Economic Sociology and the Theory of the Firm:

Lessons from the "Toyota Momentum" in the History of Capitalism*

Stéphane HEIM

Research interests: regionalization processes of Asian automotive industries, evolution of the Japanese higher education system, peculiarities of the Japanese welfare regime

* This paper is a revised and expanded version of an editorial, "Toyota, victim of its Production System: why do social sciences still have much to learn from this firm?", published on February 1, 2017 in La Lettre du GIS-Réseau Asie et Pacifique (French and English).

Keywords: Toyota, Toyota Production System, corporation, firm, social and technical division of labour, inter-firm and inter-corporation relations

I. Introduction: social sciences fell into the trap of the Toyota Production System

In the early 1990s, the Japanese car maker, Toyota Motor Corporation (below-mentioned Toyota), gained a good reputation thanks to its commercial successes in the United States, and its productive organization (Toyota Production System, Lean Manufacturing, just-in-time production). This fame comes from its production management tools – *kanban* (delivery and inventory control system), *andon* (visual production control device), *kaïzen* (permanent evolution of the productive organization) and others – that spawns a new managerial era, that of the systematic and continuous cost reduction policies embodied in the profit strategy, the product policy, the productive organization, and the employment relationships of Toyota and its suppliers. This "spirit of management" is nowadays extended to various sectors such as hospitals or postal services. Subsequently, the tools developed and applied in Toyota's and its main suppliers' workshops are no longer at stake. The just-in-time managerial era implies the dictatorship of the market regime over that of the production of goods and services, sweeps the fordist temporality and its political economy, and is seen as a momentum in the current period of financialization of corporate governances and “regionalization” of industries.

Oddly enough, Toyota is no longer under scrutiny. This firm fell victim to its own success, the Toyota Production System. Though social scientists from various fields promptly analysed this managerial fashion, the firm Toyota, as a research topic, became less attractive throughout time. Its productive model (Boyer, Freyssenet, 2002), its institutional and economic environment from the 1950s to the 1980s (Cusumano, 1985), the constraints that Toyota faces when it does not generate any margin such as in Western Europe (Pardi, 2011), the “humanization” of its employment relationships at the beginning of the 1990s (清水, 1995), the peculiarities of its Japanese inter-corporation relations (Sako, 1992) deserve to be reassessed from an economic sociological perspective. The cornerstone of this theoretical reframing is the dichotomy between the firm as a collective production space on the one hand, and the corporation as the juridical person (legal fiction) of the process of capital accumulation on the other. The true lessons of the “Toyota momentum” in the history of capitalism are to be drawn here.

II. Corporations and firms. Mapping out a research agenda for economic sociologists

In the common sense, firms, enterprises, companies, corporations are interchangeable words that cover a similar socioeconomic reality. Most of us believe that the modern firm is a recent invention, dating back to the late 19th century, with the establishment of the corporation and its jurisdiction (Berle, Means, 1932), the development of accountancy, and the growing rationalization of entire parts of our societies (in sociological terms), of which Max Weber was the renowned observer (Weber, 1968, pp.63-211). However, the concentration of labour activities into the firm, replacing the household as the main production sphere, is the consequence of a longer historical process, whose main origins are twofold.

First, the privatization of capital ownership and the issuing of shares of an enterprise in order to raise funds,[1] were drag routes for the jurisdiction of the modern corporation. Throughout an intensive and extensive evolutionary process, corporations shifted from "static" to "free corporate actors", gaining not only propriety rights, but also that of transactions, which means to act under their own will (Coleman, 1974, pp.11-31). Second, merchants, while "nationalizing" local markets, propelling new patterns of competition, and concentrating labour activities in the late medieval period in Western Europe (Polanyi, 1944), dug the hole for the physical concentration of the labour into the workshop, the manufacture, and then the factory. These two historical developments gave birth to the corporation as a "juridical person" with its own rights on the one hand, and the firm as the collective production sphere on the other. Moreover, both processes deeply reshaped the feudal labour process, and molded the capitalist labour process.[2]

Nonetheless, it is easier for us to think the firm and its boundaries from their modern juridical typologies – joint-stock company, and so on – than from their activities, and the way these activities are segmented, allocated, and monitored. As a consequence, in the mainstream economic literature on the firm (Jensen, Meckling, 1976), agency costs and the corporation ownership are central pillars of the theory of the firm. In that view, the owners of corporations being the shareholders, and since they are the sole residual claimants once benefits are distributed through investments and wages, they have a legitimate right to control the corporation.[3] Moreover, economic actions are "reified" to the oversimplified economic rationality of the *Homo economicus*, and the institutional environments are usually not taken into account to explain the birth, expansion, stabilization, and death of firms.

What should then be the contribution of economic sociologists to the theory of the firm? Economic sociologists have been raising their voices since the mid-1970s in

---

(1) Without any doubt, regarding the financing of enterprises through the issuing of a company's shares, the British East India Company as soon as the 17th century is a forerunner of the contemporary joint-stock company.

(2) Its main characteristics are as follows: 1. No separation of necessary labour and surplus labour. 2. The marketization of the means of subsistence (wage) 3. The dispossession of the means of productions from workers. 4. The direct coordination and control of production by managers, and 5. The settlement of external political and legal work institutions (Burawoy, 1979, pp.14-30).

(3) Lynn Stout, in her book published in 2012, gives a great critical contribution to the debate on the shareholder value.

order to demonstrate that this reified conception of the economy and the corporation does not render the true *raison d'être* of the firm and the variety of control patterns, production fields, rationale legitimates guiding the economic actions. For instance, in observing the evolution of the patterns of control in the United States since the second-half of the 19th century,(4) Neil Fligstein (1990) shows that each period is marked by the domination of a certain profession over others, by their peculiar strategies, by the resources they make use of, and by their institutional embeddedness. Other economic sociologists such as Viviana Zelizer (1979) and Andrew Abbott (1988), focusing on how markets and professions are shaped and consolidated by dominant actors, pave the way for economic sociologists analysing the role of firms in designing their markets (raw materials and machines, final products or services, labour). Such perspectives help us think the firms as the combination of distinct fields (accountancy, manufacturing, marketing, engineering, and so on) competing with each other to claim their rights over the control of the firm ("outer-competition"), but also as a place where a wider competition arises within each field, rather than in each firm solely, or between firms ("inner-competition"). The objective of these rivals is to impose their own views over the patterns of control, the profit strategies, the productive organizations, and the product policies of their firms, and even their industries. As a result, from the mere theoretical stance of agency theory, where two actors with similar economic rationality enter into rivalry, an economic sociologic perspective re-establishes the enduring polymorphous competition patterns, and the variety of rationalities and their legitimate rationales that encompass the firms.

III. Inter-firm or inter-corporation relations? United States and Japan

The firm, as the space of productive activities' agglomeration, segmentation, distribution, and control, went through extremely distinct evolutionary processes from country to country. In the first half of the 20th century, the American large car makers (Ford, GM, Chrysler) expanded through the acquisition of other corporations,

(4) The four stages corporation control went through from the mid-19th century up to nowadays according to Fligstein are as follows: direct control of rival firms (1865-1904) – manufacturing control (1904-1930s) – marketing control (1930s-1970s) – financial control (shareholder value) (1970s~).

integration and internal segmentation of a wide range of activities and their resources – from the purchasing of raw materials to the sale of final goods (Chandler, 1977).(5) These car makers proceeded with the outsourcing of several manufacturing segments and products to other corporations – i.e. suppliers – since the 1980s. Facing growing competition for the American market from the Japanese car makers, and in order to restore profitability, the shareholders dictated their boards of directors to focus on Margin Rates, Return on Equity, Shareholder Value, and other financial tools. By doing so, the less profitable manufacturing parts such as seats were outsourced to suppliers that in turn, in order to compete with foreign companies, also acquired other corporations and settled up "mega suppliers". These processes generated specific inter-corporation relations that many researchers classify as arm-length ones, compared with Japanese ones (Smitka, 1990). The centrality of prices, the importance of written contracts, the relatively short period of transactions, and the lack of trust characterize such relationships.

Oppositely, most of the Japanese car makers, with the support of the Japanese government and facing some historical contingencies – energy dependency that implies finding other tools for reducing the production costs, the Japanese plants of the American car makers Ford and General Motors since the 1920s, the oil shocks in the 1970s that were strong engines for the reshaping of the American car fleet with the need of smaller cars, etc. –, followed another evolutionary path.(6) This path is mainly portrayed as externalization of various activities coupled with a strong control over them. In this vein, the internal control mechanisms of the Toyota corporation are extended far beyond its juridical boundaries (Heim, 2013). In the 1940s, as a result of an explicit policy of its CEO, Kiichiro Toyoda,(7) Toyota favoured the externalization

---

(5) However, General Motors Corporation, under the direction of Alfred Sloan, decided not to integrate the sales of cars, externalizing it through several forms of contracts with dealers in order to outsource some risks to the dealers and the customers (Clarke, 2007). The question of risk, along with that of knowledge, is central in thinking why firms internalize or outsource some processes and activities, and under what kind of circumstances.

(6) For further description and analysis of the Pre-war Japanese car industry development, refer to上山 (2016) ; of the Post-war development up until the mid-1980s, refer to Cusumano (1985) ; and that of the negotiations regarding the Toyota's suppliers' association from Post-war till the mid-1970s, refer to Heim (2011, pp.139-159).

(7)「トヨタ自動車というものは、人間のからだにたとえることができます。その頭であり、心臓であり、また、内臓であるのがトヨタ自動車工業株式会社で、わたくしども協力工場は、その手であり足であるといえます。

of the production means to its main suppliers, created several new corporations as outgrowth of its own internal departments, while setting up several tools to monitor these activities. This entails the bedrock of hitherto unseen dynamics of cooperation and competition in the worldwide automotive industry. In gathering its main suppliers in a "suppliers association" (協豊会, *Kyohokai*, with more than 220 corporations today), Toyota also had to reach some compromises with its suppliers in the 1960s, such as dividing the suppliers' guidance activities and the purchasing of parts, machines, and raw materials up into two distinct departments. With the aim of maintaining a strong division of labour among its suppliers, a close monitoring of their activities, and enforcing its cost reduction's policies, Toyota systematically ascribed the overall production of a same product to three or more suppliers, strategy that the observer does not see developed as systematically and thoroughly by the other seven Japanese car makers (藤本, 2004, pp.97-98). The fierce competition among suppliers is then organized and monitored by Toyota that creates specific sociotechnical fields and assigns several corporations to each field, distributes differently its knowledge (so that some suppliers gain stronger learning capabilities than others), and constantly assesses its suppliers on their capabilities to maintain high standards of quality, and to reduce their manufacturing costs and the prices of their products. Often, its purchasing departments negotiate and acquire raw materials on a wholesale basis, and then provide their suppliers with those materials, even the smallest ones such as nuts and screws makers. In doing so, Toyota does not only reduce the purchasing costs of raw materials from the steelmakers, it also negotiates the prices for parts and components delivered by its suppliers on a per-unit cost basis, and monitors the productive activities of its suppliers (with the careful calculation of the scrap-rate, and the continual visit of the suppliers' workshops by its engineers). Finally, rare enough to be noticed in the automotive industry, Toyota mandates currently seven other

---

人間にとって、頭や、心臓は、最も大切なものです。とは申せ小さいながら、小指でも人間のからだの一部です。これがなくては、人間として、やはり不自由です。親会社であるトヨタさんは、小指だからといって、小さい工場をバカにされることなく、また、小さい工場の方でも、トヨタさんにとっては、りっぱに役に立つ、なくてはならない役割をもっているのだと自覚して、卑下することのないようにしたいものです。そして、また、協力工場は、協力工場どうしでお互いに仲よくし、「協力」せねばなりません。そして、トヨタさんを中心に、わたくしども協力工場が、あたかもひとりの人間のように、一体となって、ともども日本の自動車工業を確立するために努力しようではありませんか。」(トヨタ自動車工業株式会社社史編集委員会、1967, pp. 253-254).

corporations (with a share ownership around 55%) for more than half of its Japanese final car assembly (塩地／中山〔編著〕, 2016). Subcontracting covers then one of the remaining core business of car makers, that of final assembly. Contrary to the British automotive industry, where outsourcing without strong control was promoted as early as the 1950s (Pardi, 2017), entailing the boundaries of corporations drawing that of the firms, in Japan, and especially in Toyota, the boundaries of the corporations and that of the firms do not overlap. The challenges for the economic sociologist are to understand how, without necessarily financial participation but with strong manufacturing control, the Toyota firm is far wider than the Toyota corporation (Heim, 2009).

IV. Toyota as an eye-catching research topic for economic sociology

This astonishing and elaborate division of labour among several corporations turns to be very manifest when one observes the system of transfer of Toyota's employees to its suppliers. For instance, in 1999, when the Alliance between Renault and Nissan was established, and with the French team responsible for the Nissan's financial and economic recovery taking the decision to cease the transactions with a great number of Nissan's suppliers, a corporation producing engine parts lost its main client, Nissan, and as a result, moved towards Toyota. Within three months, and without any share investment into this corporation, previous Toyota top managers replaced the entire board of directors of this firm, and the Toyota Production System was enforced. Two other examples, that of the current Managing Director, Keiji Masui, of Toyota Auto Body, one of the mandated assembler for Toyota, and that of one of the current Executive Managing Advisors, Satoshi Tachihara, of JTEKT, an important supplier from Toyota, had both their entire careers made in Toyota, which shows the importance of interpersonal relationships between Toyota and some of its suppliers. Those are not exceptions, rather rules to reinforce physical and moral density among all corporations under the Toyota umbrella, or a system of transfer of senior executives from one corporation to another one. In Japan, this is often compared with the practice of *Amakudari* (天下り), though this term refers more often to the transfer of senior managers of public services to private firms. Such directors transfer systems are tricky challenges for the economic sociologist who is about to draw the boundaries of the

Toyota firm, since the boundaries of the firms again do not overlap with those of the corporation, and are therefore less constrained by the juridical framework than in the United States or Western Europe.

Furthermore, this system is applied to other functions than the sole managerial or direction ones. The classic literature on the Toyota Production System and the Japanese employment relationships greatly emphasized and discussed the virtues of seniority and lifetime employment. It is needless to say that, in practice, a small part of the Toyota's overall workforce gets promoted, and in order to maintain a stable and young personnel, many blue-collar workers are transferred to suppliers. We know for instance that the average yearly salary of a graduate male worker and that of a secondary education graduate male worker at Aisin Seiki, an important supplier of brake and clutch systems, do not exceed respectively 80% and 90% of the wages for a same occupation at Toyota (猿田, 2007, p.459). Two types of transfer of employees are organized for both blue and white collar workers: *shukko* (出向) and *tenseki* (転籍). In the future, a set of archives might be exploited in order to measure this phenomenon and its extent, and to understand its mechanisms (the corporations involved, the ages when transfer is decided, the assessment system, etc.). Thanks to this transfer system, Toyota regulates its age pyramid (the average working age in its Japanese plants is the lowest one among all mature countries' car makers plants), maintains a high productivity per worker in its workshops, while keeping low labour costs and monitoring its suppliers. The Toyota's internal labour market is therefore not restricted to the Toyota corporation; on the contrary, it is extended to a wide range of corporations (with or without share ownership). This fact also draws the economic sociologist's attention towards the history of these systems of employees transfer, their social mechanisms, their economic functions, their extensions and boundaries, in order to better understand the internal labour market of the "extended Toyota firm", and the historical constructions and dynamics of labour bargaining's legal frameworks in Japan.

Generally speaking, two main radically opposite interpretations of these inter-corporation relations and employment relationships are discussed. On the one hand, some researchers suggest that these are both a great flexible tool for Toyota, and help the Toyota's closest suppliers develop their organizational and technical learning

(Fujimoto, 2001). On the other hand, it is argued that such a system entails a harsh exploitation, since this division of labour subjects the employees, and especially those of suppliers, to ceaseless pressures, in particular in terms of cost reductions, and constant refinement of quality standards (鎌田, 1973). Beyond this debate lies another research question regarding the dynamics between cooperation and competition. Though the easiest road is to think those two dynamics as contradictory ones in the field of labour, the Toyota case reveals their co-determination in each firm (Heim, 2011, pp.357-377). In that respect, Toyota is still a prominent research topic in order to inquire and further understand these dynamics, which evolve constantly with the relentless technological developments in the automotive industry. Those technological developments are often rooted in knowledge shaped and matured in other sectors, which in turn brings about strong challenges for the car makers in maintaining their positions at the top of the automotive supply chains. A car being a “product-system” (one counts, depending on the car range, between 10 000 and 30 000 parts per vehicle), in the 1980s its production needed new know-how in the plastics processing and chemistry sectors (for the manufacturing of seats and several innovative plastic parts replacing metal ones), in the 1990s and 2000s other capabilities that flourished in the electronic sector (the electronic revolution in the car industry drove car makers to deeply rethink the technical and organizational architectures of several functions such as lighting, break or security systems), and nowadays sound knowledge for the production of electric batteries, and even more important in the digital sector (in order to develop the Internet to Things and the software to monitor big data, which do not only apply to the cars but also to the manufacturing processes). During each of these technological evolutions, car makers showed the upmost ingenuity in order to keep their positions at the top of the supply chains, while other big firms such as BASF, Panasonic, Google, Bosch, General Electric, develop their technical solutions and destabilize the power balance in those chains.

V. Conclusion: the contribution of economic sociology to the theory of the firm

Whatever the advantages and disadvantages of this division of labour in the "large Toyota firm", at the outset of the 21st century, social scientists still have much to learn from the Toyota firm in all its aspects (employment relationships, inter-corporation relations, productive organization, international expansion, profit strategy, etc.) in order to better grasp the distinction between firm and corporation. Investigating Toyota helps redefine our everyday conception and analytical framework of the firm, distancing us from the sole juridical definition of the corporation and private ownership, and focusing attention on the field of labour, that of the collective productive activity and its institutions, so that thereafter one can better understand the interrelations between labour and capital. The very concept of division of labour (tasks segmentation among several corporations, and the employees transfer systems), the tricky dynamics between cooperation and competition (the ceaseless need of new know-how, and the danger that this entails for the power distribution and structure), the monitoring tools of the labour process (whether technical, human or financial) and their engendered institutions yield new challenges for social scientists. After four decades analysing the Toyota Production System, we still have not unveiled some of Toyota's most cherished secrets, and we still have to learn from it regarding the role of the firm in capitalism.

References

Abbolt, Andrew, 1988, *The System of Professions*. Chicago: The University of Chicago Press.
Berle, Adolfe, Means, Gardiner, 1932, *The Modern Corporation and Private Property*. New York: Brace and World.
Boyer, Robert, Freyssenet, Michel, 2002 (2000), *The Productive Models: The Conditions of Profitability*. Basingstoke: Palgrave Macmillan.
Burawoy, Michael, 1979, *Manufacturing Consent: Changes in the Labour Process under Monopoly Capitalism.* Chicago: The University of Chicago Press.
Chandler, Alfred D, 1977, *The visible hand: the managerial revolution in American business*. Cambridge MA: Harvard University Press.
Clarke, Sally H, 2007, *Trust and Power: Consumers, the Modern Corporation, and the Making of the United States Automobile Market*. Cambridge: Cambridge University Press.
Coleman, James S, 1974, *Power and the Structure of Society*. New York: W.W. Norton & Company.
Cusumano, Michael A, 1985, *The Japanese Automotive Industry: Technology and Management at Nissan and Toyota.* Cambridge MA: The Harvard University Press.
Fligstein, Neil, 1990, *The Transformation of Corporate Control*. Cambridge MA: Harvard University

Press.
Fujimoto, Takahiro, 2001, The Japanese automobile parts supplier system: the triplet of effective inter-firm routines. *International Journal of Automotive Technology and Management*. Vol.1, No.1, pp.1-34.
藤本隆弘, 2004,『日本のもの造り哲学』日本経済新聞出版社.
Heim, Stéphane, 2009, Recent Evolution of Japanese Labour and Industrial Relations: a Case Study of Toyota group in Japan between 1986 and 2008, *in* Asato, Wako, and Aoyama, Kaoru (eds.), *Proceedings of the 1st Next-Generation Global Workshop*. Kyoto, Nakanishi printing Co. Ltd, pp.517-532.
Heim, Stéphane, 2011, *Cooperation in a Competitive Environment: A French-Japanese Comparison*. PhD Thesis, Strasbourg University (French).
Heim, Stéphane, 2013, Capability Building and functions of SMEs in business groups: a case study of Toyota's supply chain. *International Journal of Automotive Technology and Management*. Vol.13, No.4, pp.338-353.
Jensen, Michael, Meckling, William, 1976, Theory of the Firm: Managerial Behaviour, Agency Costs, and Ownership Structure. *Journal of Financial Economics.* Vol.3, No.4, pp.305-360.
鎌田慧, 1973,『自動車絶望工場 ある季節工の日記』現代史出版会.
上山邦雄, 2016,「戦前期日本自動車産業の確率と海外展開（上）」『城西経済学会誌』第 37 巻（33-64）.
Pardi, Tommaso, 2011, *The revolution that did not occur: the Japanese car makers in Europe, 1970-2010*. PhD Thesis, EHESS (French).
Pardi, Tommaso, 2017, Industrial policy and the British automotive industry under Margaret Thatcher. *Business History*. Vol.59, No.1, pp.75-100.
Polanyi, Karl, 1944, *The Great Transformation: The Political and Economic Origins of our Time*. New York: Holt, Rinehart & Winston.
Sako, Mari, 1992, *Prices, Quality and Trust: Intern-Firm Relations in Britain & Japan.* Cambridge: Cambridge University Press.
猿田正機, 2007,『トヨタウェイと人事管理・労使関係』税務経理協会.
塩地洋／中山健一郎 編著, 2016,『自動車委託生産・開発のマネジメント』中央経済社.
清水耕一, 1995,「トヨタ自動車における労働の人間化（I）」『岡山大学経済学雑誌』第 27 巻第 1 号（1-24）.
Smitka, Michael J, 1990, The Invisible Handshake: The Development of the Japanese Automotive Parts Industry. *Business and Economic History*. Vol.19, No.2, pp. 163-171.
Stout, Lynn, 2012, *The Shareholder Value Myth*. San Francisco: Berrett-Koehler Publishers.
トヨタ自動車工業株式会社社史編集委員会, 1967,『トヨタ自動車 30 年史』トヨタ自動車工業株式会社社史編集委員会.
Weber, Max, 1968 (1924), *Economy and Society: An Interpretive Sociology*. 2 vols. New York: Bedminister Press.
Zelizer, Viviana, 1979, *Morals and Markets: The Development of Life Insurance in United States*. New York: Columbia University Press.

（Stéphane Heim, 准教授）