something that anybody who brings a case and  
22 anybody who argues a case should really specifically  
23 look at. But even if the harm is small there, there  
24 is an issue of the consumer not having readily all the  
25 alternatives and ways in which companies with very

1 large market share, over 90 percent, have written  
2 exclusive deals so that other browsers are not  
3 available or other search possibilities are not  
4 available on cell phones.

5 MS. COPPOLA: Thanks so much. And,  
6 actually, Simon wants to speak, but it is perfect  
7 because I had a question. As Nick was speaking, I was  
8 thinking about sort of the digital competence, the  
9 technical competence that we have within our agencies.  
10 You -- I know the U.K. CMA is sort of making itself  
11 digitally fit for the new age. So as you comment on  
12 what Nick has said, if you could bring in a little bit  
13 about what your agency is doing in that respect.

14 MR. CONSTANTINE: Sure. Well, part of my  
15 reason for wanting to speak was so that I didn't have  
16 to answer the question of how exactly you remedy these  
17 issues, because I think it's a particularly difficult  
18 one and inevitably will be, you know, something you  
19 have to decide on the facts of each case.

20 Going to the original question about how  
21 easy or otherwise it is to download apps, I mean, I  
22 think there is research that suggests that the only  
23 area in which Bing has a significantly higher share  
24 than Google Search is on Windows phones, where it is  
25 preinstalled. And so, I mean, going to Nick's point

1 about the empirics, I mean, I think you can admit we  
2 all say it's quite easy to do. You know, even small  
3 amounts of friction, I think, can be shown to really  
4 have quite a large impact on consumer behavior,  
5 particularly when you extrapolate it and multiply it  
6 across the millions of devices sold and the millions  
7 of interactions that we have with these devices. So  
8 that's that point.

9 I think Maria was asking about some digital  
10 expertise. I think this is a key issue, as alluded to  
11 earlier, about the sort of information asymmetry that  
12 exists between regulators and tech companies. And one  
13 of the inherently -- because all of these cases are so  
14 fact-specific, you really have to get into the weeds  
15 of the case, and that requires us to understand how  
16 these markets work. And taking our inspiration in  
17 some ways from the FTC actually and their Office of  
18 Technology, we've recently appointed head of digital  
19 and are forming a data and technology and analytics  
20 team, which will be a sort of mix of not just the sort  
21 of usual lawyers and economists that populate  
22 antitrust authorities, but also data scientists,  
23 analysts, and the like, and so really trying to  
24 understand what the implications are of data, how we  
25 can use that data ourselves, how we can better assess

1 it, and then also looking at how one might use data.

2 And this, I think, is an interesting  
3 question perhaps to which to come back to in the  
4 future hearings, is how we can use data actually to  
5 drive better competition in the market.

6 MS. COPPOLA: Well, that's the topic of our  
7 November hearing, so in case you want to come back to  
8 Washington.

9 I don't know if others want to comment on  
10 the remedial challenges or whether we want to turn to  
11 regulation. I have a question from the audience and I  
12 know we've had a few rounds of emails about  
13 regulation, and so anyone want to comment on remedial  
14 challenges or should we move to regulation? Okay.

15 So the question from the audience was, do  
16 you need sort of an identifiable market failure in  
17 order to regulate, to have ex ante regulation, and  
18 what are sort of the costs and benefits as compared to  
19 case-by-case enforcement? And I think hopefully  
20 panelists will address that question, but also more  
21 broadly, you know, what are the competition harms that  
22 we're worried about that can't be addressed by  
23 antitrust enforcement actions? And what would that  
24 regulation look like?

25 Does anyone want to start?



1           MR. WRIGHT: I can do the first one, yes.  
2       Yes, you need a market failure to have ex ante  
3       regulation. I'll let my copanelists do the heavy  
4       lifting on the rest.

5           MS. COPPOLA: It might be one of your  
6       students that submitted the question.

7           MR. WRIGHT: I would pay them for harder  
8       questions.

9           Don't do it, guys.

10          MR. ECONOMIDES: I might say that I agree  
11       with Josh. I mean, this is -- when we're talking  
12       about sector-specific regulation, we need -- we really  
13       need to prove that antitrust doesn't work and there is  
14       some sort of what we usually economists call market  
15       failure. One of the areas in which it seems that  
16       there is a market failure and antitrust cannot fix the  
17       problem is in the collection of data by companies such  
18       as Facebook or Google or others, without payment. So  
19       usually you would expect when some exchange happens  
20       that there is actually a price, but here the price is  
21       -- has been set to zero.

22          So in my book that counts as a market  
23       failure, and, there, we need to think seriously about  
24       how to regulate that market and even create the  
25       possibility of a real market there in which money

1 changes hands.

2 MS. COPPOLA: Thanks very much.

3 Cristina.

4 MS. CAFFARA: I am happy to jump in. Well,  
5 I would like again to give a sense for what is the  
6 broader debate which is taking place in Europe now. I  
7 think the question of whether we need to just -- we  
8 need to default to regulation on how we think about  
9 regulation in the event that we decide that the  
10 antitrust tool isn't sufficient I think is not quite  
11 well put.

12 I think in Europe the debate at the moment  
13 is very broad and very live about how we need to think  
14 in a holistic sense about all of these tools and not  
15 necessarily think about them sequentially or  
16 separately. The initial discussion was, of course,  
17 like everywhere, do we have the right tools in  
18 antitrust and how should we somewhat sharpen them,  
19 adapt them in this new world. And, you know, the  
20 standard answer that you got until fairly recently  
21 was, we just have the tools. We have all of the  
22 tools, we just need to prime and populate. And don't  
23 lose your head, there's nothing to see.

24 And I think that that kind of certainty has  
25 become quite shaken by the notion that we observe

1 phenomena. I mentioned earlier that we are  
2 questioning, why don't we see this kind of thing, a  
3 seamless world of overtaking and leapfrogging, and why  
4 don't we see these kind of phenomena sort of out  
5 there.

6 So there is a sense that a broader approach  
7 is needed, and this is not sort of a populist,  
8 extremist fringe that takes this view. This is kind  
9 of mainstream at the moment in Europe, Jean Tirole  
10 just mentioned someone whose credentials are obvious,  
11 and Nobel Prize has been talking about the necessity  
12 to rethink a bit the approach in these cases. He's  
13 talking about participative antitrust as a potential  
14 way to think about it. So no longer sort of a  
15 prosecutorial but a way in which perhaps companies  
16 could sit together and can come together and address  
17 some of the issues.

18 There are bodies of very respected orthodox  
19 academics in Europe, economists and lawyers, thinking  
20 about how indeed the tool needs to be significantly  
21 abated. In Germany, you have this next-level  
22 antitrust paper. You may or may not agree, but this  
23 is very influential in the way we think about it.  
24 There is the group of people advising the European  
25 Commissioner saying we just need to be less insular in

1 the way we think about antitrust because we are kind  
2 of constantly thinking about, do we have the tools,  
3 can we sharpen them a little bit, we need to stop  
4 thinking of what the issues are and then thinking  
5 again about what the best tools are.

6 Now, and then, of course, as you mentioned,  
7 there is, in fact, you know, an additional point. The  
8 U.K. Treasury has launched a digital platform  
9 initiative just to again try to identify the big  
10 questions before we really think about the use of the  
11 tools.

12 So I think as the initiative or regulation  
13 is trundling through the European Parliament, there  
14 are various regulatory initiatives at the national  
15 level. And I think that that is certainly going to  
16 our head. It is going to fill any vacuum that  
17 antitrust enforcement needs. One of the models that,  
18 you know, you hear people talking about is, well,  
19 we've been dealing with, with telecom company in the  
20 past, we've adopted an end-to-end interconnectivity  
21 approach, in which we mandated number portability, we  
22 mandated all sorts of axis regimes, and that's what  
23 we've done. Why can't we find an equivalent in this  
24 world? I think this is more than a question of  
25 detail. It's very important. But just to say that I

1 think that discussion about instrument mix is super-  
2 live in Europe, and it isn't just about fiddling at  
3 the edges with antitrust. It is a broader and more  
4 ambitious sort of...

5 MS. COPPOLA: It's interesting to think  
6 about why some of the discussions in Europe are  
7 different from those here, and whether there's kind of  
8 a more openness to regulation. The discussion about  
9 different tools had me thinking a little bit about the  
10 U.K.'s power in their sector inquiries.

11 Do you want to weigh in on that at all, what  
12 that might look like for digital platforms or how your  
13 experience might inform this kind of multidisciplinary  
14 approach?

15 MR. CONSTANTINE: Yes, I mean, we in the  
16 U.K. have the benefit of sector market study powers  
17 that not only allow us to look across a sector as a  
18 whole, where the market may not be functioning well,  
19 but also at the end of it allows us to impose  
20 remedies, orders that are quasi-regulatory remedies.  
21 And I think in this sort of circumstance, that can be  
22 a very powerful tool.

23 Both Nick and Josh talked about the need for  
24 a market failure. I mean, I agree, and the markets  
25 tool, I think, can achieve that. It's a two-year

1 investigation that really looks to understand how the  
2 market is operating, what are the factors that are  
3 driving the assessment -- the way in which competition  
4 is operating. And that -- so that allows you to look  
5 at competition issues; it allows you to look at  
6 consumer issues and then not have to try and shoehorn  
7 things in through the very tight antitrust lens.

8 One might see in a recent banking study we  
9 looked at where previous attempts to sort of make  
10 switching easier and the like haven't necessarily  
11 worked, so we looked at the market again and actually  
12 have there introduced a remedy which brought forward  
13 what's known as open banking, which is about allowing  
14 people to port their data, their financial data from  
15 one bank to another and engender competition that way.

16 So I think it allows you really take this  
17 detailed look at a market based on the evidence to  
18 address it and thereby put in regulation that's really  
19 sort of tailored to exactly the harms you're trying to  
20 get at.

21 MS. COPPOLA: Thanks, Simon.

22 You know, the discussion we had earlier on  
23 intra- versus interplatform, I was thinking about the  
24 question a little bit from a slightly different  
25 perspective. And that is should we in the U.S. be

1 more concerned about intraplatform competition? I  
2 keep hearing, say, well, you're this concerned about  
3 interplatform but I guess there's a different  
4 question, which is is the U.S. sufficiently -- do we  
5 pay sufficient attention to intraplatform competition?

6 Does anyone want to take that on? Yes.

7 MR. PETIT: So, yeah, just to come back on,  
8 you know, the previous points which haven't been made  
9 about what agencies should do in situations of  
10 uncertainty, I think what they should do is, you know,  
11 have a set of first principles to think about in  
12 certain markets. And I think one of those first  
13 principles is to say, well, you know, we are going to  
14 go to these markets if we see there is not enough  
15 interplatform competition. We're going to look into  
16 intraplatform competition, sort of, you know, kind of  
17 reasoning that we've had in vertical restraints, in  
18 Europe at least, for a long time.

19 And so your analysis of intraplatform  
20 competition becomes important and the scrutiny becomes  
21 important if you feel that a market doesn't have  
22 sufficient degree of interplatform competition. And  
23 on that, it's often sort of, you know, difficult to  
24 make that preliminary assessment because the question  
25 is what is the platform you're talking about?

1           So for instance if you take the  
2 Google/Android case you could say, well, you know, the  
3 platform is search and there is not enough competition  
4 because Google has, you know, between 90 and 100  
5 percent market share. But at the same time, you can  
6 only come to that reasoning if you've excluded from  
7 your analysis Apple and its closed ecosystem from the  
8 analysis. And you could say, you know, Apple's siloed  
9 ecosystem is also a platform which competes with the  
10 platform of Google, which is search plus Android.

11           So it is a first question to ask. It's not  
12 an easy question. Sometimes I think the tool of  
13 antitrust, like market def, can be misleading in that  
14 assessment.

15           MR. ECONOMIDES: I was going to say that,  
16 you know, an interesting issue of intraplatform  
17 competition could arise in the distribution of -- the  
18 distribution that is now dominated by Amazon when you  
19 have some sellers that are selling directly to  
20 consumers and also selling through Amazon. So there,  
21 there is at least a possibility of anticompetitive  
22 effects in intraplatform competition. But, again, I  
23 haven't studied this so I'm just discussing a  
24 possibility of a platform where this might be looked  
25 at.



1 MS. COPPOLA: Thank you.

2 We've got a couple of questions here from  
3 the audience, and I am also conscious that time is  
4 ticking and we're at the end of the day. So I'm going  
5 to ask both the questions at the same time. And when  
6 you think about your responses, also feel free to  
7 respond to the questions that have just been posed  
8 prior to this.

9 So one of them is, essentially, even if  
10 there's not specific cases, you know, are we seeing at  
11 least in terms of rhetoric a return to an ordo-liberal  
12 or structural approach to antitrust in Europe.  
13 Cristina is raising her eyebrows, so I have a feeling  
14 she may go first on that.

15 And the other one is, the panelists have  
16 been asked to look ten years ahead and consider  
17 emerging technology, so algorithm AI, big data, et  
18 cetera, et cetera. Can you comment on these new  
19 theories of harm on the U.S. and the E.U. and the  
20 outlook for these? And I suppose thinking in  
21 particular about platforms. That's quite a tall  
22 order, so hopefully a couple of you can rise to the  
23 occasion, but I understand if not everybody wants to.

24 So, Cristina, do you want to mention  
25 anything on the ordo-liberal question?

1 MS. CAFFARA: Well, I feel called to respond  
2 to this. Well, look, I mean, of course, there has  
3 been a history in Europe in which the sort of  
4 traditional German ordo-liberal position has been in  
5 effect looked at as somewhat of an oddity in the sense  
6 that there's sort of the drive towards adoption of  
7 consumer welfare, which has been overwhelming across  
8 all other jurisdictions as being the prevailing one.

9 And in all of this, the German position,  
10 although it has been influential in shaping  
11 competition law in Europe in its beginnings, has  
12 inevitably -- had lost a little bit of traction and  
13 indeed was not center stage. At this point, there are  
14 voices that say in this discussion in which we are  
15 worrying about these large giant companies, is it the  
16 case that we are seeing the ordo-liberal position kind  
17 of rearing its head again.

18 Well, I suppose if you are in Germany, you  
19 can feel quite vindicated by that discussion and take  
20 the view that somehow this sort of investigation of  
21 Facebook is not something that is so eccentric after  
22 all. I think that is sort of the more sober way of  
23 thinking about it is that we worry about a number of  
24 things, and size is one of them, because it is not  
25 size, per se, but it is the fact that we don't see,

1 once size has been achieved, a great deal of dynamism  
2 in the sense of challenging perhaps that kind of large  
3 established position.

4 And it's going back to what I was saying  
5 earlier. There is no sense that there is, at the  
6 moment, any leapfrogging likely or any sort of change  
7 in that sort of -- in that market structure that's  
8 before us. So it's that which is -- is that sort of  
9 an ordo-liberal principle? No, it's that we are  
10 worried about what we see, size and the fact that  
11 there is clearly a number of -- a limited number of  
12 large players controlling attention in very limited  
13 channels.

14 It raises a question, a question that we  
15 need to address, not a return to ordo-liberalism, but  
16 taking just the questions we need to address.

17 MS. COPPOLA: Well, I've just had another  
18 question come in, that's probably slightly more  
19 nuanced. If you have the structural ordo-liberal  
20 approach and then you have the effects, the question  
21 is that the panelists, both this panel, previous panel  
22 have sort of observed is that European enforcers might  
23 be more willing to or more comfortable facing  
24 enforcement on likely effects. I mean, certainly, the  
25 case law allows them to, and they may have greater

1 comport doing that, whereas in the U.S. typically we  
2 focus on actual effects. And the question is which  
3 approach is better for digital platforms?

4 Would anyone like to comment on that? Nick?

5 MR. PETIT: Yeah, so, again, on first  
6 principles, I think there's no reason to exclude as a  
7 principle the ability for the agency to advance on a  
8 capability or likely effects theory. But if you do  
9 that, you need to -- so the first principle is you  
10 need to provide symmetry to the defendant. And so you  
11 need to -- so if you are -- if you are in the game  
12 where you are saying the effects are uncertain but we  
13 go for it, and this is -- you know, this is  
14 probabilistic, as was said before, well, then, you  
15 should allow the defendant to also say that there is  
16 competition but it's probabilistic, so it's going to  
17 hit somewhere, right?

18 We heard before people say, well, it's all  
19 make-believe, that, you know, those guys say, we have  
20 competitors but we don't know them. Well, maybe it's  
21 not. I mean, Schumpeter has written about that, you  
22 know, competition felt, the intensity of competition  
23 that you can't locate in a market, but it might be  
24 there somewhere.

25 And so I think when we think about its

1 likely effects, we also need to provide the defendant  
2 symmetry to advance probabilistic competition as a  
3 defense.

4 MS. COPPOLA: Thank you.

5 Simon, I'll ask you to weigh in, and then I  
6 think starting at the end with Josh, I'll ask  
7 everybody to give their closing remarks in addressing  
8 that ten years ahead question, if possible.

9 Go ahead, Simon.

10 MR. CONSTANTINE: Very good. Well, I will  
11 combine your third question and the ten years ahead  
12 one, and so this can be my closing as necessary. But  
13 I sort of think of this through the mergers lens is an  
14 interesting way of looking at it. And I caveat this  
15 with the statement that, you know, I consider it a  
16 success to have made it to the end of the day, so  
17 looking ten years ahead I find quite difficult.

18 But sort of that aside, I think when -- I  
19 don't think when we're looking at, say, a merger of --  
20 involving the acquisition of a startup, we know  
21 there's going to be a lot of discussion about that  
22 tomorrow. You know, inevitably, there is going to be  
23 a degree of uncertainty as to what the future might  
24 hold, both with and absent the merger.

25 And I think -- I do wonder whether sort of

1 over time we have worried too much about over-  
2 enforcement, particularly if you have a number of  
3 potential theories of harm, each of which is  
4 relatively low likelihood, but, you know, the  
5 likelihood of one of them happening is rather higher,  
6 and if it does, it's a very significant effect.

7           And I think the other thing about mergers,  
8 and it goes to the second question about looking  
9 ten years ahead, is that we see two aspects. One is  
10 the -- what was described yesterday as horizontal  
11 expansion, so this is sort of really the stretching  
12 out of the platforms into new markets. There's a lot  
13 of talk about Fintech at the moment and how we can see  
14 the traditional banks using new technology. Well, one  
15 can equally switch around to Techfin and see how it's  
16 the traditional tech companies suddenly seeing that  
17 there's a potential financial services market.

18           And the other element of that, I think, is  
19 when you look at where is the innovation happening.  
20 And, you know, when you have increasingly sort of the  
21 centers of innovation, the innovation poles, all being  
22 located within a smaller and smaller number of  
23 companies, then I think you do have to wonder how the  
24 sort of Schumpeterian competition or whatever you want  
25 to call it, where, in fact, that's going to come from.

1 MS. COPPOLA: Thank you.

2 Josh. We'll just go down the table, yeah.

3 MR. WRIGHT: I'll go quick. I'm frankly not  
4 totally positive this will answer the question, but  
5 it's the thing I want to say at the end, so I'm going  
6 to say it. So I think the principles and getting into  
7 these cases where we kind of test the limits of our  
8 predictive powers at the agency, whether that's two  
9 years, five years, ten years, or what have you, there  
10 are a couple of different ways to approach that  
11 conceptually.

12 And one is we could, I mean, we could stack  
13 theories of harm and sort of add up the probabilities,  
14 but the defendant's got theories of efficiencies, too,  
15 and if we stack them, we have two events with the  
16 probability of one and that's hard math. So I think  
17 the better approach is when we don't know, when we  
18 have these theories and we sort of don't know and we  
19 find ourselves with big confidence intervals around  
20 our guesses, you know, one thing that the agency and I  
21 think the FTC is uniquely situated to do, is to try to  
22 participate in competition policy R&D, go out and  
23 identify important questions.

24 There's a bunch of young IO and labor  
25 economists around the world who need stuff to work on,

1 and these are important questions where the theory to  
2 empiric ratio was, like, infinite. And I think that's  
3 -- that means there's sort of fun and important work  
4 to do, and people ought to do it, and I think the FTC  
5 or competition agencies around the world identifying  
6 it as an important area is a really important thing  
7 that those agency can do.

8 MS. COPPOLA: I hear a lot of Bill Kovacic  
9 in those remarks, and I applaud them. Okay.

10 MR. ECONOMIDES: Can I say something about  
11 the ten-year prediction?

12 MS. COPPOLA: Sure.

13 MR. ECONOMIDES: After all, it's the end, so  
14 I might as well make a prediction. I think that if we  
15 look at platforms, we have to look at the sectors that  
16 have stayed behind and that are the most likely to  
17 convert to platforms. And these are the health  
18 sector, banks, payment systems, part of the banking  
19 world, and currencies. So within ten years, I'm  
20 pretty sure that all of these are going to become  
21 platforms, going to be transformed by platforms, and  
22 the companies that will not be able to get in, I mean,  
23 to transform themselves, are going to have a very hard  
24 time.

25 Let me say one last thing about it. And



1 that's I'm probably the most sure thing I am, is that  
2 the labor share of GDP is going to become smaller  
3 because platforms use less labor. So this is  
4 important. It is going to show up again and again.  
5 It is going to show up first in the United States,  
6 because platforms are very, very important here, and  
7 we have to think of ways to -- we have to think of the  
8 social consequence of this and ways to alleviate it.  
9 Thank you.

10 MS. COPPOLA: Thank you.

11 Nicolas.

12 MR. PETIT: Yes, so ten years from now, what  
13 we're going to see, I know what I'm seeing today is  
14 mushrooming of new theories of liability like copycat  
15 innovation or acquisition for infanticide, also called  
16 the Kronos effect by some after, you know, the Greek  
17 titan who had this oracle prediction that he would be  
18 -- he would be killed by his son, so he basically ate  
19 all his sons. So we are reading those the claims in  
20 essays, newspapers. The press is an abundant purveyor  
21 of those theories.

22 And, you know, like Josh said, I think all  
23 that is science fiction for now. We'd like to  
24 probably promote some competition R&D in that space  
25 and try to understand a little better before we jump

1 into the sort of Nostradamic predictions that the  
2 press advances. You know that all too well. I mean,  
3 you know, good news don't sell, so why not throw in  
4 there some theories of liability and harm and, you  
5 know, just get away with it.

6 So I think we need to put economists and  
7 data scientists in a room and have them to look into  
8 that seriously.

9 MS. COPPOLA: Thank you very much.  
10 Cristina.

11 MS. CAFFARA: Well, we are out of time, so I  
12 will not assault any predictions on the next ten  
13 years. I'll just say a couple of words on one of the  
14 last questions that was put, this notion again, which  
15 is coming up from the audience that somehow, and I  
16 don't accept it as a characterization that is popular,  
17 you know, the U.S. looks at actual effects and we in  
18 Europe somehow speculate. And that is something which  
19 I find a little bit, again, a caricature.

20 Relative, too, for example, the panel we had  
21 earlier, if you think about very much what was  
22 discussed on the panel, a very clear discussion about  
23 Doug Melamed, Susan Creighton, very clear, that what  
24 was at stake at the time was a prediction that  
25 effectively the conduct of -- that was being looked at

1 was going to in prospective terms, in probabilistic  
2 terms, be likely to undermine innovation, which is  
3 what we care about.

4 So exactly why are we not seeing that this  
5 sort of analysis has got to have some element of  
6 probabilistic view, that more competition tends to  
7 mean more innovation? I don't think it's eccentric.  
8 So I would just invite that as a reflection and indeed  
9 end up on what I think is something we can all agree  
10 on, which is Bill Kovacic's invitation to do more R&D  
11 in this space is absolutely the best way to end.

12 MS. COPPOLA: Thank you, Cristina. And  
13 thank you to all of the panelists, a number of whom  
14 came from very, very far to participate in these  
15 hearings. We are enormously grateful, having your  
16 participation in person is so meaningful. So thank  
17 you very much, and if all of you would join me in  
18 thanking the panelists.

19 (Applause.)

20 (End of Panel 4.)

21 (End of Hearing 1.)

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