General Discussion: Panel on Changing Market Structure and Implications for Monetary Policy

Chair: Kristin J. Forbes

Ms. Gopinath: I enjoyed the panel very much. My question is for Andy Haldane. I think an important fact that came up in John Van Reenen's presentation is that where we've seen average markups go up this is mostly a compositional shift, and not a within firm increasing markup, but the fact that shares have gone more toward firms that happen to have high markups. On your slides, you have a figure that seems a little different from that, which is if you look at markups for U.K. firms, it seems to be all coming in the top 90th percentile of firms, and it could be that there's a composition story within those top 10 percent. Maybe you can explain that. First, I just wanted to clarify whether you think that, is this a different fact for U.K. firms versus what John put out? And why does this matter? I think this is absolutely crucial for what the implications are for monetary policy because if it is a within-firm-markup-increase phenomenon, then it is the model that you put out there which is a cost per shocks and that worsens the trade-off, and you should see much more inflation volatility. But if it is John's story, which is that it's just about firms with just higher average markups, then that means is that they have much more of a buffer to absorb idiosyncratic cost shocks and so you should see less pass-through to inflation and that would explain a lower kind of inflation rate. I'm just curious as to what you think.

Mr. Spriggs: I also have a question for Andrew. The way you drew what you would have expected to happen to the Phillips curve didn't, or if it did then there was some other countervailing force that made the Phillips curve flatter than what the markup suggested. Does that make you think you've left something out? In particular, what we keep dodging, and it strikes me that the reason why people talk about antitrust, what they really mean is, are we looking at people exert market power? An area where they can exert market power also is in wages. So the health sector has been growing in the United States. It is an area which has shown up as higher concentration, and in all the data we just saw about markups and intangible capital, everything sort of aligning for some sort of exertion. The bad thing is that we know from studies that the monopsony power in the hospital industry does lower wages. That would make the Phillips curve much flatter, and it would suggest that what central banks have to think about is if workers have high unemployment rates, their bargaining power is much lower, and this adverse effect of a lot of market power meaning weaker forces is going to exacerbate a lot of different problems. That sort of flips what you were saying, about what you were saying about monetary policy. I'm just trying to understand if what we are observing is monopsony power, lowering wages, pushing us to lower output than we would have expected, then we really want to figure out how we keep from exacerbating that through higher unemployment rates. Low unemployment rates may not generate inflation in that model.

Mr. Davis: A comment on a theme that's come up several times today, which is there's less reallocation toward the most productive, most profitable business firms and establishments today than there was 30 years ago. Thomas Philippon talked about this. John Van Reenen talked about it extensively in his paper. There's a policy-related aspect of this that is missing from the discussion so far: much of this slower reallocation has an important spatial component. It's not just that capital and labor are reallocating more slowly to the most productive firms. They are also reallocating more slowly to the most productive areas of the country. And there are some important policies distinct from the ones we've been talking about so fare that play a role in this regard. Land use and zoning restrictions drive up housing

prices in some of the most productive parts of the country. They also tend to increase business entry costs in those parts of the country. That's an important aspect slowing down this reallocation process. In a completely different area of policy, many aspects of our social safety net are tied to, or implemented at, the state and local level. Eligibility is sometimes tied to residency, and certainly just the hassle cost of re-enrolling for social assistance programs can be a deterrent to moving to where the jobs are for lower-income people. Lastly, occupational requirements deter mobility across states by individuals who are directly affected by the requirements and, in many cases, they also discourage dual-earner couples from moving to where job opportunities are better. In summary, there are many policies completely apart from antitrust that potentially have a major impact on some of the trends that we've been talking about today.

Mr. Taylor: It's a fascinating panel. I think what Andy did with this trade-off curve to really get an estimate of the impact of changes in price/cost margins is quite important. But of course, the period of time we're talking about is dominated by a shift in the other direction in the curve, in which we had not much change in the volatility of inflation, but a gigantic change in the volatility of output. And so the picture is kind of completely reversed. Mervyn King and Mark Carney have written a lot about this, and they argue that the trade-off curve shifted not because of price/cost margins, but because of financial market problems. And I've argued it's more a policy shift, and I think that policy has to be in this context.

I think Antoinette Schoar's points about big data are very important. I think it's already happening. I think the nowcasting movement which is improving policy is just a little example of what's going on. So in the pass-through issues that Chad Syverson mentioned, I think it's actually the reverse. Monetary policy has affected pass-through. The inflation-targeting movement has reduced the amount of pass-through. There's lots of evidence for that. So the reverse causality is important.

And finally, I think the big issue is about productivity; aggregate productivity which Peter Henry mentioned, is crucial right now for monetary policy. Jan Eberly mentioned that in the 1990s Alan Greenspan made some decisions based on his guesses of productivity.

We may be going through that now because policy may be changing; certainly tax policy has been changing. We might be seeing an increase in productivity. That seems to me the big question. Is it happening? We got 2.9 percent in the second quarter on productivity growth. Maybe there's something changing here we should be looking at.

Ms. Buch: I have a question for Antoinette on the very interesting discussion about the role of fintech. You basically argued that fintech in itself is not that disruptive. I wonder whether you would make the same statement for big tech. I think your Chinese example sounded a bit like this could be much more of a game changer than the smaller fintechs. The second question is on data. You argued that we could make better use of existing data at central banks, such as using big data sources for forecasting. My question would be, do you feel that we have sufficiently good official statistics on these new developments, and on fintechs and what do they do, and would you say our statistical data are useful for analyzing new trends in financial markets. My feeling is that we're not very good at capturing these in a very systematic way. So maybe, you have an idea of what we could do better.

Mr. Klenow: I wanted to say that if market power has increased, it could be in the product market, or it could be monopsony power in the labor market. Those have first-order effects. I would view the effects on the interaction with monetary policy as being the second-order effects that might be important. But the first-order effects would be we have too little employment, potentially more wage and income inequality, which impacts on average welfare. But again employment and investment would be too low. So the focus on the interaction with monetary policy might be important, but just less important. Another aspect is that the pictures show the dispersion in markups going up, which would imply allocative efficiency might have gone down, with first-order impacts on the average productivity and growth in the economy.

Mr. Haldane: Great questions. Let me start in reverse with John Taylor's. You're quite right, John. I pose this as a bit of a puzzle between the micro evidence and the macro evidence. There are several

ways in which that can be reconciled, one of which is if you disbelieve the micro evidence for reasons of mismeasurement. Another though would be that there have been a set of other factors, other macro factors that account for the shift and that could be related to Great Moderations and the role of monetary policy. Or it could on the flip be global financial crisis and Great Recessions. They plainly too would have a factor in shifting that around as well. I look at the particular effect of the potential shift in markups. However, the whole story in reconciling this with the macro data, and the stories you gave, I think are fully consistent in beginning to square up the sort of Chad paradox to a degree.

Gita's point about composition effects. I need to reconcile those with John a bit. I didn't find composition effects as being particularly potent actually in accounting for this, certainly at an aggregate level, or the shift we've seen is not about a shift in the composition of activity toward firms with pre-existing higher markups. If you look at a subset of firms, those internationally oriented ones I mentioned, there's some more of that going on. But generally speaking, I don't have compositional effects in at least my database as being a big part of the story. I can maybe try and square up with John just why that is different than the interpretation that he had.

Then finally, the question about pay and certainly a part of the framework I set out accounted for monopolistic type effects on the output side, but made no account for monopolistic effects on the input side, and that could be a potential avenue for reconciling some of your facts, some of the puzzles—micro to macro—that I had mentioned. That would certainly be an avenue I think worth pursuing in trying to square these things up.

Ms. Schoar: Great questions. You're right that big tech, and I was trying to make the distinction between big tech and fintech, has already had important impact on some areas of the financial industry. One example where we have seen this is when companies like Alibaba enter the finance space, it means for regulators that they now have to regulate a new type of entity that they might not be as familiar with. In the Chinese case, Alibaba was able to avoid some of the regulations the financial sector faces, and that has actually led to

some dynamic that might not be as favorable. If you have followed the recent spinoff of Alipay from Alibaba it should make the Chinese regulator worried that this was done to limit the liability Alibaba has for any problems that could happen with Alipay. But that ultimately might not be great for financial stability. So I think this really brings up very important issues for bank supervision and supervision of that whole space.

I want to say in that context, the other thing that happened with big tech is that if you look at the cost of startups today, the cost of the first mile of investment so to speak has dropped dramatically because of cloud computing. A lot of costs that in the past used to be fixed costs when setting up a small firm have now become variable costs because you can lease or rent a lot of these services. But actually, what we have seen is the real costs of startups is not in the first $5 million when you test out a new product. It's when you try to grow to the next level, when you want to build a customer base that is sustainable. In a world where attention is a scarce commodity, competing for people's attention, meaning competing for customers, has become very expensive. Why I'm saying this is that big tech in some sense has helped a lot of startups to get started, but it hasn't reduced the costs of growing toward a sustainable firm. That is still very expensive and that's where you see a lot of closures and shake up happening when you look at venture capital data. So the venture capital model has significantly changed from the 1990s and 2000s where venture capital firms used to do careful due diligence on a few firms that they were planning to then take to an IPO. What you see right now is a model of "let a thousand small flowers bloom," and then we see a shake out for the few that really can survive at the second stage. And often this leads to an outcome where promising startups are being acquired by big tech firms which already have the customer base and makes it cheaper for them to grow any new idea.

John Taylor also brought this up, the idea that, nowcasting, the idea that regulators are trying to get ahead of the curve in terms of data is very important. I want to re-emphasize the idea that Thomas Philippon mentioned in his talk: If we can invert the property rights and the ownership of all our data, it would be good not just for

regulation but also for market competition. What I mean is that big tech firms right now, for free, collect and aggregate all our data and we have very little ability to opt out of this. Imagine a world where this was flipped and you had a cookie on your own computer that decided who can buy your data from you and you can even price discriminate when allowing access to your data, for example give lower price to your favorite companies or favorite nonprofits, etc. My hope is that technology soon will get us there, but I do believe that regulation will play an important role in making this happen given what we have seen about how inattentive people are to the value of their own data.

Mr. Syverson: I'll start with the point Steve Davis raised about friction in the labor market, friction spatial, the spatial component of that. I think that raises an important point that's also tied to I think Bill Spriggs' question which is, reducing frictions and input markets is a complement to reducing frictions in product markets. You can have frictionless, no market power, perfectly competitive output markets, but if input markets are all gummed up it doesn't matter. You're not going to be able to reallocate inputs to the firms that are "better." So I think that just makes the policy issue vivid there, those examples. And the frictions can be regulatory, moving costs. It can be monopsony power and labor markets, all those things, and kind of the flip side complement to the product market power stuff we've been talking about.

John, your question about reversing causality has monetary policy affected pass-through? I haven't thought about that. I think that's an intriguing idea that I'd like to think more about. in terms of productivity growth and NAI because that's—when I'm not thinking about market power, I'm thinking about productivity. I've got a paper on that. I think it's possible we're in this pre-productivity boom period. I'm going to need a lot more than one quarter of data before I think the last 15 years have turned around. But I think there's some plausibility to that. I don't know when it's coming, but I'm always looking for it.

And then I'll just finish addressing Pete Klenow's issue about the first-order effects of market power on especially productivity and stuff. I actually think those first-order effects, just to be clear, in

my own opinion they're not the Harberger triangle things. I think they're rectangles. I think they're missing allocation which is something that Pete has thought a ton about I think. The real problem is when the wrong producers, the high-cost producers are making stuff they shouldn't be making, not that we're restricting quantity for the sake of keeping margins high. So, no argument with that. I think the question is how big they are and we keep working on that. So we will into the future as well.

Mr. Ferguson: I want to echo a point on fintech that Antoinette came to and I just want to validate, which is my observation similar to yours is that there's a big distinction between technological advantages that can only grow if you get acquisition of customers, which is what fintech is all about versus the kind of tech that we're talking about now it comes to Google or something else that creates an entirely new platform and entirely new industry. I really commend you on that thinking. The second thing that comes to my mind is the distinction, the trouble that we have in productivity, a lot of what we're seeing with technology, some of it is improving manufacturing, etc., but that is old school. I think the challenge is, much of productivity that we're talking about now, is in the world of services. And one thinks about going from a black and white TV to a color TV doesn't get measured in productivity. It gets measured in consumer welfare. And I think we're really struggling with that fundamental measurement problem that Marty Feldstein has worked on so many times.

Mr. Furman: Just a quick sort of narrow point, Chad, on yours. I didn't understand your basic paradox because you're linking growth of inflation to growth of costs. Those are both nominal variables and there's no reason the growth of costs in nominal terms has to be related to productivity. In fact, in the cross section, countries that have high productivity tend to have higher inflation. Think of India versus the United States.

Mr. Syverson: Just to answer that. I mean, if you look at within industry, just prices, so your relative price is relative to wages or something like that. So it doesn't even have to be the average price level. You would still have, I think, the paradox. Prices in an industry relative to prices at some other price. So real prices across different sectors.

Ms. Forbes: Do you want to tackle Roger's question?

Mr. Syverson: About the productivity measurement? I've got a paper on that too. Marty and I have discussed this a lot, and we're on the same page in the sense that there are a lot of reasons to think we don't measure productivity growth well. The issue is, did we start measuring it less well in 2004 when the productivity slowdown started? That I think is not the case. I don't think it's the slowdown is the story of mismeasurement, and I could talk in detail offline why I think that is the case. But we can always use better measurement and it's only going to become a trickier issue as the economy shifts even more and more to less measurable sectors.

Mr. Olsen: Just on this latter topic. And I guess this comment might be based on my previous capacity as a statistician. Because there is I think—let me first say, it's been extremely interesting to go into the micro and heterogenous firms, but as simple bankers now we are dependent on the macro numbers, the overall pictures. As statisticians, we know the national accounts. International accounts, they summarize their best efforts, all the information available. Let me just remind everybody that over the years recently there are strong efforts within the statistical camp to correct for quality measures or exchanges, intellectual capital. So there are efforts in the national accounts to seek to correct at the micro numbers. Of course, on this paradox Chad mentioned, of course, in the national accounts they have a consistent set of data. There is no paradox obviously. But let me just round off by mentioning a potential paradox still within the national accounts. Assume that based on all the difficulties of correcting for quality changes, I think many of us feel that we underestimate quality changes these days on the aggregate level. If that is the case, we also systematically underestimate productivity changes in the national accounts. The back side of that coin is that we systematically have overestimated inflation over the years and in more periods than we have evaluated as problematic over the last years.

Mr. Fischer: I have the dubious pleasure of looking at a lot of bills in the medical sector. As far as I can see, there is no connection between anything in there and the utility or value or whatever that is supposed to be being produced, and I just cannot figure out what

we're actually wanting to measure in the health sector when we're doing productivity at the macro level. I keep asking, what is it that we want to do? We want to make people happier with less inputs? I think that's probably what it is. Is that going to get us something on the employment side? I'm trying to figure out why are we worried so much about the measurements we're all trying to do here? And particularly when you look at those four charts, of the ones where it was more implicit or whatever it's called, capital. It was the mismeasured ones that came down more slowly. There were few mismeasured ones. So where is the big basis for what we're trying to do? There's this famous saying, which is I've heard attributed to Milton Friedman, but actually it wasn't—I'll tell you soon who it was—which is the way that the GDP has gone down. And what has that got to tell us about productivity and so forth? Obviously, if the cost of—I think that says that the cost of investment has gone down a lot. That's really all it is, and is that what we're after at the macro level, and can we get it?

Mr. Syverson: OK, I also have a paper on productivity in the healthcare sector, and what we found there is actually kind of surprisingly I think the market allocates activity toward more productive hospitals. We look specifically at Medicare patients when they have, say, heart attacks, congestive heart failure, hip and knee replacements, or pneumonia and systematically they go to the better hospitals and that's not just true statically. That's true over time. So the better hospital today will grow more between today and tomorrow. Half of the patients on Medicare who are having a heart attack go by the hospital, past it, that is nearest to their house when they're having their heart attack and the hospital they go to to get treated is systematically better at treating heart attacks than the one that they drove past or were driven past quite possibly. So the market actually does steer activity toward better, and it's not just better. It turns out it's also more productive, although that ends up being like a happenstance for the sake of time I won't get into. But it does work that way. But your broader point is what are we trying to measure in healthcare productivity? One thing we're completely missing is we want to measure health as an outcome, but we're not. Right? If you take the life expectancy changes that's happened in the United States over the past 40 years, and you attribute $100,000 per life year, quality adjusted life year,

on average that means we are growing from life expectancy changes $17,000 per year, per person. Their life expectancy is going up about one-seventh of a year per year. The average real GDP change per year over that period? $1,700. So maybe not all of that $17,000 is coming from health care, we don't want to attribute all the sector. But what if just half of it is, or a third of it is? It's still a ton of growth that we're not measuring in our national accounts at all. So your point's well taken. We've got to do more work on it.

Mr. Haldane: I'm conscious I may have come across as more skeptical about the micro evidence than I intended to be. I think it's tremendously valuable. I mean, true skepticism, I experienced it first thing this morning with my daughter. I explained to her that the virtues of currency devaluation—she's 6 years old. This is not a regular occurrence, but I blame John Williams for it because yesterday she lost a tooth. On the way back, I asked John what's the going rate for a tooth fairy around here? He said, unhelpfully, $5,000. My daughter was over the moon. She said, "How will the tooth fairy fit $5,000 under my pillow tonight?" Anyway, that meant first thing this morning, my first act was to explain how unfortunately overnight there'd been a sharp devaluation of the tooth fairy dollar, which Venezuela-style had trimmed three zeroes off the currency. And then that's why there's only five bucks under the pillow rather than John's $5,000. She's still skeptical. I'll stop there. Thank you.