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RONALD COASE'S "NATURE OF THE FIRM" AND THE ARGUMENT FOR ECONOMIC PLANNING

BY

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Ronald Coase was in his early twenties when he developed his groundbreaking theory of the firm. This theory represented a new approach with no obvious precursors, but from where did it arise? This article traces the origins of Coase's theory of the firm and provides a context for its formation. I argue that Coase's arguments were rooted in the exchange of ideas in the Socialist Calculation Debate, and that, in this context, one could read his theory of the firm as an argument in defense of economic planning.

I. INTRODUCTION

Ronald H. Coase was only in his early twenties when he developed the ideas in "The Nature of the Firm" (1937), a profound article that suggested such "a radical extension of economic micro theory"[1] that it would secure for Coase the Nobel Prize. The article was written during the first half of the 1930s, in the middle of the major economic controversy on the feasibility of central economic planning that has come to be known

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[1]Quoted from the Nobel Prize committee press release on the prize in economics, dated 15 October 1991 and available at: http://www.nobelprize.org/nobel_prizes/economics/laureates/1991/press.html. Accessed 28 April 2014.

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as the Socialist Calculation Debate. Coase was well aware that "economists in the West were engaged in a grand debate on the subject of [economic] planning" (1988c, p. 8), and his groundbreaking article directly addresses this debate and relies on similar argumentation. Coase's thoughts were formed within the same tension between market and planning, but while this tension is still a core notion in the literature on the firm, a discussion on the parallels to, and possible influences of, the debate is conspicuously missing.

This article demonstrates that the arguments in the Socialist Calculation Debate are recurrent in Coase's work. This suggests an influence on Coase's thinking, which may help explain why his approach to the study of the firm bears such little resemblance to mainstream theories of economic organization at the time (e.g., Frank 1925, Robinson 1931). As Coase himself notes, libraries hold "shelves of books written in the 1920's and 1930's dealing in detail with the organization of particular industries," and there was "a good deal" of literature written during that time "dealing with the problems of what was termed integration, both horizontal and vertical." In fact, he writes, "[i]t was this situation which led me to write … my paper" (Coase 1972, p. 62).

But Coase's theory represents a fundamentally new approach with no obvious precursors. Lowell Jacobsen (2008) shows how Coase was clearly inspired by the existing body of literature on economic organization, but that he rejected these scholars' core identification of what is a firm and that it is organized around intensive division of labor. Instead, Coase introduces a new concept to explain organizations in the market: transaction costs, a type of cost that arises when relying on the price mechanism; in essence, a disadvantage of market coordination.

Coase has avoided any detailed explanation of the aims of his article, so the real rationale for Coase's argument may never be fully understood. But, tracing the relationship between his developing thoughts on economic organization and the ongoing debate reveals how Coase's argument fits into the broader context of his economic reasoning. This paper contextualizes Coase's discussion on the firm by reading his article within its historical context, as a response to the mainline debate on economic planning. Contextualizing his theoretical contribution in this way identifies the potential theoretical origins of the new institutional economics (NIE) and the modern economic theory of organization, and suggests how "The Nature of the Firm" is a relevant contribution to the debate.

In the next section of the paper, I briefly summarize the matter of dispute and arguments levied in the Socialist Calculation Debate. Thereafter, I summarize Coase's experiences and influences at the London School of Economics (LSE) and beyond, and relate his investigation of the theory of the firm to the debate. In the subsequent section, I reconstruct Coase's theory of the firm in light of these events and the main arguments for and against socialist economic planning. In the remaining sections, I discuss and summarize the findings and how they contribute to our understanding of the Coasean legacy and transaction-cost theory. I also discuss how Coase's article can be read as an argument for economic planning, and point to issues in need of further study.

II. THE CONTROVERSY ON SOCIALIST CALCULATION

Ronald Coase studied commerce and business administration at the London School of Economics from 1929 to 1931 (Coase 1982), and was appointed lecturer there in 1935.

Therefore, he began his studies at the time the Socialist Calculation Debate took off in the Anglo-Saxon world, and was also acquainted with several of the most important participants in the debate. His writing on the firm coincides with the debate, and the argument for the firm is similar to the arguments for planning by the "market socialists"—Evan F. M. Durbin, Oskar Lange, Abba Lerner, and others.

The debate, "one of the most significant controversies in modern economics" (Blaug 1997, p. 557), had started with the publication of Ludwig von Mises's "Die Wirtschaftsrechnung im sozialistischen Gemeinwesen" (1920) and *Die Gemeinwirtschaft* (1922). Mises argued that without private ownership in the means of production, there is no entrepreneurial bidding for those resources and, therefore, consumer valuations cannot be imputed for capital goods (Machaj 2007). The lack of entrepreneurial bidding (and the market prices that thereby emerge) mean that society's capital structure is not subject to profit-and-loss calculation (Mises 2008), and, therefore, all choices with respect to production are "blind" in terms of economic efficiency. In other words, choices can be made only with reference to technological feasibility but not to economic cost, and may, therefore, be hopelessly inefficient. Socialism, Mises concluded, is impossible.

Although the debate had been centered in German-speaking countries during the 1920s, it moved to the UK and US by the turn of the decade. As signified by Fred M. Taylor's presidential address at the American Economic Association's meeting in Chicago in December 1928 (Taylor 1929), the debate also changed in form and emphasis. Taylor argued, along the lines of Enrico Barone (1908) and later reiterated by Lange (1936, 1937), that the calculation problem under socialism could be avoided through trial and error, and continuous adjustment of list prices as shortages or surpluses were discovered by the central planning board. The "parametric function of prices" under capitalism would not be different under socialism, except that it would be "imposed as an accounting rule" (Lippincott 1964, p. 17). This conclusion was explicitly rejected by those who, like Maurice Dobb (1933), preferred to see the implementation of socialism as a radical alternative to capitalism.

Essentially, the market socialists acknowledged that it was Mises's "powerful challenge that forced the socialists to recognize the importance of an adequate system of economic accounting to guide the allocation of resources in a socialist economy" (Lange 1964, p. 57). The argument in response "used modern neoclassical economics to ensure the efficiency of socialist economic planning" (Boettke 2006, p. 57). It asserted that "[a]ccounting is itself a tool of the business man" (Coase 1938b, p. 470) that is intended to provide the information necessary for making maximizing decisions.

While business accounting had yet to reach the level of maturity necessary to provide this service, Coase, who "in the 1930's … was working on both accounting and the theory of the firm" (Coase 1990, p. 3), "hoped … that the cost accountant may so refine his technique to take account of variations in cost and thus facilitate the task of the business man" (Coase 1938b, p. 472). The same argument can easily be made for a socialist state, especially considering how "Lenin had said that the economic system in Russia would be run as one big factory" (Coase 1988c, p. 8). From this point of view, "[c]learly it would not be difficult for a socialist state to set up accounting prices in the capital goods industries" (Lippincott 1964, p. 12).

It can be argued that the market socialists were missing Mises's fundamental point (Salerno 1993, 1994, 1996). Yet, the solution they offered was still met with specific criticism from Friedrich A. von Hayek and Lionel C. Robbins. The latter "accept[ed] the theoretical validity … that accounting prices could be used in place of market prices to achieve a rational resource allocation in a socialist system," but "concluded that this approach would not provide a practical solution to the problem" (Snavely 1969, p. 143). The role of prices in a market economy is to communicate "knowledge of the particular circumstances of time and place" (Hayek 1945, p. 521; cf. Hayek 1937, 1935b). Such local knowledge, Hayek and Robbins argued, is dispersed and tacit, and experimenting in a planned socialist economy offers no means to overcome this "knowledge problem" (Lavoie 1986; see also Hayek 1948).

III. COASE, LSE, AND THE NATURE OF THE FIRM

Founded in 1895 by the Fabian socialists Sidney and Beatrice Webb and George Bernard Shaw, the LSE was based in the tradition of academic freedom. The purpose of the institution's founding was to support the socialist cause through offering education primarily in economics, with the subject being treated from a variety of angles and perspectives (Coats 1982, p. 19; Robbins 1971, pp. 73–74). The founders believed the serious study of economics would eventually show the advantages of socialism, and this explains the relative freedom of the economics faculty to shape education without much interference from the school's management. Indeed, Coase's experience as a student attests to the LSE's "lack of doctrinal commitment" and "openness to new ideas" (Coase 1982, p. 34).

The aim to advance socialism through economics attracted Coase's classmate Abba P. Lerner, who went to the LSE "with Marxist inclinations and with some rather grandiose notions of turning bourgeois economics to socialist use" (Lerner 1977, p. 235). Coase "had a very friendly relation" (Coase 1996, p. 106) with Lerner and shared his socialist sympathies (Coase 1988c), though Lerner "was even more attached to Socialism than I was" (Coase 1996, p. 106). It was "[t]his ideological disposition," writes Peter Boettke (1998, p. 193), that "was one reason why [Coase] decided to study economics."

Coase notes that at the LSE, the faculty's "differing political views did not impede economic discussion" (1982, p. 34), which suggests that lively discussions may have been common and that students were likely exposed to several viewpoints. It is, however, difficult to gauge in what sense and with what intensity the ongoing debate affected undergraduate students like Coase and Lerner. The LSE's journal *Economica* published only very limited content related to the debate between 1929 and 1935, while the new international journal *Review of Economic Studies* (founded in 1933 and co-edited by Lerner) published several of the influential articles (e.g., Lange 1936, 1937; Lerner 1934, 1935, 1936, 1938) as well as numerous essays authored by LSE faculty.

Interaction between faculty and students at the LSE had been very limited in the 1920s, but this changed in the early 1930s (Coats 1982, p. 19). It is safe to say that in addition to efforts of self-education, what students learned of the academic arguments levied in the debate must have been disseminated through the faculty's lectures and seminars. This, of course, is often the case in institutions of higher learning. But there is reason to believe the debate was an important factor in how the LSE culture evolved at the time and that its arguments were reiterated in lectures to students. The LSE was transformed during the first half of the 1930s into what Hayek (1995, p. 52) refers to as "one of the very few centres of teaching in which the tradition of classical liberalism was carried on." This was largely due to Lionel Robbins, who became professor of economics in 1929.

Lionel Robbins

Robbins was by far the most influential faculty member at the LSE when Coase was a student, and was greatly inspired by Mises's work on the impossibility of socialist economic planning. Robbins had read *Die Gemeinwirtschaft* in German already in 1923. It had had a "decisive impact" on his thinking and led to his abandoning his previously-held socialist ideals (Robbins 1971, p. 106; Hülsmann 2007, pp. 481–482). He started to translate the book to English in 1924, and sent the first five translated chapters to Mises in early 1926 (Howson 2011, p. 135). After pushing to publish the first part of the book separately, which Mises refused, Robbins translated another two chapters, done in March 1927, but was unable to finish the book. Instead, Robbins helped establish contact between Mises and a British publisher, with whom Mises signed a contract for publication when visiting the LSE in September 1931 (Howson 2011, p. 210). A close friend of Mises's, Robbins attended the latter's *Privatseminar* in Vienna (Craver 1986, p. 15) and he also leaned on Mises's "brilliant analysis" (Robbins 1937, p. 201) of central economic planning in his writings over several years (Robbins 1935, 1936c, 1936a, 1936b, 1937). Eventually, however, Robbins adopted the "less extreme" Hayekian position on socialism, which regarded it as not impossible but merely impractical (Rothbard 1991, p. 54).

Robbins exercised great influence both ideologically and on the LSE approach to economics. Along with "a very young group of economists," including Hayek, John Hicks, Nicholas Kaldor, Lerner, and Arnold Plant, he created a distinctive atmosphere at the LSE in the early 1930s (Coase 1982, p. 32). In 1930–31, while Coase was a student, he held a lecture series on capital and interest based on the work of Adam Smith, Eugen von Böhm-Bawerk, and Irving Fisher, but later stated that it was "horribly out of date" and "defective," since it didn't fully take into account the "Viennese renaissance" in capital theory; e.g. Hayek's research on the trade cycle (Howson 2011, p. 176).

Whether or not Coase attended these lectures, it is safe to say that he must have been exposed to Austrian thinking, especially capital theory and therefore Mises's argument against socialism. Much of Robbins's work, like his *Essay on the Nature and Significance of Economic Science* (1932), was "firmly in the Austrian tradition" (Pennington 2011, p. 153). As Jörg Guido Hülsmann (2007, p. 632) notes, Robbins "converted his friend Arnold Plant to the cause of Austrian economics" soon after Plant transferred to the LSE to join the faculty as professor of "Commerce with special reference to Business Administration" (Plant 1932, p. 45) in 1930. Coase attended Plant's lectures and seminars, which had a great impact on his thinking, and recognized Plant as the faculty member who "had the greatest influence on me at LSE" (1988c, p. 6). Plant viewed the study of business administration as not "primarily concerned with how to run a business," but he "studied business practices in order to understand why [the firms] existed" (Coase 1994a, p. 181). Plant held that, rather than being the main force in the market, "the businessman does not dominate the economic system" (Coase 1994a, p. 180); as is the case also in market socialism, the business manager is “merely the organising agent of … the community of consumers” (Plant 1932, p. 51; cf. Mises 1998, pp. 270–272).

Plant made Coase “aware of the benefits which flow from an economy directed by the pricing system” (Coase 1988c, p. 7); in other words, that the “normal economic system works itself” (Sir Arthur Salter, quoted in Plant 1932, p. 51; also quoted in Coase 1937, p. 387), but Coase’s knowledge of economics was, by his own account, “extremely wooly” (Coase 1995b, p. 231). He “started not with an academic study of economics but with an education in commerce” (Coase 1995b, p. 235), and, in fact, “never [took] a course in economics at LSE” (Coase 1995b, p. 232). He did not begin to read economic literature until lecturing at Dundee in October 1932 (Coase 1995b, p. 235); therefore, the little economics he knew beyond “the basic approach” was learned “mainly from discussions with fellow students” (Coase 1988c, p. 7). The main partner in such peer investigation into economics was his close friend Ronald Fowler, but he also “knew students who were economics specialists and had discussions with them, particularly with Vera Smith (later Vera Lutz), Abba Lerner, and Victor Edelberg” (Coase 1995b, p. 232; 1988c, p. 7).

In early 1931, Robbins invited Hayek—recommended by Mises—to lecture at the LSE as a way of making the school a “center for theory” (Caldwell 1995, p. 19) and as “a counterweight to J. M. Keynes” (Caldwell 1995, p. 21). Hayek had earlier given a test lecture to become *Privatdozent* on the topic of “The Paradox of Savings” (1931), a critique of underconsumptionist theories, which had caught Robbins’s attention (McCormick 1992, p. 44). His lectures covered trade cycle theory, Knut Wicksell’s theory of cumulative processes, and Austrian (Böhm-Bawerkian) capital theory (McCormick 1992, p. 48), and were published the same year as *Prices and Production* (1932). They “were undoubtedly the most successful set of public lectures given at LSE during my time there,” writes Coase (1994b, p. 19); the “audience … was enthralled.” Indeed, the lectures were “talked about and argued over” for months (Hicks 1982, p. 6) and must have been much to Robbins’s liking; he arranged the Tooke Professorship in Economics and Statistics for Hayek later that year (Coats 1982, p. 25; Boettke 2006, p. 55).

When invited, Hayek was director of the Österreiches Konjunkturforschungsinstitut, a business-cycle research institute in Vienna founded by Mises (Hülsmann 2007, pp 575–576; Schulak and Unterköfler 2011, p. 70; Mises 1976, p. 48). His applied research, which would win him the Nobel Prize in 1974, made him the best-informed proponent of Austrian business-cycle theory, on which he lectured at the LSE. He drew freely on “the main propositions of the ‘Austrian’ theory of capital,” which he took “for granted” (2008, p. 192) and which was well known on the continent. For a British audience, however, the theory and assumptions were both novel and radical.

The Austrian school views capital as fundamentally heterogeneous. Capital goods, therefore, have distinctive and multiple specificities in use (Böhm-Bawerk 1959; Lachmann 1978), and are combined in specific capital structures used in production. The Austrian theory of the business cycle sees the means of production as a highly complementary structure that, therefore, cannot easily be changed. At the core of this theory lies the fact that means of production cannot immediately or costlessly be reallocated as entrepreneurial projects fail; as market signals are distorted through the issuance of fiduciary media (Mises 1912), the market’s capital structure is misaligned through malinvestment and must be realigned to again serve the true wants of consumers. The necessary liquidation and reinvestment process is both costly and time-consuming, due to the particular nature of complementary and limitedly substitutable capital, and this is why certain sectors of the economy experience recessions as a result of the malinvestments during an artificial boom (Rothbard 2000, Ebeling 1996, Garrison 1997). Resource heterogeneity is also at the heart of the Austrian critique of socialism, since, as later recognized by Maurice Dobb (1955, p. 68; emphasis in original), "[w]hat makes the practical problem of calculating … more complex than might at first appear is the *heterogeneity* of economic resources in the real world."

Robbins had "prepared his students to receive a revelation from the epicenter of theoretical research" (Hülsmann 2007, pp. 632–633), and was not dissatisfied; he found the lectures "at once difficult and exciting" (Robbins 1971, p. 127). The originality of Hayek's theoretical discussion explains why Coase and his teachers were "absorbed" by it and why it "dominated the discussion of economics at LSE" (1988c, p. 7) for a long time. Coase (1994b, p. 19) notes that "[w]hat was said seemed to us of great importance and made us see things of which we had previously been unaware."

A Hayekian Influence on Coase?

To Coase, who had already been exposed to Plant's view of the businessman as "merely the organising agent" in the business firm, and had "learned to appreciate the 'invisible hand' of the market economy" (Boettke 1998, p. 193; Coase 1995b, p. 231)—indeed, Coase (1996, p. 106) admits that he "adopted many of Plant's positions but continued to regard myself as a socialist"—Hayek's lectures provoked a whole set of new thoughts. Coase (1988c, p. 7) states that, while obviously a hot discussion topic at the LSE, the structure of production was "far from my main interest." But it is easy to see how Hayek made an impression on the young Coase: if capital is highly heterogeneous and complementary, there must be costly "frictions" in the market—overlooked by conventional economic theory. Such frictions mean "markets do not function costlessly and smoothly" (Medema 1994, p. 213) but *at a cost*, and this must have far-reaching implications for resource allocation and organizing in the market.

Coase spent the following year traveling in the United States with the object to study "vertical and lateral integration in industry" (1988c, p. 7), a conceivable means to avoid frictions in the market. His interest in this topic, of course, emanated from Plant, who "spoke of management as coordinating the factors of production used in a firm" (Coase 1995b, p. 232). The importance of such coordination increases with resource heterogeneity and distribution, which contribute to differences in organizing. To Coase, focusing on the price mechanism seemed "to leave obscure the role of business management and of the employer-employee relationship" (1988c, p. 8), a relationship akin to "master and servant" (Coase 1937, pp. 403–404; Simon 1951). Economic theory, therefore, appeared "incomplete," since it "lack[ed] any theory which would explain why those industries were organized in the way they were" (1988c, p. 7).

Considering that Coase "had never been trained what to think and therefore what not to think … in dealing with economic questions" (Coase 1995b, p. 232), the Austrian theory's focus on highly complementary resources must have appeared important for how to "reconcile the impossibility of running Russia as one big factory with the existence of factories in the western world" (Coase 1988c, p. 8). Coase, "absorbed" with Hayek's teachings, simply "incorporated elements of Hayek's approach in my own thinking" like "[m]ost students at LSE and many members of the staff" (1995a, p. 19). Friction costs due to resource heterogeneity suggests the price mechanism may not work as smoothly as economic theory asserts.

While Coase was in the USA, "most of my time was spent in visiting businesses and industrial plants," but he also visited universities and met with Norman Thomas, the presidential nominee of the Socialist Party for six consecutive campaigns from 1928 (Coase 1988c, p. 8). After returning to England, he was appointed assistant lecturer at the Dundee School of Economics and Commerce in Scotland in October 1932 but his "association with LSE never ceased" and he remained in contact with faculty there. At Dundee, Coase lectured on the "organization of the business unit," where he tried the ideas he had developed earlier and in the United States. In a letter to Ronald Fowler on October 10, 1932, Coase comments on his presentation of the idea and explains that he "was quite pleased with myself" and the fact that he had "made it all up myself" (1988c, p. 4). These ideas were later compiled in his groundbreaking article on the firm. But his thoughts needed some further structuring; he did not complete a draft of the article until 1934, after which only very few changes were made to the manuscript until its publication in 1937 (Coase 1988b).

IV. COASE'S THEORY OF THE FIRM

The arguments and assumptions of the market socialists are manifest in Coase's famous article. He assumes as starting point a dichotomy between the market and the firm that is seemingly unexplained by economic theory. He sets out "to bridge what appears to be a gap … between the assumption (made for some purposes) that resources are allocated by means of the price mechanism and the assumption (made for other purposes) that this allocation is dependent on the entrepreneur-co-ordinator" (Coase 1937, p. 389). In other words, Coase is not interested in exploring the two drivers of resource allocation that he identifies or in what ways they may differ. Neither is he interested in attempting to find a common cause that may explain *both* market allocation and the existence of firms; they are treated as two separate phenomena.

Coase asserts that they are different and "set[s] out to answer a question to which, in his view, economic analysis to that point had offered no satisfactory answer" (Medema 1996, p. 572). He thereby sidesteps the accepted assumption, since Adam Smith (1976) via Karl Marx (1906) to Lawrence Frank (1925) and E. Austin G. Robinson (1931), that the firm is characterized by a more intensive division of labor, with a greater density achieved through integration (Durkheim 1933) than is possible in markets. He relies on Dobb (1925) to substantiate the firm–market dichotomy, and stipulates that "the distinguishing mark of the firm is the supersession of the price mechanism" (Coase 1937, p. 389). The firm reproduces the market's resource allocation, but relies on direction and planning. Indeed, Coase's firm is "the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur" (Coase 1937, p. 393), which lays a foundation for distinguishing between different forms of contracting.

The distinctiveness of contracts within the firm—*employment* contracts—is their lack of specific terms for the seller. Contracts are open-ended and specify "only … the limits to the powers of the entrepreneur [purchaser]" (Coase 1937, p. 391) and, hence, "the limits to what the persons supplying the commodity or service is [*sic*] expected to do"

(1937, p. 392). In other words, employment contracts grant the purchaser (employer) the power, within the specified limits, to "direct the other factors of production" (1937, p. 391). "When the direction of resources (within the limits of the contract) becomes dependent on the buyer in this way, that relationship which I term a 'firm' may be obtained" (1937, p. 392); but while an "employer-employee contract approaches the firm relationship," it is not until "several such contracts are made with people and for things which cooperate with one another, you get the full firm relationship (1988b, p. 30).

Coase later points out that "one of the main weaknesses of my article" was that it "misdirects our attention" through not clearly enough dismissing the view of the firm as based solely on "the employer-employee relationship" (1988a, p. 37). The employment contract is an important part of the authority relation through which the firm's manager can supplant the price mechanism, but the firm is not simply comprised of employment contracts.[2] In this authority relation, the entrepreneur is seen as the "master" who commands the resources within the firm: when "a workman moves from department *Y* to department *X* [he does this] because he is ordered to do so" (1937, p. 387). Firms, in this sense, are essentially viewed by Coase as "islands of conscious power in this ocean of unconscious co-operation [the market] like lumps of butter coagulating in a pail of buttermilk" (Robertson 1923, p. 85; quoted in Coase 1937, p. 388).

Price and Allocation

At the same time, Coase dismisses the idea implied by Dobb (but much more explicit among others; e.g., Robinson 1931) that "work may really be divided into a much greater number of parts" (Smith 1976, p. 8) inside a firm. No, says Coase; while the firm itself is, in a sense, a specialized phenomenon (Knight 1985), this "need imply no specialization within the business unit" (Coase 1988c, p. 4). Since the price mechanism is efficient in terms of resource allocation, as Coase learned from Plant, the entrepreneur can at best "reproduce market conditions" when integrating transactions. This means the entrepreneur's objective must be "to reproduce distribution of factors under atomistic competition within the business unit" and "to do so at a cost which is less than the marketing transactions it supersedes" (1988c, p. 4). This is done through economizing on "marketing costs" (transaction costs)—the "cost of using the price mechanism" (1937, p. 390) or, as Coase later phrased it, "the costs of carrying out market transactions" (1960, p. 15).

As economic theory maintains, the market price mechanism produces an efficient allocation of resources. Yet, since resources are heterogeneous, suffer complementarities, and are unevenly distributed, it follows that market transactions are expensive because "there are costs of discovering what the relevant prices are; there are costs of negotiating and completing a separate contract for each transaction; and there are other

[2]Coase's discussion on the specific nature of the employment contract can potentially be seen as a first attempt at studying "the influence of the legal system on the working of the economic system" (Coase 1996, p. 104). It was to become a major insight in "The Problem of Social Cost" (1960) that "in a regime of positive transaction costs, the character of the law becomes one of the main factors determining the performance of the economy" (1993, p. 251), which gave rise to the body of literature in law and economics.

costs, besides" (1972, p. 63).[3] The market, in conclusion, is an expensive way of determining efficient uses of resources; a superior way to accomplish the same allocation is to use rational planning—coordination of factors in production "without the intervention of the price mechanism" (1937, p. 388). This is the role of the entrepreneur.

To Coase, therefore, the problem of the firm represents an island of rational planning in the decentralized market that, in many ways, resembles the imagined planning of a market socialist state. The firm is, hence, "essentially the same puzzle" (1988c, p. 8) as the large-scale planning that was then taking place in Soviet Russia. Indeed, Coase (1988c, p. 8) notes in discussing the origins of his famous article that "Lenin had said that the economic system in Russia would be run as one big factory," so what distinguishes socialism from factories in capitalist nations?

The Firm and Planning

Coase was obviously aware of the debate on the viability of socialist calculation, and directly refers to the conclusion of the Misesian argument in his article. There were, he states, "some maintaining that to run the economy as one big factory was an impossibility" (Coase 1988c, p. 8), but notes that it would be an error to assume that the market economy is devoid of planning. As a matter of fact, all individuals plan, and "there is planning within our economic system … which is akin to what is normally called economic planning [and it] is typical of a large sphere in our modern economic system" (Coase 1937, p. 388). The market, too, relies on planning—individuals plan and firms are planned; yet, the market economy as a whole is not. As planning is prevalent throughout both the market economy and socialism, the question, to Coase, is not whether to plan but on what scale planning takes (or should take) place. The main question, as Coase sees it, is, therefore, how to "reconcile the impossibility of running Russia as one big factory with the existence of factories in the western world" (Coase 1988c, p. 8).

Coase states that transaction costs arise due to the decentralized planning of a market economy, since coordinating production using heterogeneous resources under market competition is difficult without centralized direction. For this reason, costs of "discovering what the relevant prices are" and of "negotiating and concluding a separate contract for each exchange transaction which takes place on a market" (Coase 1937, pp. 390–391) arise. These are essentially costs due to the market's lack of rational planning, which can thus be avoided through centralized direction. In the firm, where the allocating function of the price mechanism is replaced by the singular authority of the entrepreneur, transactions using specific resources can be planned and repeated, and, consequently, "[f]or this series of contracts is substituted one" (Coase 1937, p. 391).

This one contract is the employment contract, which offers the purchaser the power to direct resources. And, since circumstances, including productive innovations and

[3]Coase here seems to echo, possibly unknowingly, a point made by Thorstein Veblen: "The great ... opportunity for saving by consolidation ... is afforded by the ubiquitous and in a sense excessive presence of business enterprise in the economic system. It is in doing away with unnecessary business transactions and industrially futile maneuvering on the part of independent firms that the promoter of combinations finds his most telling opportunity" (Veblen 1978, p. 28).

changes in demand, may change over time, the employment contract is necessarily different from market contracts in that it must be open-ended and comparatively long term. Whereas the employment contract states simply that "the factor, for a certain remuneration … agrees to obey the directions of an entrepreneur *within certain limits*" (1937, p. 391; emphasis in original), market contracts must specify prices, quantities, quality, and other terms of the exchange. This distinction shows how entrepreneurs, through establishing a set of the former rather than constantly negotiating the latter, can economize on the costs of market exchange, while gaining the authority to coordinate production. Herein lies the Coasean rationale for the firm: its rational economic planning and direction by a central authority is *cheaper* than coordination through the price mechanism.

Interestingly, Coase sees a lower limit to what can be considered a firm and, therefore, a minimum scale for the superiority of planned firms. This threshold is theoretically necessary in order to distinguish such planned islands from production coordinated though the price mechanism. In terms of contracting, Coase's view of the firm as "several" employment relations suggests that a firm necessitates a coordinated productive structure, including more than a few resources that are contractually subjected to the entrepreneur's authority. Centralization is a necessary element of what makes a firm, and it seems reasonable that the cost savings of rational planning may not exceed the cost of the entrepreneur at the center, unless the firm's internal transactions reach a certain quantity. Furthermore, and perhaps more of a practical concern for Coase's theory, it would be impossible to distinguish a firm consisting of only one employment-type relationship from regular contractual market relationships throughout supply chains. The firm, therefore, must be *several* such relationships combined through the central authority of the entrepreneur. It follows from this definition that the firm is necessarily a rationally planned unit.

While the similarity to the market socialist argument is striking, there is also an apparent Hayekian influence: Coase sees the internal structure of the firm as consisting of heterogeneous, complementary resources that must be coordinated in order for the productive structure to attain certain ends. The price mechanism can induce such coordination passively through high-powered incentives for market actors, and will produce an economically efficient allocation. But the cost of doing so may be prohibitively high. Coase seems to say that while resources have market prices, the relevant parties have no knowledge of exactly what these prices are—but they understand that they need to discover what they are in order to produce cost effectively. The problem is not the efficient allocation brought about by the price mechanism, which Coase asserts, but—as with Hayek (1937, 1945)[4]—the cost of attaining *knowledge* of those prices.

[4]It is true that Hayek's writings on the knowledge problem were published primarily after Coase had finished the first complete draft of "The Nature of the Firm" in 1934. However, the "knowledge argument" was known much earlier at the LSE—it is present in both Robbins's *Great Depression* (1934) and Hayek's *Collectivist Economic Planning* (1935a). Furthermore, as Salerno (1993) argues, the Hayekian view of the problem of dispersed knowledge and how market prices are "the means by which such dispersed knowledge is ferreted out and communicated to the relevant decision-makers in the production process" (Salerno 1993, p. 115) can be traced to Hayek's teacher Friedrich von Wieser (1967). As Wieser's influence on Hayek was "considerable," it is likely that Hayek held such views already when accepting the professorship at the LSE in 1931.

The planned coordination by an entrepreneur is decidedly cheaper, since direction by authority has lower overhead than independent parties negotiating horizontal coordination. The costs of the market do not apply within a planned hierarchy like the firm, yet the entrepreneur and the firm must overcome the knowledge problem in order to bring about the efficient allocation of resources, which is dependent on—and therefore potentially a cost of—the organization.

This would not be a problem were it not for Coase's point of departure in the "specialised exchange economy" (1937, p. 393) and its implied resource heterogeneity. Transaction costs are negligible under resource homogeneity, since there is little cost of "discovering what the relevant prices are" if all resources are the same and, therefore, completely interchangeable—the price should then be equal for all resources, and costly negotiation and discovery would be superfluous. Coase's analysis is here advanced and realistic, with an obvious Austrian flavor; he assumes a production economy that is structured much like the modern market—only without firms. It is highly specialized and complementary in all its parts, from which he deduces that it must be costly to use the price mechanism. And it would be, given Coase's assumptions. In this market, and due to his identification of the costs of carrying out a transaction, he finds the economic justification to establish "islands" of socialist planning.

The Limit to Planning

Coase recognizes that, just like there is a lower limit to planning production in a firm, there must also be an upper limit. He asks "why, if by organising one can eliminate certain costs and in fact reduce the cost of production, are there any market transactions at all? Why is not all production carried on by one big firm?" (1937, p. 394). This is, in essence, the "Russia" question restated, and it is manifestly relevant, considering the ongoing debate on socialist calculation: if the planned centralization within a firm is cheaper than relying on the market's price mechanism, then socialism would necessarily be superior to the market. But, since Coase has, at the outset, assumed that allocative efficiency pertains under the price mechanism, economic planning must be as efficient as the market to be a viable alternative. Coase answers his question by saying that there are two main reasons for the upper limit of the firm: the first pertains to diminishing returns to management; the other to the "individualistic spirit of the smaller entrepreneurs [who] prefer to remain independent" (1937, p. 395n1), which makes larger units less productive.

The former reason is due to "decreasing returns to the entrepreneur function" (Coase 1937, p. 394) in the sense that internal organizing may have costs of its own that may at some point equal or exceed transaction costs. These decreasing returns can also be interpreted as limitations of the extent to which any one individual can rationally plan, a point that resembles Hayek's "knowledge" argument against socialism. In any case, even if the planned firm is less costly than market production, an individual firm suffers from "costs of organizing" that must be at least as low as "the costs of organising by another entrepreneur" (Coase 1937, p. 394). Competitive pressure between firms thus limits their scale and scope. Also, Coase points out, an individual entrepreneur's inability to "make the best use of the factors of production" (1937, p. 395) would also be limiting to a firm's size. Here, he refers to the potential failure "to [sufficiently] reproduce distribution of factors under atomistic competition within the business unit" (1988c, p. 4), a type of bounded rationality that *ceteris paribus* would keep firms comparatively limited in size.

These limitations to entrepreneurial planners constitute a cost of organizing. Coase can thereby answer the question of "[w]hy does the entrepreneur not organise one less transaction or one more?" (1937, pp. 393–394) by saying that it is a comparison between the market's transaction costs and the organizing costs for the particular firm at the margin (the marginal transaction). By saying there is a cost to market exchange and also a cost of organizing by rational planning, Coase succeeds in "linking up organization with cost" (1988c, p. 4).

Coase's arguments are directly relevant for the ongoing discussion on the feasibility of socialist planning, but do not take an extreme position. Rather, Coase seems to take what resembles a middle position through recognizing limitations of both market *and* planning—while seeing costs primarily in the former. He recognizes that capital is not homogeneous but complementary, which, to him, suggests that market coordination is far from costless, and, therefore, problematic. Indeed, heterogeneity is to Coase the source of a significant cost to market transacting that in itself provides an argument for comparatively cheaper centralized planning. This is the reason, he suggests, why market economies see so many and large firms: the cost advantage of planning. But this advantage has limits, and the reason they do not increase in size to encompass the whole market is due to competition from similar firms and the impossibility for a single entrepreneur to successfully organize all transactions. Coase is here seemingly unaware of Robinson's discussion on the division of management (Robinson 1931, ch. 3), in which the size of firms can be greatly increased through utilizing a "managerial division of labor." This is strange, since the commonly understood effect of specialization through the division of labor, which Coase rejected, is that it "enables us to resist the law of diminishing returns" (Lachmann 1978, p. 79; Young 1928). A Coasean firm relying on a division of labor in its management should be able to overcome much of its coordinative authority's bounded rationality and remain efficient even at very large sizes.

Coase, however, does not go further than stating that management suffers from diminishing returns. This is a strangely dissatisfactory statement that raises more questions than it answers, and it leaves the door open to arguments attempting to bridge the divide from the Coasean firm via the large corporation to "Russia." Coase's view on the firm is here somewhat ambivalent: it is socialist economic planning with the scope determined by competition rather than, as in a socialist society, by political authority (Putterman and Kroszner 1996).

Coase's competition argument is strangely underdeveloped and inadequately reasoned. It seems to assert persistent and fierce competition in all cases, and, therefore, does not take into account the possibility that the most successful firm could establish a natural monopoly based on its superior productivity. If a firm enjoys competitive advantage through superior management, and is able to retain this advantage as it grows in size, then competition is hardly limiting on this firm's size (cf. Penrose 1959). Competition cannot be a strictly limiting factor on a firm that already beats the competition, but Coase seems to assume that this is the case and offers no further explanation. What stands in the way between planning in the Coasean firm and economic planning on a larger scale appears to be the existence of the market. The argument Coase offers as a limitation to full-scale socialism is strangely weak, especially in contrast to his argument for planning. Nevertheless, he provides a cost rationale for economic planning in the market.

V. CONCLUDING DISCUSSION

It is clear that Coase was well aware of the fact that, during his time at the LSE, "economists in the West were engaged in a grand debate on the subject of planning, some maintaining that to run the economy as one big factory was an impossibility" (1988c, p. 8). Part of his famous 1937 article is clearly intended as a contribution to that debate and aims to show that there is "economic planning" also in the market system—and that such planning is commonplace:

> [I]t is often considered to be an objection to economic planning that it merely tries to do what is already done by the price mechanism. Sir Arthur Salter's description, however, gives a very incomplete picture of our economic system. Within a firm, the description does not fit at all.… Those who object to economic planning on the grounds that the problem is solved by price movements can be answered by pointing out that there is planning within our economic system [that] is akin to what is normally called economic planning. The example given above is typical of a large sphere in our modern economic system. (1937, pp. 387–388)

This intention may explain why Coase does not problematize the assumption of two, distinct, coordinative forces in the economy: the bottom-up price mechanism and the top-down planning entrepreneur. As we noted above, Coase breaks with much of the literature at the time by not accepting or even considering specialization or the division of labor as a sufficient explanation of integration in firms (for a modern account, see Bylund 2011, 2014). Instead, Coase asserts that the firm is a hierarchical, planned structure akin to socialist economic planning—that in its internal organization is essentially a "mirror image" of the market's efficient allocation of resources.

Coase's interest is not to investigate the evidence for, or nature of, the asserted dichotomy of coordinative forces in the market, or their causes and origins. Had this been his objective, he would have attempted to find a common cause, a common denominator, or explicate their similarities and differences, contrasting their distinct features and effects. Taking this route, Coase would have had to consider the explanation offered by Robinson (1931, 1934) and others. He was, by all appearances, well aware of this literature (Jacobsen 2008), but he chose an altogether different path. His purposeful choice of approach explicitly aims to provide a "bridge" between the entrepreneur as a central planner directing resources and how economic theory understands the "spontaneous" resource allocation through the price mechanism. We cannot know his real reasons, but Coase's political convictions cannot be rejected as of potential relevance.

Coase's exposition never escapes the asserted tension between planning and market—or scrutinizes it—but accepts and builds on it. He did not find it necessary to attempt to overcome the differences between the theory of the market and socialist economic planning: "One may ask how I reconciled my socialist sympathies with

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acceptance of Plant's approach. The short answer is that I never felt the need to reconcile them" (Coase 1988c, p. 8).

The reason Coase never felt this need is that he found in Hayek's discussion of resource heterogeneity and highly complex capital structures a seemingly fundamental problem in how economic theory explains the workings of the market. His supposed bridge between market and planning is based on his interpretation that this causes "friction" costs in the market. Acknowledging the real world's heterogeneous and dispersed resources, the market simply cannot function as well as economic theory, in Coase's view, seemed to claim. Surely such imperfection must affect the efficiency of the market, which, in turn, effectuates a rationale for less costly planning.

To be a feasible alternative, however, rational planning necessarily must rely on an advanced form of cost accounting, as argued by Taylor (1929) and Lange (1937, 1936), in order to estimate opportunity costs in the market. If opportunity costs are known, the remaining problem of optimizing production is trivial. Accounting standards were hardly up to the task, but Coase makes the argument in an article series published in *The Accountant* (Coase 1938a) that accounting should recognize that "[t]he cost of doing anything consists of the receipts which could have been obtained if that particular decision had not been taken" (1938c, p. 560); i.e., opportunity costs (cf. Buchanan and Thirlby 1981). While the articles include no explicit reference to economic planning other than common "business policy," the argument and timing of the article series are peculiar for several reasons, including Hayek's first formulation in print of the "knowledge problem" argument (Hayek 1937).

Strangely, Coase does not deviate from the view that market allocation through the price mechanism is efficient. In contrast to William Lazonick (1991, pp. 168–171), who interprets the effect of transaction costs as a market failure, and Steven Cheung (1970, p. 50), who suggests high transaction costs imply inefficiency, Coase maintains that the limit of the market imposed by transaction costs is not a failure in allocation but a *cost disadvantage*. But this means, as pointed out by Harold Demsetz (2011), that transaction costs can have no effect on, or are necessarily neutral to, the opportunity costs of market actors (cf. Coase 1938a, 1973), which would seem implausible, considering these costs arise due to the heterogeneity of resources scattered across the market.

While resource heterogeneity is at the core of Austrian economic theory, Austrians do not see in it an argument for economic planning. *Au contraire*, to Mises (1920, 1922, 1949), this is, in fact, an important reason why socialism is impossible; to Austrians, it even suggests an economic argument for why interventions cause inefficiencies in the market—no planner can fully supplant decentralized, speculative, capitalist-entrepreneurs' (who are distinct from Coase's "entrepreneur") bidding for resources while aiming to earn profits under the threat of suffering losses (Mises 2008). Indeed, Mises argues that the enormous complexity of the market, due in part to resource heterogeneity, makes it impossible to, as the market socialists argued, "play market": "They want people to play market as children play war, railroad, or school. They do not comprehend how such childish play differs from the real thing it tries to imitate.… One cannot *play* speculation and investment" (Mises 1998, pp. 703, 705; emphasis in original).

Although he had heard of the argument, Coase seems largely unaware of the details and its implications. This may be explained by his limited training in economics at the time or because Mises's original article and book were not yet translated to English (the article was not translated until 1935 and the book was published in English in 1936). Considering the influence Mises's ideas had already had on Robbins, and the latter's influence at the LSE and on its faculty members, Coase is likely to have learned about the argument, though perhaps not in full detail.

In any case, Coase uses the insights from Hayek's lectures to point out that the market is not costless—which leads him to conclude that planning may be cheaper by avoiding such transaction costs. It is possible that the reason Coase fails to go further with the Hayekian analysis is due to his ideological predisposition; the identification that the market order is subject to transaction costs is undoubtedly in line with the socialist desire to show that there is an alternative to capitalism. In this sense, Coase may have allowed the Hayekian view to provide for him an implicit argument for socialist economic planning.

Peculiarity of Coase's Approach

Assuming Coase's aim was to produce a critique of the "very incomplete picture" advocated by Sir Arthur Salter and others (including Plant and Robbins), he could have chosen one of two approaches. The most obvious approach would be to build on the theories of the firm already discussed in the literature, which Coase partly cites in his article, and use the notion of firms as more intensive divisions of labor (and, hence, enjoying greater productivity) to show the inferiority of the market. Indeed, Karl Marx hints at such an argument in his discussion in *Capital* when he elaborates on the meaning of division of labor in society and in the firm. Marx states that they "differ not only in degree, but also in kind" (1906, p. 389); the firm is more intensively specialized, but not unlimitedly so—its internal division of labor is dependent on society's so that the "division of labour in manufacture demands, that a division of labour in society at large should previously have attained a certain degree of development. Inversely, the former division reacts upon and developes and multiplies the latter" (Marx 1906, pp. 387–388).

Instead, however, Coase chooses a very different approach, in which the market's resource allocation, in accordance with Salter's and Plant's teachings, is efficient but in which it appears costly to use the price mechanism. Doing this, Coase formulates an argument that seems intended to undermine Mises's case for free-market resource allocation by showing that the cost of using the price mechanism makes it imperfect (costly) for coordinating production. While the allocative *result* of the price mechanism may be superior (even with transaction costs), this is insufficient, since the assumption often made in economic theory—that prices are *known*—"is clearly not true of the real world" (Coase 1937, p. 390n4). This identification is well in line with Coase's lifelong contribution to economic research, which has been dedicated to "the study of the working of the real world economic system" (Coase 1998, p. 73).

The 'costly market' approach plays well into the market socialists' argumentation for the possibility of socialism, as discussed above, and their proposed schemes to overcome Mises's calculation problem by providing socialism with centrally regulated, advertised (therefore easily known) list prices. Coase's transaction-cost theory of the firm can, in this sense, be interpreted as attempting to undermine the theory of capitalism and, at the same time, strengthen the argument for market socialism.

Really, Coase's argument essentially echoes that of Taylor (1929): socialism (or the firm) can be as efficient as capitalism, yet have the benefit of being less costly. Coase's concurrent work on accounting appears to strengthen this interpretation.

While Coase's investigations into the nature of the firm, and the "organization" of the market under transaction costs, can be seen as a critique of mainstream economics, his work constitutes an addition rather than an alternative. As we have already seen, Coase accepts much of the economic theory he learned at the LSE; he never abandoned standard economic analysis, but added his interpreted effect of Hayekian resource heterogeneity to the neoclassical framework—for a specific reason: it allowed him to identify the costly frictions of market action and thus formulate an economic argument for the existence (and potential cost advantage) of economic planning.

Coase and the Austrians

Coase's conclusion of the effect of resource heterogeneity is interesting: it is the exact opposite of that drawn by the Austrians, from whom he likely borrowed the concept. Even so, prominent Austrian economist Murray N. Rothbard acknowledges Coase's contribution as "illuminating" (2004, p. 649) while explaining the firm's upper limit by using Mises's calculation argument. To Rothbard, the firm is an "island of noncalculable chaos" (2004, p. 614), dependent on the existence of external markets that, in the words of Robbins (1932, p. 71; quoted in Coase 1937, p. 389), provide "an outside network of relative prices and costs" on which it can base its internal decisions. Writes Rothbard (2004, pp. 611–614; emphases in original): "a firm can accurately estimate the profit or loss it makes in a stage of its enterprise only by finding out the *implicit* price of its internal product, and it can do this only if an *external* market price for that product is established elsewhere."

And he continues,

> suppose that there is no external market, i.e., that [the firm] is the only producer of the intermediate good. In that case, it would have no way of knowing which stage was being conducted profitably and which not. It would therefore have no way of knowing how to allocate factors to the various stages. There would be no way for it to estimate any implicit price or opportunity cost for the capital good at that particular stage. Any estimate would be completely arbitrary and have no meaningful relation to economic conditions.

He further concludes that the limit to firm size is due to *the lack of market* for intermediate products, which makes imputed valuation of the means of production impossible: "For every capital good, there must be a definite market in which firms buy and sell that good. It is obvious that this economic law sets a definite maximum to the relative size of any particular firm on the free market."

The firm is here *constrained* by the surrounding market, rather than supplanting it. To both Coase and Rothbard, the firm's use of resources is related to the prices determined in the market. But where Coase's firm avoids the costs of the market while being structured similarly, Rothbard's firm need not be structured internally as to replicate the market's resource allocation—yet, it is dependent on the market to provide social valuation of outputs, both intermediate and final, in order to allow profit-and-loss calculation. Without being embedded in a "sea" of market prices, Rothbard argues, the firm would be as blind as any socialist economic planning; where “the area of incalculability increases, the degrees of irrationality, misallocation, loss, impoverishment, etc., become greater” (Rothbard 2004, p. 614). Coase does not recognize this problem, but assumes prices are given, yet not necessarily known and therefore costly. Therein lies the firm’s rationale.

The Coasean Legacy and Economic Planning

The Coasean framework of study has generated an extraordinary volume of research and has strongly contributed to the creation and evolution of the New Institutional Economics (Cheung 1992, Coase 1998, Joskow 1995, Klein 2000, North 1990, Williamson 2000). His particular approach has contributed a lot to our study and understanding of markets and organizations. Yet, Coase has shared very little about what inspired him to write the pioneering articles or how his thinking should be interpreted (see Coase 1988a, 1988b, 1988c, 1995b). The aim in this article has been to contribute to our collective interpretation of the Coasean legacy through contextualizing the contribution and arguments of his 1937 article. More specifically, and following Coase’s in-passing references to the ongoing debate on socialist economic planning, we sought to establish and explicate the links between Coase’s argumentation and those utilized in the debate. We found there is sufficient evidence to indicate that the article could be understood as an attempt to contribute to the ongoing debate by suggesting a new argument—in support of economic planning—that stresses the costs of the price mechanism rather than attempts to overcome Mises’s challenge to socialism. Seen in this light, the transaction-cost approach not only adds realism to the neoclassical framework in the sense Coase has stressed throughout his career, but was developed with a specific purpose and a particular problem in mind.

Coase maintains that he was a socialist when a student at the LSE, and he should, therefore, have been conducive to the market socialists’ arguments. Though David Campbell and Matthias Klaes (2005) show otherwise, Coase curiously claims that his socialist views “fell away fairly rapidly” (1988c, p. 8) while he was at the LSE. Still, he further elaborates on the same ideas more than two decades later in “The Problem of Social Cost” (1960), in which he provides a case for legal rights adjustments in order to maintain efficient resource allocation in the face of market failures due to high bargaining (transaction) costs. Similar to what our discussion above suggests, Coase’s 1960 article appears to be a critique of the market order by pointing to its limits due to prohibitive transaction costs. Planning is here no longer done only by entrepreneurs integrating transactions in firms where the costs of the market are too high, but should be provided *across firms* by government through the legal system in order to avoid prohibitive bargaining costs. Government is no guarantee for lower social cost, notes Coase, but “there is no reason why, on occasion, such governmental administrative regulation should not lead to an improvement in economic efficiency” (1960, p. 18).

In line with what was argued above, and as Zhihong Mo (2012, p. 121) argues, it seems that “Coase’s position has never changed with regard to the comparability between central planning and entrepreneurial planning in a competitive market.” Perhaps this plays a role in his recent and impressive analysis of how the People’s Republic of China became capitalist (Coase and Wang 2012). Coase remains a strong adherent of the explanatory power of his transaction-cost approach to this day, yet has throughout been a vocal skeptic of the concept's application in the Transaction Cost Economics (TCE) framework by Oliver E. Williamson and others (Williamson 1975, 1985, 1996b; Coase 2000, 2006). He is very critical of TCE's focus on opportunism and the "holdup problem" (Klein 1996, 2010), an idea he says he had "rejected," as it posed no "risk as an important reason for vertical integration" and simply was "not an important factor influencing the structure of industry" (Coase 2006, p. 259). Yet, his disagreement does not necessarily explain his critical stance, especially considering the long-lived debate between Coase and proponents of opportunism regarding the now-infamous acquisition of Fisher Body by General Motors (e.g., Coase 2000, 2006; Freeland 2000; Klein 1988, 2007; Casedesus-Masanell and Spulber 2000). One possible, yet at this point speculative, explanation could be that relying on the effects of specific assets in terms of opportunism, TCE's "most critical dimension" (Williamson 1985, p. 30) that has "received the most attention" (Klein 2005, p. 438) and made it an "empirical success story" (Williamson 1996a, p. 55), ultimately shifts focus from the issue of economic planning toward the specificity and use of resources (an issue that is conspicuously absent from Coase's analysis).

VI. ISSUES FOR FUTURE RESEARCH

Coase's contribution to economics is curious and peculiar. It includes what appears to be a critique of the "incompleteness" of neoclassical economics while, at the outset, accepting that very framework; it problematizes and notes shortcomings of the functioning of the market while pointing out that the market may still be superior to government (Coase 1959); it addresses the limitations of economic planning while suggesting it is, at least in certain respects, less costly than the market's price mechanism. Furthermore, his most well-known contribution to economic theory—the controversial and much misunderstood "Coase theorem" (Medema and Zerbe Jr. 2000), which states that if transaction costs are zero, then any initial allocation of property rights leads to an efficient outcome—was never intended as a theorem. The insights the theorem offers "are, in my view, without [much] value" and "[w]e do not do well to devote ourselves to a detailed study of the world of zero transaction costs, like augurs divining the future by the minute inspection of the entrails of a goose" (Coase 1981, p. 187). In addition, while Coase's 1937 article has been extremely influential in the study of organizations and institutions—especially from the late 1960s—one can easily read Coase's three lectures at a 1987 conference celebrating the fiftieth anniversary of its publication as an attempted correction of how his contribution was commonly interpreted (Williamson and Winter 1991; Coase 1988a, 1988b, 1988c).

The seeming ambiguity in, and vague formulation of, Coase's ideas make figuring out what Coase "really meant" a daunting if not confusing task, and this may explain the wealth of seemingly mutually exclusive interpretations in the literature. The present article is a first attempt at contextualizing the ideas in "The Nature of the Firm" and thereby providing a deeper understanding of how Coase's thinking fits in the history of economic thought. But doing so raises a wealth of questions about the direction of research following Coase's original insights, its implications and assumptions. The economic significance of institutions and organizations is rightly undisputed, but teasing out the meaning and origins of the assumptions relied on in this stream of research could illuminate potential limitations as well as identify productive new directions for research undertaken within, or related to, the Coasean research program.

The discussion above seems to offer support to the reading of Coase's 1987 lectures as partly intended to "set things straight" about how his ideas should be interpreted. Indeed, the connection between Coase's view of the firm as an "island of planning" and the arguments in the Socialist Calculation Debate are present and recurrent in these lectures—even more so than in his original article. Our conclusion that Coase's article is an argument for economic planning is, however, not made explicit but is only implied, as seems to be the case with many important aspects of his writings. The links are present and explicit, yet only ambiguously or vaguely so.

For this reason, there is much that can be said about Coase's legacy. His contributions offer new concepts, outlines, and drafted frameworks that require the reader to specify and apply these drafted thoughts. This has spurred an extensive literature attempting to address the issues Coase identified, formalize his thinking, and apply his solutions. Yet, the basis for many such applications and reformulations is contingent on interpreting what Coase meant, and this has still to be determined. The careful study of Coase's own words is a good start, but many of his thoughts are incomplete and must be contextualized in order to be fully understood. Doing so may illuminate problems with, and draw attention to, theoretical deficiencies in existing research, but it may also provide a deeper meaning to applications and reformulations. A better and deeper understanding for how Coase's ideas should (or could) be interpreted may require revision of previous research as well as a change in direction of existing research programs, but the main revisionist contribution is one of great promise: there should be no question about the importance of Coase's contributions, yet we have still to figure out the full extent and value of his legacy.

The links between Coase's transaction-cost approach and the argument for economic planning that we have here indicated, illustrated, and elaborated on can be a starting point for rediscovering the intellectual depths of his legacy. While our discussion above answers some questions about the interpretation of his ideas, traces their likely origins, and reveals interesting implications, the main contribution lies in the vast number of questions that are yet to be asked—and, more importantly, answered.

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