

General Discussion: Slowing Business Dynamism and Productivity Growth in the United States

Chair: Susan M. Collins

Ms. Collins: There are many interesting and important issues on the table. Let me take the prerogative of the moderator to ask the first question. I think this work very convincingly highlights the key role of knowledge diffusion in helping us to understand the decline in business dynamism and slower growth. I'd like to hear more about what the impact of lower interest rates is in that context, in particular, to the extent that market leaders are able to respond more aggressively. How might that change, perhaps exacerbate, some of the dynamics that are discussed in the paper?

Ms. Veldkamp: Markups and profits are usually seen as evidence of market power. But they can also be compensation for risk. As we will hear, the last 12 years have been an environment with very high perceived risk, and so starting a business or a new product line, I'll want compensation for this risk in profits. And that risk might deter productive new investments and decrease measured productivity. It might also not deter unproductive incumbents, leading to dispersion. What facts lead us to believe that high returns reflect technology diffusion and not risk? Or are these complementary theories?

Mr. Poterba: The paper reports a very interesting fact about the compensation of inventors as they move from small startup firms

to larger firms. It seems that their patenting declines but their compensation rises. Is there anything in the data that lets us distinguish whether they have become less productive inventors while working as inventors, from the possibility that they may become more involved in management. If these researchers have taken on the role of managing a large team of bench-work inventors, their compensation could go up because they in fact have a larger scope of command and control, but at the same time they aren't doing as much of the patent work as they would have done before. That would seem to fit with the fact pattern but it seems to have a different implication for how we think about what we learn about this for the innovation process.

Mr. Visco: You also mentioned the low rate of productivity in Italy in the last decades and you tried to connect that with some political factors. They are certainly relevant, but more statistically than economically significant. The low rate of productivity in Italy depends mostly on industry-related factors, such as the small size of firms, and the substantially low level of knowledge. Since you mentioned knowledge diffusion as a factor behind the reduction in productivity growth in the United States, my question is whether there is also a relation between the level of knowledge and its diffusion. The nature of knowledge needed by a society changes over time; it is not always the same kind of knowledge. And there may be a presumption that the needed level of knowledge has actually declined over the last decade, also because it has changed in the meanwhile. This may explain the reduction in diffusion and thus the reduction in productivity growth. In a country like mine the lower level of productivity could indeed be associated with a lower level of knowledge. Therefore, the message would be to increase education and to increase investment in knowledge. I would like to know what you think about it.

Mr. Syverson: My question very much parallels what Jim Poterba asked, that interesting fact about inventors moving from startups to incumbent companies. I can understand why the inventors are moving given the higher salaries, the question is, why are the incumbents willing to pay what seems to be ex-post rent for prior inventive activity? If they just want the patents, it seems they could just buy the patents alone, not hire the inventor. So, I think it is important to try

to get at the mechanism behind why the incumbents want to hire these inventors past their peak, so to speak. And I think maybe Jim's management angle is a good way to start looking at backing that up.

Ms. Gopinath: I have a short question, which is, how do you see this pandemic affecting the trends going forward in terms of competition business dynamism. As we are seeing, we are seeing a big shake up in terms of bankruptcies, we are going to see likely larger concentration, what does your work tell us about concerns on anti-competitive behavior going forward?

Ms. Lucas: I wanted to ask a little more about the international context. Not just country by country, which was interesting, but the interactions across countries. We know there is a lot of diffusion of information across borders and also competition across borders. I wondered if you could say a little bit more about whether the slow-down of knowledge transfer is affected by how international a particular industry is, and also whether the effect of international competition on markups and how that plays out.

Mr. Akcigit: First of all, thank you very much for an excellent discussion, Gauti (Eggertsson), that's all great. And thank you very much for your excellent questions afterward. I think demographics is a very interesting channel. Indeed, there have been many, many trends in data. As I reiterated during my talk, demographics is one trend, but there are many, many other trends, like markups, profits, labor share, etc. Our point in this paper is that when we want to understand macro trends, we need to go bottom up. And we need to understand at the micro levels, what the roots of these macro trends are. And we need to try to piece things together so that we can come up with the coherent story. I am sure all of these different mechanisms have some bite, but if you want to understand everything simultaneously, I think we need to rely on the power of overidentification and try to see if a single mechanism can speak to all of these 11 trends that we observe in the data.

And when it comes to the demographics, I think, for instance, of the case of Turkey, which clearly has a population that is much younger and so it cannot speak to the Turkish case. Or if, for

instance, demographics is about new firm creation, the population demographics is shrinking because the number of people who are entering the workforce at the age of 15 is declining over time and the labor force is declining. But we know that entrepreneurship and new firm creation happens typically around age 40-45. So, as a result, if today, we have less 15-year-olds, these people will not try to create new firms immediately, so we should be able to see the major kick much later. That's why I think it is really important to try to look at all these trends in the data simultaneously, and try to speak to as many of these trends as possible. Again, all of these trends are interesting and probably important in their own right, but when it comes to explaining, for instance, the decline in labor share, or the correlation between the rising market concentration and the decline in labor share at sectoral level, demographics would then not be a reliable substitute to explain these facts. So, that's why the powerful approach here is to try to piece everything together.

So, this also relates to Laura Veldkamp's excellent point, of course, that risk also requires additional compensation. That can explain the trend on profits but our goal here is to talk to 11 facts simultaneously. And it looks like economically it makes sense. Initially, I want to capture the market, but once I capture the market, all I need to do is to defend my turf, and kill the competition as much as possible, because if I can kill the competition, I will still keep making money. I don't need to come up with new technologies any more as much as I used to. So as a result, in a simple creative destruction framework, the "Arrow replacement effect" is already telling us that the leaders will do everything to protect their turf. That's why it should not be a surprise. In the case of Italy, for instance, as firms are becoming the dominant market leader, they start hiring more and more politicians and getting connected to the political system. Or they are starting to invest more and more in lobbying activities.

So, as to Jim Poterba's question, which also relates to Chad Syverson's question—these were fantastic questions—it could be that once these inventors are moving to big companies, they might be getting managerial positions. It is possible. But what we also see is that it is not only the quantity of the patents that are going down. Conditional on

producing a certain number of patents, the quality of these patents is also declining. So, that tells us that these inventors, once they move to large incumbents, become less productive and less influential, and are coming up with less important innovations. That is why I think this is important to keep an eye on it. As to Ignacio's (Visco) question, it's true that once you have these incumbent firms killing competition, there will be less innovation. There will be less knowledge creation. As a result, not only knowledge diffusion will go down but also the level of knowledge will go down because the firms are innovating less. And this has taken place in Italy since the year 2000. So, this has been a long time with a low innovation rate and as a result, of course, the level of knowledge is also declining over time.

Gita Gopinath's question on the pandemic. I think this is an excellent question. Obviously, we saw a lot of firms exiting and new firm creation has been also declining, and we were already worried before the pandemic that the markets were getting more and more concentrated. I think that the pandemic will make things worse. That's why I think policymakers should keep an eye on the firms that will be challenging the market leaders and the resources should be allocated more and more toward small to midsize firms, which are more in need of resources in order to survive. Everything else equal, I think that things will get worse after the pandemic, but there is only one potential silver lining here, which is that there are good firms and bad firms. If bad firms are more likely to exit in the case of a crisis, maybe there will be some positive selection after all during this pandemic. Hopefully, relatively bad firms have exited during the pandemic so that overall there might be positive selection in the end.

And then finally Deborah's question on knowledge diffusion. Here what we try to say is that indeed it is not only about knowledge diffusion, but it's also about "implementation." Even if I learn something from the market leaders, if I am not allowed, or if I am afraid of executing my idea (because I will be sued in the court, for instance), then it is worth nothing, if I know this knowledge or not. That's why we need to be careful with what we mean by the term "knowledge diffusion." It is both knowledge "diffusion" and "implementation," and the global market leaders are becoming more and more

dominant and they are just building a thicket around themselves. They are building a wall around themselves by both relying on the (patent) system and also on the IT technologies in order to slow down the competition. That's why I think we need to keep an eye on the competition channel.