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Analyzing Capabilities is Too Speculative: A Reply to David Teece

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Analyzing Capabilities is Too Speculative: A Reply to David Teece

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I. Introduction: Authorities Cannot Directly Protect Competition to Innovate

In his recent article *Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power*[1] David Teece insists, as he has on many occasions, that both the American and European competition authorities, when evaluating firms' competition to innovate, can and should evaluate firms' capabilities. Yet, inconsistently, he also acknowledges that the competition authorities have never actually evaluated firms' capabilities.

As I will show, competition authorities have not evaluated firms' capabilities because they are in fact not able to do so. They lack the information, and the ability, to do this. Their analysis of any such capabilities would be speculative at best. But in both the United States and Europe competition authorities, when evaluating firms' competition to innovate, can only block the relevant transaction if their claim that they must do so is more than "speculative."[2] Competition authorities can therefore not use their analysis of firms' capabilities when deciding if they should act to block the relevant transaction; such analysis would be too speculative.

Teece wrote in response to my article *Refining Future Potential Competition: The Doctrine Allowing Courts to Protect Innovation*.[3] We both presented our articles at the Inaugural Conference of the GW Innovation and Competition Lab at George Washington University. In his article Teece not only claimed that competition authorities can and should evaluate firms' capabilities, but, he said, these authorities should do so as they analyze firms' competition to innovate. As this implies, Teece believes the authorities can directly analyze firms' competition to innovate.

Yet, inconsistently, Teece also accepts as correct my claim in *Refining Future Potential Competition* that the American authorities, in their 2023 Merger Guidelines, acknowledge that they cannot directly protect competition to innovate.[4] All they can do, as I have said in that and many other articles, is protect competition in

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[1] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, 86 Antitrust Law J. (2025) (forthcoming).

[2] Lawrence B. Landman, The Economics of Innovation Spaces: Despite the Commission's Claims in its Market Definition Notice, it actually protects competition to innovate by protecting competition in Future Markets, 48 World Comp. L. & Econ. Rev. (2025) (forthcoming). See also infra nts. 36-37 and accompanying text.

[3] Lawrence B. Landman, Refining Future Potential Competition: The Doctrine Allowing Courts to Protect Innovation, 86 Antitrust Law J. (2025) (forthcoming).

[4] Id.

a Future Market.[5] A Future Market is a market for products[6] at least some of which do not exist yet.

Further, Teece also acknowledges that to protect competition in a Future Market the American authorities apply what I call the Future Markets Model. The Future Markets Model is an analytical tool which I derived from all the cases in which not just the American, but also the European, competition authorities protected competition in a Future Market. And as I have said very clearly, and repeatedly, when competition authorities protect competition in a Future Market they are not directly protecting firms' competition to innovate.[7]

Teece also seems to accept my claim that the European Commission cannot find and protect competition in an Innovation Space. An Innovation Space is a concept the European Commission created which, on the one hand, it believes it can find, and which it can use to directly protect firms' competition to innovate. But on the other hand, the European Commission has also acknowledged that an Innovation Space is itself not a market.[8]

I have shown in two articles, *From Innovation Markets to Innovation Spaces in Europe: a new phrase is not innovation*[9], and *The Economics of Innovation Spaces*[10] that the European Commission cannot, and does not, find and protect competition in an Innovation Space. As I have shown, all it does is protect competition in a Future Market. And, I have also shown, when the European Commission analyzes these Future Markets it applies the Future Markets Model.

Teece also does not challenge the fact that I derived the Future Markets Model from the cases in which both the American and European competition authorities protected competition in Future Markets. He thus does not challenge the fact that the Future Markets Model describes the methodology the authorities actually apply

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[5] See, e.g. Lawrence B. Landman, Nascent competition and transnational jurisdiction: the future markets model explains the authorities' actions, 43 Eur. Competition L. Rev. 294 (2022).

[6] As used in this article, products include services.

[7] See, e.g. Lawrence B. Landman, Competition to Innovate and Future Potential Competition 103 J. Pat. & Trademark Off. Soc'y 177 (2023).

[8] Commission Decision of 27.3.2017 declaring a concentration to be compatible with the internal market and the EEA Agreement (Case M.7932—Dow/DuPont), paras. 347-352. See also Lawrence B. Landman, From Innovation Markets to Innovation Spaces in Europe: a new phrase is not innovation 42 Eur. Competition L. Rev. 30, 35-37 (2021).

[9] Lawrence B. Landman, From Innovation Markets to Innovation Spaces in Europe: a new phrase is not innovation, Id.

[10] Lawrence B. Landman, The Economics of Innovation Spaces, supra nt. 2.

when they analyze Future Markets. Teece instead says that the Future Markets Model *should* be structured differently. Teece says:

> Landman's "Model" is a four-step process, including a step which enquires "how many firms are trying to develop a future product." To answer this question, one might first ask (a) "which firms have the capability to develop a future product" and (b) "how many of those are trying"? The answer to (a) is likely, but need not be, larger than (b). The answer to (a) seems to be the more relevant for purposes of assessing future competition, because those that can but are not, trying will likely discipline those that are trying as well as the producers of existing products that are threatened themselves by new products.[11]

But as Teece implicitly acknowledges, this is not the question the competition authorities, on both sides of the Atlantic, actually ask. I derived the Future Markets Model from the authorities' actual decisions. In these cases the authorities did not ask: Which firms have the capability to develop a future product? Teece does not question the fact that the competition authorities did not ask this question. Teece instead says the authorities *should* have asked this question.

The question the authorities actually ask is, as Teece recognizes: How many firms are trying to develop a future product? They are thus applying the Future Markets Model. And the question Teece quotes is Prong B of the Future Markets Model.[12]

In point of fact the authorities did not ask the question Teece says they should ask because they cannot answer it. And if they cannot answer this question then the authorities have correctly decided not to ask it.

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[11] [11] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, supra nt. 1.

[12] The Model has four prongs: A. Does a current product exist? B. How many firms are trying to develop a future product? C. For each possible future product, is it sufficiently developed that the authority will consider it a possible future product? D. How broad will the authority define the Future Market? See Lawrence B. Landman, The Future Markets Model: how antitrust authorities really regulate innovation, 42 Eur. Competition L. Rev. 505, 507 (2022).

II. The Authorities Do Not Ask a Question They Cannot Answer

A. Cannot Identify capabilities

Identifying which firms may have the capabilities to make just about any product is practically, if not theoretically, very difficult. Identifying such capabilities is beyond the ability of any competition authority. For a competition authority to identify which firms have the capability to make any product that competition authority would actually have to make several determinations, none of which it can adequately do.

The authority would first have to determine what the relevant product is. But if the product is still in development the authority will not know what the product's features will be—the product does not exist yet. The authority may have some notion of what the product should look like, but it will not know exactly what the final product will be.

Second, if the authority cannot adequately define the product, then it cannot determine what capabilities firms need to make this undefined product. Thus no authority can know with certainty what capabilities firms need to make a product which does not exist. Indeed, Teece has already acknowledged that competition authorities cannot make this determination. He says in his article:

> Landman goes on to make the passing comment that "competition authorities have great difficulty analyzing firms' capabilities." He is undoubtedly correct, the reason of course being that it is hard; but it would be much easier if the phylaxis of professionals in the agencies had made efforts to do so. There is little evidence that they have, although under more recent leadership, credible efforts may now be underway. [footnote omitted][13]

Teece thus acknowledges that the authorities, so far at least, have not been able to adequately analyze firms' capabilities.

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[13] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, supra nt. 1.

Third, in this age of artificial intelligence and other fast developing technologies firms' capabilities are always evolving. So even if a competition authority could determine what capabilities firms need to make an (undefined) product, as soon as the authority made that determination its finding would be out of date.

Fourth, there is a market for intellectual property and related technological services. Thus there is a market for capabilities. If a firm had some, but not all, of the capabilities it needed, it could always buy, lease or borrow the capabilities it needed. Competition authorities can therefore never adequately determine what any firm's capabilities are, and what they will be in the future.

Given all this, no competition authority can adequately perform the analysis Teece says it should perform. The authority would have to conclude either that it cannot know which firms have the relevant capabilities, or it would have to conclude that many firms can or may have the relevant capabilities. And either conclusion would be, from an antitrust perspective, meaningless. Neither conclusion would help the authority analyze the relevant Future Market.

Further, we already know that in reality all competition authorities have implicitly concluded that they cannot analyze firms' capabilities. When analyzing Future Markets the authorities do not try to identify which firms may have the capabilities to make the relevant future product. They consider as possible competitors in the relevant Future Market only those firms which are actually trying to make the relevant future product. They do this when answering the question Prong B of the Future Markets Model poses. They thus have implicitly rejected the notion that they can determine which firms, although not yet trying to make the relevant product, may have the capabilities to do so.

If a competition authority did include as competitors in the Future Market not only those firms which were actually trying to make the relevant future product, but also those which may have the capabilities to do so, which is what Teece says they *should* do, then the authority would conclude that an almost infinite number of firms compete in the relevant Future Market. It would thus conclude that after the relevant transaction were completed the relevant Future Market would remain competitive. And it would reach this conclusion regarding every Future Market. Indeed that is why, throughout all the cases throughout all the years, they have never performed the analysis Teece says they should.

Saying the same thing another way, in all the cases in which the competition authorities, on both sides of the Atlantic,[14] have analyzed competition in a Future Market they have always identified a reasonably defined possible future product, and have always identified the firms which were actually trying to make the relevant future product. In other words, they have always answered the questions the Future Markets Model asks.

The authorities focused their analysis, and only considered the firms trying to make the relevant future product, because this is the only practically way in which they can limit their analysis. It allows the authorities to develop practical, concrete, rules they, and courts, can apply. And lawyers and judges in Europe and the United States, indeed throughout the world, need clear, concrete rules, ones they can actually apply.

B. Authorities cannot Identify capabilities when applying the Future Markets Model

This leads to a broader issue regarding competition authorities' ability to identify firms' capabilities. Not only can competition authorities not know with certainty which firms will develop which future products, but neither can investors, nor in fact can the firms themselves. Firms often try to make products which they fail to actually produce. In reality no one can know which firms will make which products in the future.

Thus when authorities apply the Future Markets Model, including Prong B of the Model, they can do so, but only to a limited extent. They can determine which firms are trying to make which future products. They can see how well developed these possible future products are, and thus how likely they are to exist. But they cannot know with certainty if these products will ever exist. And even if the authorities did try to analyze firms' capabilities, they still will not know, with certainty, if these products will exist.

In other words, the competition authorities have to assume that a firm trying to make a future product may have the capabilities to make the that product. But the competition authorities also have to recognize that the firm may not have the relevant capabilities.

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[14] This also includes the Competition Bureau Canada. See Lawrence B. Landman, The Competition Bureau Canada Protects Competition in Future Markets, not Innovation Spaces, GW Innovation and Competition Lab at George Washington University Working Paper Series, available at https://competitionlab.gwu.edu/competition-bureau-canada-protects-competition-future-markets-not-innovation-spaces-canada-should

Indeed, no firm may have the relevant capabilities. All the competition authorities can do is conclude that since the relevant firm is trying to make the product, they may make the product. But they also may not.

As I said in *Refining Future Potential Competition*[15] no competition authority would allow a transaction to proceed simply because it felt that one of the firms trying to make the relevant future product was incapable of making that product. Clearly, no competition authority would allow the only two firms trying to develop a future product to merge because it concluded that one of the two firms was incapable of making the product it was trying to make. And as I said in *The Future Markets Model: how the competition authorities really regulate innovation:*

> Antitrust authorities cannot effectively evaluate a firm's capabilities; it may be capable of developing the product, but it may not. Indeed, if any of us knew what development projects would succeed, then instead of reviewing transactions, advising clients, or analysing these issues, we would buy the right stocks, go to the French Riviera, and order a nicely chilled glass of champagne.[16]

III. Teece Tries to Bring Back Innovation Markets

When Teece tries to alter the Future Markets Model in the way he suggests, he is actually trying to bring back Gilbert's and Sunshine's innovation market methodology. Gilbert and Sunshine laid out a five-step methodology which, these authors claimed, allowed the enforcers to directly protect firms' competition to innovate. Their methodology, these authors claimed, allowed them to define a product in which innovation is itself the product.

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[15] Lawrence B. Landman, Refining Future Potential Competition: The Doctrine Allowing Courts to Protect Innovation, supra nt. 3.

[16] Lawrence B. Landman, The Future Markets Model: how antitrust authorities really regulate innovation, supra nt. 12, at 507. See also Id. at 513, which shows that despite the claims of Marc Bourreau and Alexandre de Streel in Digital Conglomerates and EU Competition Policy (2019), at 27–28, in Microsoft/LinkedIn the European Commission did not analyze the relevant firms' capabilities. See Commission decision pursuant to Article 6(1)(b) in conjunction with Article 6(2) of Council Regulation No 139/20041 and Article 57 of the Agreement on the European Economic Area (M.8124—Microsoft/LinkedIn).

The second step of Gilbert's and Sunshine's methodology required the enforcers to do exactly the same thing Teece says the enforcers should do: identify firms which are not trying to make the relevant future product, but which have the capabilities to make this product. As Gilbert and Sunshine describe their second step:

> 2. Identify Alternative Sources of R&D. The purpose of this step is to identify the R&D activities that are reasonable substitutes for the activities of the merging firms. This corresponds to the evaluation of demand substitution in the Merger Guidelines. In the case of innovation, the "product' is R&D directed to particular new products and processes, which entails a set of activities including the required scientific skills and equipment. *Because the product is a set of activities, rather than a particular good or service, it is both analytically and practically easier to identify the firms that possess the capabilities to supply these activities, rather than attempt to categorize each activity separately.* [Emphasis supplied][17]

Yet Gilbert and Sunshine themselves recognize that, at least as times (as the authors put it) the enforcers would not be able to identify the firms which are capable of performing the relevant R & D, but are not doing so. These authors said:

> In many market circumstances there is so much serendipity in research and development that it is impossible to predict the sources of innovation with reasonable certainty....If innovation directed to particular products or processes does not require specific assets, entry into R&D would be easy and the innovation market would be competitive. If such innovation does require specific assets, it may nonetheless be inappropriate to delineate an innovation market *if the firms that possess those assets cannot be reliably identified* to provide sufficient certainty as to the proper boundaries

[17] Richard J. Gilbert & Steven C. Sunshine, Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets, 63 Antitrust Law J. 569, 595 (1995).

> of the innovation market. [Emphasis supplied][18]

I extensively analyzed Gilbert's and Sunshine's methodology in *Did Congress Actually Create Innovation Markets*? In that article I said, regarding the second step of Gilbert's and Sunshine's methodology:

> Just about any firm may, in the future, try to produce just about any good. Firms which do not even currently exist may, in the future, try to produce a particular good. The agencies cannot practicably identify firms which may, in the future, try to produce particular goods. [19]

Thus all the way back in 1998 I said that the competition authorities cannot identify firms which may, in the future, try to make a future product. And as I concluded that article, back in 1998, I said the American enforces cannot protect competition in an Innovation Market. Back then I said the enforcers could only protect competition in a Future Market.[20]

Time has proven this correct. The American enforcers now acknowledge that they protect competition in Future Markets. As noted *supra*,[21] they did this when they issued their 2023 Merger Guidelines.

And Teece agrees with this. Teece accepts my conclusion that the American competition authorities say in their Merger Guidelines that they protect competition in Future Markets.[22] And if the American enforcers now say that they protect competition in Future Markets, then they now also say that they do not protect competition in Innovation Markets. Indeed, they do not. And they do not, among other reasons, because they cannot identify firms which are not making a possible future product, but which may have the capabilities to do so.

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[18] Id.

[19] Lawrence B. Landman, Did Congress Actually Create Innovation Markets?, 13 Berkeley Tech. L.J. 721, 734 (1998).

[20] Back then I referred to future goods market. But since the relevant product could be a service, I now use the term Future Market.

[21] See supra nt. 4.

[22] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, supra nt. 1.

IV. An Innovation Space is a Future Market, Which Teece Does, Yet Also Does Not, Acknowledge

A. No new capabilities framework

Throughout his article *Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power* Teece, on the one hand, like many other commentators, accepts on face value the European Commission's claim that it can find an Innovation Space.[23] But on the other hand Teece also says I may be right and that, just perhaps, the Commission protects competition, not in an Innovation Space, but rather in a Future Market. Teece says:

> Although as Landman points out in this issue, innovation spaces may not be any different from the concept of "future markets."[24]

But if indeed, when the European Commission claims to protect competition in Innovation Spaces it actually protects competition in Future Markets, then Teece is not correct when he says, earlier in the same paragraph:

> The EU's Dow-Dupont decision perhaps has the seeds of a new (capabilities) framework and a more entrepreneurial process.[25]

Thus the key question is: Does the European Commission, when it claims to protect competition in Innovations Spaces, actually do so, or does it protect competition in Future Markets? If it protects competition in Future Markets, then, to analyze these markets, it applies the Future Markets Model. And if it applies the Future Markets Model then, despite what Teece says, in these cases it does not find an Innovation Space. This most emphatically includes *Dow/DuPont,*[26] which is the most prominent case in which the Commission claims to have found an Innovation Space. And if the Commission did not find an Innovation Space in *Dow/DuPont*, then in that case it did not plant the seeds of a new capabilities framework.

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[23] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, supra nt. 1.
[24] Id.
[25] Id.
[26] Dow/DuPont, supra nt. 8.

B. In Dow/DuPont the Commission protected current markets and, arguably, also in Future Market

Teece's hesitation is revealing. He says that in *Dow/DuPont* the Commission "perhaps" created a new capabilities framework. Teece hesitates because he recognizes that this may not be true. And indeed it is not true. In *Dow/DuPont*, as in any of the cases in which the Commission claims that it found an Innovation Space, in reality it did not. It protected competition in a Future Market.

Dow/DuPont is the more prominent of the two cases which not only Teece and the many other commentators, but the Commission itself, cite as the two main cases in which the Commission found an Innovation Space. I have already examined, in depth, not just these two cases but all the cases in which the Commission claims that it found an Innovation Space. I have shown that in all these cases the Commission actually protected competition in either a current market or a Future Market. In these cases it did not find an Innovation Space.

I analyzed *Dow/DuPont* in depth in *From Innovation Markets to Innovation Spaces: a new phrase is not innovation.*[27] To summarize what I showed in that article, in *Dow/Dupont* the Commission protected competition in markets for chemicals, known as active ingredients. Dow and DuPont used these active ingredients to make several products. The Commission acted to protect competition in the market for these active ingredients. It thus protected competition in several current markets, the current markets for each of these active ingredients, which were of course currently-existing products. Alternatively, one could say the Commission protected competition in the related Future Markets, the markets for the future products Dow and DuPont would use these active ingredients to make.

Regarding each of these several possible Future Markets, the Commission could not know which of the several products Dow and DuPont were both trying to make would actually become products. But both Dow and DuPont were trying to make so many different possible future products that, the Commission concluded, it was very likely that some of these possible future products would become actual products. The Commission believed that the odds that some of these possible future products would become actual

[27] Lawrence B. Landman, From Innovation Markets to Innovation Spaces in Europe: a new phrase is not innovation, supra nt. 8.

products were so great that it had to act. It felt it had to act to protect competition in the relevant Future Markets.

This was particularly true, the Commission concluded, because Dow and DuPont were the only two firms competing in many of these Future Markets. As the Commission recognized, if it allowed this transaction to proceed it would essentially be allowing a merger to monopoly. And the Commission, obviously, could not allow a merger to monopoly.

And since in this case the Commission protected competition in either current markets or Future Markets, Teece's description of this case is not accurate. First, as I have already explained, in this case the Commission protected competition in either current markets or Future Markets; it did not find an Innovation Space. Second, Teece is incorrect when the says that in this case the Commission used patents as a proxy to determine Dow's and DuPont's capabilities. Teece says:

> In order to identify likely participants in innovation spaces, one thus needs to look, with a wide aperture lens, and identify all firms with relevant capabilities. In particular, one needs to look at firms with excellent specialty, or super-ordinary capabilities.
> In Dow Dupont, the EC did something like this and looked at firms with relevant technological capabilities, based on patent filings.[28]

On the surface Teece's claim seems reasonable; the Commission itself says it did just what Teece says it did. In paragraphs 387-395 of its decision the Commission makes clear that it at least claims that it used patents as a proxy for firm's capabilities. As the Commission said in paragraph 387:

> One of the relevant activities within crop protection R&D is, as explained in Section V.1.4.1, the discovery of new molecules (AIs), [active ingredients] which are normally patented by the discovering company. While different companies have different patenting strategies, the analysis of the patent portfolio of crop protection companies can be a metric to assess their strength at the discovery level.

[28] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, supra nt. 1.

But as I made clear in *From Innovation Markets to Innovation Spaces,* although the Commission claimed it used patents as a proxy so it could identify the firms' capabilities, in reality it did no such thing. It blocked the transaction, as I said, because it wanted to protect competition in the relevant current markets, and arguably, also in the related Future Markets.

As I also explained in *From Innovation Markets to Innovation Spaces,* it made perfect sense for the Commission to block the transaction also because the two firms had broad patent portfolios. This has nothing to do with the two firms' R&D capabilities. The Commission simply could not allow the two firms to combine their broad patent portfolios in a way which would allow them (or the merged firm) to block access to the relevant market. Indeed, the Future Markets Model recognizes that competition authorities may at times block transactions so as to stop firms from combining broad patent portfolios in a way which would allow them to block access to a market.[29]

And as I explained in *From Innovation Markets to Innovation Spaces,*[30] competition authorities often stop firms from combining broad patent portfolios, if doing so would allow them to block access to a market. If merging firms have patent portfolios of such breath and quality that, when combined, they can block access to a market, then those firms almost by definition have significant R&D capabilities. It was these capabilities which, most probably, allowed them to develop their broad and deep patent portfolios. But the authority would be blocking the transaction, not because the firms have significant R&D capabilities, but because the firms have broad and deep patent portfolios which, when combined, will allow them to block access to the relevant market.

Thus even if the firms did not have such significant R&D capabilities, the authorities would still block the transaction. They would do so simply because the patent portfolios, if combined, would allow them to block access to the relevant market. In short, even if Dow and DuPont had licensed the relevant patents, rather than develop them themselves, the Commission still would have blocked the transaction. It would simply not have allowed the merged firm to have such a broad and deep patent portfolio that it

[29] See Lawrence B. Landman, The Future Markets Model: how antitrust authorities really regulate innovation, supra nt. at 12 at 507.
[30] Lawrence B. Landman, From Innovation Markets to Innovation Spaces in Europe: a new phrase is not innovation, supra nt. 8, at 37-38.

could block access to the market.[31] And this has nothing to do with the merging firms' capabilities.

Teece goes on to say that in this case the Commission should have better developed its analysis of the firms' capabilities, beyond using the firm's patents as proxy for their capabilities. Thus, as Teece recognizes, the Commission only analyzed the firms' patents, and not their actual capabilities. And this is true. Thus, as Teece acknowledges, in this case as well the Commission did not actually analyze Dow's and DuPont's capabilities. And, in truth, the Commission did not analyze the firms' capabilities because it could not.

C. *Bayer/Monsanto, other cases, and the Market Definition Notice*

And in the other case commentators and the Commission often cite, *Bayer/Monsanto*, the Commission also did not find an Innovation Space. I analyzed this case in depth in *The Economics of Innovation Spaces.* As I introduced my analysis of this case I said:

> [T]he Commission said Bayer and Monsanto compete in three Innovation Spaces, those for: traits, non-selective herbicides, and HT Systems. Yet in these three markets the Commission actually protected competition in current markets, markets for currently existing products. It did not find an Innovation Space.[32]

In that article I closely analyzed the Commission's evaluation of these three markets. As I showed in that article, in all three of the markets the Commission cites it did not find an Innovation Space. Instead it protected competition in three current markets, one for each of the three products it listed: traits, non-selective herbicides, and HT Systems. Each of these were currently existing products.

And in this same article I also analyzed the other cases in which various commentators, including Commission officials, have claimed that the Commission found an Innovation Space. I show that in none of these cases did the Commission actually find an

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[31] See Lawrence B. Landman, From Innovation Markets to Innovation Spaces in Europe: a new phrase is not innovation, supra nt. 8, in which I extensively respond to, and disagree with, Nicolas Petit, who in his article, Innovation Competition, Unilateral Effects, and Merger Policy, 82 Antitrust L.J. 873 (2019) reaches essentially the same conclusion as Teece, that in Dow/DuPont the Commission established a framework which allows it to analyze firms' capabilities.

[32] Lawrence B. Landman, The Economics of Innovation Spaces, supra nt. 2.

Innovation Space. As I showed, in all these cases the Commission protected competition in either a current market or a Future Market.

And, finally, as I also showed in that article, since the Commission did not find an Innovation Space in any of these cases, the Commission's claim in its Market Definition Notice that it can find an Innovation Space is also not correct. As I showed in detail in this article, the market the Commission says in its Market Definition Notice it will find is actually a Future Market.

Thus Teece is inaccurate when he says:

> The innovation spaces idea asks "who will be free (and able) to compete in that space in the future, and will a merger shrink the candidate population in a meaningful manner." But if one is going to adopt this approach, one must be open to all kinds of entities that can compete, including ones not currently in the space.[33]

No, we have already seen that this is not true. When a competition authority asks if "a merger will shrink the candidate population in a meaningful manner," the only candidate population it can meaningfully examine is the population of firms which are already trying to develop the relevant possible future product. In other words, it can do no more than answer the questions the Future Markets Model poses, including Prong B of the Model.

Teece even implicitly acknowledges this when he says:

> The concept of [an] innovation space is perhaps tractable in pharmaceuticals and in pesticides where a "linear model" of innovation is effectively imposed by the regulatory process.[34]

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[33] David Teece, Understanding Dynamic Competition: New Perspectives on Potential Competition, "Monopoly," and Market Power, supra nt. 1.
[34] Id.

When Teece refers to the linear model of the pharmaceutical and pesticides industries he refers to the long product development processes of these industries. The long development process of these industries makes it relatively easy for competition authorities to identify the products firms in these industries are trying to develop, and thus the products which may compete against each other in the future. But the linear model would be irrelevant if the competition authorities also included in the relevant market firms which were not trying to make the relevant future product, but which had at least the theoretical capabilities to do so. Yet the competition authorities do not consider such firms. They consider as participants in the market only those firms which are trying to develop the relevant future product. They thus analyze competition in the Future Market. They do this for all markets. And they do this for all markets because that is all they can do.

V. Conclusion: Valid Academic Exercise, Too Speculative for Law Enforcement

Identifying firms' capabilities is certainly a worthwhile intellectual exercise. Economists, including those who study management, should most definitely analyze firms' capabilities. These scholars have helped firms operate more efficiently and more productively, and will undoubtedly continue to do so.

The question before us, though, is whether competition authorities, and thus courts, can apply these scholars' complex analyses. In other words, can competition authorities evaluate firms' capabilities? Can they use such analysis to help them enforce the law? As we have seen, the answer to these questions is "No."

The analysis of firms' capacities is, for the purpose of law enforcement, too complex. In *Illumina v. FTC* the Fifth Circuit, while holding, for the first time, that the American antitrust enforcers may protect competition in Future Markets, said that they may do so only if an enforcer's conclusion that it must act to protect competition in the relevant Future Market was not "too speculative."[35]

And, I show in *The Economics of Innovation Spaces,* the European Commission has reached the same conclusion as the Fifth Circuit.[36] In *Dow/DuPont* the Commission explained why it needed to block that transaction. It needed to act, it said, because its conclusion that

[35] Illumina v. FTC, 88 F.4th 1036, 1050 (2023).
[36] Lawrence B. Landman, The Economics of Innovation Spaces, supra nt. 2.

the transaction would otherwise cause competitive harm was more than "speculative." The Commission said:

> The Commission [*sic*] theory of harm does *not constitute simple speculative exercise* about the behaviour of the merged entity in the long term but rests on the likelihood of a behaviour adopted by the merged entity shortly after the Transaction. [Emphasis supplied][37]

Thus the authorities, on both sides of the Atlantic, need a tool which allows them to reach a conclusion which is more than speculative. And this tool is the Future Markets Model. More specifically, regarding the possibility that competition authorities may be able to analyze firms' capabilities, this tool is Prong B of the Future Markets Model. Competition authorities can, without unreasonable speculation, answer the question this prong poses, and thus identify the firms that are actually trying to develop a future product. But they cannot, without unreasonable speculation, answer the question Teece says they *should* instead answer, and thus identify: "(a) 'which firms have the capability to develop a future product.'"

[37] Dow/DuPont, supra nt. 26, at para. 2036.