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Book Review

The Problem of Production: A New Theory of the Firm

Per Bylund
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Literature on the theory of the firm is literally flooded with a repetitive question: "Why do firms exist?" It has become such a monotonous query that while addressing it, it is increasingly difficult not to fall into either of the two traps: make trivial points, or worse, make trivial points disguised in difficult and sophisticated terminology. Fortunately, Per Bylund's book does not fall into either of those, and offers an original contribution to the theory of the firm. Moreover, I believe that he does not fully recognize how shattering his point is. After reading *The Problem of Production: A New Theory of the Firm*, one no longer is inclined to ask the question

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about firm's existence. A more proper question should be "Why do markets exist?" Bylund has made a compelling Austrian argument that makes the firm's appearance even more fundamental than the market. Firms precede markets.

To summarize a central thesis: what is the firm? The firm is the outside-of-the-market creation of a novel production function, since its internal organizing of factors is distinct from and unsupported by the existing market structure. In other words, firms exist because they are the only possible rational channels of introducing innovations to society. At a particular point in time, the extent of a market only supports some types of production and closes into "specialization deadlock" (Bylund, 2016, p. 4). Many hypothetical and heterogeneous investment projects require sinking specific and complementary factors of production into risky areas. The markets for intermediate goods created and used up in those projects do not exist. Therefore, the only way for those projects to be materialized is to organize a specific human entity around it: the firm (Bylund, 2016, p. 103).

Through such reasoning, Bylund is accurately seeing the firm as a mechanism to unlock "specialization deadlock." I would call it, then, an unlocking theory of the firm—a theory of an entity which unlocks the door to projects that were not introduced into the market and were not tested by it each step of the way. By placing an emphasis on the dynamic unlocking part of organizing, Bylund avoids many of problems present in previous theories—either focusing too much on the legal aspects (Grossman and Hart, 1986), or the supposed hierarchy (Williamson, 1967), or explaining the firm's existence by reference to particular economic costs (Coase, 1937). So far, the most important Austrian contributions to the theory of the firm were made in significant articles in Klein and Foss (2012), where authors are building bridges by finding enlightening and eloquently Austrian themes in competing theories. Bylund's book structure takes a more sweeping approach and builds his theory from scratch on Austrian foundations.

One difficult aspect of Bylund's thesis is a lack of more practical examples that could help to narrate his points and efficiently navigate the story (which overall has a very good arrangement). Rough considerations about factors 11, 12, and 13 may make it hard to follow the reasoning. I may try to join in with something more concrete to exemplify his explanation of why firms emerge as sort of "out of the market" phenomena.

Take the case of car manufacturers, who decide to implement an already existing new feature, say, to sell cars that already have child seats integrated with a final product. The current extent of the market has already everything "priced in." There is a price for a final car and the components necessary to construct it. There is a price for a child seat that can be bought separately (and inserted by the customer). Prices for child seat components are already there. There are many competing car companies and even more child seat producers. Both industries are so developed that it is easily knowable how current market circumstances view both products: a car with a child seat in it and a car without it. The only uncertain thing that remains to be discovered is what the customers prefer.[1] The current (empirical) state of the market is that people prefer to generally buy those products separately. In any case, there is no extra benefit of choosing either way of production. There is no significant role for the firm, as the choice of production is somewhat forced onto the producers by the market and at already existing prices.

Things are different, however, once we consider the processes of production which are not covered in the existing extent of the market. Let us move back couple of decades into the times of internal combustion engine cars using exclusively either diesel or gasoline. Now, some producer develops an entirely new idea: a hybrid car that has two sources of power, a traditional internal combustion engine, and a battery, which can enhance performance, or perhaps fully substitute the engine at times. The novel idea of a hybrid car is not in place yet. At the same time, it requires significant changes in existing ways of production. A completely new version of the battery has to be produced to fit the car and its components, the drive has to be adjusted in order to accept energy from two sources, the gears must be modified, and new types of brakes are to be integrated with a regenerative braking mechanism that will charge the battery. All of those changes are central to innovation that is not supported by the extent of the market.

Many of the used materials in the process are purchased in the market, but the project is done by an innovative firm—and *it can*

[1] I am presenting the argument here, although I do not fully agree with it (see below).

only be done so. Hence the clear reason we have firms in the market: because they are agents of innovative change. The materials used in production of a hybrid car are purchased in the market, but the integration of all the components is done in the "island of specialization," the firm implementing a particular entrepreneurial vision of building a hybrid car with all of the necessary components. The project itself is realized by imaginative thinking and if it succeeds, that particular firm becomes an organized entrepreneurial imagination (Bylund, 2016, pp. 82, 109). The market process develops further and the firm is absorbed by the market (Bylund, 2016, p. 113). As hybrid cars come into greater demand, other companies follow suit, while at the same time a market for components develops. Now, specialization is becoming much deeper, new companies are formed to work on each of the parts of the car and the hybrid mechanism. New firms producing batteries are flourishing, and the same can be said about units producing specific types of braking and drive systems. Now a company interested in supplying hybrid cars may gather the relevant information from the market: many producers of both the final product, and many competitive suppliers of the components—something that earlier had not existed. The firm has been "absorbed by" the market.

Perhaps another clear example could be provided with smartphones that use very rare chemical elements which decades ago were considered mostly waste (Abraham, 2015). The initial idea to create touchscreen smartphones was imaginary as the market for those elements was radically undeveloped and specialization for smartphone components production was in the distant future. The companies going into the business had to make a decision about combining the components in ways that previously were not tried and tested. Once the product became successful, markets for intermediate products and subcomponents emerged—and so did competition which brought on further improvements in quality and pricing.

In such a way, the firm is seen as an agent of change in the market. Bylund offers a strong argument about the existence of firms by combining essential features of the Austrian School: methodological individualism, disequilibrium, uncertainty and heterogeneity of capital (Bylund, 2016, pp. 17, 22, 26, 38). All of those characteristics are integrally tied to the idea of the firm. What makes Bylund's point so persuasive and captivating is that he does not start from equilibrium at all. His theory is rooted in methodological individualism; he does not try (like Coase, for example) to explain human behavior by relating it to some external parameter, such as costs of using the market mechanism (Bylund, 2016, p. 86). Rather the firm is a creative implementation of the entrepreneurial ideal, an end and the final cause in itself: an organizational project motivated by a visionary wave of the future.

Bylund also explicitly starts from disequilibrium, as it creates necessary conditions for the firm's emergence due to limits of existing methods of production. Capital heterogeneity and uncertainty are also in the center of his argument as they place limits on entrepreneurial risk taking (Bylund, 2016, p. 58). Any investment process is susceptible to sudden uncertain change, therefore starting a project "outside" of the current market means creation of more specialized production connected with more specific intermediate capital goods. Remember: those are goods which are complementary to the uncertain project, and the *market for those goods does not exist yet*. That further increases the uncertainty factor as the innovative choice may result in tremendous sunk costs (Lachmann, 1948, p. 204). Here it is worth noting how important the social and legal conditions are: an entrepreneur acting in a firm needs to persuade the investors and other stakeholder to realize the project, and to continue it during hard times.

The author has made a striking contribution, but I do not think he goes far enough in his considerations, and perhaps is not fully aware of the advancement he has made. His primary interest was to explain why firms emerge. The answer lies in the innovative actions of entrepreneurs. Yet as Bylund is well aware, the longevity of the firms is much greater than the implementation of innovation, when he states:

> A possible explanation for why firms survive past what our framework seems to explain is that we have not considered strategies adopted by individual firms to extend their lifespan and extract value from their positioning outside the extent of the decentralised market. It should be in the interest of the individual firm to raise barriers to entry into the created production space such that a first-mover advantage is created and profitable production can be prolonged. Such strategies to deter new entrants or make entry economically unfeasible can range from

> organisational measures to encapsulate fully or make the production process opaque, to gaining control of the supply of necessary resources or sources of input (Bylund, 2016, p. 195)

Therefore "there is room for explaining how and why firms can survive past their initial function as an 'island of specialisation'"—and the story has to be bigger than monopolization and rent-seeking. Well, perhaps the problem may exist from a Schumpeterian perspective, but not a Misesian one. Maybe we should understand innovation more broadly—not just as significant discrete alterations in methods of production, but also as continuous minor adjustments *and* even doing passively repetitive routines. With that addition in mind, Bylund's unlocking theory of the firm is actually not only about innovative changes and Schumpeterian breakthroughs (as he seems to suggest). The logic of his Austrian argument goes further. After reading the whole book one just cannot help but to reflect: so that actually explains not why firms exist, but why the market exists. The firm is a fundamental unit of the market, with the latter being a derivative. Economics is founded on *human* action, not *market* action. Firms are market creators—without them the markets could not exist. But firms are also market followers. That is the unavoidable logic of Bylund's Austrian consommé consisting of methodological individualism, disequilibrium, uncertainty and capital heterogeneity. Firms are always working with their production functions: they always *implement* them, they always *change* them, but they also *routinely repeat* them. Doing things as they were done yesterday, or perhaps slightly adjusting them, is still a firm's choice. *A market* is never doing anything. A market is a result of firms' actions attempting to coordinate production and prices of various products (Mathews, 1998, p. 43; Demsetz, 1993, p. 162). Bylund (2016, pp. 86–90, 121, 122, 132) many times strongly defends that perspective.

Therefore, in order to explain the occurrence of firms we do not need to envision radical changes in production functions, although imagining them is the easiest way to grasp the firm's importance for socio-economic evolution. Besides, quite often entrepreneurial breakthroughs are done by more firms than just one, and frequently in skewing existing markets. Perhaps a historical case could illustrate the point. At the edge of the industrial revolution, clock production was dominated by experienced craftsmen, who produced high-end watches suitable for preferences of rich customers. Everything changed with Georges Frederic Roskopf, who had an ambitious plan to produce a "worker's watch"; a functioning time indicator cheap enough so that any person could afford it.

Roskopf's project—ridiculed by many—eventually succeeded due to significant changes: usage of the cheapest metals, leaning of the production (smaller number of parts and economic factor usage), and two important parts, the so called pin-pallet escapement and porte-échappement. All those things were not entirely new, and were produced previously. Roskopf's breakthrough was fitting the idea into the pocket watch to massively produce a cheap final product (Buffat, 1914, pp. 9–10). He tried to cooperate with many people in the business, but it required them to alter existing habits to accept orders for creating necessary components. While experiencing various forms of resistance he was inclined to create the watch on his own, but eventually decided to cooperate with other factories and existing suppliers (ibid., pp. 11–12, 14–18).

The "worker's watch" proves that Bylund is entirely on spot with treating the firm as a praxeological concept, since it is organized around a specific entrepreneurial idea. At the same time, it does not have to bring creative destruction to the current extent of the market. The firms are driving agents of markets that more or less evolve—and they are also at center of markets that are very sluggish in evolving. Most of the firms are going bankrupt, especially the most innovative ones. They go out of business because other firms survive and make better judgments. Just as a firm may be an entity of innovation, it also may be an entity of conservation and keeping of the existing routines. Knowing when and where to rebel against the *status quo* is key to entrepreneurial success. Sometimes repetition is key, sometimes mutation is, and firms are the only agents to test out various business strategies for flourishing and survival. Keeping production functions stable is also a deliberate choice.

Bylund, perhaps unintentionally, puts (correctly) an argument on its head. For many years classical economists and later Marxists argued that profits are a derivative of economic process with wages being fundamental variables. The reality is that profits are logically and economically prior to the wage fund. Bylund is offering a similar revolution in the theory of the firm. For decades the literature has been tangled in a limiting Coasian narration: firms develop as derivatives in the market—as islands of planning and hierarchical power. Bylund proposes the other route: markets are developed as derivatives of imaginative entrepreneurs, creating those organizations called "firms." By changing the perspective in such way, we are offered another deadly blow to the neoclassical framework.

The author has constructed a beautifully crafted Austrian argument, but at times it leans slightly too much towards Schumpeter (Bylund, 2016, pp. 83–84, 100, 109, 131, 136).[2] I cannot see that as an important shortcoming, however, since his point can easily be extended to be in full compliance with Mises's notion of an entrepreneur: the firm is an agent of any economic choice, since repetition is also an entrepreneurial choice shaping the market. Perhaps we could paraphrase Rothbard's response (2004, p. 494) to Schumpeter and argue that firm is an adjuster, not just narrowly interpreted innovator.[3] That would also fully comply with Klein and Foss's framework of seeing the firm as the "organized entrepreneurial judgment" in the environment of heterogeneous capital resources.

To conclude, I believe Bylund did offer a new theory of the firm: unlocking theory. I am not the one to make a strong judgment on the topic, but cannot wonder if we are seeing a genuine contribution to the subject that should be seriously considered by experts in the field.

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[2] Schumpeter's original point is of course in Schumpeter ([1913] 1934).

[3] That can coincide with Rothbard's line about "*decision-making function*, or the ownership function" for which the owner receives income (Rothbard, 2004, p. 602)—income that is outside of interest income.

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