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Organizational Economics**

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The Fisher Body Case and Organizational Economics

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ABSTRACT

In 1919, General Motors acquired a non-controlling equity interest in the Fisher Body Company and signed a ten-year contract stipulating the terms under which Fisher would be the exclusive supplier of car bodies to GM. In 1926, GM acquired the remaining equity in Fisher Body. In 1978, Benjamin Klein, Robert Crawford, and Armen Alchian used the GM acquisition of Fisher Body as an illustration of the asset-specificity or “holdup” theory of vertical integration. Their paper became widely influential, and the Fisher case quickly developed into an omnipresent meme in the economics of organization. In the year 2000, however, the meme suddenly exploded into a *cause célèbre*. No fewer than five papers appeared attacking both the theory and the history in the Klein *et al.* account – including a paper by Nobel Laureate Ronald Coase, who entered into an often-contentious debate with Klein. This paper tells the story of the Fisher Body acquisition and of the academic controversy it spawned. The controversy has lessons – including some surprising and ironic lessons – for the economic history of the American automobile industry, for the economics of organization, and for the conduct of inquiry in economics.

JEL: B2, D23, D86, L14, L24, L62, N62

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Karl Popper (1963) taught us that scientific knowledge advances through a process of conjecture and refutation. As Deirdre McCloskey (2005) maintains, economic theory has largely tried to insulate itself from such a process by adopting the ethos of the math department – what matters is logical consistency only, not correspondence with facts. Yet theorists are not averse to introducing empirical examples to illustrate or “motivate” theory; and, especially in the economics of institutions and organizations, where the point is to explain phenomena we observe in the world, theory and empirical facts do often come into contact with one another. This never takes the form of the kind of pure refutation experiments Popper famously envisaged. Rather, as I have argued elsewhere (Langlois 2017), it is through intellectual controversy that the process of conjectures and refutations operates most effectively. Controversy is the cauldron in which both theoretical and empirical knowledge advance most rapidly. When scholars take aim at one another’s ideas, they force each other to improve their theoretical conjectures and to discover the facts and portray them more accurately. An excellent example is the often-heated controversy over the facts surrounding, and the theoretical implications of, the acquisition of the Fisher Body Company by General Motors in the early twentieth century.

Make or buy?

In his famous 1937 paper, Ronald Coase asked why some transactions take place within the boundaries of the firm and not through the price system. In the present context, we can frame this as the make-or-buy decision. Should we expect a firm to make some particular input to production in-house or instead buy the input from an independent supplier? Coase’s answer is that we would expect internalization – vertical integration – when that alternative is cheaper than buying from a supplier. This immediately draws our attention

to why using the market might be costly. As we will see, Coase had a theory of why (or when) internalization might be less costly than market contracting; and the literature that grew out of Coase's work, mostly beginning in the 1970s, has been devoted to continued extended theorizing about why markets might be costly (and to some extent, albeit a smaller extent, about why activities within firms might be costly). A key figure in the development of these ideas is Oliver Williamson, who would follow in Coase's footsteps to Stockholm. Williamson has put forward two distinct accounts of why market contracting can be costly, what Robert Gibbons (2005) usefully distinguishes as the *adaptation theory* and the *rent-seeking theory*. Although intimations of both are visible from the beginning, Williamson's earlier work (1975) tended to emphasize adaptation, whereas his subsequent work (1985) tended to emphasize rent-seeking.¹

The adaptation theory is best explained by a parable. Why do executives not typically pay for office services by the piece? One dollar for each phone call answered, 50 cents for each email sent? (Let us assume that counting and billing can be accomplished cheaply by computers, as indeed they probably could be.) The secretary (or administrative assistant, as we would now say) is relatively indifferent to which office task he performs. But the executive is not indifferent. She cares deeply about which task her assistant is performing at which instant, and she may not herself know which task she wants performed until the last second. Under the kind of uncertainty the parable implies, an explicit contract could not possibly foresee even a fraction of the relevant contingencies, and relative prices would be far too slow and weak a guide to the assistant's decision-making. As a result, it

¹ "Asset specificity," Williamson came to believe, is "the most important dimension for describing transactions" (Williamson 1981, p. 555).

would be cheaper for the executive and the assistant to negotiate not over specific tasks at specific times but over a “job description” that enumerates the range of possible tasks and allows the executive to select specific tasks once uncertainty is resolved (Simon 1951). Thus office tasks are internalized into a firm.² Baker, Gibbons, and Murphy (2011) have formalized this theory and generalized it to the case in which the parties negotiate over how to split the decision rights. Take note for future reference: there is no necessary role in this account for investments in assets that are highly specific to a transaction (Baker et al. 2011, p. 3; Gibbons 2005, p. 214).

By contrast, the rent-seeking theory revolves around asset specificity. Assets are transaction specific to the extent that their value outside of the transaction is only a fraction of what it is within the transaction. The starting point for such theories is Alfred Marshall’s account of the *composite quasi-rent*: when contracting parties have invested in transaction-specific assets, cooperation creates joint quasi-rents whose allocation is not determined on the margin; returns must be divided “among the different persons in the business by bargaining, supplemented by custom and by notions of fairness” (Marshall 1961, VI.viii.35). In Gibbons’s reconstruction of this theory, which has ample textual support in Williamson, rents are dissipated as the contracting parties waste resources *ex ante* (before the contract is signed) in an effort to get a bigger share of the appropriable quasi-rent *ex post*. In such a situation, vertical integration can be less costly than market contracting

² The resulting contract would be the employment contract or employment “relation.” Partial spoiler alert: this is actually Coase’s theory of the firm. In his fiftieth anniversary musings on his 1937 paper, Coase (1988a, p. 37) worried that a focus on the employment relation was “one of the main weaknesses” of the original paper. Other scholars have suggested, however, that, especially when seen from the perspective of employment law versus contract law, the employment relation does constitute an essential, and perhaps defining, characteristic of what it means for an arrangement to be a “firm” (Freeland 2016; Masten 1988).

because it aligns incentives and provides “governance mechanisms” to resolve disputes cheaply. The bigger the quasi-rent at stake, the bigger the inefficiency, and the greater the advantage to vertical integration.

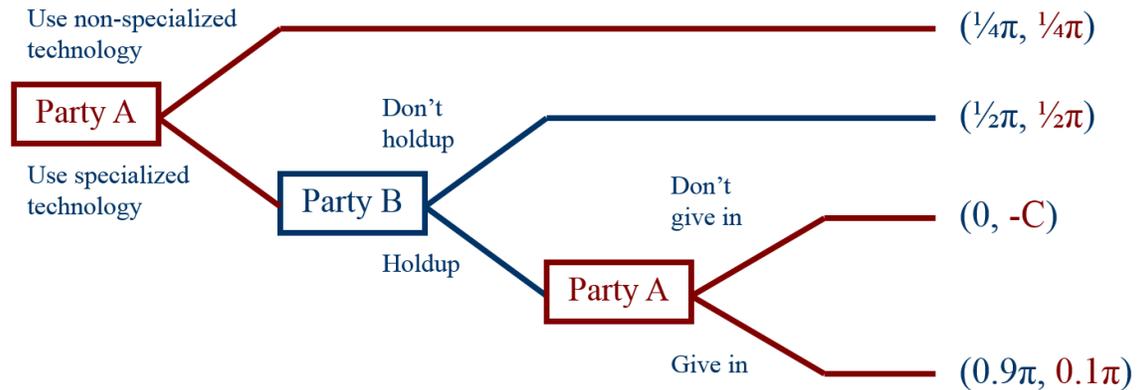


Figure 1. Inspired by Williamson (1983).

It will be helpful for what follows to think of the holdup problem in terms of a simple game. If Party A invests in an asset – a machine, let us say – specialized to a transaction with Party B, the pair will realize a quasi-rent of π , which they might agree to split 50-50. But Party A is aware that Party B might threaten to renege on the contract *ex post* unless he receives a greater share of the quasi-rent. If Party B does make this threat, Party A could either give in and hand over more of the rents (which would be an efficient outcome) or refuse to give in, in which case A would be left with a loss of C , the difference between the asset’s value in the transaction and its value in its next best use (which might be as a boat anchor).³ With all of this in mind, Party A must decide whether to invest in the specialized asset in the first place, and indeed with the parameters in Figure 1 she will

³ This assumes that third-party contract enforcement is not costless and instantaneous. Partial contract enforcement would be figured into C .

choose to use a less-specialized technology, leading to an inefficient outcome. If instead the two partners integrated vertically – became a single firm whose equity they held 50-50 – the holdup incentive would disappear and they would choose the efficient specialized technology.

Although Williamson discussed these issues in the early 1970s and quickly came to be associated with the asset-specificity theory, the theory's most influential articulation was a paper by Benjamin Klein, Robert Crawford, and Armen Alchian (1978), who saw their work as very much in the tradition of Coase.

The particular circumstance we emphasize as likely to produce a serious threat of this type of renegeing on contracts is the presence of appropriable specialized quasi rents. After a specific investment is made and such quasi rents are created, the possibility of opportunistic behavior is very real. Following Coase's framework, this problem can be solved in two possible ways: vertical integration or contracts. The crucial assumption underlying the analysis of this paper is that, as assets become more specific and more appropriable quasi rents are created (and therefore the possible gains from opportunistic behavior increases), the costs of contracting will generally increase more than the costs of vertical integration. Hence, *ceteris paribus*, we are more likely to observe vertical integration (Klein et al. 1978, p. 298).

The theory that the authors (henceforth KCA) propose is essentially that in Figure 1. Their example is a printing press, whose owner may try to hold up a newspaper publisher who is dependent on the press. The threat of opportunistic behavior “is likely to result in a loss of efficiency and not just a wealth-distribution effect. For example, the publisher may decide, given this possibility, to hold or seek standby facilities otherwise not worthwhile. Even if transactors are risk neutral, the presence of possible opportunistic behavior will entail costs as real resources are devoted to the attempt to improve posttransaction bargaining positions in the event such opportunism occurs. In particular, less specific investments will be made to avoid being ‘locked in’” (Klein et al. 1978, p. 301).

To give more oomph to the theory, KCA offer several concrete examples. One of these is the integration of the Fisher Body Company into General Motors in the early twentieth century. I will return to the history of the automobile industry below, but here are the bare facts of the case as laid out by KCA. In 1919, GM bought 60 per cent of Fisher Body, which was a large, highly integrated body maker run by no fewer than seven Fisher brothers.⁴ (The body of a car is the outer shell, including doors, fenders, etc., as contrasted with the chassis, which consists of the frame, drive train, and wheels.) This majority stake did not constitute genuine vertical integration, however, and the Fisher's retained a free hand in running the company. This is because GM's equity in Fisher was placed in a five-year voting trust with four trustees, two of the brothers and two GM representatives (Chandler and Salsbury 1971, p. 465); all decisions of the trustees had to be unanimous. The parties also put in place a 10-year contract making Fisher the sole supplier of closed car bodies to GM and specifying, among other things, the method of calculating the prices Fisher would receive for bodies. In 1926, two years after the expiration of the voting trust, GM bought the remaining equity in Fisher, which then became a division of GM.

The making of automobile bodies is a business fraught with problems of asset specificity, wrote KCA. For example, they claimed, dies required for stamping body panels are highly specific to car models, giving automakers scope to hold up the body maker who crafts the dies (Klein et al. 1978, p. 308). Yet the holdup problem in the GM-Fisher case was in the other direction. The easy-to-monitor sole-sourcing contract protected Fisher from holdup by GM; in contrast, other hard-to-monitor provisions in the contract opened

⁴ The seventh and youngest Fisher brother actually did not participate in the body business but instead rode herd over the family's property interests (White 1991).

GM up to expropriation by Fisher. This was because GM had had to make major irreversible investments complementary to Fisher's bodies. When the demand for cars with closed bodies increased more rapidly than GM expected, Fisher was able to extort higher prices by using inefficiently labor-intensive methods that inflated the costs in what was a cost-plus contract. In this telling, Fisher also refused to locate body plants near GM assembly facilities. "By 1924, General Motors had found the Fisher contractual relationship intolerable and began negotiations for purchase of the remaining stock in Fisher Body, culminating in a final merger agreement in 1926" (Klein et al. 1978, p. 310).

Notice immediately that the model in Figure 1 – and in KCA – does not actually fit these facts. What made the "holdup" possible was the unexpected increase in the demand for closed bodies, which shifted relative prices in favor of Fisher and made its capabilities in body manufacture a source of rents. There were no inefficient actions *ex ante*. And the "holdup" actually happened. I put the term "holdup" in quotation marks here because it is far from clear that the behavior of Fisher could be considered a holdup in the meaning of the asset-specificity theory.

In the KCA account, the "holdup" was perpetrated in the following two ways. Fisher used inefficient labor-intensive techniques because the terms of the cost-plus contract rewarded only its labor costs; there was no capital-pass-through provision to reward the company for capital investments. Fisher also refused to co-locate its body plants next to GM assembly facilities. As we shall see, there is good reason to doubt that Fisher did either of these things. Assuming for the moment that Fisher did behave in this way, however, we still do not have evidence of a holdup. Since Fisher was stuck with contractual pricing terms, it used the incompleteness of the contract terms to effectively raise the price

it was receiving for bodies in order to collect its rents from the increased demand for closed bodies. Notably, if it did in fact engage in the behavior claimed, Fisher took advantage of contractual incompleteness *instead of* renegeing on the contract with GM, which would have been an alternative (though possibly less-effective) way to extort a higher explicit contractual price from the automaker. What Fisher did (in this telling of the facts) was to take advantage of what KCA coauthor Armen Alchian elsewhere described as the “plasticity” of the contract (Alchian and Woodward 1988, p. 69). It is true that, if Fisher in this reading was guilty of using non-optimal production techniques, then vertical integration might have better aligned incentives and reduced inefficiency. But the problem vertical integration would have solved would have been a moral-hazard or principal-agent problem broadly understood, not a holdup problem.

Over the next two decades, the KCA telling of this episode would be featured in textbooks and authoritative handbooks. It would be cited by virtually every theorist proposing an asset-specificity model, none of whom had ever actually studied the history of the automotive industry.⁵ The Fisher Body case became a meme.

At the very end of the twentieth century, however, the meme would suddenly explode into a *cause célèbre*. In 1987, Williamson and others organized a conference at Yale to celebrate the fiftieth anniversary of Coase’s path-breaking 1937 paper. In discussing the history and implications of his work, Coase revealed to the conference that he had once seriously considered but then rejected the asset-specificity account as a major determinant of vertical integration. One significant reason was that, as a 21-year-old

⁵ Casadesus-Masanell and Spulber (2000, pp. 71-72) and Coase (2006) document many of these.

student from the London School of Economics, Coase had visited and spoken with many American businesses in 1932. He was particularly impressed with the A. O. Smith works in Milwaukee, an independent and highly successfully maker of automobile frames. The Smith executives had persuaded Coase “that there were ‘many contractual devices’ which would avoid the risk associated with making capital investments to supply one customer, and in fact independent firms commonly made such investments” (Coase 1988b, p. 16). For example, the stamping of body panels required investment in expensive dies specific to each car model; but body makers were happy to make these investments – because they always immediately turned ownership of the dies over to the assemblers who had ordered them⁶ (Coase 1988a, pp. 45-46). In general, Coase learned, the relationship between the carmakers and their suppliers were cordial and collaborative not opportunistic.

When the proceedings of the conference appeared, they contained a paper by Benjamin Klein that had not been presented at the conference (Klein 1988). Coase was wrong to dismiss asset specificity, Klein wrote, and another look at Fisher Body would show why. Although it is true, as Coase claims, that concern for reputation and repeat business would prevent many instances of hold up, the rents available in this case by the large and unexpected increase in demand for closed bodies moved the transaction outside of the “self-enforcing range” and made it profitable for Fisher to hold up GM, again by using an inefficient technology and refusing to locate body plants near assembly plants. “Coase’s rejection of the opportunism analysis is based upon too simplified a view of the

⁶ This practice has long been well known to students of the automobile industry. “Usually the auto company will purchase from the supplier any special tools, jigs, dies, fixtures, molds or patterns that the supplier must use in producing a part” (Alexander 1961, p. 16). Monteverde and Teece (1982) call this practice “quasi-vertical integration.”

market contracting process,” Klein scolded, “and too narrow a view of the transaction costs associated with that process” (Klein 1988, p. 200). In Klein’s view, Coase’s understanding of transaction costs was limited to what he derided as “ink costs,” the costs of writing many separate contracts with suppliers.

Almost certainly because of this exchange, interest in the Fisher Body case quickened within the academic community. In the year 2000, five papers suddenly appeared – including one by Coase himself – that challenged Klein’s account.⁷ With surprising unanimity, the papers pointed to wider issues in the decision by General Motors to acquire the remaining stock of Fisher Body. Coase and others adduced evidence that Fisher did not in fact fail to co-locate body plants before 1924. Coase also saw it as implausible that they used inefficient production methods. More generally, the papers endorsed the view of Alfred Chandler and Stephen Salsbury (1971, pp. 575-578) that GM wanted to purchase Fisher largely to acquire the knowledge and managerial talents of the Fisher brothers.⁸ Moreover, if there was a transaction-cost reason for integration, it lay more in the realm of adaptation – the need for finer coordination between bodies and car design – rather than in that of holdup. In general, the critical papers argued, relations between GM and Fisher exhibited trust not opportunism (Helper et al. 2000).

Three of these critical papers appeared in an issue of the *Journal of Law and Economics*, which also contained a rebuttal by Klein (2000). In the 1978 article, Klein and

⁷ Casadesus-Masanell and Spulber (2000); Coase (2000); Freeland (2000); Helper, MacDuffie, and Sabel (2000); Miwa and Ramseyer (2000).

⁸ Already by 1922, Fred Fisher was on the GM Executive Committee, and in 1924 Charles and Lawrence joined him. Fred was appointed to the important Finance Committee that year. Lawrence was soon put in charge of Cadillac. William Fisher took over the body operations.

his coauthors had described the holdup by Fisher as having become intolerable “by 1924.” In the year 2000, Klein’s story changed. He now believed that the contract had actually worked well before 1924; moreover, Fisher actually did not fail to locate its body plants near GM assembly plants during that period. (Indeed – take note – Klein’s rebuttal contained far more careful economic history, including an accounting of all the body plants Fisher possessed and where they were located.) In the year 2000 rebuttal paper, Klein argued that the real hold up took place in 1925, when GM wanted Fisher to construct a body plant for Buick in Flint. Fisher objected and wanted to continue to ship bodies to Flint from its large facility in Detroit, whence it could also supply other customers.⁹

Before the year 2000, the inefficiency had come from Fisher taking advantage of incomplete contract terms to earn rents by using inefficient techniques. In 2000 the issue became costly *ex post* haggling over the location of the Buick body plant, again in the face of an incomplete contract. There is still no story about inefficient behavior *ex ante* in anticipation of a holdup. Integration could (and in the end did) stop the haggling through fiat. But was this a holdup? Fisher wasn’t threatening to keep production in Detroit in order to get a better deal from GM; as an independent supplier to automakers in addition to GM, Fisher simply had interests that diverged from those of GM. Once again, this sounds more like a principal-agent or moral-hazard problem than a holdup.

A few years later, Coase and Klein took up the cudgels again, in part because Klein had finally succeeded in unearthing a copy of the actual contract between GM and Fisher, which had long lain hidden in the GM archives (Coase 2006; Klein 2007). In Klein’s new

⁹ On this episode see Freeland (2000, p. 51).

(third) account, the crucial date was pushed back to 1922, the year in which Fisher began producing bodies for Chevrolet in large quantities. In this version, Fisher did indeed hold GM up over the co-location of body plants near Chevy assembly facilities. As Klein rightly points out, the fact that the plants did end up near the assembly facility doesn't mean there wasn't a holdup: if GM had caved in to the threat, we would expect to see plants co-located in equilibrium (and rents transferred to Fisher). This, he says, is what happened.

Relying on Alfred P. Sloan's testimony in the post-World War II Du Pont antitrust case, Klein had long claimed that the cost-plus contract between the two firms did not account for capital costs, thus creating the incentive for Fisher to make money by using production methods that weren't capital intensive.¹⁰ According to the newly discovered contract, however, there actually *was* in fact a capital-pass-through provision. But the provision did not fully account for all of Fisher's capital costs, Klein thinks, and in any case the holdup was mostly perpetrated by Fisher's demand that GM itself finance some of the body plants, which GM did.¹¹ The 1925 dispute over the Flint plant was not the crux of the matter, merely the last straw.¹² After 1924, of course, GM was free to vote its 60 per cent share of Fisher stock and in principle to exercise fiat over Fisher. This was easier said than done, but it proved enough of a threat that the Fishers were finally persuaded to sell out at a price that, while generous, did not fully capitalize the rents of remaining in the

¹⁰ *United States v. DuPont & Co.*, 366 U.S. 316 (1961).

¹¹ GM financed three of the six co-located body plants. This transferred rents to Fisher because it increased Fisher's sales (and thus its income under the cost-plus contract) relative to its own investments in body producing capacity, thereby raising return on equity (Klein 2007, p. 13).

¹² In reality, the Buick dispute was not even a factor in the vertical-integration decision. Coase (2006) found archival evidence that, already by mid-1924, just as the voting trust was expiring and before the Buick dispute, GM had communicated to Fisher its desire to buy the remaining shares. (Letter from Pierre du Pont to Fred Fisher (July 28, 1924), Longwood Manuscripts, Group 10, Series A, Papers of Pierre S. du Pont, Hagley Museum & Library.)

contract. Indeed, when news of merger negotiations became public in July 1925, Fisher stock began sinking relative to that of GM, giving the brothers and their minority shareholders the final inducement to sell.

Here, finally, we do have an interpretation recognizable in terms of Figure 1. Klein appears to be claiming that GM and Fisher ended up with the bottom outcome in the game tree: Fisher threatened, GM caved, rents were transferred, and there was no inefficiency. What is missing from this interpretation, however, is a connection between the holdup and vertical integration. When the expiration of the voting trust shifted bargaining power away from the Fisher brothers, why did GM ask for integration rather than a renegotiation of the contract?

Because vertical integration requires much less contractual specification of transactor performance, it is an inherently much more flexible contractual arrangement than a long-term market contract. By vertically integrating with Fisher Body, General Motors avoided the difficulties created by an imperfect long-term, fixed-price-formula body supply contract because it eliminated the need for any automobile body supply contract. Rather than attempt to specify performance contractually, including plant location and body prices, General Motors, as the owner of Fisher Body and the employer of the Fisher brothers, could now more flexibly adapt to changing market conditions. This increased flexibility of vertical integration compared to a long-term contract frequently has been described in the economic literature as the coordination advantages of vertical integration. What the Fisher Body-General Motors case highlights is that one of the sources of this increased ability to coordinate is the avoidance of contractual rigidity and associated holdup problems when transactors are tied together with an imperfect, rigid long-term contract terms (Klein 2007, p. 21).

In the end, the reason for vertical integration rather than continued contracting in this account is the relative flexibility of integration over contract. Despite the casual phrase “and associated holdup problems,” this is an adaptation explanation not an asset-specificity story.

It should not come as a surprise that Klein offers an adaptation theory of vertical integration. As Gibbons observes, Klein is one of the progenitors of that theory. Like Williamson, he has long had one foot planted in each approach. In an important paper with Keith Leffler (1981) and elsewhere, Klein developed the idea that transactors do typically cooperate through contract even when they have to invest in relationship-specific capital. This is because transactors understand that they are playing a repeated game. By refraining from opportunistic behavior that would be profitable in any single play of the game, they are in effect investing in reputational capital. This capital serves as a kind of hostage, enabling ongoing contractual relationships without opportunism.¹³ Thus both contract and vertical integration can promote efficient adaptation to uncertainty under appropriate circumstances. In Gibbons's view, "Williamson's and Klein's approaches can be combined into a single model that determines whether integration or non-integration facilitates superior relational adaptation. The key point in the resulting relational-adaptation theory of the firm is then that *the integration decision is chosen to facilitate the parties' relationship*" (Gibbons 2005, p. 209, emphasis original).

Marshall or Ricardo?

It is true that by writing a new contract with Fisher, GM might have exposed itself to unforeseen future holdups of various sorts (maybe involving location decisions), and vertical integration might have made these easier to deal with.¹⁴ (Indeed, a charitable

¹³ "Instead of thinking of contract terms as providing transactors with the correct incentives to perform with regard to particular contractually specified margins, this framework suggests that transactors choose contract terms, including vertical integration, in order to economize on their limited (and often unequal) amounts of private enforcement capital and thereby to define an optimal self-enforcing range for their contractual relationship" (Klein 1996, p. 462).

¹⁴ But see Freeland (2001) on the limits of fiat for directing resources within the structure of GM.

reading of Klein might be that the frictions GM experienced in the process of co-locating of body plants next to Chevy assembly plants alerted GM to the possibility of *future* holdups of the same sort.) But flexibility has many more dimensions than just avoiding holdup. Moreover, there is abundant evidence that other automakers in this period were able to deal with routine issues of specialized investment within the framework of relational contracts (Schwartz 2000).

The elephant lurking in the background of the entire GM-Fisher episode is the dramatic and unexpected increase in demand for closed car bodies. The increase in sales of closed-body cars in the early 1920s was not merely an exogenous shock to a supply contract. The availability of economical closed cars represented a technological discontinuity in the automobile industry. To Alfred P. Sloan, who became president of GM in 1923, the closed body “was by far the largest single leap forward in the history of the automobile since the basic car had been made mechanically reliable” (Sloan 1964, p. 160).

Closed bodies had begun to appear as early as 1915, but because these were hand-crafted of wood clad with steel, they were expensive options (Abernathy 1978, pp. 183-185). Working with wood was Fisher’s specialty in this period. During the war, Fisher teamed up with Hudson to attempt to lower the cost of bodies by simplifying operations and using standardized subassemblies (Schwartz 2000; White 1991). The real innovator in the industry was the Budd Corporation, which had worked with the Dodge Brothers. Budd introduced automatic welding machines and took advantage of innovations in the steel industry to lower costs dramatically. At the same time, Du Pont introduced Duco, a nitrocellulose lacquer that drastically cut process steps and drying time (Smith 1968, pp.

89-90). In this period at the very least, coordination between assemblers and body makers did not require vertical integration. Working with Chrysler, Fisher created the giant steel-stamping machines that made future curved – “streamlined” – cars possible.

It is well to remember that the post-war year of 1919 saw both an economic boom and unprecedented inflation, the latter fueled by the low interest rates the Federal Reserve was maintaining to subsidize the Treasury Department’s Victory Loans (Friedman and Schwartz 1963, pp. 221-231). This meant on the one hand that GM sales and revenue were increasing dramatically and on the other hand that suppliers and GM divisions were hoarding parts to hedge expected future price increases. William Crapo Durant, GM’s founder and head, became frantic about supply shortages. He put money into companies making tires, leather, castings, gears, brakes, and other things (Chandler 1962, p. 124; Chandler and Salsbury 1971, pp. 464-465). In this respect, Fisher was merely the largest and most important of many suppliers Durant wanted to corral through equity investment or outright purchase in 1919. In addition to an assured supply of bodies, GM did indeed crave the services of the Fisher brothers themselves, who were innovative leaders in the automobile industry. Why did GM not simply acquire 100 per cent of Fisher Body and get the brothers in the bargain, just it had acquired the (much smaller) Hyatt Roller Bearing, which brought with it Alfred P. Sloan? The Fishers wanted autonomy, in this case including family control of the family company, and they had the bargaining power to back it up¹⁵ (Freeland 2000, p. 42). GM had to settle for a power-sharing equity stake.

¹⁵ At the time, the Fishers were in talks to take over the assembler Willys-Overland and enter the car business to compete with GM (Chandler and Salsbury 1971, p. 465).

In 1923, Dodge began selling a sedan with a steel-clad closed body. Working with Briggs and Fisher, Hudson had an inexpensive closed model, the Essex, by 1921, and by November 1924, the closed version of the Essex was actually selling for \$5 less than the open version (Thomas 1973, p. 129). In 1921, only 22 per cent of cars had closed bodies; by 1928, almost 90 per cent did (Katz 1977, p. 72). The ascent of the cheap closed-body car had caught the industry by surprise.¹⁶

In 1922, GM had brought on board Ford defector William Knudsen to oversee and improve the manufacturing process at Chevrolet, which Sloan had slotted in as the low-price competitor to the Model T (Sloan 1941, pp. 139-140). By 1925, Knudsen had produced a more-than-serviceable closed-body model with a number of upscale features (Farber 2002, p. 98). Consumers appreciated the car's design and performance advantages over the Ford, even despite a slightly higher price. Production of the Chevy shot up from 280,000 in 1924 to more than a million within a couple of years (Hounshell 1984, p. 264). In a world of installment credit, in which used cars had become abundantly available, the game was no longer to produce a model with constant features at an increasingly lower price; the game was now to produce new models with improved features. What became the strategy of the annual model change evolved slowly over the next decade

In this strategy, Fisher Body would necessarily have a major role. Automobiles are not highly modular products, and the creation of new models would require close

¹⁶ “Again, like so many other things which have occurred in the automobile industry, had this development been predicted by anyone a few years before it actually took place, it would not have been believed possible” (Epstein 1928, p. 114).

coordination with body design.¹⁷ Yet, as we have seen, such coordination can take place relatively cheaply across the boundaries of firms – and coordination within the framework of the corporation can sometimes be costly. Fisher during the era of the voting trust was both: a subsidiary of GM and an outside supplier, continuing to work with automakers like Chandler and Chrysler.¹⁸ As Klein came to learn, however, Fisher was becoming more integrated into GM’s product strategy by 1922, moving from producing a small number of bodies for Buick and Cadillac to mass producing bodies for Chevrolet.¹⁹ Despite the scale of its huge facility in Cleveland, probably the largest body plant in the world in that year, Fisher could not keep up with Chevy production schedules (White 1991). It is in this context that, in 1923, Fisher opened the body plants adjacent to each of the new Chevrolet assembly facilities that were springing up, doubling output over the previous year.

It is clear, then, that rents were increasing dramatically. But were these importantly appropriable quasi-rents arising from the co-specialization of Fisher and GM? Or were these simply Ricardian rents to specialized capabilities in the production of closed bodies? As we have just seen, Fisher developed its specialized capabilities in closed bodies both before its partial acquisition by GM and in conjunction with automakers other than GM even during the period of the voting trust. The evidence for the Ricardian interpretation is

¹⁷ “The complex process of designing, producing, testing, and modifying an automobile requires a high degree of coordination. Engine, transmission, frame, body, brakes, windshield, and other components all have to perform well with each other and have to be in the right place at the right time in the right quantities” (White 1971, p. 78).

¹⁸ It was not in fact unusual or against policy in general for divisions to sell outside the company. For example, the Accessories Division differed from the Parts Division not because of what it made but because its units sold more than 60 per cent of their product outside of GM. Fisher’s outside dealings were not an issue until closed bodies became a strategic variable.

¹⁹ Until 1922, GM had been buying Chevy bodies from the Hayes Ionia Body Company (Klein 2007, p. 11).

that the rents Fisher was earning had no implication for vertical integration. Fisher did receive its rents, and vertical integration would not have prevented that: as Klein explains, Fisher would not have sold out to GM at a price less than what it perceived to be the capitalized value of its future rents. Vertical integration would not have been a free lunch. If, in the event, GM did acquire Fisher at a bargain, it was because of the dynamics of expectations in the capital markets in this particular case, not because of any factor related to the asset-specificity theory of integration.

The conduct of economics.

Table 1 summarizes the changes in Klein’s argument as I have interpreted them.

	Year	Nature of “holdup”	Implied theory
KCA (1978)	1919-1924	<i>Ex post</i> inefficient choice of techniques and plant locations.	Moral hazard
Klein (2000)	1925	Costly <i>ex post</i> haggling over plant location.	Principal-agent
Klein (2007)	1922	<i>Ex ante</i> rent transfer with <i>ex post</i> efficient choice of techniques and locations.	Adaptation

Table 1

In view of Table 1, the reader may be tempted to share Coase’s opinion of the evolution of the facts of the Fisher Body-General Motors case. “It is not easy to know what to say about

a situation like this,” Coase wrote in 2006. “Facts are not like clay on a potter’s wheel, that can be molded to produce the desired result. They constitute the immutable material that we have to accept. What is clear in Klein’s new version of the facts is that the ‘classic example’ of asset specificity leading to opportunistic behavior has completely disappeared. All that remains of the original tale is the assertion that Fisher Body held up GM. It reminds one of the Cheshire Cat in Lewis Carroll’s *Alice in Wonderland*, whose body vanished, leaving only its grin behind” (Coase 2006, p. 270).

Yet to say that Klein’s presentation of the facts has changed is not to say that he hasn’t in the end gotten the facts right. The debate spurred serious efforts at improving the economic history of the auto industry, by Coase and Klein as well as by others. We know considerably more about the episode today than we knew in 1978. And, although his *idée fixe* prevents Klein from seeing it, the same may be true of the theory. I have argued that Klein ends up with the adaptation theory. And that, in my view, is the right theory to explain the acquisition of Fisher Body by General Motors in 1926 (if not necessarily in 1919). Klein says as much, even if he cannot erase the grin of the holdup theory, which, one must admit, merits at least a grin.

This brings us to the significant ironies – if that is the right word – of the Coase-Klein debate. One of these is Coase accusing the author of Klein and Leffler (1981) of failing to understand that relation-specific investments can be mediated by market contracting. The reverse accusation is perhaps even more glaring – Klein accusing the inventor of transaction-cost economics of failing to understand transaction costs. “Unfortunately, in considering whether transactors will adopt a firm or market arrangement, Coase in 1937 and again now has incorrectly identified the costs of using the

market mechanism with the narrow transaction costs of discovering prices and executing contracts (1937, p. 390-391; 1988a). However, vertical integration implies small, if any, savings in terms of these shopping and contract execution costs” (Klein 1988, p. 209). Klein believes that Coase thinks transaction cost are just “ink costs.” A closer reading reveals that this is not at all Coase’s theory. Coase does say that it would be costly to seek out potential contractors, to discover all the relevant prices, and to write separate contracts for multiple inputs to production. Middlemen (in 1937) or computers and the Internet (today) can reduce but not eliminate these ink costs. But, Coase quickly adds, these costs could be avoided if the contracting parties simply wrote a long-term contract. It is the cost of such a long-term contract under conditions of uncertainty that is the real source of transaction costs.

Now, owing to the difficulty of forecasting, the longer the period of the contract is for the supply of the commodity or service, the less possible, and indeed, the less desirable it is for the person purchasing to specify what the other contracting party is expected to do. It may well be a matter of indifference to the person supplying the service or commodity which of several courses of action is taken, but not to the purchaser of that service or commodity. But the purchaser will not know which of these several courses he will want the supplier to take. Therefore, the service which is being provided is expressed in general terms, the exact details being left until a later date. All that is stated in the contract is the limits to what the persons supplying the commodity or service is expected to do. The details of what the supplier is expected to do is not stated in the contract but is decided later by the purchaser. 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 (Coase 1937, pp. 391-392).

This is the parable of the secretary. This is not an ink-cost theory of the firm: it is the adaptation theory. The final great irony of the Coase-Klein debate is that, at a general level at least, Coase and Klein hold exactly the same theory of vertical integration.

Far from being a blemish on the economics profession, I contend, the controversy over the Fisher Body case is in fact a model for intellectual inquiry in the discipline. It goes without saying that the practice of trotting out examples to “motivate” a theory constructed with no view to the facts is ceremony not empiricism. But, despite the usual seminar-room cant, the effort to build into purely formal theory “testable hypotheses” – which no one will ever actually test – is little better. As happens in other disciplines, economists need to engage more fully with the facts, including those of history, and attempt to demonstrate how their theories actually explain those facts. More than many theorists, Benjamin Klein and his coauthors in 1988 did attempt to engage with the facts. Perhaps they should not be criticized for getting the facts (and arguably the theory) wrong but praised for initiating a process of criticism and revision. It is criticism and revision, of both factual knowledge and theory, that we should see as the central empirical mechanism of the discipline.

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